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Appendix H

Noise Report

EQUINIX SV12, SV18, AND SV19 PROJECT ENVIRONMENTAL NOISE AND VIBRATION ASSESSMENT

San José, California

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INTRODUCTION

This report assesses the noise and vibration impacts resulting from the construction and operation of the Equinix SV12, SV18, and SV19 Data Centers project proposed to the north of Santa Teresa Boulevard, between San Ignacio Avenue and Great Oaks Boulevard in San José, California. The project would develop the northeastern 18-acres of the 34-acre site with three (3) three-to-four-story data center buildings totaling approximately 564,000 square feet (sf). A total of 36 3.25-MW diesel-fueled generators would be located within generator yards located adjacent to the north and south sides of each building. The 36 generators would provide 117 MW of backup power generation capacity.

The report is divided into three sections: 1) the Setting Section provides a brief description of the fundamentals of environmental noise and groundborne vibration, summarizes applicable regulatory criteria, and discusses the results of the ambient noise monitoring survey completed to document existing noise conditions; 2) the Plan Consistency Section discusses the noise and land use compatibility of the project; and, 3) the Impacts and Mitigation Measures Section describes the significance criteria used to evaluate project impacts, provides a discussion of each project impact, and presents mitigation measures, where necessary, to mitigate impacts to a less-than-significant level.

SETTING

Fundamentals of Environmental Noise

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (*frequency*) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 1.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level (dBA).* This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 2. Because sound levels can vary markedly over a short period of time, a

method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This *energy-equivalent sound/noise descriptor* is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level* (*CNEL*) is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The *Day/Night Average Sound Level* (*DNL* or L_{dn}) is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Effects of Noise

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noises of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Typically, the highest steady traffic noise level during the daytime is about equal to the L_{dn}/CNEL and nighttime levels are 10 dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12 to 17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57 to 62 dBA L_{dn}/CNEL with open windows and 65 to 70 dBA L_{dn}/CNEL if the windows are closed. Levels of 55 to 60 dBA are common along collector streets and secondary arterials, while 65 to 70 dBA is a typical value for a primary/major arterial. Levels of 75 to 80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed, and those facing major roadways and freeways typically need special glass windows.

TABLE 1 Definition of Acoustical Terms Used in this Report

Term	Definition
Decibel, dB	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e. g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sounds are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 p.m. and 7:00 a.m.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 p.m.to 10:00 p.m. and after addition of 10 decibels to sound levels measured in the night between 10:00 p.m. and 7:00 a.m.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurements and Noise Control, Harris, 1998.

TABLE 2 Typical Noise Levels in the Environment

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	

Source: Technical Noise Supplement (TeNS), California Department of Transportation, September 2013.

Fundamentals of Groundborne Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One method is the Peak Particle Velocity (PPV). The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. In this report, a PPV descriptor with units of mm/sec or in/sec is used to evaluate construction generated vibration for building damage and human complaints. Table 3 displays the reactions of people and the effects on buildings that continuous or frequent intermittent vibration levels produce. The guidelines in Table 3 represent syntheses of vibration criteria for human response and potential damage to buildings resulting from construction vibration.

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related groundborne vibration levels. Because of the impulsive nature of such activities, the use of the PPV descriptor has been routinely used to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to cause damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life, are evaluated against different vibration limits. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as paint flaking or minimal extension of cracks in building surfaces; minor, including limited surface cracking; or major, that may threaten the structural integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher. The damage criteria presented in Table 3 include several categories for ancient, fragile, and historic structures, the types of structures most at risk to damage. Most buildings are included within the categories ranging from “Historic and some old buildings” to “Modern industrial/commercial buildings”. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

The annoyance levels shown in Table 3 should be interpreted with care since vibration may be found to be annoying at lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage.

TABLE 3 Reaction of People and Damage to Buildings from Continuous or Frequent Intermittent Vibration Levels

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Threshold at which there is a risk of damage to fragile buildings with no risk of damage to most buildings
0.25	Strongly perceptible to severe	Threshold at which there is a risk of damage to historic and some old buildings.
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential structures
0.5	Severe - Vibrations considered unpleasant	Threshold at which there is a risk of damage to new residential and modern commercial/industrial structures

Source: Transportation and Construction Vibration Guidance Manual, California Department of Transportation, September 2013.

Regulatory Background - Noise

The State of California and the City of Santa Clara have established regulatory criteria that are applicable in this assessment. The California Environmental Quality Act (CEQA) Guidelines, Appendix G, are used to assess the potential significance of impacts pursuant to local General Plan policies, Municipal Code standards, or the applicable standards of other agencies. A summary of the applicable regulatory criteria is provided below.

State CEQA Guidelines. The CEQA contains guidelines to evaluate the significance of effects of environmental noise attributable to a proposed project. Under CEQA, noise impacts would be considered significant if the project would 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, if the project would expose people residing or working in the project area to excessive noise levels.

2016 California Green Building Standards Code (Cal Green Code). The State of California established exterior sound transmission control standards for new non-residential buildings as set forth in the 2016 California Green Building Standards Code (Section 5.507.4.1 and 5.507.4.2). Section 5.507 states that either the prescriptive (Section 5.507.4.1) or the performance method (Section 5.507.4.2) shall be used to determine environmental control at indoor areas. The prescriptive method is very conservative and not practical in most cases; however, the performance method can be quantitatively verified using exterior-to-interior calculations. For the purposes of this report, the performance method is utilized to determine consistency with the Cal Green Code. Both of the sections that pertain to this project are as follows:

> **5.507.4.1 Exterior noise transmission, prescriptive method.** Wall and roof-ceiling assemblies making up the building envelope that are exposed to the noise source shall meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 when the building falls within the 65 dBA L_{dn} noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway noise source, as determined by the local general plan noise element.
>
> **5.507.4.2 Performance method.** For buildings located within the 65 dBA L_{dn} noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway noise source, wall and roof-ceiling assemblies making up the building envelope and exposed to the noise source shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level ($L_{eq\ (1\text{-}hr)}$) of 50 dBA in occupied areas during any hour of operation.

The performance method, which establishes the acceptable interior noise level, is the method typically used when applying these standards.

City of San José General Plan. The Environmental Leadership Chapter in the Envision San José 2040 General Plan sets forth policies with the goal of minimizing the impact of noise on people through noise reduction and suppression techniques, and through appropriate land use policies in the City of San José. The following policies are applicable to the proposed project:

EC-1.2 Minimize the noise impacts of new development on land uses sensitive to increased noise levels (Categories 1, 2, 3, and 6) 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.

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.

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.

EC-1.7 Require construction operations within San José 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.

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 the potential for cosmetic damage at buildings of normal conventional construction.

City of San José Municipal Code. The City's Municipal Code contains a Zoning Ordinance that limits noise levels at adjacent properties. Chapter 20.50.300 states that sound pressure levels generated by any use or combination of uses on a property zoned for industrial use shall not exceed 55 dBA at any property line shared with land zoned for residential purposes, 60 dBA at any property line shared with land zoned for commercial purposes, and 70 dBA at any property line shared with land zoned for industrial or use other than commercial or residential purposes, 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. Consistent with General Plan policy E.C.-1.3, a reasonable interpretation of this standard would identify the ambient base noise level criteria as the day/night noise level (DNL).

Chapter 20.100.450 of the Municipal Code establishes allowable hours of construction within 500 feet of a residential unit 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.

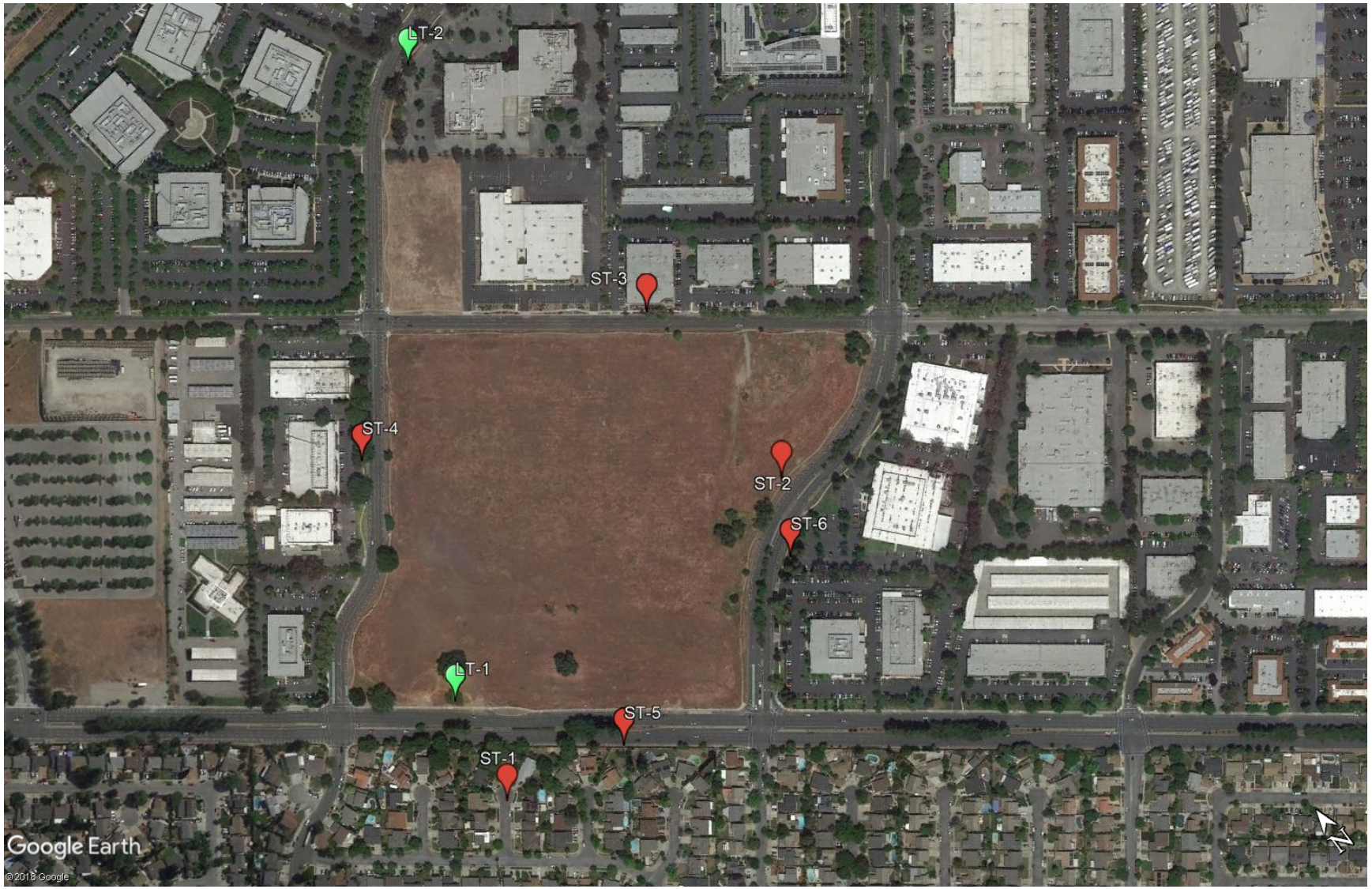
Existing Noise Environment

The project includes the development of three data centers on the Equinix site, located north of Santa Teresa Boulevard, between San Ignacia Avenue and Great Oaks Boulevard. The site is currently undeveloped. Northeast of the site, across Via Del Oro, are office, commercial, and light

industrial uses, including a Kaiser Permanente medical facility. Data centers have been proposed at two sites to the north across Via Del Oro. To the northwest of the site, across San Ignacio Avenue, are office, commercial, and light industrial uses. To the southwest, across and along Santa Teresa Boulevard, are single-family residences. To the southeast, across Great Oaks Boulevard, are office, commercial, and manufacturing uses.

Throughout the evolution of this project, Illingworth and Rodkin, Inc. has conducted multiple noise monitoring surveys in the vicinity to document existing noise conditions at the project site and at nearby receptors. A survey was conducted between Tuesday, January 26, 2016 and Thursday, January 28, 2016, including one long-term measurements (LT-1) and two short-term measurements (ST-1 and ST-2) relevant to this project. An additional survey was conducted between Tuesday, October 30, 2018 and Friday, November 2, 2018 for a project located approximately 700 feet northeast of the site at 6230 San Ignacio Avenue. This survey consisted of one long-term measurement (LT-2) relevant to this project. A recent survey was conducted on Tuesday, December 3, 2019, consisting of four short-term measurements (ST-5 through ST-8). Noise measurement locations are shown in Figure 1. The daily trends in noise levels at long-term measurement locations are shown in Appendix Figures A1 – A7. Measurement results are summarized in Tables 4 and 5.

FIGURE 1 Noise Measurement Locations



Source: Google Earth 2019

TABLE 4 Summary of Long-Term Noise Measurements (dBA)

Location	Date	Hourly-Average Noise Level, L_{eq}		DNL
		Daytime	Nighttime	
LT-1: ~100 ft. Northeast of Santa Teresa Boulevard Centerline	Tuesday, 1/26/2016	60 – 65	55 – 59	65
	Wednesday, 1/27/2016	60 – 67	50 – 62	
	Thursday, 1/28/2016	62 – 65	51 – 62	
LT-2: ~60 ft. Southeast of San Ignacio Avenue Centerline	Tuesday, 10/30/2018	56 – 66	53 – 54	65 to 67
	Wednesday, 10/31/2018	55 – 65	50 – 64	
	Thursday, 11/1/2018	58 – 66	51 – 65	
	Friday, 11/2/2018	61 - 64	51 – 64	

TABLE 5 Summary of Short-Term Noise Measurements (dBA)

Noise Measurement Location	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	L_{eq}	Primary Noise Sources
ST-1: Front of 214 Paraiso Court. (Thursday, 1/28/2016, 12:20 p.m.-12:30 p.m.)	69	55	49	47	55	Traffic on Santa Teresa Boulevard (shielded by residence)
ST-2: ~75 ft. Northwest of Great Oaks Boulevard Centerline. (Thursday, 1/28/2016, 1:00 p.m. - 1:10 p.m.)	67	64	56	52	60	Traffic on Great Oaks Boulevard
ST-3: ~30 ft. Northeast of Via Del Oro Centerline. (Tuesday, 12/3/2019, 10:40 a.m. - 10:50 a.m.)	75	68	54	46	64	Traffic on Via Del Oro
ST-4: ~45 ft. Northwest of San Ignacio Avenue Centerline. (Tuesday, 12/3/2019, 11:00 a.m. - 11:10 a.m.)	73	69	57	48	64	Traffic on San Ignacio Avenue
ST-5: ~50 ft. Southwest of Santa Teresa Boulevard Centerline. (Tuesday, 12/3/2019, 11:20 a.m. - 11:30 a.m.)	80	74	63	55	70	Traffic on Santa Teresa Boulevard
ST-6: ~60 ft. Southeast of Great Oaks Boulevard Centerline. (Tuesday, 12/3/2019, 11:40 a.m. - 11:50 a.m.)	69	64	57	48	60	Traffic on Great Oaks Boulevard

PLAN CONSISTENCY ANALYSIS

Noise and Land Use Compatibility

The Environmental Leadership Chapter in the Envision San José 2040 General Plan sets forth policies with the goal of minimizing the impact of noise on people through noise reduction and suppression techniques, and through appropriate land use policies in the City of San José. The applicable General Plan policies were presented in detail in the Regulatory Background section and are summarized below for the proposed project:

- The City's acceptable exterior noise level objective is 70 dBA DNL for proposed office and commercial uses (Table EC-1).

- For buildings with exterior noise levels at the façade exceeding 65 dBA L_{dn}, the California Green Building Code limits interior noise levels within new non-residential land uses to an hourly equivalent noise level ($L_{eq\ (1\text{-}hr)}$) of 50 dBA in occupied areas during any hour of operation.

Future Noise Environment

The project proposed to construct three (3) three-to-four-story data center buildings, totaling approximately 564,000 sf. Office space within the buildings would be located at the east side of building SV12, and at the western sides of buildings SV18 and SV19. Office uses at building SV12 would be located as close as about 120 feet from the centerlines of Great Oaks Boulevard and Via Del Oro. Office uses at buildings SV18 and SV19 would be located as close as about 75 feet from the centerline of San Ignacio avenue. Existing noise levels at the office façades of SV12 are calculated to be 58 to 62 dBA DNL with a loudest hour noise level of 61 dBA L_{eq}. Existing noise levels at the office façades of SV18 and SV19 are calculated to be 63 to 65 dBA DNL with a loudest hour noise level of 64 dBA L_{eq}. Exterior noise levels would be considered compatible with the City's noise level objective of 70 dBA DNL for office and commercial uses. Loudest-hour noise levels would not exceed the exterior Cal Green Code criteria of 65 dBA $L_{eq(1\text{-}hr)}$. As modern commercial and industrial buildings typically provide 20 to 25 dBA L_{eq} of noise reduction with the windows closed, interior noise levels from exterior noise sources would not exceed 50 dBA $L_{eq(1\text{-}hr)}$.

NOISE IMPACTS AND MITIGATION MEASURES

Significance Criteria

The following criteria were used to evaluate the significance of noise and vibration impacts resulting from the project:

1. **Temporary or Permanent Noise Increases in Excess of Established Standards.** A significant noise impact would be identified if the project would generate a substantial temporary or permanent noise level increase over ambient noise levels at existing noise-sensitive receptors surrounding the project site or would exceed applicable noise standards presented in the General Plan or Municipal Code at existing noise-sensitive receptors surrounding the project site.

    a. Temporary Noise Increase. A significant noise impact would be identified if construction-related noise would temporarily increase ambient noise levels at sensitive receptors. The City of San José considers large or complex projects involving substantial noise-generating activities and lasting more than 12 months significant when within 500 feet of residential land uses or within 200 feet of commercial land uses or offices.

    b. Permanent Noise Increase. A significant permanent noise level increase would occur if project-generated traffic would result in: a) a noise level increase of 5 dBA DNL or greater, with a future noise level of less than 60 dBA DNL, or b) a noise level increase of 3 dBA DNL or greater, with a future noise level of 60 dBA DNL or greater.

    c. Operational Noise in Excess of Standards. A significant noise impact would be identified if the project would expose persons to or generate noise levels that would exceed applicable noise standards presented in the General Plan.

2. **Generation of Excessive Groundborne Vibration.** A significant impact would be identified if the construction of the project would expose persons to excessive vibration levels. Groundborne vibration levels exceeding 0.2 in/sec PPV would have the potential to result in "architectural" damage to normal buildings.

3. **Excessive Aircraft Noise.** A significant noise impact would be identified if the project would expose people residing or working in the project area to excessive aircraft noise levels.

Impact 1: **Temporary or Permanent Noise Increases in Excess of Established Standards.** Project construction, operations, and traffic would not result in a substantial temporary or permanent noise level increase at existing noise-sensitive land uses in the project vicinity. **This is a less-than-significant impact.**

a. Temporary Noise Increases from Project Construction

Chapter 20.100.450 of the City of San José's 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. Policy EC-1.7 of the City of San José's General Plan requires that all construction operations within the City use best available noise suppression devices and techniques and to limit construction hours near residential uses per the Municipal Code allowable hours. Further, the City of San José 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.

Construction activities for individual projects are typically carried out in stages. During each stage of construction, there would be a different mix of equipment operating, and noise levels would vary by stage and vary within stages, based on the amount of equipment in operation and the location at which the equipment is operating. Typical construction noise levels at a distance of 50 feet are shown in Tables 6 and 7. Table 6 shows the average noise level ranges by construction phase, and Table 7 shows the maximum noise level ranges for different construction equipment. Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of the distance between the source and receptor. Shielding by buildings or terrain can provide an additional 5 to 10 dBA noise reduction at distant receptors.

TABLE 6 Typical Ranges of Construction Noise Levels at 50 Feet, L_{eq} (dBA)

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	II	I	II	I	II	I	II
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

I - All pertinent equipment present at site.
II - Minimum required equipment present at site.

Source: U.S.E.P.A., Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

TABLE 7 Construction Equipment 50-foot Noise Emission Limits

Equipment Category	L_{max} Level (dBA)[1,2]	Impact/Continuous
Arc Welder	73	Continuous
Auger Drill Rig	85	Continuous
Backhoe	80	Continuous
Bar Bender	80	Continuous
Boring Jack Power Unit	80	Continuous
Chain Saw	85	Continuous
Compressor[3]	70	Continuous
Compressor (other)	80	Continuous
Concrete Mixer	85	Continuous
Concrete Pump	82	Continuous
Concrete Saw	90	Continuous
Concrete Vibrator	80	Continuous
Crane	85	Continuous
Dozer	85	Continuous
Excavator	85	Continuous
Front End Loader	80	Continuous
Generator	82	Continuous
Generator (25 KVA or less)	70	Continuous
Gradall	85	Continuous
Grader	85	Continuous
Grinder Saw	85	Continuous
Horizontal Boring Hydro Jack	80	Continuous
Hydra Break Ram	90	Impact
Impact Pile Driver	105	Impact
Insitu Soil Sampling Rig	84	Continuous
Jackhammer	85	Impact
Mounted Impact Hammer (hoe ram)	90	Impact
Paver	85	Continuous
Pneumatic Tools	85	Continuous
Pumps	77	Continuous
Rock Drill	85	Continuous
Scraper	85	Continuous
Slurry Trenching Machine	82	Continuous
Soil Mix Drill Rig	80	Continuous
Street Sweeper	80	Continuous
Tractor	84	Continuous
Truck (dump, delivery)	84	Continuous
Vacuum Excavator Truck (vac-truck)	85	Continuous
Vibratory Compactor	80	Continuous
Vibratory Pile Driver	95	Continuous
All other equipment with engines larger than 5 HP	85	Continuous

Notes:

1 Measured at 50 feet from the construction equipment, with a "slow" (1 sec.) time constant.

2 Noise limits apply to total noise emitted from equipment and associated components operating at full power while engaged in its intended operation.

3 Portable Air Compressor rated at 75 cfm or greater and that operates at greater than 50 psi.

Source: Mitigation of Nighttime Construction Noise, Vibrations and Other Nuisances, National Cooperative Highway Research Program, 1999.

Project construction is scheduled for separate phases for each of the three buildings. Construction of the first data center building, SV12, would begin in the fourth quarter of 2020 and is anticipated to finish in the first quarter of 2022, for a total of up to 15 months. Construction of the second data center building, SV18, would begin in the second quarter of 2023 and is anticipated to finish in the fourth quarter of 2024, for a total of up to 18 months. Construction of the third data center building, SV19, would begin in the second quarter of 2026 and is anticipated to finish in the fourth quarter of 2027, for a total of up to 18 months. The construction of the proposed project would involve site preparation, grading and excavation, trenching, building erection, interior/architectural coating, and paving. A list of anticipated equipment to be used during each phase of construction was provided for the project. Drilled piles would be used for the construction of foundations. Table 8 shows the anticipated construction noise levels calculated for each phase of construction using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). Note that the Site Preparation and Grading/Excavation phases will occur only once prior to construction of SV12, and all other phases will once per construction of each data center building.

TABLE 8 Calculated Construction Noise Levels for Each Phase of Construction

Construction Phase	At Distance of 50 ft.	
	L_{eq}, dBA	**L_{max}, dBA**
Site Preparation (20 days)	85	85
Grading/Excavation (40 days)	88	88
Trenching (60 days)	83	84
Building-Exterior (230 days)	85	85
Building-Interior (40 days)	78	78
Paving (20 days)	86	90

Construction activities generate considerable amounts of noise, especially during earth-moving activities when heavy equipment is used. As indicated in Table 8, at 50 feet from the noise source, maximum instantaneous noise levels generated by project construction equipment are calculated to range from 78 to 90 dBA L_{max} and hourly average noise levels are calculated to range from 78 to 88 dBA L_{eq}. The majority of land uses surrounding the site are non-noise sensitive industrial park uses such as parking, bus yards, etc. Residences are located 700 feet south of the site. There are no residences located within 500 feet of project construction. Commercial uses are located as close as 150 feet to the north and west.

Residences southwest of the site across Santa Teresa Boulevard would be exposed to a maximum noise level of 67 dBA L_{max} during paving, and maximum noise levels of 55 to 65 dBA L_{max} during other phases of construction when construction is located at the southern side of the site. Typical hourly average noise levels of 55 to 65 dBA L_{eq} are anticipated at the residences during busy periods of construction located on the southern side of the site. Commercial uses, about 150 feet to the northeast across Via Del Oro and about 150 feet to the northwest across San Ignacio Avenue, would be exposed to a maximum noise level of 80 dBA L_{max} during paving, and maximum noise levels of 68 to 78 dBA L_{max} during other phases of construction when construction is located along the northern or western sides of the site. Typical hourly average noise levels of 68 to 78 dBA L_{eq} are anticipated at the commercial uses during busy periods of construction located adjacent to these

areas. Noise levels would be lower as construction moves away from site boundaries or into shielded areas.

Policy EC-1.7 of the City's General Plan states that for large or complex projects within 500 feet of residential land uses or within 200 feet of commercial land uses or offices involving substantial noise-generating activities lasting more than 12 months, 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. Construction would not be located within 500 feet of residences, but would be located within 200 feet of commercial land uses for a period of greater than 12 months.

Modification, placement, and operation of construction equipment are possible means for minimizing the impact on the existing sensitive receptors. Construction equipment should be well-maintained and used judiciously to be as quiet as possible. Additionally, construction activities for the proposed project should include the following best management practices to reduce noise from construction activities:

- Construction activities within 200 feet of commercial uses shall be limited to the hours between 7:00 am and 7:00 pm, Monday through Friday, or other non-noise sensitive hours, as determined through discussions with the surrounding businesses.

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.

- Unnecessary idling of internal combustion engines within 200 feet of commercial uses is strictly prohibited. Equipment shall be turned off when not in use and the maximum idling time shall be limited to five minutes.

- Locate stationary noise-generating equipment such as air compressors or portable power generators at least 200 feet from adjacent office and commercial uses to the greatest extent feasible.

- Utilize "quiet" air compressors and other stationary noise sources where technology exists.

- Notify all adjacent business 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.

- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will 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 in it the notice sent to neighbors regarding the construction schedule.

Implementation of the above measures would reduce construction noise levels emanating from the site, limit construction hours, and minimize disruption and annoyance. With the implementation of these measures, and recognizing that noise generated by construction activities would occur over a temporary period, the temporary increase in ambient noise levels would be **less-than-significant**.

Mitigation Measure 1a: None required.

b. Permanent Noise Increases from Project Traffic

Policy EC-1.2 of the City's General Plan identifies a significant permanent noise increase to occur if the project would increase noise levels at noise-sensitive receptors by 3 dBA DNL or more where ambient noise levels exceed the "normally acceptable" noise level standard. Where ambient noise levels are at or below the "normally acceptable" noise level standard, noise level increases of 5 dBA DNL or more would be considered significant. For reference, a 3 dBA DNL noise increase would be expected if the project would double existing traffic volumes along a roadway.

A traffic study was not prepared for the project. Data centers typically operate with relatively few employees at any given time. The project site would include a total of 266 parking spaces. Traffic counts performed concurrently with short-term noise measurements on Tuesday, December 3rd, 2019 showed that during the non-peak times between 10:40 a.m. and 11:50 a.m., the total hourly number of cars traveling on surrounding roads were 162 along Via Del Oro, 198 along San Ignacio Avenue, 318 along Great Oaks Boulevard, and 732 along Santa Teresa Boulevard. Past long-term measurement noise data from Tuesday, October 30th, 2018 through Friday, November 2nd, 2018 shows traffic noise in the area to increase by approximately 2 to 3 dBA L_{eq} during peak hours as compared to the mid-morning period. This would be equivalent to a doubling of traffic volumes during peak hours from those measured during the mid-morning period. Assuming a worst-case scenario wherein all 266 parking spaces are in use daily equating to 266 vehicle trips during the AM and PM peak hours along both Via Del Oro and Santa Teresa Boulevard, this would result in traffic noise increases of 2 dBA DNL along Via Del Oro and 1 dBA DNL along Santa Teresa Boulevard. Actual traffic noise increases are anticipated to be much lower, as data centers do not typically utilize their parking lots to full capacity. Project generated traffic noise increases would be less than 3 dBA DNL at noise-sensitive receptors in the vicinity. This is a **less-than-significant** impact.

Mitigation Measure 1b: None required.

c. Permanent Noise Increases from On-Site Operational Noise

Section 20.50.300 of the City's Municipal Code establishes noise level performance standards for sources of noise originating from land zoned for industrial use. Noise levels are not to exceed 55 dBA at property lines shared with property used or zoned for residential purposes, 60 dBA at property lines shared with property used or zoned for commercial purposes, or 70 dBA at property lines shared with property used or zoned for industrial or use other than commercial or residential

purposes. The City's Municipal Code would only be applicable to the testing of the generators and not to the operation of emergency generators necessary to provide services during an emergency.

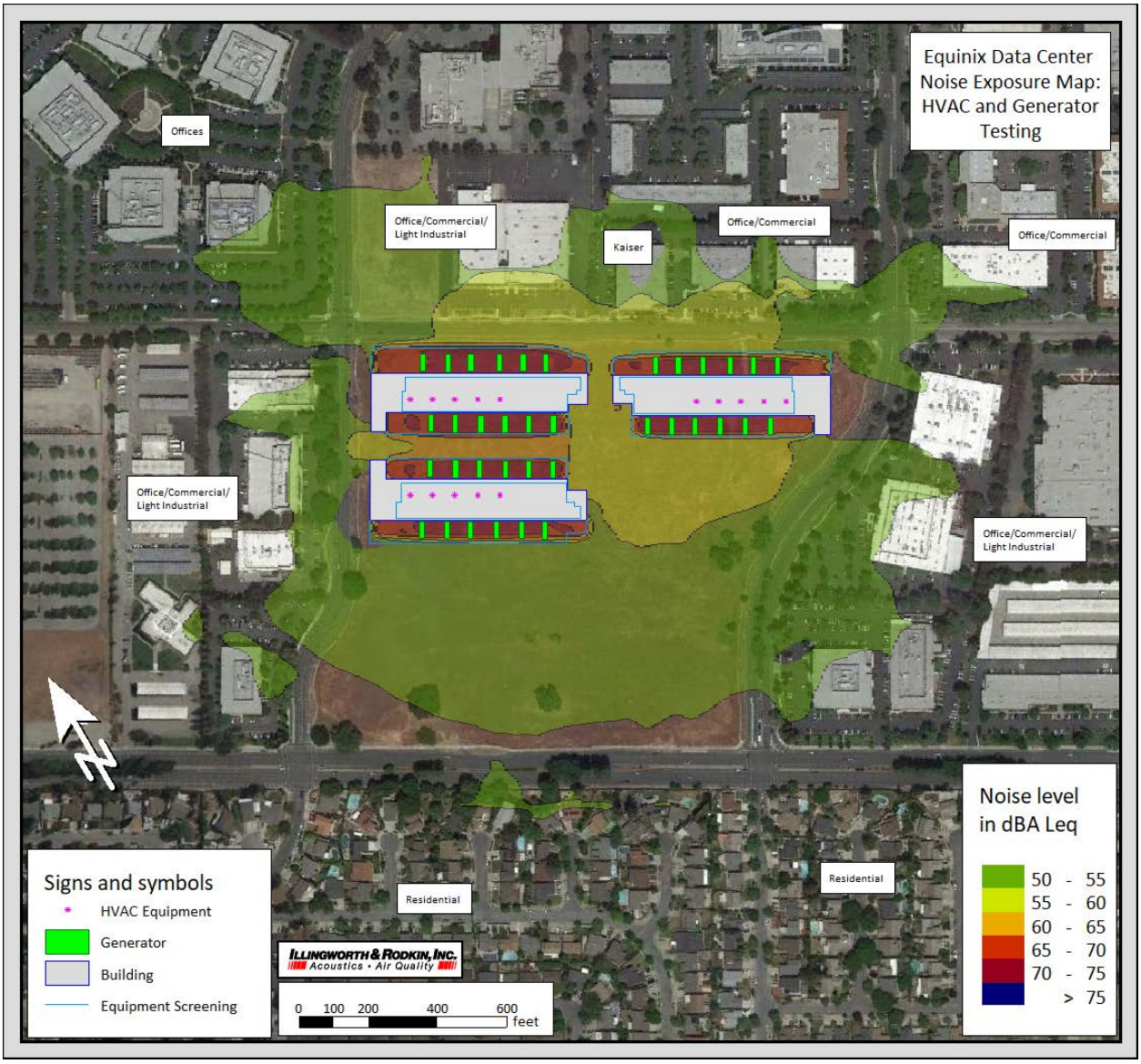
The proposed project would include 36 3.25-MW diesel-fueled generators and 3 0.5 MW diesel-fueled house generators, located within generator yards adjacent to the north and south sides of each building. Each generator would be enclosed and tested only during daytime hours. Under full load, each 3 MW generator would meet a design goal of 75 dBA at a distance of 23 feet. Generator yards would be surrounded by on all sides by screening walls. Heating, ventilation, and air conditioning (HVAC) equipment including four chiller plant modules, 12 condenser units, four make up air units, and one supply/exhaust fan would be located on the rooftops of each of the data center buildings and surrounded by screening walls. Noise data provided for the chiller plant modules indicated a sound power level of 99 dBA. Other mechanical and electrical equipment located inside the buildings would not be anticipated to emit audible noise outside.

Proposed fixed sources of noise at the site were modeled using SoundPLAN, a three-dimensional noise modeling software that considers site geometry, the characteristics of the noise sources, and shielding from structures and barriers. Two scenarios for noise exposure were considered for this project: noise from continuously operating HVAC equipment, and noise from HVAC equipment concurrent with testing of all generators simultaneously. Typically, one to two generators are tested at a time, but as the testing schedule is not yet developed for the project, the scenario was analyzed assuming all generators will be tested simultaneously. Results of the two scenarios are summarized in Table 9. The second scenario, indicating the worst-case noise situation, is provided as a noise exposure map in Figure 2. Land uses are also identified in Figure 2.

TABLE 9 Calculated Noise Levels Resulting from On-Site Operations

Receiver Location	Calculated Noise Levels, dBA L_{eq}	
	HVAC Only	HVAC and Generator Testing
Residential Property Line to the South along Santa Teresa Boulevard	37 – 42	42 – 50
Kaiser Permanente Medical Facility	44 – 46	55 – 58
Office, Commercial, and Light Industrial Uses to the West	41 – 44	50 – 53
Office, Commercial, and Light Industrial Uses to the East	41 – 45	50 – 55
Office, Commercial, and Light Industrial Uses to the North	38 – 46	47 – 58

FIGURE 2 Noise Exposure Resulting from HVAC Equipment and Generator Testing



As seen in Table 9 and Figure 2, noise resulting from continuous operation of HVAC equipment and simultaneous testing of all generators under full load is not anticipated to exceed the residential limits of 55 dBA L_{eq} at the nearest residential property line to the south. The commercial limit of 60 dBA L_{eq} is not anticipated to be exceeded at any of the surrounding uses, including the Kaiser Permanente medical facility to the north. The industrial limit of 70 dBA L_{eq} is not anticipated to be exceeded at any surrounding use. Noise levels resulting from on-site operations are not anticipated to have the potential to exceed noise level standards in the vicinity.

The generator testing plan indicated a worst-case scenario of a maximum of 8 hours of testing per generator under full load during the commissioning phase and during periods of switchgear maintenance occurring once every four years. Generator testing during other periods of project operations would occur for much shorter time periods. A day-night average noise level of 46 to 51 dBA DNL at the nearest residences was calculated resulting from all generators operating simultaneously for 8-hours per day. This is well below the existing ambient noise level, which was measured to be 65 dBA DNL. On-site operations would not result in a significant increase in ambient noise at the nearest residences.

This is a **less-than-significant impact**.

Mitigation Measure 1c: None required.

Impact 2: Generation of Excessive Groundborne Vibration due to Construction. Construction-related vibration levels are not anticipated to exceed limits at the nearest structures. This is a **less-than-significant impact**.

Construction of the project is anticipated to take place between the fourth quarter of 2020 and the fourth quarter of 2027, with breaks in construction occurring between completion of each data center. A significant impact would be identified if the construction of the project would generate groundborne vibration levels at adjacent structures exceeding 0.2 in/sec PPV, as these levels would have the potential to result in "architectural" damage to normal buildings. The vibration limits contained in this policy are conservative and designed to provide the ultimate level of protection for existing buildings in San José.

Project construction activities, such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may generate substantial vibration in the immediate vicinity of the work area. Impact or vibratory pile driving is not proposed as a method of construction. Vibration levels would vary depending on soil conditions, construction methods, and equipment used. Table 10 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet, and calculated vibrations levels that could be expected at distances of 100 and 150 feet, representative of the distances from the site to the nearest structures.

TABLE 10 Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 ft. (in/sec)	PPV at 100 ft. (in/sec)	PPV at 150 ft. (in/sec)
Clam shovel drop		0.202	0.094	0.028
Hydromill (slurry wall)	in soil	0.002	0.008	0.001
	in rock	0.004	0.017	0.002
Vibratory Roller		0.210	0.098	0.029
Hoe Ram		0.089	0.042	0.012
Large bulldozer		0.089	0.042	0.012
Caisson drilling		0.089	0.042	0.012
Loaded trucks		0.076	0.035	0.011
Jackhammer		0.035	0.016	0.005
Small bulldozer		0.003	0.001	0.000

Source: Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Office of Planning and Environment, Federal Transit Administration, September 2018 as modified by Illingworth & Rodkin, Inc., December 2019.

These levels calculated assuming normal propagation conditions, using a standard equation of *PPVeqmt-PPVref * (25/D) 1.5*, from FTA, May 2006.

The closest existing structures to the project site are industrial park buildings located about 100 feet northeast of the site across Via Del Oro. Industrial park structures are also located about 150 feet to the northwest across San Ignacio Avenue and 200 feet to the east across Great Oaks Boulevard. Residences are located about 700 feet southwest of the site.

Based on the levels shown in Table 10, vibration would not exceed the 0.2 in/sec PPV limit at any structures in the site vicinity. This is a **less-than-significant impact**.

Mitigation Measure 2: **None required**.

Impact 3: **Excessive Aircraft Noise Levels.** The proposed project would be located in a compatible noise environment with respect to noise generated by Norman Y. Mineta International Airport. There is **no impact**.

Norman Y. Mineta International Airport is located approximately 11 miles northwest of the project site. The project site is located outside of the 2027 noise contours shown in the Norman Y. Mineta International Airport Master Plan Update Project Report (2010). The site would not be exposed to excessive aircraft noise. There is **no impact**.

Mitigation Measure 3: **None required.**

Appendix I

Water Supply Questionnaire

INSTRUCTIONS FOR COMPLETING THE CALIFORNIA PUBLIC UTILITIES COMMISSION (CPUC) WATER SUPPLY QUESTIONNAIRE (WSQ)

(FOR OTHER THAN A PUBLICLY-OWNED OR A MUTUAL WATER UTILITY)

This WSQ is to be completed for the subdivider by the water utility serving the area to certify that it has the ability to serve. This WSQ is to be filed as a standard advice letter, in conjunction with a service area extension, if applicable.

This WSQ must clearly show that:

(1) the subdivision is entirely within the certificated service area of the utility,
(2) an adequate supply of water is available[1] for the entire system in which the subdivision is situated, and
(3) adequate fire flow exists to meet the requirements of all existing customers, the fully developed subdivision, and the anticipated growth during the period of the subdivision development.

Supporting data, calculations, and conclusions are to be included in the WSQ filing. Supporting data (flow quantities, fire flow test, letter from fire protection agency, number of customers, etc.) should not be older than 1 year from the date of the WSQ filing. Calculations must be shown, where required.

Please note that all areas in this WSQ are to be completed, all attachments are to be provided, and the entire package must be verified. Failure to do any of these will mean automatic rejection of the WSQ.

The water utility should provide the information requested in the format as shown in this WSQ. Should the CPUC analyst need additional information, he/she will contact the utility.

Once completed, the WSQ is to be forwarded to:

CPUC
Attention: Water Division, Advisory Branch
505 Van Ness Avenue, Room 3106
San Francisco CA 94102-3298

Any questions regarding the WSQ may be directed to Fred Curry, Chief, at the above address or by telephone at (415) 703-1739.

NOTE: "Subdivision", as used in this WSQ, means that the subdivision for which this WSQ is being prepared.

[1] As defined by the CPUC General Order No. 103

This WSQ contains the following:

1. Information Cover Sheet.
2. Section A - Water Supply Available For Entire System At Present To Meet The Maximum Day Demand
3. Section B - Water Supply Requirements
4. Section C - Water Supply Conclusion
5. Section D - Minimum 2 Hour Total Flow Requirement
6. Section E – Minimum 2 Hour Total Flow Conclusion
7. Section F - Water Supply Summary
8. Section G- Supporting Calculations For Section A
9. Section H - Supporting Calculations For Section B
10. Section I - Supporting Documentation For Section D
11. Section J - Supporting Documentation For Section E
12. Section K - System Map And Proposed Subdivision Map
13. Certification and Verification Sheet

File No.: 615-4

CPUC
WATER SUPPLY QUESTIONNAIRE (WSQ)
(FOR OTHER THAN A PUBLICLY-OWNED, OR A MUTUAL, WATER UTILITY)

Water Supply Utility:

Utility Name: Great Oaks Water Company (U162 W)
Mailing Address: P. O. Box 23490
City San Jose State CA Zip 95153
Telephone No.: (408) 227-9540
Fax No.: (408) 227-7126
Contact Person: Jared Ajlouny

Department of Real Estate (DRE) Information:

Mailing Address: N/A
City State Zip
Telephone No.: ( )
Contact Person: N/A
Assigned DRE No.: N/A
Is a DRE letter required? (Yes) X (No)

Subdivision to be Served:

Subdivision name: N/A
Tract No.: N/A
Location: Via Del Oro, San Jose
County: Santa Clara
Developer: Equinix
Number of Lots: 2 Number of Acres: 18
Number of Dwelling Units: 0

The subdivision is to be fully developed by 2027
(approximate date)

A. WATER SUPPLY AVAILABLE FOR ENTIRE SYSTEM AT PRESENT TO MEET THE MAXIMUM DAY DEMAND

All sources referenced below must be listed individually along with their corresponding supply amounts and all supporting calculations must be shown in Section G.

(1) Flow available for this subdivision from all sources, except distribution storage, on the day of maximum demand [from Section G(1)] ° …….. 23,800 gpm

(2) Total discharge capacity from distribution storage [from Section G(2)(a) or G(2)(b)] …….. 26,415 gpm

(3) Total supply available [A(1) + A(2)] …….. 50,215 gpm

How many independent sources of supply are being utilized? ……... 20

How many such maximum day's storage, or fraction thereof, are available? [from Section G(2)(b)(i)] …. .19 days

NOTE: The water system must be capable of replenishing the storage lost on the peak day, or long weekend, over the intervening periods of below average water consumption.

° During maximum use hours.

B. WATER SUPPLY REQUIREMENTS

(1) Total number of existing and potential residential and business customers:

(a) Number of residence and business customers in existing filed tariff area …….. 21,129

(b) Vacant or unserved lots in existing filed tariff area entitled to water service. (e.g. undeveloped lots in previously approved subdivisions) …….. 0

(c) Number of customers in the fully developed applied for subdivision ……. 1

(d) Total number of customers to be served [B(1)(a) + B(1)(b) + B(1)(c)] …….. 21,130

(2) Required water supply for **total residential and business customers** (Q_T):

$Q_T = Q_F + Q_M = (\ 0\ ) + (\ 22,292\ ) = (\ 22,292\ )$

Where,

Q_F = Water supply required for flat rate customers. [From Section H(1)(a)]
Q_M = Water supply required for metered rate customers. [From Section H(1)(b)]

NOTE: If there is no flat rate service, Q_F is equal to zero.

B. WATER SUPPLY REQUIREMENTS (CONT.)

(3) Required water supply for existing and anticipated industrial, irrigation, and public authority commitments, including those of the subdivision:

	No. of Service Connections	Maximum Demand gpm
(a) Industrial Customers ° ……	57	980
(b) Irrigation Customers ° ……	233	150
(c) Public Authorities ° ……..	224	400
(d) Subtotal [B(3)(a) + B(3)(b) + B(3)(c)] …	514	1,530

(if none, state so)

These connections are included in Section B(1)(d) and Section B(2) for domestic supply only.

° If any of the maximum demands entered always occur during periods of off-peak system demand, indicate instead your estimate of the demand of each such class of service during the period of maximum system demand.

(4) Total water supply requirements:

(a) Residential and business water supply requirements [Q_T, from Section B(2)] …….. 22,292 gpm

(b) Industrial, irrigation, and public authority requirements [From Section B(3)(d)] …… 1,530 gpm

(c) Total water supply requirements [B(4)(a) + B(4)(b)] …… 23,822 gpm

C. WATER SUPPLY CONCLUSION

(1) Apparent excess or deficiency in water supply (in maximum day requirements):

(a) Total water supply available at present
[From Section A(3)] ……. 50,215 gpm

(b) Total water supply requirements
[From Section B(4)(c)] ……. 23,822 gpm

(c) Apparent excess (or deficiency)
in water supply [C(1)(a) - C(1)(b)] ……. 26,393 gpm

(2) If a deficiency is apparent:

Explain plans for meeting such deficiency fully, including a statement of the numbers, types, and capacities of new water supply sources or storage facilities. Use additional sheets if necessary.

D. MINIMUM 2 HOUR TOTAL FLOW REQUIREMENT

(1) Fire Flow Required: 6000 gpm, as indicated in the attached letter [From Section I] dated _____ , from the applicable fire protection agency. (County Fire Flow Standards attached)

(2) Average Daily Requirement (ADR) within the planned subdivision. Determine by calculating the average daily requirement per existing customer in gpm and multiply it by the number of customer connections (lots) planned in the subdivision:

(No. of lots planned) x (Present annual consumption, in gallons) / (All existing customers) x (365 days) x (1440 minutes/day)

Indicate calculation:

ADR = (1) x (3.35 billion gallons) / (21,129) x (365) x (1440)

(* Total for GOWC's entire system)

= .301 gpm

(3) Total flow requirement:

(a) Land use fire flow requirement of local fire protection agency [From Section D(1)] …	6000	gpm
(b) Average daily requirement within subdivision [From Section D(2)] ……	400	gpm
(c) Minimum 2-hour total flow requirement [D(3)(a) + D(3)(b)] ……	6400	gpm

E. MINIMUM 2 HOUR TOTAL FLOW CONCLUSION

Apparent excess or deficiency in total flow:

(1) State the flow available from the existing system for two hours, at point clearly designated on the water system plan. If subdivision is to be served by extension of an existing system, attach a plan of the proposed water extension [From Section J] …… 6750 gpm

Indicate how determined:

_____ i. Fire flow test made on 11/6/19 (date)

X ii Other. (Explain): Calculated by Schaaf & Wheeler Consulting Civil Engineers via letter dated 11-6-19 (attached)

(2) Flow available from new source of supply provided in support of this subdivision. Indicate on water system plan (e.g. well supply or connection to other supply agency) … 0 gpm

(3) Distribution storage discharge capacity (2 hour flow available) [from Section A(2)] …… 26,415 gpm

(4) Total 2-hour flow available to subdivision, [E(1) + E(2) + E(3)] …….. 6,750 gpm

(5) Minimum 2-hour flow requirement in subdivision [from Section D(3)(c)] ……. 6400 gpm

(6) Excess (or deficiency) [E(4) – E(5)] ……. 350 gpm

F. WATER SUPPLY SUMMARY

(1) Does water system meet or exceed:

(a) Maximum daily requirements for a fully developed service area?
_____X__ Yes _____ No

(b) Total flow requirements of the subdivision?
_____X__ Yes _____ No

If no to (a) or (b) above, please explain: _____

_____

_____

_____

_____

(2) Main Extension Agreement with ____N/A_____.

(a) Is this a standard agreement? _____ Yes __X___ No

If no, explain: ____There is no main extension required._____

_____

_____

(b) Date of agreement: _____N/A_____

G. SUPPORTING CALCULATIONS FOR SECTION A

[Water Supply Available For Entire System At Present To Meet The Maximum Day Demand]

NOTE: Data submitted should be no more than 1 year old. If supply is from another water agency, you must also include a statement from that agency indicating the available quantity.

(1) List all water supply sources, except distribution storage, and show the total in Section A(1):

	SOURCE DESCRIPTION (WELL, SPRING, ETC.)	QUANTITY AVAILABLE (GPM)
1	Well 1	1500
2	Well 2	1500
3	Well 3	1500
4	Well 4	1500
5	Well 7	800
6	Well 8	1500
7	Well 9	875
8	Well 10	1300
9	Well 11	1500
10	Well 12	1400
11	Well 15	1000
12	Well 16	1500
13	Well 18	1200
14	Well 19	700
15	Well 20	1500
16	Well 21	1500
17	Well 22	100
18	Well 23	825
19	Well 24	1100
20	Well 25	1000
	TOTAL QUANTITY AVAILABLE	**23,800**

G. SUPPORTING CALCULATIONS FOR SECTION A (CONT.)

[Water Supply Available For Entire System At Present To Meet The Maximum Day Demand]

NOTE: Data submitted should be no more than 1 year old.

(2) List all distribution storage sources:

STORAGE	DESCRIPTION	QUANTITY (GALLONS)
1	Levin zone 1	3,000,000
2	Levin zone 3	1,500,000
3	Ashmont	1,500,000
4	Calero	240,000
5	Country View	99,683
6		
7		
8		
9		
10		
	TOTAL STORAGE CAPACITY	**6,339,683**

G. SUPPORTING CALCULATIONS FOR SECTION A (CONT.)

[Water Supply Available For Entire System At Present To Meet The Maximum Day Demand]

Total discharge capacity is the lesser of (a) total storage capacity [from Section G(2)] divided by 240 minutes (4 hours) or (b) the discharge capacity that represents the use of storage during 4 hours of peak or near-peak demand where one or more maximum days' storage are available. If less than one maximum day's storage is available, the resulting rate should be reduced by multiplying it by the ratio of the total storage to one maximum day's requirements.

Show both methods of calculating total discharge capacity. Enter the lesser of these two figures in Section A(2).

(a) total storage capacity [from Section G(2)] divided by 240 minutes:

6,339,683 gallons = 26,415 gpm
240 minutes

(b) Discharge capacity that represents the use of storage during 4 hours of peak or near-peak demand where one or more maximum days' storage are available. If less than one maximum day's storage is available, the resulting rate should be reduced by multiplying it by the ratio of the total storage to one maximum day's requirements:

N/A

i) Show calculation for how many maximum day's storage, or fraction thereof, is available:

6,339,683 gallons = .19 days
32,099,040 gpd

H. SUPPORTING CALCULATIONS FOR SECTION B

[Water Supply Requirements]

(1) Show calculations for total required water supply for residential and business customers ($Q_T = Q_F + Q_M$), where the sum of the water supply required for flat rate customers (Q_F) and the water supply required for metered rate customers (Q_M) equals the total required water supply (Q_T).

$Q = N * c * f$

Where,

N = The total number of existing and potential residence and business customers [From H(2)].

c = Gallons per minute (gpm), a water use variable depending upon whether the area is to be served at flat or metered rates and depending upon other factors such as area, experience, community, standard of living, climate, class of consumer, quality, and cost of water and sewer facilities. Varies between 5 and 9 for flat rate service and 2 and 5 for metered service, reflecting maximum day domestic usage.

f = A factor to reflect diversity which varies roughly as follows:

For	10	Customers …….	1.80
For	25	Customers …….	1.33
For	50	Customers …….	.97
For	100	Customers …….	.70
For	300	Customers …….	.41
For	1,000	Customers …….	.30 (Minimum)

(a) Q_F = (__0__)*(__7__)*(__0__) = __0__ gpm
(b) Q_M = (__21,230)*(__3.5__)*(__.3__) = __22,291 gpm

(2) Provide breakdown of residential and business customers in the system used to determine c factor in Section H(1):

TYPE OF CUSTOMER	NUMBER OF CUSTOMERS
FLAT RATE	0
METERED RATE	21,230
TOTAL CUSTOMERS	**21,230**

H. SUPPORTING CALCULATIONS FOR SECTION B (CONT.)

[Water Supply Requirements]

(3) Justify c factor used in calculations (varies between 5 and 9 for flat rate service and 2 and 5 for metered service):

Used midrange for “c” factor.

I. SUPPORTING DOCUMENTATION FOR SECTION D

[Minimum 2 Hour Total Flow Requirement]

(1) Attach a letter from the applicable fire protection agency stating their fire flow requirement for Section D(1).

NOTE: Data submitted should be no more than 1 year old.

(2) The flow standards for public fire protection purposes, set forth below, are those the CPUC considers appropriate for application on an average statewide basis. However, the CPUC recognizes that there are widely varying conditions bearing on fire protection throughout the urban, suburban, and rural areas of California. Therefore, the standards prescribed by the local fire protection agency or other prevailing local governmental agency will govern. Such local flow standards shall be provided whether greater or lesser than those set forth below.

Land Use	Minimum Flow
Rural, residential with a lot density of two or less per acre, primarily for recreational and/or part-time occupancy.	250 gpm
Lot density of less than one single-family residential unit per acre.	500 gpm
Lot density of one or two single-family residential units per acre.	750 gpm
Lot density of three or more single-family residential units per acre, including mobile home parks.	1,000 gpm
Duplex residential units, neighborhood business of one story.	1,500 gpm
Multiple residential, one and two stories light commercial or light industrial.	2,000 gpm
Multiple residential, three stories or higher, heavy commercial or heavy industrial.	2,500 gpm

J. SUPPORTING DOCUMENTATION FOR SECTION E
[Total Flow Conclusion]

(1) Attach any applicable fire flow test results for Section E(1)(i).

NOTE: Data submitted should be no more than 1 year old.

(2) Attach the plan of the proposed water extension and flow availability at identified point(s) for Section E(1).

K. SYSTEM MAP AND PROPOSED SUBDIVISION MAP

(1) Attach a map which delineates the subdivision and which clearly shows that the subdivision is entirely within the certificated service area of the utility. Indicate on the map the locations of:

(a) all fire flow test(s) conducted
(b) all water sources
(c) all storage facilities
(d) all pressure zones

(2) Attach a subdivision-specific map which clearly shows the details of the subdivision.

N/A (This is not a subdivision)

NOTE: Data submitted should be no more than 1 year old.

CERTIFICATION AND VERIFICATION

I am the owner, co-owner, or an officer in the corporation shown as the water public utility herein; I have read the statements in this document and known them to be true of my own knowledge, except as to the matters which are therein stated on information or belief, and as to those matters I believe them to be true.

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

Executed on 12/12/19, at San Jose, California.

Jared Ajlouny VP ,Operations

Signature (If corporate officer, also show title.)

Appendix J

Generator Specification Sheets

September 17th, 2019

To Whom It May Concern:

With regards to Cummins Power Systems (CPS) manufactured diesel generator set model **C3250D6e** rated for 60 Hz operation and equipped with Cummins **QSK95-G9** engine:

When tested under the following conditions:

Table 1	
Fuel Specification:	ASTM D975 No. 2-D S15 diesel fuel with 0.0015% sulfur content (by weight), and 42-48 cetane number.
Air Inlet Temperature:	77 °F
Fuel Inlet Temperature:	104 °F (at fuel pump inlet)
Barometric Pressure:	29.53 in. Hg
Humidity:	NOx measurement corrected to 75 grains H2O/lb. dry air

Based on engine emissions validation testing, the table below represents the nominal performance and exhaust emissions data for the generator set listed above:

	Standby					
PERFORMANCE DATA	**1%**	**10%**	**25%**	**50%**	**75%**	**100%**
BHP @ 1800 RPM (60 Hz)	155	562	1240	2371	3501	4631
Power Output (KWe)	33	325	813	1625	2438	3250
Fuel Consumption (US Gal/Hr.)	26	42	72	126	171	222
Exhaust Gas Flow (CFM)	5492	7187	10587	16885	20454	24336
Exhaust Gas Temperature (°F)	428	541	643	672	735	865
NMHC (Nonmethane Hydrocarbons)	2.80	0.59	0.28	0.17	0.09	0.06
NOx (Oxides of Nitrogen)	11.8	4.6	3.4	3.3	4.5	5.7
CO (Carbon Monoxide)	7.2	1.3	0.4	0.2	0.2	0.3
PM (Particulate Matter)	0.52	0.30	0.20	0.09	0.05	0.04
All emissions values are cited as g/BHP-hr						

Steady-State emissions recorded per ISO8178-1 during operation at rated engine speed (+/-2%) and stated constant load (+/-2%) with engine temperatures, pressures and emission rates stabilized.

The NOx, HC, CO, and PM emission data tabulated here are representative of test data taken from a single engine under the test conditions shown above. Data for the other components are estimated. This data is subject to instrumentation and engine-to-engine variability. Field emissions test data is not guaranteed to these levels. Actual field test results may vary due to test ambient, site conditions, installation, fuel specification, test procedures, instrumentation and ambient correction factors. Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.

Cummins Power Systems
1400 73rd Avenue NE
Minneapolis, MN 55432 USA
cumminspower.com

Values provided in the table below are representative of “Potential Site Variation” for the Equinix SV11 site in Santa Clara, CA. These values account for variances as indicated above without consideration of improper generator set maintenance.

	Standby					
PERFORMANCE DATA	**1%**	**10%**	**25%**	**50%**	**75%**	**100%**
BHP @ 1800 RPM (60 Hz)	155	562	1240	2371	3501	4631
Power Output (KWe)	33	325	813	1625	2438	3250
NMHC (Nonmethane Hydrocarbons)	4.76	1.00	0.48	0.29	0.15	0.10
NOx (Oxides of Nitrogen)	15.3	6.00	4.4	4.3	5.9	7.4
CO (Carbon Monoxide)	14.4	2.6	0.8	0.4	0.4	0.6
PM (Particulate Matter)	1.30	0.75	0.50	0.23	0.13	0.10
All emissions values are cited as g/BHP-hr						
Potential Site variation values provided above account for Engine, Ambient and Measurement variation with no correction factors.						

This letter does not supersede any of the commercial terms of sale, including, but not limited to, warranty coverage and compliance with law obligations. THE INFORMATION IN THIS LETTER IS PROVIDED “AS IS” AND WITH ALL FAULTS AND DEFECTS. CUMMINS DOES NOT WARRANT THE ACCURACY OF THE INFORMATION PROVIDED AND THIS LETTER SHOULD NOT BE SHARED WITH THIRD PARTIES WITHOUT CUMMINS PRIOR WRITTEN CONSENT. For further questions on this product or application, please contact the local Cummins Sales and Service representative.

Best Regards,

Tochukwu Duru

Application Engineer – Strategic Accounts (Data Center)

Office: +1 (651) 787-6252

Appendix K

2017 Initial Study/Mitigated Negative Declaration

Initial Study/Mitigated Negative Declaration for the

Equinix Data Centers (SV-12, SV-13, SV-14) and Santa Teresa Substation

File No. SP15-031

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

December 2016

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Department of Planning, Building and Code Enforcement
HARRY FREITAS, DIRECTOR

PUBLIC NOTICE
INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION
CITY OF SAN JOSÉ, CALIFORNIA

File No. and Project Name/Description: Equinix Data Centers (SV-12, SV-13, SV-14) and Santa Teresa Substation

SP15-031 – Equinix Data Centers (SV-12, SV-13, and SV-14). Special Use Permit to allow removal of nine ordinance-size trees and four non-ordinance size trees on-site, three off-site trees, and the construction of three data center buildings totaling 579,000 square feet on 18.56-gross acre site.

Santa Teresa Substation. The Initial Study also evaluates the construction of a new electrical substation to serve the data centers. This substation is proposed at the existing Pacific Gas and Electric (PG&E) Edenvale Service Center, located at 6402 Santa Teresa Boulevard and northwest of the data centers site. The proposed substation site would be approximately 1.9 acres and bound by an existing paved storage area to the south, undeveloped land to the east, VTA light-rail tracks to the north, and undeveloped land to the east. The substation portion of the project would include installation of four tubular steel poles and conductors that would provide a connection to the existing 115 kV Metcalf-Edenvale transmission line to the west. Two electrical 21 kV distribution feeders would also be routed underground along Via Del Oro to connect the proposed substation site with the proposed data center site.

Location: Data Centers: undeveloped land to the south of Via Del Oro between San Ignacio Avenue and Great Oaks Boulevard (APNs 706-02-053 and 706-02-054, and portions of 706-02-055 and 706-02-056). Electrical Substation: 6402 Santa Teresa Boulevard (APN 706-03-016).

The City has performed environmental review on the project. Environmental review examines the nature and extent of any adverse effects on the environment that could occur if a project is approved and implemented. Based on the review, the City has prepared a draft Mitigated Negative Declaration (MND) for this project. An MND is a statement by the City that the project will not have a significant effect on the environment if protective measures (mitigation measures) are included in the project.

The public is welcome to review and comment on the draft Mitigated Negative Declaration.

The public comment period for this draft Mitigated Negative Declaration begins on **Monday, December 12, 2016,** and ends on **Wednesday, January 18, 2017.**

The draft Mitigated Negative Declaration, initial study, and reference documents are available online on the City's Negative Declaration/Initial Study Library at: http://www.sanjoseca.gov/negativedeclarations.

The documents are also available for review from 9:00 a.m. to 5:00 p.m. Monday through Friday at the City of San Jose Department of Planning, Building & Code Enforcement, located at City Hall, 200 East Santa Clara Street and at the Dr. Martin Luther King, Jr. Main Library (150 E. San Fernando St).

For additional information, please contact Stefanie Farmer at (408) 535-3861, or by e-mail at stefanie.farmer@sanjoseca.gov.

Harry Freitas, Director
Planning, Building and Code Enforcement

Circulated on: December 12, 2016

Deputy

MITGATED 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.

NAME OF PROJECT: Equinix Data Centers (SV-12, SV-13, SV-14) and Santa Teresa Substation.

PROJECT FILE NUMBER: SP15-031

PROJECT DESCRIPTION: Equnix Data Centers. Special Use Permit to allow removal of nine ordinance-size trees and four non-ordinance size trees on-site, three off-site trees, and the construction of three data center buildings totaling 579,000 square feet on 18.56-gross acre site.

Santa Teresa Substation. The Initial Study also evaluates the construction of a new electrical substation to serve the data centers. This substation is proposed at the existing Pacific Gas and Electric (PG&E) Edenvale Service Center, located at 6402 Santa Teresa Boulevard and northwest of the data centers site. The proposed substation site would be approximately 1.9 acres and bound by an existing paved storage area to the south, undeveloped land to the east, VTA light-rail tracks to the north, and undeveloped land to the east. The substation portion of the project would include installation of four tubular steel poles and conductors that would provide a connection to the existing 115 kV Metcalf-Edenvale transmission line to the west. Two electrical 21 kV distribution feeders would also be routed underground along Via Del Oro to connect the proposed substation site with the proposed data center site.

PROJECT LOCATION & ASSESSORS PARCEL NO.: Equnix Data Centers: Undeveloped land to the south of Via Del Oro between San Ignacio Avenue and Great Oaks Boulevard (APNs 706-02-053 and 706-02-054, and portions of 706-02-055 and 706-02-056). Santa Teresa Substation: 6402 Santa Teresa Boulevard (APN 706-03-016).

COUNCIL DISTRICT: 2

APPLICANT CONTACT INFORMATION: Craig Pennington, Equinix, 255 Caspian Drive, Sunnyvale, CA 94089. Phone: (408) 543-6005

FINDING:

The Director of Planning, Building & Code Enforcement finds the project described above will not have a significant effect on the environment in that the attached initial study identifies one or more potentially significant effects on the environment for which the applicant, before public release of this

draft Mitigated Negative Declaration, has made or agrees to make project revisions that clearly mitigate the effects to a less than significant level.

I. AESTHETICS. The project will not have a significant impact on aesthetics or visual resources, therefore no mitigation is required.

II. AGRICULTURE AND FOREST RESOURCES. The project will not have a significant impact on agriculture or forest resources, therefore no mitigation is required.

III. AIR QUALITY.

MM AIR-1:

a) Generator operation for maintenance and testing purposes shall be limited so that the combined operation of all 21 generators does not exceed 356 hours in any consecutive 12-month period.

b) The maximum number of hours of operation of the generators for maintenance and testing is regulated by the Bay Area Air Quality Management District (BAAQMD), which will issue individual Permits to Operate for each data center building (or groups of generators) as they are constructed. The conditions in each Permit to Operate will be enforceable by BAAQMD. Prior to issuance of an occupancy permit for each building, the applicant shall provide a letter to the Director of Building, Planning and Code Enforcement from BAAQMD and/or a qualified consultant that documents that the sum of the hours of operation permitted and regulated by BAAQMD for the three data centers combined does not exceed 356 hours in any consecutive 12-month period. This letter shall include a copy of the BAAQMD approved Permit to Operate.

c) If, subsequent to issuance of occupancy permits, there is a change to the number of generators, a change to the model of generators, or a change in the number of hours the generators will be tested, documentation shall be provided to the City of San José Department of Building, Planning and Code Enforcement that total emissions from maintenance and testing for the three data centers would not exceed the significance thresholds for Nitrogen Oxide (NOx) on both an average daily (54 pounds per day) and annual averaging (10 tons/year) period. This documentation shall be reviewed and approved by a Supervising Planner of the Environmental Review Division of the Department of Planning, Building, and Code Enforcement prior to the issuance of any Planning Permits approving changes to the generators.

IV. BIOLOGICAL RESOURCES.

MM BIO-1.1:

If possible, construction should be scheduled between September and January (inclusive) to avoid the nesting season. If this is not possible, pre-construction surveys for nesting raptors and other migratory breeding birds shall be conducted by a qualified ornithologist to identify active nests that may be disturbed during project implementation onsite and within 250 feet of the site. Between February and April (inclusive) pre-construction surveys shall be conducted no more than 14 days prior to the initiation of construction activities or tree relocation or removal. Between May and August (inclusive), pre-

construction surveys shall be conducted no more than thirty (30) days prior to the initiation of these activities. The surveying ornithologist shall inspect all trees in and immediately adjacent to the construction area for nests.

MM BIO-1.2: If an active nest is found in or close enough to the construction area to be disturbed by these activities, the ornithologist shall, in consultation with the California Department of Fish and Wildlife (CDFW), designate a construction-free buffer zone (typically 250 feet for raptors and 100 feet for other birds) around the nest, which shall be maintained until after the breeding season has ended and/or a qualified ornithologist has determined that the young birds have fledged.

MM BIO-1.3: The applicant shall submit a report indicating the results of the survey and any designated buffer zones to the satisfaction of the Director of Planning, Building and Code Enforcement prior to the issuance of any grading or building permit.

V. CULTURAL RESOURCES.

MM CUL-1.1: An archaeologist qualified in local historical and prehistory archaeology shall complete a subsurface presence/absence program to determine whether any intact archaeological deposits are present on-site. Preparation of that work shall include aligning pertinent historic-period maps to the project area to identify specific sensitive areas that could be impacted by the proposed development. Should any archaeological features or deposits be identified, a focused research design and treatment plan shall be prepared to address any potential resources exposed during construction activities followed by archaeological excavation of these features.

MM CUL-1.2: In the event of the discovery of prehistoric or historic archaeological deposits or paleontological deposits, work shall be halted within 50 feet of the discovery and a qualified professional archaeologist (or paleontologist, as applicable) shall examine the find and make appropriate recommendations regarding the significance of the find and the appropriate mitigation. The recommendation shall be implemented and could include collection, recordation, and analysis of any significant cultural materials.

MM CUL-1.3: Pursuant to Section 7050.5 of the Health and Safety Code and Section 5097.94 of the Public Resources Code of the State of California, in the event of the discovery of human remains during construction, there shall be no further excavation or disturbance of the site within a 50-foot radius of the remains or any nearby area reasonably suspected to overlie adjacent remains. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he shall notify the Native American Heritage Commission who shall attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the land owner shall re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance.

MM CUL-1.4: A final report summarizing the discovery of cultural materials shall be submitted to the City's Environmental Senior Planner prior to issuance of building permits. This report shall contain a description of the mitigation program that was implemented and its results, including a description of the monitoring and testing program, a list of the resources found, a summary of the resources analysis methodology and conclusion, and a description of the disposition/curation of the resources. The report shall verify completion of the mitigation program to the satisfaction of the Environmental Senior Planner.

VI. GEOLOGY AND SOILS. The project will not have a significant impact due to geology and soils, therefore no mitigation is required.

VII. GREENHOUSE GAS EMISSIONS. The project will not have a significant impact due to greenhouse gas emissions, therefore no mitigation is required.

VIII. HAZARDS AND HAZARDOUS MATERIALS. The project will not have a significant hazards and hazardous materials impact, therefore no mitigation is required.

IX. HYDROLOGY AND WATER QUALITY. The project will not have a significant hydrology and water quality impact, therefore no mitigation is required.

X. LAND USE AND PLANNING. The project will not have a significant land use impact, therefore no mitigation is required.

XI. MINERAL RESOURCES. The project will not have a significant impact on mineral resources, therefore no mitigation is required.

XII. NOISE.

MM NOI-1: The project applicant shall prepare a noise logistics plan, which shall be submitted for review and approval by the Supervising Planner of the Environmental Review Division of the Department of Planning, Building, and Code Enforcement prior to issuance of grading and building permits. This plan shall include, at a minimum, the following measures to reduce the exposure of adjacent office buildings to construction noise:

1) Construction hours within 200 feet of commercial uses shall be limited to the hours of 7:00 a.m. and 7:00 p.m. weekdays, with no construction on weekends or holidays. Pile driving shall be limited to the hours of 8:00 a.m. to 5:00 p.m. Monday through Friday.

2) Utilize 'quiet' models of air compressors and other stationary noise sources where technology exists. A letter from a qualified acoustic specialist shall be attached to the noise logistics plan along with a list of proposed construction equipment, including air compressors and other stationary noise sources, certifying that the proposed construction equipment includes the best available noise attenuating technologies.

3) All internal combustion engine-driven equipment shall use best available noise control practices and equipment (including mufflers, intake silencers,

ducts, engine enclosures, and acoustically attenuating shields or shrouds). A letter from a qualified acoustic specialist shall be attached to the noise logistics plan along with a list of proposed construction equipment, certifying that the proposed construction equipment includes the best available noise attenuating technologies.

4) Locate all stationary noise-generating equipment, such as air compressors and portable power generators, at least 200 feet from adjacent office and commercial land uses.

5) Locate staging areas and construction material areas at least 200 feet from adjacent office and commercial land uses to the greatest extent feasible.

6) Prohibit all unnecessary idling of internal combustion engines. Equipment shall be shut off when not in use and the maximum idling time shall be limited to five minutes.

7) The contractor will prepare a detailed construction plan identifying a schedule of major noise generating construction activities. This plan shall identify a noise control 'disturbance coordinator' and procedure for coordination with the adjacent noise sensitive facilities so that construction activities can be scheduled to minimize noise disturbance. This plan shall be made publicly available for interested community members.

   The disturbance coordinator will be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the case of the noise complaint (e.g. starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. The telephone number for the disturbance coordinator at the construction site shall be posted on the construction site and included in a notice sent to adjacent commercial businesses regarding the construction schedule.

8) All measures in the approved noise logistics plan shall be printed on all approved plans for grading and building permits.

XIII. POPULATION AND HOUSING. The project will not have a significant population and housing impact, therefore no mitigation is required.

XIV. PUBLIC SERVICES. The project will not have a significant impact on public services, therefore no mitigation is required.

XV. RECREATION. The project will not have a significant impact on recreation, therefore no mitigation is required.

XVI. TRANSPORTATION / TRAFFIC. The project will not have a significant traffic impact, therefore no mitigation is required.

XVII. UTILITIES AND SERVICE SYSTEMS. The project will not have a significant impact on utilities and service systems, therefore no mitigation is required.

XVIII. ENERGY. The project will not have a significant impact on energy resources, therefore no mitigation is required.

XIX. MANDATORY FINDINGS OF SIGNIFICANCE. Mitigation measures would be incorporated, as necessary, to reduce potentially significant air quality, biological resource, noise, and cultural resource impacts to a less than significant level.

PUBLIC REVIEW PERIOD

Before 5:00 p.m. on **Wednesday, January 18, 2017,** any person may:

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

2. Submit written comments regarding the information, analysis, and mitigation measures 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.

Circulation period, from **Monday, December 12, 2016 to January 18, 2017.**

Harry Freitas, Director
Planning, Building and Code Enforcement

Deputy

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APPENDICES

SECTION 1.0 INTRODUCTION AND PURPOSE

This Initial Study of environmental impacts has been prepared to conform to the requirements of the California Environmental Quality Act (CEQA), the CEQA Guidelines (Title 14, California Code of Regulations §15000 et seq.) and the regulations and policies of the City of San José. The purpose of this Initial Study is to provide objective information regarding the environmental consequences of the proposed project to the decision makers who will be reviewing and considering the project.

The City of San José is the Lead Agency under CEQA and has prepared this Initial Study to evaluate the environmental impacts that might reasonably be anticipated to result from the construction of three separate data center buildings in south San José.

All documents referenced in this Initial Study are available for public review in the Office of Planning, Building and Code Enforcement at San José City Hall, 200 East Santa Clara Street, during normal business hours.

SECTION 2.0 PROJECT INFORMATION

2.1 PROJECT TITLE AND PROJECT NUMBER

Equinix Data Centers (SV-12, SV-13, SV-14) SP15-031

2.2 PROJECT LOCATION

Data Centers Site

The approximately 18-acre data centers site is located in south San José, south of State Road 85 (SR 85). The site is bounded by San Ignacio Avenue to the west, Via Del Oro to the north, Great Oaks Boulevard to the east, and undeveloped land to the south. For the purposes of this Initial Study, Via Del Oro is considered the northern boundary of the main site and San Ignacio Avenue is the western boundary of the site. Regional and vicinity maps of the project site are shown on Figures 2.2-1 and 2.2-2, respectively. An aerial photograph of the main project site and surrounding land uses is shown on Figure 2.2-3.

Substation Site, Transmission Line, Distribution Feeders

A new electrical substation is also proposed at the existing Pacific Gas and Electric (PG&E) Edenvale Service Center, located at 6402 Santa Teresa Boulevard and northwest of the data centers site. The proposed substation site would be approximately 1.9 acres and bound by an existing paved storage area to the south, undeveloped land to the east, VTA light-rail tracks to the north, and undeveloped land to the east.

The substation portion of the project would include installation of four tubular steel poles and conductors that would provide a connection to the existing 115 kV Metcalf-Edenvale transmission line to the west. An aerial photograph of the substation site that shows the location of the proposed transmission line loop in relation to the substation site is provided on Figure 2.2-4. Two electrical 21 kV distribution feeders would also be routed underground along Via Del Oro to connect the proposed substation site with the proposed data center site.

2.3 LEAD AGENCY CONTACT

David Keyon, *Planner*
City of San José
Department of Planning, Building, and Code Enforcement
200 East Santa Clara Street
San José, CA 95113
Phone: (408) 535-3555
Email: david.keyon@sanjoseca.gov

2.4 PROPERTY OWNER/PROJECT APPLICANT

Equinix
One Lagoon Drive, 4th Floor
Redwood City, CA 94065
Phone: (650) 513-7000
Attn: Matthew Soltis
Email: msoltis@equinix.com

2.5 ASSESSOR'S PARCEL NUMBERS

Data Center Site

706-02-053 and 706-02-054, and portions of 706-02-055 and 706-02-056

Substation Site

706-03-016

2.6 ZONING DISTRICT AND GENERAL PLAN DESIGNATIONS

Data Center Site

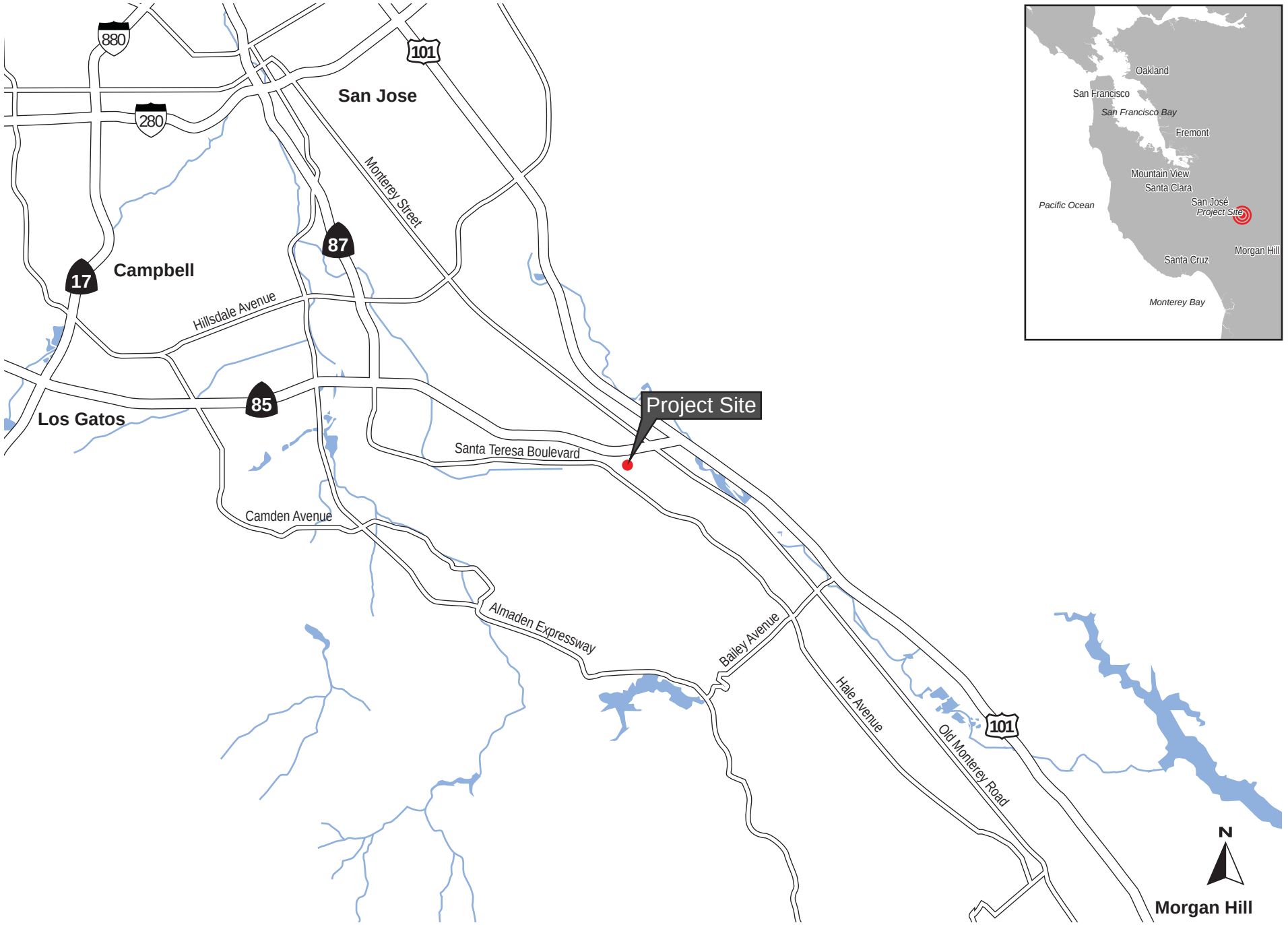
Zoning District: *IP – Industrial Park*
General Plan: *IP – Industrial Park* and *TEC – Transit Employment Center*

Substation Site

Zoning District: *IP – Industrial Park*
General Plan: *TEC – Transit Employment Center*

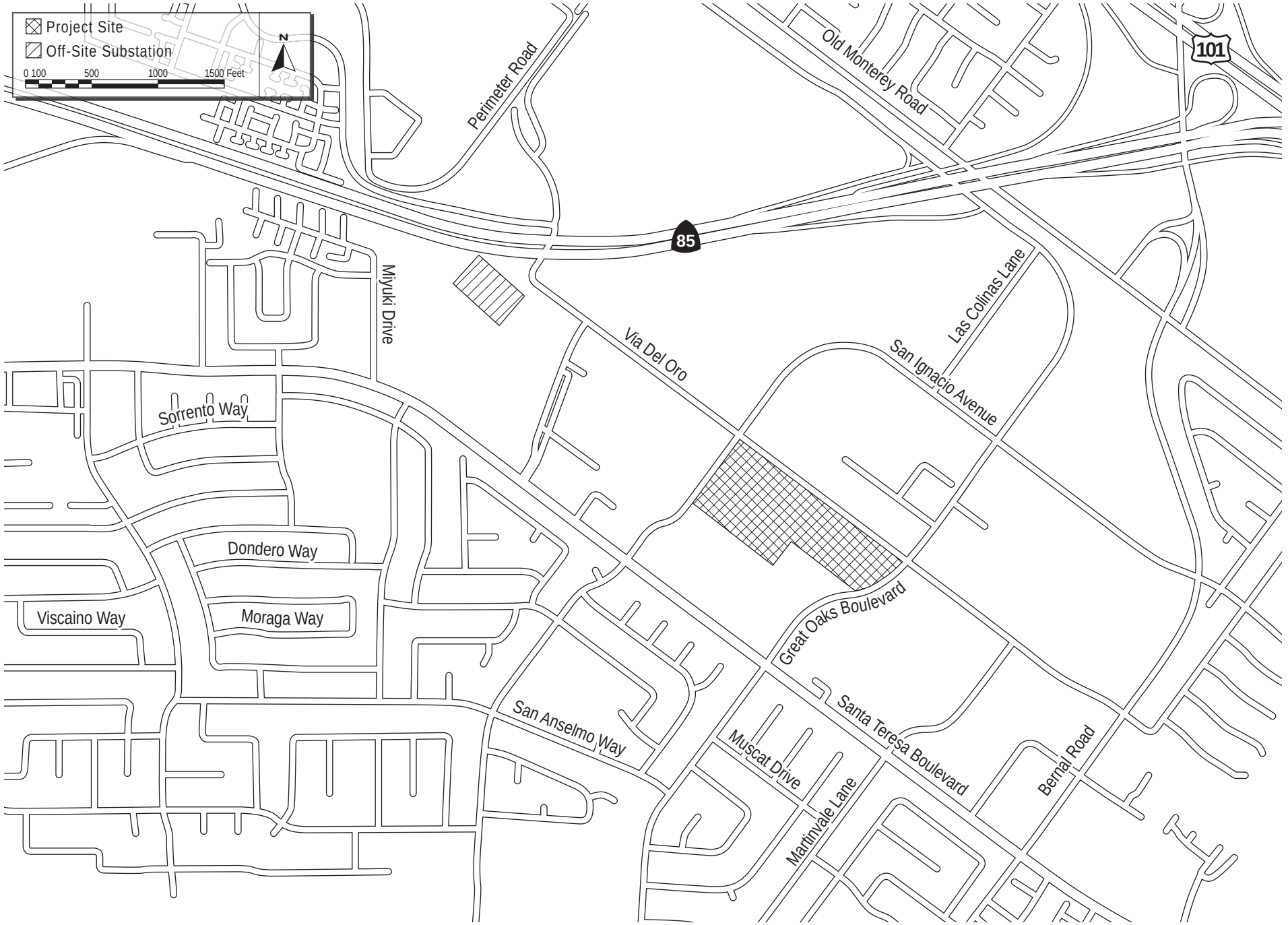
2.7 PROJECT-RELATED APPROVALS, AGREEMENTS AND PERMITS

- Grading Permit
- Building Permit(s)
- Use Permit(s)
- Tree Removal Permit(s)
- Permit to Construct – to be obtained from the California Public Utilities Commission for Substation
- Permit to Construct – Bay Area Air Quality Management District (for diesel-fueled generators)



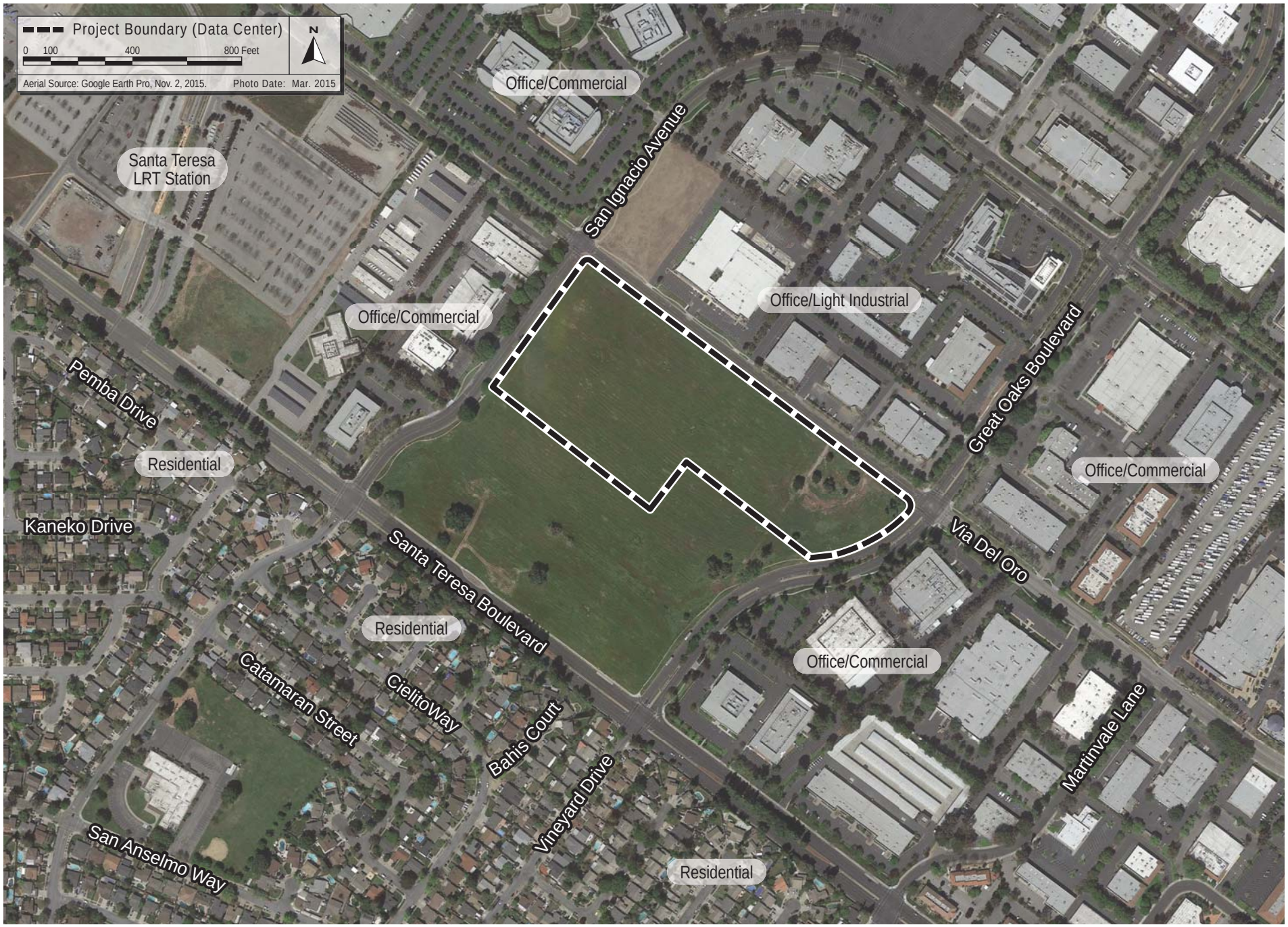
REGIONAL MAP

FIGURE 2.2-1



VICINITY MAP

FIGURE 2.2-2



AERIAL PHOTOGRAPH OF DATA CENTER SITE AND SURROUNDING LAND USES FIGURE 2.2-3

AERIAL PHOTOGRAPH OF PROPOSED SUBSTATION SITE AND SURROUNDING LAND USES FIGURE 2.2-4

SECTION 3.0 PROJECT DESCRIPTION

3.1 PROJECT OVERVIEW

Data Center Buildings

The project proposes to construct three data center buildings (SV-12, SV-13, and SV-14), each approximately 188,000 square feet in size with a total of about 564,000 square feet, on an approximately 18-acre site in south San José. The project site is undeveloped and supports scattered trees and grassland vegetation. There are 22 trees located on-site.

The new data center buildings would house computer servers and supporting equipment for private clients in environmentally controlled structures. The proposed two-story data center buildings would each include seven generators (six primary and one redundant) located adjacent to the buildings. Each generator would have an electric capacity of three (3) megawatts (MW) and provide standby backup electricity for the new buildings. Diesel fuel for the generators would be stored in 8,000 gallon aboveground tanks under each generator.

A two-story office component, approximately 50 feet in height and 5,000 square feet in size, would also be part of each building. The project also includes landscaping around the data center buildings and 252 surface parking spaces throughout the site. A conceptual site plan is provided on Figure 3.1-1.

Santa Teresa Substation, Transmission Line, and Distribution Feeders

The project also proposes to construct a new substation (Santa Teresa Substation), a 115 kV transmission line extension to the substation from the existing Metcalf-Edenvale 115 kV transmission line, and two new 21 kilovolt (kV) distribution feeders that would extend along Via Del Oro to the data center site. Although existing facilities would provide adequate power to the proposed data centers in the short-term, a new substation would be required to serve the proposed data centers in the future. A conceptual site plan of the proposed substation is provided on Figure 3.1-3.

The primary components of the project are described below.

3.1.1 Data Center Buildings

The project proposes to construct three, two-story data center buildings that would each be approximately 188,000 square feet in size with a building footprint of approximately 94,000 square feet. Each building would contain server cabinets on each floor, three loading docks for shipping and receiving uses, and seven, three MW outdoor generators. An office component would be attached to the main building to provide customer care, security, building operations, and flex office functions. The data center buildings would be approximately 50 feet in height.

Site Access, Circulation, and Parking

The data center buildings would be accessed by three entry points: two for passenger vehicles and one for delivery trucks. The main passenger vehicle driveway would be located on Great Oaks Boulevard near an existing curb cut in the boulevard median. The secondary passenger vehicle access point would be located on San Ignacio Avenue. Delivery trucks would be able to access the main loading dock areas via a truck driveway located on Via Del Oro. Each access point would be gated and electronically secured.

The project proposes to construct 252 surface parking spaces to be located throughout the approximately 18-acre site (refer to Figure 3.1-1). In addition, 19 bicycle parking spaces would be provided and there would be nine loading dock spaces for delivery trucks.

Stormwater Management

Development of the proposed project would create more than one acre of impervious surfaces and would, therefore, require the incorporation of hydromodification management controls in accordance with Provision C.3.g of the Regional Water Quality Control Board's "Municipal Stormwater NPDES Permit" and City of San José Policy 8-14: Post-Construction Hydromodification Management. The project proposes to implement an approximately 3,000 square feet bioretention area and an underground detention basin with a storage volume of about 270,600 cubic feet.

Landscaping

Landscaping would be planted throughout the main project site in accordance with General Plan policies. Approximately 195,000 square feet of landscaping is proposed around the data center buildings. In addition, street trees would be planted along the project frontages to help soften views of the project site from the surrounding area.

Construction Schedule

The data center buildings would be constructed in three separate phases. One building would be constructed per phase, with construction over an approximately 10-month period per phase. The first phase is anticipated to start construction in late 2017 or 2018.

3.1.1.1 *Site Design: Energy Demand and Efficiency Measures*

Maximum Load Demand

The projected maximum load demand for each of the proposed data center buildings is approximately 19 megawatts (MW). This load includes the power required to operate tenant information technology (IT) equipment as well as mechanical cooling systems, uninterruptible power systems (UPS) and general building lighting and power loads. The project applicant estimates the demand for maximum load anticipated with the proposed site improvements based on the occupancy of the data center buildings with data center uses supported by the proposed mechanical and electrical infrastructure.

Backup System Design

In data center designs, it is commonplace to build levels of systems and equipment redundancy into the overall electrical and mechanical infrastructure. The base number of systems that are required to serve the design load of the facility is referred to as "N". When redundant systems are added to the base quantity of systems, the number of redundant systems is referred to as "X", as in the representation "N+X". One level of redundant systems is planned for this facility (i.e. X=1 or "N+1"). This level of redundancy allows operations to continue should a piece of major equipment (i.e. a generator, switchboard, UPS module) fail or need to be taken offline for maintenance.

All standby generators, including redundant units, may be called into operation in the event of an interruption of the electric service from PGE. The output from the system during such operation would be limited to the maximum demand load of the building (approximately 19 MW).

Energy and Water Efficiency Measures

Due to heat generated by the data center IT equipment, cooling systems are one of the primary uses of energy in the buildings. In order to reduce greenhouse gas emissions and reduce the use of energy related to building operations, the project proposes to implement a number of efficiency measures related to selection and operation of electrical and mechanical equipment for building cooling (Appendix A). Table 3.1-1 lists the proposed efficiency measures related to mechanical and electrical systems in the buildings. Additional energy efficiency measures associated with tenant improvements and water use reduction are listed in Table 3.1-2.

Table 3.1-1: Efficiency Features – Project Mechanical and Electrical Systems

Optimize Energy Performance	a. **Standards** CA Title 24 energy requirements will be exceeded. ASHRAE TC9-9 extended thermal envelope values will be utilized to allow economizer operation during greater periods of the year with A/C compressors operating only during peak load periods. b. **Measurement & Verification** Metering will be provided to validate conservation measures c. **Efficient Equipment** High efficiency (96%+) UPS, indirect evaporative cooling (IDEC) & variable refrigerant flow (VRF) cooling systems. d. **Renewable Energy** Roof-mounted photovoltaic systems (owner-furnished) e. **Enhanced Commissioning** Independent commissioning agent reviews system design and verifies the performance of the installed systems (CAPCOA Best Management Practice; Measure BE-3). f. **Cool Roof**:

Table 3.1-1: Efficiency Features – Project Mechanical and Electrical Systems	
	Reduce Heat Island effect, the roofing materials meet Solar Reflectance Index value (SRI) of at least 78 for low sloped roofs, as well as meeting the following regulations: 1. EnergyStar/Title 24 Requirements for Cool Roofing 2. LEED/Green Globe Requirements for Cool Roofing
Heating, Ventilation & Air Conditioning (HVAC)	a. **High-Efficiency Systems** Indirect Evaporative Cooling (IDEC) systems for data halls and Variable Refrigerant Flow (VRF) systems for office/support areas. Systems designed using ASHRAE TC9-9 extended thermal envelope values (max. 26.5 deg. C/79 deg. F) to allow economizer operation during greater periods of the year with A/C compressors operating only during peak load periods. Scalable cooling systems with only those units required to serve the actual load in operation to improve efficiency. Highly efficient Variable Refrigerant Flow (VRF) cooling systems for office/support areas to reduce fan energy. b. **Airflow Management** Hot aisle containment, separated ceiling plenum to provide physical separation of hot and cool air in data halls. Use of blanking panels and other measures to avoid bypass of cold air into hot aisles.
Lighting	a. **LED Lighting** High-efficiency, low mercury content LED lamping used throughout b. **Lighting Controls** Automatic-off and occupancy based lighting control. Dimming control for all spaces with lighting loads >0.5 watts/sf. Automatic demand-limiting control of lighting per Title 24 requirements.
Electrical	a. High-efficiency (96%+) UPS systems. b. Separate metering of building mechanical and lighting loads to validate compliance and conservation measures.

Table 3.1-2: Efficiency Measures for Tenants and Water Use Reduction

Recycling Program	a. Implementation of LEED guidelines for the storage and collection of recyclables (LEED CS 2009 - Materials and Resources/ Prerequisite 1), intended to facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills. Additionally, the building Owner has implemented the following Exemplary Policies: 1. 30% Recycled Content (LEED CS 2009 – Innovation and Design Process/ Credit 1.4), a 10% increase over LEED CS 2009 - Materials and Resources Credits 4.2. 2. 95% Waste Recycling (LEED CS 2009 – Innovation and Design Process/ Credit 1.5), a 20% increase over LEED CS 2009 - Materials and Resources Credit 2.2.
Operation Practices	a. The building Owner has implemented the LEED policy for Green cleaning (LEED CS 2009 - Innovation & Design Process/ Credit 1.1), intended to reduce the exposure of building occupants and maintenance personnel to potentially hazardous chemical, biological and particulate contaminants, which adversely affect air quality, human health, building finishes, building systems and the environment.
IT Equipment	a. Install Energy Star equipment will be installed where applicable.
Electrical and Lighting	a. High-efficiency (96%+) UPS systems. b. Separate metering of building mechanical and lighting loads to validate compliance and conservation measures. c. High-efficiency, low mercury content LED lamping used throughout d. Automatic-off and occupancy based lighting control e. Dimming control for all spaces with lighting loads >0.5 watts/sf. f. Automatic demand-limiting control of lighting per Title 24 requirements.
Heating, Ventilation & Air Conditioning (HVAC)	a. Indirect Evaporative Cooling (IDEC) systems for data halls and Variable Refrigerant Flow (VRF) systems for office/support areas. b. Systems designed using ASHRAE TC9-9 extended thermal envelope values (max. 26.5 deg. C/79 deg. F) to allow economizer operation during greater periods of the year with A/C compressors operating only during peak load periods. c. Scalable cooling systems with only those units required to serve the actual load in operation to improve efficiency. d. Highly efficient Variable Refrigerant Flow (VRF) cooling systems for office/support areas to reduce fan energy. e. Hot aisle containment, separated ceiling plenum to provide physical separation of hot and cool air in data halls. Use of

Table 3.1-2: Efficiency Measures for Tenants and Water Use Reduction	
	blanking panels and other measures to avoid bypass of cold air into hot aisles.
Materials	a. LEED guidelines for the storage and collection of recyclables have been implemented (LEED CS 2009 - Materials and Resources/ Prerequisite 1), facilitating the reduction of waste generated by building occupants that is hauled to and disposed of in landfills. Additionally, the building Owner has implemented the following Exemplary Policies: 1. 30% Recycled Content (LEED CS 2009 – Innovation and Design Process/ Credit 1.4), a 10% increase over LEED CS 2009 - Materials and Resources Credits 4.2. 2. 95% Waste Recycling (LEED CS 2009 – Innovation and Design Process/ Credit 1.5), a 20% increase over LEED CS 2009 - Materials and Resources Credit 2.2. b. The building Owner has implemented the following LEED policies regarding Materials and Resources: 1. Regional Materials, 20% (LEED CS 2009 - Materials and Resources/ Credits 5.1 and 5.2), ensuring that all building materials or products have been extracted, harvested or recovered, as well as manufactured within a 500 mile (800 kilometer) radius of the project site. 2. Certified Wood (LEED CS 2009 - Materials and Resources/ Credit 6), ensuring that a minimum of 50% (based on cost) of wood-based materials and products that are certified in accordance with the Forest Stewardship Council's principles and criteria, for wood building components.
Indoor Environmental Quality	a. The building Owner has implemented the following LEED policies regarding Indoor Environmental Quality: 1. Outdoor Air Delivery Monitoring (LEED CS 2009 - Indoor Environmental Quality/ Credit 1), ensuring that CO2 concentrations are monitored within all densely occupied spaces. 2. Increased Ventilation (LEED CS 2009 - Indoor Environmental Quality/ Credit 2), Increasing the breathing zone outdoor air ventilation rates to all occupied spaces by at least 30% above the minimum rates required by ASHRAE Standard 62.1-2007. 3. Construction IAQ Management Plan (LEED CS 2009 - Indoor Environmental Quality/ Credit 3), implementing the following strategies:

Table 3.1-2: Efficiency Measures for Tenants and Water Use Reduction

	▪ During construction, meet or exceed the recommended control measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines For Occupied Buildings Under Construction, 2nd Edition 2007, ANSI/SMACNA 008-2008 (Chapter 3). ▪ Protect stored on-site and installed absorptive materials from moisture damage. ▪ Providing filtration media at the return air grille of air handlers utilizing filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 as determined by ASHRAE Standard 52.2-1999. 4. Low Emitting Materials: ▪ Adhesives and Sealants (LEED CS 2009 - Indoor Environmental Quality/ Credit 4.1), ensuring that all adhesives and sealants used within the building's weatherproofing system meet the minimum VOC content as prescribed by LEED. ▪ Paints and Coatings (LEED CS 2009 - Indoor Environmental Quality/ Credit 4.2), ensuring that all paints and coatings used inside the building's moisture barrier meet the minimum VOC content as prescribed by LEED. ▪ Flooring Systems (LEED CS 2009 - Indoor Environmental Quality/ Credit 4.3), ensuring that the flooring systems meet the following criteria: o Carpet: Must meet the testing and product requirements of the CRI Green Label Plus program. o Cushion: Must meet the testing and product requirements of the CRI Green Label program. o Adhesive: Must meet the requirements of EQc4.1. o Hard surface flooring must be certified as compliant with the FloorScore standard. o Concrete, wood, bamboo and cork floor finishes such as sealer, stain and finish must meet the requirements of South Coast Air Quality

Table 3.1-2: Efficiency Measures for Tenants and Water Use Reduction	
	○ Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004. ○ Tile setting adhesives and grout must meet South Coast Air Quality Management District (SCAQMD) Rule 1168. VOC limits correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005. ▪ Composite Wood & Agrifiber Products (LEED CS 2009 - Indoor Environmental Quality/ Credit 4.4), ensuring that all composite wood and agrifiber products contain no added ureaformaldehyde. Additionally, all laminating adhesives used to fabricate on-site and shop applied composite wood and agrifiber assemblies must not contain added urea-formaldehyde. 5. Indoor Chemical and Pollutant Source Control (LEED CS 2009 - Indoor Environmental Quality/ Credit 5), ensuring that MERV filtration ratings of at least 13 are provided. 6. Thermal Comfort (LEED CS 2009 - Indoor Environmental Quality/ Credit 7), ensuring the heating, ventilating and air conditioning (HVAC) systems and the building envelope meet ASHRAE Standard 55-2004.
Water Use Reduction [Indirect energy savings]	a. Ultra low flow toilets and faucets will be used throughout

Power Usage Effectiveness During Operation

Power Usage Effectiveness (PUE) is a metric used to compare the operating efficiency of data center facilities. PUE is defined as the ratio of total power use of a facility to the power used strictly by the information technology (IT) equipment (e.g. PUE=Total Facility Power/IT Equipment Power). For example, with a PUE of 2.0 a data center would use (2) watts of total power for every (1) watt of power used by the IT equipment.

Equinix, the project applicant, builds and operates multi-tenant data centers. Their business model is to provide the infrastructure to house, power, cool and deliver data connectivity for critical IT equipment of their tenants. Computing equipment is provided by the tenants. Unlike an individual company-owned and operated enterprise data center, Equinix does not control the specifications and operation of its tenants' IT equipment.

It is projected that the measures included in the project to minimize total power usage will result in a facility PUE of approximately 1.25 on an average annualized basis and 1.40 under peak conditions of outdoor temperature/humidity.

3.1.2 Santa Teresa Substation, Transmission Lines, and Distribution Feeders

The project proposes to construct: a new substation,[1] a new transmission line loop to connect the existing Metcalf-Edenvale transmission line to the proposed substation, and two underground distribution feeders to connect the new substation to the proposed data center buildings.

The new distribution substation would be located within PG&E's Edenvale Service Center on Santa Teresa Boulevard, northwest of the data center site. The proposed substation would be approximately 1.9 acres in size and located in the northeastern portion of the service center (see Figure 2.2-5). The proposed substation would include a control building, circuit breakers, switchgear, transformers, dead-end structures, and other miscellaneous electrical equipment. The substation equipment would not exceed a maximum height of 50 feet. A conceptual site plan of the proposed substation is shown on Figure 3.1-2 and a photograph of representative substation equipment is shown on Figure 3.1-3.

In addition, new 115 kV transmission line conductors on Miyuki Drive would be looped into and out of the proposed substation from Miyuki Drive. Four new tubular steel poles are proposed to support new conductors that would connect the existing Miyuki Drive transmission line with the substation. The tubular steel poles would be approximately 100 feet in height; one tubular steel pole is proposed to replace an existing lattice transmission line tower on Miyuki Drive, one tubular steel pole is proposed adjacent to SR 85, and two tubular steel poles are proposed on the substation site. The transmission line connection would be approximately 1,000 feet in length. The proposed transmission line would be aboveground. Figure 2.2-4 shows the approximate locations of the proposed tubular steel poles in relation to the substation.

Two new 21 kV distribution feeders are also proposed along Via Del Oro in order to connect the proposed substation to the project site. The proposed distribution lines would be routed underground.

Magnetic Field Reduction Measures

In accordance with Section X(A) of GO 131-D, California Public Utilities (CPUC) Decision No. D.06-01-042, and PG&E's Electric and Magnetic Fields (EMF) Design Guidelines prepared in accordance with the EMF Decision, PG&E would incorporate "no cost" and "low cost" magnetic field reduction steps in the design of the proposed substation. The design guidelines include the following measures that may be available to reduce the magnetic field strength levels from electric power facilities:

- Optimal phasing of the substation interconnection;

[1] An electric substation is part of the electrical transmission and distribution system. The proposed substation would transform voltage from high to low between the higher 115 kV transmission line to consumers, such as the proposed data centers.

- Keeping high current transformers, capacitors, and reactors away from substation property lines;
- For underground duct banks, keeping at least 12 feet from the adjacent property lines or as close to 12 feet as practical;
- Locating substation near existing power lines;
- Increasing the substation property boundary to the extent practical.

Site Access, Circulation, and Parking

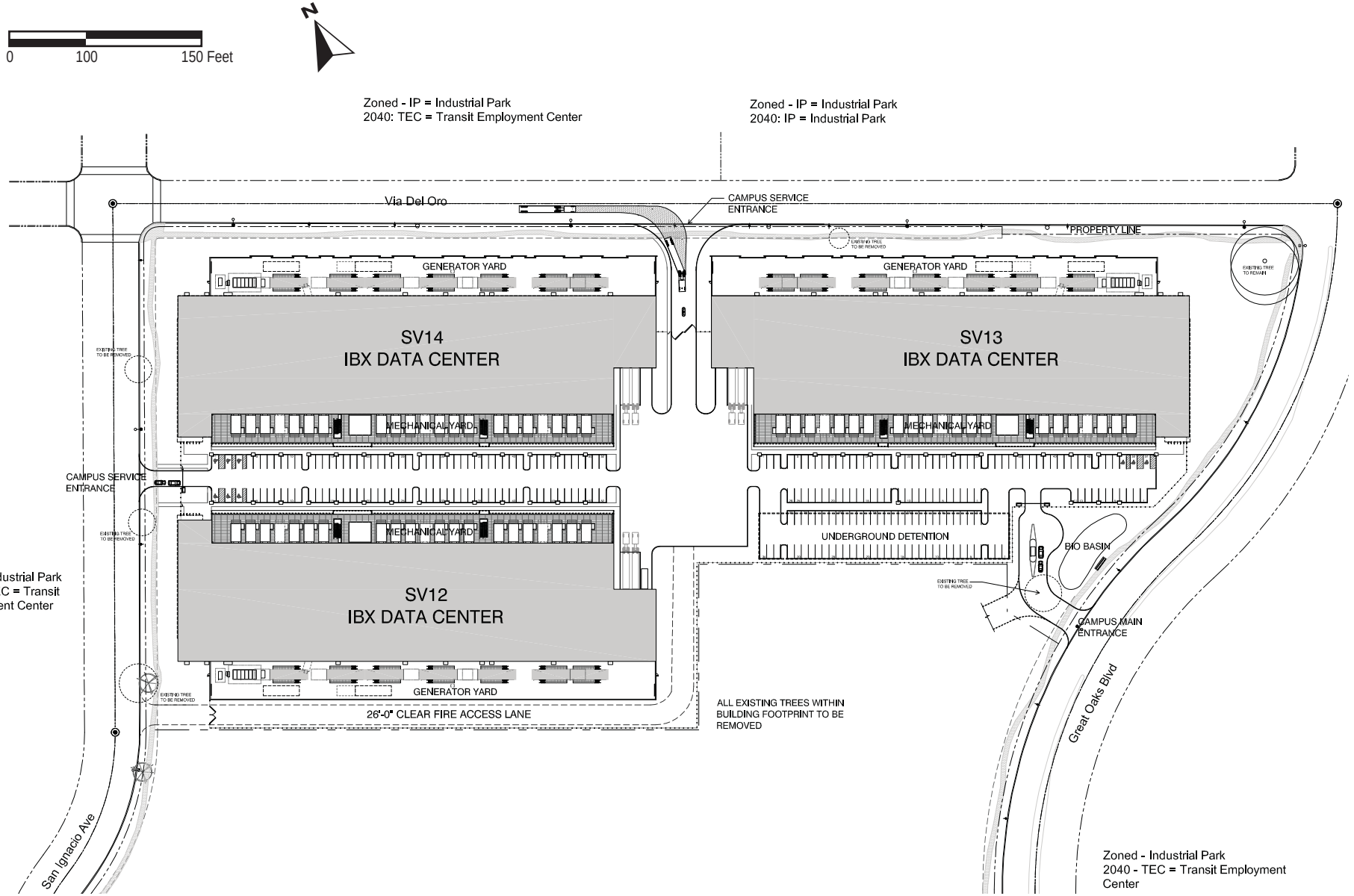
The proposed substation would be accessed through the existing Edenvale Service Center. An existing service road immediately south and adjacent to the Edenvale Service Center would also be extended to provide access for emergency vehicles. No new parking is proposed as part of the substation project.

Stormwater Management

Development of the substation on 1.9 acres would require incorporation of hydromodification management controls in accordance with Provision C.3.g of the Regional Water Quality Control Board's "Municipal Stormwater NPDES Permit" and City of San José Policy 8-14: Post-Construction Hydromodification Management. Stormwater on the project site would be treated on-site or directed to stormwater treatment systems in the Edenvale Service Center. Oil/water separators or similar controls will also be required for the three transformer pads.

Construction Schedule

Construction of the substation, transmission lines, and distribution lines is anticipated to occur over a period of 14 months.



Source: SPARCH, August 12, 2016.

CONCEPTUAL SITE PLAN

FIGURE 3.1-1

Tubular Steel Pole

CONCEPTUAL SITE PLAN OF SANTA TERESA SUBSTATION

FIGURE 3.1-2

PHOTOGRAPH OF TYPICAL SUBSTATION EQUIPMENT

FIGURE 3.1-3

SECTION 4.0 SETTING, ENVIRONMENTAL CHECKLIST AND IMPACTS

This section describes the existing environmental conditions on and near the project area, as well as environmental impacts associated with the proposed project. The environmental checklist, as recommended in the California Environmental Quality Act (CEQA) Guidelines, identifies environmental impacts that could occur if the proposed project is implemented.

The right-hand column in the checklist lists the source(s) for the answer to each question. The sources cited are identified at the end of this section. Mitigation measures are identified for all significant project impacts. "Mitigation Measures" are measures that will minimize, avoid, or eliminate a significant impact (CEQA Guidelines §15370).

Note to the Reader: The California Supreme Court in a December 2015 opinion [California Building Industry Association v. Bay Area Air Quality Management District, 62 Cal. 4th 369 (No. S 213478)] confirmed that CEQA, with several specific exceptions, is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, the evaluation of the significance of project impacts under CEQA in the following sections focuses on impacts of the project on the environment, including whether a project may exacerbate existing environmental hazards.

The City of San José currently has policies that address existing conditions (e.g., noise) affecting a proposed project, which are also addressed below. This is consistent with one of the primary objectives of CEQA and this document, which is to provide objective information to decision-makers and the public regarding a project as a whole. The CEQA Guidelines and the courts are clear that a CEQA document (e.g., EIR or Initial Study) can include information of interest even if such information is not an "environmental impact" as defined by CEQA.

Therefore, where applicable, in addition to describing the effects of the project on the environment, this chapter will discuss effects on the project related to City policies pertaining to existing conditions. Such examples include, but are not limited to, locating a project near sources of air emissions that can pose a health risk or in a high noise environment.

4.1 AESTHETICS

4.1.1 Setting

4.1.1.1 *Visual Character of the Project Site and Surrounding Area*

Data Center Site

The approximately 18-acre main project site is flat and undeveloped, and consists of an open vacant lot with scattered trees, including a large valley oak, a City designated Heritage Tree, at the corner of Via Del Oro and Great Oaks Boulevard. It is located in an urban area and bound by Via Del Oro (a two-lane roadway with a center turn lane) to the north, Great Oaks Boulevard (a four-lane roadway with a center median) to the east, vacant land to the south, and San Ignacio Avenue (a two-lane roadway with a center turn lane) to the west. Surrounding development consists of one- to two-story modern office buildings, constructed with stucco, steel, and reflective glass windows. Street trees are

planted on Via Del Oro, Great Oaks Boulevard, and San Ignacio Avenue on the opposite side of the street (not along the project frontage). Existing views of the data center site are provided on Photos 1-4 on the following pages.

Substation Site, Transmission Line, and Distribution Feeders

The approximately 1.9-acre substation site is flat and unpaved, and currently used for storage and training purposes for PG&E employees in association with the PG&E Edenvale Service Center. The proposed substation site is located in an urban area and is surrounded by a light rail track to the north, undeveloped land to the east, a paved storage area to the south, and undeveloped land to the west. State Road 85 (SR 85), a six-lane freeway with a center median, is located immediately north of the project site, one- to two-story office buildings and surface parking lots are located to the east, and one- to two-story single-family residences are located to the south and to the west. Existing views of the substation site are provided in Photos 5 and 6 on the following pages.

The proposed transmission line would connect with proposed substation site with the existing Metcalf-Edenvale transmission line. The proposed overhead connection would span over undeveloped land, a storage area, and a roadway (Miyuki Drive).

The proposed underground distribution feeders would be located along Via Del Oro, a flat two-lane roadway with a center left-turn median between the substation site and Great Oaks Boulevard.

4.1.1.2 *Scenic Views and Resources*

The City has many scenic resources including the hills and mountains that frame the Valley floor, the baylands, and the urban skyline itself, particularly high-rise development. The data center site and substation site are flat and primarily visible from only the immediate vicinity and SR 85. While views of the Diablo foothills to the east and the Santa Cruz Mountains to the west are obscured by existing, surrounding development, the Santa Teresa Hills, located to the south, are visible from both sites. SR 85 is designated as a scenic urban throughway under the General Plan, but is not a designated state scenic highway.[2]

The project area is mostly developed and urban. Scenic resources on the data center site consists of about 25 trees located throughout the site. There are no scenic resources on the proposed substation site; however, there are street trees located along Via Del Oro and in the immediate vicinity of the proposed transmission line.

A previous project was approved in 2001 to build up to 750,000 sq. ft. of office/industrial space across the entire city block bordered by Santa Teresa Boulevard, San Ignacio Avenue, Via del Oro, and Great Oaks Boulevard (H00-107). The Synopsis project allowed under this approval was not constructed and the site has remained open, vacant land.

There are no historic buildings or resources located on, or in the immediate vicinity of, either location.

[2] California Department of Transportation. *California Scenic Highway Mapping System*. Accessed January 7, 2016. Available at: <http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm>

PHOTO 1: Existing view of trees on the project site from the northeast corner of the site looking southwest.

PHOTO 2: Existing view of the project site and existing development in the background from the south looking north.

PHOTOS 1 AND 2

PHOTO 3: Existing view of surrounding development (left), Via Del Oro, and the project site (right) from the west looking east.

PHOTO 4: Existing view of Miyuki Drive and the Metcalf-Edenvale transmission line, from Miyuki Drive looking north.

PHOTOS 3 AND 4

PHOTO 5: Existing view of the PG&E Edenvale Service Center where the proposed offsite substation would be located, from the western boundary of the site looking east.

PHOTO 6: Existing view of the PG&E Edenvale Service Center from the southeastern corner of the site looking northwest.

PHOTOS 5 AND 6

4.1.1.4 *Regulatory Setting*

State Scenic Highway Program

The State Scenic Highways Program was created by the California State Legislature in 1963 and is under the jurisdiction of the California Department of Transportation (Caltrans). The program is intended to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The closest designated state scenic highway is Interstate 280 (I-280). The project site is not visible from I-280.

Envision San José 2040 General Plan

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to aesthetic resources and are applicable to the proposed project.

Envision San José 2040 Relevant Aesthetic Policies

Policies	Description
Policy CD-1.1	Require the highest standards of architecture and site design, and apply strong design controls for all development projects, both public and private, for the enhancement and development of community character and for the proper transition between areas with different types of land uses.
Policy CD-1.7	Require developers to provide pedestrian amenities, such as trees, lighting, recycling and refuse containers, seating, awnings, art, or other amenities, in pedestrian areas along project frontages. When funding is available, install pedestrian amenities in public rights-of-ways.
Policy CD-1.8	Create an attractive street presence with pedestrian-scaled building and landscape elements that provide an engaging, safe, and diverse walking environment. Encourage compact, urban design, including use of smaller building footprints, to promote pedestrian activity through the City.
Policy CD-1.11	To create a more pleasing pedestrian-oriented environment, for new building frontages, include design elements with a human scale, varied and articulated facades using a variety of materials, and entries oriented to public sidewalks or pedestrian pathways. Provide windows or entries along sidewalks and pathways; avoid blank walls that do not enhance the pedestrian experience. Encourage inviting, transparent facades for ground-floor commercial spaces that attract customers by revealing active uses and merchandise displays.
Policy CD-1.23	Further the Community Forest Goals and Policies in this Plan by requiring new development to plant and maintain trees at appropriate locations on private property and along public street frontages. Use trees to help soften the appearance of the built environment, help provide transitions between land uses, and shade pedestrian and bicycle areas.
Policy CD-1.27	When approving new construction, require the undergrounding of distribution utility lines serving the development. Encourage programs for undergrounding existing overhead distribution lines. Overhead lines providing electrical power to light rail transit vehicles and high tension electrical transmission lines are exempt from this policy.

Envision San José 2040 Relevant Aesthetic Policies

Policies	Description
Policy CD-1.18	Encourage the placement of loading docks and other utility uses within parking structures or at other locations that minimize their visibility and reduce their potential to detract from pedestrian activity.
Policy CD-10.2:	Require that new public and private development adjacent to Gateways, freeways (including U.S.101, I-880, I-680, I-280, SR17, SR85, SR237, and SR87), and Grand Boulevards consist of high-quality architecture, use high-quality materials, and contribute to a positive image of San José.
Policy CD-10.3:	Require that development visible from freeways (including U.S.101, I-880, I-680, I-280, SR17, SR85, SR237, and SR87) be designed to preserve and enhance attractive natural and man-made vistas.

4.1.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐	1,2
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐	1,2,5
3. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐	1,2
4. Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area?	☐	☐	☒	☐	1,3

Aesthetic values are, by their nature, subjective. Opinions as to what constitutes a degradation of visual character will differ among individuals. One of the best available means for assessing what constitutes a visually acceptable standard for new buildings are the City's design standards and implementation of those standards through the City's design process. The following discussion addresses the proposed changes to the visual setting of the project area and factors that are part of the community's assessment of the aesthetic values of a project's design, consistent with the assumptions in the General Plan.

4.1.2.1 *Impacts to Scenic Views or Scenic Resources (Checklist Questions 1 and 2)*

Data Center Site

The data center site is located in a developed area on the valley floor. Scenic resources on-site consist of about 25 trees, including a large Heritage valley oak tree. Future development would

result in the removal of all trees on-site with the exception of the Heritage valley oak tree which will be retained. As discussed further in *Section 4.4 Biological Resources,* replacement trees would be planted accordance with all applicable laws, policies or guidelines to reduce biological and aesthetic impacts related to the other trees on the site to a less than significant level.

The open space and parkland in the Santa Teresa Hills are located to the south of the project site and are visible from project vicinity. Future development on the site could affect views of the Santa Teresa Hills from the immediate vicinity of Via del Oro, Great Oaks Boulevard and San Ignacio Avenue once buildings are constructed on the vacant site. The project area is already developed and urban in nature, and proposed development would be similar in height to existing two-story buildings in the project area. Modifications of views would be along limited segments of local roadways rather than key gateways to the City. For these reasons, the proposed project would not significantly impact views of the Santa Teresa Hills. The project would result in a less than significant impact on views of nearby scenic resources. **(Less Than Significant Impact)**

Substation Site, Transmission Line, and Distribution Feeders

As previously discussed, the substation site is located in a developed, urban area. The proposed substation would be up to 50 feet in height and the proposed tubular steel poles would be approximately 100 feet tall. Though the Santa Teresa Hills are visible from the project site and surrounding area, proposed substation development is consistent with the allowable height limits for the site. There are no mature trees or other scenic resources on the substation site.

The steel poles supporting the transmission line extension and the new substation would be visible to motorists for a short distance on southbound SR 85 partway between the Cottle Road and Great Oaks Boulevard exits. One of the tubular steel poles (on the northwest side of Miyuki Drive would be approximately the same height and at the same location as the lattice tower it would replace. The three other tubular steel poles would be located with the PG&E Edenvale Service Center site. The proposed infrastructure would modify, but not block views of hillsides to the southwest. The short, fleeting view of new electrical structures within the developing area of Edenvale from the elevated SR 85 roadway, roughly between multiple story residential buildings, the VTA light rail tracks, station, and parking lots, and modern office R&D buildings, would not represent a substantial modification to scenic views from the freeway.

The proposed distribution feeders would be routed underground and would not be visible aboveground. For these reasons, the proposed project would not result in a substantial adverse impact on nearby scenic resources. **(Less Than Significant Impact)**

4.1.2.2 *Changes in Visual Character (Checklist Question 3)*

Data Center Site

Construction of data center buildings would modify the visual character of the site when viewed from the surrounding area. The currently vacant site with grassland and scattered trees would be developed with three data center buildings, approximately 50 feet in height. The design of proposed project would be reviewed during the permit process to ensure compatibility with surrounding development and visual quality of the built environment. The large, Heritage valley oak tree would

be retained at the northwest corner of Great Oaks Boulevard and Via del Oro and trees would also be planted along project frontages to create a more pedestrian-friendly environment. This would soften the visual mass and height of the data center buildings when viewed from surrounding streets. For these reasons, the proposed project would not substantially degrade the existing visual character or quality of the site. **(Less Than Significant Impact)**

Substation Site, Transmission Line, and Distribution Feeders

The proposed substation would be located in the existing PG&E Edenvale Service Center within a storage area and adjacent to light rail tracks and SR 85. Construction of the substation and installation of tubular steel poles and transmission line would modify the existing visual character of the site; primarily when viewed from SR 85 and locally from the terminus of Miyuki Drive. Views of the substation and the tubular steel poles and transmission line from SR 85 are shown in Figures 4.1-1 and 4.1-2. Views of the hills from SR 85 would be modified due to the height of the poles; the substation equipment is lower than the poles and would not substantially block hillside views. The elevation of the tallest substation equipment would be about 17 feet above the roadway in View 1 on southbound SR 85 (Figure 4.4-1) and about three feet above the roadway in View 2 on northbound SR 85 (Figure 4.4-2). Street trees and buildings at the Edenvale Service Center would limit views of the electrical infrastructure from Santa Teresa Boulevard. The proposed electrical infrastructure would be primarily located within the Service Center, a facility that is light industrial in character with one-story buildings, parking and storage areas. The project would introduce taller electrical infrastructure (approximately 20-27 feet above grade) on a site where electrical equipment, wooden poles, and other items are currently stored. The large parcel is located between local parks and multiple family development to the west and the light rail line and office/R&D buildings in an industrial park to the southeast. Due to the substation's location at the rear of the PG&E Service Center, a facility with a mix of buildings and existing infrastructure, and the short duration the site will be visible from southbound traffic on SR 85, the introduction of additional electrical infrastructure within the large parcel would not substantially effect the visual character of the area.

The proposed distribution feeders along Via Del Oro would be located underground and would not be visible to people. Therefore, the proposed distribution feeders would not substantially degrade the visual character or quality of the area. **(Less Than Significant Impact)**

4.1.2.3 *Light and Glare Impacts (Checklist Question 4)*

Future development on the project site and at the off-site substation location would incrementally increase light and glare in the surrounding area due to new building surfaces, security lighting, and vehicles traveling to and from the project site. It is anticipated that the light and glare created by future development on-site would be similar to light and glare emitted from existing development in the surrounding area. The proposed project would be subject to adopted policies and regulations pertaining to light and glare impacts; compliance with these policies would not substantially increase nighttime light levels.

For these reasons, future development on the project site would not result in substantial adverse light and glare impacts. **(Less Than Significant Impact)**

Existing Setting

Proposed Substation and New Poles

View Points

Source: Digital Imaging Studio., 9/14/2016.

VIEW OF SUBSTATION SITE FROM SOUTHBOUND SR 85 - VIEW 1

FIGURE 4.1-1

Existing Setting

Proposed Substation and New Poles

View Points

Source: Digital Imaging Studio., 9/14/2016.

VIEW OF SUBSTATION SITE FROM NORTHBOUND SR 85 - VIEW 2

FIGURE 4.1-2

4.1.3 Conclusion

Implementation of the proposed project would not result significant aesthetics impacts. **(Less Than Significant Impact)**

4.2 AGRICULTURAL AND FOREST RESOURCES

4.2.1 Setting

Data Center Site

The Santa Clara County Important Farmland 2012 map designates the project site as *Other* and *Urban and Built-Up Land*. *Urban and Built-Up Land* is defined as land occupied with a building density of at one unit to 1.5 acres or approximately six structures per 10-acre parcel. Common examples of *Urban and Built-Up Land* are residential, industrial, commercial purposes, golf courses, landfills, airports, and other utility uses.

Land designated as *Other* is not included in any other mapping category. Common examples include low density rural developments, brush, timber, wetland and riparian areas not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is also mapped as *Other*.[3]

The project site is not zoned or used for agricultural purposes, nor is it the subject of a Williamson Act contract.[4] The project sites are located in an urban area of San José; there are no agricultural or forestry uses in the project area.

Substation Site, Transmission Line, and Distribution Feeders

The substation, transmission line, and distribution feeder sites are designated as *Urban and Built-Up Land* and are not used for agricultural or forestry purposes, nor the subject of a Williamson Act contract.

4.2.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒	6
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒	7

[3] California Department of Conservation. *Santa Clara County Important Farmland 2010 Map*. 2011.
[4] California Department of Conservation, Division of Land Resource Protection. *Santa Clara County Williamson Act FY 2013/2014.* 2013.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
3. 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))?	☐	☐	☐	☒	4
4. Result in a loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒	1
5. 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?	☐	☐	☐	☒	1

4.2.2.1 *Agricultural and Forestry Impacts (Checklist Questions 1-5)*

The proposed data center and substation sites are designated, zoned, and intended for urban uses. Neither site is currently used or intended for agricultural or forestry purposes. Therefore, development of the proposed data center buildings, transmission line, distribution feeders, and substation would not result in the conversion of designated agricultural land to non-agricultural uses or forest land to non-forest uses. **(No Impact)**

4.2.3 Conclusion

Implementation of the proposed project would not impact agricultural or forestry resources. **(No Impact)**

4.3 AIR QUALITY

The following discussion is based in part on an Air Quality Assessment prepared by *Illingworth & Rodkin, Inc.* A copy of this assessment is provided in Appendix A of this Initial Study.

4.3.1 Setting

4.3.1.1 *Climate and Topography*

The City of San José is located in the Santa Clara Valley within the San Francisco Bay Area Air Basin. The project area's proximity to both the Pacific Ocean and the San Francisco Bay has a moderating influence on the climate. This portion of the Santa Clara Valley is bounded to the north by the San Francisco Bay, the Santa Cruz Mountains to the southwest, and the Diablo Range to the east. The surrounding terrain greatly influences winds in the valley, resulting in a prevailing wind that follows along the valley's northwest-southwest axis.

4.3.1.2 *Regional and Local Criteria Pollutants*

Major criteria pollutants, listed in "criteria" documents by the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and suspended particulate matter (PM). These pollutants can have health effects such as respiratory impairment and heart/lung disease symptoms.

Violations of ambient air quality standards are based on air pollutant monitoring data and are judged for each air pollutant. The Bay Area as a whole does not meet state or federal ambient air quality standards for ground level ozone and $PM_{2.5}$ and state standards for PM_{10}. The area is considered attainment or unclassified for all other pollutants.

4.3.1.3 *Local Community Risks/Toxic Air Contaminants and Fine Particulate Matter*

Besides criteria air pollutants, there is another group of substances found in ambient air referred to as Toxic Air Contaminants (TACs). These contaminants tend to be localized and are found in relatively low concentrations in ambient air; however, exposure to low concentrations over long periods can result in adverse chronic health effects. Diesel exhaust is a predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average).

Fine Particulate Matter ($PM_{2.5}$) is a complex mixture of substances that includes elements such as carbon and metals; compounds such as nitrates, organics, and sulfates; and complex mixtures such as diesel exhaust and wood smoke. Long-term and short-term exposure to $PM_{2.5}$ can cause a wide range of health effects. Common stationary sources of TACs and $PM_{2.5}$ include gasoline stations, dry cleaners, and diesel backup generators. The other more significant, common source is motor vehicles on roadways and freeways.

4.3.1.4 *Sensitive Receptors*

The San Francisco Bay Area Air Quality Management District (BAAQMD) defines sensitive receptors as facilities where sensitive receptor population groups (children, the elderly, the acutely ill and the chronically ill) are likely to be located. These land uses include residences, school playgrounds, child-care centers, retirement homes, convalescent homes, hospitals and medical clinics.

The nearest sensitive uses to the data center site are single-family residences approximately 700 feet to the south. The nearest sensitive uses to the substation site are multi-family residences approximately 1,000 feet to the west.

4.3.1.5 *Applicable Plans, Policies and Regulations*

Federal, State, and Regional

Federal, state, and regional agencies regulate air quality in the Bay Area Air Basin, within which the proposed project is located. At the federal level, the U.S. EPA is responsible for overseeing implementation of the Federal Clean Air Act and its subsequent amendments. CARB is the state agency that regulates mobile sources throughout the state and oversees implementation of the state air quality laws and regulations, including the California Clean Air Act.

The City of San José is within the San Francisco BAAQMD. BAAQMD is the agency primarily responsible for assuring that the federal and state ambient air quality standards are maintained in the San Francisco Bay Area. The BAAQMD has permit authority over stationary sources, acts as the primary reviewing agency for environmental documents, and develops regulations that must be consistent with or more stringent than, federal and state air quality laws and regulations.

Regional Air Quality Management Districts such as BAAQMD must prepare air quality plans specifying how state air quality standards would be met. The BAAQMD's most recent adopted plan is the Bay Area 2010 Clean Air Plan (CAP).

For all proposed projects, BAAQMD recommends implementation of the updated Basic Construction Mitigation Measures whether or not construction-related emissions exceed applicable thresholds.

Envision San José 2040 General Plan

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to air quality and are applicable to the proposed project.

Envision San José 2040 Relevant Air Quality Policies

Policies	Description
Policy MS-10.1	Assess projected air emissions from new development in conformance with the BAAQMD CEQA Guidelines and relative to state and federal standards. Identify and implement air emissions reduction measures.

Envision San José 2040 Relevant Air Quality Policies

Policies	Description
Policy MS-11.2	Assess projected air emissions from new development in conformance with the BAAQMD CEQA Guidelines and relative to state and federal standards. Identify and implement air emissions reduction measures.
Policy MS-13.1	Include dust, particulate matter, and construction equipment exhaust control measures as conditions of approval for subdivision maps, site development and planned development permits, grading permits, and demolition permits. At minimum, conditions shall conform to construction mitigation measures recommended in the current BAAQMD CEQA Guidelines for the relevant project size and type.
Policy MS-13.3	Construction and/or demolition projects that have the potential to disturb asbestos (from soil or building material) shall comply with all the requirements of the California Air Resources Board's air toxic control measures (ATCMs) for Construction, Grading, Quarrying, and Surface Mining Operations.

In addition, goals and policies throughout the Envision San Jose 2040 General Plan encourage a reduction in vehicle miles traveled through land use, pedestrian and bicycle improvements, and parking strategies that reduce automobile travel through parking supply and pricing management.

4.3.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐	8
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐	8
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state ambient air quality standard including releasing emissions which exceed quantitative thresholds for ozone precursors?	☐	☐	☒	☐	8
4. Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐	8
5. Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒	8

4.3.2.1 *Thresholds of Significance*

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA and were posted on BAAQMD's website and included in the Air District's updated CEQA Guidelines (updated May 2011). The significance thresholds identified by BAAQMD and used in this analysis are summarized in Table 4.3-1, below.

Table 4.3-1: Air Quality Significance Thresholds

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
Criteria Air Pollutants			
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards for Single Sources			
Excess Cancer Risk	>10 per one million		
Hazard Index	>1.0		
Incremental annual $PM_{2.5}$	>0.3 µg/m^3		
Health Risks and Hazards for Combined Sources (Cumulative from all sources within 1,000 foot zone of influence)			
Excess Cancer Risk	>100 per one million		
Hazard Index	>10.0		
Annual Average $PM_{2.5}$	>0.8 µg/m^3		

Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, and $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less.

4.3.2.2 *Clean Air Plan Consistency* *(Checklist Question 1)*

Determining consistency with the 2010 CAP involves assessing whether applicable control measures contained in the 2010 CAP are implemented. Implementation of control measures improve air quality and protect public health. These control measures are organized into five categories: Stationary Source Measures, Mobile Source Measures, Transportation Control Measures (TCMs), Land Use and Local Impact Measures, and Energy and Climate Measures. Applicable control measures and the project's consistency with them are summarized in Table 4.3-2, below.

The project supports the primary goals of the CAP in that it does not exceed the BAAQMD thresholds for operational air pollutant emissions and is infill development located in an already urbanized area. As summarized in Table 4.3-2, the proposed project includes transportation and energy control measures and is generally consistent with the CAP's control measures. The project would not hinder the implementation of the CAP control measures and would not conflict with or obstruct implementation of the 2010 CAP. The project by itself, therefore, would not result in a significant impact related to consistency with the 2010 CAP. **(Less Than Significant Impact)**

Table 4.3-2: Bay Area 2010 Clean Air Plan Applicable Control Measures

Control Measures	Description	Project Consistency
Transportation Control Measures		
Improve Bicycle Access and Facilities	Expand bicycle facilities serving transit hubs, employment sites, educational and cultural facilities, residential areas, shopping districts, and other activity centers.	The data centers include 19 bicycle parking spaces for employees and visitors to use. No bicycle parking spaces are proposed or required for the substation.
Improve Pedestrian Access and Facilities	Improve pedestrian access to transit, employment, and major activity centers.	The project proposes to extend and improve existing sidewalks along project frontages on San Ignacio Avenue, Via Del Oro, and Great Oaks Boulevard. In addition, the project includes sidewalk improvements such as street trees and landscaping.
Support Local Land Use Strategies	Promote land use patterns, policies, and infrastructure investments that support mixed-use, transit-oriented development that reduce motor vehicle dependence and facilitate walking, bicycling, and transit use.	The project is consistent with the existing General Plan land use designation and proposes to develop three data center buildings, a substation, transmissions line, and distribution feeders. The project area is served by existing transit, bicycle, and pedestrian facilities.

Table 4.3-2: Bay Area 2010 Clean Air Plan Applicable Control Measures

Control Measures	Description	Project Consistency
Energy and Climate Measures		
Energy Efficiency	Increase efficiency and conservation to decrease fossil fuel use in the Bay Area.	The data center project would be constructed in conformance with the City's Private Sector Green Building Policy, which requires that the project achieve LEED Silver certification, at minimum. LEED Silver certification requires incorporation of various energy-saving techniques (also see energy efficiency measures outlined in Tables 3.1-1 and 3.1-2 of this Initial Study).
Urban Heat Island Mitigation	Mitigate the "urban heat island" effect by promoting the implementation of cool roofing, cool paving, and other strategies.	The project does not propose the use of cool roofing or paving; however, the project includes street trees along the sidewalk and landscaping, which would reduce the "urban heat island" effect.
Tree-Planting	Promote planting of low-VOC-emitting shade trees to reduce urban heat island effects, save energy, and absorb CO_2 and other air pollutants.	As discussed above, the project proposes to plant street trees and other landscaping throughout the project site.

4.3.2.3 *Short-Term Construction-Related Impacts (Checklist Questions 3 and 4)*

Criteria Air Pollutants and Precursors

Construction activities would temporarily affect local air quality. Construction activities such as earthmoving, construction vehicle traffic, and wind blowing over exposed earth would generate exhaust emissions and fugitive particulate matter emissions that affect local and regional air quality. Construction activities are also a source of organic gas emissions. Solvents in adhesives, non-water based paints, thinners, some insulating materials, and caulking materials would evaporate into the atmosphere and would participate in the photochemical reaction that creates urban ozone. Asphalt used in paving is also a source of organic gases for a short time after its application.

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Vehicles leaving the site could also deposit mud on local streets, which would be an additional source of airborne dust after it dries. As shown in Table 4.3-3 below, the project would result in less than significant criteria air pollutant

impacts. Implementation of construction best management practices, described below, would further reduce criteria air pollutant impacts. **(Less Than Significant Impact)**

Table 4.3-3: Construction Period Emissions

Description	ROG Emissions (tons)	NOx Emissions (tons)	PM_{10} Exhaust Emissions (tons)	$PM_{2.5}$ Exhaust Emissions (tons)
Site Preparation Work (2016)	0.12 tons	1.40 tons	0.07 tons	0.06 tons
Building SV-12 (2016-17)	1.47 tons	3.79 tons	0.23 tons	0.22 tons
Building SV-13 (2017-19)	1.40 tons	3.30 tons	0.19 tons	0.18 tons
Building SV-14 (2019-20)	1.36 tons	2.98 tons	0.16 tons	0.15 tons
Substation and Feeders (2018-19)	0.06 tons	0.64 tons	0.03 tons	0.02 tons
Daily Project Emissions	*10 lbs/day*	*28 lbs/day*	*2 lbs/day*	*1 lbs/day*
BAAQMD Thresholds	*54lbs/day*	*54lbs/day*	*82lbs/day*	*54lbs/day*
Significant?	**No**	**No**	**No**	**No**

Construction and Health Risk Emissions

Construction Dust Emissions

Construction dust could affect local air quality at various times during construction of the project. The dry, windy climate of the area during the summer months creates a high potential for dust generation when, and if, underlying soils are exposed to the atmosphere. Construction activities would increase dustfall and local levels of particulate matter downwind. Most of the dust generated during construction would occur during grading activities. The amount of dust generated would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. Nearby land uses are primarily commercial and office uses that are separated by roadways or open areas; there are no sensitive land uses in the immediate surrounding area.

The BAAQMD CEQA Air Quality Guidelines consider construction dust emission impacts to be less than significant if best management practices are employed to reduce these emissions. The project proposes to implement the following best management practices to reduce construction dust emission impacts to a less than significant level.

Standard Project Conditions: During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less than significant level. The contractor shall implement the following best management practices, described below.

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Community Risk Impacts Associated with Construction

The BAAQMD CEQA Air Quality Guidelines considers exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or hazard to be significant. For cancer risk the BAAQMD considers an increased risk of contracting cancer that is greater than 10.0 in one million to be significant for a single source. For cumulative exposure to TACs from existing sources affecting a sensitive receptor, in addition to a proposed new source, the BAAQMD considers an increased risk of contracting cancer that is greater than 100 in one million to be significant. The BAAQMD CEQA Guidelines also consider exposure to annual $PM_{2.5}$ concentrations that exceed 0.3 micrograms per cubic meter ($\mu g/m^3$) from a single source to be significant and an annual $PM_{2.5}$ concentration that exceed 0.8 $\mu g/m^3$ from cumulative sources to be significant.

The primary community risk impact issues associated with construction emissions and operation of the data center emergency generators are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust from construction activities pose both a potential health and nuisance impact to nearby receptors. Community health risk impacts to sensitive receptors from construction activities were evaluated by predicting potential DPM and $PM_{2.5}$ exposures to off-site sensitive receptors and then calculating increased lifetime cancer risks and non-cancer health effects. DPM and $PM_{2.5}$ emissions at each construction site were calculated and dispersion modeling conducted to predict the off-site concentrations so that lifetime cancer risks and non-cancer health effects could be evaluated. Refer

to Appendix A for a detailed description of how community health impacts, including cancer risk, are computed based on BAAQMD recommended methods.

Since the data center and substation sites are more than 2,000 feet apart and sensitive receptors potentially affected by each site are separated by more than 1,000 feet, it is not expected that emissions from one site would significantly affect impacts at the sensitive receptors at the other site. As such, the health impacts from the data center and substation construction and operation activities are evaluated and reported separately.

Data Center Site

The nearest sensitive receptors to the data center site are single-family residences approximately 700 feet to the south, across Santa Teresa Boulevard. A health risk assessment was conducted to evaluate potential health effects of constructing the data center buildings to the nearby sensitive receptors. The total Diesel Particulate Matter (DPM) emissions over the entire construction period were calculated as 0.663 tons (1,326 pounds). A trip length of one-half mile was used to represent vehicle travel while at or near the construction site. For modeling purposes, it was assumed that these emissions from on-road vehicles would occur at the construction site. Fugitive dust $PM_{2.5}$ emissions were also computed and included in this analysis. The model predicts total construction period fugitive $PM_{2.5}$ emissions of 0.120 tons (240 pounds).

Results of this assessment indicate that the maximum off-site residential infant/child cancer risk is 4.5 in one million and the residential adult cancer risk is 0.1 in one million. These cancer risks are below the BAAQMD's threshold used for evaluating cancer risk of 10 excess cancer cases per million. The maximum modeled annual residential DPM concentration (i.e., from construction exhaust) was 0.0181 $\mu g/m^3$. The maximum computed HI based on this DPM concentration is 0.002, which is much lower than the BAAQMD significance criterion of a HI greater than 1.0. The maximum-modeled annual $PM_{2.5}$ concentration, which is based on combined exhaust and fugitive dust emissions, was 0.02 $\mu g/m^3$. The annual $PM_{2.5}$ concentration would not exceed the BAAQMD significance threshold of 0.3 $\mu g/m^3$.

Table 4.3-4 below summarizes these results. Construction of the data center buildings would result in less than significant community health risk impacts. **(Less Than Significant Impact)**

Table 4.3-4: Community Health Risk Impact for Data Center Construction

Sensitive Receptor	Cancer Risk (per million)	$PM_{2.5}$ Concentration ($\mu g/m^3$)	Hazard Index (HI)
Off-Site Residence	4.5	0.02	<0.1
BAAQMD Thresholds	*10.0*	*0.3*	*1.0*
Significant?	***No***	***No***	***No***

Substation Site

The nearest sensitive land use to the substation site are single family residences located approximately 1,000 feet west of the site. A health risk assessment was conducted to evaluate potential health effects of constructing the substation to the nearby sensitive receptors. Based on the results of the health risk assessment, the maximum increased cancer risks and non-cancer health impacts from construction of the proposed Santa Teresa Substation would be well below applicable BAAQMD significance thresholds. Therefore, this would be a less than significant impact. Table 4.3-5 below summarizes the results. **(Less Than Significant Impact)**

Table 4.3-5: Community Health Risk Impact for Substation Construction

Sensitive Receptor	Cancer Risk (per million)	$PM_{2.5}$ Concentration ($\mu g/m^3$)	Hazard Index (HI)
Off-Site Residence	0.1	<0.1	<0.1
BAAQMD Thresholds	*10.0*	*0.3*	*1.0*
Significant?	***No***	***No***	***No***

4.3.2.4 *Operational-Related Impacts from the Project* *(Checklist Questions 2 and 3)*

Data Center Site

Criteria Pollutants

The primary emission sources associated with operation of the proposed data centers would be the testing or maintenance of the 21 diesel-fueled three MW emergency backup generators. In addition, the 8,000 gallon aboveground diesel storage above each generator would have minor evaporative ROG emissions. Diesel fuel has a very low volatility and emissions of ROG from fuel storage are expected to be negligible. Building operation (area source) and vehicular traffic associated with the project would also result in minor emissions.

The project's operational impacts resulting from emergency generators are discussed below.

The proposed project would install twenty-one 3-MW emergency generators equipped with Cummins diesel-fueled engines. These engines would not be operated other than for periodic testing and maintenance requirements during normal facility operation. The generator engines would be fueled using ultra low sulfur diesel fuel with a maximum sulfur content of 15 ppm. The diesel engines would meet U.S. EPA Tier 2 emission standards. These generators, seven per data center building, would be located in the equipment yards adjacent to each building. The generator equipment and operating specifications for the proposed generators are provided in Table 4.3-6.

Table 4.3-6: Engine Generator Systems Equipment and Operating Information

Description		Value
3,000 kW Cummins Model C3000D6e Generator Sets		**Cummins QSK95-G9 diesel engines**
Generator Output (at 100% load)		3,000 kW
Engine Output (Standby)	at 100% Load	4,307 horsepower
	at 25% Load	1,155 horsepower
Diesel Fuel Consumption	at 100% Load	208 gallons/hour
	at 25% Load	68 gallons/hour
Diesel Fuel Sulfur Content		0.0015% (15 ppm)
Exhaust Flow Rate	at 100% Load	23,365 actual cubic feet/minute
	at 25% Load	10,028 actual cubic feet/minute
Stack Height (above ground level)		19.3 feet
Stack Inside Diameter		20 inches
Exhaust gas Temperature	at 100% Load	830 ^{o}F
	at 25% Load	630 ^{o}F

Note: 25% engine load was used to represent engine operation under no load conditions.

The operations of these generators are limited to 50 hours per year of non-emergency use (i.e. testing and maintenance) by the State's Air Toxic Control Measure for Stationary Compression Ignition Engines.[5] The project proposes that generator testing would generally be performed twice per month to make sure that they are ready to come online when needed in the event of a power failure. The testing is proposed to take place between the hours of 8:00 AM to 5:00 PM. Normal generator testing at no load for five minutes would occur monthly; generator testing at full load (100 percent load) for one hour would occur for 11 months of the year. In addition to the normal engine testing and operation for maintenance purposes, each engine would undergo generator load testing for up to four hours per year with the engine at full load. Total generator engine operation under normal conditions is expected to be about 16 hours per year, per engine.

However, engine operation may occur more frequently due to increased testing or maintenance requirements. For purposes of estimating emissions and potential air quality impacts from the engines, it was assumed that each engine would be operated at full load (100% engine load) for 50 hours per year (maximum operation hours allowed by the State's Air Toxic Control Measure and BAAQMD for testing and maintenance).

Total daily and annual emissions from the emergency generators, mobile and area sources are summarized in Table 4.3-7 for each modeled scenario.

[5] Section 93115, title 17, California Code of Regulations

Table 4.3-7: Summary of Operational Average Daily Emissions in tons and (lbs/day)				
Emission Source	**Nitrogen Oxides (NOx)**	**Reactive Organic Gases (ROG)**	**Respirable Particulates (PM_{10})**	**Fine Particulates ($PM_{2.5}$)**
BAAQMD Threshold	*10 (54)*	*10 (54)*	*15 (82)*	*10 (54)*
Maximum Emissions Scenario (50 hrs/engine per year at full load)				
Emergency Generators	26.1 (143)	0.5 (3)	0.1 (<1)	0.1 (<1)
Mobile & Area Sources	1.1 (6)	3.3 (18)	0.8 (4)	0.2 (1)
Total	**27.2 (149)**	**3.8 (21)**	**0.9 (5)**	**0.3 (2)**
Significant?	**Yes**	No	No	No
Reduced Emissions Scenario (16 hrs/engine per year at full load)				
Emergency Generators	8.3 (46)	0.2 (1)	<0.1 (<1)	<0.1 (<1)
Mobile & Area Sources	1.1 (6)	3.3 (18)	0.8 (4)	0.2 (1)
Total	**9.4 (52)**	**3.8 (21)**	**0.9 (5)**	**0.3 (2)**
Significant?	No	No	No	No
Proposed Testing Schedule Scenario (15 hrs/engine per year at full load 1 hr/engine/year 25%) load)				
Emergency Generators	7.9 (43)	0.2 (1)	<0.1 (<1)	<0.1 (<1)
Mobile & Area Sources	1.1 (6)	3.3 (18)	0.8 (4)	0.2 (1)
Total	**9.0 (49)**	**3.8 (21)**	**0.9 (5)**	**0.3 (2)**
Significant?	No	No	No	No

As summarized in Table 4.3-7, without any limitations on engine operation for maintenance and testing purposes, total increased average daily and annual emissions from operation of the project are estimated to be above the significance thresholds for NO_x on both an average daily and annual averaging period. This would be considered a significant impact. **(Significant Impact)**

Impact AIR-1: Testing of the emergency backup generators could exceed BAAQMD significance thresholds for NO_x on both an average daily and annual averaging period.

Mitigation Measure: The project includes the following mitigation measure as a condition of approval to limit the number of hours the generators can be operated for maintenance and testing purposes and, therefore, reduce the project's operational impacts.

MM AIR-1: Generator operation for maintenance and testing purposes shall be limited so that the combined operation of all 21 generators does not exceed 356 hours in any consecutive 12-month period.

The maximum number of hours of operation of the generators for maintenance and testing is regulated by the Bay Area Air Quality Management District (BAAQMD), which will issue individual Permits to Operate for each data center building (or groups of generators) as they are constructed. The conditions in each Permit to Operate will be enforceable by BAAQMD. Prior to issuance of an occupancy permit for each building, the applicant shall provide a letter to the Director of Building,

Planning and Code Enforcement from BAAQMD and/or a qualified consultant that documents that the sum of the hours of operation permitted and regulated by BAAQMD for the three data centers combined does not exceed 356 hours in any consecutive 12-month period. This letter shall include a copy of the BAAQMD approved Permit to Operate.

If, subsequent to issuance of occupancy permits, there is a change to the number of generators, a change to the model of generators, or a change in the number of hours the generators will be tested, documentation shall be provided to the City of San José Department of Building, Planning and Code Enforcement that total emissions from maintenance and testing for the three data centers would not exceed the significance thresholds for Nitrogen Oxide (NOx) on both an average daily (54 pounds per day) and annual averaging (10 tons/year) period. This documentation shall be reviewed and approved by a Supervising Planner of the Environmental Review Division of the Department of Planning, Building, and Code Enforcement prior to the issuance of any Planning Permits approving changes to the generators.

Limiting generator operations for maintenance and testing purposes for all engines to a total of 356 hours would result in average daily total project NOx emissions of 54 pounds per day, which would not exceed the significance threshold of 54 pounds per day. Emissions would also not exceed 10 tons per year. **(Less Than Significant Impact with Mitigation Incorporated)**

Community Health Risk Impact

The diesel-fueled emergency generators at the proposed data centers would be a source of diesel particulate matter (DPM), which is a toxic air contaminant (TAC). The generators are also a source of $PM_{2.5}$, which has known adverse health effects. Since operation of the proposed data center would emit DPM from generator engines, an analysis was performed to assess potential health risks at nearby receptors.

The maximum modeled annual DPM concentration from operation of the generators at SV-12, SV-13, and SV-14 was 0.0022 $\mu g/m^3$ at a receptor south of the data center project site across Santa Teresa Boulevard. The maximum increased cancer risks, maximum modeled annual $PM_{2.5}$ concentration, and maximum hazard index from operation of the proposed emergency generators were below the BAAQMD significance thresholds. Therefore, the project would have a less than significant operational community health risk impact. **(Less Than Significant Impact)**

Substation Site, Transmission Line, and Distribution Feeders

The operation of the Santa Teresa Substation, transmission line, and distribution feeders would result in negligible daily operational emissions, primarily from employee trips. Operational emissions from the proposed substation were assumed to be less than one pound per day of each criteria air pollutant, and no modeling was conducted. **(Less Than Significant Impact)**

4.3.3 Conclusion

Implementation of the proposed project, with the incorporation of MM AIR-1 and best management practices, would result in less than significant air quality impacts. **(Less Than Significant Impact with Mitigation Incorporated)**

4.4 BIOLOGICAL RESOURCES

The following discussion is based in part on a Biological Resources Report and Tree Survey Report prepared by *H.T. Harvey & Associates* in November 2015. A copy of these reports are provided in Appendix B of this Initial Study.

4.4.1 Setting

4.4.1.1 *Data Center Site*

While the project area is urban and developed, consisting of commercial development, residential neighborhoods, and roadways, the data center project site is currently undeveloped and consists primarily of ruderal grassland supporting non-native grasses and plants. There are approximately 14 trees located on the data centers site, seven of which are considered ordinance-sized trees (defined as trees with a diameter of 18 inches or greater). A large valley oak located near the northwest corner of Via del Oro and Great Oaks Boulevard has been designated by the City of San José as a Heritage Tree (HT-02-006). Three, non-native trees (Peruvian pepper and Southern magnolia) are also present along the San Ignacio Avenue frontage adjacent to a meandering sidewalk. The City's Heritage Tree Map also shows a second Heritage Tree on the project site along Via del Oro, a 50-inch diameter coast live oak. This tree appears to be mapped in error, as no coast live oak of a similar size exists on the site based on the Tree Survey Report conducted by H.T. Harvey & Associates dated November 17, 2015 (Appendix B).

Tree species documented on the project site that are native to the Santa Clara Valley include valley oak, coast live oak, and blue elderberry. Tree species that are native to California, but do not occur naturally in the Santa Clara Valley, include coast redwood and Northern California black walnut. Non-native trees such as Peruvian pepper tree were also recorded on the site. Refer to the Tree Survey Report in Appendix B for a full description of trees located on-site.

Wildlife species associated with more extensive grassland habitats are not present on the site. Many of the species that occur on-site are common species that occur in adjacent urban areas and use the site for foraging. Such species include the American crow, Anna's hummingbird, cedar waxwing, black phoebe, Say's phoebe, northern mockingbird, house finch, and mourning dove; all of these species were observed on-site during a field visit. In addition, two relatively common bird species that are not typically associated with urban/developed landscapes were observed: the western meadowlark and American pipit. One red-tailed hawk was also observed perched on the ground, apparently foraging; no nests of tree-nesting raptors were observed on-site. The mature trees scattered throughout the site support common bird species and provide perches for hunting raptors.

In general, wildlife use of ruderal grassland habitat is limited by the high levels of human disturbance that occurs on-site, and the urban environment in the surrounding area.

No special status plants or animal species were observed or determined to be present on-site. The project site does not support any sensitive habitat.

4.4.1.2 *Substation Site and Transmission Lines*

The ruderal grasslands at the substation site are disturbed by facility operations and heavy equipment that has compacted the soil; however, much of the site still supports vegetation, including non-native grasses and forbs. There are a total of 59 planted trees and irrigated lawns along Via Del Oro; tree species include London plane, shamel ash, coast redwood, and sweet gum. There are no trees on the substation site. Landscape trees, including London plane and purple leaved plums are planted in the vicinity of Miyuki Drive.

There is lower wildlife diversity compared to the undeveloped data center building site due to the developed nature of the substation site and transmission lines route. Species found here include the house finch, California towhee, white-crowned sparrow, and rock pigeon. Several California ground squirrel burrows were also observed at the proposed substation site; however, no burrowing owls or sign of burrowing owl use was observed.

No special status plants or animal species were observed or determined to be present on-site. The project site does not support any sensitive habitat.

4.4.1.3 *Applicable Plans, Policies, and Regulations*

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) 16 USC Section 703, Supp. I, 1989, prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, bird nests, and eggs. Construction disturbance during the breeding season could result in a violation of the MBTA such as the incidental loss of fertile eggs or nestlings, or nest abandonment.

Santa Clara Valley Habitat Plan/Natural Community Conservation Plan

Habitat Conservation Plans (HCPs) and Natural Communities Conservation Plans (NCCPs) are tools for the protection of endangered species on a regional level and represent an important integration of land-use planning and habitat conservation.

The Santa Clara Valley HCP/NCCP was adopted in 2013 by six "local partners" (VTA, County of Santa Clara, Santa Clara Valley Water District, and the Cities of San Jose, Morgan Hill, and Gilroy), in cooperation with the California Department of Fish & Wildlife (CDFW) and the U.S. Fish & Wildlife Service (USFWS). The Santa Clara Valley HCP/NCCP, which is now known as the Habitat Plan, covers approximately 520,000 acres and various special status plant and animal species (called "covered species" in the Habitat Plan). It is administered by the Santa Clara County Habitat Agency.

The proposed project is a "covered" activity, meaning that it is a project whose impacts are described and accounted for in the Habitat Plan. For such projects, a variety of development-based fees are paid to the Habitat Plan program to fund mitigation that will offset take of covered species, covered species habitat, and loss of other biological values. These one-time fees pay for the full cost of mitigating project effects on covered species and natural communities. Once paid, project proponents do not need to implement their own mitigation to satisfy state and federal endangered

species laws. Therefore, it is the intent of this project to mitigate for impacts to biological resources using the Habitat Plan to the greatest extent feasible. The discussion of mitigation, below, as well as in subsequent sections, follows this approach.

The project is located in Fee Zone B (Agricultural and Valley Floor Lands). Zone B lands typically consist of agricultural and valley floor lands covered with grassland, row crops, orchards or vineyards. In addition, since the proposed project entails new development and would create new vehicular trips to and from the project site, nitrogen deposition fees may apply.

Envision San José 2040 General Plan

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to biological resources and are applicable to the proposed project.

Envision San José 2040 Relevant Biological Resource Policies

Policies	Description
Policy ER-4.4	Require that development projects incorporate mitigation measures to avoid and minimize impacts to individuals of special-status species.
Policy ER-5.1	Avoid implementing activities that result in the loss of active native birds' nests, including both direct loss and indirect loss through abandonment, of native birds. Avoidance of activities that could result in impacts to nests during the breeding season or maintenance of buffers between such activities and active nests would avoid such impacts.
Policy ER-5.2	Require that development projects incorporate measures to avoid impacts to nesting migratory birds.
Policy ER-6.5	Prohibit use of invasive species, citywide, in required landscaping as part of the discretionary review of proposed development.

4.4.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. 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 US Fish and Wildlife Service?	☐	☒	☐	☐	9

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☐	☒	☐	9
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒	9
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, impede the use of native wildlife nursery sites?	☐	☐	☒	☐	9
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐	2,4,10
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐	1,9

4.4.2.1 *Impacts to Sensitive Species and Habitats (Checklist Questions 1-4)*

Sensitive Habitats and Species

Data Center Site

There are no sensitive habitats such as riparian habitat or wetlands located on the data center site, substation site, or in the surrounding area. In addition, no sensitive species are known to occur on the project site. Development of the proposed project could, however, result in the removal of all trees on the project site, except for a valley oak designated as a Heritage Tree at the intersection of Via del Oro and Great Oaks Boulevard. Trees could provide nesting habitat for birds, including migratory birds. Nesting birds are protected under provisions of the Migratory Bird Treaty Act and CDFW Code Sections 3503, 3503.5, and 2800.

Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes abandonment and/or loss of reproductive effort is considered a taking by the CDFW. Construction activities such as tree removal and site grading that disturb a nesting bird on-site or immediately adjacent to the construction zone would constitute a significant impact.

Substation Site, Transmission Line, and Distribution Feeders

One of the tubular steel poles would replace an existing lattice tower near several purple leaved plum trees and mature street trees on the west side of Miyuki Drive.

Construction of the underground distribution feeds along Via Del Oro would involve removal of existing pavement, excavation, and re-paving. Construction activities could impact nearby trees, which may provide habitat for nesting birds. As previously discussed, disturbing a nesting bird would constitute a significant impact.

Impact BIO-1: Development of the proposed project could result in impacts to nesting birds, if present on the site at the time of construction. **(Significant Impact)**

Mitigation Measures: Consistent with the General Plan FEIR and in conformance with the California State Fish and Wildlife Code and provisions of the Migratory Bird Treaty Act, the project proposes to implement the following mitigation measures to avoid and/or reduce impacts to nesting birds (if present on or adjacent to the site) to a less than significant level:

MM BIO-1.1: If possible, construction should be scheduled between September and January (inclusive) to avoid the nesting season. If this is not possible, pre-construction surveys for nesting raptors and other migratory breeding birds shall be conducted by a qualified ornithologist to identify active nests that may be disturbed during project implementation onsite and within 250 feet of the site. Between February and April (inclusive) pre-construction surveys shall be conducted no more than 14 days prior to the initiation of construction activities or tree relocation or removal. Between May and August (inclusive), pre-construction surveys shall be conducted no more than thirty (30) days prior to the initiation of these activities. The surveying ornithologist shall inspect all trees in and immediately adjacent to the construction area for nests.

MM BIO-1.2: If an active nest is found in or close enough to the construction area to be disturbed by these activities, the ornithologist shall, in consultation with the California Department of Fish and Wildlife (CDFW), designate a construction-free buffer zone (typically 250 feet for raptors and 100 feet for other birds) around the nest, which shall be maintained until after the breeding season has ended and/or a qualified ornithologist has determined that the young birds have fledged.

MM BIO-1.3: The applicant shall submit a report indicating the results of the survey and any designated buffer zones to the satisfaction of the Director of Planning, Building and Code Enforcement prior to the issuance of any grading or building permit.

4.4.2.2 *Impacts to Trees (Checklist Question 5)*

Within the City of San José, the urban forest as a whole is considered an important biological resource because most mature trees provide some nesting, cover, and foraging habitat for a variety of species that are tolerant of humans, as well as providing necessary habitat for beneficial insects.

The project proposes to preserve the Heritage Tree (HT-02-006), a large valley oak at the corner of Via Del Oro and Great Oaks Boulevard. The remaining 13 trees, including six ordinance-sized trees, on the data center site would be removed. Street trees would be planted along San Ignacio Avenue to replace the three trees removed along that frontage.

Several trees around the base of the existing lattice tower near Miyuki Drive could require removal as a part of replacement of the existing tower with a tubular steel pole. No other trees are proposed to be removed along the transmission line extension (from Miyuki Drive) or the distribution line route (Via Del Oro), and there are no trees at the substation site.

Standard Project Conditions:

In accordance with current City policies and Municipal Code regulations, trees removed would be replaced at the ratios identified in Table 4.4-1. In the event replacement/mitigation trees cannot be accommodated on the site, tree removal shall be mitigated through a donation of $300 per mitigation tree to Our City Forest for in-lieu off-site tree planting in the community.

Table 4.4-1: Tree Replacement Ratios

Circumference of Tree to be Removed	Type of Tree to be Removed			Minimum Size of Each Replacement Tree
	Native	Non-Native	Orchard	
56 inches or more	5:1	4:1	3:1	24-inch box
38 – 56 inches	3:1	2:1	none	24-inch box
Less than 38 inches	1:1	1:1	none	15-gal. container

x:x = tree replacement to tree loss ratio

Note: Trees greater than or equal to 56-inch trunk circumference shall not be removed unless a Tree Removal Permit, or equivalent, has been approved for the removal of such trees.

The species of trees to be planted shall be determined in consultation with the City Arborist and the Department of Planning, Building and Code Enforcement. Trees removed shall be replaced at these ratios, or the applicant shall pay an in-lieu fee to Our City Forest to compensate for the loss of trees on-site.

Construction Impacts to Heritage Tree Number 02-006

Temporary construction impacts on the Heritage Tree to be retained, if unmitigated, would constitute a significant impact.

Impact BIO-2: Construction activities associated with the project could damage the City designated Heritage Tree at the corner of Via del Oro and Great Oaks Boulevard. **(Significant Impact)**

Mitigation Measures: The project proposes to implement the following mitigation measures to reduce potential impacts to the Heritage Tree to a less than significant level.

MM BIO-2: A Tree Preservation Plan shall be prepared by a certified arborist prior to initiation of construction to describe how the Heritage Tree will be protected. The construction-phase Tree Preservation Plan shall include the following tree protection measures, which are based on guidelines established by the International Society for Arboriculture:

a) Establish an area surrounding the Heritage Tree to be protected during construction as defined by a circle concentric with each tree with a radius 1-1/2 times the diameter of the tree canopy drip line. This "tree protection zone" is established to protect the tree trunk, canopy and root system from damage during construction activities and to ensure the long-term survival of the protected trees. The tree protection zone shall: (1) ensure that no structures or buildings, that might restrict sunlight relative to the existing condition, will be constructed in close proximity to the trees; and (2) that no improvements are constructed on the ground around the tree within the tree protection zone, thus ensuring that there is sufficient undisturbed native soil surrounding the tree to provide adequate moisture, soil nutrients and oxygen for healthy root growth.

b) Protect tree root systems from damage caused by (a) runoff or spillage of noxious materials while mixing, placing, or storing construction materials and (b) ponding, eroding, or excessive wetting caused by incident rainfall through use of the following measures during excavation and grading:

i) Excavation: Do not trench inside tree protection zones. Hand excavate under or around tree roots to a depth of three feet. Do not cut main lateral tree roots or taproots. Protect exposed roots from drying out before placing permanent backfill.

ii) Grading: Maintain existing grades within tree protection zones. Where existing grade is two inches or less below elevation of finish grade, backfill with topsoil or native soil from the project site. Place fill soil in a single un-compacted layer and hand grade to required finish elevation.

iii) Apply six-inch average thickness of wood bark mulch inside tree protection zones. Keep mulch six inches from tree trunks.

c) Provide 48-inch tall orange plastic construction fencing fastened to steel T-posts, minimum six feet in length, using heavyweight plastic ratchet ties. Install fence along edges of tree protection zones before materials or equipment are brought on site and construction operations begin. Maintain fence in place until construction operations are complete and equipment has been removed from site.

d) Provide temporary irrigation to all trees in protection zones using a temporary on-grade drip or bubbler irrigation system sufficient to wet the soil within tree protection zones to a depth of 30 inches per bi-weekly irrigation event.

4.4.2.3 *Consistency with the Santa Clara Valley Habitat Plan/Natural Community Conservation Plan (Checklist Question 6)*

The project site is located within the Habitat Plan study area and would be subject to all applicable Habitat Plan fees. The project site is designated as *Golf Courses/Urban Parks*, which is urban land that may have some natural habitat value. In addition, the project is located in Fee Zone B (Agricultural and Valley Floor Lands), which typically consists of agricultural and valley floor lands covered with grassland, row crops, orchards or vineyards. The project would pay all fees related to Fee Zone B, as required. In addition, since the proposed project entails new development and would create new vehicular trips to and from the project site, nitrogen deposition fees may apply.

Nitrogen Deposition Impacts on Serpentine Habitat

Nitrogen deposition is known to have damaging effects on many of the serpentine plants in the Habitat Plan study area, as well as the host plants that support the Bay checkerspot butterfly. All major remaining populations of the butterfly and many of the sensitive serpentine plant populations occur in areas subject to air pollution from vehicle exhaust and other sources throughout the Bay Area, including the project area. Because serpentine soils tend to be nutrient poor, and nitrogen deposition artificially fertilizes serpentine soils, nitrogen deposition facilitates the spread of invasive plant species. The displacement of these species, and subsequent decline of the several federally-listed species, including the butterfly and its larval host plants, has been documented on Coyote Ridge in central Santa Clara County. Nitrogen tends to be efficiently recycled by the plants and microbes in infertile soils such as those derived from serpentine, so that fertilization impacts could persist for years and result in cumulative habitat degradation. Mitigation for the impacts of nitrogen deposition upon serpentine habitat and the Bay checkerspot butterfly can be correlated to the amount of new vehicle trips that a project is expected to generate. Fees collected under the Habitat Plan for new vehicle trips will be used to purchase conservation land for the Bay checkerspot butterfly.

The Habitat Plan requires payment for nitrogen deposition fees for all covered projects that generate new net trips and create or replace more than two acres of impervious surfaces. Therefore, the project applicant will be required to submit the Santa Clara Valley Habitat Plan – Coverage Screening Form to the PBCE Supervising Environmental Planner for approval and payment of the nitrogen deposition fee prior to issuance of a grading permit.

4.4.3 Conclusion

Implementation of the proposed project, with the incorporation of MM BIO-1.1 though MM BIO-1.3 and MM BIO-2 would result in a less than significant impact to biological resources. **(Less Than Significant Impact with Mitigation Incorporated)**

4.5 CULTURAL RESOURCES

4.5.1 Setting

Cultural resources are evidence of past human occupation and activity and include both historical and archaeological resources. These resources may be located above ground or underground and have significance in the history, prehistory, architecture, architecture of cultural of the nation, State of California, or local or tribal communities.

4.5.1.1 *Paleontological Resources*

Paleontological resources are fossils, the remains or traces of prehistoric life preserved in the geologic record. They range from the well-known and well publicized (such as mammoth and dinosaur bones) to scientifically important fossils. The project site is underlain by Holocene alluvial fan material deposits, which have low potential to yield significant fossils at the surface, but may contain resources at depth.[6]

4.5.1.2 *Prehistoric and Historic Resources*

Prehistoric resources are resources that have significance in prehistory, which is defined as events of the past occurring prior to advent of written records. Historic resources are generally 50 years or older in age and include, but are not limited to, buildings, districts, structures, sites, objects, and areas. Archaeological resources are resources associated with human activity in the past and encompass both prehistoric and historic resources. According to the General Plan FEIR, the project site is located in an archaeologically sensitive area.

Based upon a review of the City's archaeological sensitivity maps, there are no recorded historic or prehistoric archaeologic sites in the project area.

4.5.1.3 *Applicable Plans, Policies, and Regulations*

CEQA Regulations Regarding Human Remains

Section 15064.5 of the State CEQA Guidelines specifies procedures to be used in the event of an unexpected discovery of Native American human remains on nonfederal land. These procedures are outlined in PRC Sections 5097 and 5097.98. These codes protect such remains from disturbance, vandalism, and inadvertent destruction, establish procedures to be implemented if Native American skeletal remains are discovered during construction of a project, and establish the Native American Heritage Commission (NAHC) as the authority to resolve disputes regarding disposition of such remains.

[6] City of San José. *Envision San José 2040 General Plan Final EIR*. November 2011.

Envision San José 2040 General Plan

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to cultural resources and are applicable to the proposed project.

Envision San José 2040 Relevant Cultural Resource Policies

Policies	Description
Policy ER-10.2	Recognizing that Native American human remains may be encountered at unexpected locations, impose a requirement on all development permits and tentative subdivision maps that upon discovery during construction, development activity will cease until professional archaeological examination confirms whether the burial is human. If the remains are determined to be Native American, applicable state laws shall be enforced.
Policy ER-10.3	Ensure that City, State, and Federal historic preservation laws, regulations, and codes are enforced, including laws related to archaeological and paleontological resources, to ensure the adequate protection of historic and pre-historic resources.

4.5.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Cause a substantial adverse change in the significance of an historical resource as defined in §15064.5?	☐	☒	☐	☐	1,2
2. Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☒	☐	☐	1,2
3. Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	☐	☒	☐	☐	1,2
4. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐	1,2

4.5.2.1 *Impacts to Aboveground Historic Resources* *(Checklist Question 1)*

There are no existing historic resources on or adjacent to the data center site, substation site, or along the transmission line and distribution feeder route. Therefore, implementation of the proposed project would not impact aboveground historic resources. **(No Impact)**

4.5.2 *Impacts to Buried Paleontological, Archaeological, or Historical Resources (Checklist Question 2-4)*

As previously discussed, the proposed project is located in an area that has the potential for paleontological resources at depth and is archaeologically sensitive. While no paleontological or archaeological resources have been recorded on the project sites, there is a potential for paleontological and archaeological resources to be discovered during construction activities. Should any unique paleontological resource/site, unique geologic feature, archaeological resource, or human remains be found during grading operations, their disturbance would be a significant impact.

Impact CUL-1: Construction of the proposed project could impact unknown buried paleontological and/or archaeological or historic resources, if present on-site. **(Significant Impact)**

Mitigation Measures: The project shall implement the following mitigation measures to reduce and/or avoid impacts to unknown buried paleontological, historic, and archaeological resources (if present on-site) to a less than significant level:

MM CUL-1.1: An archaeologist qualified in local historical and prehistory archaeology shall complete a subsurface presence/absence program to determine whether any intact archaeological deposits are present on-site. Preparation of that work shall include aligning pertinent historic-period maps to the project area to identify specific sensitive areas that could be impacted by the proposed development. Should any archaeological features or deposits be identified, a focused research design and treatment plan shall be prepared to address any potential resources exposed during construction activities followed by archaeological excavation of these features.

MM CUL-1.2: In the event of the discovery of prehistoric or historic archaeological deposits or paleontological deposits, work shall be halted within 50 feet of the discovery and a qualified professional archaeologist (or paleontologist, as applicable) shall examine the find and make appropriate recommendations regarding the significance of the find and the appropriate mitigation. The recommendation shall be implemented and could include collection, recordation, and analysis of any significant cultural materials.

MM CUL-1.3: Pursuant to Section 7050.5 of the Health and Safety Code and Section 5097.94 of the Public Resources Code of the State of California, in the event of the discovery of human remains during construction, there shall be no further excavation or disturbance of the site within a 50-foot radius of the remains or any nearby area reasonably suspected to overlie adjacent remains. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he shall notify the Native American Heritage Commission who shall attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the land owner shall re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance.

MM CUL-1.4: A final report summarizing the discovery of cultural materials shall be submitted to the City's Environmental Senior Planner prior to issuance of building permits. This report shall contain a description of the mitigation program that was implemented and its results, including a description of the monitoring and testing program, a list of the resources found, a summary of the resources analysis methodology and conclusion, and a description of the disposition/curation of the resources. The report shall verify completion of the mitigation program to the satisfaction of the Environmental Senior Planner.

4.5.3 Conclusion

Implementation of the proposed project, with the incorporation of the mitigation measures MM CUL-1.1 through MM CUL-1.4, would result in less than significant impacts to cultural resources. **(Less Than Significant Impact with Mitigation Incorporated)**

4.6 GEOLOGY AND SOILS

The following discussion is based in part on a Geotechnical Investigation completed by *Kleinfelder* on January 26, 2016 for the Santa Teresa Substation site. A copy of this report is attached to this Initial Study as Appendix C.

4.6.1 Setting

4.6.1.1 *Regional Geology*

The City of San José is located within the Santa Clara Valley, which is a broad alluvial plain that lies between the Santa Cruz Mountains to the southwest and west, and the Diablo Range to the northeast. The San Andreas Fault system, including the Monte Vista-Shannon Fault, exists within the Santa Cruz Mountains, and the Hayward and Calaveras Fault systems exist within the Diablo Range.

4.6.1.2 *On-Site Geologic Conditions*

Data Center Site

The main project site is located approximately 0.7 miles north of the Santa Teresa Hills, one mile west of Coyote Creek, and 1.2 miles east of Canoas Creek.

Soils

The project area is composed of an Urban land-Stevens Creek soil complex.[7] The soil profile for this complex includes sandy loam which persists to two inches below the surface, silt loam which persists from two to nine inches below the surface, silty clay which persists from nine to 27 inches below the surface, clay loam which persists from 27 to 39 inches below the surface, and sandy clay loam which persists from 39 to 70 inches below the surface.

The soils on the data center site exhibit a high potential for expansion. The site topography is flat with no erosion or landslide hazards. Expansive soils shrink and swell as a result of moisture changes, which can cause heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundations.

Seismicity

The three major fault lines in the area are the Hayward Fault, San Andreas Fault, and Calaveras Fault. The Hayward Fault (active segment) is approximately 19 miles north of the project sites, the San Andreas Fault is approximately 11 miles southwest of the sites, and the Calaveras Fault is approximately six miles east of the sites.[8] Because of the proximity of the site to these faults, any ground shaking, ground failure, or liquefaction due to an earthquake could cause damage to the

[7] U.S. Department of Agriculture. *Web Soil Survey: Soil Report.* Generated on: August 18, 2015. Available at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

[8] Santa Clara County. "Geologic Hazards Zones Map." Accessed August 18, 2015. Available at: https://sccplanning.maps.arcgis.com.

structures. While the project site is not located within a fault rupture hazard zone, strong ground shaking is expected to occur on-site during an earthquake. Due to the flat topography of the site, there is no erosion or landslide hazard.

The data center site is located in a liquefaction hazard zone.[9] No significant liquefaction phenomena, however, were observed/recorded in the site vicinity during the 1989 Loma Prieta earthquake. Because the soils on the site are mostly medium-dense to dense and the site water table is relatively deep (between 30 to 70 feet)[10], the potential for liquefaction at the site is low to moderate.

Substation Site, Transmission Line, Distribution Feeders

The proposed substation site is located approximately 0.9 miles north of the Santa Teresa Hills, 1.3 miles west of Coyote Creek, and 0.8 miles northeast of Canoas Creek.

Soils

The substation site area is composed of an Urban land-Campbell soil complex.[11] Field explorations on the site encountered up to one foot of gravel and gravelly lean clay fill, underlain by moist, dark reddish brown to dark brown, hard, lean clay. The soil behavior types found consist of firm to hard lean clay with varying amounts of sand and silt, except for a layer of silty sand and sandy silt encountered between depths of about 22 to 27 feet.

Based on the Geotechnical Report prepared for the site, surficial soils have a low expansion potential. Therefore, expansive soils are not anticipated to be a concern for the substation site.

Seismicity

The substation site is not located within a State, County, or City designated fault zone, and no known active faults traverse the alignment. The nearest faults to the project site are the Coyote Creek fault zone (located about two miles to the east), the Hayward Fault zone (located about four miles to the northeast), and the Calaveras fault zone (located about eight miles to the east). Other faults that may contribute to ground shaking at the site include the Sargent fault zone (located about 10 miles to the southwest) and the San Andreas fault zone (located about 11 miles to the southwest). While the project site is not located within a fault rupture hazard zone, strong ground shaking is expected to occur on-site during an earthquake. Due to the flat topography of the site, there is no erosion or landslide hazard.

[9] Santa Clara County. "Geologic Hazards Zones Map." Accessed August 18, 2015. Available at: https://sccplanning.maps.arcgis.com.
[10] Groundwater depth based upon Phase I Environmental Site Assessment prepared by Amec Foster Wheeler (Appendix D).
[11] U.S. Department of Agriculture. *Web Soil Survey: Soil Report.* Generated on: August 18, 2015. Available at: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

The substation site is located in a liquefaction hazard zone.[12] No significant liquefaction phenomena, however, were observed/recorded in the site vicinity during the 1989 Loma Prieta earthquake. Because the soils on the site are mostly medium-dense to dense and the site water table is relatively deep between 30 to 70 feet), the potential for liquefaction at the site is low.

4.6.1.2 *Applicable Plans, Policies and Regulations*

California Building Code

The California Building Code prescribes a standard for constructing safer buildings throughout the State of California. It contains provisions for earthquake safety based on factors including occupancy type, soil and rock profile, strength of the ground and distance to seismic sources. The Code is renewed on a triennial basis every three years.

Envision San José 2040 General Plan

Various policies in the City's General Plan have been adopted for the purpose of avoiding or mitigating geology and soils impacts resulting from planned development within the City. The following policies are applicable to the proposed project.

Envision San José 2040 Relevant Geology and Soil Policies

Policies	Description
Policy EC-3.1	Design all new or remodeled habitable structures in accordance with the most recent California Building Code and California Fire Code as amended locally and adopted by the City of San José, including provisions regarding lateral forces.
Policy ES-4.9	Permit development only in those areas where potential danger to the health, safety, and welfare of persons in that area can be mitigated to an acceptable level.
Policy EC-4.1	Design and build all new or remodeled habitat structures in accordance with the most recent California Building Code and municipal code requirements as amended and adopted by the City of San José, including provisions for expansive soil, and grading and stormwater controls.
Policy EC-4.2	Development in areas subject to soils and geologic hazards, including unengineered fill and weak soils and landslide-prone areas, only when the severity of hazards have been evaluated and if shown to be required, appropriate mitigation measures are provided. New development proposed within areas of geologic hazards shall not be endangered by, nor contribute to, the hazardous conditions on the site or on adjoining properties. The City of San José Geologist will review and approve geotechnical and geological investigation reports for projects within these areas as part of the project approval process.
Policy EC-4.4	Require all new development to conform to the City of San José's Geologic Hazard Ordinance.
Policy EC-4.5	Ensure that any development activity that requires grading does not impact adjacent properties, local creeks, and storm drainage systems by designing and building the site to drain properly and minimize erosion. An Erosion Control Plan is required for all private

[12] Santa Clara County. "Geologic Hazards Zones Map." Accessed August 18, 2015. Available at: https://sccplanning.maps.arcgis.com.

Envision San José 2040 Relevant Geology and Soil Policies

Policies	Description
	development projects that have a soil disturbance of one acre or more, adjacent to a creek/river, and/or are located in hillside areas. Erosion Control Plans are also required for any grading occurring between October 1 and April 30.
Policy ES-4.7	Consistent with the San José Geologic Hazard Ordinance, prepare geotechnical and geological investigation reports for projects in areas of known concern to address the implications of irrigated landscaping to slope stability and to determine if hazards can be adequately mitigated.

City of San José Municipal Code

Title 24 of the San José Municipal Code includes the current California Building, Plumbing, Mechanical, Electrical, Existing Building, and Historical Building Codes. Requirements for building safety and earthquake hazard reduction are also addressed in Chapter 17.40 (Dangerous Buildings) and Chapter 17.10 (Geologic Hazards Regulations) of the Municipal Code. Requirements for grading, excavation, and erosion control are included in Chapter 17.10 (Building Code, Part 6 Excavation and Grading). In accordance with the Municipal Code, the Director of Public Works must issue a Certificate of Geologic Hazard Clearance prior to the issuance of grading and building permits within defined geologic hazard zones, including State Seismic Hazard Zones for Liquefaction.

4.6.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
a. Rupture of a known earthquake fault, as described on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☒	☐	12
b. Strong seismic ground shaking?	☐	☐	☒	☐	1
c. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐	12
d. Landslides?	☐	☐	☒	☐	12
2. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐	1

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
3. Be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐	1
4. Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property?	☐	☐	☒	☐	1
5. 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?	☐	☐	☒	☐	1

As previously discussed in *Section 4.0*, on December 17, 2015, the California Supreme Court issued an opinion in "CBIA vs. BAAQMD" holding that CEQA is primarily concerned with the impacts of a project on the environment and generally does not require agencies to analyze the impact of existing conditions on a project's future users or residents, unless the project risks exacerbating those environmental hazards or risks that already exist. Nevertheless, the City has policies and regulations that address existing conditions affecting a proposed project, which are also discussed below.

4.6.2.1 ***Soil Impacts*** *(Checklist Question 2)*

Both project sites are currently vacant and soils are exposed. Ground disturbance would be required during excavation, grading, and construction of the proposed data center buildings, substation, transmission line, and distribution feeders. The project would also require temporary removal of existing pavement along Via Del Oro for the installation of the underground distribution feeders. After the installation of the underground feeders, the roadway would be repaved.

Construction of the proposed project would not exacerbate soil conditions (e.g., undocumented fill, exposure, and liquefaction) such that it would cause off-site impacts. Ground disturbance would, however, expose soils and increase the potential for wind or water related erosion and sedimentation at the site until construction is complete. The City's NPDES Municipal Permit, urban runoff policies, and the Municipal Code (which are discussed in more detail in *Section 4.9 Hydrology and Water Quality*) are the primary means of enforcing erosion control measures through the grading and building permit process. In accordance with General Plan policies, implementation of the regulatory programs and policies in place would reduce possible impacts of accelerated erosion during construction to a less than significant level. **(Less Than Significant Impact)**

4.6.2.2 *Environmental Impacts to the Project (Checklist Questions 1, 3-4)*

Undocumented Fill and Expansive Soils

The primary soil concerns on the data center and substation site on-site are expansive soils and undocumented fill. If untreated, expansive soils and undocumented fill could damage future buildings and pavements on the project site. Therefore, as a planning consideration, it is recommended that the project implement the following measure to reduce potential impacts from expansive soils and undocumented fill:

- Prior to issuance of any site-specific grading or building permits, a design-level geotechnical investigation shall be prepared and submitted to the City of San José Public Works Department for review and approval. The project shall implement the recommendations in the investigation to minimize impacts from expansive soils and undocumented fill. Options to address these conditions may range from the use of deep foundations and/or removal of the problematic soils and replacement, as needed, with properly conditioned and compacted fill, to design and construction improvements to withstand the forces exerted during the expected shrink-swell cycles and settlements.

Seismicity and Seismic-Related Hazards

The project would not be subject to impacts from lateral spreading, slope instability, or landslides due to the flat topography of the site. However, the project area is a seismically-active region and would be subject to strong shaking in the event of seismic activity. The potential for liquefaction on either site is low to moderate. Liquefaction can result in ground failure (e.g. fissures), foundation bearing failure, and settlement of the ground surface, which can ultimately damage future development or endanger future residents on-site.

As a planning consideration, the project proposes to implement the following, previously approved measure to reduce significant seismic and seismic-related impacts:

- The project shall be constructed in conformance with the recommendations of the design-level geotechnical investigation to be prepared for the project, as well as the 2014 California Building Code, or subsequent adopted codes.

4.6.2.3 *Other Impacts (Checklist Question 5)*

The project does not propose the use of septic tanks or alternative wastewater disposal systems and, therefore, this is not discussed further. **(No Impact)**

4.6.3 Conclusion

Implementation of the proposed project would result in less than significant geology and soils impacts. **(Less Than Significant Impact)**

4.7 GREENHOUSE GAS EMISSIONS

In accordance with CEQA Section 21093 and CEQA Guidelines Section 15152, the following impacts analysis tiers from the certified 2015 *Envision San José 2040 Final Supplemental Program Environmental Impact Report* (PEIR) (SCH#2003042127). Updated information reflecting changes to the regulatory setting is also incorporated in the discussion.

4.7.1 Setting

4.7.1.1 *Background Information*

Unlike emissions of criteria and toxic air pollutants, which are discussed in *Section 4.3* and have local or regional impacts, emissions of Greenhouse Gases (GHGs) have a broader, global impact. Global warming associated with the "greenhouse effect" is a process whereby GHGs accumulating in the atmosphere contribute to an increase in the temperature of the earth's atmosphere over time. The principal GHGs contributing to global warming and associated climate change are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated compounds. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial, and agricultural sectors.

4.7.1.2 *Existing On-site GHG Emissions*

Data Center Site

The data center site is currently undeveloped. No GHG emissions are generated from the site.

Substation Site, Transmission Line, Distribution Feeders

The substation site is undeveloped and currently used for storage and training purposes for PG&E employees, in association with the PG&E Edenvale Service Center. No GHG emissions are generated on the site. A minimal amount of GHG emissions is generated from vehicles traveling to and from the project site.

4.7.1.3 *Applicable Plans, Policies and Regulations*

California Assembly Bill 32 and Executive Orders

Assembly Bill 32 (AB 32), also known as the Global Warming Solutions Act, was passed in 2006 and established a goal to reduce GHG emissions to 1990 levels by 2020. Prior to the adoption of AB 32, the Governor of California signed Executive Order S-3-05. In addition to establishing 2020 targets, Executive Order S-3-05 set a long term objective to reduce GHG emissions to 90 percent below 1990 levels by 2050. The California Air Resources Board (CARB) is the state agency in charge of coordinating the GHG emissions reduction effort and establishing statewide emission targets along the way.

In December 2008, CARB approved the *Climate Change Scoping Plan*, which proposes a comprehensive set of actions designed to reduce California's dependence on oil, diversify energy

sources, save energy, and enhance public health, among other goals. Per AB 32, the Scoping Plan must be updated every five years to evaluate the mix of AB 32 policies to ensure that California is on track to achieve the 2020 greenhouse gas reduction goal. The First Update to the Scoping Plan was approved on May 22, 2014 and builds upon the Scoping Plan with new strategies and recommendations. The First Update defines CARB's priorities over the next five years and lays the groundwork to reach long-term goals set forth in Executive Order S-3-05.[13]

Executive Order B-30-15

On April 29, 2015, Governor Brown issued Executive Order B-30-15 establishing a GHG reduction target for California of 40 percent below 1990 levels by 2030. This is considered a mid-term target for implementation of reducing statewide GHG emissions to 80 percent below 1990 levels by 2050. All state agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the AB 32 Climate Change Scoping Plan to reflect the 2030 target and is moving forward with the update process, as discussed under *SB32 and AB 197*, below.

SB 32 and AB 197

SB 32 and AB 197 were signed into law in September 2016. The recently signed SB 32 legislation amends provisions of AB 32, the California Global Warming Solutions Act of 2006 (Health and Safety Code Division 25.5), to require CARB to ensure that statewide greenhouse gas emissions are reduced to 40 percent below the 1990 level by December 31, 2030. This legislation incorporates the Executive Order B-30-15 target discussed above into state law. Changes to the Health and Safety Code under the companion AB 197 legislation call for each scoping plan update to identify each emissions reduction measure and include the range of projected greenhouse gas emissions reductions as well as the range of projected air pollution reductions that result from the emission reduction measure.

The mid-term target is considered critical by the State to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing GHG emissions. CARB is charged with adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions to meet the new interim statewide GHG target. The framework for greenhouse gas emissions reductions will be provided through an update to the current Climate Change Scoping Plan. The estimated timeline for development and approval of the *2030 Target Scoping Plan* includes release of a draft for public comment in January 2017 and consideration by CARB in Spring 2017.[14]

California Senate Bill 375

Senate Bill 375 (SB 375), known as the Sustainable Communities Strategy and Climate Protection Act, was signed into law in September 2008. It builds on AB 32 by requiring CARB to develop

[13] California Environmental Protection Agency. Air Resources Board. *First Update to the AB 32 Scoping Plan*. Accessed May 26, 2016. Available here: <http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>

[14] CARB. Discussion Draft 2030 Target Scoping Plan, December 2, 2016 . Accessed December 2, 2016. Available at: <https://www.arb.ca.gov/cc/scopingplan/2030target_sp_dd120216.pdf >

regional GHG reduction targets to be achieved from the automobile and light truck sectors for 2020 and 2035 in comparison to 2005 emissions. The per capita reduction targets for passenger vehicles in the San Francisco Bay Area include a seven percent reduction by 2020 and a 15 percent reduction by 2035.[15] The four major requirements of SB 375 are:

1. Metropolitan Planning Organizations (MPOs) must meet greenhouse gas emission reduction targets for automobiles and light trucks through land use and transportation strategies.
2. MPOs must create a Sustainable Communities Strategy (SCS), to provide an integrated land use/transportation plan for meeting regional targets, consistent with the Regional Transportation Plan (RTP).
3. Regional housing elements and transportation plans must be synchronized on eight-year schedules, with Regional Housing Needs Assessment (RHNA) allocation numbers conforming to the SCS.
4. MPOs must use transportation and air emissions modeling techniques consistent with guidelines prepared by the California Transportation Commission (CTC).

MTC and ABAG adopted *Plan Bay Area* in July 2013. The strategies in the plan are intended to promote compact, mixed-use development close to public transit, jobs, schools, shopping, parks, recreation, and other amenities, particularly within Priority Development Areas (PDAs) identified by local jurisdictions. The project site is located within a PDA (Employment Center).

Renewables Portfolio Standard for Energy Generation

California's Renewables Portfolio Standard (RPS) is one of the most ambitious renewable energy standards in the country. The RPS program requires electric corporations to increase procurement from eligible renewable energy resources and meet established milestones. Under SB 2X, all electricity suppliers must achieve the criterion that 33 percent of electric generation come from renewable sources by the end of 2020. These requirements apply to all electricity retailers in the state – investor-owned utilities, municipal utilities and independent sellers. The California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) jointly implement the RPS program. To the extent that several types of renewable energy sources (e.g., hydropower, wind and solar) have limited GHG emissions from power generation compared to energy generated through combustion processes, implementation of this standard would reduce GHG emissions from electric power generation.

Bay Area 2010 Clean Air Plan

The Bay Area 2010 Clean Air Plan (CAP) addresses air emissions in the San Francisco Bay Area Air Basin. One of the key objectives in the CAP is climate protection. The 2010 CAP includes emission control measures and performance objectives, consistent with the state's climate protection goals under AB 32 and SB 375, designed to reduce emissions of GHGs to 1990 levels by 2020 and 40 percent below 1990 levels by 2035.

[15] The emission reduction targets are for those associated with land use and transportation strategies, only. Emission reductions due to the California Low Carbon Fuel Standards or Pavley emission control standards are not included in the targets.

The Air District is updating the 2010 Bay Area Clean Air Plan in partnership with the Association of Bay Area Governments, the Bay Conservation and Development Commission, and the Metropolitan Transportation Commission (MTC). The 2016 Clean Air Plan/Regional Climate Protection Strategy will be a roadmap for the Air District's efforts over the next few years to reduce air pollution and protect public health and the global climate. The Bay Area's first-ever comprehensive Regional Climate Protection Strategy will be included in the 2016 Plan - which will identify potential rules, control measures, and strategies that the Air District can pursue to reduce greenhouse gases throughout the Bay Area.[16] As of December 2, 2016, the draft 2016 Plan had not been released for public review.

Envision San José 2040 General Plan

The General Plan includes strategies, policies, and action items that are incorporated in the City's GHG Reduction Strategy to help reduce GHG emissions. Multiple policies and actions in the General Plan have GHG implications, including land use, housing, transportation, water usage, solid waste generation and recycling, and reuse of historic buildings. The City's Green Vision, as reflected in these policies, also has a monitoring component that allows for adaptation and adjustment of City programs and initiatives related to sustainability and associated reductions in GHG emissions. The GHG Reduction Strategy is intended to meet the mandates as outlined in the *CEQA Guidelines* and standards for "qualified plans" as set forth by BAAQMD.

The GHG Reduction Strategy identifies GHG emissions reduction measures to be implemented by development projects in three categories: built environment and energy, land use and transportation, and recycling and waste reduction. Some measures are mandatory for all proposed development projects and others are voluntary. Voluntary measures could be incorporated as mitigation measures for proposed projects, at the City's discretion.

The primary test for consistency with the Greenhouse Gas Reduction Strategy is conformance to the General Plan Land Use/Transportation Diagram and supporting policies. CEQA clearance for all development proposals are required to address the consistency of individual projects with the goals and policies in the General Plan designed to reduce GHG emissions. Compliance with the mandatory measures and voluntary measures (if required by the City) would ensure an individual project's consistency with the GHG Reduction Strategy. Projects that are consistent with the GHG Reduction Strategy would have a less than significant impact related to GHG emissions through 2020 and would not conflict with targets in the currently adopted State of California Climate Change Scoping Plan through 2020.

Beyond 2020, the emission reductions in the GHG Reduction Strategy (identified at the time of preparation of the 2015 Supplemental PEIR for the Envision San José 2040 General Plan and GHG Reduction Strategy) are not large enough to meet the City's identified 3.04 metric tons (MT) CO_2e/SP efficiency metric for 2035. An additional reduction of 5,392,000 MT CO_2e per year would be required for the projected service population to meet the City's target for 2035.[17]

[16] BAAQMD. "Plans Under Development". Accessed December 1, 2016. Available at: <http://www.baaqmd.gov/plans-and-climate/air-quality-plans/plans-under-development >

[17] As described in the Final Supplemental PEIR for the Envision San José 2040 General Plan, the 2035 efficiency target above, reflects a straight line 40 percent emissions reduction compared to the projected citywide emissions (10.90 MT CO_2e) for San José in 2020. It was developed prior to issuance of Executive Order S-30-15 in April

Achieving the substantial communitywide GHG emissions reductions needed beyond 2020 cannot be done alone with the measures identified in the GHG Reduction Strategy adopted by the City Council in 2015. The Final Supplemental PEIR disclosed that it will require an aggressive multiple-pronged approach that includes policy decisions and additional emission controls at the federal and state level, new and substantially advanced technologies, and substantial behavioral changes to reduce single occupant vehicle trips, especially to and from work places. Future policy and regulatory decisions by other agencies (such as the CARB, CPUC, CEC, MTC, and BAAQMD) and technological advances are outside the City's control, and therefore could not be relied upon as feasible mitigation strategies at the time of the latest revisions to the GHG Reduction Strategy (e.g., when the 2015 Final Supplemental PEIR was certified on December 15, 2015). The City Council adopted overriding considerations for the identified cumulative impact for the 2035 timeframe.

The General Plan includes an implementation program for monitoring, reporting progress on, and updating the GHG Reduction Strategy over time as new technologies or practical measures are identified. Implementation of future updates is called for in General Plan Policies IP-3.7 and IP-17.2 and embodied in the Greenhouse Gas Reduction Strategy. The City of San José recognizes that additional strategies, policies and programs, to supplement those currently identified, will ultimately be required to meet the mid-term 2035 reduction target of 40 percent below 1990 levels in the GHG Reduction Strategy and the target of 80 percent below 1990 emission levels by 2050.

City of San José Municipal Code

The City's Municipal Code includes the following regulations that would reduce GHG emissions from future development:

- Green Building Ordinance (Chapter 17.84)
- Water Efficient Landscape Standards for New and Rehabilitated Landscaping (Chapter 15.10)
- Transportation Demand Programs for employers with more than 100 employees (Chapter 11.105)
- Construction and Demolition Diversion Deposit Program (Chapter 9.10)
- Wood Burning Ordinance (Chapter 9.10)

City of San José Private Sector Green Building Policy (6-32)

In October 2008, the City adopted the Private Sector Green Building Policy (6-32) that establishes baseline green building standards for private sector new construction and provides a framework for the implementation of these standards. This policy requires that applicable projects achieve minimum green building performance levels using the Council adopted standards. The proposed project would be subject to this policy. Since the proposed commercial/industrial project would be

2015, which calls for a statewide reduction target of 40 percent by 2030 (five years earlier) to keep on track with the more aggressive target of 80 percent reduction by 2050. The necessary information to estimate a second mid-term or interim efficiency target (e.g., statewide emissions, population and employment in 2030) is being developed by CARB. Therefore, the information to address this new state interim target is not available and development of an additional target will have to be completed at a later date once the *2030 Target Scoping Plan* is complete.

greater than 25,000 square feet, the proposed data center buildings would be required to achieve LEED Silver certification, at minimum.[18]

4.7.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒[19]	☐	1-3
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐	1-3

4.7.2.1 *Overview of Impact Assessment*

GHG emissions worldwide cumulatively contribute to the significant adverse environmental impacts of global climate change. No single land use project could generate sufficient GHG emissions on its own to noticeably change the global average temperature. The combination of GHG emissions from past, present, and future projects in San José, the entire state of California, across the nation and around the world, contribute cumulatively to the phenomenon of global climate change and its associated environmental impacts.

Per the CEQA Guidelines, a lead agency may analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions that has been adopted in a public process following environmental review. The City of San José has an adopted GHG Reduction Strategy that was initially approved by the City Council in November 2011 in conjunction with the General Plan, and following litigation, was re-adopted after certification of a Supplemental EIR in December 2015. The City's projected emissions and the GHG Reduction Strategy are consistent with measures necessary to meet statewide 2020 goals established by AB 32 and addressed in the Climate Change Scoping Plan. The City's projected 2035 GHG emissions, could prevent the State of California from maintaining a statewide trajectory to achieve Executive Order S-3-05 emissions levels in 2050, and therefore, would represent a cumulatively considerable contribution to global climate change. The City Council adopted overriding considerations for the identified cumulative GHG impacts for the 2035 timeframe.

The following discussion focuses on whether project emissions represent a cumulatively considerable contribution to climate change as determined by consistency with City of San José and statewide efforts to curb GHG emissions. Projects that are consistent with the City's adopted GHG Reduction

[18] City of San José. *Private Sector Green Building*. Accessed June 13, 2016. Available at: <https://www.sanjoseca.gov/index.aspx?NID=3284?

[19] For development after 2020, refer to tiering discussions on pages 73, 75 and 77 of this Initial Study.

Strategy would have a less than significant impact related to GHG emissions for development through 2020.

4.7.2.2 *Project Impacts (Checklist Questions 1 and 2)*

Data Center Site, Substation Site, Transmission Line, and Distribution Feeders

The project proposes to construct three data center buildings, a substation, a transmission line and distribution feeders. GHG impacts from the project would consist of emissions during construction and electricity consumption during operation of the data centers. The operational phase of the data centers would also generate GHG emissions from vehicles traveling to and from the project site.

The operation of the Santa Teresa Substation, transmission line, and distribution feeders would result in negligible daily operational GHG emissions, primarily from employee trips for maintenance purposes. GHG impacts of the substation (which distributes and does not produce electricity), therefore, are not specifically addressed further.

Development of Data Center Buildings Through 2020

The City's GHG Reduction Strategy measures center around five strategies: energy, waste, water, transportation, and carbon sequestration. Some measures are considered mandatory for all proposed development projects while others are considered voluntary. Voluntary measures could be incorporated as mitigation measures for proposed projects at the discretion of the City.

Compliance with the mandatory measures and any voluntary measures required by the City would ensure an individual project's consistency with the GHG Reduction Strategy. Projects that are consistent with the GHG Reduction Strategy, and constructed prior to 2020, would then be considered to have a less than significant impact related to GHG emissions. Below is a listing of the mandatory and voluntary criteria provided by the City of San José.

Mandatory Criteria

1. Consistency with the Land Use/Transportation Diagram (General Plan Goals/Policies IP-1, LU-10)

2. Implementation of Green Building Measures (GP Goals: MS-1, MS-2, MS-14)
   - Solar Site Orientation
   - Site Design
   - Architectural Design
   - Construction Techniques
   - Consistency with City Green Building Ordinance and Policies
   - Consistency with GHGRS Policies: MS-1.1, MS-1.2, MC-2.3, MS-2.11, and MS-14.4)

3. Pedestrian/Bicycle Site Design Measures
   - Consistency with Zoning Ordinance

- Consistency with GHGRS Policies: CD-2.1, CD-3.2, CD-3.3, Cd-3.4, CD-3.6, CD-3.8, CD-3.10, CD-5.1, LU-5.4, LU-5.5, LU-9.1, TR-2.8, TR-2.11, TR-2.18, TR-3.3, TR-6.7)

4. Salvage building materials and architectural elements from historic structures to be demolished to allow re-use (General Plan Policy LU-16.4), if applicable;

5. Complete an evaluation of operational energy efficiency and design measures for energy-intensive industries (e.g. data centers) (General Plan Policy MS-2.8), if applicable;

6. Preparation and implementation of the Transportation Demand Management (TDM) Program at large employers (General Plan Policy TR-7.1), if applicable; and

7. Limits on drive-through and vehicle serving uses; all new uses that serve the occupants of vehicles (e.g. drive-through windows, car washes, service stations) must not disrupt pedestrian flow. (General Plan Policy LU-3.6), if applicable.

As discussed in *Section 4.10 Land Use*, the proposed project is consistent with the *IP – Industrial Park* and *TEC – Transit Employment Center* General Plan designation for the sites; therefore, the project is consistent with Criteria 1. The project is also consistent with Criteria 2 and 3. Specifically, the project proposes to achieve a minimum of LEED Silver certification for the data center buildings, and would be constructed in conformance with applicable pedestrian/bicycle site design measures identified in the Zoning Ordinance and General Plan.

An evaluation of operational energy efficiency and design measures for the data center buildings was completed by *Jacobs – Global Buildings Design* (Appendix F). The design measures incorporated in the project to maximize energy efficiency for the lifetime of the project are described in Section *3.1.7 Site Design: Energy Demand and Efficiency Measures* and Appendix F. Therefore, the project is consistent with Criteria 5.

Criteria 4, 6, and 7 are not applicable to the proposed project because there are no historic structures on-site, the project would not be a large employer in the area, and the site does not propose drive-through uses.

Table 4.7-1 on the following page provides a summary of the voluntary criteria and describes the proposed project's compliance with each criterion. Implementation of the proposed project would result in less than significant GHG emission impacts for development through 2020. **(Less Than Significant Impact)**

<u>Development of Data Center Buildings after 2020</u>

While it is anticipated that development on the property at Great Oaks Boulevard and Via de Oro would start before 2020, it is possible that due to market conditions or other factors, one or more of the data centers could be developed after 2020. Building permits would be subject to requirements of the City's GHG Reduction Strategy at the time of application. In the event the City's GHG Reduction Strategy is updated with additional requirements, the building design and project operations would need to incorporate those requirements.

Table 4.7-1: Voluntary Greenhouse Gas Reduction Strategy Criteria		
Policies	**Description of Project Measure**	**Project Conformance/ Applicability**
BUILT ENVIRONMENT AND RECYCLING		
Installation of solar panels or other clean energy power generation sources on development sites, especially over parking areas MS-2.7, MS-15.3, MS-16.2	The project does not propose on-site renewable power generation.	☐ Proposed ☒ Not Proposed or ☐ Not Applicable
Use of Recycled Water Use recycled water wherever feasible and cost-effective (including non-residential uses outside of the Urban Service Area) MS-17.2, MS-19.4	The closest recycled water line is located in the Monterey Highway, approximately one mile east of the project site. The project does not propose to use recycled water on-site.	☐ Required/ Proposed ☒ Not Proposed or ☐ Not Applicable
TRANSPORTATION AND LAND USE		
Car share programs Promote car share programs to minimize the need for parking spaces TR-8.5	The project is not a large employment use that would warrant a car share program.	☐ Proposed ☐ Not Proposed or ☒ Not Applicable
Limit parking above code requirements TR-8.4	The project proposes to provide 252 parking spaces regular stalls consistent with the City's parking requirements.	☒ Project is Parked at or below Code Requirements ☐ Project is Parked above Code Requirements or ☐ Not Applicable
Consider opportunities for reducing parking spaces (including measures such as shared parking, TDM, and parking pricing to reduce demand) TR-8.12	Given the nature of the proposed use, the project does not propose shared parking or TDM measures.	☐ Proposed ☐ Project Does Not Propose or ☒ Not Applicable

As previously discussed, the 2015 Final Supplemental PEIR for the Envision San José 2040 General Plan identified significant unavoidable GHG Emissions impacts for development and the built environment in the 2035 timeframe and overriding considerations for those impacts were adopted by the City Council in 2015.

For the low employment, relatively high energy density data center uses, the primary source of GHG emissions would be indirect emissions associated with electrical energy generation. While further emission reductions are anticipated in the future in terms of energy efficiency of equipment and reduced GHG emissions associated with energy production, feasible, enforceable measures have not been identified by the City of San José or CARB to reduce projected GHG emissions Citywide in the mid-term or long-term (i.e., by 2030 or 2035) to keep on a trajectory meeting the substantially more aggressive mid-term and long-term 2050 goals of reducing GHG emissions as identified in SB 32 and Executive Order S-3-05, respectively.

As described previously and in the Final Supplemental PEIR for the Envision San José 2040 General Plan, the necessary information to estimate a second mid-term or interim efficiency target (e.g., statewide emissions, population and employment in 2030) is being developed by CARB. Under SB 32 and AB 197, CARB is also charged with identifying and adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions to meet this new interim statewide GHG target. Therefore, the information to address this new state interim target at a local level is not currently available and development of an additional target (i.e., an efficiency metric that would not conflict with the 40 percent below 1990 by 2030 target rather than 2035) in the City's Greenhouse Gas Reduction Strategy will have to be completed at a later date once the *2030 Target Scoping Plan* is complete.

The City's Greenhouse Gas Reduction Strategy, as well as local and state regulations for energy efficiency and the California's Renewables Portfolio Standard, are measures that would minimize cumulative GHG impacts but not reduce them to a less than significant level by 2035 (mid-term). Development of data centers on the site after 2020 could contribute to the previously identified significant GHG emission impacts resulting from implementation of the planned development considered in the Envision San José 2040 General Plan. The project proposes to implement feasible energy efficiency measures to minimize impacts and would not result in any new or greater impacts than were previously identified in the Envision San José 2040 Supplemental FPEIR. [**Same Impact as Disclosed in Final Supplemental EIR (Significant Unavoidable Impacts)]**

4.7.3 Conclusion

Implementation of the proposed project would result in less than significant GHG emission impacts for development through 2020. **(Less Than Significant Impact)**

Beyond 2020, implementation of the project would not result in any new or greater GHG emission impacts than were previously identified in the Envision San José 2040 General Plan Final Supplemental PEIR. [**Same Impact as Disclosed in Final Supplemental PEIR (Significant Unavoidable Impacts)]**

4.8 HAZARDS AND HAZARDOUS MATERIALS

The following discussion is based in part on a Phase I Environmental Site Assessment prepared by *Amec Foster Wheeler* in February 23, 2015. A copy of this report is attached to this Initial Study as Appendix D.

4.8.1 Setting

4.8.1.1 *Overview*

Hazardous materials encompass a wide range of substances, some of which are naturally-occurring and some of which are man-made. Examples include motor oil and fuel, metals (e.g., lead, mercury, and arsenic), asbestos, pesticides, herbicides, and chemical compounds used in manufacturing and other uses. A substance may be considered hazardous if, due to its chemical and/or physical properties, it poses a substantial hazard when it is improperly treated, stored, transported, disposed of, or released into the atmosphere in the event of an accident. Determining if such substances are present on or near project sites is important because exposure to hazardous materials above regulatory thresholds can result in adverse health effects on humans, as well as harm to plant and wildlife ecology.

4.8.1.2 *Existing Setting*

Data Center Site

The approximately 18-acre site is undeveloped. Several utility boxes (city owned) are also located on-site.

The data center site is located approximately 200 feet above mean sea level. Groundwater beneath the site has historically been found at depths between 30 to 70 feet below ground surface (bgs), and flows to the east. Fluctuations in the groundwater level may occur due to seasonal changes, variations in rainfall and underground drainage patterns, and other factors.

Substation Site, Transmission Line, Distribution Feeders

The approximately 1.9-acre substation site is undeveloped and currently used for storage and training purposes in association with the PG&E Edenvale Service Center. There are non-operational utility poles that are used for climbing training on-site.

The susbtation site is located approximately 200 feet above mean sea level. Groundwater beneath the site has historically been found at depths between 30 to 70 feet bgs, and flows to the east. Fluctuations in the groundwater level may occur due to seasonal changes, variations in rainfall and underground drainage patterns, and other factors.

The transmission lines is proposed to be constructed in Via Del Oro, a flat two-lane roadway with a center left-turn median.

4.8.1.3 *Site History*

Data Center Site

Based on aerial photographs of the site, since at least 1939 until 1982, the data center site and surrounding area were part of a larger orchard and agricultural fields. Up to five structures, which appear to be a farm house and sheds, also appear on-site. By 1982, the site boundaries are now present and the site is bounded by the present-day San Ignacio Avenue, Via Del Oro, and Great Oaks Boulevard. Multiple large light industrial and commercial structures and associated parking lots have been developed in the surrounding area. By 1998, much of the site has been converted to fallow field, except for the northeast corner of the site where multiple sheds are still present. By 2005, the sheds have been removed and the site is a tilled field. There have been no substantial changes to the project site since 2005.

Substation Site, Transmission Line, Distribution Feeders

The project area has historically been developed with agricultural fields and orchards. SR 85, located directly north of the site, was completed in 1994. The PG&E Edenvale Service Center, within which the substation site is located, was also completed around the same time period. The substation site has been used for the same present-day storage and training purposes since the completion of the Edenvale Service Center.

Via Del Oro was constructed by 1982 when the surrounding light industrial and commercial office buildings were developed. Via Del Oro has not substantially changed since it was first constructed.

4.8.1.4 *Sources of Contamination*

On-Site Environmental Concerns

Data Center Site

The data center site was used for agricultural purposes as early as the 1900's up until the 1980's; however, no recognized environmental conditions were identified in connection with the site, and the site was not identified on any lists reviewed as a part of the Phase I Environmental Site Assessment.

Substation Site, Transmission Line, Distribution Feeders

According to GeoTracker records, a leaking underground storage tank (UST) was identified on-site in December 1990 during removal of the UST. The impacted soil was excavated and the San Francisco Bay Regional Water Quality Control Board (RWQCB) subsequently determined that there was not a threat to groundwater from the past release. The case was closed on January 17, 1992.

No surface soil staining, unusual odors, or storage of hazardous materials were observed during a field visit to the site.

Off-Site Environmental Concerns

Data Center Site

The data center site is surrounded by light industrial and commercial uses to the west, north, and east. There is vacant land immediately south of the site, and single-family residential uses further to the south. Potential off-site environmental concerns that could affect the project include: releases from the former Fairchild Site, the AT&T Mobility site, and the PG&E Edenvale Service Center site.

The data center site is located approximately 0.22 miles southeast and hydraulically downgradient from the former Fairchild Site, located at 101 Bernal Road. Groundwater beneath the data center site is suspected of being previously impacted by contamination from the Fairchild Site. Groundwater monitoring stations were implemented on-site to evaluate groundwater conditions.

The data center site is located approximately 0.20 miles northeast and upgradient of the AT&T Mobility site, located at 6578 Santa Teresa Boulevard. A leaking diesel UST was identified on the site in August 1987. The UST was subsequently removed and the impacted soil was excavated. The case was closed on June 13, 1996.

As previously discussed, a leaking UST was discovered at the PG&E Edenvale Service Center, located at 6402 Santa Teresa Boulevard and upgradient of the site. The impacted soil was excavated and case closure was granted by the RWQCB on January 17, 1992.

Refer to Appendix C for more detail regarding the databases reviewed and reported properties.

Substation Site, Transmission Line, Distribution Feeders

Based on the location of the substation site, hydraulic gradient, and status of contamination cases in the surrounding area, there are no off-site sources of environmental concern that could impact the project site.[20,21]

4.8.1.5 *Other Hazards*

Airports

The Norman Y. Mineta San José International Airport is located approximately 15 miles northwest of the project sites. Reid-Hillview Airport is located approximately 10 miles north of the project sites. The project is not located within Airport Influence Areas of either airport or in the vicinity of a private airstrip.

[20] Department of Toxic Substances Control. *EnviroStor*. Accessed June 23, 2016. Available at: <http://www.envirostor.dtsc.ca.gov/public/>
[21] State Water Resources Control Board. *GeoTracker*. Accessed June 23, 2016. Available at: <http://geotracker.waterboards.ca.gov/>

Wildfire Hazards

The project site is located in a developed, urban area and surrounded by urban development. The project site is not located at the urban edge and, therefore, is not located within a Very-High Fire Hazard Severity Zone, as determined by CalFire.

4.8.1.5 *Applicable Plans, Policies and Regulations*

Federal and State Hazardous Materials Laws and Regulations

The storage, use, generation, transport, and disposal of hazardous materials and waste are highly regulated under federal and state laws. Key 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 U.S. Environmental Protection Agency (EPA) has granted most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (Cal/EPA). In turn, local agencies including the Santa Clara County Department of Environmental Health (SCCDEH) have been granted responsibility for implementation and enforcement of many hazardous materials regulations under the Certified Unified Program Agency (CUPA) program. Other regional agencies are responsible for programs regulating emissions to the air, surface water, and groundwater include the Bay Area Air Quality Management District (BAAQMD), which has oversight over air emissions, and the Regional Water Quality Control Board (RWQCB) which regulates discharges and releases to surface and groundwater. Oversight over investigation and remediation of sites impacted by hazardous materials releases can be performed by state agencies, such as DTSC (a division of Cal/EPA), regional agencies, such as the RWQCB, or local agencies, such as SCCDEH. The SCCDEH oversees investigation and remediation Leaking Underground Storage Tank (LUST) sites in San José. Other agencies that regulate hazardous materials include the California Department of Transportation and California Highway Patrol (transportation safety), and Cal/EPA Division of Occupational Safety and Health, better known as Cal/OSHA (worker safety).

<u>Government Code §65962.5 (Cortese List)</u>

Section 65962.5 of the Government Code requires California Environmental Protection Agency (Cal EPA) to develop and update (at least annually) a list of hazardous waste and substances sites, known as the Cortese List. The Cortese List is used by the State, local agencies, and developers to comply with CEQA requirements. The Cortese List includes hazardous substance release sites identified by the Department of Toxic Substances Control (DTSC), State Water Resources Control Board (SWRCB), and the Department of Resources Recycling and Recovery (CalRecycle).

Envision San José 2040 General Plan

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to hazards and hazardous materials and are applicable to the proposed project.

Envision San José 2040 Relevant Hazardous Material Policies

Policies	Description
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.

4.8.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐	1
2. 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?	☐	☐	☒	☐	1,13
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐	1
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, will it create a significant hazard to the public or the environment?	☐	☐	☒	☐	13-15

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
5. 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, will the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐	1
6. For a project within the vicinity of a private airstrip, will the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐	1
7. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐	1
8. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐	1

As previously discussed in *Section 4.0*, on December 17, 2015, the California Supreme Court issued an opinion in "CBIA vs. BAAQMD" holding that CEQA is primarily concerned with the impacts of a project on the environment and generally does not require agencies to analyze the impact of existing conditions on a project's future users or residents, unless the project risks exacerbating those environmental hazards or risks that already exist. In light of this ruling, the effect of existing hazards and hazardous materials on future data center users would not be considered an impact under CEQA. Nevertheless, the City has policies and regulations that address existing conditions affecting a proposed project, which are also discussed below.

4.8.2.1 *Potential Contamination Sources (Checklist Questions 1, 2, and 4)*

Data Center Site

The former Fairchild Site is suspected of having previously impacted groundwater below the site. Based on groundwater monitoring data and a Phase II investigation conducted at the Site in 2006, *Amec Foster Wheeler* concluded that this release is no longer considered an environmental concern for the site.

There are no other recognized environmental conditions identified on the data center site that could result in potential health impacts to future users of the site. In addition, given the case status, groundwater flow direction, type of release, and/or distance of off-site facilities in relation to the project site, no offsite sources of significant environmental concern to the subject property were identified. **(Less Than Significant Impact)**

Substation Site, Transmission Line, Distribution Feeders

Excavation under the transformer bays and other electrical equipment would extend to approximately seven feet below the existing grade. Soil would be removed at these locations and replaced with either engineered fill or concrete materials. Foundations and infrastructure for the substation, including stormwater drainage lines, would be installed at depths of approximately ___ feet below grade, underlain by three feet of engineered fill.

The leaking UST case identified on the substation site was declared closed by the RWQCB on January 17, 1992. Given the case status, groundwater flow direction, type of release, and/or distance of the off-site facilities in relation to the project site, no offsite sources of significant environmental concern to the subject property were identified. **(Less Than Significant Impact)**

4.8.2.2 *Project Hazardous Materials Use* *(Checklist Question 3)*

Data Center Site

The project proposes to construct three data center buildings on the project site. Diesel fuel for each of the 21 proposed generators (seven per each building) would be stored in aboveground tanks located under each generator. Each storage tank will have a storage capacity of 8,000 gallons of diesel. The tanks would be double-walled and have a leak detection system. Soil soils and lubricants could be stored on-site for the maintenance of mechanical equipment in equipment yards. Limited quantities of water treatment chemicals for mechanical equipment would also be used on-site.

Hazardous materials storage at the site is regulated under local, State and federal regulations. Businesses must complete a Hazardous Materials Business Plan for the safe storage and use of chemicals. Firefighters, health officials, planners, public safety officers, health care providers and others rely on the Business Plan in an emergency. None of the hazardous materials used on the site are considered regulated substances under the California Accidental Release Prevention (CalARP) program that could have off-site consequences if accidentally released.

Conformance with relevant laws and regulations would minimize the likelihood of hazardous materials releases from the proposed fuel storage tanks, and the use or storage of diesel fuel, oils, lubricants, and water treatment chemicals on the site by the project would not create a significant hazard to the public or the environment due to foreseeable upset or accident conditions.

The proposed data centers and substation would not emit hazardous emissions or use acutely hazardous materials. Therefore, the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. **(Less Than Significant Impact)**

Substation Site

Hazardous materials commonly used in substations are found in transformers (mineral oil used as a coolant), batteries (various chemical electrolytes), and circuit breakers (gases used as an insulator). These compounds are sealed or contained within the electrical equipment.

Spills caused by transformer failure are rare and there are spill prevention and control measures that would be applied as a part of regular operation of the substation. Any spilled oil or other materials would be properly characterized and collected and transported to an approved disposal site in accordance with applicable regulations. With implementation of standard measures, the proposed substation project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. **(Less Than Significant Impact)**

4.8.2.3 *Other Hazards and Considerations* *(Checklist Questions 5-8)*

Airport and Aircraft Hazards

Neither the data center site nor substation site are located in proximity to an airport, and are not located in an Airport Influence Areas for any airport. The data center buildings and substation site would be constructed in accordance with FAA safety recommendations, and would not create a hazard to aircraft or interfere with airport operations. **(Less Than Significant Impact)**

Implementation of Safety Plans

Development of the proposed data center and substation site, including its design, would not impair or interfere with the implementation of the City's Emergency Operations Plan or any statewide emergency response or evacuation plans. **(Less than Significant Impact)**

Wildfire Hazards

As discussed previously, the project site is not located in a Very High Fire Hazard Severity Zone and is not subject to hazards from wildland fires. Implementation of the proposed project would not expose people or structures to any risk from wildland fires. **(No Impact)**

4.8.3 Conclusion

Implementation of the proposed project would result in less than significant hazard and hazardous material impacts. **(Less Than Significant Impact)**

4.9 HYDROLOGY AND WATER QUALITY

4.9.1 Setting

4.9.1.1 *Hydrology and Drainage*

Surface Water Runoff

The project site is located within the Guadalupe Watershed, a 170-square-mile area with multiple small-creek watersheds, and stormwater runoff from the project site drains into Canoas Creek. Canoas Creek is a tributary to the Guadalupe River, an alluvial stream that originates in the Santa Cruz Mountains west and south of San José and flows in a northerly direction to the San Francisco Bay.

Data Center Site

The 18-acre (approximately 784,000 square feet) data center site is undeveloped and is currently entirely pervious. Storm drain lines serving the project area include a 48-inch storm main in San Ignacio Avenue, a 24-inch storm main in Via Del Oro, and a 48 inch storm main in Great Oaks Boulevard.

Substation Site, Transmission Line, Distribution Feeders

The proposed substation site is approximately 1.9 acres (82,720 square feet) in size and entirely pervious. Storm drains in the project area include a 27-inch storm main in Via Del Oro and a 54-inch storm main in Miyuki Drive.

The transmission lines would extend over paved roads and unpaved areas of the Edenvale Service Center. The distribution feeders would be installed in Via Del Oro, which is completely impervious. Stormwater flows into storm drains located along the roadway.

Groundwater

Groundwater was not encountered during field explorations at the data center site. According to public well data, groundwater in the project area has been found at depths between 30 feet to 70 feet below ground surface (bgs). [22] Fluctuations in the groundwater level may occur due to seasonal changes, variations in rainfall and underground drainage patterns, and other factors.

The project site is within the Santa Clara Plain Recharge area of the Santa Clara Valley Basin where groundwater occurs under unconfined conditions. The sites are located within urbanized areas of San José and are not within or adjacent to a SCVWD groundwater recharge facility, such as a SCVWD recharge pond.[23]

[22] Kleinfelder. *Geotechnical Investigation Report New PG&E Santa Teresa Substation.* January 26, 2016.
[23] Santa Clara Valley Water District. *Groundwater Management Plan.* 2012.

4.9.1.2 *Flooding and Other Inundation Hazards*

Flooding

Neither the data center site nor substation site are located in a 100-year floodplain. According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, the project site is designated Zone D, which is defined as areas where flood hazards are undetermined, but possible.[24] There are no City floodplain requirements for Zone D.

According to the General Plan EIR, the project site is located in the Anderson Dam inundation area. In the event of a complete dam failure, the project site could be inundated by floodwaters.

Earthquake-Induced Waves and Flooding from Sea Level Rise

Due to the project sites inland location and distance from large bodies of water (i.e., the San Francisco Bay), it is not subject to seiche or tsunami hazards, or sea level rise.

4.9.1.3 *Water Quality*

The water quality of streams, creeks, ponds, and other surface water bodies can be greatly affected by pollution carried in contaminated surface runoff. Pollutants from unidentified sources, known as "non-point" source pollutants, are washed from streets, construction sites, parking lots, and other exposed surfaces into storm drains. Surface runoff from the project area are collected by storm drains and discharged into Canoas Creek. The runoff may contain contaminants such as oil and grease, plant and animal debris (e.g., leaves, dust, and animal feces), pesticides, litter, coolants, and heavy metals. In sufficient concentration, these pollutants have been found to adversely affect the aquatic habitats to which they drain.

Under existing conditions, the data center site is undeveloped. The substation site is unpaved but used for training and storage purposes in association with the PG&E Edenvale Service Center. Runoff from both sites likely contains pollutants typical of urban, developed environments, including sediment, plant debris, and motor oil.

4.9.1.4 *Applicable Plans, Policies and Regulations*

Federal Emergency Management Agency

In 1968, Congress created the National Flood Insurance Program (NFIP) in response to the rising cost of taxpayer funded disaster relief for flood victims and the increasing amount of damage caused by floods. The NFIP makes federally-backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.

FEMA manages the NFIP and creates Flood Insurance Rate Maps (FIRMs) that designate 100-year floodplain zones and delineate other flood hazard areas. A 100-year floodplain zone is the area that

[24] Federal Emergency Management Agency. *Flood Insurance Rate Map: Panel 06085C0406H*. May 18, 2009.

has a one in one hundred (one percent) chance of being flooded in any one year based on historical data.

Clean Water Act and Porter-Cologne Water Quality Control Act

The Federal Clean Water Act (CWA) and California's Porter-Cologne Water Quality Control Act are the primary laws related to water quality. The CWA forms the basis for several state and local laws throughout the nation. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA outlines the federal laws for regulating discharges of pollutants as well as sets minimum water quality standards for all "Waters of the United States." The Porter-Cologne Act established the State Water Resources Control Board (SWRCB).

Several mechanisms are employed to control domestic, industrial, and agricultural pollution under the CWA. At the federal level, the CWA is administered by the EPA. At the state and regional level, the CWA is administered and enforced by the SWRCB and the nine Regional Water Quality Control Boards (RWQCB). The State of California has developed a number of water quality laws, rules, and regulations, in part to assist in the implementation of the CWA and related federally-mandated water quality requirements. In many cases, the federal requirements set minimum standards and policies and the laws, rules, and regulations adopted by the state and regional boards exceed the federal requirements.

CWA Section 303(d) lists polluted water bodies which require further attention to support future beneficial uses. San Francisco Bay and the Guadalupe River are on the Section 303(d) list as an impaired water body for several pollutants. The contaminants listed for the Guadalupe River include diazinon, mercury and trash.[25]

State Water Quality Control Board Nonpoint Source Pollution Program

In 1988, the SWRCB adopted the Nonpoint Source Management Program in an effort to control nonpoint source pollution in California. The Nonpoint Source Management Program requires individual permits to control discharge associated with construction activities. The Nonpoint Source Program is administered by RWQCB under the National Pollutant Discharge Elimination System (NPDES) General Permit for Construction Activities. Projects must comply with the requirements of the Nonpoint Source Program if:

- They disturb one acre or more of soil; or
- They disturb less than one acre of soil but are part of a larger development that, in total, disturbs one acre or more of soil.

The NPDES General Permit for Construction Activities requires the developer to submit a Notice of Intent (NOI) to the RWQCB and to develop a Stormwater Pollution Prevention Plan (SWPPP) to control discharge associated with construction activities.

[25] U.S. EPA. California *303(d) Listed Waters for Reporting Year 2010*. December 2010. Available at: < http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/category5_report.shtml > Accessed June 28, 2016.

Municipal Regional Stormwater NPDES Permit (MRP)/C.3 Requirements

The San Francisco Bay RWQCB also has issued a Municipal Regional Stormwater NPDES Permit (Permit Number CAS612008) (MRP). In an effort to standardize stormwater management requirements throughout the region, this permit replaces the formerly separate countywide municipal stormwater permits with a regional permit for 77 Bay Area municipalities, including the City of San José. Under provisions of the NPDES Municipal Permit, redevelopment projects that add and/or replace more than 10,000 square feet of impervious surface, or 5,000 square feet of uncovered parking area, are required to design and construct stormwater treatment controls to treat post-construction stormwater runoff. Amendments to the MRP require all of the post-construction runoff to be treated by using Low Impact Development (LID) treatment controls, such as biotreatment facilities.

City of San José Post-Construction Urban Runoff Management (Policy 6-29)

The City of San José's Policy No. 6-29 implements the stormwater treatment requirements of Provision C.3 of the Municipal Regional Stormwater NPDES Permit. The City of San José's Policy No. 6-29 requires all new development and redevelopment project to implement post-construction Best Management Practices (BMP) and Treatment Control Measures (TCM) to the maximum extent practicable. This policy also established specific design standards for post-construction TCM for projects that create, add, or replace 10,000 square feet or more of impervious surfaces. The Municipal Regional Stormwater NPDES Permit requires all of the post-construction stormwater runoff to be treated by numerically sized LID TCMs

City of San José Hydromodification Management (Policy 8-14)

The City of San José's Policy No. 8-14 implements the stormwater treatment requirements of Provision C.3 of the Municipal Regional Stormwater NPDES Permit. Policy No. 8-14 requires all new and redevelopment projects that create or replace one acre or more of impervious surface to manage development-related increases in peak runoff flow, volume, and duration, where such hydromodification is likely to cause increased erosion, silt pollutant generation or other impacts to beneficial uses of local rivers, streams, and creeks. The policy requires these projects to be designed to control project-related hydromodification through a Hydromodification Management Plan (HMP).

Based on the Santa Clara Permittees Hydromodification Management Applicability Map for the City of San José, the project site is located in a subwatershed that is less than 65 percent impervious.

Envision San José 2040 General Plan

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to hydrology and water quality and are applicable to the proposed project.

Envision San José 2040 Relevant Hydrology and Water Quality Policies

Policies	Description
Policy IN-3.7	Design new projects to minimize potential damage due to stormwaters and flooding to the site and other properties.
Policy IN-3.9	Require developers to prepare drainage plans for proposed developments that define needed drainage improvements per City standards.
Policy MS-3.4	Promote the use of green roofs (i.e., roofs with vegetated cover), landscape-based treatment measures, pervious materials for hardscape, and other stormwater management practices to reduce water pollution.
Policy ER-8.1	Manage stormwater runoff in compliance with the City's Post-Construction Urban Runoff (6-29) and Hydromodification Management (8-14) Policies.
Policy ER-8.3	Ensure that private development in San José includes adequate measures to treat stormwater runoff.
Policy EC-4.1	Design and build all new or remodeled habitable structures in accordance with the most recent California Building Code and municipal code requirements as amended and adopted by the City of San José, including provisions for expansive soil, and grading and stormwater controls.
Policy EC-5.7	Allow new urban development only when mitigation measures are incorporated into the project design to ensure that new urban runoff does not increase flood risks elsewhere.
Policy EC-5.16	Implement the Post-Construction Urban Runoff Management requirements of the City's Municipal NPDES Permit to reduce urban runoff from project sites.

4.9.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐	1-3
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐	16

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which will result in substantial erosion or siltation on-or off-site?	☐	☐	☒	☐	1-3
4. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which will result in flooding on-or off-site?	☐	☐	☒	☐	1-3
5. Create or contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐	1-3
6. Otherwise substantially degrade water quality?	☐	☐	☒	☐	1
7. Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☒	☐	17
8. Place within a 100-year flood hazard area structures which will impede or redirect flood flows?	☐	☐	☒	☐	17
9. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐	1
10. Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐	1

As previously discussed in *Section 4.0*, on December 17, 2015, the California Supreme Court issued an opinion in "CBIA vs. BAAQMD" holding that CEQA is primarily concerned with the impacts of a project on the environment and generally does not require agencies to analyze the impact of existing conditions on a project's future users or residents, unless the project risks exacerbating those environmental hazards or risks that already exist. Nevertheless, the City has policies and regulations that address existing conditions affecting a proposed project, which are also discussed below.

4.9.2.1 *Hydrology and Drainage Impacts (Checklist Questions 1-5)*

Data Center Site

The data center site is currently undeveloped. There are no waterways on the project site and, therefore, development of the proposed project would not alter the course of a stream or river. The project site is currently 100 percent impervious (approximately 784,000 square feet). Construction of the proposed project would result in 195,000 square feet of pervious surfaces, including approximately 3,000 square feet of biotreatment basin, and approximately 589,000 square feet of impervious surfaces. Table 4.9-1, on the following page, provides a breakdown of pervious and impervious surfaces on the data center site under both existing and project conditions.

Table 4.9-1: Pervious and Impervious Surfaces On-Site

Site Surface	**Existing/Pre-Construction** (square feet)	**%**	**Project/Post-Construction** (square feet)	**%**	**Difference** (square feet)	**%**
Impervious						
Surface Parking, Sidewalks, and Paving	0	0	589,000	75	+589,000	+75
Pervious						
Unpaved and/or Landscaped Areas	784,000	100	195,000	25	-589,000	-75
Total	**784,000**	**100**	**784,000**	**100**		

The increase in impervious surfaces could result in a corresponding increase in site runoff. The project includes installation of a bioretention basis and underground detention to reduce peak runoff from the site. With the measures included in the project, the existing storm drain system that serves the project site will continue to have sufficient capacity to accommodate project flows. Therefore, the project would have a less than significant impact on the City's storm drain system. **(Less Than Significant Impact)**

Substation Site, Transmission Line, Distribution Feeders

The substation site is currently undeveloped and used for storage and training purposes. There are no waterways on the project site and, therefore, development of the proposed project would not alter the course of a stream or river. The substation site is currently considered 100 percent pervious (approximately 82,720 square feet). Construction of the proposed project would convert the entire site to impervious surfaces. Table 4.9-2, on the following page, provides a breakdown of pervious and impervious surfaces on the data center site under both existing and project conditions. Stormwater from the substation site would be retained and treated on the substation site or on the PG&E Edenvale Service Center property.

Table 4.9-1: Pervious and Impervious Surfaces On-Site						
Site Surface	**Existing/Pre-Construction** (square feet)	**%**	**Project/Post-Construction** (square feet)	**%**	**Difference** (square feet)	**%**
Impervious						
Surface Parking, Sidewalks, and Paving	0	0	82,720	100	+82,720	+100
Pervious						
Unpaved and/or Landscaped Areas	82,720	100	0	0	-82,720	-100
Total	**82,720**	**100**	**82,720**	**100**		

The increase in impervious surfaces could result in a corresponding increase in site runoff. The project would include measures such as installation of a Spill Prevention Control and Countermeasure (SPCC) pond, which will be connected to an existing bioretention basin nearby as part of the hydromodification plan to reduce peak runoff from the site. With the measures included in the project, the existing storm drain system that serves the project site will continue to have sufficient capacity to accommodate project flows. Therefore, the proposed substation would have a less than significant impact on the City's storm drain system. **(Less Than Significant Impact)**

Groundwater

The project proposes minor excavation for building foundation and utilities, and does not propose substantial subterranean construction. Groundwater has historically been encountered at a depth of 30 feet bgs. Therefore, construction of the proposed data centers and substation would not encounter groundwater or require groundwater pumping during excavation for utilities or installation of equipment foundations. While with the Santa Clara Plain Recharge area of the Santa Clara Valley Basin where groundwater occurs under unconfined conditions, the sites are not within or adjacent to a SCVWD groundwater recharge facility, such as a SCVWD recharge pond. Development would occur on vacant sites planned for urban uses and site surface water runoff would ultimately be conveyed to Canoas Creek, which is a recharge facility. For these reasons, the project would not interfere with groundwater recharge or cause a reduction in the overall groundwater supply. **(Less Than Significant Impact)**

4.9.2.2 *Water Quality Impacts (Checklist Question 6)*

Construction Impacts

Construction of the proposed project, including grading and excavation activities, may result in temporary impacts to surface water quality. When disturbance to underlying soils occurs, the surface

runoff that flows across the site may contain sediments and other manmade products that are ultimately discharged into the storm drainage system. The data center site and substation site are 18 acres and 1.9 acres in size, respectively, and construction would disturb more than one acre of soil. Therefore, the project is required to obtain a NPDES General Permit for Construction Activities.

In addition, all development projects in the City of San José are required to comply with the City's Grading Ordinance. The City of San José Grading Ordinance requires the use of erosion and sediment controls to protect water quality while a site is under construction. Prior to issuance of a permit for grading activity occurring during the rainy season (October 15 to April 15), the applicant is required to submit an Erosion Control Plan to the Director of Public Works for review and approval. The Plan must detail the Best Management Practices (BMPs) that would be implemented to minimize the runoff of stormwater pollutants.

Standard Permit Conditions: Consistent with the General Plan, standard permit conditions that shall be implemented to prevent stormwater pollution and minimize potential sedimentation during construction include, but are not limited to the following:

- Utilize on-site sediment control BMPs to retain sediment on the project site;
- Utilize stabilized construction entrances and/or wash racks;
- Implement damp street sweeping;
- Provide temporary cover of disturbed surfaces to help control erosion during construction; and
- Provide permanent cover to stabilize the disturbed surfaces after construction has been completed.

The project, with the implementation of the above standard permit conditions under the NPDES General Permit for Construction Activities, would result in less than significant construction-related water quality impacts. **(Less Than Significant Impact)**

Post-Construction Impacts

Implementation of the proposed project would result in an overall increase of impervious surfaces. Construction of the project would replace more than 10,000 square feet of impervious uncovered surface parking lots and over an acre of impervious surfaces on both the data centers and substation sites combined. Therefore, the project is required to comply with the City's Urban Runoff Policy 6-29 and RWQCB's MRP NPDES Permit/C.3 (MRP) requirements. The MRP requires post-construction stormwater runoff to be treated by numerically sized Low Impact Development (LID) Treatment Control Measures (TCMs). The project includes stormwater quality LID TCMs such as installation of an SPCC pond, which will separate water from oil before water is discharged in conformance with requirements in the MRP. Details of specific site design, pollutant source control, and stormwater treatment control measures demonstrating compliance with the aforementioned policies shall be included in the project design, to the satisfaction of the Director of Planning, Building and Code Enforcement.

The General Plan FEIR concluded that with the regulatory programs currently in place, stormwater runoff from new development would have a less than significant impact on stormwater quality.

Compliance with the City's Grading Policy, the City's Urban Runoff Policy 6-29, and RWQCB's MRP NPDES Permit/C.3 requirements would result in less than significant impacts on water quality. **(Less Than Significant Impact)**

4.9.2.3 *Flood Impacts and Other Inundation Hazards (Checklist Questions 7 and 8)*

The project would not exacerbate environmental risks related to 100-year floodplains, seiche, tsunami, sea-level rise, mudslide hazards, or dam failure inundation areas; however, as a planning consideration and consistent with City policies, the aforementioned hazards are discussed.

The data center and substation sites are not located in a 100-year floodplain and, therefore, would not place housing within a 100-year flood hazard area or impede or redirect flood flows within a 100-year flood hazard area. The project sites are not subject to seiche, tsunami, or sea-level rise.

While the data center and substation sites are located in the Anderson Dam Inundation Area in the event of a complete dam failure, the SCVWD's comprehensive dam safety program and emergency action plan ensures public safety. For this reason, the site is not subject to a significant risk of loss, injury, or death involving dam inundation. **(Less Than Significant Impact)**

4.9.3 Conclusion

Implementation of the proposed project would result in less than significant hydrology and water quality impacts. **(Less Than Significant Impact)**

4.10 LAND USE

4.10.1 Setting

4.10.1.1 *Surrounding Land Uses*

Data Center Site

The data center site is bounded by San Ignacio Avenue to the west, Via Del Oro to the north, Great Oaks Boulevard to the east, and undeveloped land to the south. The site is located in an office park area and is surrounded by one- to two-story commercial office buildings to the west, north, and south. There is no development south of the project site.

Substation Site, Transmission Line, Distribution Feeders

The substation site is bounded by undeveloped land to the east, a VTA light-rail line to the north, undeveloped land to the east, and the PG&E Edenvale Service Center, which includes an outdoor storage facility and corporation yard, to the south. SR 85, a six-lane freeway, is located directly north of the substation site.

The transmission lines would connect the existing Metcalf-Edenvale line with the proposed substation via tubular steel poles and overhead lines. The distribution feeders would be routed underground in Via Del Oro, a two-lane street.

4.10.1.3 *Applicable Plans, Policies, and Regulations*

Santa Clara Valley Habitat Plan/Natural Community Conservation Plan

The Santa Clara Valley Habitat Plan/Natural Community Conservation Plan (Habitat Plan) is a conservation program intended to promote the recovery of endangered species and enhance ecological diversity and function, while accommodating planned growth in approximately 500,000 acres of southern Santa Clara County. As discussed in *Section 4.4 Biological Resources*, the project is designated as *Golf Course/Urban Parks* and is located in Fee Zone B (Agricultural and Valley Floor Lands). Zone B lands typically consist of agricultural and valley floor lands covered with grassland, row crops, orchards or vineyards.

Envision San José 2040 General Plan

The eastern portion of the data center site is currently designated as *IP – Industrial Park* and the western portion is designated as *TEC – Transit Employment Center* in the Envision San José 2040 General Plan (General Plan). The substation site has a General Plan designation of *TEC – Transit Employment Center*. The *TEC – Transit Employment Center* designation is applied to areas planned for intensive job growth because of their importance as employment districts and access to transit and other facilities and services. The *IP – Industrial Park* General Plan and zoning designation is intended for a wide variety of uses such as research and development (R&D), manufacturing, assembly, testing, and offices. Uses allowed in the *IP – Industrial Park* designation are considered appropriate in the *TEC – Transit Employment Center* designation, as are supportive commercial uses.

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to land use and are applicable to the proposed project.

Envision San José 2040 Relevant Land Use Policies

Policies	Description
Policy CD-1.12	Use building design to reflect both the unique character of a specific site and the context of surrounding development and to support pedestrian movement throughout the building site by providing convenient means of entry from public streets and transit facilities where applicable, and by designing ground level building frontages to create an attractive pedestrian environment along building frontages. Unless it is appropriate to the site and context, franchise-style architecture is strongly discouraged.
Policy CD-4.9	For development subject to design review, ensure the design of new or remodeled structures is consistent or complementary with the surrounding neighborhood fabric (including but not limited to prevalent building scale, building materials, and orientation of structures to the street).

San José Zoning Ordinance

Both the data center site and substation site are zoned as *IP – Industrial Park.* As discussed above, the *IP – Industrial Park* designation is intended for a wide variety of uses such as research and development (R&D), manufacturing, assembly, testing, and offices. For the portion of the Old Edenvale area bounded by Great Oaks Boulevard, SR 85, Miyuki Drive and Santa Teresa Boulevard, the maximum allowable building height shall be defined by the airspace requirements of the Norman Y. Mineta San José International Airport, as determined by the Federal Aviation Administration, but shall not exceed 250 feet in any event.

Edenvale Redevelopment Policy

The City of San José adopted the Edenvale Area Development Policy (EADP) to: 1) manage the traffic congestion associated with near-term development in the Edenvale Redevelopment Area; 2) promote General Plan goals for economic development; and 3) encourage a reverse commute to jobs at southerly locations in San José. The Edenvale Redevelopment Project Area (ERPA) encompasses a total of 451 acres on both sides of U.S. 101 in southeastern San José. The project is located in the Old Edenvale Area (Area 2) of the ERPA.

San José Design Guidelines

The City of San José has adopted design guidelines for development in the City. Applicable design guidelines for the proposed project include the Industrial Design Guidelines. The guidelines address design aspects including building setback and height, parking requirements, and landscaping.

4.10.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Physically divide an established community?	☐	☐	☐	☒	1
2. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐	1-4
3. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐	1

4.10.2.1 *Impacts to an Established Community (Checklist Question 1)*

Data Center Site

The data center site is located in a business park, which primarily consists of commercial office buildings. Roadways and pedestrian sidewalks connect the various office buildings. The project proposes to construct three data center buildings, up to 65 feet tall, on property that is currently undeveloped. The proposed use and density are consistent with the General Plan designation and what was envisioned for the site. The project would not introduce an incompatible use in the area, and would not include any physical features that would physically divide the community (e.g., blocking of roadways or sidewalks). For these reasons, construction of the proposed data centers would not divide an established community. **(No Impact)**

Substation Site, Transmission Line, Distribution Feeders

The substation site is part of the PG&E Edenvale Service Center. There are no public roadways or sidewalks in the immediate vicinity of the substation site. The proposed transmission lines would be located overhead and the distribution feeders underground. Construction of the substation and associated transmission and distribution lines would not physically divide the community. **(No Impact)**

4.10.2.2 *Consistency with Applicable Plans, Policies, or Regulations (Checklist Questions 2 and 3)*

Santa Clara Valley Habitat Plan/Natural Community Conservation Plan

As described in *Section 4.4 Biological Resources*, the proposed project would not conflict with the Habitat Plan and would pay applicable fees, including the nitrogen deposition fee, to reduce the

project's impact to biological resources to a less than significant impact. **(Less Than Significant Impact)**

Envision San José 2040 General Plan

The data center site is designated as *IP – Industrial Park* and *TEC – Transit Employment Center*. The substation site is designated *TEC – Transit Employment Center*. The project proposes to construct three data center buildings on the data center site and a new substation to serve the data center and area. Data centers and substations are allowed under the General Plan designation, and the project would not conflict with the allowed uses envisioned in the General Plan. **(Less Than Significant Impact)**

San José Zoning Ordinance

Both the data center site and substation site are zoned as *IP – Industrial Park.* The proposed data center and substation land uses are allowed under the *IP – Industrial Park* zoning district and would conform to development standards, including height limitations set forth in the zoning ordinance. Therefore, the project would not conflict with the City's Zoning Ordinance. **(Less Than Significant Impact)**

Edenvale Redevelopment Policy

The purpose of the EADP is to manage traffic congestion, promote economic development, and encourage a reverse commute to jobs in the EADP area of south San José. A project's consistency with the EADP is determined by its consistency with the land use development and traffic assumptions described in the EADP, and its contribution to assessment and community facilities districts to finance infrastructure improvements in the EADP, as appropriate. The EADP has been updated several times, most recently in 2014, to include specific development sites (e.g., iStar and Silver Creek Valley Place) in the Policy Area. The environmental impacts for this update were considered in the Great Oaks Mixed Use Project, Planned Development Zoning File #PDC 04-100 Final EIR (SCH # 2013032047).

The project proposes to develop a vacant site designated for industrial uses with three data center buildings. Data centers are compatible with the site's existing IP – Industrial Park and TEC – Transit Employment Center General Plan land use designations. While the number of employees would be lower than for office or other industrial uses, development of data center uses would promote economic development in the City of San José. The proposed use is consistent with or lower than the land development and traffic assumptions in the EADP and the project would contribute its fair share to assessment and community facilities and would finance infrastructure improvements in the EADP, as appropriate. Therefore, implementation of the project would not conflict with the EADP. **(Less Than Significant Impact)**

4.10.2.3 *Other Land Use Issues*

Electric and Magnetic Fields

The project proposes to construct a transmission line connection from the existing Metcalf-Edenvale line to the proposed substation, and two distribution feeders from the proposed substation to the proposed data centers. Recognizing that there is public interest regarding potential health effects from exposure to electric and magnetic fields (EMF) from power lines, the following discussion provides information regarding EMF health and safety impacts associated with electric utility facilities.

Potential health effects from exposure to electric fields from power lines (produced by the existence of an electric charge, such as an electron, ion, or proton, in the volume of space or medium that surrounds it) are typically not of concern since electric fields are effectively shielded by materials such as trees, walls, etc. Therefore, the majority of the following information related to EMF focuses primarily on exposure to magnetic fields (invisible fields created by moving charges) from power lines.

After several decades of study regarding potential public health risks from exposure to power line EMF, research results remains inconclusive. Several national and international panels have conducted reviews of data from multiple studies and state that there is not sufficient evidence to conclude that EMF causes cancer.

In accordance with applicable state laws and PG&E's EMF Design Guidelines, the proposed project would incorporate no- to low-cost measures to reduce magnetic field impacts in the project design. The design guidelines include the following measures that may be implemented to reduce the magnetic field strength levels from electric power facilities:

- Optimal phasing of the substation interconnection;
- Keeping high current transformers, capacitors, and reactors away from substation property lines;
- For underground duct banks, keeping at least 12 feet from the adjacent property lines, or as close to 12 feet as practical;
- Locating substation near existing power lines; and
- Increasing the substation property boundary to the extent practical.

Thus, absent any conclusive scientific evidence regarding the health effects of EMF, and absent relevant adopted standards, there is no basis at this time to conclude that future employees or residents on or near the substation project site would be exposed to potentially significant EMF-related hazards.[26]

4.10.3 Conclusion

Implementation of the proposed project would result in less than significant land use impacts. **(Less Than Significant Impact)**

[26] Written Communications, Jennifer Goncalves, Electric Distribution Planner, PG&E, June 30, 2016.

4.11 MINERAL RESOURCES

4.11.1 Setting

The area of Communications Hill in central San José is designated as containing mineral deposits of regional significance by the State Mining and Geology Board under the Surface Mining and Reclamation Act of 1975. Communications Hill is the only area in the City with this designation. The project site is not located on or near Communications Hill and, therefore, does not contain known mineral resources

4.11.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state?	☐	☐	☐	☒	1-2
2. 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?	☐	☐	☐	☒	1-2

4.11.2.1 *Impacts to Mineral Resources*

The proposed project is located in a developed urban area and is not located in an area containing known mineral resources. Implementation of the project would not result in the loss of availability of any known resources. **(No Impact)**

4.11.3 Conclusion

Implementation of the proposed project would not impact known mineral resources. **(No Impact)**

4.12 NOISE

The following discussion is based in part on a *Noise and Vibration Assessment* prepared by Illingworth & Rodkin, Inc. in May 2016. A copy of this report is included in Appendix E of this Initial Study.

4.12.1 Setting

4.12.1.1 *Overview*

Fundamentals of Noise

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound can be caused by its pitch or its loudness. A decibel (dB) is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. There are several methods of characterizing sound. The most common in California is the A-weighted sound level or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Noise is typically expressed using one of several noise averaging methods, including: L_{eq}, L_{max}, DNL, and CNEL. L_{eq} stands for the Noise Equivalent Level and is a measurement of the average energy level intensity of noise over a given period of time. The most common averaging period is hourly but L_{eq} can describe any series of noise events in arbitrary duration. L_{max} is the maximum A-weighted noise level during a measurement period. DNL and CNEL are described below.

In determining the daily level of environmental noise, it is important to account for the difference in response of people to daytime and nighttime noises. During the nighttime, exterior background noises are generally lower than daytime levels. Most household noise also decreases at night, making exterior noises more noticeable. Furthermore, most people sleep at night and are very sensitive to noise intrusion. To account for human sensitivity to nighttime noise levels, a descriptor, DNL (day/night average sound level), was developed. The DNL divides the 24-hour day into the daytime of 7:00 AM to 10:00 PM and the nighttime of 10:00 PM to 7:00 AM. The nighttime noise level is weighted to 10 dB higher than the daytime noise level. The Community Noise Equivalent Level (CNEL) is another 24-hour average which includes both an evening and nighttime weighting.

Fundamentals of Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. This discussion uses Peak Particle Velocity (PPV) to quantify vibration amplitude, which is defined as the maximum instantaneous positive or negative peak of the vibration wave. A PPV descriptor with units of millimeters per second (mm/sec) or inches per second (in/sec) are used to evaluate construction generated vibration for building damage and human complaints. The two primary concerns with construction-induced vibration are the potential to damage a structure and the potential to interfere with the enjoyment of life; these two concerns are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 in/sec PPV. Human perception to vibration varies with the individual and is a

function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels such as people in an urban environment may tolerate a higher vibration level.

Structural damage can be classified as cosmetic (e.g., minor cracking of building elements), or may threaten the integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher and there is no general consensus as to what amount of vibration may pose a threat for structural damage to the building. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

4.12.1.2 *Existing Noise Conditions*

Data Center Site

The data center site is undeveloped and located in a business park surrounded by commercial office buildings to the west, north, and east; the property immediately to the south is undeveloped. The nearest sensitive land uses are single-family residences located approximately 700 feet to the south, on the opposite side of Santa Teresa Boulevard. The predominant sources of noise in the area include vehicular traffic on SR 85 and on surrounding roadways.

A noise monitoring survey was performed between Tuesday, January 26, 2016 and Thursday, January 28, 2016 to document existing noise conditions at the project site and at nearby receptors. The noise monitoring survey included two long-term measurements (LT-1 and LT-2) and three short-term measurements (ST-1 through ST-3). Noise measurement locations are shown in Figure 4.12-1 on the following page.

Long-term noise measurement LT-1 was located about 100 feet north of the center of Santa Teresa Boulevard and 300 feet east of the center of San Ignacio Avenue. Noise levels measured at this site were primarily the result of traffic along the Santa Teresa Boulevard. Hourly average noise levels ranged from 60 to 67 dBA L_{eq} during the day and evening between 7:00 AM and 10:00 PM and from 50 to 62 dBA L_{eq} at night between 10:00 PM and 7:00 AM. The day-night average noise level at this location was calculated to be 65 dBA DNL.

Table 4.12-1, below, summarizes the results of the noise measurement surveys. Refer to Appendix E for additional details.

Table 4.12-1: Summary of Short-Term Noise Measurement Data

Noise Measurement Location	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	L_{eq}	DNL
ST-1: Front of 214 Paraiso Court. (1/28/2016, 12:20 PM-12:30 PM)	69	55	49	47	55	57
ST-2: 50 feet from center of Via Del Oro. (1/28/2016, 12:40 PM-12:50 PM)	71	66	56	53	62	64
ST-3: 75 feet from center of Great Oaks Boulevard. (1/28/2016, 1:00 PM-1:10 PM)	67	64	56	52	60	62

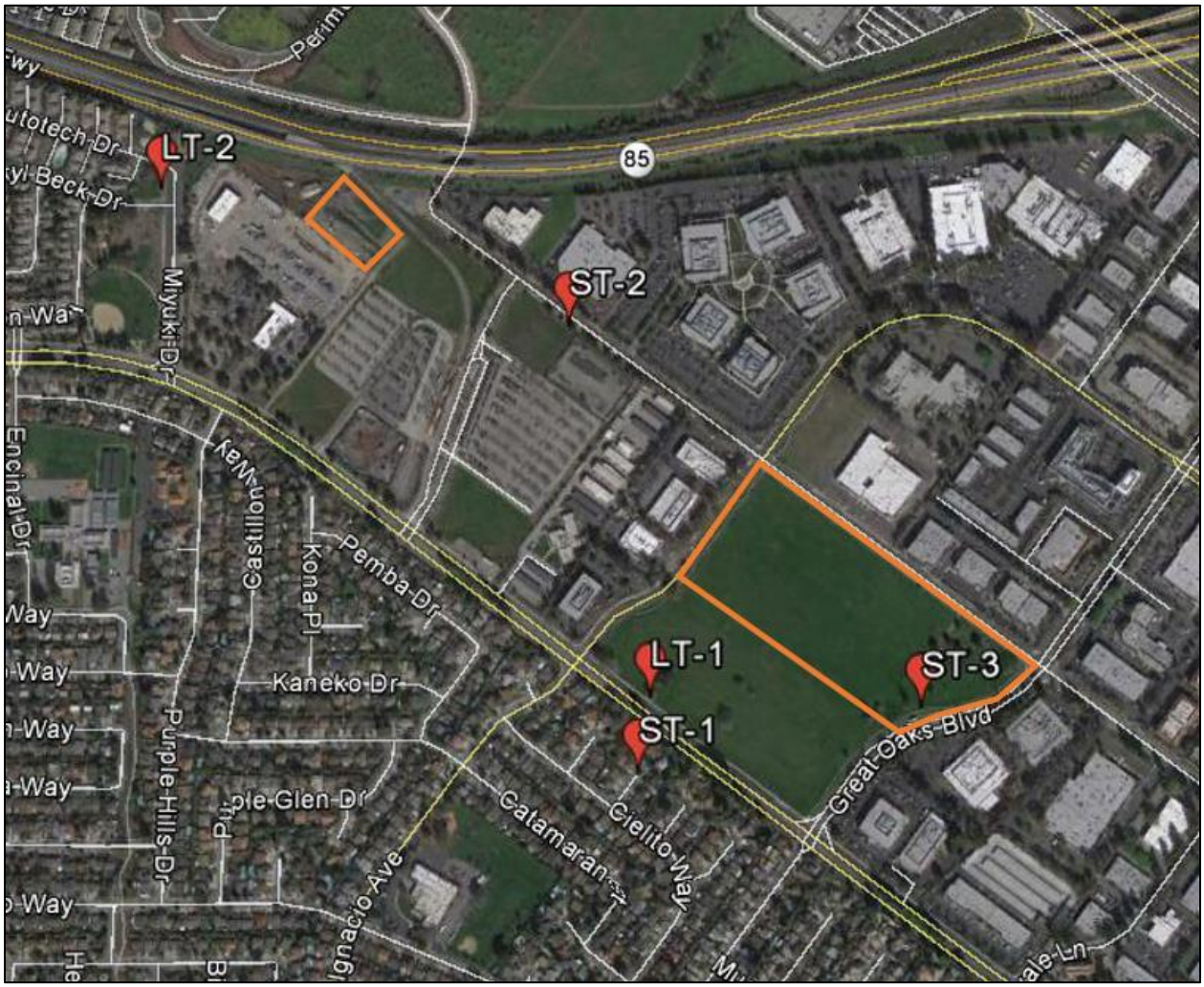


Figure 4.12-1: Noise Measurement Locations

Substation Site, Transmission Line, Distribution Feeders

The substation site is located in the PG&E Edenvale Service Center. The site is bounded by a light rail track to the north, undeveloped land to the east and west, and the PG&E Edenvale Service Center to the south. SR 85, a six-lane highway, is also located directly north of the substation site. The predominant sources of noise in the site vicinity include vehicular traffic along SR 85 and light trail trains on the adjacent rail line.

Long-term noise measurement LT-2 was located at the end of Miyuki Drive, about 350 feet south of SR 85. Noise levels measured at this site were primarily the result of traffic along SR 85. Hourly average noise levels ranged from 64 to 68 dBA L_{eq} during the day and evening and from 51 to 65 dBA L_{eq} at night. The day-night average noise level at this location was calculated to be 68 dBA DNL.

4.12.1.3 *Sensitive Receptors*

The nearest noise sensitive uses to the data center site are single-family residences approximately 700 feet to the south. The nearest noise sensitive uses to the substation site are residences approximately 1,000 feet to the west.

4.12.1.4 *Applicable Plans, Policies, and Regulations*

Envision San José 2040 General Plan

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to noise and vibration and are applicable to the proposed project. In addition, the noise and land use compatibility guidelines set forth in the General Plan are shown in Table 4.12-2.

Envision San José 2040 Relevant Noise and Vibration Policies

Policies	Description
Policy ES-1.1	Locate new development in areas where noise levels are appropriate for the proposed uses. Consider federal, state and City noise standards and guidelines as a part of new development review. Applicable standards and guidelines for land uses in San José include: Interior Noise Levels • The City's standard for interior noise levels in residences, hotels, motels, residential care facilities, and hospitals is 45 dBA DNL. Include appropriate site and building design, building construction and noise attenuation techniques in new development to meet this standard. For sites with exterior noise levels of 60 dBA DNL or more, an acoustical analysis following protocols in the City-adopted California Building Code is required to demonstrate that development projects can meet this standard. The acoustical analysis shall base required noise attenuation techniques on expected *Envision General Plan* traffic volumes to ensure land use compatibility and General Plan consistency over the life of this plan. Exterior Noise Levels • The City's acceptable exterior noise level objective is 60 dBA DNL or less for residential and most institutional land uses (refer to Table EC-1 in the General Plan or Table 4.12-1

Envision San José 2040 Relevant Noise and Vibration Policies

Policies	Description
	in this Initial Study). Residential uses are considered "normally acceptable" with exterior noise exposures of up to 60 dBA DNL and "conditionally compatible" where the exterior noise exposure is between 60 and 75 dBA DNL such that the specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features are included in the design.
Policy EC-1.2	Minimize the noise impacts of new development on land uses sensitive to increased noise levels (Land Use Categories 1, 2, 3 and 6 in Table EC-1 in the General Plan or Table 4.12-1 in this Initial Study) 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-1.6	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	Require construction operations within San José 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 the potential for cosmetic damage at buildings of normal conventional construction.

City of San José Municipal Code

The Zoning Ordinance limits noise levels to 55 dBA L_{max} at any residential property line and 60 dBA L_{max} at commercial property lines, unless otherwise expressly allowed in a Development Permit or other planning approval. The Zoning Ordinance also limits noise emitted by stand-by/backup and emergency generators to 55 dBA at the property line of residential properties. The testing of generators is limited to 7:00 AM to 7:00 PM, Monday through Friday.

Table 4.12-2: General Plan Land Use Compatibility Guidelines

Land Use Category	Exterior DNL Value in Decibels					
	55	60	65	70	75	80
1. Residential, Hotels and Motels, Hospitals and Residential Care[1]						
2. Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds						
3. Schools, Libraries, Museums, Meeting Halls, and Churches						
4. Office Buildings, Business Commercial, and Professional Offices						
5. Sports Arena, Outdoor Spectator Sports						
6. Public and Quasi-Public Auditoriums, Concert Halls, and Amphitheaters						

Notes: [1]Noise mitigation to reduce interior noise levels pursuant to Policy EC-1.1 is required.

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.

4.12.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project result in:					
1. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐	18
2. Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐	18
3. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	18

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project result in:					
4. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐	18
5. 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, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐	18
6. For a project within the vicinity of a private airstrip, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐	18

As previously discussed in *Section 4.0*, on December 17, 2015, the California Supreme Court issued an opinion in "CBIA vs. BAAQMD" holding that CEQA is primarily concerned with the impacts of a project on the environment and generally does not require agencies to analyze the impact of existing conditions on a project's future users or residents, unless the project risks exacerbating those environmental hazards or risks that already exist. Nevertheless, the City has policies and regulations that address existing noise conditions affecting a proposed project, which are also discussed below.

Consistent with Appendix G of the CEQA Guidelines, a project would normally result in significant noise impacts if noise levels generated by the project conflict with adopted environmental standards or plans, if the project would generate excessive groundborne vibration levels, or if ambient noise levels at sensitive receivers would be substantially increased over a permanent, temporary, or periodic basis. The following criteria were used to evaluate the significance of environmental noise resulting from the project:

- **Groundborne Vibration from Construction:** A significant impact would be identified if the construction of the project would expose persons to excessive vibration levels. Groundborne vibration levels exceeding 0.2 in/sec PPV would have the potential to result in cosmetic damage to normal buildings.

- **Project-Generated Traffic Noise Increases:** A significant impact would be identified if traffic generated by the project would substantially increase noise levels at sensitive receivers in the vicinity. A substantial increase would occur if: a) the noise level increase is five dBA DNL or greater, with a future noise level of less than 60 dBA DNL, or b) the noise level increase is three dBA DNL or greater, with a future noise level of 60 dBA DNL or greater.

- **Operational Noise:** A significant noise impact would be identified if project operational noise sources would exceed the City's Noise Element threshold of 55 dBA DNL at receiving noise-sensitive land uses such as residences.

- **Construction Noise:** A significant noise impact would be identified if construction-related noise would temporarily increase ambient noise levels at sensitive receptors. Hourly average noise levels exceeding 60 dBA Leq at the property lines shared with residential land uses, and the ambient by at least five dBA Leq, for a period of more than one year would constitute a significant temporary noise increase at adjacent residential land uses.

4.12.2.1 *Noise Impacts from the Project (Checklist Questions 1-4)*

Construction-Related Noise

Noise impacts resulting from construction depend upon the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of time.

Table 4.12-3, below, shows the calculated construction noise for each phase of construction at various distances.

Table 4.12-3: Calculated Construction Noise by Project Phase

Construction Phase		At Distance of 100 ft[1]		Distance to 60 dBA L_{eq} Contour[2]
		L_{eq}, dBA	L_{max}, dBA	
Substation and Transmission Lines	Relocation of On-Site Storage (20 days)	68	69	250 ft
	Site Preparation/Grading (40 days)	73	75	475 ft
	Excavation of Foundations (40 days)	74	75	500 ft
	Trenching: Substation (20 days)	74	75	500 ft
	Building: Substation (40 days)	76	76	600 ft
	Building: Overhead Transmission Line TSPs (8 days)	76	76	600 ft
	Building: Underground Distribution Line (40 days)	74	78	500 ft
	Paving: Substation (20 days)	68	74	250 ft
SV12, SV13, and SV14 Buildings	Trenching/Grading (20 days)	76	78	600 ft
	Building Exterior (230 days)	77	77	700 ft
	Building Interiors (20 days)	69	72	275 ft
	Paving (20 days)	75	75	550 ft

[1] All pertinent equipment at site.
[2] Calculated using a standard drop off rate for point sources of 6 dB per doubling of distance.
Source: Illingworth & Rodkin, 2016.

Construction noise levels would vary by phase and vary within phases based on the amount of equipment in operation, and location of where the equipment is operating.

Construction of each of the three data center buildings would involve approximately 20 days of grading and work on building exteriors would take approximately 230 days. These more substantial noise generating activities (i.e., grading, foundation work, building framing) would occur over a less than one year period. However, as each of the data center buildings are proposed to be constructed in phases, if constructed in sequence, the total period of substantial noise generating activities would be over one year.

The substation and transmission lines installation in the vicinity of Miyuki Drive would take place at a distance from the data centers, would not expose the same receptors, and significant noise generating activities would take less than one year.

As shown in Table 4.12-3, construction noise levels would reach 69 to 78 dBA L_{max} and 68 to 77 dBA L_{eq} at a distance of 100 feet from construction activities. Construction noise typically drops off at a rate of 6 dB per doubling of distance. Construction noise levels would be lower than 60 dBA L_{eq} for all construction phases at distances of 700 feet or further from construction. Intervening structures or terrain provide additional noise reduction, typically on the order of 10 to 20 dBA.

Residences are located as close as 700 feet south of the data center site and 1,000 feet west and south of the substation site. Existing daytime noise levels at residences to the south of the data centers and substation sites are in the range of 60 to 67 dBA L_{eq} (see LT-1). Existing daytime noise levels at residences to the west of the substation site are in the range of 64 to 68 dBA L_{eq} (see LT-2). There is no construction located within 500 feet of residences. Additionally, as indicated in Table 4.12-3, construction noise levels are not anticipated to exceed 60 dBA L_{eq} at distances greater than 700 feet from construction activities during any of the construction phases. Thus, the resulting construction noise levels would generally be below ambient noise levels at the nearest residential uses.

Some construction, however, would be within 200 feet of existing office uses on San Ignacio Avenue, Via del Oro, and Great Oaks Boulevard for a period greater than 12 months.[27]

Impact NOI-1: Construction activities associated with the data center project could result in construction-related noise impacts as substantial noise generating activities will occur within 200 feet of existing office uses for a period of more than twelve months. **(Significant Impact)**

Mitigation Measure: In accordance with General Plan Policy EC-1.7, the proposed project would include the following mitigation measure.

MM NOI-1: The project applicant shall prepare a noise logistics plan, which shall be submitted for review and approval by the Supervising Planner of the Environmental Review Division of the Department of Planning, Building, and Code Enforcement prior to issuance of grading and building permits. This plan shall include, at a minimum, the following measures to reduce the exposure of adjacent office buildings to construction noise:

1) Construction hours within 200 feet of commercial uses shall be limited to the hours of 7:00 a.m. and 7:00 p.m. weekdays, with no construction on weekends or

[27] Personal communication with Dana M. Lodico, Illingworth & Rodkin, Inc., *PE, INCE Bd. Cert.*

holidays. Pile driving shall be limited to the hours of 8:00 a.m. to 5:00 p.m. Monday through Friday.

2) Utilize 'quiet' models of air compressors and other stationary noise sources where technology exists. A letter from a qualified acoustic specialist shall be attached to the noise logistics plan along with a list of proposed construction equipment, including air compressors and other stationary noise sources, certifying that the proposed construction equipment includes the best available noise attenuating technologies.

3) All internal combustion engine-driven equipment shall use best available noise control practices and equipment (including mufflers, intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds). A letter from a qualified acoustic specialist shall be attached to the noise logistics plan along with a list of proposed construction equipment, certifying that the proposed construction equipment includes the best available noise attenuating technologies.

4) Locate all stationary noise-generating equipment, such as air compressors and portable power generators, at least 200 feet from adjacent office and commercial land uses.

5) Locate staging areas and construction material areas at least 200 feet from adjacent office and commercial land uses to the greatest extent feasible.

6) Prohibit all unnecessary idling of internal combustion engines. Equipment shall be shut off when not in use and the maximum idling time shall be limited to five minutes.

7) The contractor will prepare a detailed construction plan identifying a schedule of major noise generating construction activities. This plan shall identify a noise control 'disturbance coordinator' and procedure for coordination with the adjacent noise sensitive facilities so that construction activities can be scheduled to minimize noise disturbance. This plan shall be made publicly available for interested community members.

The disturbance coordinator will be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the case of the noise complaint (e.g. starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. The telephone number for the disturbance coordinator at the construction site shall be posted on the construction site and included in a notice sent to adjacent commercial businesses regarding the construction schedule.

8) All measures in the approved noise logistics plan shall be printed on all approved plans for grading and building permits.

With implementation of mitigation measure MM NOI-1 identified above, the proposed project would result in less than significant construction-related noise impacts. **(Less Than Significant Impact with Mitigation Incorporated)**

Construction-Related Vibration

Construction of the project is anticipated to take about 29 months. A significant impact would be identified if the construction of the project would generate groundborne vibration levels at adjacent structures exceeding 0.2 in/sec PPV because these levels would have the potential to result in "architectural" damage to normal buildings.

Project construction activities, such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may generate substantial vibration in the immediate vicinity of the work area. Vibration levels would vary depending on soil conditions, construction methods, and equipment used.

The closest existing structures to the data center site are office buildings located approximately 100 feet north of the site, across Via Del Oro, and about 150 feet to the east and west. As previously discussed, residences are located approximately 700 feet to the south. The closest existing structures to the substation site are approximately 400 feet to the east, west, and south. Along Via Del Oro, structures are as close as 80 feet to the location of the proposed distribution lines.

Vibration levels produced by heavy equipment (vibratory rollers, clam shovel drops) during for data center and substation construction are calculated to be 0.05 in/sec PPV or less at a distance of 100 feet, 0.03 in/sec PPV or less at a distance of 150 feet, 0.01 in/sec PPV or less at a distance of 400 feet, and 0.005 in/sec PPV or less at a distance of 700 feet.[28] Vibration levels at 80 feet from the distribution lines installation would be 0.025 in/sec PPV, generated by drilling and large earthmoving equipment. Impact or vibratory pile driving is not anticipated as part of project construction activities; in addition, vibratory rollers and clam shovel drops are not anticipated as part of the transmission lines construction.

Vibration levels during heavy construction may occasionally be perceptible at the commercial uses to the north when construction is located directly adjacent to these areas, but would not approach the 0.2 in/sec PPV threshold for architectural damage. Furthermore, vibration levels would be lower at structures located further from the project site and as construction moves away from the property lines of the site. For these reasons, construction of the proposed project would result in a less than significant construction vibration impact. **(Less Than Significant Impact)**

Operational Noise

Data Center Site

The project proposes to construct three data centers buildings, each approximately 188,000 square feet in size on the northern 18 acres of the existing data center site. The new data center buildings would house computer servers and supporting equipment for private clients, as well as associated office uses, in environmentally controlled structures.

[28] These levels are calculated assuming normal propagation conditions and a conservative assumption of hard soil conditions, using a standard equation of PPV_{eqmt}-PPV_{ref} * $(25/D)^{1.1}$.

The predominant noise source at these data centers would be the testing and operation of standby diesel generators. Standby backup electricity for each building would be provided by seven generators with diesel-fueled engines located in the equipment yards adjacent to each building, for a total of 21 generators. The electric generating capacity of each generator would be approximately three megawatts (MW) at 480 volts. The SV13 data center generators would be located along the southern side of the building, with a 25-foot high precast concrete panel wall provided as shielding to receptors to the south. The SV12 and SV14 data center generators are proposed north of the buildings and the buildings themselves, as well as the proposed precast walls would provide shielding to receptors to the south.

During normal facility operation, these engines would not be operated other than for periodic testing and maintenance requirements. Testing of each generator would generally be performed twice per month to make sure that they are ready to come online when needed in the event of a power failure. The testing is proposed to normally take place on weekdays between the hours of 8:00 AM to 5:00 PM. Normal generator testing at no load for five minutes would occur monthly and generator testing at full load (100 percent load) for one hour would occur once per month for 11 months of the year. In addition to the normal engine testing and operation for maintenance purposes, each engine would undergo generator load testing for up to four hours per year with the engine at full load. Total generator engine operation under normal conditions is expected to be about 16 hours per year, per engine. The generators would run continuously during power outages. With all seven generators in each data center operating simultaneously, the total sound pressure level would be about 86 dBA at a distance of 25 feet.

Noise modeling using SoundPLAN v7.4 was conducted to calculate the noise level exposure of residences to the south to noise generated by the seven SV13 generators located behind the proposed 25-foot high precast concrete panel wall. Based on the results of the modeling, the proposed 25-foot high wall is calculated to provide about 16 dBA of shielding to residences located 700 feet to the south, resulting in a total noise exposure level of 40 dBA L_{eq} at these residences during simultaneous operation of all seven generators at full load. Due to the attenuation provided by the SV12 and SV14 data center buildings, noise levels produced by the generators located north of SV12 and SV14 would not measurably increase the resulting noise level produced by the SV13 generators. This noise level is well below the Municipal Code threshold of 55 dBA L_{eq}, would not be audible above existing ambient traffic noise generated by vehicles on Santa Teresa Boulevard, and would not cause a measureable increase in noise levels above ambient at this location (increase is calculated to be less than 1 dBA). Other noise sources proposed with the project, such as mechanical HVAC equipment, would be even lower in noise level as these equipment produce substantially less noise as compared to a generator.

For these reasons, operation of the proposed data center buildings would result in a less than significant noise impact. **(Less Than Significant Impact)**

Substation Site, Transmission Line, Distribution Feeders

The proposed substation includes a control building, circuit breakers, switchgear, transformers, dead-end structures, and other miscellaneous electrical equipment. Transmission lines would connect the proposed substation to the Metcalf-Edenvale line and proposed distribution feeders in Via Del Oro,

and from the proposed substation to the proposed data center buildings. The proposed distribution lines would be routed underground and would not generate noise that is audible aboveground.

The only notable noise sources at the substation are anticipated to be the transformers. The project proposes to initially install one 45 MVA 115/21 kV transformer, with a buildout condition of three of these transformers. The transformers are specified to generate a noise level of 72 dB at a distance of six feet during full load with fans and pumps running. At the nearest noise sensitive locations (residences located about 1,000 feet to the west and south) the noise level from all three transformers operating simultaneously would be below 40 dBA L_{eq}. This would be 10 to 30 dB below daytime and nighttime ambient hourly average noise levels at these residences (see LT-1 and LT-2). As a result, transformer noise is not anticipated to be audible at the nearest sensitive receptor locations, and would not cause a measureable increase in noise above ambient noise levels (increase would be less than one dBA).

The transmission line and distribution feeders would not be a significant source of noise. **(Less Than Significant Impact)**

Project Generated Traffic Noise

Data Center Site

As discussed above, a significant impact would be identified if traffic generated by the project would substantially increase noise levels at sensitive receivers in the vicinity. As discussed in *Section 4.16 Transportation*, the project would not generate a substantial number of new vehicle trips. Therefore, the project would not result in a significant increase in traffic-related noise. **(Less Than Significant Impact)**

Substation Site, Transmission Line, Distribution Feeders

The project proposes to construct a substation and transmission line. As discussed in *Section 4.16 Transportation*, project trips would primarily be limited to maintenance trips. Construction of the substation and transmission lines would not generate a substantial number of new trips and, therefore, would not result in a significant increase in traffic-related noise. **(Less Than Significant Impact)**

4.12.3 Conclusion

The proposed project, with implementation of MM NOI-1, would result in less than significant noise impacts. **(Less Than Significant Impact with Mitigation Incorporated)**

4.13 POPULATION AND HOUSING

4.13.1 Setting

Based on California Department of Finance estimates for January 1, 2016[29], San José had a population of 1,042,094 persons and 327,652 households for an average of 3.18 persons per household. According to the City's General Plan, the projected population in 2035 would be 1.3 million persons occupying 429,350 households.

In 2014, there were approximately 382,200 jobs in San José.[30] The General Plan envisions adding 470,000 jobs (compared to the 375,900 jobs in the City in 2008) by 2035. To meet the current and projected housing needs in the City, the Envision San José 2040 General Plan identifies areas for mixed-use and residential development to accommodate 120,000 new dwelling units by 2035.

The jobs/housing balance is the relationship between the number of housing units required as a result of local jobs and the number of residential units available in the City. This relationship is quantified by the jobs/employed resident ratio. When the ratio reaches 1.0, a balance is struck between the supply of local housing and local jobs. The jobs/employed resident ratio is determined by dividing the number of local jobs by the number of employed residents that can be housed in local housing. At the time of preparation of the General Plan FPEIR, San José had a higher number of employed residents than jobs (approximately 0.8 jobs per employed resident) and in 2014 this ratio was 0.84 jobs per employed resident. The jobs/employed resident ratio is projected to increase with full build-out under the current General Plan to approximately 1.3 jobs per employed resident.

4.13.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Induce substantial 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)?	☐	☐	☒	☐	1-3
2. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	1-3
3. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	1-3

[29] California Department of Finance. Table 2: E-5 City/County Population and Housing Estimates for 2015 and 2016. Accessed August 12, 2016. http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/

[30] Strategic Economics. *San José Market Overview and Employment Lands Analysis*. January 20, 2016. Accessed: https://www.sanjoseca.gov/DocumentCenter/View/53472 .

4.13.2.1 *Impacts to Population and Housing*

A project can induce substantial population growth by: 1) proposing new housing beyond projected or planned development levels, 2) generating demand for housing as a result of new businesses, 3) extending roads or other infrastructure to previously undeveloped areas, or 4) removing obstacles to population growth (e.g., expanding capacity of a wastewater treatment plant beyond that necessary to serve planned growth).

The project proposes to construct three data center buildings and an off-site substation. The project site and substation site have a General Plan designation of *IP – Industrial Park* and *TEC – Transit Employment Center*, neither of which allow residential uses.

Based upon employment and client visit data for a similarly sized data center (SV-5) operated by the project applicant, there would be an estimated 19 employees and 66 clients at each building on a daily basis.[31] For the three data center buildings this would total about 57 employees and 198 clients who would travel to and from the data center buildings daily. Construction of three data center buildings would not create new housing on the site, nor indirectly induce substantial population growth in the area.

The proposed substation would generate a minimal number of employees, if any. It is intended to serve planned development anticipated under the General Plan. Therefore, construction of the substation would not induce substantial population or employment growth. The proposed substation does not propose residential uses. **(Less Than Significant Impact)**

4.13.2.2 *Displacement of People or Housing*

There is no existing housing or people located on the project site or substation site. Therefore, implementation of the proposed project would not displace existing housing or people. **(No Impact)**

4.13.3 Conclusion

Implementation of the proposed project would result in a less than significant population and housing impact. **(Less Than Significant Impact)**

[31] Source: Employees and average daily client visits (24 hours) from Jun 26-July 16, 2015 for data center building SV-5, as listed on SV-10 Data Center Site Plan, Sheet A100, dated December 23, 2015.

4.14 PUBLIC SERVICES

4.14.1 Setting

4.14.1.1 *Fire and Police Protection Services*

Fire Protection

Fire protection in the project area is provided by the San José Fire Department (SJFD). The SJFD responds to all fires, hazardous materials spills, and medical emergencies in the City. The nearest fire station to the project site is Station 27, located at 6027 San Ignacio Avenue, 0.8 miles east of the project site.

Police Protection

Police protection is provided by the City of San José Police Department (SJPD). Officers patrolling the project area are dispatched from police headquarters, located at 201 West Mission Street, approximately 12.7 miles northwest of the project site. The City has four patrol divisions and 16 patrol districts. Patrols are dispatched from police headquarters and the patrol districts consist of 83 patrol beats, which include 357 patrol beat building blocks.

4.14.1.2 *Schools*

The project site is located in the Oak Grove School District and the East Side Union High School District. Oak Grove School District is comprised of 16 elementary schools and three intermediate (middle) schools. East Side Union High School District is comprised of 11 high schools.

4.14.1.3 *Parks*

The City of San José manages a total of 3,435 acres of regional and neighborhood/community serving parkland.[32] Other recreational facilities within the City include community centers, senior centers, youth centers, skate parks, and trails. Nearby parks include Doctor George Page Park, located approximately 0.9 miles west of the project site, and Los Paseos Park, located approximately 1.1 miles southeast of the project site

4.14.1.4 *Libraries*

The San José Public Library System consists of one main library and 18 open branch libraries. The libraries nearest the project site include the Edenvale Library located, Pearl Avenue Library, and Santa Teresa Library. The main library branch is the Martin Luther King Jr. Library, located at 150 E. San Fernando Street in Downtown San José.

[32] Only existing parks are included in the above acreage. Secured or potential parks, which total approximately 118 acres, are not included in the acreage total. Source: *Greenprint 2009 Update for Parks, Recreation Facilities and Trails*. December 2009.

4.14.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:					
Fire Protection?	☐	☐	☒	☐	1-3
Police Protection?	☐	☐	☒	☐	1-3
Schools?	☐	☐	☐	☒	1-3
Parks?	☐	☐	☐	☒	1-3
Other Public Facilities?	☐	☐	☐	☒	1-3

4.14.2.1 *Impacts to Fire and Police Protection Services*

The project sites are currently served by both the SJFD and SJPD. The project is consistent with the sites' General Plan land use designation and is assumed under build out of the General Plan. Implementation of the proposed project would incrementally increase the demand for fire and police protection services on the site compared to existing conditions. The proposed project, however, would not in and of itself preclude the SJFD and SJPD from meeting their service goals, and would not require the construction of new or expanded fire or police facilities beyond what is already planned under the General Plan. Furthermore, the proposed data center buildings, substation, transmission line, and distribution feeders would be constructed in accordance with existing building codes and would be required to be maintained in accordance with applicable City policies to promote public and property safety. For these reasons, implementation of the proposed project would result in a less than significant impact on fire and police protection services. **(Less Than Significant Impact)**

4.14.2.2 *Impacts to Schools, Parks, and Libraries*

No residential uses are proposed as part of the project. Future development would not increase the demand for schools, parks, nor library services in the project area. Therefore, the project would not impact these resources. **(No Impact)**

4.14.3 Conclusion

Implementation of the proposed project would result in a less than significant impact on public services. **(Less Than Significant Impact)**

4.15 RECREATION

4.15.1 Setting

The City of San José manages a total of 3,435 acres of regional and neighborhood/community serving parkland.[33] Other recreational facilities within the City include community centers, senior centers, youth centers, skate parks, and trails. Nearby parks include Doctor George Page Park, located approximately 0.9 miles west of the project site, and Los Paseos Park, located approximately 1.1 miles southeast of the project site

4.15.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
1. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated?	☐	☐	☐	☒	1-3
2. 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?	☐	☐	☐	☒	1-3

4.15.2.1 *Impacts to Recreation*

The project proposes to construct three data center buildings, a substation, a transmission line connection to the substation, and distribution feeders. The project would not add to the permanent population that could use existing neighborhood and regional parks and other recreational facilities. The proposed project does not include recreational facilities, and would not require the construction or expansion of recreational facilities. For these reasons, the project would have no impact on recreational facilities. **(No Impact)**

4.15.3 Conclusion

Implementation of the proposed project would not impact recreational facilities. **(No Impact)**

[33] Only existing parks are included in the above acreage. Secured or potential parks, which total approximately 118 acres, are not included in the acreage total. Source: *Greenprint 2009 Update for Parks, Recreation Facilities and Trails*. December 2009.

4.16 TRANSPORTATION

4.16.1 Setting

4.16.1.1 *Existing Conditions*

Roadway Network

Regional Access

U.S. Highway 101 (US 101) is a north-south freeway that extends northward through San Francisco and southward through Gilroy. Within the study area, US 101 is an eight-lane facility that includes two high-occupancy vehicle (HOV) lanes. US 101 provides access the project site via the Bernal Road interchange.

State Route 85 (SR 85) is a six-lane highway that is oriented in an east-west direction in the vicinity of the project site. It extends from Mountain View to south San José, terminating at US 101. SR 85 provides access to the project sites via the Bernal Road interchange.

Local Access

Santa Teresa Boulevard is a six-lane divided arterial in the project vicinity. Santa Teresa Boulevard extends from SR 85 near Westfield Shoppingtown Oakridge to Morgan Hill, where it transitions into Hale Avenue. Near the project site, Santa Teresa Boulevard includes bike lanes and sidewalks on both sides of the street. Santa Teresa Boulevard provides access to the data center site via Great Oaks Boulevard and San Ignacio Avenue. Santa Teresa Boulevard provides direct access to the substation site.

Great Oaks Boulevard is a two- to four-lane divided arterial. Great Oaks Boulevard intersects Via Del Oro and Santa Teresa Boulevard, and provides direct access to the data center site.

Via Del Oro is a two-lane roadway with a two-way center left-turn lane. Via Del Oro intersects San Ignacio Avenue and Great Oaks Boulevard, and provides direct access to the data center site.

San Ignacio Avenue is a two-lane roadway with a two-way center left-turn lane. San Ignacio Avenue intersects Santa Teresa Boulevard and Via Del Oro, and provides direct access to the data center site.

Miyuki Drive is a short two- to four-lane connector road that connects Santa Teresa Boulevard to Autotech Way. Miyuki Drive provides the western boundary for the PG&E Edenvale Service Center site.

Pedestrian and Bicycle Facilities

Pedestrian facilities in the area consist of sidewalks and crosswalks. Crosswalks with pedestrian signal heads and American Disabilities Act (ADA) compliant ramps are located at all nearby signalized intersections. Bicycle facilities in the area are limited to Class II bicycle lanes on Santa Teresa Boulevard.

Transit Service

Transit service to the project area is provided by the Santa Clara Valley Transportation Agency (VTA). The Santa Teresa Light Rail Station is served by bus Routes 42, 68, 102, 122, 182, and 304. Light rail lines 901 and 911 also stop at this station. Bus Route 42 stops at the intersection of San Ignacio Avenue and Via Del Oro, and Route 68 stops along Santa Teresa Boulevard.

Commuter rail service operated by Caltrain offers service from San Francisco in the north to Gilroy in the south. The Blossom Hill Caltrain station is located approximately 2.3 miles northwest of the project sites.

Site Access

Data Center Site

The data center site is currently undeveloped; there is no parking located on-site. Pedestrians can access the site via intersection crosswalks and sidewalks along the site's frontages on San Ignacio Avenue, Via Del Oro, and Great Oaks Boulevard. There are two existing curb cutouts along Via Del Oro for vehicles to access the site.

Substation Site, Transmission Line, Distribution Feeders

The substation site is part of the Edenvale Service Center located at 6402 Santa Teresa Boulevard. Vehicular access to the Edenvale Service Center is provided through a driveway directly from Santa Teresa Boulevard. There are 18 public parking spaces in front of the building and additional parking spaces for employees in a gated area immediately to the west. Sidewalks along Santa Teresa Boulevard also provide pedestrian access to the site.

As previously described, Via Del Oro is a two-lane roadway with a center left-turn median. There is no on-street parking or shoulder lane.

4.16.1.3 *Applicable Plans, Policies, and Regulations*

Envision San José 2040 General Plan

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to transportation and are applicable to the proposed project.

Envision San José 2040 Relevant Transportation Policies

Policies	Description
Policy TR-1.1	Accommodate and encourage use of non-automobile transportation modes to achieve San José's mobility goals and reduce vehicle trip generation and vehicle miles traveled (VMT).
Policy TR-1.2	Consider impacts on overall mobility and all travel modes when evaluating transportation impacts of new developments or infrastructure projects.

Envision San José 2040 Relevant Transportation Policies

Policies	Description
Policy TR-1.4	Through the entitlement process for new development, fund needed transportation improvements for all transportation modes, giving first consideration to improvement of bicycling, walking and transit facilities. Encourage investments that reduce vehicle travel demand.
Policy TR-1.5	Design, construct, operate, and maintain public streets to enable safe, comfortable, and attractive access and travel for motorists and for pedestrians, bicyclists, and transit users of all ages, abilities, and preferences.
Policy TR-2.8	Require new development where feasible to provide on-site facilities such as bicycle storage and showers, provide connections to existing and planned facilities, dedicate land to expand existing facilities or provide new facilities such as sidewalks and/or bicycle lanes/paths, or share in the cost of improvements.
Policy TR-3.3	As part of the development review process, require that new development along existing and planned transit facilities consist of land use and development types and intensities that contribute towards transit ridership. In addition, require that new development is designed to accommodate and to provide direct access to transit facilities.
Policy TR-5.3	The minimum overall roadway performance during peak travel periods should be level of service "D" except for designated areas and specified exceptions identified in the General Plan including the Downtown Core Area. Mitigation measures for vehicular traffic should not compromise or minimize community livability by removing mature street trees, significantly reducing front or side yards, or creating other adverse neighborhood impacts.
Policy TR-8.4	Discourage, as part of the entitlement process, the provision of parking spaces significantly above the number of spaces required by code for a given use.
Policy TR-9.1	Enhance, expand and maintain facilities for walking and bicycling, particularly to connect with and ensure access to transit and to provide a safe and complete alternative transportation network that facilitates non-automobile trips.

City Council Policy 5-3

As established in the City Council Policy 5-3 "Transportation Impact Policy" (2005), the City of San José uses the same LOS method as the CMP, although the City's standard is LOS D rather than LOS E. According to this policy and General Plan Policy TR-5.3, listed above, an intersection impact would be satisfactorily mitigated if the implementation measures would restore level of service to existing conditions or better, unless the mitigation measures would have an unacceptable impact on the neighborhood or on other transportation facilities (i.e. pedestrian, bicycle, or transit).[34] The City's Transportation Impact Policy (also referred to as the Level of Service Policy) protects pedestrian and bicycle facilities from undue encroachment by automobiles.

[34] Examples of unacceptable impacts include reducing the width of a sidewalk or bicycle lane below the city standard or creating unsafe pedestrian operating conditions. Exceptions to the standard are made for small, infill projects, the Downtown Core, and for impacts to Protected Intersections within Special Strategy Areas, including Transit Oriented Development Corridors and Transit Station Areas.

Edenvale Redevelopment Policy

The City of San José adopted the Edenvale Area Development Policy (EADP) to: 1) manage the traffic congestion associated with near-term development in the Edenvale Redevelopment Area; 2) promote General Plan goals for economic development; and 3) encourage a reverse commute to jobs at southerly locations in San José. The Edenvale Redevelopment Project Area (ERPA) encompasses a total of 451 acres on both sides of U.S. 101 in southeastern San José. The project is located in the Old Edenvale Area (Area 2) of the ERPA.

The EADP will allow the Level of Service of some nearby intersections to deteriorate to levels in excess of the City's Transportation Level of Service Policy for a temporary period of time. The length of time that traffic will operate below the standards of the citywide Policy will depend on the rate at which the industrial projects are developed, and the timing required for regional infrastructure improvements to be designed and constructed.

4.16.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐	1-3
2. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐	1-3
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☒	☐	1-3
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible land uses (e.g., farm equipment)?	☐	☐	☒	☐	1-3
5. Result in inadequate emergency access?	☐	☐	☒	☐	1-3

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐	1-3

4.16.2.1 *Transportation Impacts (Checklist Questions 1-2)*

Data Center Site

The project proposes to construct three data center buildings, 252 surface parking spaces, and 19 bicycle parking spaces. Each data center would be approximately 188,000 square feet in size; three data centers would total 564,000 square feet. To be conservative, two different rates were used to estimate project trip generation. Table 4.16-1 below compares the estimated project trip generation using a rate based on a real-world driveway count, and the Institute of Transportation Engineers (ITE) trip generation rate.

Table 4.16-1: Trip Generation Comparison

Methodology	Size	Weekday		AM Peak Hour		PM Peak Hour	
		Rate	Trips	Rate	Total	Rate	Total
Driveway Surveys[1]	564 ksf	1.7	959	0.15	85	0.15	85
Datacenter (ITE Data Center 160)	564 ksf	0.99	508	0.09	51	0.09	51

Notes:
[1] The ITE Trip Generation Manual (9th Edition) notes that the rates for Data Centers (Land Use 160) are based on limited data and that it is important to include information on the number of tenants and employees. Driveway surveys for a data center in the City of Santa Clara found a peak hour trip rate of 0.15 per 1,000 square feet (Hexagon Transportation Consultants, *CoreSite Trip Generation and Operations Analysis*, October 2013).

The need for the preparation of a traffic impact analysis for a particular development is based on its estimated trip generation and its effect on surrounding transportation facilities. According to the City of San José and VTA *Transportation Impact Analysis Guidelines*, a Transportation Impact Analysis is needed when a project generates 100 or more net new peak hour trips in either the AM or PM peak hour. As shown in Table 4.16-1, the project would generate less than 100 net new peak hour trips in either the AM or PM peak hour. Due to the low number of project generated trips, construction of the data center buildings is not anticipated to adversely impact levels of service at nearby intersections. **(Less Than Significant Impact)**

Edenvale Redevelopment Policy

The purpose of the EADP is to manage traffic congestion, promote economic development, and encourage a reverse commute to jobs in the EADP area of south San José. A project's consistency with the EADP is determined by its consistency with the land use development and traffic assumptions described in the EADP, and its contribution to assessment and community facilities districts to finance infrastructure improvements in the EADP, as appropriate. The EADP has been updated several times, most recently in 2014, to include specific development sites (e.g., iStar and Silver Creek Valley Place) in the Policy Area. The environmental impacts for this update were considered in the Great Oaks Mixed Use Project, Planned Development Zoning File #PDC 04-100 Final EIR (SCH # 2013032047).

The project proposes to develop a vacant site designated for industrial uses with three data center buildings. Data centers are compatible with the site's existing IP – Industrial Park and TEC – Transit Employment Center General Plan land use designations. While the number of employees would be lower than for office or other industrial uses, development of data center uses would promote economic development in the City of San José. The proposed use is consistent with or lower than the land development and traffic assumptions in the EADP and the project would contribute its fair share to assessment and community facilities and would finance infrastructure improvements in the EADP, as appropriate. Therefore, implementation of the project would not conflict with the EADP. **(Less Than Significant Impact)**

Substation Site, Transmission Line, Distribution Feeders

Once the proposed substation is constructed, the substation would generate a minimal number of project trips. Trips to and from the substation site would be limited to occasional maintenance activities. Therefore, construction of the proposed substation is not anticipated to adversely impact levels of service at nearby intersections.

The distribution feeders would be constructed underground along Via Del Oro and the transmission line would be located overhead. Construction of the distribution feeders and transmission line may temporarily impact traffic on Via Del Oro and Miyuki Drive, but would not result in a significant adverse impact. Following the completion of construction activities, traffic conditions would revert back to existing conditions. **(Less Than Significant Impact)**

4.16.1.3 *Other Traffic Considerations* *(Checklist Questions 3-6)*

Bicycle and Pedestrian Facilities

Data Center Site

The project would construct sidewalks and plant landscaping and trees along project frontages to promote pedestrian activity in the surrounding area. In addition, the project would provide 19 bicycle parking spaces for employees and visitors to use, consistent with the City's Bicycle Parking Standards described in the Municipal Code. Implementation of the project would support General Plan goals and policies and would not conflict with adopted plans, policies, or programs related to

alternative transportation, including General Plan policies TR-1.1, TR-2.8, and CD-2.3. **(Less Than Significant Impact)**

Substation Site, Transmission Line, Distribution Feeders

There are no sidewalks or bicycle paths in the immediate vicinity of the substation site. Construction of the substation would not hinder pedestrian or bicycle activity, and would not impact pedestrian or bicycle facilities. The proposed distribution feeders would be underground in the middle of the road, and the transmission lines would be located overhead; these would not adversely impact bicycle and pedestrian facilities in the project area. **(Less Than Significant Impact)**

Site Access, Circulation, and Safety Hazards

Data Center Site

Public vehicular access to the project site would be provided via a main entrance on Great Oaks Boulevard, and a secondary entrance on San Ignacio Avenue. A service entrance for trucks would be located mid-block on Via Del Oro. Separate entrances for passenger vehicles and trucks are provided in order to keep the two types of traffic segregated within the project site. Each entrance would be gated and electronically secured. In addition, a clear fire access lane is proposed along the southern property boundary of the site to provide site access for emergency vehicles.

Construction of the proposed data centers and dedication of the public right-of-way on Via Del Oro and Santa Teresa Boulevard would not result in an increased traffic hazard due to the project's design, conflict with an adopted plan or policy, or change air traffic patterns. **(Less Than Significant Impact)**

Substation Site, Transmission Line, Distribution Feeders

The substation site would be accessed through the PG&E Edenvale Service Center. Vehicles accessing the substation would park on-site; no new parking spaces are proposed for the project.

The proposed transmission lines would be located aboveground, supported by 90-foot tubular steel poles. The distribution feeders would be underground in Via Del Oro. Neither would impact emergency vehicle access, air traffic patterns, or create a traffic hazard.

4.16.3 Conclusion

Implementation of the proposed project would result in less than significant transportation impacts. **(Less Than Significant Impact)**

4.17 UTILITIES AND SERVICE SYSTEMS

4.17.1 Setting

4.17.1.1 *Water Service and Supply*

Water service to the project sites are supplied by the Great Oaks Water Company, which serves over 20,000 customers over an approximately 14 square mile area. Existing water facilities in the project area include a 12-inch water main in Great Oaks Boulevard and a 12-inch main in Via Del Oro. The data center site is current undeveloped and therefore, no water is being used on-site. The substation site is also undeveloped and used for storage and training purposes; there is little (if any) water being used on-site.

4.17.1.2 *Wastewater/Sanitary Sewer System*

Wastewater treatment service for the project area is provided by the City of San José through the San José-Santa Clara Regional Wastewater Facility (RWF). The RWF is located in Alviso and serves over 1,500,000 people in San José, Santa Clara, Milpitas, Campbell, Cupertino, Los Gatos, Saratoga, and Monte Sereno. Sanitary sewer lines in the project area are owned and maintained by the City of San José. There is a 27-inch sanitary sewer main in Santa Teresa Boulevard, a 15-inch sewer line in San Ignacio Avenue, a 15-inch sewer line in Great Oaks Boulevard, and an eight- to 10-inch sewer line in Via Del Oro (the sewer line is eight inches between Great Oaks Boulevard and San Ignacio Avenue and 10-inches between the substation site and San Ignacio Avenue.

The data center and substation sites currently do not generate sewage.

4.17.1.3 *Storm Drainage*

As discussed in *Section 4.9 Hydrology and Water Quality*, the project site is located within the Guadalupe Watershed. Stormwater runoff from the project area drains into Canoas Creek and flows in a northerly direction to the San Francisco Bay.

Data Center Site

The 18-acre (approximately 784,000 square feet) data center site is undeveloped. The project site is currently entirely pervious. Storm drain lines serving the project area include a 48-inch storm main in San Ignacio Avenue, a 24-inch storm main in Via Del Oro, and a 48 inch storm main in Great Oaks Boulevard.

Substation Site, Transmission Line, Distribution Feeders

The proposed substation site is approximately 1.9 acres (82,720 square feet) in size and entirely pervious. Storm drains in the project area include a 27-inch storm main in Via Del Oro and a 54-inch storm main in Miyuki Drive.

The distribution feeders would be constructed in Via Del Oro, which is completely impervious. Stormwater flows into storm drains located along the roadway.

4.17.1.4 *Solid Waste*

Commercial solid waste and recycling (including green waste) collection service are provided by Republic Services of Santa Clara County. The City of San José has an existing contract with Newby Island Sanitary Landfill through December 13, 2020, with the option to extend the contract as long as the landfill is open. The City has an annual disposal allocation for 395,000 tons per year.

4.17.1.5 *Applicable Plans, Policies, and Regulations*

Assembly Bill 939

Assembly Bill 939 (AB 939) established the California Integrated Waste Management Board [CIWMB] (now CalRecycle) and required all California counties to prepare integrated waste management plans. AB 939 required all municipalities to divert 50 percent of the waste stream by the year 2000.

California Green Building Standards Code

In January 2010, the State of California adopted the California Green Building Standards Code that establishes mandatory green building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. These standards include a mandatory set of guidelines, as well as more rigorous voluntary measures, for new construction projects to achieve specific green building performance levels:

- Reducing indoor water use by 20 percent;
- Reducing wastewater by 20 percent;
- Recycling and/or salvaging 50 percent of nonhazardous construction and demolition debris; and
- Providing readily accessible areas for recycling by occupant.

Envision San José 2040 General Plan

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to utilities and service systems and are applicable to the proposed project.

Envision San José 2040 Relevant Utilities and Service System Policies

Policy	Description
Policy MS-3.1	Require water-efficient landscaping, which conforms to the State's Model Water Efficient Landscape Ordinance, for all new commercial, institutional, industrial, and developer-installed residential development unless for recreation needs or other area functions.
Policy MS-3.2	Promote use of green building technology or techniques that can help to reduce the depletion of the City's potable water supply as building codes permit.

Envision San José 2040 Relevant Utilities and Service System Policies

Policy MS-3.3	Promote the use of drought tolerant plants and landscaping materials for nonresidential and residential uses.
Policy IN-3.3	Meet the water supply, sanitary sewer and storm drainage level of service objectives through an orderly process of ensuring that, before development occurs, there is adequate capacity. Coordinate with water and sewer providers to prioritize service needs for approved affordable housing projects.
Policy IN-3.5	Require development which will have the potential to reduce downstream LOS to lower than "D", or development which would be served by downstream lines already operating at a LOS lower than "D", to provide mitigation measures to improve the LOS to "D" or better, either acting independently or jointly with other developments in the same area or in coordination with the City's Sanitary Sewer Capital Improvement Program.
Policy IN-3.7	Design new projects to minimize potential damage due to stormwaters and flooding to the site and other properties.
Policy IN-3.9	Require developers to prepare drainage plans that define needed drainage improvements for proposed developments per City standards.
Policy IN-3.10	Incorporate appropriate stormwater treatment measures in development projects to achieve stormwater quality and quantity standards and objectives in compliance with the City's National Pollutant Discharge Elimination System (NPDES) permit.

San José Zero Waste Strategic Plan/Green Vision

The Green Vision provides a comprehensive approach to achieve sustainability through new technology and innovation. The Zero Waste Strategic Plan outlines policies to help the City of San José foster a healthier community and achieve its Green Vision goals, including 75 percent diversion by 2013 and zero waste by 2022. The Green Vision also includes ambitious goals for economic growth, environmental sustainability and an enhanced quality of life for San José residents and businesses.

Private Sector Green Building Policy

The City of San José's Green Building Policy for private sector new construction encourages building owners, architects, developers, and contractors to incorporate meaningful sustainable building goals early in building design process. This policy establishes baseline green building standards for private sector new construction and provides a framework for the implementation of these standards. It is also intended to enhance the public health, safety and welfare of San José residents, workers, and visitors by fostering practices in the design, construction, and maintenance of buildings that will minimize the use and waste of energy, water and other resources in the City of San José. Since the proposed commercial/industrial project would be greater than 25,000 square feet, the proposed project would be required to achieve LEED Silver certification, at minimum.[35]

[35] City of San José. *Private Sector Green Building*. Accessed June 13, 2016. Available at: <https://www.sanjoseca.gov/index.aspx?NID=3284?

4.17.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐	1-3
2. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	1-3
3. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	1-3
4. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐	1-3
5. 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?	☐	☐	☒	☐	1-3
6. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐	1-3
7. Comply with federal, state and local statutes and regulations related to solid waste?	☐	☐	☒	☐	1-3

4.17.2.1 ***Water Service and Supply*** *(Checklist Questions 2 and 4)*

According to the General Plan FEIR, under buildout conditions, water demand within the Great Oaks Water Company service area could exceed water supply during dry and multiple dry years after 2025. The certified General Plan FEIR concluded, however, that with the implementation of existing regulations and General Plan policies, water demand would not exceed water supply.

The project proposes to construct three data center buildings, a substation, transmission lines, and distribution feeders consistent with the sites' General Plan land use designations and planned growth under the General Plan. In addition, the project shall comply with CalGreen and the City's Private Sector Green Building Policy. Per the City's Private Sector Green Building Policy, the proposed data center buildings are required to achieve LEED Silver certification, at minimum, by

incorporating a variety of design features, including water conservation measures like planting drought tolerant landscaping.

It is estimated that the data centers would have a water demand of approximately 139,680 gallons per day (gpd).[36] While the project would require a connection to existing water mains in Via Del Oro and Great Oaks Boulevard, the project would not require new or expanded water facilities.

The substation, distribution feeders, and transmission line would require minimal, if any, water usage. **(Less Than Significant Impact)**

4.17.2.2 *Wastewater/Sanitary Sewer System (Checklist Questions 1 and 5)*

The project is estimated to generate approximately 118,728 gpd of wastewater sewage.[37] Given the City's existing, remaining treatment capacity at the RWF (38.8 mgd), there is sufficient capacity at the RWF to accommodate project flows. Moreover, the General Plan FEIR concludes that that sewage generated by the buildout of the General Plan would not exceed the City's allocated capacity at the RWF.

The data centers would require a connection to the existing sewer lines in the project vicinity. Existing sanitary facilities within the project vicinity would have sufficient capacity to accommodate projected flows from the project. **(Less Than Significant Impact)**

4.17.2.3 *Storm Drainage (Checklist Question 3)*

As discussed in *Section 4.9 Hydrology and Water Quality*, construction of the proposed project would increase the amount of impervious surfaces in the project area. The project would, however, be required to comply with the City's Grading Policy, the City's Urban Runoff Policy 6-29, and RWQCB's MRP NPDES Permit/C.3 requirements for the treatment of stormwater. In addition, the project includes bioswales and an underground retention basin for stormwater. For these reasons, implementation of the proposed project will have a less than significant impact on the City's storm drainage system. **(Less Than Significant Impact)**

4.17.2.4 *Solid Waste (Checklist Question 6 and 7)*

The General Plan FEIR concluded that the increase in waste generated from buildout of the General Plan would not exceed the capacity of existing landfills that serve the City. Future increases in solid waste generation from development allowed under the General Plan would be minimized with ongoing implementation of the City's Zero Waste Strategic Plan. This Plan, in combination with existing regulations and programs, would ensure that the buildout of the General Plan would not result in significant impacts from the provision of landfill capacity to accommodate the City's increased service population.

The proposed data center buildings would intensify the uses on the site and increase the amount of solid waste generation compared to the existing conditions; however, the project is consistent with

[36] Personal communication with Tony Takamiya, Sheehan Partners, Ltd., Licensed Architect. June 6, 2016.
[37] Sewage demand is typically 85 percent of a project's water demand.

the development assumptions in the General Plan. The proposed substation and transmission lines would generate a minimal amount of waste, if any, after construction ends. In addition, the project would comply with the City's Construction and Demolition Diversion Program during construction. The program ensures that at least 75 percent of construction waste generated by the project is recovered and diverted from landfills.

The proposed substation, transmission line, and distribution feeders would generate minimal, if any, solid waste.

For these reasons, the project would have a less than significant impact on solid waste disposal and landfill facilities. **(Less Than Significant Impact)**

4.17.3 Conclusion

Implementation of the proposed project would result in a less than significant impact on utility and service systems. **(Less Than Significant Impact)**

4.18 ENERGY

While a discussion of energy impacts are typically not included in an Initial Study, data center buildings typically have a greater electrical demand than most projects. Therefore, in accordance with CEQA Guidelines Section 15126(C) and Appendix F (Energy Conservation), this section is included to evaluate potential energy impacts associated with the proposed project.

The impacts discussion is based in part of an Energy Demand and Efficiency Measures Memorandum prepared by *Jacobs – Global Building Design*. This memorandum is provided in Appendix F.

4.18.1 Setting

4.18.1.1 *Background Information*

Energy consumption is analyzed because of the environmental impacts associated with its production and usage. Such impacts include the depletion of nonrenewable resources (e.g., oil, natural gas, coal, etc.) and emissions of pollutants during both the production and consumption phases of energy use.

Energy usage is typically quantified using the British thermal unit (Btu).[38] As points of reference, the approximate amount of energy contained in a gallon of gasoline, a cubic foot of natural gas, and a kilowatt hour (kWh) of electricity are 123,000 Btus, 1,000 Btus, and 3,400 Btus, respectively. Utility providers measure gas usage in therms. One therm is approximately equal to 100,000 Btus.

Electrical energy is expressed in units of kilowatts (kW) and kilowatt-hours (kWh). One kilowatt, a measurement of power (energy used over time), equals one thousand joules[39] per second. A kilowatt-hour is a measurement of energy. If run for one hour, a 1,000 watt (one kW) hair dryer would use one kilowatt-hour of electrical energy. Other measurements of electrical energy include the megawatt (1,000 kW) and the gigawatt (1,000,000 kW).

Total energy usage in California was approximately 7,578 trillion Btus in the year 2014 (the most recent year for which this specific data was available).[40] The breakdown by sector was approximately 19 percent for residential uses, 19 percent for commercial uses, 24 percent for industrial uses, and 38 percent for transportation.[41]

Given the nature of land uses proposed as part of the project, the remainder of this discussion will focus on the three most relevant sources of energy: electricity, natural gas, and gasoline for vehicle trips.

[38] A Btu is the amount of energy that is required to raise the temperature of one pound of water by one degree Fahrenheit.
[39] As defined by the International Bureau of Weights and Measures, the joule is a unit of energy or work. One joule equals the work done when one unit of force (a Newton) moves through a distance of one meter in the direction of the force.
[40] U.S. EIA. California Energy Consumption Estimates 2013. Accessed July 11, 2016. Available at: http://www.eia.gov/state/?sid=CA#tabs-2.
[41] U.S. EIA. California Energy Consumption by End-Use Sector, 2013. Accessed July 11, 2016. Available at: http://www.eia.gov/beta/state/seds/data.cfm?incfile=/state/seds/sep_sum/html/sum_btu_1.html&sid=CA.

4.18.1.2 *Electricity*

The electricity supply in California involves a complex grid of power plants and transmission lines. In 2014, California produced approximately 75 percent of the electricity it consumed; it imported the remaining 25 percent from 11 western states, Canada, and Mexico. Recent drought-related decreases in hydroelectric generation resulting from lower precipitation in California and the northwest was made up for by an increase in renewable energy generation, specifically utility-scale solar photovoltaic, solar thermal, and wind generation.

The bulk of California's electricity comes from power plants. In 2014, 45 percent the state's electricity was generated by natural gas, nine percent by nuclear, five percent by large hydroelectric, and six percent by coal. Renewable sources such as rooftop photovoltaic systems, biomass power plants, and wind turbines, accounted for 20 percent of California's electricity. Fifteen percent of California's power comes from unspecified sources.[42]

In 2014, total electrical system power for California was 293,268 gigawatt-hours (GWh), about one percent lower than 2013. California's in-state electricity production remained virtually unchanged from 2013 levels at 198,908 GWh, a difference of less than one percent compared to the year before. Growth in annual electricity consumption was flat or declining in 2014 reflecting continued slow economic growth in California, particularly in Southern California. It is estimated that future demand in California for electricity will grow at approximately one percent each year through 2025, and that 320,862 GWh of electricity would be utilized in the state in 2025.[43]

Pacific Gas and Electric Company (PG&E) is San José's energy utility, providing both natural gas and electricity for residential, commercial, industrial, and municipal uses. PG&E generates or buys electricity from hydroelectric, nuclear, renewable, natural gas, and coal facilities. In 2015, natural gas facilities provided 25 percent of PG&E's electricity delivered to retail customers; nuclear plants provided 23 percent; hydroelectric operations provided six percent; renewable energy facilities including solar, geothermal, and biomass provided 30 percent; and 17 percent was unspecified.

Electricity usage for differing land uses varies substantially by the type of uses in a building, the type of construction materials used, and the efficiency of the electricity-consuming devices used. Electricity in Santa Clara County in 2014 was consumed primarily by the commercial sector (77 percent), the residential sector consuming 23 percent. In 2014, a total of approximately 16,671 GWh of electricity were consumed in Santa Clara County.[44]

4.18.1.3 *Natural Gas*

In 2013, approximately ten percent of California's natural gas supply came from in-state production, while 90 percent was imported from other western states and Canada.[45] In 2015, approximately 36 percent of the natural gas delivered for consumption in California was for electricity generation, 35

[42] CEC, Energy Almanac, Total Electricity System Power. Accessed July 11, 2016. Available at: http://energyalmanac.ca.gov/electricity/total_system_power.html.
[43] CEC. California Energy Demand Updated Forecast 2015-2015. Accessed July 11, 2016. http://www.energy.ca.gov/2014publications/CEC-200-2014-009/CEC-200-2014-009-SD.pdf.
[44] CEC, Energy Consumption Data Management System. Electricity Consumption by County. Accessed July 11, 2016. http://ecdms.energy.ca.gov/elecbycounty.aspx.
[45] CEC. Natural Gas Supply by Region. 2011. Accessed July 11, 2016. Available at: http://www.energy.ca.gov/almanac/.

percent for industrial uses, 18 percent for residential uses, 10 percent for commercial uses, and less than one percent for transportation. As with electricity usage, natural gas usage depends on the type of uses in a building, the type of construction materials used, and the efficiency of gas-consuming devices. In 2015, the State of California consumed approximately 2.3 trillion cubic feet of natural gas, or 2.41 billion Mbtu.[46,47]

4.18.1.4 *Gasoline for Motor Vehicles*

California accounts for more than one-tenth of the United States' crude oil production and petroleum refining capacity.[48] In 2015, over 18 billion gallons of gasoline, diesel, and jet fuel were consumed in California.[49] The United States has seen low prices and high demand in the last few years due to low oil prices and a recovering economy, and this trend is expected to continue in the near term.[50]

The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 13.1 miles-per-gallon (mpg) in the mid-1970s to 23.2 mpg in 2014.[51] Federal fuel economy standards have changed substantially since the Energy Independence and Security Act was passed in 2007. That standard, which originally mandated a national fuel economy standard of 35 miles per gallon by the year 2020, applies to cars and light trucks of Model Years 2011 through 2020.[52,53] In 2012, the federal government raised the fuel economy standard to 54.5 miles per gallon for cars and light-duty trucks by Model Year 2025.[54]

4.18.1.5 *Existing Conditions*

Both the substation site and data center site are currently undeveloped and, therefore, do not use electricity or natural gas. Fuel use associated with the sites (if any), would include vehicles traveling to and from the sites for maintenance purposes.

4.18.1.6 *Applicable Plans, Policies and Regulations*

Many federal, state, and local statutes and policies address energy conservation. At the federal level, energy standards set by the U.S. EPA apply to numerous consumer and commercial products (e.g., the EnergyStar™ program). The EPA also sets fuel efficiency standards for automobiles and other modes of transportation.

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[46] U.S. EIA. Natural Gas Summary. Accessed July 11, 2016. http://www.eia.gov/dnav/ng/ng_sum_lsum_dcu_SCA_a.htm.
[47] U.S. EIA. Natural Gas Conversion Calculator. Accessed July 11, 2016. https://www.eia.gov/kids/energy.cfm?page=about_energy_conversion_calculator-basics#natgascalc.
[48] U.S. EIA. California State Energy Profile. Accessed July 11, 2016. http://www.eia.gov/beta/state/analysis.cfm?sid=CA.
[49] California State Board of Equalization. Taxable Gasoline, Diesel Fuel, Jet Fuel Ten Year Reports. Accessed July 11, 2016. http://www.boe.ca.gov/sptaxprog/spftrpts.htm.
[50] U.S. EIA. Short-Term Energy and Fuels Outlook. Accessed July 11, 2016. http://www.eia.gov/forecasts/steo/report/us_oil.cfm.
51 U.S. EPA. Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles. Accessed July 11, 2016. http://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics/html/table_04_23.html.
[52] U.S. Department of Energy. Energy Independence & Security Act of 2007. Accessed July 11, 2016. Available at: http://www.afdc.energy.gov/laws/eisa.
[53] Public Law 110–140—December 19, 2007. Energy Independence & Security Act of 2007. Page 1449. Accessed July 11, 2016. http://www.gpo.gov/fdsys/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf.
[54] National Highway Traffic Safety Administration. *Obama Administration Finalizes Historic 54.5 mpg Fuel Efficiency Standards*. Accessed July 11, 2016. http://www.nhtsa.gov/About+NHTSA/Press+Releases/2012/Obama+Administration+Finalizes+Historic+54.5+mpg+Fuel+Efficiency+Standards.

State of California

Renewable Energy Standards

In 2002, California established its Renewables Portfolio Standard (RPS) Program, with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent of retail sales by 2010. In 2006, California's 20 percent by 2010 RPS goal was codified under Senate Bill 107. Under the provisions of SB 107 (signed into law in 2006), investor-owned utilities were required to generate 20 percent of their retail electricity using qualified renewable energy technologies by the end of 2010. In 2008, Executive Order S-14-08 was signed into law and required that retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. As described previously, PG&E's (the electricity provider to the project site) 2015 electricity mix was 30 percent renewable.

In October 2015, Governor Brown signed SB 350 to codify California's climate and clean energy goals. A key provision of SB 350 for retail sellers and publicly owned utilities, requires them to procure 50 percent of the state's electricity from renewable sources by 2030.

Building Codes

At the state level, the Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6, of the California Code of Regulations (Title 24), was established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 is updated approximately every three years; the 2013 standards became effective July 1, 2014. The 2016 Title 24 updates will be published on or before July 1, 2016 and will go into effect on January 1, 2017.[55] Compliance with Title 24 is mandatory at the time new building permits are issued by city and county governments.[56]

In January 2010, the State of California adopted the California Green Building Standards Code (CalGreen) that establishes mandatory green building standards for all buildings in California. In 2013, the code was subsequently updated. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality.

City of San José

At the local level, the City of San José sets green building standards for municipal development. All projects are required to submit a Leadership in Energy and Environmental Design (LEED)[57], GreenPoint[58], or Build It Green checklist with the development proposal. The proposed data center buildings would be required to achieve LEED Silver certification, at minimum.

[55] California Building Standards Commission. 2015 Triennial Code Adoption Cycle. Accessed April 19, 2016. http://www.bsc.ca.gov/.

[56] CEC. Building Energy Efficiency Program. 2013. Accessed July 11, 2016. Available at: http://www.energy.ca.gov/title24/.

[57] Created by the U.S. Green Building Council, LEED is a certification system that assigns points for green building measures based on a 110-point rating scale.

[58] Created by Build It Green, GreenPoint is a certification system that assigns points for green building measures based on a 381-point scale for multi-family developments and 341-point scale for single-family developments.

4.18.2 Environmental Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1. Would the project result in a wasteful, inefficient, and unnecessary consumption of energy?	☐	☐	☒	☐	1,19
2. Would the project result in a substantial increase in demand upon energy resources in relation to projected supplies?	☐	☐	☒	☐	1,19
3. Would the project result in longer overall distances between jobs and housing?	☐	☐	☒	☐	1,19

4.18.2.1 *Overview of Project Energy Consumption*

The project proposes to construct three data center buildings, a substation, a transmission line connection, and distribution feeders. Energy would be consumed during both the construction and operational phases of the proposed project. Energy requirements throughout the construction phase include energy for the manufacturing and transportation of building materials, preparation of the site, and operation of construction equipment. The operation of the data center buildings would consume electricity for building equipment power, lighting, air conditioning, and cooling. The proposed substation, transmission line connection, and distribution feeders are intended to transmit energy to other businesses and entities; their operation would not consume a substantial amount of energy. Therefore, the operational energy impacts of the substation, transmission lines, and distribution feeders are not discussed further.

Electricity will be the primary form of energy used at the data center buildings. A minimal amount of natural gas may be used for heating the office component of the buildings; however, the amount of natural gas used would not be substantial. Fuel would also be consumed by vehicles traveling to and from the data center site and substation site.

4.18.2.2 *Proposed Energy Demand and Efficiency Measures*

Maximum Load Demand

The projected maximum load demand for the proposed data center buildings is approximately 19 megawatts (MW) per building.[59] This load includes the power required to operate tenant information technology (IT) equipment as well as mechanical cooling systems, uninterruptible power systems

[59] Jacobs – Global Building Design. *EQIX SV12/SV13/SV14 – Energy Demand and Efficiency Measures Memorandum.* May 5, 2016 (see Appendix F of this Initial Study).

(UPS) and general building lighting and power loads. The project applicant estimates the demand for maximum load anticipated with the proposed site improvements based on the occupancy of the data center buildings with data center uses supported by the proposed mechanical and electrical infrastructure.

Energy and Water Efficiency Measures

Due to heat generated by the data center IT equipment, cooling systems are one of the primary uses of energy in the buildings. In order to reduce greenhouse gas emissions and reduce the use of energy related to building operations, the project proposes to implement a number of efficiency measures related to selection and operation of electrical and mechanical equipment for building cooling. Table 4.18-1 lists the proposed efficiency measures related to mechanical and electrical systems in the buildings. Table 4.18-2 lists additional energy efficiency measures associated with tenant improvements and water use reduction that are proposed. This information is also included in the project description in Tables 3.1-1 and Table 3.1-2.

Table 4.18-1: Efficiency Features – Project Mechanical and Electrical Systems

Optimize Energy Performance	a. **Standards** CA Title 24 energy requirements will be exceeded. ASHRAE TC9-9 extended thermal envelope values will be utilized to allow economizer operation during greater periods of the year with A/C compressors operating only during peak load periods. b. **Measurement & Verification** Metering will be provided to validate conservation measures c. **Efficient Equipment** High efficiency (96%+) UPS, indirect evaporative cooling (IDEC) & variable refrigerant flow (VRF) cooling systems. d. **Renewable Energy** Roof-mounted photovoltaic systems (owner-furnished) e. **Enhanced Commissioning** Independent commissioning agent reviews system design and verifies the performance of the installed systems (CAPCOA Best Management Practice; Measure BE-3). f. **Cool Roof**: Reduce Heat Island effect, the roofing materials meet Solar Reflectance Index value (SRI) of at least 78 for low sloped roofs, as well as meeting the following regulations: 3. EnergyStar/Title 24 Requirements for Cool Roofing 4. LEED/Green Globe Requirements for Cool Roofing
Heating, Ventilation & Air Conditioning (HVAC)	a. **High-Efficiency Systems** Indirect Evaporative Cooling (IDEC) systems for data halls and Variable Refrigerant Flow (VRF) systems for office/support areas.

Table 4.18-1: Efficiency Features – Project Mechanical and Electrical Systems	
	Systems designed using ASHRAE TC9-9 extended thermal envelope values (max. 26.5 deg.C/79 deg. F) to allow economizer operation during greater periods of the year with A/C compressors operating only during peak load periods. Scalable cooling systems with only those units required to serve the actual load in operation to improve efficiency. Highly efficient Variable Refrigerant Flow (VRF) cooling systems for office/support areas to reduce fan energy. b. **Airflow Management** Hot aisle containment, separated ceiling plenum to provide physical separation of hot and cool air in data halls. Use of blanking panels and other measures to avoid bypass of cold air into hot aisles.
Lighting	a. **LED Lighting** High-efficiency, low mercury content LED lamping used throughout b. **Lighting Controls** Automatic-off and occupancy based lighting control. Dimming control for all spaces with lighting loads >0.5 watts/sf. Automatic demand-limiting control of lighting per Title 24 requirements.
Electrical	a. High-efficiency (96%+) UPS systems. b. Separate metering of building mechanical and lighting loads to validate compliance and conservation measures.

Table 4.18-2: Efficiency Measures for Tenants and Water Use Reduction	
Recycling Program	a. Implementation of LEED guidelines for the storage and collection of recyclables (LEED CS 2009 - Materials and Resources/ Prerequisite 1), intended to facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills. Additionally, the building Owner has implemented the following Exemplary Policies: 1. 30% Recycled Content (LEED CS 2009 – Innovation and Design Process/ Credit 1.4), a 10% increase over LEED CS 2009 - Materials and Resources Credits 4.2. 2. 95% Waste Recycling (LEED CS 2009 – Innovation and Design Process/ Credit 1.5), a 20% increase over LEED CS 2009 - Materials and Resources Credit 2.2.

Table 4.18-2: Efficiency Measures for Tenants and Water Use Reduction

Operation Practices	b. The building Owner has implemented the LEED policy for Green cleaning (LEED CS 2009 - Innovation & Design Process/ Credit 1.1), intended to reduce the exposure of building occupants and maintenance personnel to potentially hazardous chemical, biological and particulate contaminants, which adversely affect air quality, human health, building finishes, building systems and the environment.
IT Equipment	a. Install Energy Star equipment will be installed where applicable.
Electrical and Lighting	a. High-efficiency (96%+) UPS systems. b. Separate metering of building mechanical and lighting loads to validate compliance and conservation measures. c. High-efficiency, low mercury content LED lamping used throughout d. Automatic-off and occupancy based lighting control e. Dimming control for all spaces with lighting loads >0.5 watts/sf. f. Automatic demand-limiting control of lighting per Title 24 requirements.
Heating, Ventilation & Air Conditioning (HVAC)	a. Indirect Evaporative Cooling (IDEC) systems for data halls and Variable Refrigerant Flow (VRF) systems for office/support areas. b. Systems designed using ASHRAE TC9-9 extended thermal envelope values (max. 26.5 deg.C/79 deg. F) to allow economizer operation during greater periods of the year with A/C compressors operating only during peak load periods. c. Scalable cooling systems with only those units required to serve the actual load in operation to improve efficiency. d. Highly efficient Variable Refrigerant Flow (VRF) cooling systems for office/support areas to reduce fan energy. e. Hot aisle containment, separated ceiling plenum to provide physical separation of hot and cool air in data halls. Use of blanking panels and other measures to avoid bypass of cold air into hot aisles.
Materials	a. LEED guidelines for the storage and collection of recyclables have been implemented (LEED CS 2009 - Materials and Resources/ Prerequisite 1), facilitating the reduction of waste generated by building occupants that is hauled to and disposed of in landfills. Additionally, the building Owner has implemented the following Exemplary Policies: 1. 30% Recycled Content (LEED CS 2009 – Innovation and Design Process/ Credit 1.4), a 10% increase over LEED CS 2009 - Materials and Resources Credits 4.2.

Table 4.18-2: Efficiency Measures for Tenants and Water Use Reduction	
	2. 95% Waste Recycling (LEED CS 2009 – Innovation and Design Process/ Credit 1.5), a 20% increase over LEED CS 2009 - Materials and Resources Credit 2.2. b. The building Owner has implemented the following LEED policies regarding Materials and Resources: 1. Regional Materials, 20% (LEED CS 2009 - Materials and Resources/ Credits 5.1 and 5.2), ensuring that all building materials or products have been extracted, harvested or recovered, as well as manufactured within a 500 mile (800 kilometer) radius of the project site. 2. Certified Wood (LEED CS 2009 - Materials and Resources/ Credit 6), ensuring that a minimum of 50% (based on cost) of wood-based materials and products that are certified in accordance with the Forest Stewardship Council's principles and criteria, for wood building components.
Indoor Environmental Quality	a. The building Owner has implemented the following LEED policies regarding Indoor Environmental Quality: 4. Outdoor Air Delivery Monitoring (LEED CS 2009 - Indoor Environmental Quality/ Credit 1), ensuring that CO2 concentrations are monitored within all densely occupied spaces. 5. Increased Ventilation (LEED CS 2009 - Indoor Environmental Quality/ Credit 2), Increasing the breathing zone outdoor air ventilation rates to all occupied spaces by at least 30% above the minimum rates required by ASHRAE Standard 62.1-2007. 6. Construction IAQ Management Plan (LEED CS 2009 - Indoor Environmental Quality/ Credit 3), implementing the following strategies: ▪ During construction, meet or exceed the recommended control measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines For Occupied Buildings Under Construction, 2nd Edition 2007, ANSI/SMACNA 008-2008 (Chapter 3). ▪ Protect stored on-site and installed absorptive materials from moisture damage. ▪ Providing filtration media at the return air grille of air handlers utilizing filtration media with a

Table 4.18-2: Efficiency Measures for Tenants and Water Use Reduction

	Minimum Efficiency Reporting Value (MERV) of 8 as determined by ASHRAE Standard 52.2-1999. 8. Low Emitting Materials: ▪ Adhesives and Sealants (LEED CS 2009 - Indoor Environmental Quality/ Credit 4.1), ensuring that all adhesives and sealants used within the building's weatherproofing system meet the minimum VOC content as prescribed by LEED. ▪ Paints and Coatings (LEED CS 2009 - Indoor Environmental Quality/ Credit 4.2), ensuring that all paints and coatings used inside the building's moisture barrier meet the minimum VOC content as prescribed by LEED. ▪ Flooring Systems (LEED CS 2009 - Indoor Environmental Quality/ Credit 4.3), ensuring that the flooring systems meet the following criteria: o Carpet: Must meet the testing and product requirements of the CRI Green Label Plus program. o Cushion: Must meet the testing and product requirements of the CRI Green Label program. o Adhesive: Must meet the requirements of EQc4.1. o Hard surface flooring must be certified as compliant with the FloorScore standard. o Concrete, wood, bamboo and cork floor finishes such as sealer, stain and finish must meet the requirements of South Coast Air Quality o Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004. o Tile setting adhesives and grout must meet South Coast Air Quality Management District (SCAQMD) Rule 1168. VOC limits correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005. ▪ Composite Wood & Agrifiber Products (LEED CS 2009 - Indoor Environmental Quality/ Credit 4.4), ensuring that all composite wood and agrifiber products contain no added ureaformaldehyde.

Table 4.18-2: Efficiency Measures for Tenants and Water Use Reduction	
	Additionally, all laminating adhesives used to fabricate on-site and shop applied composite wood and agrifiber assemblies must not contain added urea-formaldehyde. 5. Indoor Chemical and Pollutant Source Control (LEED CS 2009 - Indoor Environmental Quality/ Credit 5), ensuring that MERV filtration ratings of at least 13 are provided. 6. Thermal Comfort (LEED CS 2009 - Indoor Environmental Quality/ Credit 7), ensuring the heating, ventilating and air conditioning (HVAC) systems and the building envelope meet ASHRAE Standard 55-2004.
Water Use Reduction	a. Ultra low flow toilets and faucets will be used throughout

Power Usage Effectiveness During Operation

Power Usage Effectiveness (PUE) is a metric used to compare the operating efficiency of data center facilities. PUE is defined as the ratio of total power use of a facility to the power used strictly by the information technology (IT) equipment (e.g. PUE=Total Facility Power/IT Equipment Power). For example, with a PUE of 2.0 a data center would use (2) watts of total power for every (1) watt of power used by the IT equipment.

Equinix, the project applicant, builds and operates multi-tenant data centers. Their business model is to provide the infrastructure to house, power, cool and deliver data connectivity for critical IT equipment of their tenants. Computing equipment is provided by the tenants. Unlike an individual company-owned and operated enterprise data center, Equinix does not control the specifications and operation of its tenants' IT equipment.

As described above, the project includes a variety of measures to minimize total power usage of the data center buildings. It is projected that these measures will result in a facility PUE of approximately 1.25 on an average annualized basis and 1.40 under peak conditions of outdoor temperature/humidity.

Conclusion Regarding Data Center Building Energy Efficiency

Although the proposed data center buildings would use a substantial amount of energy, the project would comply with the CALGreen Building Code, Envision San José 2040 General Plan and Greenhouse Gas Reduction Strategy, San José Municipal Code, and Private Sector Green Building Policy, as well as implement measures that exceed these requirements in some areas (refer to Table 4.18-1). For these reasons, the project would not consume energy in a manner that is wasteful, inefficient, or unnecessary. **(Less Than Significant Impact)**

4.18.2.3 *Project Demand Upon Energy Resources*

The proposed data center buildings would use approximately 307,673,000 kWh of electricity per year.[60] While this would be a substantial amount of energy, the project would be required to comply with applicable State and City regulations and policies to ensure a more efficient use of the energy. Furthermore, improvements in energy efficiency and production capabilities is anticipated to help mitigate statewide impacts resulting from increased demand. The project would be served by existing and planned (and approved) statewide energy infrastructure. Thus, while implementation of the proposed project would result in a substantial increase in energy use, the project would not substantially increase demand on statewide energy resources in relation to projected supplies. **(Less Than Significant Impact)**

4.18.2.4 *Impacts to Overall Distances between Jobs and Housing*

The project sites are located in an urban area served by existing transit, bicycle, and pedestrian facilities. Construction of the data center buildings would increase the number of employees on the site, and would not increase the overall distances between job and housing. No additional employees would be generated as a result of the substation, transmission line, and distribution feeders. **(Less Than Significant Impact)**

4.18.3 Conclusion

Implementation of the proposed project would not result in the wasteful or inefficient use of energy or substantially increase demand on statewide energy resources. **(Less Than Significant Impact)**

[60] Personal Communications with James Reyff, Senior Consultant of Illingworth & Rodkin, Inc.

4.19 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
1. Does the project have the potential to 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, 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?	☐	☐	☐	☐	Pgs. 1-136
2. 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)?	☐	☐	☐	☐	Pgs. 1-136
3. Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	☐	☐	☐	☐	Pgs. 1-136
4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☐	Pgs. 1-136

4.19.1 Project Impacts

As discussed in the respective sections, the proposed project would not substantially degrade the quality of the environment, pertaining to aesthetics, agricultural and forest resources, biological resources, cultural resources, geology and soils, greenhouse gas, hazards and hazardous materials, hydrology and water quality, land use, mineral resources, population and housing, public services, recreation, transportation, and utilities and services systems. Mitigation measures would be incorporated, as necessary, to reduce potentially significant air quality, biological resource, noise, and cultural resource impacts to a less than significant level. **(Less Than Significant Impact with Mitigation Incorporated)**

4.19.2 Cumulative Impacts

Under Section 15065(a)(3) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that a project has potential environmental effects "that are individually limited, but cumulatively considerable." As defined in

Section 15065(a)(3) of the CEQA Guidelines, cumulatively considerable means "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects."

The project would not substantially impact agricultural, forestry, trees, mineral, population and housing, or recreational resources. Therefore, the project would not contribute to cumulative impacts to these resources. There are no planned or proposed developments in the immediate project site vicinity, including the proposed substation, that could contribute to cumulative aesthetic, air quality (including construction-related impacts), noise and vibration, and transportation impacts.

The project's archaeological resources, geology and soils and hazardous materials impacts are specific to the project site and would not contribute to cumulative impacts elsewhere. Implementation of the project would marginally contribute to global GHG emissions, by definition. However, as discussed in *Section 3.7 Greenhouse Gas Emissions*, the project's individual GHG emissions would have a less than significant (cumulative) GHG impact.

Based on the *Air Quality Assessment* prepared for the project, implementation of the project would not result in significant construction or operational air quality impacts. The project would not result in other cumulative impacts. **(Less Than Significant Cumulative Impacts)**

4.19.3 Short-term Environmental Goals vs. Long-term Environmental Goals

Construction of the proposed substation and data center buildings would result in the temporary disturbance of undeveloped land, as well as an irreversible and irretrievable commitment of resources and energy during construction. The operational phase of the project would also consume energy for multiple purposes, including building heating and cooling, lighting, appliances, and electronics.

As described in the respective sections, the project, with the implementation of standard measures, best practices, and mitigation measures, would not result in a significant unavoidable environmental impact. The proposed project would not hinder long-term environmental goals in favor of short-term environmental goals. **(Less Than Significant Impact)**

4.19.4 Direct or Indirect Adverse Effects on Human Beings

Consistent with Section 15065(a)(4) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is a substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Under this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people would significantly be affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include air pollutants, geological hazards, hazardous materials, and noise and vibration. Implementation of identified mitigation measures and best practices would reduce potential air quality, geological, hazardous material, and noise and vibration impacts to human beings to a less than significant level. **(Less Than Significant Impact)**

Checklist Sources

1. Professional judgment and expertise of the environmental specialist preparing this assessment, based upon a review of the site and surrounding conditions, as well as review of project plans.

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