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RESPONSE TO CEC STAFF DATA REQUEST SET 1 (1-59)

Mission College Backup Generating Facility (19-SPPE-05)

SUBMITTED TO: CALIFORNIA ENERGY COMMISSION

SUBMITTED BY: **Oppidan Investment Company**

February 2020

DAYZEN LLC

INTRODUCTION

Attached are Oppidan Investment Company's (Oppidan) responses to California Energy Commission (CEC) Staff Data Request Set No. 1 (1-59) for the Mission College Backup Generation Facility (MCBGF) Application for Small Power Plant Exemption (SPPE) (19-SPPE-05). Staff issued Data Request Set No. 1 (1-59) on December 27, 2019, but Oppidan was not served. Oppidan's counsel was informed that the data requests were pending on January 24, 2020.

The Data Responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as Staff presented them and are keyed to the Data Request numbers (1-59). Additional tables, figures, or documents submitted in response to a data request (e.g., supporting data, stand-alone documents such as plans, folding graphics, etc.) are found at the end the data responses and are not sequentially page-numbered consistently with the remainder of this document, although they may have their own internal page numbering system.

For context, the text of the Background and Data Request precede each Data Response.

GENERAL OBJECTIONS

Oppidan objects to all data requests that require analysis beyond which is necessary to comply with the California Environmental Quality Act (CEQA) or which requires Oppidan to provide data that is in the control of third parties and not reasonably available to Oppidan. Notwithstanding this objection, Oppidan has worked diligently to provide these responses swiftly to allow the CEC Staff to prepare the Initial Study/Mitigated Negative Declaration (IS/MND).

AIR QUALITY

BACKGROUND: AIR DISTRICT REVIEW

The proposed Mission College Data Center (MCDC or project) would require a permit from the Bay Area Air Quality Management District (District or BAAQMD). For purposes of consistency, staff needs copies of all correspondence between the applicant and the District in a timely manner in order to stay up to date on any issues that arise prior to completion of the initial study.

DATA REQUESTS

1. Please provide copies of all substantive correspondence between the applicant and the District regarding the project, including application and e-mails, within one week of submittal or receipt. This request is in effect until staff publishes the initial study.

RESPONSE TO DATA REQUEST 1

Oppidan will provide the CEC Staff with copies of all BAAQMD correspondence, including emails, within one week of submittal/receipt.

2. Please identify the current schedule for the BAAQMD permit application submittal. If this application is filed during the CEC proceeding for MCDC, please submit a copy of that application to the CEC docket within five days of submitting it to BAAQMD.

RESPONSE TO DATA REQUEST 2

Oppidan has not yet submitted the BAAQMD permit application for this the MCBGF at this time but is planning to do so in 2021. Oppidan notes that the CEC Staff does not require Oppidan to have submitted the BAAQMD application nor does CEC Staff require the BAAQMD analysis or permit to complete the IS/MND. The BAAQMD is the lead air permitting agency for the MCBGF and CEQA clearly advises that the CEC should rely on that agency performing its regulatory duties in issuance of its permit. Cities and Counties in the Bay Area routinely require as a mitigation measure simply that the applicant obtain the required air permits which would take place after a CEQA document is properly completed.

BACKGROUND

The original project configuration consisted of 120 diesel-fueled 625-kW emergency generators with engines certified to achieve US EPA Tier 4 exhaust standards. Since the approval by the City of Santa Clara, the applicant has reconfigured the project and now proposes to replace the 120 625-kW emergency generators with 43 2.5 MW emergency generators with engines certified to US EPA Tier 2 exhaust standards.

DATA REQUEST

3. Please explain the basis for the Tier 2 engines at a different size in the current project description rather than the Tier 4 engines originally proposed.

RESPONSE TO DATA REQUEST 3

The previously approved 2018 Data Center Project proposed 120 Tier 4 generators, each rated at 932 brake horsepower. Due to design changes integral to the backup power system proposed by Oppidan's new tenants, fewer and larger generators were required to meet system design specifications. The larger engines have a lower relative capital cost and meet current industry backup electrical generating standards. In addition, the fewer number of larger capacity engines have lower operating and maintenance costs than the larger number of smaller capacity engines. Note that the currently proposed Tier 2 generators meet Best Available Control Technology Requirements as published by the Bay Area Air Quality Management District (BAAQMD) for the applicable horsepower rating.[1]

BACKGROUND: EMISSIONS CALCULATIONS

The project application to the Energy Commission (SPPE application) includes an Appendix A, with an Air Quality Impact Assessment (AQIA) and the AQIA Appendix AQ- 3 and Appendix AQ-4, all of which document potential project construction and operation emissions calculations. To validate the applicant's work, staff requests the spreadsheet files of the applicant's AQIA Appendix AQ-3 and Appendix AQ-4 emissions calculations for staff's internal review.

[1] BAAQMD BACT workbook for internal combustion emergency generators: https://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/combustion/96-1-3.pdf?la=en

DATA REQUEST

4. Please provide spreadsheet versions of the emissions calculations worksheets supporting the SPPE application from the applicant's AQIA Appendix AQ-3 and Appendix AQ-4 with the embedded calculations live and intact.

RESPONSE TO DATA REQUEST 4

The spreadsheet calculations with embedded calculations live and intact were included in the USB provided via FedEx delivery to the CEC on November 26, 2019 as signed for by S. Spyro. If the USB is not available to CEC Air Quality Staff, please set up a Sharepoint or Dropbox account and we can directly upload the information Staff identifies in this Data Request more efficiently than sending another USB.

BACKGROUND: DISPERSION MODELING FOR CONSTRUCTION IMPACTS

The SPPE application indicates that ambient air quality impacts were not evaluated for the construction phase of the project (p.74). As such, the application does not quantify public health impacts or demonstrate compliance with National Ambient Air Quality Standards (NAAOS) and California Ambient Air Quality Standards (CAAQS) during construction for the different averaging times of the standards. Staff needs ground-level impacts analysis using dispersion modeling to evaluate public health impacts and to determine compliance with NAAQS and CAAQS during construction of the project.

DATA REQUESTS

5. Please provide ground-level impacts analysis using dispersion modeling to show public health impacts and compliance with NAAQS and CAAQS of the criteria pollutants during construction of the project.

RESPONSE TO DATA REQUEST 5

This analysis is unnecessary to support a finding that the MCDC and MCBGF would not result in significant environmental impacts during construction of the project. As discussed in the Application, the CEC should focus its analysis entirely on the changes the revised project makes to the project that was originally approved. As described on pages 69-70 of the SPPE Application:

> The 2018 MND adopted for the previously proposed data center facility on the site includes construction period emissions for PM, NOx, and ROG, as

shown in Appendix A (Table 2 of Appendix AQ-7). Comparison of the 2018 MND construction emissions to those shown in Table 4.3-7 below shows that the construction emissions of PM10 and PM2.5 from the proposed Project are less than those of the 2019 MND. The 2018 Data Center Project had PM10 exhaust emissions of 0.49 tons per year and PM2.5 exhaust emissions of 0.46 tons per year, while the proposed Project has maximum total PM10 emissions of 0.60 tons per year and maximum total PM2.5 emissions of 0.22 tons per year.

Therefore, due to modifications between the 2018 MND and the proposed Project resulting in similar or lower construction emissions, it is reasonable to assume that a construction HRA for the proposed Project would result in similar conclusions as the 2018 MND's construction HRA, which was accepted by the City of Santa Clara. Further, it is reasonable to estimate that the HRA results would be lower for the proposed Project due to the reduction in annual PM2.5 construction emissions resulting from those modifications. Of particular note are the 5,610 square foot reduction in total building area constructed and the 412 day extension to construction time period to increase emission dispersion.

With implementation of identified mitigation measures, the 2018 MND completed a construction HRA that was accepted by the City of Santa Clara. Since the proposed Project will have fewer annual emissions of particulate matter and will incorporate the same 2018 MND mitigation measures into the project to further reduce those PM emissions, it is reasonable to conclude that the City of Santa Clara's acceptance would also to the proposed Project.

As shown on Table 4.3-7 of the SPPE Application, emissions due to construction of the proposed Project would also be below the BAAQMD CEQA thresholds of significance. Please see also Response to Data Request 7 below for a description of the basis for the revised project construction emissions calculations.

CEQA allows, and the CEC should conclude, that modelling is unnecessary since full construction of the original project encompasses the same site, disturbance areas, and building square footage as the revised Phased Project and the construction emissions are less for the revised project than those for the project that was approved and subject to the 2018 MND. Oppidan urges the CEC Staff to complete a qualitative analysis that encouraged by CEQA.

However, in the spirit of cooperation and because time is of the essence, Oppidan has authorized the completion of the analysis requested in this Data Request in the case

that the CEC Staff does not support the CEQA allowed analysis discussed above. The construction modelling is anticipated to be completed by February 14, 2020.

6. Please describe the assumptions of the source parameters (e.g., initial dimension and release height of area/volume sources, or stack height, diameter, temperature, and velocity of point sources) used in the dispersion modeling for construction impacts.

RESPONSE TO DATA REQUEST 6

Please see Response to Data Request 5. Should the modelling analysis be ultimately required to allow the CEC Staff to publish the IS/MND as soon as possible, it will include the information identified in this data request.

BACKGROUND: CONSTRUCTION HEALTH RISK ASSESSMENT (HRA)

On page 70 of the application, the applicant stated that the 2018 MND adopted for the previously proposed data center facility on the site includes construction period emissions for PM, NOx, and ROG. Comparison of the 2018 MND construction emissions to those shown in Table 4.3-7 of the application shows that the construction emissions of PM10 and PM2.5 from the proposed Project are less than those of the 2018 MND. Therefore, due to construction time period changes between the project as evaluated in the 2018 MND and also due to project modifications, the proposed Project results in similar or lower construction emissions. It is reasonable to assume that a construction HRA for the proposed Project would result in similar conclusions as the 2018 MND's construction HRA, which was accepted by the City of Santa Clara. Further, it is reasonable to estimate that the HRA results would be lower for the proposed Project due to the reduction in annual PM2.5 construction emissions resulting from these changes.

DATA REQUESTS

7. Please summarize the bases for changes from the 2018 MND to the proposed MCDC construction emissions.

RESPONSE TO DATA REQUEST 7

The 2018 MND submittal was based on construction of one building over a single construction phase, whereas Oppidan intends to construct two buildings in a two-phase

approach. Oppidan's proposed construction equipment inventory is similar to that of the construction equipment inventory proposed in the 2018 MND across all construction periods (i.e., demolition, site preparation, grading, building construction, and paving). However, Oppidan's construction emissions are less than those proposed in the 2018 MND because Oppidan is proposing to conduct construction over a longer period of time. For example, Oppidan is proposing a construction period of approximately 748 days, whereas the 2018 MND proposed a construction period of 336 days. Therefore, while Oppidan's construction equipment inventory is similar to that of the 2018 MND, Oppidan is proposing to operate the construction equipment over a longer period of time which in-turn decreases total daily and total annual emissions. In comparison, the 2018 MND proposed all construction emissions to occur in a single year. For further details regarding construction equipment inventories, please refer to Table 4-2 and Appendix AQ-4 of the AQIA Report and Attachment 1 of the 2018 MND submittal for specific details of equipment type, number, and usage hours.

8. Please complete a short-term screening level HRA for construction-phase DPM emissions. The Applicant should use a duration starting in the 3rd trimester of pregnancy to determine a maximum cancer risk to the most sensitive receptor. Then, if the risk is still above a significance threshold (10 x 10-6) the applicant should refine the modeling beyond a screening level of analysis.

RESPONSE TO DATA REQUEST 8

For the reasons discussed in Response to Data Request 5 another HRA is unnecessary to comply with CEQA. However, in the interest of time the HRA requested in this Data Request will be completed on or before February 14, 2020 and docketed under separate cover.

9. Please provide a quantitative health risk impact assessment (including cancer risk, chronic non-cancer health index, and UTM coordinates) for both construction phases. These impacts should include the following receptors at point of maximum impact (PMI), maximally exposed individual sensitive receptor (MEISR), maximally exposed individual resident (MEIR), and maximally exposed individual worker (MEIW). Please also provide the HRA files.

RESPONSE TO DATA REQUEST 9

For the reasons discussed in Response to Data Request 5 another HRA is unnecessary to comply with CEQA. However, in the interest of time the HRA requested in this Data

Request will be completed on or before February 14, 2020 and docketed under separate cover.

10. Please update the project's HRA to include construction and operation together, not separately, particularly since the risk driver is diesel particulate matter (DPM) for both.

RESPONSE TO DATA REQUEST 10

The HRA will be updated to include construction and operation together and will be completed on or before February 14, 2020 and docketed under separate cover.

BACKGROUND: OPERATIONAL EMISSIONS

The SPPE application (p.72) indicates that "...emission calculations assume 24 hours per day for all critical backup generators combined and 24 hours per day for all life safety generators combined." However, the application also indicates that "...Oppidan proposes to limit operation to one generator at a time for routine maintenance and testing activities conducted pursuant to manufacturer specifications" (p.72). Therefore, the application is unclear as to whether all generators should be assumed to run 24 hours per day or one at a time. For example, the application does not make clear assumptions behind the daily peak NOx emissions of 928 lb/day (Table 4.3-8 and in Appendix A, Table 4-5). Staff does not anticipate routine testing to normally involve 24 hours of emissions daily.

Additionally, potential emissions of nitrogen oxides (NOx) are not consistently presented in the SPPE application. For example, SPPE application Table 4.3-8 (p.73) shows potential emissions of up to 30.29 lb/hr NOx per engine. Elsewhere, the potential emissions would be as high as 42.6 lb/hr NOx per engine when derived from the emissions factors in the applicant's AQIA (Appendix A, Table 4-7) and in the vendor information in the applicant's AQIA Appendix AQ-2 (5.32 grams per brake-horsepower- hour * 3,633 horsepower).

Staff needs to verify the different operational restrictions that the applicant views as project features and/or analytical assumptions that can be made into enforceable limitations.

DATA REQUESTS

11. Please confirm that the applicant would request the District to require an enforceable limit on concurrent operation of standby engines during all readiness and maintenance testing scenarios so that only a single generator engine operates for maintenance and testing at any given time.

RESPONSE TO DATA REQUEST 11

Oppidan believes that a condition is unnecessary and ultimately up to the District whether such a condition would be required. If the District required a condition that generators could not operate concurrently during routine maintenance and testing activities, Oppidan would accept it.

12. Please confirm the operational limits assumed to be enforceable in the assumption of project operational emissions up to 928 lb/day NOx for the generator engines.

RESPONSE TO DATA REQUEST 12

For annual emission calculation purposes, Oppidan has assumed an operational limit of 50 hours per year per generator for maintenance and testing activities in accordance with the ATCM. For daily emission calculation purposes, Oppidan has conservatively assumed that any combination of the critical backup generators may be run for up to 24 hours in one day (e.g., 24 critical backup generators may each be tested for one hour in one day) and that any combination of the Life Safety Generators may be run for up to 24 hours in one day. Please refer to Data Request 11 above for Oppidan's response on enforceable limits.

It is also important to note that the modeling results of operation of 24 generators, each one separately and in one of the 24 hours of the day (an extremely unlikely scenario), do not indicate violation of any significance threshold nor results in significant environmental impacts. In addition, Oppidan does not intend to operate the generators for more than 12 hours each annually.

13. Please describe the scenario of routine testing that could normally require 24 hours of engine use and emissions in a given day.

RESPONSE TO DATA REQUEST 13

There are no scenarios such that routine testing or maintenance for an individual engine would require 24 hours of engine use in a single day. However, as described in Response to Data Request 12, Oppidan has conservatively assumed any combination of critical backup generators may be run for up to 24 combined hours in one day. The actual emissions are anticipated to be much less than what has been provided in the AQIA report. It is important to note that even using this overly conservative estimate the MCBGF would not result in significant air quality impacts.

14. Please provide evidence to substantiate the assumption of NOx emissions of 30.29 lb/hr per engine (SPPE application Table 4.3-8), in light of vendor information in Appendix AQ-2 that specifies potential NOx emissions as high as 42.6 lb/hr per engine.

RESPONSE TO DATA REQUEST 14

The 30.29 lb/hr NOx emissions for the critical backup generators are calculated using the EPA Engine Family KCPXL78.1NZS certificate emission standards and represent weighted emissions across all loads. The 42.6 lb/hr listed in the manufacturer specification sheet represents emissions only at 100% load and is thus not representative of the generator's typical hourly emissions. Note that for comparison to the BAAQMD CEQA Thresholds of Significance, BAAQMD's California Environmental Quality Act (CEQA) Air Quality Guidelines, dated May 2017, specifically dictate that daily emissions are considered on an "average daily basis".[2] The use of the EPA Engine Family emission standards as the most representative emission factor is also consistent with the approach taken by the Sequoia Data Center and Laurelwood Data Center projects as described in the Initial Studies and Proposed Mitigated Negative Declarations recently published by the CEC.[3]

BACKGROUND: HEALTH RISK ASSESSMENT (HRA) FOR OPERATION PHASE IMPACTS

In Table 4.3-12 on page 82 of the application, the applicant said "additional HRA analyses are being prepared at the time of filing of this application to represent

[2] Guidance available here: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

[3] Engine emission factors described in Sequoia Data Center's Application for Small Power Plant Exemption Appendices Table 9a in TN#229419-2 and Laurelwood Data Center's Data Request Response Set 1B in TN#228854.

more reasonable case operation profiles and will be submitted under separate cover." Also, the PMI in Table 4.3-12 is 51.39 in one million, higher than the threshold of 10 in a million.

DATA REQUESTS

15. Please provide the additional HRA for operation phase and all related files as stated. The results of risks should include cancer risk, chronic non-cancer health index, and UTM coordinates. These impacts should include the following receptors: (1) point of maximum impact (PMI), (2) maximally exposed individual sensitive receptor (MEISR), (3) maximally exposed individual resident (MEIR), and (4) maximally exposed individual worker (MEIW). Please also provide the HRA files.

RESPONSE TO DATA REQUEST 15

Oppidan has included the revised HRA for the operational phase of the Project which more accurately accounts for the various operational loads of the critical backup generators and life safety generators by weighting risk results according to the projected annual testing and maintenance schedule. The HRA submitted in the initial application assumed stack parameters at 100% load across all generators for the entire year, which while still below the 10 in 1 million regulatory risk threshold, were overly conservative and not representative of the stack parameters during projected testing and maintenance schedule. In addition to the discussion of the updated HRA below, please find all related electronic HRA files included in the USB provided as part of this response.

Background/Assumptions:

AERMOD dispersion modeling and Hotspots Analysis and Reporting Program (HARP) Air Dispersion Modeling and Risk Tool (ADMRT) (version 19121) are used to estimate the carcinogenic and chronic health risks from the operation of the different critical backup generator engine loads used for maintenance and testing, which are 10%, 25%, 50%, and 100%. One AERMOD dispersion model is used to represent emissions for each engine load, in which the 43 critical backup generator engines are modeled using the load-specific stack parameters per manufacturer specification sheets, which are summarized in Table 2. The 2 life safety generators are modeled assuming 100% load stack parameters.

Table 2: Varying Stack Parameters for Critical Backup Generators at Various Modeled Loads

Load Scenario	Stack Temperature (K)	Stack velocity (m/s)
10%	614.983	11.177
25%	717.094	18.266
50%	727.983	28.904
100%	763.817	45.589

All other model inputs and assumptions are consistent between the AERMOD and HARP runs included in the AQIA Report.

The HARP results from each modeled load apply a ratio of time spent at each load. The ratio of time spent at each load is determined using the planned maintenance and testing schedule summarized in Table 3 below.

Table 3: Generator Planned Testing and Maintenance Events

Event	Frequency	Maximum Duration (min)	Maximum Number of Generators Tested Concurrently	Maximum Number of Generators Tested per Day	Typical Load Range
Readiness Testing	Bi-Weekly	15	1	23	10%*
Generator Maintenance and Testing	Annual 3 years 6 years	120	1	1	25% for 30 min 50% for 30 min 100% for 1 hour

*Note that the typical load range for bi-weekly readiness testing is 0%; however, for modeling purposes 10% load is used as a conservative measure.

The annual average hours per critical backup generator for each load are calculated as the product of the duration of each load and the frequency per year summed for each maintenance and testing event. The calculated average annual hours and ratio of time at each load are summarized in Table 4.

Table 4: Average Annual Load Hours and Ratios

Load Scenario	Annual Hours for Each Load*	Ratio of Time at Each Load
10%	6.5	0.684
25%	0.75	0.079
50%	0.75	0.079
100%	1.5	0.158

*Note that the annual hours for each load from scheduled maintenance and testing is only used to determine the Ratio of Time at Each Load. The Ratio of Time at Each Load is then applied to the HRA model results which are modeled using 50 hours per year.

Results/Conclusion:

The weighted average load scenario HRA results are calculated by applying the ratio of time at each load (listed in Table 4 above) to the HARP outputs of each load and summing the results as seen in Table 5 below. The receptor locations for the PMI, MEIR, and MEIW are the same as previously identified in the AQIA Report. The MEISR represents the location of Stanford Primary Care in Santa Clara to the southwest of the Project. The weighted average cancer risk of the MEIR, without spatial averaging, is below the significance threshold in the BAAQMD CEQA Air Quality Guidelines; however, the spatial averaging grid is utilized for consistent comparison with the non-weighted average loading scenario HRA.[4] The weighted average load scenario HRA concludes that the Project would not have a significant health risk for any receptor type.

Table 5: Weighted Average Load Scenario HRA Results

Receptor	Receptor ID	Location (UTM Zone 10)	Cancer risk (in 1 million)		Chronic Hazard Index		Significant Impact?
			Project Risk	Significance Threshold	Project Hazard Index	Significance Threshold	
MEIR	Spatial Averaging Grid	Various	8.40	10.0	1.94E-03	1.0	No
MEIW	3202	591696.0 m E, 4138561.4 m N	6.09	10.0	4.69E-03	1.0	No
MEISR	1181	591136.0 m E, 4138501.4 m N	0.47	10.0	3.65E-04	1.0	No
PMI	10131	591341.3 m E 4138691.5 m N	43.87	-	1.01E-02	-	N/A

[4] Guidance available here: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

Per the Office of Environmental Health Hazard Assessment Air (OEHHA) Toxics Hot Spots Program Guidance Manual, the PMI is defined as "the receptor point(s) with the highest acute, 8-hour, chronic, or cancer health impact outside the facility boundary."[5] The PMI does not take into account whether the receptor location will be occupied by any individual for extended periods of time. Furthermore, the OEHHA guidelines also state, "it is possible that the estimated PMI, MEIR, and MEIW risk for cancer, chronic noncancer, 8-hour, and acute noncarcinogenic risks occur at different locations or that some of these evaluations may not be necessary (e.g., the receptor does not exist). For example, some facilities will not have off-site workers in the vicinity of the facility and will not need to evaluate worker exposure, or the exposure situation may only require the evaluation of short-term carcinogenic or acute noncancer impacts," indicating that in many cases the PMI is not co-located with the MEIR or MEIW. The PMI for this assessment is located along the northwest side of the Facility property boundary, which does not have residences nor businesses in the near vicinity. The PMI location is outside of a building in a place where the Oppidan does not anticipate individuals would be located for extended periods of time. Additionally, the BAAQMD CEQA Air Quality Guidelines note that the health risk evaluation should be considered for the maximally exposed individual (MEI). Per BAAQMD Rule 2-5-302 and BAAQMD Rule 11-18-213, the MEI is defined as "a person that may be located at the receptor location where the highest exposure to toxic air contaminants emitted from a given source or project is predicted, as shown by an APCO-approved HRA."[6,7] The definitions go on to specify that MEI locations consider exposure to residents, workers, and students. As such, , the 10 in one million risk threshold only applies to MEI receptor locations and does not apply to the PMI, unless the PMI is co-located with a MEI. The PMI in this evaluation is not located in a MEI location and is not appropriate to compare to the significance thresholds of the health risk evaluation. Since the PMI is not located at a receptor location where a person may reasonably be located on a long-term basis, the 10 in 1 million cancer risk threshold is not applicable to the PMI location.

16. If the refined PMI calculated by the additional HRA is still higher than the threshold, please provide justification or mitigation measures.

[5] OEHHA Risk Assessment Guidelines, dated February 2015: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf
[6] Per BAAQMD Regulation 2 Rule 5: New Source Review of Toxic Air Contaminants accessed February 2020: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-rule-5-new-source-review-of-toxic-air-contaminants/documents/rg0205_120716-pdf.pdf?la=en
[7] Per BAAQMD Regulation 11 Rule 18: Reduction of Risk from Air Toxic Emissions at Existing Facilities accessed February 2020: https://www.baaqmd.gov/~/media/dotgov/files/rules/regulation-11-rule-18-reduction-of-risk-from-air-toxic-emissions-at-existing-facilities/documents/20171115_fr_1118-pdf.pdf?la=en

RESPONSE TO DATA REQUEST 16

As discussed in Response to Data Request 15 above, the revised HRA concluded that the MCBGF would not result in significant health impacts.

17. Please also provide the risk results (include cancer risk, chronic non-cancer health index, and UTM coordinates) of the sensitive receptors (maximally exposed individual sensitive receptor or MEISR) within 1,000 ft. of the project's boundary.

RESPONSE TO DATA REQUEST 17

Table 6 below summarizes the risk assessment results, according to the weighted average load HRA methodology described in Response to Data Request 15 above, for the two sensitive receptor locations within 1,000 feet of the Project boundary. The sensitive receptor HRA results conclude the Project would not have a significant health risk for any sensitive receptors.

Table 6: Sensitive Receptors HRA Results

Receptor	Receptor ID	Location (UTM Zone 10)	Cancer risk (in 1 million)		Chronic Hazard Index		Significant Impact?
			Project Risk	Significance Threshold	Project Hazard Index	Significance Threshold	
Stanford Primary Care in Santa Clara	1181	591136.0 m E, 4138501.4 m N	0.47	10.0	3.65E-04	1.0	No
Knowledge Preschool	3742	591836.0 m E, 4138961.4 m N	0.46	10.0	3.54E-04	1.0	No

18. Please update the project's HRA to include construction and operation together, not separately, particularly since the risk driver is DPM for both.

RESPONSE TO DATA REQUEST 18

Please see Response to Data Request 8.

BACKGROUND: DISPERSION MODELING WITH URBAN OPTION

The electronic files showing air quality and public health dispersion modeling settings shows that applicant's runs use the "urban" dispersion algorithm for the surface boundary layer. AERMOD uses empirical relationships that depend on the population of the city to adjust for total turbulence in the surface boundary layer. (Further information can be found in pp.85-90, Section 5.9, Adjustments for the urban boundary layer, within the U.S. EPA report: AERMOD Model Formulation and Evaluation, August 2019.) Because the applicant used an urban population of 127,134, which is much lower than the overall population of urbanized Santa Clara County including San Jose (approximately 1.9 million), staff is concerned that the urban population factor used in the applicant's modeling may not completely capture the actual urban surface characteristics as intended by AERMOD model formulation.

DATA REQUEST

19. Please confirm that the applicant's use of 127,134 as the urban population in AERMOD provides conservative (high) concentration results, when compared with using a population setting of approximately 1.9 million, which would better reflect the setting in Santa Clara County, or revise the modeling to include the correct population.

RESPONSE TO DATA REQUEST 19

Per Lakes Environmental guidance on the adjustments to the Urban Boundary Layer, the population of the urban area will increase the temperature difference between the urban and rural boundary layer.[8] A higher temperature difference will cause an increase in the heat flux and thus the dispersion of pollutants. As such, the Oppidan confirms that the use of 127,134 as the urban population provides conservative concentration results.

BACKGROUND: DISPERSION MODELING RECEPTOR TYPES

The SPPE application (p.76) and receptor grid data in the electronic modeling files includes "flagpole" receptors at 1.8 meters, which is in contrast with staff's intent to determine ground-level concentrations (at 0 meters above ground).

[8] Accessed February 2020: https://www.weblakes.com/guides/aermod/section6/6_7.html

DATA REQUEST

20. Please confirm that the "flagpole receptors" setting of 1.8 m provides conservative (high) ground-level concentration results, when compared with using no flagpole receptors. If not, justify the choice of using flagpole receptors or please redo the modeling analysis.

RESPONSE TO DATA REQUEST 20

A flagpole height of 1.8 m is representative of inhalation height for the average person.[9] As emissions travel away from the source of emissions, concentrations of pollutants are anticipated to decrease as the plume of pollutants disperses and travels downwards. As such, using a flagpole height of 1.8 will result in conservative ground-level concentration results in comparison to using no flagpole receptors.

BACKGROUND: MODELING FOR NITROGEN DIOXIDE

The modeling files for the 1-hour nitrogen dioxide (NO2) concentrations appear to under-represent the potential impact of the maximum short-term NOx emission rate of approximately 42.6 lb/hr (based on the emission factor of 5.32 grams per brake- horsepower-hour and 3,633 horsepower per engine) as in the applicant's AQIA Appendix AQ-2.

The modeling files for 1-hour NO2 impacts assume single-hour emissions at the "annualized" NOx emission rate, as disclosed in a footnote in the AQIA (footnote 'f', the applicant's AQIA Table 4-7). However, the maximum potential hourly NOx emissions should be used in the evaluation of whether CAAQS would be exceeded. This means that the 1-hour NO2 impacts in SPPE application Table 4.3-11 appear to be underestimated by modeling an "annualized" emission rate rather than the actual potential short-term emissions that could occur during any hour. For example, the applicant's AQIA Table 4-7 shows the short-term emissions rate for NOx of 5.369 grams per second, which contrasts with the modeling for source name: GEN42A, at the emission rate of: 0.03064 grams/second (in modeling file "1hr_NO2_CAAQS_2013- 2017.aml"). If the basis for this approach is the March 1, 2011 memorandum from Tyler Fox of the US EPA with the subject line "Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO2 NAAQS," CEC staff notes that this document says on page 9 that "the guideline is not a strict modeling 'cookbook'" and that "case-by-case analysis

[9] OEHHA Risk Assessment Guidelines accessed February 2020: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

and judgment are frequently required." The memorandum also says on page 10 that "case-specific issues and factors may arise that affect the application of this guidance" and that "additional discretion may need to be exercised in such cases to ensure that public health is protected." Staff's review of the single-engine scenarios indicates that many scenarios could exceed the 1-hour NO2 CAAQS (based on results in the applicant's AQIA Appendix AQ-6: Load Screening Analysis Model Total Output).

DATA REQUEST

21. Please update the modeling for NO2 impacts and re-evaluate compliance with the 1-hour NO2 CAAQS by analyzing the potential NOx emissions that could occur during any single-hour scenario.

RESPONSE TO DATA REQUEST 21

Oppidan modeled the 1-hour NO_2 impacts using the annualized emission rate as consistent with the approach in the EPA memo titled "Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard," which is consistent with BAAQMD's approach when modeling intermittent sources for comparison to the 1-hr NO_2 CAAQS and NAAQS.[10] The referenced EPA memo is considered appropriate for Oppidan's modeling as the memo was written specifically for the cases of modeling emergency generators. The EPA allows annualizing emission rates of intermittent sources because it is highly unlikely for an intermittent source to operate during the worst-case meteorological hour for air dispersion, which typically occurs at night during calm wind conditions. Oppidan does not anticipate operating for maintenance and testing during the worst-case meteorological hour, and thus the method described in the EPA memo and used by BAAQMD is appropriate. Regarding the CEC's comment that many scenarios could exceed the 1-hour NO_2 CAAQS (based on results of the Load Screening Analysis), Oppidan would like to note the air dispersion modeling results from the load screening analysis are based on a normalized 1 g/s emission rate and scaled using the engine load-specific emission factors, and should only be used for purposes of determining the worst-case loads for each pollutant and not for comparison to the ambient air quality standards. Models used for comparison to the ambient air quality standards require using emission rates specific to the emission source, such as the load-specific emission

[10] EPA Memo accessed February 2020: https://www.epa.gov/sites/production/files/2015-07/documents/appwno2_2.pdf
BAAQMD approach per phone conversation with Ada Marquez (BAAQMD) and Emily Wen (Trinity Consultants) on September 6, 2019, and email correspondence with Areana Flores (BAAQMD) and Emily Wen (Trinity Consultants) on February 3, 2020. Refer to Attachment AIR DR-21 for email correspondence.

factors used in Oppidan's ambient air quality standards' modeling. As such, Oppidan's methodology for 1-hour NO_2 modeling completed as part of the AQIA report is appropriate for demonstrating compliance with the CAAQS.

In the spirit of cooperation and because time is of the essence, Oppidan has authorized the completion of a revised NO_2 analysis requested in this Data Request in the case that the CEC Staff does not support the response discussed above. The revised NO_2 analysis is anticipated to be completed by February 14, 2020.

BACKGROUND: EMERGENCY OPERATIONS

The SPPE application does not provide an ambient air quality impact analysis considering the potential use of the backup generator engines during power outages. To explore the potential air quality impacts during emergency operations of the diesel- powered engines, staff needs to confirm and refine our understanding of how the generators could be used during electrical system outages.

DATA REQUEST

22. Please describe some possible examples of groupings of generators that could be in use during emergency operations and the corresponding engine loadings. For example, one scenario could be 14 or more generators (such as GEN1-12 or GEN31-42 plus life-safety generators) at full loads and a different scenario could include a greater number of generators operating at partial loads.

RESPONSE TO DATA REQUEST 22

We understand that this data request was prepared before Staff issued its Initial Study/Mitigated Negative Declaration (IS/MND) for the Sequoia Backup Generating Facility (TN 231651) and before the Committee issued its Proposed Decision for the Laurelwood Project (TN 231721). For the reasons outlined accurately and thoroughly by Staff at pages 5.3-27 through 34 of TN 231651, emergency operations are speculative and impossible to accurately quantify, and specifically for a facility that is served by Silicon Valley Power (SVP) would be extremely infrequent. Such speculation is not allowed by CEQA and the fact the operations are so infrequent, the Staff can justifiably and accurately conclude that any potential impacts from emergency operation would be less than significant without a speculative and meaningless attempt to quantify them. This approach and finding is also consistent with the ultimate conclusion The Committee's Proposed Decision in Laurelwood, pages 25 through 26.

BACKGROUND: CUMULATIVE AIR QUALITY IMPACTS

During the Walsh Status Conference held on August 30, 2019, the Walsh Committee had expressed interest in finding out more information regarding other data centers currently operating on the Silicon Valley Power (SVP) 60 kV loop. The co-located data centers on the Walsh loop should be part of a potential cumulative impacts analysis. A cumulative analysis should include all reasonably foreseeable new projects with a potential to emit 5 tons per year or more and also data centers located within the same SVP 60 kV loop proposed for the project. This includes all projects that have received construction permits but are not yet operational and those that are either in the permitting process or can be expected to be in permitting in the near future. Even though MCDC is not located on the same loop as Walsh, similar information is needed for the cumulative analysis of MCDC.

DATA REQUESTS

23. Please provide a list of existing and proposed data centers that operate/would operate on the SVP 60 kV loop that would supply electricity to MCDC.

RESPONSE TO DATA REQUEST 23

We realize that this data request was prepared before Staff issued its Initial Study/Mitigated Negative Declaration (IS/MND) for the Sequoia Backup Generating Facility (TN 231651) and before the Committee issued its Proposed Decision for the Laurelwood Project (TN 231721). In both of those documents, performing a cumulative impact air quality analysis that attempts to model emissions from other data centers and other facilities is unnecessary and extremely difficult to perform. As CEQA does not require every conceivable methodology and study be performed, the Staff should follow the approach outlined in TN23165 and TN 231721, which compares the emissions of the project to the BAAQMD-adopted CEQA significance thresholds.

Table AIR DR-23 provides the annual criteria pollutant emission estimates for project operation using the emissions source assumptions noted above. Table AIR DR-23 shows that with NOx emissions from the testing of the standby generators fully offset through the permitting process with the BAAQMD, the project would not exceed any of the BAAQMD operation emissions significance thresholds. The BAAQMD significance thresholds for daily emissions are daily average values that multiply to equal the annual thresholds, so a separate comparison of the project's average daily emissions versus the BAAQMD average daily significance thresholds is unnecessary.

TABLE AIR DR-23 ANNUAL CRITERIA POLLUTANT EMISSIONS FROM PROJECT OPERATION

Source Type	Annual Emissions (tpy)					
	ROGG	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$
Miscellaneous Operational Emissions Associated with the Facility (mobile, energy, area, waste, and water)	2.28	0.96	0.78	0.01	0.20	0.09
Standby Generators (Testing Only)	1.68	5.84	33.0	0.05	0.12	0.12
Proposed Offsets*	--	--	-33.0	--	--	--
Total Mitigated Emissions	3.96	6.80	0.78	0.06	0.32	0.21
BAAQMD Annual Significance Thresholds	10	--	10	--	15	10
Mitigated Emissions Exceed BAAQMD Threshold? (Y/N)	No	N/A	No	N/A	No	No

*Offsets will be provided during through the standard air permitting process with BAAQMD. The ratio of offsets will be determined according to BAAQMD Rule 2-2 at the time of offset surrender.

Table AIR DR-23 shows that the project would not be expected to result in a cumulatively considerable net increase of nonattainment criteria pollutants during the operational lifetime of the project, including routine testing and maintenance of the standby engine generators. Therefore, project operations would not result in a cumulatively considerable net increase of any criteria pollutant, and this impact would be less than significant.

24. Please provide clear identifying information on each data center including

a) Owner(s);
b) Date of operation of each building or phase;
c) Critical IT load;
d) Building loads;
e) Cooling technologies;
f) Cooling unit plume characteristics;
g) UPS type and sizing;
h) Number of standby generation unit, model number(s), sizing, emissions, testing and operations for emergencies

RESPONSE TO DATA REQUEST 24

The information requested is not available to Oppidan and is completely within control of third parties. As discussed in Response to Data Request 23, the information is not necessary for Staff to complete its analysis of the project.

25. Please provide the list of sources to be considered in the cumulative air quality impact analysis:
    a) Within 6 miles of MCDC and having greater than 5 tons per year of criteria air pollutants;
    b) In the planning phase;
    c) Permitted but not under construction; and,
    d) Permitted and under construction.

RESPONSE TO DATA REQUEST 25

Please See Responses to Data Requests 23 and 24.

26. Please provide the cumulative impact modeling analysis, including MCDC, of all existing and proposed data centers co-located on the SVP 60 kV loop and those sources identified above.

RESPONSE TO DATA REQUEST 26

Please See Responses to Data Requests 23 and 24.

BIOLOGICAL RESOURCES

BACKGROUND: DEVELOPMENT AND DESIGN DETAILS

The SPPE application lacks specificity and additional information is needed to perform the required technical analysis. Energy Commission staff requires the following information listed below to analyze potential impacts of proposed project improvements on biological resources.

DATA REQUESTS

27. The Biological Resources section (4.4) of the SPPE application presents information from the Arborist Report included in Appendix C (Part II) of the application. Due to the lapse in time and the modifications to the original MCDC, please confirm that the Arborist Report from February 2017 is still applicable.

RESPONSE TO DATA REQUEST 27

The City issued demolition and tree removal permits for the site on 1/20/2020, and tree removal commenced on 1/20/2020. The arborist report in Appendix C of the application was relied upon by the City to determine required tree replacement ratios and fees associated with the tree removal permits and therefore is still applicable to the MCDC.

28. The Biological Resources section (4.4) of the SPPE application, mentions that the site is highly urbanized, and special-status species are not present on-site. Please provide a copy of any biological survey performed as well as any plant/animal species research such as results from a California Natural Diversity Database search.

RESPONSE TO DATA REQUEST 28

The entirety of the project site consists of developed areas. As described in the adopted 2018 MND and subsequent SPPE Application, special status plant and wildlife species are not present on the highly urbanized project site, although raptors (birds of prey) could use the trees on the site for nesting or as a roost. The 2018 MND required completion of a nesting bird survey prior to any construction activities or tree removal on the site. As described in Response to Data Request 27, tree removal on the site commenced in 1/20/2020. A nesting bird survey was completed in January 2020 and is attached to these responses as Attachment BIO DR-28. No additional surveys have been completed nor are required.

29. Please provide more descriptive information (design, materials, location, and so forth) and detailed figures for the following:

    a. Bioretention/Bioswale areas, including the landscape planting and the impervious surface areas that would drain to these structures. Also, clarify if the bioretention/bioswale areas would function as retention ponds during flood events.

    b. Clarify whether all construction parking and material laydown would occur on-site. If not please provide details, location, and a map of any off-site parking and laydown areas.

RESPONSE TO DATA REQUEST 29

The project drainage infrastructure includes an underground collection and conveyance system which will convey storm water from the bioretention areas to the storm drainage infrastructure within Agnew Road and Mission College Boulevard. Storm water will run overland or be piped to the various bioretention areas. From the bioretention areas, storm water will infiltrate through bioretention soil mix (bsm), into a pervious rock layer, into a pervious sub-drain pipe and then discharge the storm water runoff into the site drain pipes. These pipes will discharge the drainage into the existing infrastructure within Agnew Road and Mission College Boulevard. The areas are proposed as storm water quality features, treating the initial runoff by allowing it to pond and infiltrate through soil media and then discharge through a 4-inch perforated underdrain connected to an overflow structure. When both phases are built, the site will have a total of five bio retention areas. Drawings of the Stormwater management plan are included in Attachment BIO DR-29.

CULTURAL RESOURCES

BACKGROUND

A critical set of information needed to assess a project's potential impacts on cultural and tribal cultural resources consists of the character and extent of ground disturbance that would be involved in construction of the proposed project. The application for small power plant exemption (SPPE) states that excavation for proposed utilities would extend up to 12 feet below the project's new base elevation (DJP 2019, p.19). The application states that project-related excavation would not exceed 10 feet below the existing ground elevation but does not provide a clear maximum excavation depth for non-utility excavation (DJP 2019, p. 108, Appendix C, p. 53). The application also does not seem to define the type of foundation proposed to support the data center buildings (see DJP 2019, pp.8–20, Appendix C).

DATA REQUESTS

30. Please describe the depths of excavation proposed for the various types of ground disturbance associated with construction of the proposed project.

    a. Provide the depths in terms of feet below the newly established grade.

    b. Include ground disturbance required to demolish the existing building and utilities on the project site.

    c. If a graphical exhibit is necessary for clarity, please use a figure similar in scale to the application's site plan (DJP 2019, Figure 2-1).

RESPONSE TO DATA REQUEST 30

As described in Section 2.3.2.3, fill would be imported to the site to raise the base elevation by approximately three feet, and excavation for utilities would extend to depths of up to 12 feet below the new base elevation. Ground disturbance associated with demolition and construction activities would occur at a range of depths, none of which would be deeper than the disturbance required for excavation for utilities described in the SPPE. One exception is the drilling of auger cast foundation piles, which will extend to roughly 30 feet below the new base elevation.

31. Please identify the type of foundation that would support the proposed data center buildings.

RESPONSE TO DATA REQUEST 31

The data center building foundations would utilize auger cast piles.

BACKGROUND

The application does not map or appear to describe the construction staging area(s) required to build the proposed project.

DATA REQUEST

32. Please indicate whether construction staging areas would be located onsite or offsite. If offsite, provide a map of the staging area(s) location(s) on a 7.5-minute U.S. Geological Survey topographic quadrangle.

RESPONSE TO DATA REQUEST 32

All construction staging would occur onsite.

BACKGROUND

The applicant indicates that there are "no historic buildings and structures on or adjacent to the project site" (DJP 2019, p.93). However, it is unclear whether the applicant is using "historic" to refer to historical resources as defined by CEQA (Cal. Code Regs., tit.14 , section 15064.5.a), or to mean buildings or structures of a certain age. The applicant used clear language describing the age of buildings and structures on the project site as "constructed beginning in 1979," but used ambiguous language for the adjacent properties, writing that "there are no historic structures on or adjacent to the project site." The application does not indicate whether any adjacent properties contain buildings or structures 45 years or older, which is the standard age as defined by the Office of Historic Preservation's Instructions for Recording Historical Resources (1995, p.2) to be evaluated for significance. However, please keep in mind that under the California Register of Historical Resources, buildings and structures that are less than 50 years old can also be considered for eligibility if they are exceptionally significant.

DATA REQUESTS

33. Please define “historic” as used in section 4.5.1.2 in the sentence “There are no historic structures on or adjacent to the project site.”

RESPONSE TO DATA REQUEST 33

The term historic as used in Section 4.5.1.2 is defined as a historic resource under CEQA.

34. Please indicate whether any properties within one parcel of the proposed project contain buildings or structures 45 years old or older. If any buildings or structures are 45 years or older, please:

    a. Provide a built environment survey completed within the last five years that includes those properties.

    b. Document and evaluate these properties on Department of Parks and Recreation (DPR) 523(A) forms and appropriate DPR 523 detail forms. A technical report summarizing this information shall be included in the data response.

RESPONSE TO DATA REQUEST 34

There are three developed parcels adjacent to the site, none of which contain structures 45 years or older. The age of the structures on those parcels is summarized below:

APN 104-13-083: 1981 (39 years)

APN 104-13-094: 1985 (35 years)

APN 104-13-095: 1985 (35 years)

Source: MapSantaClara
https://map.santaclaraca.gov/public/index.html?viewer=regional

HAZARDS AND HAZARDOUS MATERIALS

BACKGROUND

The project consists of 3 different emergency generator package configurations. Single stacked emergency generators are equipped with a lower level fuel tank. Double stacked emergency generators are equipped with a top level fuel day tank and lower level fuel tank. Each diesel engine will be readiness tested on a regular schedule, consuming a portion of its fuel.

DATA REQUEST

35. Please provide the fuel tank replenishment strategy and frequency, and the estimated frequency of fuel trucks needing to visit the facility for refueling.

RESPONSE TO DATA REQUEST 35

The fuel levels of the fuel tanks would be monitored during routine testing and maintenance activities. If fuel level falls below 90% full a vendor for refuel would be scheduled. Oppidan estimates that refuelling would result in approximately 4 to 5 fuel deliveries per year.

BACKGROUND

Stored diesel fuel is subject to degradation over time, which can render it unsuitable for use and potentially requiring it to be changed-out for fresh fuel.

DATA REQUEST

36. Please describe what measures are planned to maintain adequate quality of the stored fuel. How often might the stored fuel need to be changed-out for new? If needed, how would this be accomplished? How many fuel truck visits would be required?

RESPONSE TO DATA REQUEST 36

A Fluid Maintenance program for diesel fluid will be prepared in accordance with ASTM D975. The program will establish fluid testing and replacement frequencies. The facility will employ a fuel polisher where necessary. Replacement of fuel is not anticipated. In the event that fuel need be replaced it will be pumped into a licensed fuel hauler.

POPULATION AND HOUSING

BACKGROUND: SILICON VALLEY POWER SUBSTATION CONSTRUCTION WORKFORCE

Page 2 of the Project Description notes that the substation would be constructed by Oppidan Investment Company, then owned and operated by Silicon Valley Power (SVP); however, there is limited information related to the construction of the substation. Staff has the following questions about the substation:

DATA REQUESTS

37. How long would construction of the substation take? Is the work concurrent with other project work (e.g. Phase I or Phase II) or additive?

RESPONSE TO DATA REQUEST 37

The substation is estimated to take 100 days to be constructed. The work is not concurrent with Phase I and will be completed during construction of Phase II.

38. Are substation worker numbers included in the construction worker numbers for MCDC (maximum 100) or MCBGF (maximum 15)? If not, please provide an approximate number of workers needed for the construction of the substation.

RESPONSE TO DATA REQUEST 38

The substation worker numbers are included in the overall construction worker numbers for the MCDC. The maximum number of workers for the substation alone would be approximately 25.

39. Would SVP contract workers be used or would workers be drawn from the local labor pool?

RESPONSE TO DATA REQUEST 39

It is likely that some of the work on the substation would be performed by SVP employees but the majority of the work would likely be subcontracted from the local labor pool.

TRANSPORTATION

BACKGROUND: PROJECT HEIGHT AND FAA NOTIFICATION

There are inconsistencies in the SPPE application when depicting and describing the height of the proposed buildings (see pages 4, 17, 18, 19, 32 [Figure 2-2], 33 [Figure 2-3], 131, and 142).

Section 18.06.010 of the Zoning Ordinance of the City of Santa Clara provides the following helpful definitions:

(s)(9) "Structure" means anything constructed or erected, except fences not exceeding six feet in height, the use of which requires location on or under the ground, or attachment to something having location on the ground.

(b)(5) "Building" means any structure built for the support, shelter, or enclosure of persons, animals, chattels, or property of any kind. (Per section 18.06.005, the word "building" includes the word "structures".)

(h)(1) "Height of Buildings" is a vertical distance from the "grade" to the highest point of the coping of a flat roof…."

The project proposes to construct two buildings, with the eastern building designated as Phase 1 and the western building as Phase 2. The application includes elevations of a building in Figures 2-2 and 2-3. However, there is no reference to or explanation in the application text of what building these elevations are depicting. Based on a comparison with Site Plan Figure 2-1, the elevations provided appear to be the proposed Phase 1 building because of the number of single and double-stacked generators in the east elevation. Elevations of the Phase 2 building have not been provided.

These data requests assume the building depicted with dimensioned feature heights in Figures 2-2 and 2-3 is Phase 1 and intended to be "typical elevations" representative of the feature heights for the Phase 2 building. Then based on the above City definitions, the heights of the Phase 1 and 2 buildings for the purposes of analyzing potential Zoning Ordinance conflicts would be 87'-6" (grade is labeled as -6" and the top of the parapet, or highest point of the coping of the flat roof is 87'). Whereas, the maximum height of these structures would be 108'-9" (again grade is labeled at -6", and the top of the penthouse is at 108'-3").

Title 14, Part 77.9 of the Code of Federal Regulations requires Federal Aviation Administration (FAA) notification for any construction or alteration within 20,000 feet of an airport with a runway more than 3,200 feet in length if the height of the construction or alteration exceeds a slope of 100 to 1 extending outward and upward from the nearest point of the nearest runway of the airport. If a project's height exceeds the 100:1 surface, the project applicant must submit a copy of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA.

Page 131 of the application states the maximum height of the proposed structure would be approximately 87 feet above ground level (AGL), or roughly 117 feet above mean sea level (AMSL). This indicates that the finished grade of the project site would be 30 feet AMSL. However, assuming the maximum project structure height is actually 108'-9" AGL as shown in Figures 2-2 and 2-3, then it would be roughly 139 feet AMSL. As calculated by staff, the threshold for the FAA notification 100:1 surface exceedance height for the project site is approximately 100 feet AGL or 130 feet AMSL. Therefore, the project would exceed the FAA notification surface and the applicant must submit FAA Form 7460-1 to the FAA.

DATA REQUESTS

40. Please confirm the height of the Phase 1 and Phase 2 buildings AGL, consistent with the City's Zoning Ordinance definition of "height of buildings."

RESPONSE TO DATA REQUEST 40

The comment is correct that there are inconsistencies in the way the building heights are described in the SPPE Application. To clarify, using the City of Santa Clara's definitions, the height of the proposed buildings would be 81'9" (rounded up to 82' in the SPPE Application text). This is the height from grade to the highest point of the coping of the flat roof, per the City's definition. The parapets would extend to a height of 87 feet above grade, but are not considered to be included in the building heights by the City. The top of the penthouses, at a height of 108'3" above grade, would represent the maximum height of the structures on the site. The building and structure heights are depicted accurately on Figures 2-2 and 2-3 of the SPPE Application, and are labeled as "Roof" and "T/O Penthouse", respectively.

41. Please confirm the maximum height of project structures AGL, including both the Phase 1 and the Phase 2 buildings to the top of the penthouse structures.

RESPONSE TO DATA REQUEST 41

As shown on Figures 2-2 and 2-3, the maximum height of the project structures would be 108'3" to the top of the penthouse.

42. Please provide clearly labeled and dimensioned elevations for both the Phase 1 and Phase 2 buildings or clarify if the building elevations provided in Figures 2-2 and 2-3 are typical elevations with dimensioned heights that would be applicable for both buildings.

RESPONSE TO DATA REQUEST 42

The building elevations shown in Figures 2-2 and 2-3 would be applicable to both Phase I and Phase 2 buildings.

43. Please confirm if the finished grade of the project site would be 30 feet AMSL. If not, what would the finished grade of the project site be?

RESPONSE TO DATA REQUEST 43

The finished floor will be at 27.5 feet AMSL.

44. Please provide staff a copy of the FAA's determination of No Hazard for the project.

RESPONSE TO DATA REQUEST 44

Please See Attachment TRANS DR-44.

BACKGROUND: THERMAL PLUMES

The project site is located approximately 1.7 miles from the Norman Y. Mineta San Jose International Airport. According to the application, the project would have emergency generators and roof-mounted up-blast fans. This equipment would emit high-velocity thermal plumes.

DATA REQUEST

45. In order to evaluate the potential plume hazards to aviation, please model (using the Spillane methodology) and provide analysis of the plumes' velocities for the project's emergency generators and up-blast fans.

RESPONSE TO DATA REQUEST 45

The Thermal Plume Analysis is underway and should be completed on or before February 14. It will be docketed under separate cover as soon as available.

BACKGROUND: VEHICLE MILES TRAVELED

As a result of recent updates to the CEQA guidelines, which include analyzing transportation impacts pursuant to Senate Bill 743, staff requires data for the vehicle miles traveled by workers, deliveries, and truck haul trips generated by the demolition, construction, and operation of the project.

DATA REQUESTS

46. Please provide the estimated one-way trip lengths for the workers, deliveries, and truck haul trips generated by the project's demolition and construction activities.

RESPONSE TO DATA REQUEST 46

As a preliminary matter, demolition permit has been issued and demolition activities are nearly complete and therefore, demolition is not part of the project for CEQA purposes. The following CalEEMod default trip lengths were used to estimate one-way trip lengths associated with construction activities:

• Worker trips = 10.8 miles

• Vendor (delivery) trips = 7.3 miles

• Haul trips = 20 miles

47. Please provide the estimated one-way trip lengths for the workers, deliveries, and truck haul trips generated during project operation.

RESPONSE TO DATA REQUEST 47

The following CalEEMod default trip lengths were used to estimate one-way trip lengths associated with project operation:

• C-W (Commercial Worker) trips = 9.5 miles

• C-C (Commercial Customer) trips = 7.3 miles

• C-NW (Commercial Nonworker, including deliveries) = 7.3 miles

BACKGROUND: SIDEWALK IMPROVEMENTS

Page 176 of the application notes the project would "improve the existing sidewalk on the project's frontage on Mission College Boulevard".

DATA REQUESTS

48. Please describe the improvements that would be made to the sidewalk. Would the improvements result in temporary closure of the sidewalk or other disruption to pedestrian circulation?

RESPONSE TO DATA REQUEST 48

The sidewalk work would involve temporary closure by segment. The sidewalk work was part of the original project and is not proposed to be modified for the revised project. The temporary nature of the work and the fact that the original 2018 MND did not identify it as a significant impact can be relied on by the Staff that the work does not result in significant impacts to pedestrian transportation.

49. What impacts would the sidewalk improvements have on the bus stop located on Mission College Boulevard along the project frontage?

RESPONSE TO DATA REQUEST 49

The temporary sidewalk closure by segment may involve temporarily relocation of the bus stop. This will ultimately be determined by the City of Santa Clara in accordance with its normal process for issuing permits to allow the sidewalk work to be performed. Due to the temporary nature of this work, the impact would be less than significant.

BACKGROUND: MISSION COLLEGE BOULEVARD DRIVEWAY

Page 177 of the application notes "access to the site would be provided by a 50-foot wide driveway in the same location as the existing eastern-most driveway on Mission College Boulevard. The remaining existing driveway entrances off Mission College Boulevard will be closed."

This would close the driveway entrance on Mission College Boulevard that intersects with Juliette Lane and alter an existing intersection configuration. Additionally, the proposed Mission College Boulevard entrance would only be accessible to vehicles heading west on Mission College Boulevard. There is an existing median strip on Mission College Boulevard that prevents vehicles traveling eastward to enter the site by turning left on Mission College Boulevard.

DATA REQUEST

50. The location of the proposed driveway on Mission College Boulevard in the application is different than the one proposed in the 2018 mitigated negative declaration. Has the City of Santa Clara reviewed the proposed Mission College Boulevard driveway for the project? What were the city's comments?

RESPONSE TO DATA REQUEST 50

Oppidan has met with the City on numerous occasions to discuss the revisions to the earlier project and MCDC details. Oppidan has submitted plans to the City for comment. While Oppidan has received comments on aspects of the project, there have been no comments concerning the change in site access.

TRANSMISSION SYSTEM INTERCONNECTION

BACKGROUND

The Mission College Backup Generating Facility (MCBGF) Small Power Plant Exemption application Section 2.0 indicated that the Mission College Data Center (MCDC) includes an onsite 60 kV substation with an electrical supply line that would connect to a Silicon Valley Power (SVP) 60 kV line. Staff needs more detailed information on the 60 kV substation, 60 kV interconnection line, and transmission poles than was provided in the project description section to better understand the proposed interconnection to existing SVP facilities.

DATA REQUESTS

51. Please provide a complete one-line diagram for the new 60 kV MCDC Substation. Show all equipment ratings including bay arrangement of the breakers, disconnect switches, buses, redundant transformers or equipment, etc. that would be required for interconnection of the MCDC project.

RESPONSE TO DATA REQUEST 51

Oppidan has not been provided a one-line diagram for the new 60 kV Substation.

52. Please provide a detailed description and a one-line diagram showing how the MCDC would be connected to the existing SVP system. Please label the name of the lines and provide the line voltages and SVP loop information.

RESPONSE TO DATA REQUEST 52

Oppidan has not been provided a one-line diagram for the new 60 kV Substation. Attachment TSI DR-52 contains a single-line diagram of the initial house power connection between the site and the feeder located in Mission College Boulevard.

53. Since the Phase I of the MCDC may begin operating prior to the completion of the MCDC Substation and a 12 kV line would supply power to the MCDC, please provide:

    a. A detailed description and schematic diagram showing the interconnection between the exiting Agnew Substation and the MCDC.

b. Please provide the conductor name, type, current carrying capacity, and conductor size for the transmission lines that would be required for interconnecting the MCDC to the SVP 12 kV and 60 kV systems.

c. Please provide the 12 kV underground cable route and length of the supply line.

RESPONSE TO DATA REQUEST 53

The 12 kV underground feeder will be within the 10 foot electric utility easement on the northern boarder of the project. The approximate length will be 450 feet.

54. Please provide for the 60 kV loop on the SVP system that will serve the MCDC:

a. A physical description.

b. The interconnection points to SVP service.

c. The breakers and isolation devices and use protocols.

d. A list of other connected loads and type of industrial customers.

e. A written description of the redundant features that allow the system to provide continuous service during maintenance and fault conditions.

RESPONSE TO DATA REQUEST 54

The MCDC will be interconnected to the SVP North Loop. This remaining information requested by Staff is not available to Oppidan and the questions should be directed to SVP. It appears this information is already available to Staff and has been used in the Laurelwood and Sequoia projects and therefore, the Staff should be able to complete its CEQA-level analysis using the existing information.

55. Please provide a description of the SVP system in general and the other 60 kV loops that would serve data centers.

a. Could you provide a one-line diagram and a "*.shp" file of the 60 kV and above lines serving the Silicon Valley Power System? Would you have any concerns with us using either of these in a public document?

b. Are each of the 60 kV loops designed similarly or do some of them have features that make them more or less reliable than the others?

RESPONSE TO DATA REQUEST 55

This information is not available to Oppidan and if it exists at this time is within the control of SVP. It appears this information is already available to Staff and has been used in the Laurelwood and Sequoia projects.

56. Please describe any outages or service interruptions on the 60 kV systems that will serve the proposed data centers:

    a. How many 60 kV lines serve data centers in SVP, and how many data centers are on each?

    b. What is the frequency of these outages would require use of backup generators?

    c. How long were outages and what were their causes?

    d. Are there breakers on the 60 kV line or disconnect switch(es) and did they isolate the faults?

    e. What was the response to the outage(s) by the existing data centers to the outage (i.e., initiated operation of some or all back up generation equipment, data off-shoring, data center planned shutdown, etc.)?

RESPONSE TO DATA REQUEST 56

This information is not available to Oppidan and within the exclusive control of SVP. It appears this information is already available to Staff and has been used in the Laurelwood and Sequoia projects.

57. Please provide the 60 kV overhead conductor name, type, current carrying capacity, and conductor size for the transmission lines that would be required for interconnecting the MCDC to the SVP 60 kV system.

RESPONSE TO DATA REQUEST 57

Oppidan has not been provided this information from SVP.

58. Please provide the pole configurations which would be used to support the overhead transmission lines from the SVP 60 kV system to the MCDC. Show proposed pole structure configurations and measurements.

RESPONSE TO DATA REQUEST 58

Oppidan has not been provided this information from SVP.

59. Please provide a map showing the proposed 60 kV transmission line route.

RESPONSE TO DATA REQUEST 59

Oppidan has not been provided this information from SVP.

Attachment AIR DR-21

Email Correspondence with BAAQMD

Emily Wen

From: Areana Flores <aflores@baaqmd.gov>
Sent: Monday, February 03, 2020 5:26 PM
To: Emily Wen; Stephen Reid
Cc: Elizabeth Geller; Larissa Ruckl
Subject: RE: Follow-up information re. CEQA and modeling

Hi Emily,

Yes. It is included in the annual total emissions. Its temporal allocation is linear.

Let me know if you have any other questions.

Best,

AREANA FLORES
ENVIRONMENTAL PLANNER
Bay Area Air Quality Management District
375 Beale St. Suite 600 | San Francisco, CA 94105
415-749-4616 | aflores@baaqmd.gov

From: Emily Wen
Sent: Friday, January 31, 2020 5:18 PM
To: Stephen Reid; Areana Flores
Cc: Elizabeth Geller; Larissa Ruckl
Subject: RE: Follow-up information re. CEQA and modeling

Hi Areana and Steve,

Regarding situations when BAAQMD is performing dispersion modeling for comparison to the 1-hr NO2 California Ambient Air Quality Standard, will BAAQMD "annualize" emissions from intermittent sources, such as emergency generators, as allowed by the 2011 EPA memo titled, "Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO2 National Ambient Air Quality Standard"?

Please let me know if you have any questions.

Thanks,
Emily Wen
Consultant

Trinity Consultants
1901 Harrison Street, Suite 1590 | Oakland, CA 94612
Office: **510-285-6351x103**
Email: ewen@trinityconsultants.com

Trinity Consultants

Attachment BIO DR-28

Nesting Bird Survey Report

H.T. HARVEY & ASSOCIATES
Ecological Consultants

January 6, 2020

Maria Garcia
Oppidan
1100 Lincoln Avenue, Suite 382
San Jose, CA

Subject: 2305 Mission College Boulevard Project – Nesting Raptor Survey Report (HTH #4395)

Dear Ms. Garcia:

Per your request, H. T. Harvey & Associates has conducted a preconstruction survey for nesting raptors in support of the 2305 Mission College Boulevard Project located in Santa Clara, California. It is our understanding that the project involves the demolition of an existing two-story 358,000 square foot building and removal of 179 trees, and construction of a new two-story 495,610 square foot building. We further understand that construction is scheduled to commence in mid-January, and that the Mitigation Monitoring and Reporting Program (MMRP) for the project requires that a preconstruction survey for nesting raptors be conducted no more than 14 days prior to any construction or tree removal that begins between January and April, or no more than 30 days prior to initiation of project activities between May and August. The results of our survey are provided below.

Earlier today, H. T. Harvey & Associates ornithologist Will Lawton, B.S. conducted a focused survey for active nests of raptors protected by applicable statutes (i.e., the Migratory Bird Treaty Act and California Fish and Game Code). Will has spent hundreds of hours in the field conducting nesting bird surveys for H. T. Harvey & Associates' projects over the past several years; therefore, he is well qualified to conduct this survey.

Will surveyed the entirety of the project site, including all trees and structures, for active raptor nests (i.e., nests with eggs or young) of protected birds species by looking for nests, nest starts (i.e., new nests under construction), birds carrying materials or food, distraction displays, and other physical or behavioral evidence of nesting. In accordance with the MMRP, Will also surveyed all trees and structures located within a 250-foot radius around the project site, to account for potential construction-free active nest buffers.

Will did not detect any nesting behavior, active nests (i.e., nests with eggs or young), or inactive nests of raptors protected by any applicable statutes on the project site or within 250-feet of the project site.

Please feel free to contact me at kbriones@harveyecology.com or (408) 458-3263 if you have any questions about the survey results or if we can be of any further assistance. Thank you for contacting us about this project.

Sincerely,

Kim Briones, M.S.
Senior Wildlife Ecologist/Project Manager

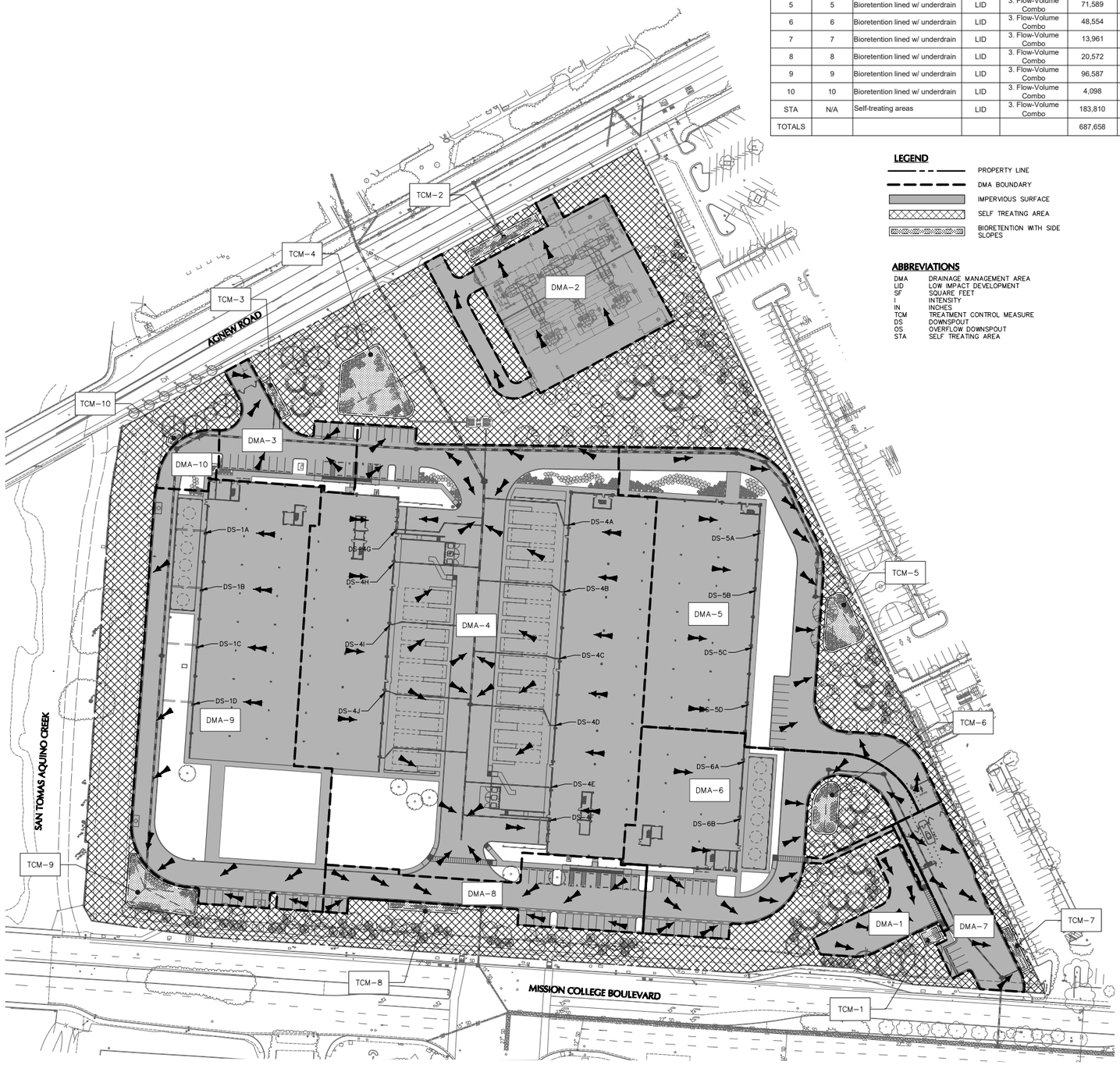
Attachment BIO DR-29

Stormwater Management Plan Drawings

APPENDIX C – STORMWATER MANAGEMENT PLAN

TREATMENT CONTROL MEASURE SUMMARY TABLE

DMA #	TCM #	Treatment Type	LID or Non-LID	Sizing Method	Drainage Area (SF)	Impervious Area (SF)	Pervious Area (SF)	Bioretention Area Required (SF)	Bioretention Area Provided (SF)	Depth of Ponding (in.)	Overflow Riser Height (in.)	Depth of Ponding less than Overflow Riser Height?
1	1	Bioretention lined w/ underdrain	LID	3. Flow-Volume Combo	8,858	8,460	398	247	253	5.5	6	YES
2	2	Bioretention lined w/ underdrain	LID	3. Flow-Volume Combo	35,963	34,572	1,391	912	977	6.6	8	YES
3	3	Bioretention lined w/ underdrain	LID	3. Flow-Volume Combo	14,128	12,118	2,010	387	391	5.8	6	YES
4	4	Bioretention lined w/ underdrain	LID	3. Flow-Volume Combo	189,537	164,987	24,550	4,815	4,819	7.6	8	YES
5	5	Bioretention lined w/ underdrain	LID	3. Flow-Volume Combo	71,589	56,652	14,937	1,938	1,943	6	6	YES
6	6	Bioretention lined w/ underdrain	LID	3. Flow-Volume Combo	48,554	44,065	4,489	1,343	1,377	5.5	6	YES
7	7	Bioretention lined w/ underdrain	LID	3. Flow-Volume Combo	13,961	13,278	683	389	392	5.8	6	YES
8	8	Bioretention lined w/ underdrain	LID	3. Flow-Volume Combo	20,572	17,941	2,631	569	584	5.4	6	YES
9	9	Bioretention lined w/ underdrain	LID	3. Flow-Volume Combo	96,587	70,633	25,954	2,594	2,783	4.7	6	YES
10	10	Bioretention lined w/ underdrain	LID	3. Flow-Volume Combo	4,098	2,614	1,484	108	118	4.5	6	YES
STA	N/A	Self-treating areas	LID	3. Flow-Volume Combo	183,810	0	183,810	0	0	N/A	N/A	N/A
TOTALS					687,658	425,320	262,338	13,302	13,637			



LEGEND

- PROPERTY LINE
- DMA BOUNDARY
- IMPERVIOUS SURFACE
- SELF TREATING AREA
- BIORETENTION WITH SIDE SLOPES

ABBREVIATIONS

DMA	DRAINAGE MANAGEMENT AREA
LID	LOW IMPACT DEVELOPMENT
SF	SQUARE FEET
I	INTENSITY
IN	INCHES
TCM	TREATMENT CONTROL MEASURE
DS	DOWNSPOUT
OS	OVERFLOW DOWNSPOUT
STA	SELF TREATING AREA

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Project: **2305 MISSION COLLEGE BOULEVARD**

Sheet Title: **STORMWATER MANAGEMENT PLAN**

REVISION SCHEDULE

ISSUE	DATE	DESCRIPTION
	2019-11-20	P,C,C. SUBMITTAL
	2019-11-22	PROGRESS SET
	2019-12-20	PERMIT SET SUBMITTAL
	2020-01-21	P,C,C. RE-SUBMITTAL

SEAL / SIGNATURE

DATE: 01/21/2020

DRAWN: NSM | DESIGNED: DKS

DRAWING NO. C-701 | REV. 1

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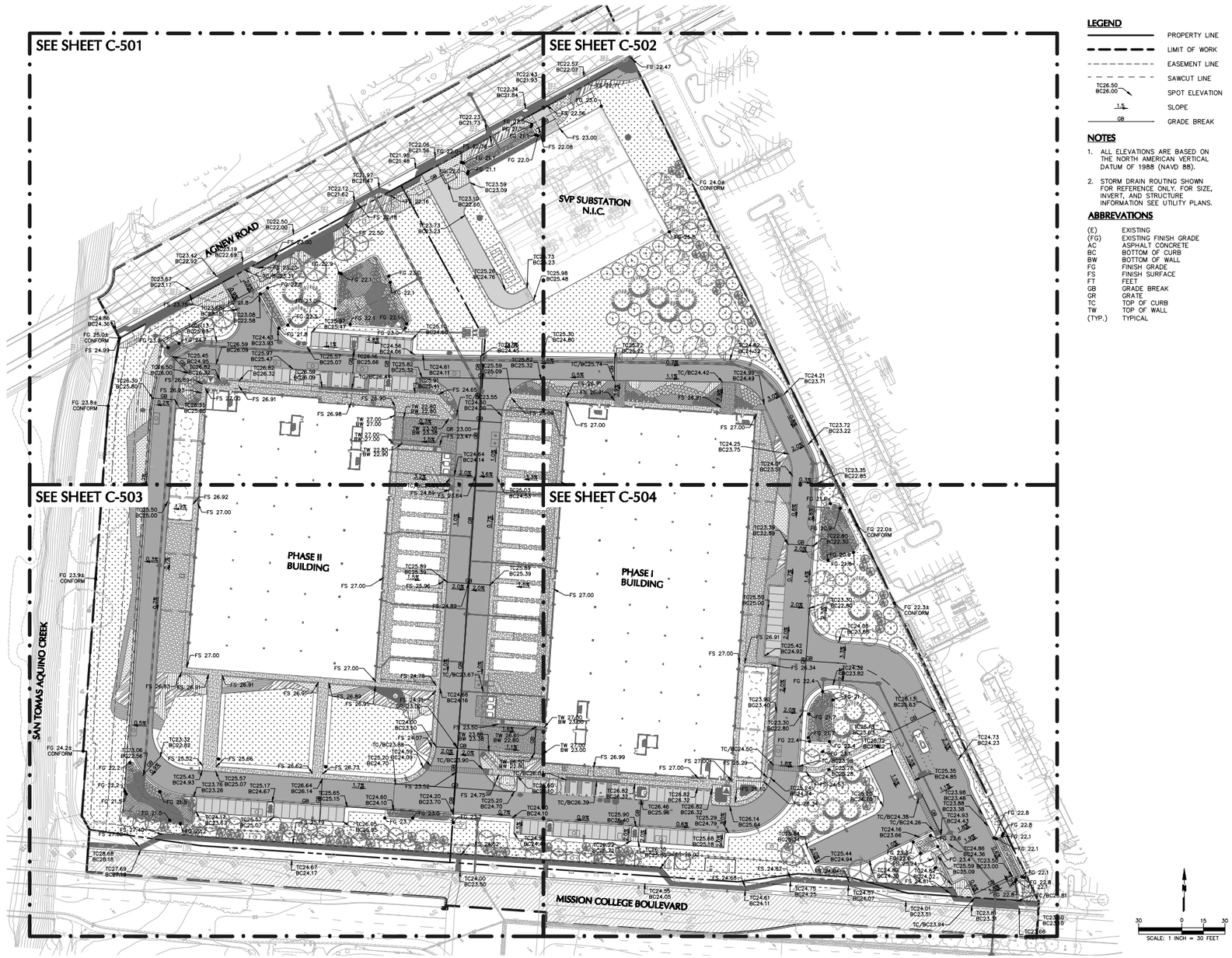

LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- EASEMENT LINE
- SAWCUT LINE
- TC26.50 / BC26.00 — SPOT ELEVATION
- 1.5% / GB — SLOPE
- GRADE BREAK

NOTES

1. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. STORM DRAIN ROUTING SHOWN FOR REFERENCE ONLY. FOR SIZE, INVERT, AND STRUCTURE INFORMATION SEE UTILITY PLANS.

ABBREVATIONS

(E)	EXISTING
(FG)	EXISTING FINISH GRADE
AC	ASPHALT CONCRETE
BC	BOTTOM OF CURB
BW	BOTTOM OF WALL
FG	FINISH GRADE
FS	FINISH SURFACE
FT	FEET
GB	GRADE BREAK
GR	GRATE
TC	TOP OF CURB
TW	TOP OF WALL
(TYP.)	TYPICAL

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Project: **2305 MISSION COLLEGE BOULEVARD**

Sheet Title: **OVERALL GRADING AND DRAINAGE PLAN**

REVISION SCHEDULE

ISSUE	DATE	DESCRIPTION
	2019-11-20	P,C,C. SUBMITTAL
	2019-11-22	PROGRESS SET
	2019-12-20	PERMIT SET SUBMITTAL
	2020-01-21	P,C,C, RE-SUBMITTAL

SEAL / SIGNATURE

DATE: 01/21/2020
DRAWN: NSM | DESIGNED: DKS
DRAWING NO.: C-500 | REV.: 1

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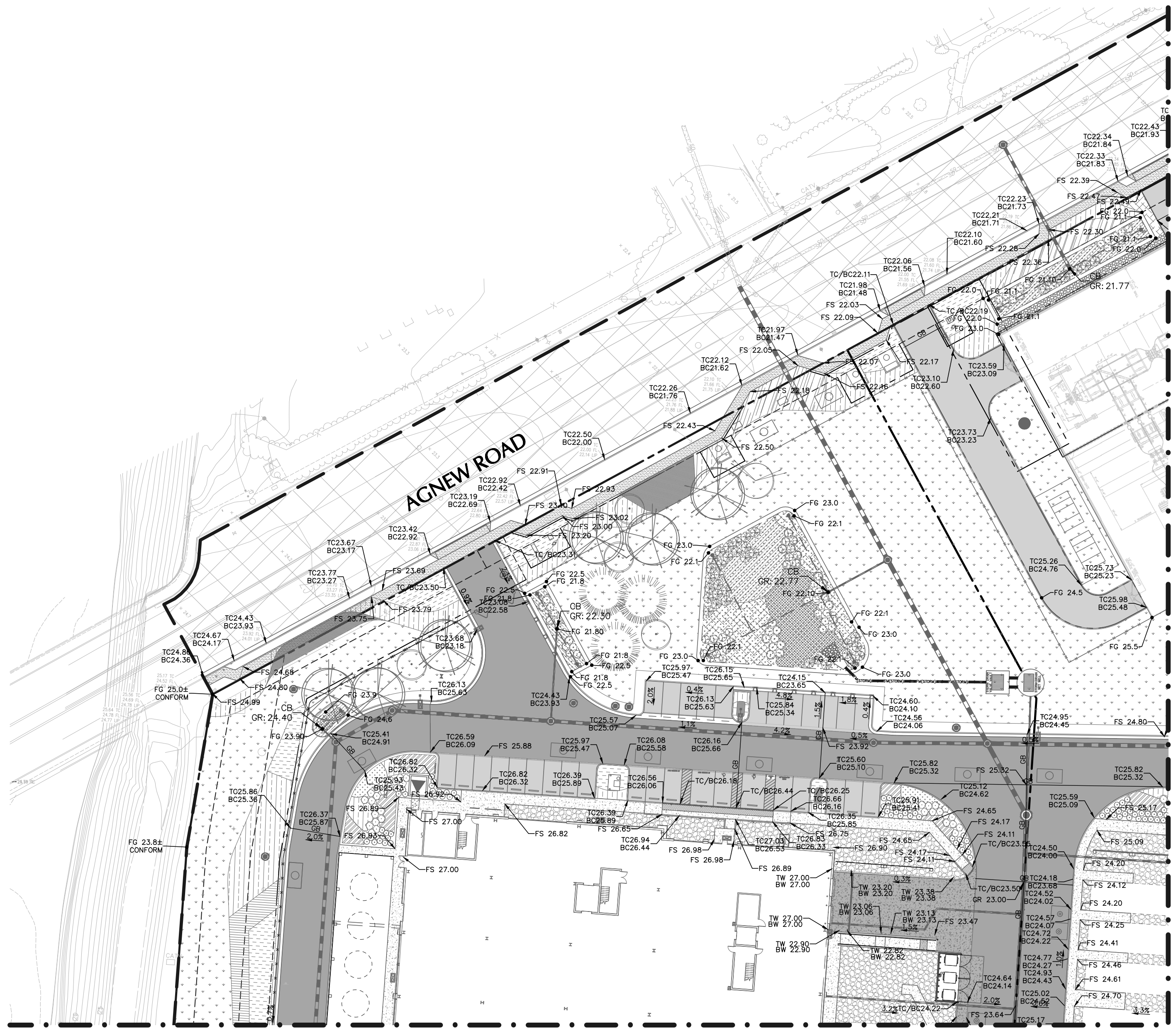

SEE SHEET C-502

SEE SHEET C-503

SCALE: 1 INCH = 30 FEET

LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- LIMIT OF PHASE 1 DEMOLITION
- EASEMENT LINE
- SAWCUT LINE
- TC26.50 BC26.00 — SPOT ELEVATION
- 1.5 — SLOPE
- GB — GRADE BREAK

NOTES

1. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. STORM DRAIN ROUTING SHOWN FOR REFERENCE ONLY. FOR SIZE, INVERT, AND STRUCTURE INFORMATION SEE UTILITY PLANS.
3. ACCESSIBLE STALLS AND LOADING ZONES ARE TO SLOPE AT A MAXIMUM OF 2% IN ALL DIRECTIONS. ACCESSIBLE PATHWAYS ARE TO SLOPE AT A MAXIMUM OF 5% IN THE DIRECTION OF TRAVEL AND THE SLOPE CROSSWAYS TO THE DIRECTION OF TRAVEL SHALL BE A MAXIMUM OF 2%. ANY AREAS ON SITE NOT CONFORMING TO THESE BASIC RULES DUE TO EXISTING CONDITIONS OR DISCREPANCIES IN THE DOCUMENTS ARE TO BE REPORTED TO THE ENGINEER PRIOR TO PROCEEDING WITH PLACEMENT OF BASE ROCK, FORM WORK AND/OR FLATWORK.

FLOOD ZONE NOTES

FEMA PANEL: 06085C0064H
FLOOD ZONE AH
BASE FLOOD ELEVATION: 23–FT

ABBREVATIONS

(E)	EXISTING
(FG)	EXISTING FINISH GRADE
AC	ASPHALT CONCRETE
BC	BOTTOM OF CURB
BW	BOTTOM OF WALL
FG	FINISH GRADE
FS	FINISH SURFACE
FT	FEET
GB	GRADE BREAK
GR	GRATE
TC	TOP OF CURB
TW	TOP OF WALL
(TYP.)	TYPICAL

PROJECT ADDRESS:

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Project: **2305 MISSION COLLEGE BOULEVARD**

Sheet Title: **PARTIAL GRADING AND DRAINAGE PLAN**

REVISION SCHEDULE

ISSUE	DATE	DESCRIPTION
	2019-11-20	P.C.C. SUBMITTAL
	2019-11-22	PROGRESS SET
	2019-12-20	PERMIT SET SUBMITTAL
	2020-01-21	P.C.C. RE-SUBMITTAL

SEAL / SIGNATURE

DATE: 01/21/2020
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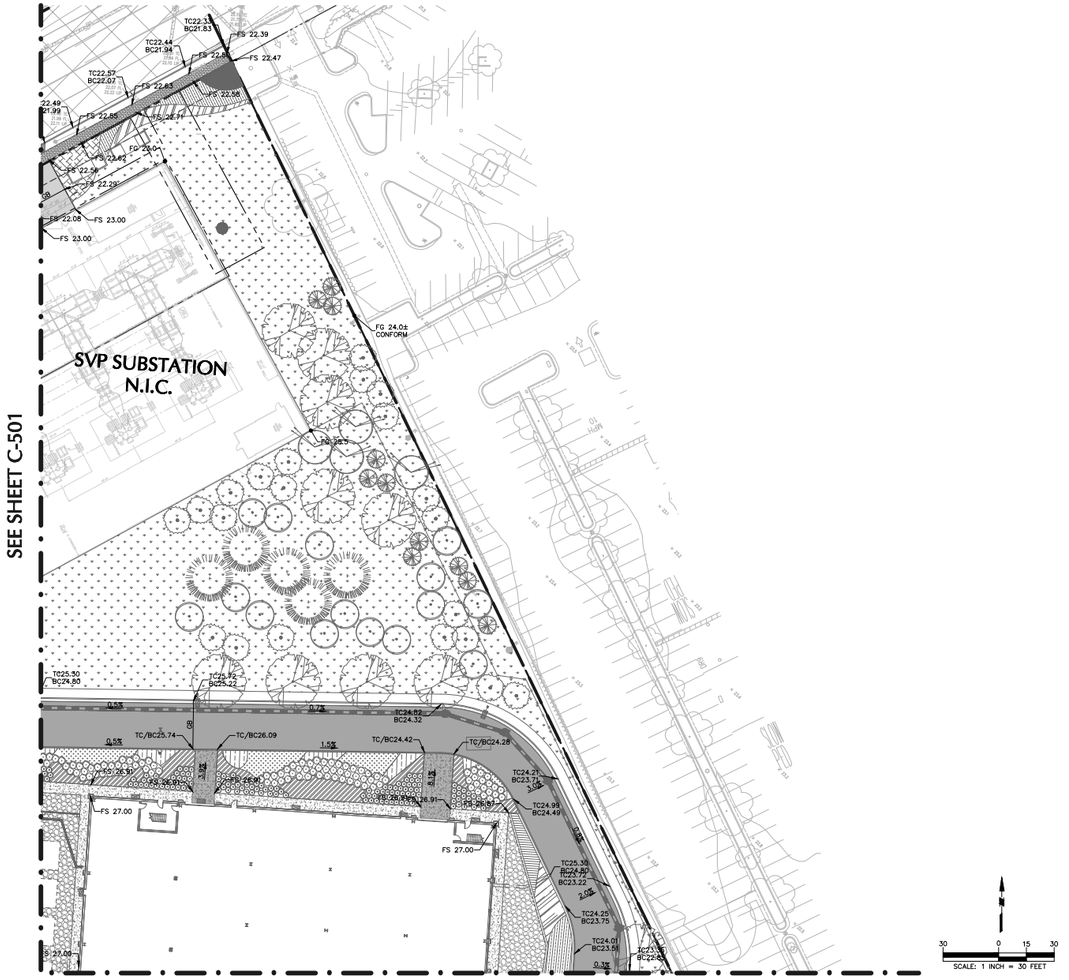
DRAWING NO. C-501 | REV. 1



LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- LIMIT OF PHASE 1 DEMOLITION
- EASEMENT LINE
- SAWCUT LINE
- TC26.50 / BC26.00 — SPOT ELEVATION
- 1.5 / GB — SLOPE
- GRADE BREAK

NOTES

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FLOOD ZONE NOTES

FEMA PANEL: 06085C0064H
FLOOD ZONE AH
BASE FLOOD ELEVATION: 23-FT

ABBREVATIONS

(E)	EXISTING
(FG)	EXISTING FINISH GRADE
AC	ASPHALT CONCRETE
BC	BOTTOM OF CURB
BW	BOTTOM OF WALL
FG	FINISH GRADE
FS	FINISH SURFACE
FT	FEET
GB	GRADE BREAK
GR	GRATE
TC	TOP OF CURB
TW	TOP OF WALL
(TYP.)	TYPICAL

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Project: **2305 MISSION COLLEGE BOULEVARD**

Sheet Title: **PARTIAL GRADING AND DRAINAGE PLAN 2**

REVISION SCHEDULE

ISSUE	DATE	DESCRIPTION
	2019-11-20	P.C.C. SUBMITTAL
	2019-11-22	PROGRESS SET
	2019-12-20	PERMIT SET SUBMITTAL
	2020-01-21	P.C.C. RE-SUBMITTAL

SEAL / SIGNATURE

DATE: 01/21/2020

DRAWN: NSM | DESIGNED: DKS

DRAWING NO. C-502 | REV. 1

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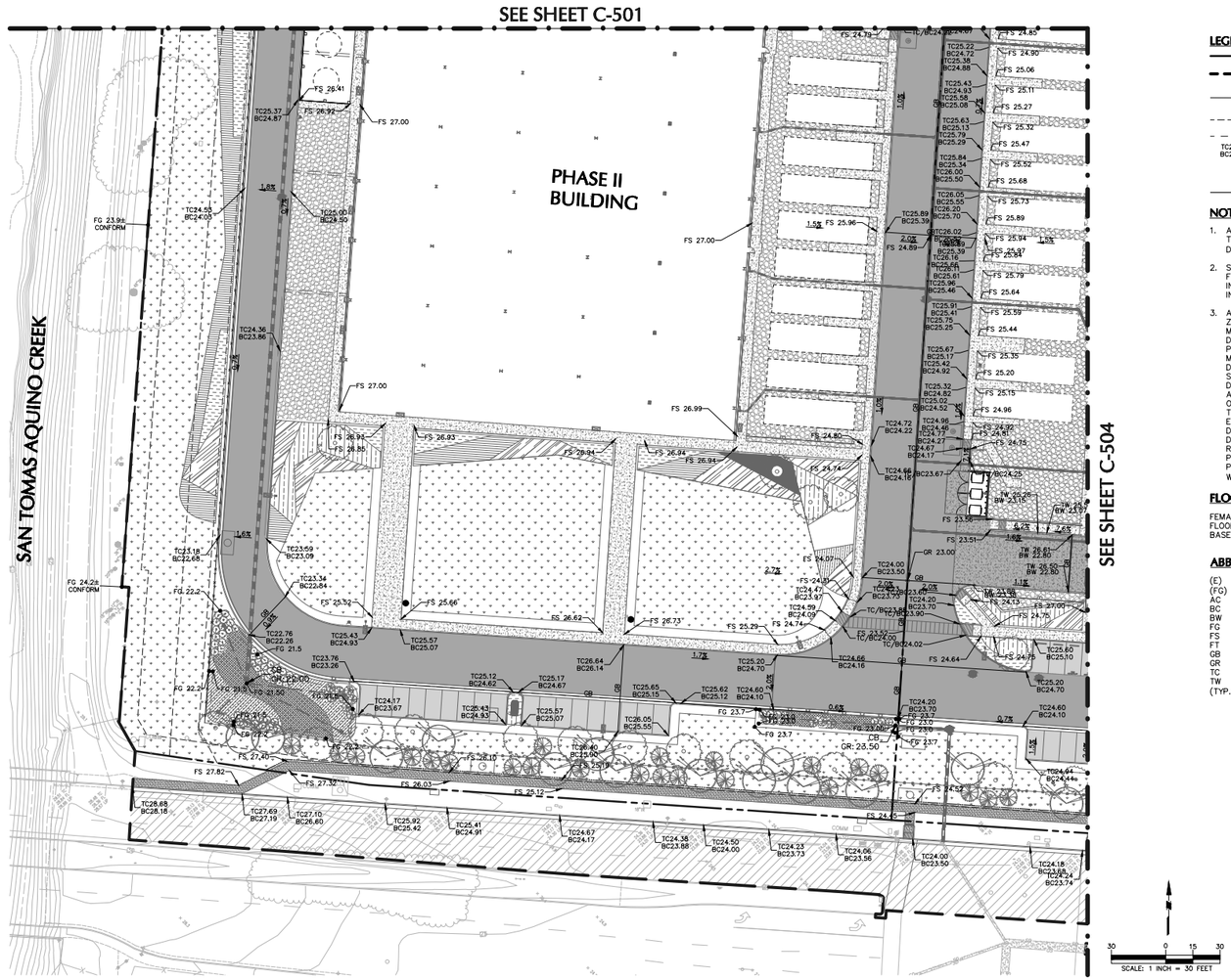

LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- LIMIT OF PHASE 1 DEMOLITION
- EASEMENT LINE
- SAWCUT LINE
- SPOT ELEVATION (TC26.50 / BC26.00)
- SLOPE (1.5%)
- GRADE BREAK (GB)

NOTES

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FLOOD ZONE NOTES

FEMA PANEL: 06085C0064H
FLOOD ZONE AH
BASE FLOOD ELEVATION: 23-FT

ABBREVATIONS

(E)	EXISTING
(FG)	EXISTING FINISH GRADE
AC	ASPHALT CONCRETE
BC	BOTTOM OF CURB
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Project: **2305 MISSION COLLEGE BOULEVARD**

Sheet Title: **PARTIAL GRADING AND DRAINAGE PLAN 3**

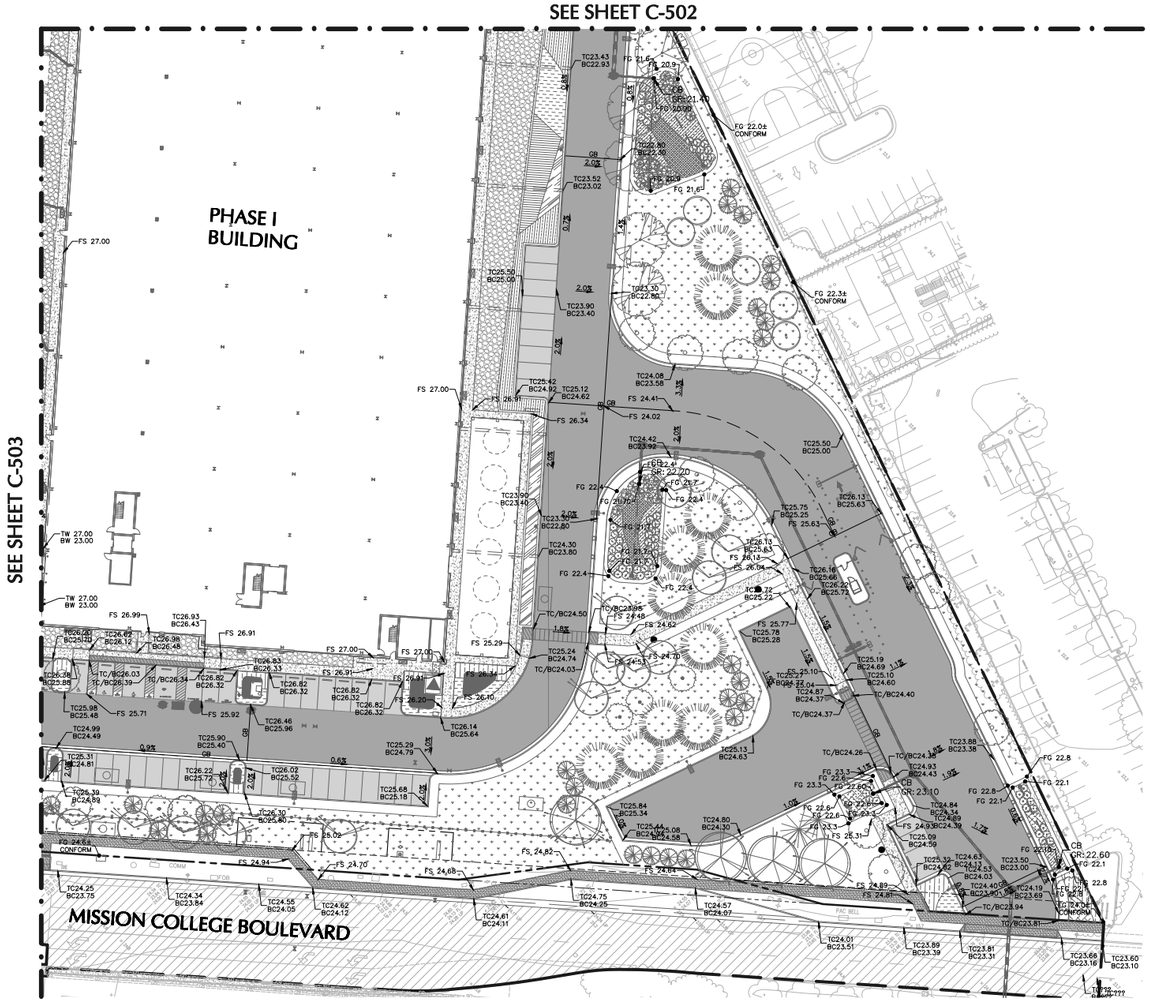
REVISION SCHEDULE

ISSUE	DATE	DESCRIPTION
	2019-11-20	P.C.C. SUBMITTAL
	2019-11-22	PROGRESS SET
	2019-12-20	PERMIT SET SUBMITTAL
	2020-01-21	P.C.C. RE-SUBMITTAL

SEAL / SIGNATURE

DATE: 01/21/2020
DRAWN: NSM | DESIGNED: DKS
DRAWING NO. C-503 | REV. 1

Filename: I:\langan.com\data\SJO\data\67\70661602\Project Data\CAD\02\Sheet Files\PCC Submission\C-501 - GRADING AND DRAINAGE PLAN.dwg Date: 1/16/2020 Time: 14:29 User: nmiyashiro Style Table: Langan.stb Layout: C-503



LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- LIMIT OF PHASE 1 DEMOLITION
- EASEMENT LINE
- SAWCUT LINE
- TC26.50 / BC26.00 — SPOT ELEVATION
- 1.5% — SLOPE
- GB — GRADE BREAK

NOTES

1. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. STORM DRAIN ROUTING SHOWN FOR REFERENCE ONLY. FOR SIZE, INVERT, AND STRUCTURE INFORMATION SEE UTILITY PLANS.
3. ACCESSIBLE STALLS AND LOADING ZONES ARE TO SLOPE AT A MAXIMUM OF 2% IN ALL DIRECTIONS. ACCESSIBLE PATHWAYS ARE TO SLOPE AT A MAXIMUM OF 5% IN THE DIRECTION OF TRAVEL AND THE SLOPE CROSSWAYS TO THE DIRECTION OF TRAVEL SHALL BE A MAXIMUM OF 2%. ANY AREAS ON SITE NOT CONFORMING TO THESE BASIC RULES DUE TO EXISTING CONDITIONS OR DISCREPANCIES IN THE DOCUMENTS ARE TO BE REPORTED TO THE ENGINEER PRIOR TO PROCEEDING WITH PLACEMENT OF BASE ROCK, FORM WORK AND/OR FLATWORK.

FLOOD ZONE NOTES

FEMA PANEL: 06085C0064H
FLOOD ZONE AH
BASE FLOOD ELEVATION: 23-FT

ABBREVATIONS

(E)	EXISTING
(FG)	EXISTING FINISH GRADE
AC	ASPHALT CONCRETE
BC	BOTTOM OF CURB
BW	BOTTOM OF WALL
FG	FINISH GRADE
FS	FINISH SURFACE
FT	FEET
GB	GRADE BREAK
GR	GRATE
TC	TOP OF CURB
TW	TOP OF WALL
(TYP.)	TYPICAL

PROJECT ADDRESS:
2305 MISSION COLLEGE BLVD, SANTA CLARA, CA 95054

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Project: **2305 MISSION COLLEGE BOULEVARD**

Sheet Title: **PARTIAL GRADING AND DRAINAGE PLAN**

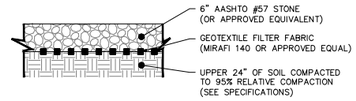
REVISION SCHEDULE

ISSUE	DATE	DESCRIPTION
	2019-11-20	P.C.C. SUBMITTAL
	2019-11-22	PROGRESS SET
	2019-12-20	PERMIT SET SUBMITTAL
	2020-01-21	P.C.C. RE-SUBMITTAL

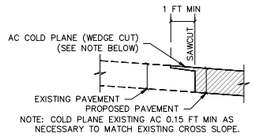
SEAL / SIGNATURE

DATE: 01/21/2020
DRAWN: NSM | DESIGNED: DKS
DRAWING NO. C-504 | REV. 1

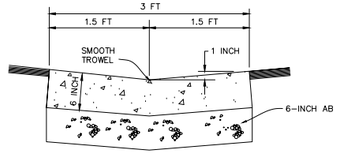
Filename: \\langan.com\data\SJ\Data\6770661602\Project Data\CAD\02\Sheet Files\PCC Submission\C-501 - GRADING AND DRAINAGE PLAN.dwg Date: 1/16/2020 Time: 14:29 User: nmiyashiro Style Table: Langan.stb Layout: C-504



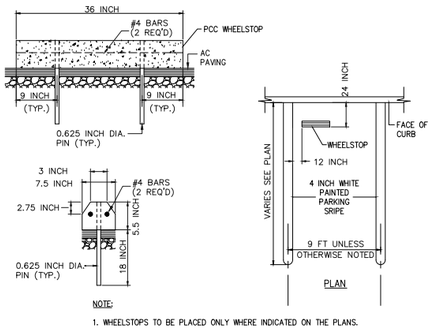
1 6-INCH THICK GRAVEL
NOT TO SCALE



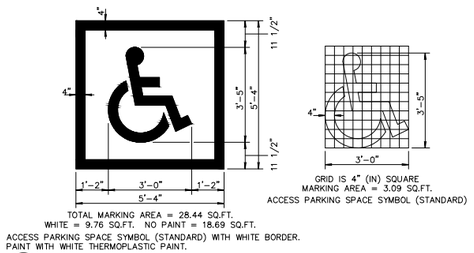
2 SAWCUT DETAIL
NOT TO SCALE



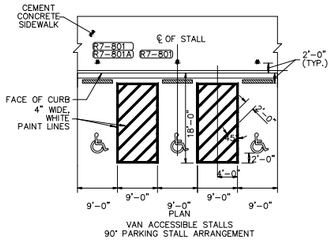
3 VALLEY GUTTER
NOT TO SCALE



4 WHEEL STOP
NOT TO SCALE



5 ACCESS PARKING SPACE SYMBOL
NOT TO SCALE



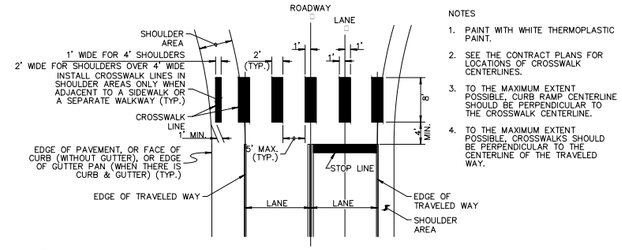
6 ADA PARKING SPACE STRIPING
NOT TO SCALE

NOTES

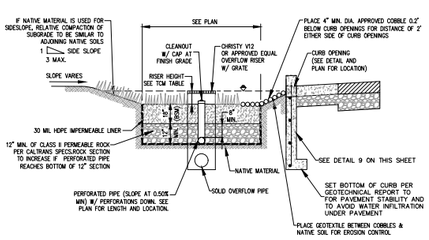
1. PAINT WITH WHITE THERMOPLASTIC PAINT.
2. AN ACCESS PARKING SPACE SYMBOL IS REQUIRED FOR EACH ACCESSIBLE PARKING STALL. A BLUE BACKGROUND AND WHITE BORDER ARE REQUIRED WHEN THE SYMBOL IS INSTALLED ON A CEMENT CONCRETE SURFACE.
3. ALL ACCESSIBLE STALLS SHALL HAVE WHEEL STOPS.

LEGEND

- R7-801 (R7-801A) RESERVED PARKING SIGN AND POST WITH PLAQUE, IF INDICATED (SEE SIGN FABRICATION MANUAL)
- ACCESS PARKING SPACE SYMBOL
- MANUFACTURED WHEEL STOP



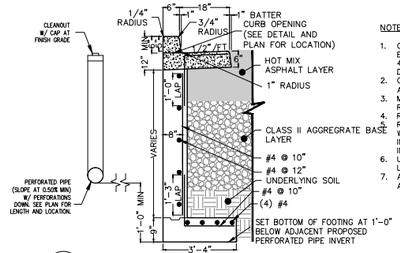
7 CROSSWALK DETAIL
NOT TO SCALE



SIZING METHOD:

FLOW-COMBO

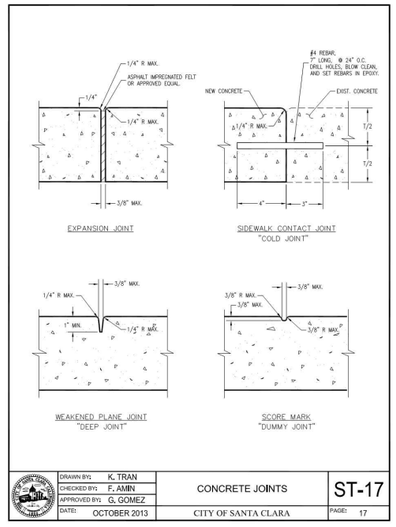
8 BIORETENTION AREA W/LINER
NOT TO SCALE



NOTES:

1. CAST-IN-PLACE CONCRETE SHALL BE AIR ENTRAINED AND SHALL HAVE AT LEAST 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. CONCRETE NOMINAL MAXIMUM COARSE AGGREGATE SIZE SHALL BE 1¼".
3. MAXIMUM WATER-CEMENTITIOUS MATERIALS RATIO SHALL BE 0.48.
4. REBAR SHALL BE ASTM A615 GRADE 60. REBAR SHALL HAVE 3 INCHES OF COVER WHERE CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE GROUND, AND 2 INCHES OF COVER IN ALL OTHER CASES.
6. UNLESS NOTED OTHERWISE, LAP SPLICE LENGTHS SHALL BE 20 INCHES.
7. ALL FOOTINGS SHALL BE INSTALLED ON AN APPROVED, COMPACTED SUBGRADE

9 BIORETENTION WALL ADJACENT TO PAVING
NOT TO SCALE



DRAWN BY:	K. TRAN	CONCRETE JOINTS	ST-17
CHECKED BY:	F. AMIN		
APPROVED BY:	G. GOMEZ		
DATE:	OCTOBER 2013	CITY OF SANTA CLARA	PAGE: 17

10 CONCRETE JOINTS
NOT TO SCALE

PROJECT ADDRESS:
2305 MISSION COLLEGE BLVD, SANTA CLARA, CA 95054

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Project: 2305 MISSION COLLEGE BOULEVARD

Sheet Title: CIVIL DETAILS

REVISION SCHEDULE

ISSUE	DATE	DESCRIPTION
	2019-11-20	P.C.C. SUBMITTAL
	2019-11-22	PROGRESS SET
	2019-12-20	PERMIT SET SUBMITTAL
	2020-01-21	P.C.C. RE-SUBMITTAL

SEAL / SIGNATURE

DATE: 01/21/2020

DRAWN: NSM | DESIGNED: DKS

DRAWING NO. C-902 | REV. 1

Filename: \\langan.com\data\SJO\data\270661602\Project Data\CAD\02\Sheet Files\PCC Submission\C-901 - CIVIL DETAILS.dwg Date: 1/16/2020 Time: 14:33 User: nmiyashiro Style Table: Langan.stb Layout: C-902

Attachment TRANS DR-44

FAA Form 7460-1

Please Type or Print on This Form

Form Approved OMB No.2120-0001
Expiration Date: 01/31/2020

U.S. Department of Transportation
Federal Aviation Administration

Failure To Provide All Requested Information May Delay Processing of Your Notice

Notice of Proposed Construction or Alteration

FOR FAA USE ONLY
Aeronautical Study Number

1. Sponsor *(person, company, etc. proposing this action):*
Attn. of
Name: Drew Johnson - OPPIDAN
Address: 400 Water Street, Suite #200
City: Excelsior State: MN Zip: 55331
Telephone: 952-540-4180 Fax: 952-294-0151

2. Sponsor's Representative *(if other than #1):*
Attn. of
Name:
Address:
City: State: Zip:
Telephone: Fax:

3. Notice of: ☑ New Construction ☐ Alteration ☐ Existing
4. Duration: ☐ Permanent ☑ Temporary (12 months, ____days)
5. Work Schedule: Beginning 5/1/2020 End 5/1/2021
6. Type: ☐ Antenna Tower ☐ Crane ☑ Building ☐ Power Line
☐ Landfill ☐ Water Tank ☐ Other
7. Marking/Painting and/or Lighting Preferred:
☑ Red Lights and Paint ☐ Dual - Red and Medium Intensity
☐ White-Medium Intensity ☐ Dual - Red and high Intensity
☐ White -High Intensity ☐ Other
8. FCC Antenna Structure Registration Number *(if applicable)*:

9. Latitude: 37.3541 ° N " '
10. Longitude: 121.9552 ° W " '
11. Datum: ☑ NAD 83 ☐ NAD 27 ☐ Other
12. Nearest: City: Santa Clara State CA
13. Nearest *Public-use* *(not private-use)* or Military Airport or Heliport: SJN
San Jose Minta International airport SJN
14. Distance from #13. to Structure: 1.9 miles
15. Direction from #13. to Structure:
16. Site Elevation ***(AMSL)***: 27 ft.
17. Total Structure Height ***(AGL)***: 108 ft.
18. Overall Height (#16 + #17) ***(AMSL)***: 135 ft.
19. Previous FAA Aeronautical Study Number *(if applicable)*:
-OE
20. Description of Location: *(Attach a USGS 7.5 minute Quadrangle Map with the precise site marked and any certified survey)*
37.3541° N, 121.9552° W
Survey + Map attached

21. Complete Description of Proposal:

At 2305 Mission College blvd in Santa Clara, CA the applicant is proposing the following:

An existing 2-story 350,000 SF office/manufacturing buidling will be raized and replaced by two, 3-story data computer processessing office centers.

The height of the current buidlings is approxmately 50 AGL and the proposed building is 108' AGL at the very top of the mechanical screening.

See plan attached

Frequency/Power (kW)	

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of $1,000 per day until the notice is received, pursuant to 49 U.S.C., Section 46301(a)

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking & lighting standards as necessary.

Date	Typed or Printed Name and Title of Person Filing Notice	Signature
1/30/2020	Drew Johnson	

Attachment TSI DR-52

House Power Single-Line Diagram

FEEDER SCHEDULE

FEEDER SCHEDULE							
3-PHASE, 3-WIRE				3-PHASE, 4-WIRE			
SYMBOL	CONDUIT	CONDUCTORS	GROUND	SYMBOL	CONDUIT	CONDUCTORS	GROUND
20G	3/4"C	(3) #12	#12	20NG	3/4"C	(4) #12	#12
30G	3/4"C	(3) #10	#10	30NG	3/4"C	(4) #10	#10
40G	1"C	(3) #8	#10	40NG	1"C	(4) #8	#10
50G	1"C	(3) #6	#10	50NG	1"C	(4) #6	#10
60G	1-1/4"C	(3) #4	#10	60NG	1-1/4"C	(4) #4	#10
70G	1-1/4"C	(3) #4	#8	70NG	1-1/4"C	(4) #4	#8
80G	1-1/2"C	(3) #2	#8	80NG	1-1/2"C	(4) #2	#8
90G	1-1/2"C	(3) #2	#8	90NG	1-1/2"C	(4) #2	#8
100G	2"C	(3) #1	#8	100NG	2"C	(4) #1	#8
125G	2"C	(3) #1	#6	125NG	2"C	(4) #1	#6
150G	2"C	(3) #1/0	#6	150NG	2"C	(4) #1/0	#6
175G	2"C	(3) #2/0	#6	175NG	2"C	(4) #2/0	#6
200G	2-1/2"C	(3) #3/0	#6	200NG	2-1/2"C	(4) #3/0	#6
225G	2-1/2"C	(3) #4/0	#4	225NG	2-1/2"C	(4) #4/0	#4
250G	3"C	(3) #250 Kcmil	#4	250NG	3"C	(4) #250 Kcmil	#4
300G	3"C	(3) #350 Kcmil	#4	300NG	3"C	(4) #350 Kcmil	#4
350G	3"C	(3) #500 Kcmil	#3	350NG	4"C	(4) #500 Kcmil	#3
400G	4"C	(3) #600 Kcmil	#3	400NG	4"C	(4) #600 Kcmil	#3
450G	(2) 2-1/2"C	2 SETS: (3) #4/0	(2) #2	450NG	(2) 2-1/2"C	2 SETS: (4) #4/0	(2) #2
500G	(2) 3"C	2 SETS: (3) #250 Kcmil	(2) #2	500NG	(2) 3"C	2 SETS: (4) #250 Kcmil	(2) #2
600G	(2) 3"C	2 SETS: (3) #350 Kcmil	(2) #1	600NG	(2) 3"C	2 SETS: (4) #350 Kcmil	(2) #1
700G	(2) 3-1/2"C	2 SETS: (3) #500 Kcmil	(2) #1/0	700NG	(2) 4"C	2 SETS: (4) #500 Kcmil	(2) #1/0
800G	(3) 3"C	3 SETS: (3) #300 Kcmil	(3) #1/0	800NG	(3) 3"C	3 SETS: (4) #300 Kcmil	(3) #1/0
1000G	(3) 3"C	3 SETS: (3) #400 Kcmil	(3) #2/0	1000NG	(3) 3-1/2"C	3 SETS: (4) #400 Kcmil	(3) #2/0
1200G	(4) 3"C	4 SETS: (3) #350 Kcmil	(4) #3/0	1200NG	(4) 3"C	4 SETS: (4) #350 Kcmil	(4) #3/0
1600G	(5) 3"C	5 SETS: (3) #400 Kcmil	(5) #4/0	1600NG	(5) 3-1/2"C	5 SETS: (4) #400 Kcmil	(5) #4/0
2000G	(5) 4"C	5 SETS: (3) #600 Kcmil	(5) #250 Kcmil	2000NG	(5) 4"C	5 SETS: (4) #600 Kcmil	(5) #250 Kcmil
2500G	(6) 4"C	6 SETS: (3) #600 Kcmil	(6) #350 Kcmil	2500NG	(6) 4"C	6 SETS: (4) #600 Kcmil	(6) #350 Kcmil
3000G	(8) 4"C	8 SETS: (3) #600 Kcmil	(8) #400 Kcmil	3000NG	(8) 4"C	8 SETS: (4) #600 Kcmil	(8) #400 Kcmil
4000G	(10) 4"C	10 SETS: (3) #600 Kcmil	(10) #500 Kcmil	4000NG	(10) 4"C	10 SETS: (4) #600 Kcmil	(10) #500 Kcmil

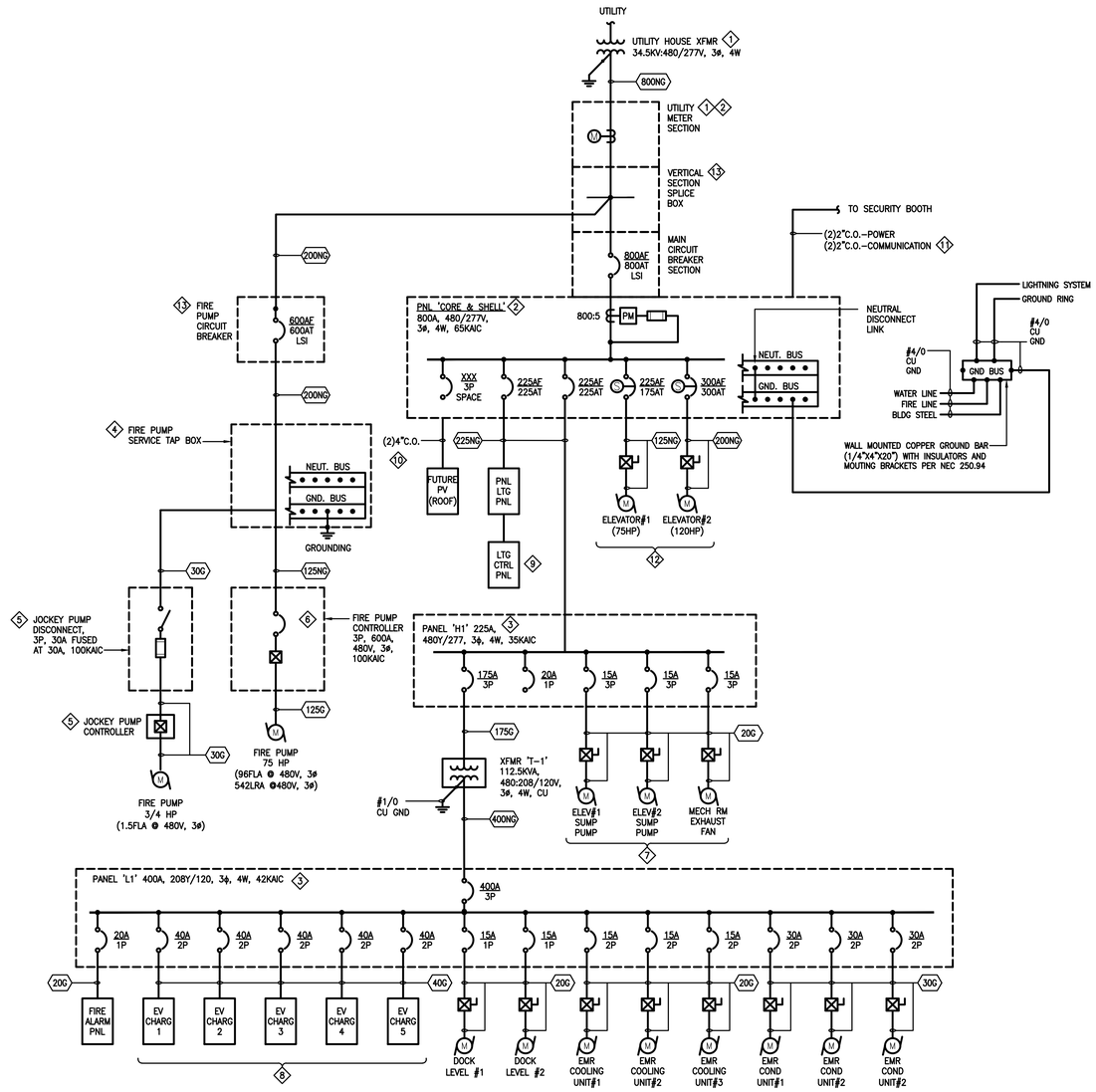
NOTES:
1. ALL CONDUCTORS SHALL BE IN ACCORDANCE WITH AMAZON BASIS OF DESIGN SPECIFICATION LATEST EDITION.
2. ALL CONDUCTORS SHALL BE COPPER.
3. FOR INDOOR USE: CONDUCTORS SHALL BE XLPE/SWA/LSF600/1000V GRADE 90°C U.O.N.
4. FOR OUTDOOR USE: CONDUCTORS SHALL BE XLPE/SWA/PVC/600/1000V GRADE 90°C U.O.N.
5. FOR MEDIUM VOLTAGE: CONDUCTORS SHALL BE XLPE/LSZH.SWA 11000/22000V GRADE 90°C WITH RED OVERSHEATH U.O.N.
6. CONDUCTORS SHOWN HAVE NOT BEEN DE-RATED FOR NON-STANDARD AMBINET TEMPERATURES AND ARE BASED ON 30°C AMBIENT.
7. CONDUCTORS HAVE NOT BEEN DE-RATED FOR VOLTAGE DROP.
8. CONDUIT SIZE SHOWN ARE N.E.C. MINIMUM SIZES.

LOAD CALCULATION

New Service Entrance 'House Power Panel'
800 AMP, 277/480V, 3PH, 4 Wire, 65KAIC

A. New Utility Service Size		
General Lighting	=	16.3 KVA
EV Chargers (5) LEVEL II - 7.7KW	=	60.2 KVA
Elevator Cooling Loads (3) 3.5 TON	=	21.8 KVA
Fire Pump (75HP)	=	95.6 KVA
Elevator #1 (75HP)	=	95.6 KVA
Elevator #2 (120HP Each)	=	149.6 KVA
25% of Largest Motor	=	37.4 KVA
Site Lighting	=	17.1 KVA
General Plug Load - First 10kVA @100%	=	7.0 KVA
Sub-Total New Load	=	500.6 KVA
Total Load		500.6 KVA
Total Connected Load		**602.1 Amps**
System Capacity:		
125% Of Full Load		753 Amps
Recommended Minimum Service Size		**800.0 Amps**

SINGLE LINE DIAGRAM



GENERAL SHEET NOTES

A. UTILITY SERVICE APPLICATION SHALL BE SUBMITTED BY PENNINO GROUP. ELECTRICIAN SHALL COORDINATE THE POINT OF CONNECTION DIRECTLY WITH PENNINO GROUP.

B. CONTRACTOR SHALL HAVE THIRD PARTY TESTING AGENCY PERFORM TESTING PER NETA ATS FOR ALL NEW EQUIPMENT (PRIOR TO ENERGIZING NEW LOADS) IN ACCORDANCE WITH LATEST NETA ATS REQUIREMENTS.

C. CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO ENGINEER.

D. HIRE THIRD PARTY TESTING AGENCY TO COMPLETE A POWER STUDY. POWER STUDY SHALL INCLUDE A SHORT CIRCUIT STUDY, COORDINATION STUDY, ARC FLASH STUDY AND ARC FLASH LABELS. REFER TO SPECIFICATIONS FOR FULL REQUIREMENTS. POWER STUDY SHALL INCLUDE COMPLETE SINGLE LINE.

GROUNDNG NOTES

THE GROUND ELECTRODE FOR THE SEPARATELY DERIVED SYSTEM SHALL BE AS NEAR AS PRACTICABLE TO AND PREFERABLY IN THE SAME AREAS AS THE GROUNDING ELECTRODE CONDUCTOR CONNECTION TO THE SYSTEM. THE GROUNDING ELECTRODE SHALL BE THE NEAREST ON OF THE FOLLOWING:

1. AN EFFECTIVELY GROUNDED STRUCTURAL METAL MEMBER OF THE STRUCTURE.
2. AN EFFECTIVELY GROUNDED METAL WATER PIPE WITHIN 5 FEET FROM THE POINT OF ENTRANCE INTO THE BUILDING.
3. OTHER ELECTRODES AS SPECIFIED IN SECTIONS 250.50 AND 250.52 OF THE 2010 CEC WHERE THE ELECTRODES SPECIFIED BY (1) OR (2) ARE NOT AVAILABLE.

THE GROUNDED CONDUCTORS OF THE SEPARATELY DERIVED SYSTEMS SHALL BE BONDED TO THE NEAREST AVAILABLE POINT OF THE INTERIOR METAL WATER PIPING SYSTEM IN THE AREA SERVED BY THE SEPARATELY DERIVED SYSTEMS. THIS CONNECTION SHALL BE MADE AT THE SAME POINT ON THE SEPARATELY DERIVED SYSTEM WHERE THE GROUNDING ELECTRODE CONDUCTOR IS CONNECTED. THE BONDING JUMPER SHALL BE SIZED IN ACCORDANCE WITH TABLE 250.66

REFERENCE SHEET NOTES

1. NEW UTILTY SERVICE AND TRANSFORMER. CONTRACTOR SHALL FURNISH AND INSTALL ALL SILICON VALLEY POWER INFRASTUCTURE, WHICH SHALL INCLUDE BUT NOT LIMITED TO, CONCRETE PAD, CONDUIT, TRENCH, BACKFILL, ASPHALT REPAIR AND CONDUCTORS. COORDINATE WITH UTILITY. INSTALLATION SHALL BE IN ACCORDANCE WITH SILICON VALLEY POWER REQUIREMENTS.
2. FURNISH AND INSTALL NEW MAIN SWITCHBOARD. REFER TO PANEL SCHEDULE FOR ADDITIONAL REQUIREMENTS.
3. FURNISH AND INSTALL NEW PANELS AS INDICATED. REFER TO PANEL SCHEDULES FOR ADDITIONAL REQUIREMENTS.
4. FIRE PUMP SERVICE TAP BOX. SIZE AS REQUIRED PER NEC. COORDINATE FINAL EXACT LOCATION IN THE FIELD WITH FIRE PROTECTION CONTRACTOR.
5. JOCKEY PUMP CONTROLLER. COORDINATE LOCATION WITH FIRE PROTECTION CONTRACTOR.
6. FIRE PUMP CONTROLLER. COORDINATE LOCATION WITH FIRE PROTECTION CONTRACTOR.
7. FURNISH AND INSTALL POWER TO MECHANICAL UNITS. REFER TO SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
8. FURNISH AND INSTALL FIVE (5) ELECTRIC VEHICLE (EV) CHARGER LEVEL II (CHARGEPOINT CT4000 SERIES OR APPROVED EQUAL). REFER TO DETAILS FOR MOUNTING AND SIGNAGE.
9. FURNISH AND INSTALL LIGHTING CONTROL PANEL (NLIGHT ECLYPSE CONTROLLER WITH GRAPHIC SCREEN NGWY2 OR APPROVED EQUAL) IN ACCORDANCE WITH TITLE 24 2016 SECTION 130.1(E) DEMAND RESPONSE.
10. FURNISH AND INSTALL NEW CONDUIT FROM MAIN SWITCHBOARD TO ROOF WITH PULL STRING FOR FUTURE PV ARRAY.
11. FURNISH AND INSTALL NEW CONDUIT FROM MAIN SWITCHBOARD TO SECURITY BOOTH WITH PULL STRING.
12. FURNISH AND INSTALL SHUNT TRIP BREAKERS FOR ELEVATOR POWER. ROUTE POWER AND CONTROL WIRING TO FIRE ALARM CONTROL MODULE. ELEVATOR CONTRACTOR SHALL TERMINATE. COORDINATE WITH FIRE ALARM CONTRACTOR. HOMERUN #14 MINIMUM FOR CONTROL WIRING.
13. FIRE PUMP TAP SHALL BE IN ACCORDANCE NEC 230.82(5). SHALL BE LABELED IN ACCORDANCE WITH 230.2.

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Sheet Title: **ELECTRICAL SINGLE LINE DIAGRAM**

REVISION SCHEDULE

ISSUE	DATE	DESCRIPTION
	09/13/19	PRICING SET
	11/06/19	PCC DRAFT
	11/20/19	PCC SUBMITTAL
	11/22/19	PROGRESS SET
	12/13/19	UTILITY APPLICATION
	12/20/19	PERMIT SET SUBMITTAL

NOT FOR CONSTRUCTION

SEAL / SIGNATURE

REGISTERED PROFESSIONAL ENGINEER — THOMAS B. JUN — No. E19320 — Electrical — STATE OF CALIFORNIA

DATE: 01-SEP-2019
DRAWN: SOBE | DESIGNED: TJ
DRAWING NO. | REV.
E-5100