



**CITY OF SUNNYVALE
REPORT
Planning Commission**

February 23, 2009

SUBJECT: **2008-1067 – Aixtron Inc.** [Applicant] **John Sobrato Trustee & Et Al** [Owner]: Application for a property located at **1139 Karlstad Drive** (near Toyama Dr.) in an R-4/PD (High Density Residential/Planned Development) Zoning District.

Motion Variance from Sunnyvale Municipal Code section 19.42.030 to allow existing roof mounted equipment to exceed noise standards.

REPORT IN BRIEF

Existing Site Conditions Equipment supplier and manufacturer for semiconductor industry (Aixtron, Inc.)

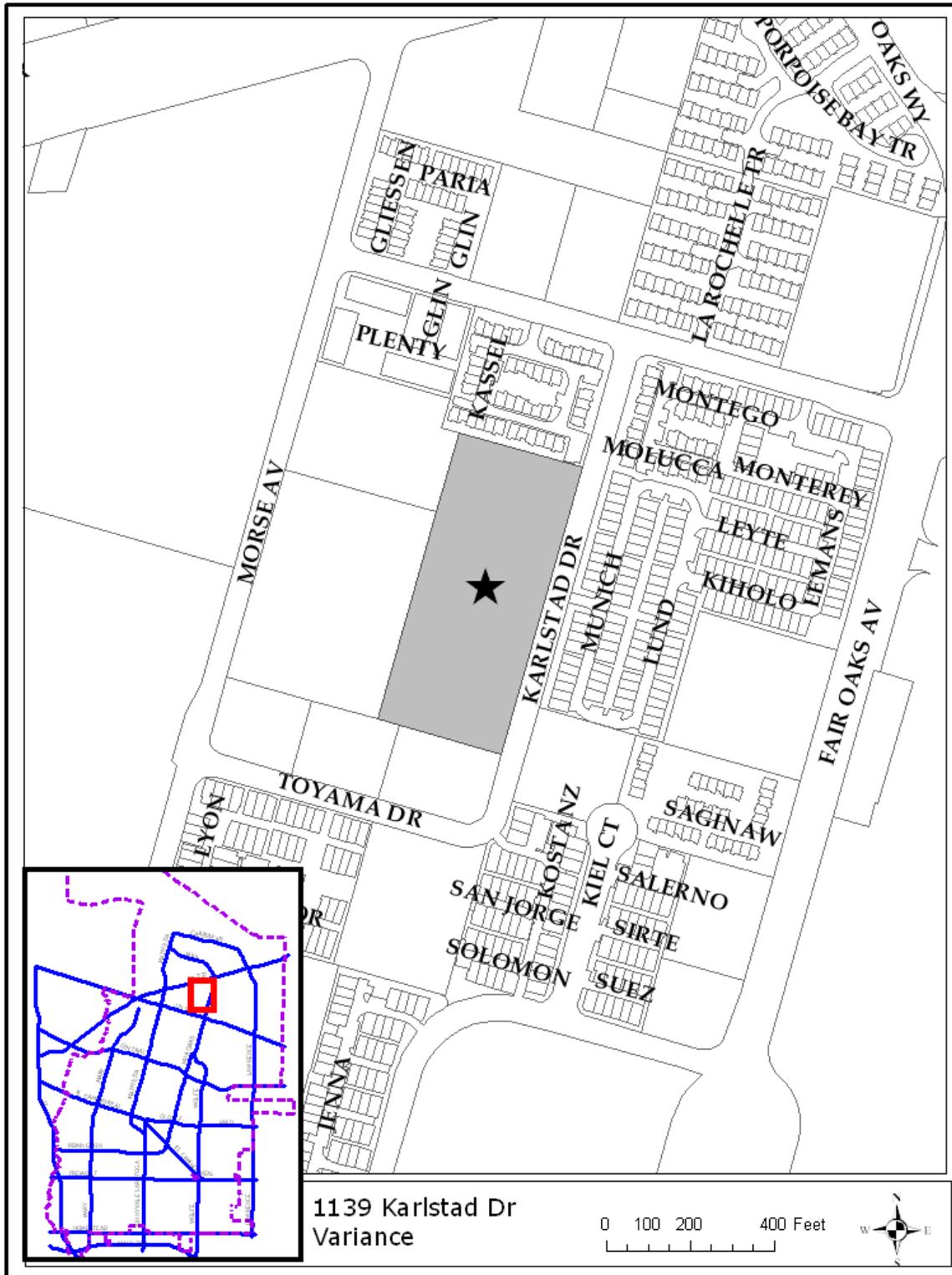
Surrounding Land Uses

- North Three-Story Townhomes and Multi-Family Residences (Danbury Place and Tasman Place)
- South Industrial
- East Three-Story Townhomes (Danbury Place)
- West Three-Story Multi-Family Residences (Tamarind Place) and Vacant Two-Story Office Building (formerly Parkinson’s Institute)

Issues Noise

Environmental Status A Mitigated Negative Declaration has been prepared in compliance with California Environmental Quality Act provisions and City Guidelines.

Staff Recommendation Approve with conditions



1139 Karlstad Dr
Variance

PROJECT DATA TABLE

	EXISTING	PROPOSED	REQUIRED/ PERMITTED
General Plan	Industrial to Residential Medium-High Density	Same	Industrial to Residential Medium-High Density
Zoning District	R-4/PD	Same	R-4/PD
Lot Size (acre)	216,493	Same	22,500 min.
Gross Floor Area (s.f.)	102,334	Same	97,421 or Per Approved UP
Lot Coverage (%)	47.3%	Same	45% or Per Approved UP
Floor Area Ratio (FAR)	47.3%	Same	35% or Per Approved UP
Height (ft.)	38'	Same	75'
Stories	1	Same	8 max.
Setbacks			
Front(Facing Karlstad)	25'	Same	25' min. ¹
Right Side	52'	Same	100' min. ¹
Left Side	66'	Same	100' min. ¹
Rear	52'	Same	100' min. ¹

¹ The existing industrial building was built in the late 1970's with setbacks that met requirements at that time for properties located within the M-S (Industrial and Service) Zoning District. Though the existing setbacks do not meet current Code requirements, the existing setbacks are considered to be legal nonconforming. While the legal nonconformity applies to the physical use of the property and standards that relate to the siting of the building on the lot, the current Code does not exempt existing uses from meeting applicable noise standards.

ANALYSIS**Definitions**

For purposes of this report, the following definitions apply:

(Definitions are from 2003 California State General Plan Guidelines)

Term	Definitions
Decibel (dB)	A unit used to express the relative intensity of a sound as it is heard by the human ear.
A-Weighted Sound Level (dBA)	The “A-weighted” scale for measuring sound in decibels; weighs or reduces the effects of low and high frequencies in order to simulate human hearing. Every increase of 10 dBA doubles the perceived loudness though the noise is actually ten times more intense.

Description of Proposed Project

The proposed project is for a Variance from the City’s Operational Standards (Sunnyvale Municipal Code (SMC) §19.42.030(a)) to allow existing roof-mounted equipment to exceed noise standards at an industrial business, Aixtron, Inc. The applicant is proposing a Variance from the nighttime (10 p.m. to 7 a.m.) standard of 45 dBA (or 50 dBA), which is applied to properties adjacent to residentially zoned properties. The business currently meets the daytime (7 a.m. to 10 p.m.) standard of 60 dBA.

The application is the result of complaints that have been received by the City’s Neighborhood Preservation Division from residents of the adjacent homes to north and east. These homes were constructed within the last four years and were approved with noise mitigation measures to lessen impacts from the roadways. There is no provision in SMC to grandfather in existing industrial noise levels when adjacent residential developments occur. The applicant is proposing to be allowed to operate at the substandard nighttime noise levels. No modifications to the business operation, site or building are proposed, with the exception on any required mitigation measures.

Background

Previous Actions on the Site: The following table summarizes previous planning applications related to the subject site.

File Number	Brief Description	Hearing/Decision	Date
2008-0791	Second extension for tentative map approval.	Staff / Approved	7/29/2008
2007-0746	First extension of tentative map approval.	Staff / Approved	7/13/2007

File Number	Brief Description	Hearing/Decision	Date
2005-0716	Waiver of screening for replacement chiller unit.	Staff / Approved	7/25/2005
2004-0209	Tentative Map to convert apartments to condominium units.	Planning Commission/ Approved	12/13/2004
2002-0976	Rezone to R-4/PD and Special Development Permit to construct a phased 271-unit apartment complex.	City Council / Approved	3/18/2003
1993-0099	Use Permit to increase lot coverage and FAR for an attached equipment enclosure and canopy.	Planning Commission/ Approved	5/10/1993

File Number 2002-0976: City Council approved a project to redevelop the subject property and the adjacent site to the west (former address: 1150-1168 Morse Avenue). The application included a Rezone from M-S/R-3/ITR/PD (Industrial and Service/Medium-High Density Residential/Industrial to Residential/Planned Development) to R-4/PD (High Density Residential/Planned Development) and a Special Development Permit for a 271-unit three-story apartment complex. The project was approved as a phased development, with construction of 123 units along the Morse Avenue frontage as the first phase and construction of the remaining 148 units along the Karlstad Drive frontage as the second phase.

The first phase was built and completed in 2004, and is currently occupied by residents. The second phase, redevelopment of the subject property, has been put on hold. Building permits have not been issued for the subject site.

Environmental Review

A Mitigated Negative Declaration has been prepared in compliance with the California Environmental Quality Act provisions and City Guidelines. A draft Initial Study (see Attachment D) was prepared, and has been revised with updated information provided by the applicant (see Attachment K). The Initial Study has determined that the proposed project would not create any significant environmental impacts, with mitigation incorporated (discussion noise assessment and mitigation measures to follow in subsequent sections of this report).

ITR Background and Environmental Context: The neighborhood in which the subject business is located has been historically used for industrial and office uses. A study (Futures Study, File #7989), allowing the development of

residential units in industrial zones, was completed in 1993 to address the City's ongoing housing shortages. As a result of the study, City Council approved a rezone, which added the Industrial to Residential (ITR) Combining District and designations to the existing industrial, office and commercial zones. The ITR Combining District allows industrial, office, commercial and residential uses to exist within the same zoning district, and allows existing industrial, office and commercial sites to convert to residential use. The residential districts define the allowable residential density and development standards.

A subsequent study was completed in 2002 (File #2001-0116), in which the General Plan designation for the ITR 7 and 8 areas was modified to allow medium and high density residential development. The subject site was rezoned to High Density Residential (R-4) in 2003. Properties within the neighborhood have recently transitioned into residential uses. The adjacent properties to the north and east have been recently developed with three-story homes that are zoned M-S/ITR/R-3/PD (Industrial and Service/Industrial to Residential/Medium-Density Residential/Planned Development). The properties to the west are developed with three-story homes and an existing two-story office building, which are zoned as R-4/PD (High Density Residential/Planned Development) and M-S/ITR/R-3/PD respectively. A three-story townhome development has been recently approved for the existing office building. The adjacent properties to the south are currently occupied by industrial businesses, which are also zoned as M-S/ITR/R-3/PD.

Variance

Use: Aixtron, Inc. (formerly Genus) is an equipment supplier for the semiconductor industry, and began operations at this site in 1992. The business operates 24-hours, seven days a week. Two scrubber fans and one chiller unit were installed on the roof in the 1990's, which are essential for the operation of the business. The scrubber fans and chiller unit are partially screened with a parapet wall. The scrubber fans are approximately 47 feet away from the edge of the roof line along the west, and 120 feet from the north side. The chiller unit is 72 feet away from the roof line along the west, and more than 200 feet from the north side (see Attachment C). With the exception of general maintenance (including chiller replacement) and minor interior improvements, the site and business operation have virtually remained the same since its establishment. The applicant does not propose to intensify the existing use, but requests to continue their existing operations at this site.

Conversations with the applicant and property owner (Sobrato Development) have indicated that the lease agreement for Aixtron expires on December 31, 2012. Depending on several variables, such as the economy, the property owner may either choose to renew Aixtron's lease agreement starting January

1, 2013, or terminate the agreement and move forward with the residential development of this site.

Applicable Ordinances: The City's Operational Standards (SMC §19.42.030(a)) states the following:

Operational noise shall not exceed seventy-five dBA at any point on the property line of the premises upon which the noise or sound is generated or produced; provided, however, that the noise or sound level shall not exceed fifty dBA during nighttime or sixty dBA during daytime hours at any point on adjacent residentially zoned property. If the noise occurs during nighttime hours and the enforcing officer has determined that the noise involves a steady, audible tone such as a whine, screech or hum, or is a staccato or intermittent noise (e.g., hammering) or includes music or speech, the allowable noise or sound level shall not exceed forty-five dBA.

As the above section states, the more restrictive noise level applies to any property that is adjacent to a residentially zoned property. The subject site is adjacent to residentially zoned properties along the north, east (across Karlstad) and west property lines. The City's Neighborhood Preservation Specialist (enforcing officer) has determined that the existing noise emitted involves a "steady, audible tone". According to noise measurements taken by the Neighborhood Preservation Specialist, the existing business currently meets the daytime (7 a.m. to 10 p.m.) standard of 60 dBA. However, the existing business does not meet the nighttime (10 p.m. to 7 a.m.) standard of 45 dBA.

Relationship to Adjacent Residential Developments: During the entitlement process of the adjacent residential developments, mitigation measures were incorporated into the projects to address noise impacts from roadways. Such mitigation measures included noise-reducing window installation and mechanical ventilation systems, intended to achieve interior noise levels of 45 dB with closed windows. Many of the complaints expressed by the adjacent neighbors have been due to noise levels when windows were open. In addition, masonry and wooden fences have been constructed along the property lines, partly to address noise and security concerns.

Existing Noise Levels: The applicant submitted two acoustical reports prepared by Charles M. Salter Associates, Inc. and Environmental and Occupational Risk Management, which identified noise emitted by two scrubber fans and a chiller unit as the primary noise sources (see Attachments E and F). The following discussion addresses the findings and recommendations for mitigation in both reports.

The acoustical report prepared by Charles M. Salter Associations, Inc. analyzed the existing exterior daytime and nighttime noise levels at the site on August

21, 2008. The study measured the noise levels due to the roof-mounted equipment at ten separate locations along the property line. The acoustical report prepared by Environmental and Occupational Risk Management noted similar noise levels and found that the daytime noise levels comply with the City's Code requirements, while the nighttime noise levels exceed the requirements by more than 10 dBA. The following table summarizes the average existing noise levels, demonstrating that the adjacent residents to the west are the most impacted by noise:

Existing Noise Levels (Average)¹

	Daytime (dBA)	Nighttime (dBA)
North	53	53
East	53	53
West	56	59

¹ The table above has been updated to reflect the most current information contained in the revised Initial Study.

According to the U.S. Occupational Safety and Health Administration (OSHA), noise level between 50 dBA and 60 dBA is equivalent to a quiet office environment and normal conversation (at 3 feet), respectively. A noise level of 70 dBA is similar to the noise a person would experience sitting in a car with a running engine. A 10 dBA increase causes a doubling of perceived loudness (or halving if decreased), while an increase by 3 dBA is "just noticeable".

Options for Noise Reduction: The acoustical reports recommend that the equipment be maintained on a regular basis and to meet equipment specifications, and exploration of noise attenuating materials and enclosures for the two scrubbers and one chiller unit. One option identified in the Charles M. Salter Associates, Inc. report was a 22-foot tall parapet barrier around the entire roofline. This option was eliminated as a possible mitigation measure, as it was determined to be structurally infeasible in a report prepared by Holmes Culley, dated November 4, 2008 (see Attachment G). The table below summarizes the remaining options for noise reduction, as presented by Charles M. Salter Associates, Inc., including the average level of noise reduction at the third of the west property line (most impacted point), estimated total cost of construction and average cost per dB reduction:

Options for Noise Reduction¹

	Avg. Noise Reduction at 3rd Floor of West Property Line	Total Cost	Avg. Cost per dBA Reduction
1. Barrier around scrubbers and two scrubber silencers, no chiller treatment	0.5	\$46,208	\$92,416
2. Chiller sound blanket only	5.3	\$23,000	\$4,340
3. Barrier around chiller only	5.9	\$144,000	\$24,407
4. Chiller sound blanket, scrubber barriers, scrubber silencers	7.2	\$69,208	\$9,612
5. Barrier around chiller and scrubbers and two scrubber silencers	8.1	\$190,208	\$23,480

¹ The table above has been updated to reflect the most current information contained in the revised Initial Study.

Based on the information provided by the noise consultant, the most effective way to reduce noise (with considerations to cost) is through the installation of a chiller sound blanket. A change in noise level of more than 3 dBA is considered to be “noticeable”. Options #2 (chiller sound blanket only) and #4 (chiller sound blanket, scrubber barriers and scrubber silencers) include this method of sound attenuation. Although option #5 would result in the greatest noise reduction, it is more than double the cost of options #2 and #4. The noise consultant also found that installation of the sound blanket would make the “steady tone” inaudible, therefore, applying the maximum nighttime noise level of 50 dBA (instead of 45 dBA).

The mitigation options that would result in the greatest noise reduction and cost-effectiveness are options #2 and #4. The applicant has stated voluntary implementation of option #2. The following table shows a comparison between the estimated noise levels with implementation of mitigation options #2 or #4, both measured on the first floor (6 feet from the ground) and at the third floor (30 feet from the ground):

Estimated Nighttime Noise Levels with Implementation of Mitigation Options #2 or #4¹

	Option #2 (dBA)	Option #4 (dBA)
North: 1 st Floor	40.7	38.4
3 rd Floor	51.4	50.1
East: 1 st Floor	44.0	42.2
3 rd Floor	51.0	49.7
West: 1 st Floor	48.3	42.2
3 rd Floor	54.8	52.9

¹ The table above has been updated to reflect the most current information contained in the revised Initial Study.

Selected Mitigation Measures: As the lease agreement for Aixtron Inc. will be either be renewed or terminated on December 31, 2012, consideration must be made regarding the potential “temporary” nature of the existing use and noise. Therefore, staff finds option #2 to be a reasonable solution that would substantially reduce the noise levels perceived by the neighbors and would be cost-effective for Aixtron Inc. In the case that the lease agreement is renewed and Aixtron Inc. continues operation at this site, staff finds that option #4, potentially achieving near-compliance, is reasonable. Therefore, staff recommends a phased mitigation strategy, first requiring installation of the chiller sound blanket, then installation of scrubber barriers and scrubber silencers by January 1, 2013.

The following is a summary of the selected mitigation measures:

- WHAT: 1) The two scrubbers and one chiller unit shall be maintained on a regular basis and shall meet equipment specifications.
- 2) Install a chiller sound blanket, per specifications recommended by Charles M. Salter Associates, Inc. within 30 days of the hearing date.
- 3) Install structural scrubber barriers and scrubber silencers, per specifications recommended by Charles M. Salter Associates, Inc., by no later than January 1, 2013.

WHEN: These mitigation measures will be converted into conditions of approval for this Variance Application prior to its final approval by the City’s Planning Commission. The conditions will become valid when the Variance is approved, requiring installation of mitigation measure #2 within 30 days of the hearing date, and mitigation measure #3 by January 1, 2013.

WHO: The applicant, Aixtron, Inc., will be solely responsible for implementation and maintenance of these mitigation measures.

HOW: The conditions of approval will require these mitigation measures to be incorporated into construction plans, to be reviewed and approved by the City of Sunnyvale.

Discussion of Variance Findings: The applicant submitted letters contained in Attachment H addressing the Variance findings. Attachment A includes staff's recommended findings to approve the Variance. Staff finds that, with mitigation which reduces noise levels and removes the audible tone that is particularly uncomfortable to neighbors, the noise levels are within normally acceptable levels and allows a Sunnyvale business to continue operations.

Compliance with Development Standards/Guidelines: The existing site complies with most of the current development standards, with the exception of noise and legal nonconforming setbacks. No modifications to the business operation, site or building are proposed, with the exception on any required mitigation measures.

Expected Impact on the Surroundings: The operation of the business is not being modified or intensified as a part of this proposal. New mitigation measures are being incorporated that are intended to reduce some of the existing operational noise at the site to a less than significant level, and will require full compliance by January 1, 2013.

Fiscal Impact

No fiscal impacts other than normal fees and taxes are expected. If the Variance is denied, continued use of Aixtron, Inc. on this property would be limited, if not impossible. This may result in a reduction in overall business sales and a corresponding reduction in sales tax to the City.

Public Contact

Staff has received several letters (see Attachment J) from neighboring residents from the Danbury Place developments to the north and east. These letters expressed opposition to the Variance due to the continuous noise emitted from Aixtron Inc., noting increased noise levels at night and increased disturbance when windows are open.

One letter also stated concerns regarding noise emitted from an existing equipment enclosure located towards the back of the building, which is constructed with a chain link fence, vinyl slats and a metal canopy. The enclosure was approved in 1993 through a Use Permit (File Number 1993-

0099) and also contributes to the existing noise levels, especially along the west property line. Although the existence of this enclosure is also noted in the acoustical reports, the consultants found that noise emitted from the chiller and scrubber units were the primary sources of noise on this site. The noise reduction estimates achieved by the mitigation measures represent all noise sources; therefore, staff does not find it necessary for additional noise attenuation measures to be incorporated into the existing equipment enclosure.

Notice of Negative Declaration and Public Hearing	Staff Report	Agenda
<ul style="list-style-type: none"> • Published in the <i>Sun</i> newspaper • Posted on the site • 544 notices mailed to the property owners and residents within 300 ft. of the project site 	<ul style="list-style-type: none"> • Posted on the City of Sunnyvale's Website • Provided at the Reference Section of the City of Sunnyvale's Public Library 	<ul style="list-style-type: none"> • Posted on the City's official notice bulletin board • City of Sunnyvale's Website

Conclusion

Findings and General Plan Goals: Staff was able to make the required Findings based on the justifications for the Variance. Findings and General Plan Goals are located in Attachment A.

Recommended Conditions of Approval: Conditions of Approval are located in Attachment B.

Alternatives

1. Adopt the Mitigated Negative Declaration and approve the Variance with the attached conditions.
2. Adopt the Mitigated Negative Declaration and approve the Variance with modified conditions.
3. Adopt the Mitigated Negative Declaration and deny the Variance.
4. Do not adopt the Mitigated Negative Declaration and direct staff as to where additional environmental analysis is required.

Recommendation

Alternative 1

Prepared by:

Noren Caliva
Project Planner

Reviewed by:

Trudi Ryan
Planning Officer

Attachments:

- A. Recommended Findings
- B. Recommended Conditions of Approval
- C. Roof Plan and Aerial Photos
- D. Draft Initial Study/Negative Declaration - Superseded
- E. Noise Analysis from Environmental and Occupational Risk Management, dated August 14, 2008
- F. Noise Analysis from Charles M. Salter Associations, Inc., dated September 16, 2008
- G. Structural Analysis from Holmes Culley, dated November 4, 2008
- H. Letters from Applicant
- I. Letter from Charles M. Salter Association, Inc., dated February 17, 2009
- J. Letters from Neighbors
- K. Revised Initial Study/Mitigated Negative Declaration

Recommended Findings - Variance

1. Because of exceptional or extraordinary circumstances or conditions applicable to the property, or use, including size, shape, topography, location or surroundings, the strict application of the ordinance is found to deprive the property owner or privileges enjoyed by other properties in the vicinity and within the same zoning district. (*Finding Met*)

Staff finds that the existing business operation and noise impacts have not intensified since the original establishment of Aixtron, Inc. on this site in 1992, when all development standards (including noise) were in full compliance. The current non-compliant status has been the result of residential development on adjacent sites, which require more restrictive noise standards. In addition, staff finds that the existing use may be “temporary”, as a residential project has already been approved for this site and the lease agreement between Aixtron, Inc. and the property owner may terminate on December 31, 2012. In addition, the roof-mounted equipment is required to be run 24 hours a day, seven days a week, in order to maintain a specific interior environment for business equipment. A disturbance to the equipment, either requiring removal or overnight shut-off, will be detrimental to the business operation. The business has a legal nonconforming status since 2003.

2. The granting of the Variance will not be materially detrimental to the public welfare or injurious to the property, improvements or uses within the immediate vicinity and within the same zoning district. (*Finding Met*)

In conjunction with the mitigation measures previously incorporated into the adjacent residential projects (i.e noise-reducing window installation and mechanical ventilation systems intended to achieve interior noise levels of 45 dBA with closed windows), the selected mitigation measures for this project will result in significant perceived noise reduction to neighboring residents. Resultant noise levels, with mitigation, are less than 5 dBA above the code requirements for Phase I mitigation (chiller sound blanket only) and less than 3 dBA over requirements for Phase II mitigation (scrubber barriers and scrubber silencers).

3. Upon granting of the Variance, the intent and purpose of the ordinance will still be served and the recipient of the Variance will not be granted special privileges not enjoyed by other surrounding property owners within the same zoning district. (*Finding Met*)

Staff finds that the site is unique in its location, as it is adjacent to residential developments along three sides, which were approved and/or constructed subsequent to the operation of the business on the subject site.

Recommended Conditions of Approval - Variance

In addition to complying with all applicable City, County, State and Federal Statutes, Codes, Ordinances, Resolutions and Regulations, Permittee expressly accepts and agrees to comply with the following conditions of approval of this Permit:

Unless otherwise noted, all conditions shall be subject to the review of approval of the Director of Community Development.

1. GENERAL CONDITIONS

- A. The Variance is to allow noise levels to exceed citywide residential noise standards of 50 dBA during nighttime hours, not to exceed a noise level of 55 dBA until December 31, 2012, and 53 dBA starting January 1, 2013.
- B. Project shall be in conformance with the plans approved at the public hearing(s). Minor changes may be approved by the Director of Community Development; major changes may be approved at a public hearing by the Planning Commission.
- C. The Variance for the use shall expire if the use is discontinued for a period of six months or more.
- D. The Variance shall be null and void two years from the date of approval by the final review authority at a public hearing if the approval is not exercised, unless a written request for an extension is received prior to expiration date.

2. ENVIRONMENTAL MITIGATION MEASURES

- A. In addition to complying with applicable City Codes, Ordinances, and Resolutions, the following mitigation measures are incorporated into the project to minimize the identified potential environmental impacts:

- WHAT: 1) The two scrubbers and one chiller unit shall be maintained on a regular basis and shall meet equipment specifications.
- 4) Install a chiller sound blanket, per specifications recommended by Charles M. Salter Associates, Inc. within 30 days of the hearing date.
 - 5) Install structural scrubber barriers and scrubber silencers, per specifications recommended by Charles M. Salter Associates, Inc., by no later than January 1, 2013.

WHEN: These mitigation measures will be converted into conditions of approval for this Variance Application prior to its final approval by

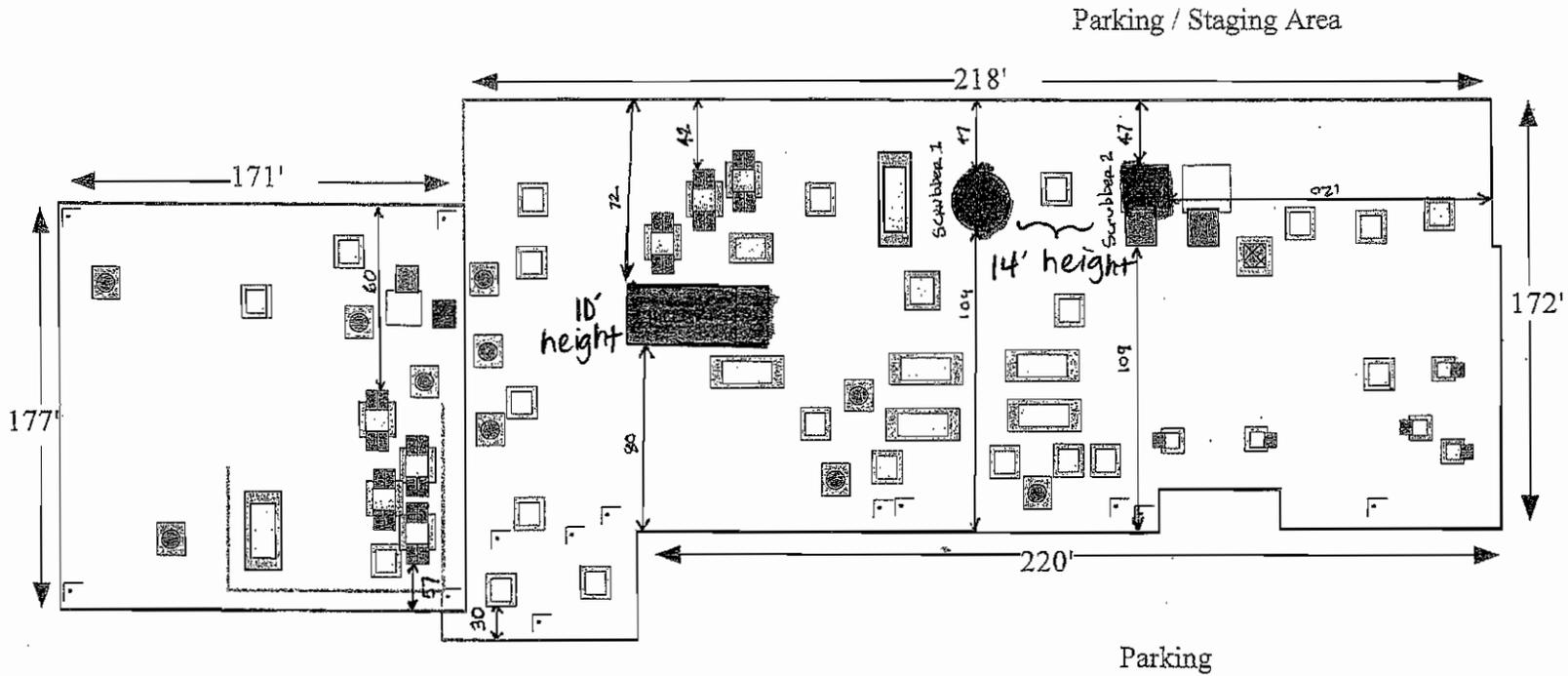
the City's Planning Commission. The conditions will become valid when the Variance is approved, requiring installation of mitigation measure #2 within 30 days of the hearing date, and mitigation measure #3 by January 1, 2013.

WHO: The applicant, Aixtron, Inc., will be solely responsible for implementation and maintenance of these mitigation measures.

HOW: The conditions of approval will require these mitigation measures to be incorporated into construction plans, to be reviewed and approved by the City of Sunnyvale.

E MAP # 1

N



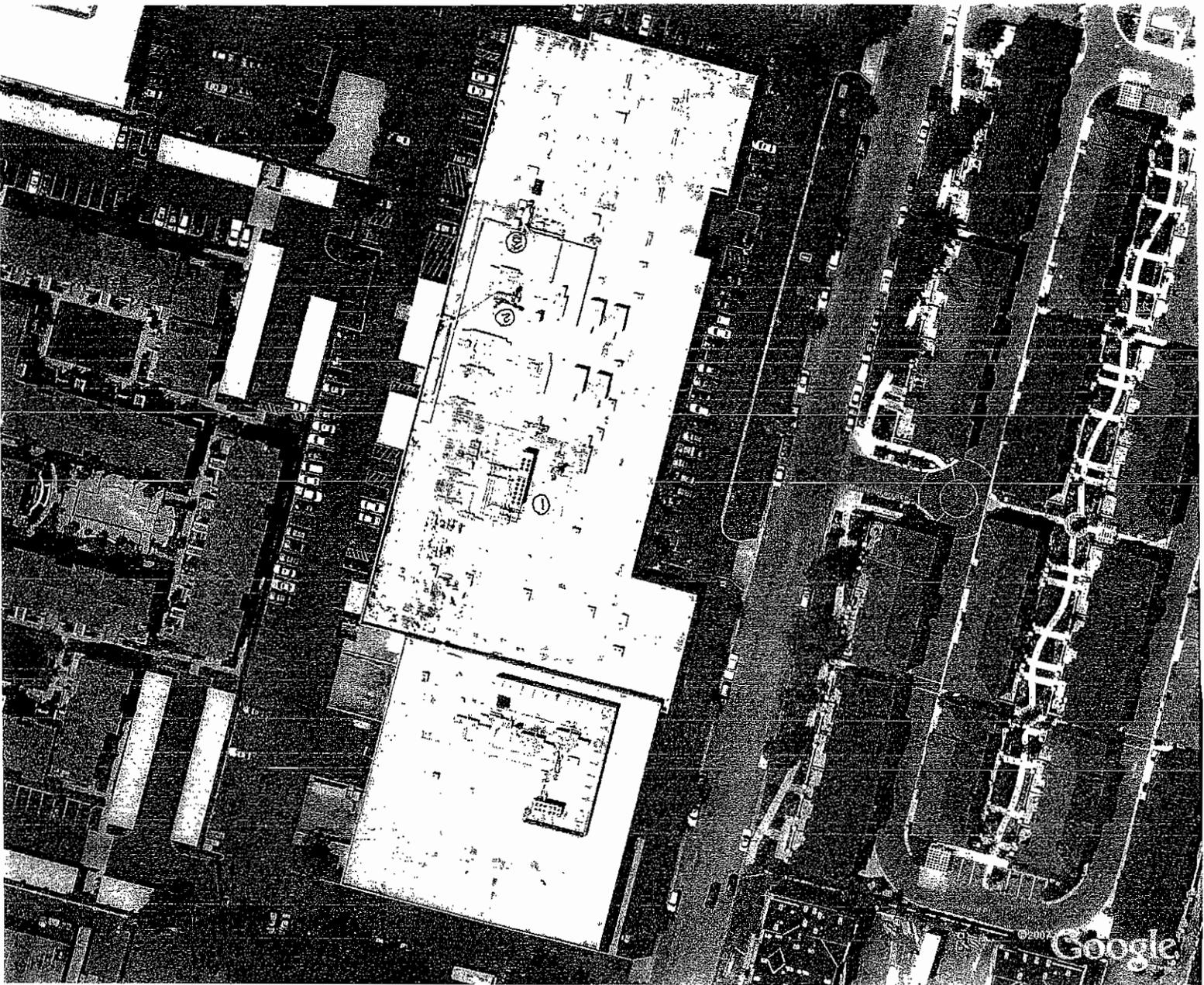
- HVAC units
- Exhaust fan
- Roof Access
- HVAC units w/duct
- Swamp Cooler
- ⊙ Motorized Exhaust fan

← Karistad Dr →

S

FIELD 105 600 ST

W

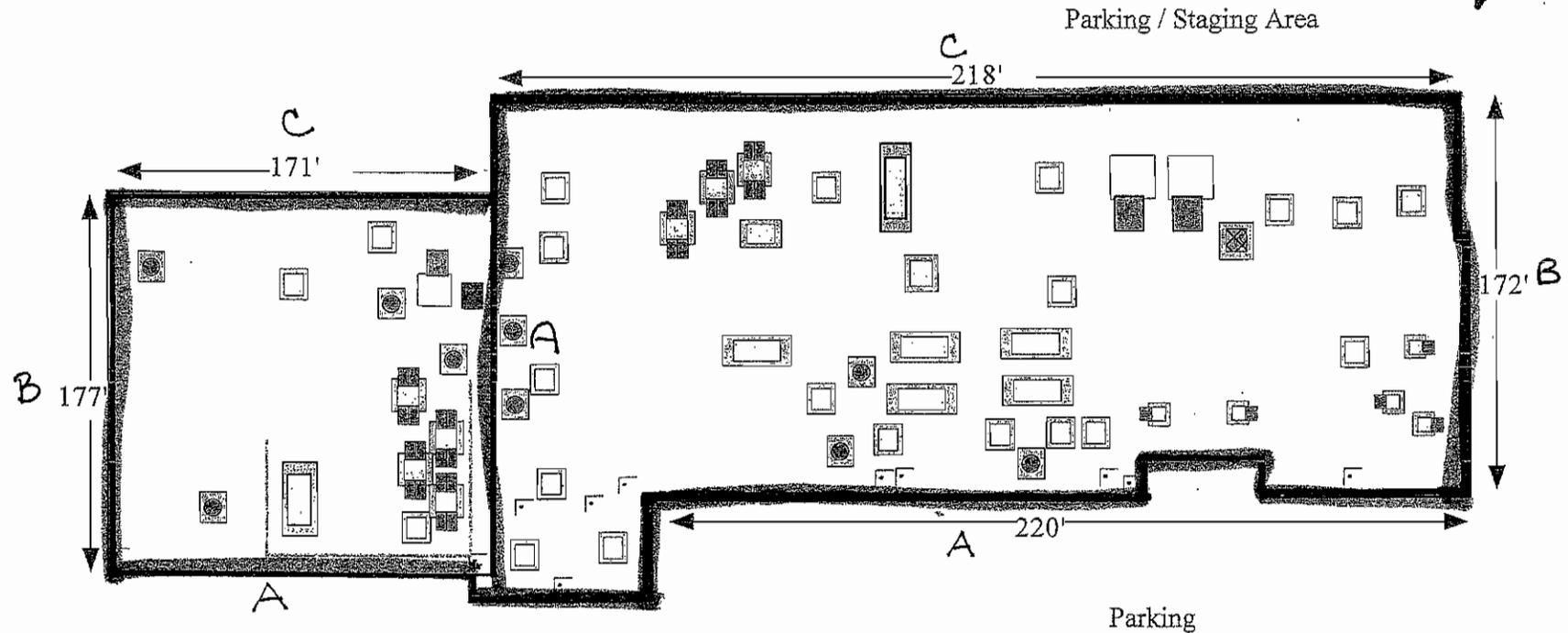


1. CALLER
2. Scrubber #1
3. Scrubber #2

MAP #3

E

N



- HVAC units
- Exhaust fan
- Roof Access
- HVAC units w/duct
- Swamp Cooler
- ⊗ Motorized Exhaust fan

PARAPET WALLS

← Karlstad Dr →

- UPPER ROOF**
- A. 30 INCHES HIGH
 - B. 30 INCHES HIGH
 - C. 30 INCHES HIGH

- LOWER ROOF**
- A. 6 FT HIGH
 - B. 5 FT HIGH
 - C. 6 FT HIGH
 - D. 7.5 FT HIGH

S

W



PLANNING DIVISION
CITY OF SUNNYVALE
P.O. BOX 3707
SUNNYVALE, CALIFORNIA 94088-3707

File Number: 2008-1067
No. 09-02

ATTACHMENT D
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**NOTICE OF INTENT TO ADOPT A
MITIGATED NEGATIVE DECLARATION**

This form is provided as a notification of an intent to adopt a Mitigated Negative Declaration which has been prepared in compliance with the provisions of the California Environmental Quality Act of 1970, as amended, and Resolution #118-04.

PROJECT TITLE:

Application for a **Variance** filed by **Aixtron Inc.**

PROJECT DESCRIPTION AND LOCATION (APN):

2008-1067 – Aixtron Inc. [Applicant] **John Sobrato Trustee & Et Al** [Owner]: Application for a Variance from Sunnyvale Municipal Code section 19.42.030 to allow existing roof mounted equipment to exceed noise standards. The property is located at **1139 Karlstad Drive** (near Toyama Dr.) in an R-4/PD (High Density Residential/Planned Development) Zoning District. (APN: 110-14-197) NC

WHERE TO VIEW THIS DOCUMENT:

The **Mitigated Negative Declaration**, its supporting documentation and details relating to the project are on file and available for review and comment in the Office of the Secretary of the Planning Commission, City Hall, 456 West Olive Avenue, Sunnyvale.

This **Mitigated Negative Declaration** may be protested in writing by any person prior to 5:00 p.m. on **Monday, February 23, 2009**. Protest shall be filed in the Department of Community Development, 456 W. Olive Avenue, Sunnyvale and shall include a written statement specifying anticipated environmental effects which may be significant. A protest of a **Mitigated Negative Declaration** will be considered by the adopting authority, whose action on the protest may be appealed.

HEARING INFORMATION:

A public hearing on the project is scheduled for:

Monday, February 23, 2009 at 8:00 p.m. in the Council Chambers, City Hall, 456 West Olive Avenue, Sunnyvale.

TOXIC SITE INFORMATION:

(No) listed toxic sites are present at the project location.

Circulated On January 30, 2009

Signed: 
Trudi Ryan, Planning Officer

INITIAL STUDY
City of Sunnyvale
Department of Community Development
Planning Division
P.O. Box 3707
Sunnyvale, CA 94088-3707

Project #: 2008-1067
Project Address: 1139 Karlstad Drive, Sunnyvale
Applicant: Aixtron Inc.

Project Title	Application for a Variance from noise standards.
Lead Agency Name and Address	City of Sunnyvale PO Box 3707 Sunnyvale, CA 94088-3707
Contact Person	Noren Caliva, Assistant Planner
Phone Number	(408) 730-7637
Project Location	1139 Karlstad Drive, Sunnyvale
Project Sponsor's Name	Aixtron Inc., Steve Stephens
Address	1139 Karlstad Drive Sunnyvale, CA 94089
Zoning	R-4/PD (High Density Residential/Planned Development)
General Plan	Industrial to Medium-High Density Residential
Other Public Agencies whose approval is required	None

Description of the Project

The project consists of an application for Variance from the City's Operating Standards (Noise or Sound Level – Sunnyvale Municipal Code §19.42.030(a)) for existing roof-mounted equipment at an existing industrial business. Aixtron, Inc. is not proposing to modify their operations in any manner but is requesting to be allowed to continue their existing operations.

ITR Background and Environmental Context

The neighborhood in which the subject business is located has been historically used for industrial and office uses. A study (Futures Study, File #7989), allowing the development of residential units in industrial zones, was completed in 1993 to address the City's ongoing housing shortages. As a result of the study, City Council approved a rezone, which added the Industrial to Residential (ITR) Combining District and the R-3 (Medium-Density) and R-4 (High Density Residential) designation to the existing M-S and M-3 Zones. The ITR Combining District allows industrial, office, commercial and residential uses to exist within the same zoning district, and allows existing industrial, office and commercial sites to convert to residential use. The R-3 and R-4 district defines the residential density and development standards.

A subsequent study was completed in 2002 (File #2001-0116), in which the General Plan designation for the area bounded by Highway 237, 101 and Lawrence Expressway (location of the subject site) was approved modified to allow medium and high density residential

Environmental Checklist Form

Project #: 2008-1067

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Project Address: 1139 Karlstad Drive, Sunnyvale

Applicant: Aixtron, Inc.

development. The subject site was rezoned to High Density Residential (R-4) in 2003. Properties within the neighborhood have recently transitioned into residential uses. The adjacent properties to the north and east have been recently developed with three-story townhomes that are zoned M-S/ITR/R-3/PD (Industrial and Service/Industrial to Residential/Medium-Density Residential/Planned Development). The properties to the west are developed with three-story townhome/apartment units and an existing two-story industrial/office building, which are zoned as R-4/PD (High Density Residential/Planned Development) and M-S/ITR/R-3/PD respectively. The adjacent properties to the south are currently occupied by industrial businesses, which are also zoned as M-S/ITR/R-3/PD.

Application Background

Aixtron, Inc. (formerly Genus) is an equipment supplier for the semiconductor industry, and began operations at this site in 1992. The business operates 24-hours, seven days a week. Two scrubbers and one chiller unit were installed on the roof in the 1990's, which are essential for the operation of the business. With the exception of general maintenance and minor interior improvements, the site and business operation have virtually remained the same since its establishment on this site.

The application is the result of complaints that have been received by the City's Neighborhood Preservation Division regarding noise emitted by the existing roof-mounted equipment at Aixtron, Inc. The complaints were submitted by residents of the adjacent homes (Danbury) to the north and east, which were constructed within the last four years.

Sunnyvale Municipal Code (SMC), Title 19

SMC §19.42.030(a) (Noise or Sound Level) states the following:

Operational noise shall not exceed seventy-five dBA at any point on the property line of the premises upon which the noise or sound is generated or produced; provided, however, that the noise or sound level shall not exceed fifty dBA during nighttime or sixty dBA during daytime hours at any point on adjacent residentially zoned property. If the noise occurs during nighttime hours and the enforcing officer has determined that the noise involves a steady, audible tone such as a whine, screech or hum, or is a staccato or intermittent noise (e.g., hammering) or includes music or speech, the allowable noise or sound level shall not exceed forty-five dBA.

As the above section states, the more restrictive noise level applies to any property that is adjacent to a residentially zoned property. Typically this applies to commercial or industrial businesses adjacent to residential uses. The section is also applicable to existing industrial or commercial businesses in ITR Zones when an adjacent parcel is converted from non-residential to residential. In effect, the allowable maximum noise level for properties in an ITR zoning combining district is lowered when an adjacent property is redeveloped to residential.

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
3. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
4. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
5. "Negative Declaration: Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section 17, "Earlier Analysis," may be cross-referenced).
6. Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c) (3) (d). In this case, a brief discussion should identify the following:
7. Earlier Analysis Used. Identify and state where they are available for review.
8. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
9. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project
10. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Agricultural Resources | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Air Quality | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Utilities/Service Systems |
| <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Mandatory Findings of Significance |
| <input type="checkbox"/> Geology/Soils | <input type="checkbox"/> Population/Housing | |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

I find that the proposed project MAY have a "potential significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.


Signature

Noren Caliva, Assistant Planner

1/30/09
Date

For the City of Sunnyvale
(Lead Agency)

Environmental Checklist Form

Project #: 2008-1067

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Project Address: 1139 Karlstad Drive, Sunnyvale

Applicant: Aixtron, Inc.

	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
1. AESTHETICS. Would the project:					
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94
b. Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94, 101
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94
2. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3, 94, 100, 111
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3, 94, 100, 111
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3, 96, 97, 100, 111
d. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	62, 63, 111, 112
e. Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	111, 112
3. BIOLOGICAL RESOURCES:					
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U. S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94, 111, 112, 109

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Applicant: Aixtron, Inc.

	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
b. Have a substantially adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94, 111, 112, 109
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94, 111, 112, 109
d. Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94, 111, 112, 109
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94, 111, 112, 109
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	41,94, 111, 112
4. CULTURAL RESOURCES. Would the project:					
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10, 42, 60, 61, 94, 111
b. Cause a substantial adverse change in the significance of an archaeological resources pursuant to Section 15064.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10, 42, 94
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10, 42, 94, 111
d. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 111, 112
5. LAND USE AND PLANNING. Would the project:					
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 11, 12, 21, 28

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	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
b. Conflict with an applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	31, 28, 111
c. Conflict with any applicable habitat conservation plan or natural communities conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 41, 94, 111
6. MINERAL RESOURCES. Would the project:					
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94
7. NOISE. Would the project result in:					
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Disc.
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 16, 26, 94, 111, 112, 115
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 16, 26, 94, 111, 112, 115
d. A substantially temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 16, 26, 94, 111, 112, 115
8. POPULATION AND HOUSING. Would the project:					
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94
b. Displace substantial numbers of existing housing, necessitating the construction of	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 11, 111, 112

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	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
replacement housing elsewhere?					
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 11, 111, 112
9. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
a. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 111, 112
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	26, 65, 66, 103, 104
c. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	26, 65, 66, 103, 104
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 111, 112
e. Other services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	111
10. MANDATORY FINDINGS OF SIGNIFICANCE					
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 10, 26, 42, 59, 60, 61, 111, 112
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of the past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1, 2, 111, 112

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	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	111, 112
11. GEOLOGY AND SOILS. Would the project:					
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UBC, UPC, UMC, NEC
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"
b. Result in substantial soil erosion or the loss of topsoil?					"
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"
d. Be located on expansive soil, as defined in Table 18-a-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"

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	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
12. UTILITIES AND SERVICE SYSTEMS. Would the project:					
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 20, 24, 87, 88, 89, 90, 111, 112
b. Require or result in construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 20, 24, 25, 87, 88, 89, 111, 112
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 20, 24, 25, 87, 88, 89, 111, 112
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 20, 24, 25, 87, 88, 89, 111, 112
e. Result in a determination by the wastewater treatment provider which services or may serve the project determined that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 20, 24, 25, 87, 88, 89, 111, 112
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 22, 90, 111, 112
g. Comply with federal, state, and local statues and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 22, 90, 111, 112
13. TRANSPORTATION/TRAFFIC. Would the project:					
a. Cause an increase in the traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 12, 71, 75-77, 111, 112
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 12, 71, 75-77, 80, 84, 111, 112

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	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
agency for designated roads or highways?					
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 111, 112, 113
d. Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 12, 71, 75-77, 80, 84, 111, 112
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 111, 112
f. Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	37, 111
g. Conflict with adopted policies or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 12, 81, 111, 112
14. HAZARDS AND HAZARDOUS MATERIALS. Would the project?					
a. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC

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	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC
g. Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC
15. RECREATION					
a. Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 18, 111, 112
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 18, 111, 112
16. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:					
a. Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	94
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	94
c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	94

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	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
Farmland, to non-agricultural use					
17. HYDROLOGY AND WATER QUALITY. Would the project:					
a. Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
b. Substantially degrade groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or surface runoff in a manner which would result in flooding on- or off site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
e. Create or contribute runoff which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
f. Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
g. Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112

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Project Address: 1139 Karlstad Drive, Sunnyvale

Applicant: Aixtron, Inc.

	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
the failure of a levee or dam?					
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112

DISCUSSION OF IMPACTS THAT ARE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED:

7. NOISE (a)

Acoustical Reports – Findings

The applicant submitted two acoustical reports prepared by Charles M. Salter Associates, Inc. and Environmental and Occupational Risk Management. The following discussion addresses the findings and recommendations for mitigation in both reports.

The acoustical report prepared by Environmental and Occupational Risk Management analyzed the existing exterior daytime noise levels at the site on August 1, 2008 and nighttime noise levels on August 6, 2008. The study measured the noise levels due to the roof-mounted equipment at ten separate locations along the property line. The acoustical report prepared by Charles M. Salter Associates, Inc. noted similar noise levels. The following table summarizes the existing noise levels measured at the noisiest points along the property lines:

Table 1. Existing Noise Levels

	Daytime (dB)	Nighttime (dB)
North (adjacent to residential)	54	55.5
East (adjacent to residential)	53.5	52.6
South (adjacent to industrial)	54.2	54.5
West (adjacent to residential)	59	62.4

Applicable Ordinances

SMC §19.42.030(a) (Noise or Sound Level) states the following:

Operational noise shall not exceed seventy-five dBA at any point on the property line of the premises upon which the noise or sound is generated or produced; provided, however, that the noise or sound level shall not exceed fifty dBA during nighttime or sixty dBA during daytime hours at any point on adjacent residentially zoned property. If the

Environmental Checklist Form

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 Applicant: Aixtron, Inc.

noise occurs during nighttime hours and the enforcing officer has determined that the noise involves a steady, audible tone such as a whine, screech or hum, or is a staccato or intermittent noise (e.g., hammering) or includes music or speech, the allowable noise or sound level shall not exceed forty-five dBA.

As the above section states, the more restrictive noise level applies to any property that is adjacent to a residentially zoned property. According to the noise measurements provided in the acoustical reports, the existing daytime (7:00 a.m. to 10:00 p.m.) noise levels emitted by Aixtron, Inc. are in compliance with SMC §19.42.030(a). However, the nighttime (10:00 p.m. to 7:00 a.m.) noise levels do not comply with SMC §19.42.030(a), as the noise levels exceed both the 45dB and 50dB limitations.

Options for Mitigation

The acoustical reports recommend that the equipment be maintained on a regular basis and to meet equipment specifications, and exploration of noise attenuating materials and enclosures for the two scrubbers and one chiller unit. One option identified in the Charles M. Salter Associates, Inc. report was a 22-foot tall parapet barrier around the entire roofline. This option was eliminated as a possible mitigation measure, as it was determined to be structurally infeasible in a report prepared by Holmes Culley, dated November 4, 2008. The table below summarizes the remaining options for mitigation, including the level noise reduction, estimated cost of construction, and cost of construction per dB of reduction:

Table 2. Options for Mitigation

	Noise Reduction (dB)	Total Cost	Cost per dB Reduction
1. Barrier around scrubbers and two scrubber silencers, no chiller treatment	0.5	\$46,208	\$92,416
2. Chiller sound blanket only	5.3	\$23,000	\$4,340
3. Barrier around chiller only	5.9	\$144,000	\$24,407
4. Chiller sound blanket, scrubber barriers, scrubber silencers	7.2	\$69,208	\$9,612
5. Barrier around chiller and scrubbers and two scrubber silencers	8.1	\$190,208	\$23,480

Although Option #5 would result in the most noise reduction among the options identified, cost considerations must also be made. Therefore, the preferred mitigation is Option #4, which results in significant noise reduction with a reasonable cost. The following table shows the estimated noise levels with implementation of the Option #4:

Table 3. Estimated Noise Levels with Implementation of Mitigation Option #4

	Daytime (dB)	Nighttime (dB)
North (adjacent to residential)	46.8	48.3
East (adjacent to residential)	46.3	45.4
South (adjacent to industrial)	47	47.3
West (adjacent to residential)	51.8	55.2

The daytime noise levels currently meet the noise standards contained in SMC §19.42.030(a) and the resulting noise levels with implementation of mitigation Option #4 will improve the noise levels perceived by the adjacent residents.

The resulting nighttime noise levels will also be improved and will meet the 50dB limitation contained in SMC §19.42.030(a) for the residential properties to the north and east. The noise levels for the adjacent residential properties along the west property line will remain noncompliant. If the 45dB limitation is applied, implementation of mitigation Option #4 will still result in noise levels that do not meet the nighttime noise standard for all adjacent residential properties. Although Option #4 will not result in full compliance with SMC §19.42.030(a), staff finds that it is a reasonable mitigation that will reduce the impacts to adjacent residents.

Implementation of the mitigation measures regarding air ventilation and closure of windows identified through the development of the adjacent residential projects will further reduce the impacts to less than significant.

Mitigation Measures

The Acoustical Report recommends the following mitigation measures for noise control of the existing conditions:

WHAT: 1) The two scrubbers and one chiller unit shall be maintained on a regular basis and shall meet equipment specifications.

2) Install a chiller sound blanket, structural scrubber barriers, and scrubber silencers per specifications recommended by Charles M. Salter Associates.

WHEN: These mitigation measures will be converted into conditions of approval for this Variance Application prior to its final approval by the City's Planning Commission. The conditions will become valid when the Variance is approved and must be installed within three months.

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Project Address: 1139 Karlstad Drive, Sunnyvale
Applicant: Aixtron, Inc.

- WHO: The property owner will be solely responsible for implementation and maintenance of these mitigation measures.
- HOW: The conditions of approval will require these mitigation measures to be incorporated into the construction plans.

Noren Caliva, Assistant Planner

1/30/2009

Completed By

Date

Environmental Checklist Form

Project #: 2008-1067

Project Address: 1139 Karlstad Drive, Sunnyvale

Applicant: Aixtron, Inc.

City of Sunnyvale General Plan:

- 2. Map
- 3. Air Quality Sub-Element
- 4. Community Design Sub-Element
- 5. Community Participation Sub-Element
- 6. Cultural Arts Sub-Element
- 7. Executive Summary
- 8. Fire Services Sub-Element
- 9. Fiscal Sub-Element
- 10. Heritage Preservation Sub-Element
- 11. Housing & Community Revitalization Sub-Element
- 12. Land Use & Transportation Sub-Element
- 13. Law Enforcement Sub-Element
- 14. Legislative Management Sub-Element
- 15. Library Sub-Element
- 16. Noise Sub-Element
- 17. Open Space Sub-Element.
- 18. Recreation Sub-Element
- 19. Safety & Seismic Safety Sub-Element
- 20. Sanitary Sewer System Sub-Element
- 21. Socio-Economic Sub-Element
- 22. Solid Waste Management Sub-Element
- 23. Support Services Sub-Element
- 24. Surface Run-off Sub-Element
- 25. Water Resources Sub-Element

City of Sunnyvale Municipal Code:

- 27. Chapter 10
- 28. Zoning Map
- 29. Chapter 19.42. Operating Standards
- 30. Chapter 19.28. Downtown Specific Plan District
- 31. Chapter 19.18. Residential Zoning Districts
- 32. Chapter 19.20. Commercial Zoning Districts
- 33. Chapter 19.22. Industrial Zoning Districts
- 34. Chapter 19.24. Office Zoning Districts
- 35. Chapter 19.26. Combining Zoning Districts
- 36. Chapter 19.28. Downtown Specific Plan
- 37. Chapter 19.46. Off-Street Parking & Loading
- 38. Chapter 19.56. Solar Access
- 39. Chapter 19.66. Affordable Housing
- 40. Chapter 19.72. Conversion of Mobile Home Parks to Other Uses
- 41. Chapter 19.94. Tree Preservation
- 42. Chapter 19.96. Heritage Preservation

Specific Plans

- 43. El Camino Real Precise Plan
- 44. Lockheed Site Master Use Permit
- 45. Moffett Field Comprehensive Use Plan
- 46. 101 & Lawrence Site Specific Plan
- 47. Southern Pacific Corridor Plan

Environmental Impact Reports

- 48. Futures Study Environmental Impact Report
- 49. Lockheed Site Master Use Permit Environmental Impact Report
- 50. Tasman Corridor LRT Environmental Impact Study (supplemental)
- 51. Kaiser Permanente Medical Center Replacement

Center Environmental Impact Report (City of Santa Clara)

- 52. Downtown Development Program Environmental Impact Report
- 53. Caribbean-Moffett Park Environmental Impact Report
- 54. Southern Pacific Corridor Plan Environmental Impact Report

Maps

- 55. City of Sunnyvale Aerial Maps
- 56. Flood Insurance Rate Maps (FEMA)
- 57. Santa Clara County Assessors Parcel
- 58. Utility Maps (50 scale)

Lists/Inventories

- 59. Sunnyvale Cultural Resources Inventory List
- 60. Heritage Landmark Designation List
- 61. Santa Clara County Heritage Resource Inventory
- 62. Hazardous Waste & Substances Sites List (State of California)
- 63. List of Known Contaminants in Sunnyvale

Legislation/Acts/Bills/Codes

- 64. Subdivision Map Act
- 65. Uniform Fire Code, including amendments per SMC adoption
- 66. National Fire Code (National Fire Protection Association)
- 67. Title 19 California Administrative Code
- 68. California Assembly Bill 2185/2187 (Waters Bill)
- 69. California Assembly Bill 3777 (La Follette Bill)
- 70. Superfund Amendments & Reauthorization Act (SARA) Title III

Transportation

- 71. California Department of Transportation Highway Design Manual
- 72. California Department of Transportation Traffic Manual
- 73. California Department of Transportation Standard Plan
- 74. California Department of Transportation Standard Specification
- 75. Institute of Transportation Engineers - Trip Generation
- 76. Institute of Transportation Engineers Transportation and Traffic Engineering Handbook
- 77. U.S. Dept. of Transportation Federal Highway Admin. Manual on Uniform Traffic Control Devices for Street and Highways
- 78. California Vehicle Code
- 79. Traffic Engineering Theory & Practice by L. J. Pegnataro
- 80. Santa Clara County Congestion Management Program and Technical Guidelines
- 81. Santa Clara County Transportation Agency Short Range Transit Plan

Environmental Checklist Form

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Project Address: 1139 Karlstad Drive, Sunnyvale

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- 82. Santa Clara County Transportation Plan
- 83. Traffic Volume Studies, City of Sunnyvale Public works Department of Traffic Engineering Division
- 84. Santa Clara County Sub-Regional Deficiency Plan
- 85. Bicycle Plan

Public Works

- 86. Standard Specifications and Details of the Department of Public Works
- 87. Storm Drain Master Plan
- 88. Sanitary Sewer Master Plan
- 89. Water Master Plan
- 90. Solid Waste Management Plan of Santa Clara County
- 91. Geotechnical Investigation Reports
- 92. Engineering Division Project Files
- 93. Subdivision and Parcel Map Files

Miscellaneous

- 94. Field Inspection
- 95. Environmental Information Form
- 96. Annual Summary of Containment Excesses (BAAQMD)
- 97. Current Air Quality Data
- 98. Chemical Emergency Preparedness Program (EPA) Interim Document in 1985?)
- 99. Association of Bay Area Governments (ABAG)

Population Projections

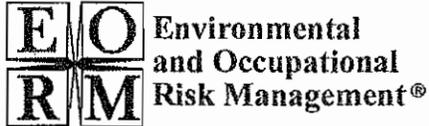
- 100. Bay Area Clean Air Plan
- 101. City-wide Design Guidelines
- 102. Industrial Design Guidelines

Building Safety

- 103. Uniform Building Code, Volume 1, (Including the California Building Code, Volume 1)
- 104. Uniform Building Code, Volume 2, (Including the California Building Code, Volume 2)
- 105. Uniform Plumbing Code, (Including the California Plumbing Code)
- 106. Uniform Mechanical Code, (Including the California Mechanical Code)
- 107. National Electrical Code (Including California Electrical Code)
- 108. Title 16 of the Sunnyvale Municipal Code

Additional References

- 109. USFWS/CA Dept. F&G Special Status Lists
- 110. Project Traffic Impact Analysis
- 111. Project Description
- 112. Project Development Plans
- 113. Santa Clara County Airport Land Use Plan
- 114. Federal Aviation Administration
- 115. Acoustical Analysis by Illingsworth & Rodkin, 2006



4 North 2nd Street, Suite 1270
San Jose, CA 95113
408.790.9200
(fax) 408.213.0944
www.eorm.com

August 14, 2008

Gary Fair
AIXTRON, Inc.
1139 Karlstad Drive
Sunnyvale, CA 94089

Re: Community Noise Survey – EORM® Project No. GENS0003

Dear Mr. Fair:

AIXTRON retained Environmental and Occupational Risk Management, Inc. (EORM®) to conduct a community noise survey at their 1139 Karlstad Drive location in Sunnyvale, California. This project was initiated in response to a Courtesy Notice from the City of Sunnyvale that referenced compliance with Sunnyvale Municipal Code (19.42.030a) for noise and response to residential complaints. The purpose of the survey was to characterize sound pressure levels during the day and night due to facilities equipment located on the roof of the 1139 Karlstad Drive site.

On August 1st and 6th, 2008, EORM's Senior EHS Consultant, Mr. Brent Wilson, MPH, under the direction of Ms. Cindy Kurtz, CIH, collected various sound pressure level measurements to characterize noise levels at the edge/interior of the roof and property line at 1139 Karlstad Drive in Sunnyvale, California.

This report prepared by Mr. Wilson and reviewed by Ms. Kurtz describes the sampling methodology employed, presents the results of the sound pressure level measurements, compares the monitoring results to City of Sunnyvale Municipal Code requirements, and discusses conclusions and recommendations

Background

It is EORM's understanding that the Neighborhood Preservation Division for the City of Sunnyvale's Community Development Department responded to resident complaints regarding excessive noise being generated by the AIXTRON facility located at 1139 Karlstad Drive, Sunnyvale, California. (The City of Sunnyvale's noise measurement results were not provided to EORM.) The sound pressure level measurements described in this report were taken to document the noise levels during the day and night from the facility.

Regulatory Standards

The Neighborhood Preservation Division is responsible for upholding the standards set forth in the Sunnyvale Municipal Code to maintain the health, safety and quality of life for the residential and business communities. The City of Sunnyvale has established quantitative noise limits in the Sunnyvale Municipal Code 19.42.030, "Noise or sound level." This code states that operational noise shall not exceed 75 dBA at any point on the property line of the premises upon which the noise or sound is generated or produced. However, the code states that the noise or sound level shall not

exceed 50 dBA during nighttime or sixty dBA during daytime hours at any point on adjacent residentially zoned property. In addition, the code stipulated that if the noise occurs during nighttime hours and the enforcing officer has determined that the noise involves a steady, audible tone such as a whine, screech or hum, or is a staccato or intermittent noise (e.g., hammering) or includes music or speech, the allowable noise or sound level shall not exceed 45 dBA.

Description of Operations and Site Conditions

The AIXTRON building at 1139 Karlstad Drive in Sunnyvale, California is a one-story building with a two level roof with parapets. The south roof is elevated approximately 8 feet above the north section of the roof. The northern section has a parapet wall that ranges from 5 to 6 feet above the roof. The south section parapet ranges from 1 to 3 feet above the roof. The major facilities equipment on the roof is comprised of HVAC system components, exhaust fans, scrubbers, and a chiller. Refer to Attachment 2 for both a roof diagram with survey locations shown as well as an aerial view of the building and property boundaries including HVAC system components.

The area surrounding the AIXTRON buildings consists of asphalt parking areas and driving corridors. The residential homes are on the north side, east side, and across Karlstad Drive (west side) of the facility.

During the day and night measurements, all the facilities equipment was operating normally. There was a mild breeze from the north and no precipitation during both measurement periods. All measurements were taken when local vehicle traffic and air traffic was at a minimum.

Existing noise sources in the vicinity of the AIXTRON site include vehicular traffic on local roadways and adjacent parking lots, aircraft landings and takeoffs at nearby Moffett Field, distant vehicular traffic (Tasman Drive, Morse Ave, and North Fair Oaks Avenue), roof mounted facilities equipment at neighboring commercial buildings (northeast and south), and general human and pet activities. There were no apparent noise sources at the residences themselves.

Survey Methodology

Measurement Instruments and Equipment

August 1, 2008 Measurements

A Quest 1700 Type 1 Sound Level Meter equipped with an electret condenser microphone, and a two-inch foam windscreen was used to collect the short-term broadband ambient sound pressure level data during the measurements taken during the daytime hours on August 1, 2008. The instrumentation meets the Type 1 requirements set forth in ANSI S1.4-1983 for acoustical measuring devices. The meter settings were set to "slow" response for time-weighting, Sound Pressure Level (SPL) mode, A-weighted decibels (dB), and a 40 to 100 dB range.

The Quest Sound Level Meter was calibrated in the field before and after the survey with a Quest QC-20 acoustical calibrator, which meets the standards of IEC 942, Class 1L and ANSI S1.40-1984. The calibration frequency is 1000 Hz with an accuracy of +/- 0.3 dB at the calibration level of 94.0 dB. The calibrator and analyzer are certified as accurate to standards set by the US National Institute of Standards and Technology by an independent laboratory within the past 12 months. All calibration level changes were 0.5 dB or less, thus validating the date precision.

August 6, 2008 Measurements

A Quest 2100 Type 2 Sound Level Meter equipped with an electret condenser microphone, and a two-inch foam windscreen were used to collect the short-term broadband ambient sound pressure level data during the measurements taken during the nighttime hours on August 6, 2008. The instrumentation meets the Type 2 requirements set forth in ANSI S1.4-1983 for acoustical measuring devices. The meter settings were set to “slow” response for time-weighting, Sound Pressure Level (SPL) mode, A-weighted decibels (dB), and a 50 to 120 dB range.

The Quest Sound Level Meter was calibrated in the field before and after the survey with a Quest QC-10 acoustical calibrator, which meets the standards of IEC 942, Class 1L and ANSI S1.40-1984. The calibration frequency is 1000 Hz with an accuracy of +/- 0.3 dB at the calibration level of 114.0 dB. The calibrator and analyzer are certified as accurate to standards set by the US National Institute of Standards and Technology by an independent laboratory within the past 12 months. All calibration level changes were 0.5 dB or less, thus validating the date precision.

Measurement Methods

Sound pressure level measurements were taken during the day between 2:01pm and 3:40pm on August 1, 2008. Measurements taken at night were between 9:03pm and 10:50pm on August 6, 2008. The sound levels were measured at heights of 4 to 5 feet above ground level or roof level. Measurements along the east and north property line have a wood fence and cinderblock wall respectively which may affect the sound level measurements. The sound levels measured on the lower section of the roof were taken 8 to 12 inches above the parapet wall. The measurements were made under mild wind conditions and with dry roadway surfaces.

Results

The sound level averages are presented in Table 1 below and provide short-term “snapshots” of the sound levels during the day and night at the perimeter of the roof, interior of the roof, and perimeter of the property. Detailed measurements and measurement locations are in Attachment 1 and 2 respectively.

Table 1: Average Sound Level Measurements

Area	August 1, 2008 Day Average (dBA)	August 6, 2008 Night Average (dBA)
Interior of Roof	69.1	69.5
Perimeter of Roof	63.1	62.6
Perimeter of Property	54.2	54.9

Noise Terminology

Noise is defined as unwanted sound. Sound is a rapid fluctuation of air pressure above and below atmospheric pressure. There are several methods to measure noise, depending on the source of the noise, the receiver, and the reason for the noise measurement. All of them use the logarithmic decibel (dB) scale. The decibel scale is logarithmic to accommodate the wide range of sound intensities found in the environment. A three dB change in sound level represents a doubling or halving of sound energy. Any change in sound levels less than three dB is imperceptible to the human ear.

In this report, some statistical noise levels are stated in terms of decibels on the A-weighted scale (dBA). Noise levels stated in terms of dBA reflect the response of the human ear by filtering out some of the noise in the low and high frequency ranges that the ear does not detect well. The A-weighted

scale is used in most ordinances and standards. In practice, the level of a sound source is conveniently measured using a sound level meter that includes an electrical filter corresponding to the A-weighted curve.

Technical noise terms used in this report are summarized in Table 2.

Table 2: Definition of Acoustical Terms

Term	Definitions
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound pressure, which is 20 micropascals (20 micronewtons per square meter)
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighted filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.

Conclusions and Recommendations

The operational noise of facility equipment, under the normal operating conditions during this survey, measured at the property line during the day was below the noise ordinance of 60 dBA as represented by the measurements collected from the property line that ranged from 52.4 dBA to 59.0 dBA. However, the noise being generated by the facility equipment during the night was above the nighttime allowable level of 45 dBA for steady audible tones as represented by the measurements collected from the property line that ranged from 51.5 dBA to 62.4 dBA. The two exhaust scrubbers, large exhaust fan unit, and chiller appear to be main sources of noise from the roof of the facility.

Based on observations and the results of the sound pressure level measurements performed at the 1139 Karlstad Drive in Sunnyvale, California site during the day on August 1, 2008 and night on August 6, 2008 we recommend the following:

- Ensure the two scrubbers, large exhaust fan, and chiller are being maintained on a regular basis and to meet equipment specifications;
- Explore noise reduction options (noise attenuating materials and possible enclosures) for the facility equipment (scrubbers, exhaust fans and chiller).
- Sound pressure level measurements should be repeated in the following cases:
 - Following the implementation of noise reduction options to evaluate their effectiveness
 - Once any facility equipment operational parameters are changed/modified or equipment is removed/installed.

Regards,

Reviewed by:

Brent Wilson (via email)

Cynthia Kurtz (via email)

Brent Wilson, MPH
 Senior EHS Consultant

Cynthia Kurtz, CIH
 Principal Consultant

Attachments

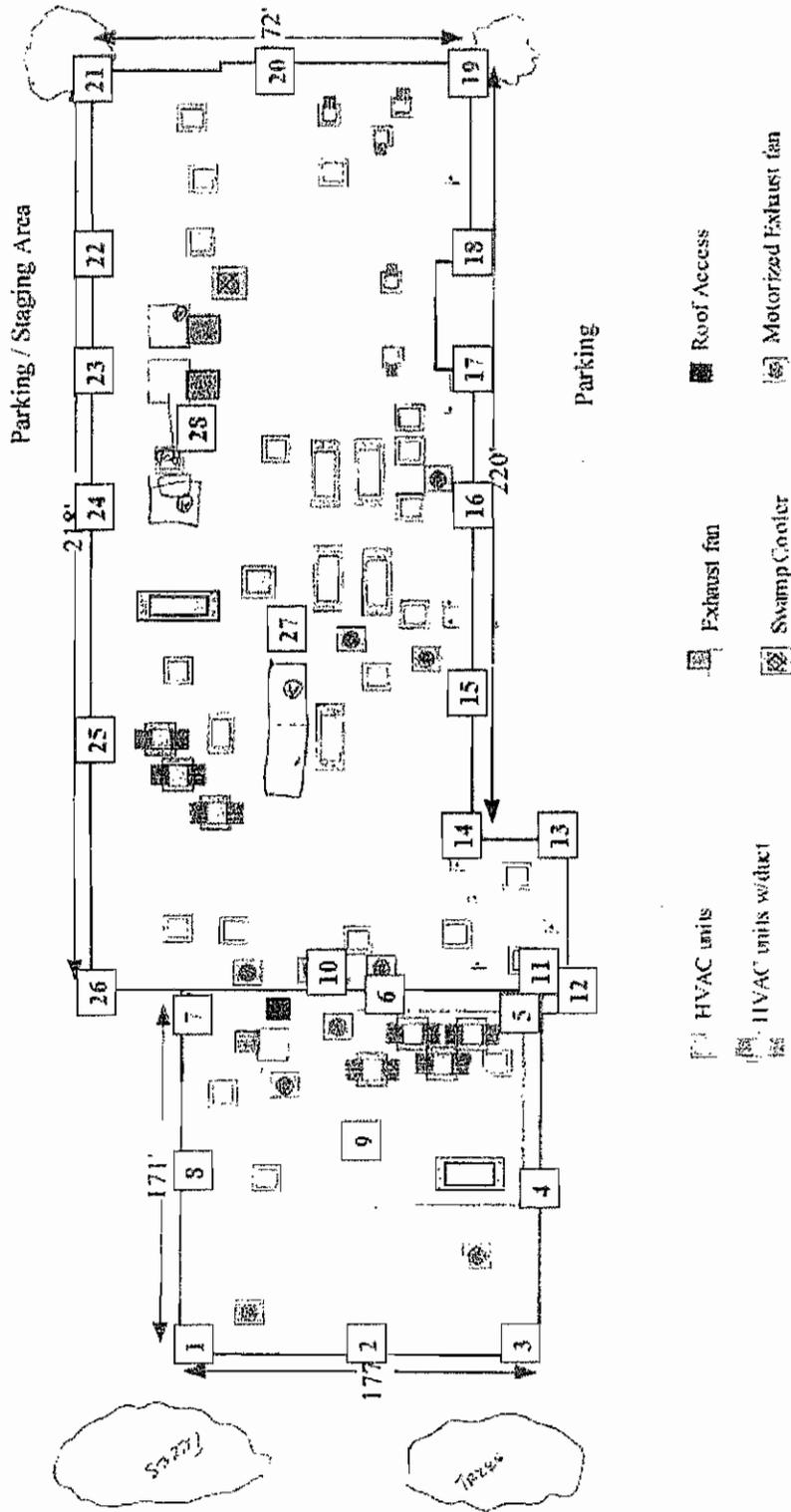
Attachment 1

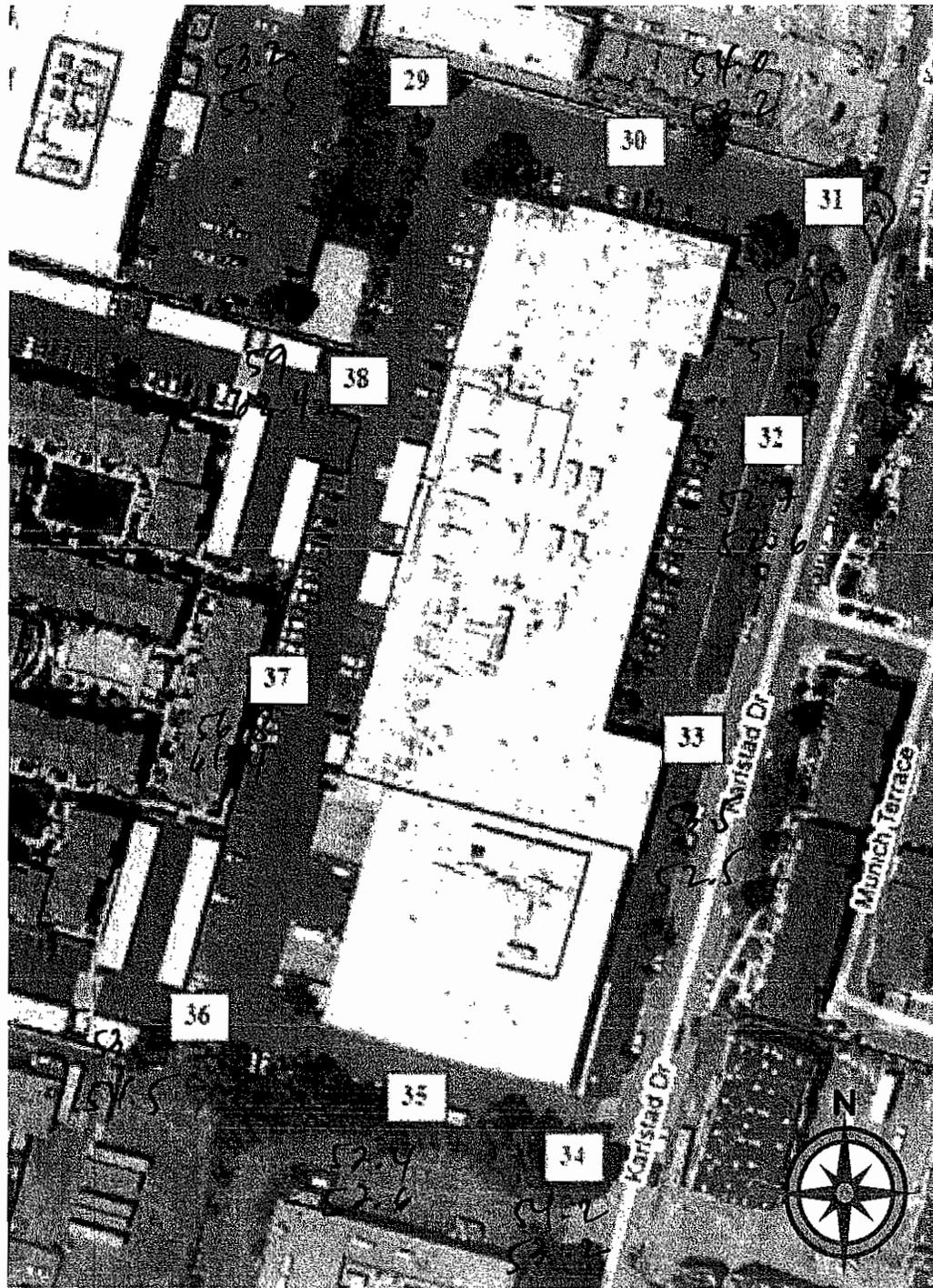
Sound Level Measurements

Location Number	August 1, 2008 Day Average (dBA)	August 6, 2008 Night Average (dBA)	Area
1	57.6	59.8	Perimeter of Roof
2	58.5	57.5	Perimeter of Roof
3	54.7	57.0	Perimeter of Roof
4	57.4	57.3	Perimeter of Roof
5	65.1	60.8	Perimeter of Roof
6	66.7	64.3	Perimeter of Roof
7	66.1	62.3	Perimeter of Roof
8	61.8	60.7	Perimeter of Roof
9	61.9	64.6	Interior of Roof
10	68.2	67.6	Interior of Roof
11	67.9	65.3	Interior of Roof
12	62.9	61.8	Perimeter of Roof
13	64.1	61.9	Perimeter of Roof
14	68.2	63.8	Perimeter of Roof
15	66.2	64.2	Perimeter of Roof
16	64.2	63.6	Perimeter of Roof
17	61.2	62.2	Perimeter of Roof
18	59.8	59.6	Perimeter of Roof
19	59.7	59.6	Perimeter of Roof
20	60.7	60.8	Perimeter of Roof
21	60.4	61.4	Perimeter of Roof
22	64.7	65.8	Perimeter of Roof
23	68.0	73.1	Perimeter of Roof
24	72.3	73.1	Perimeter of Roof
25	67.5	67.6	Perimeter of Roof
26	63.7	62.5	Perimeter of Roof
27	72.4	74.6	Interior of Roof
28	75.1	75.4	Interior of Roof
29	53.2	55.5	Perimeter of Property
30	54.0	53.2	Perimeter of Property
31	52.5	51.5	Perimeter of Property
32	52.7	52.6	Perimeter of Property
33	53.5	52.5	Perimeter of Property
34	54.2	53.2	Perimeter of Property
35	52.4	52.6	Perimeter of Property
36	53.2	54.5	Perimeter of Property
37	56.8	61.4	Perimeter of Property
38	59.0	62.4	Perimeter of Property

Attachment 2

Sound Level Measurement Locations





Attachment 3

Data Sheets

EORM NOISE MONITORING DATA SHEET

PROJECT DATA:

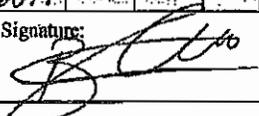
Type of Sample (personal, area): AREA	Building Number/Room: AIXTRON 1139 KAELSTAD DR. Sunnyvale CA 94089	Date/Time: 14:00 8/1/08	Supervisor's Name _____
Employee Name (last, first): _____	Employee Number _____	Job Title/Duties: _____	
Extension: _____	_____	_____	
Employee Name (last, first): _____	Employee Number _____	Job Title/Duties: _____	
Extension: _____	_____	_____	
Employee Name (last, first): _____	Employee Number _____	Job Title/Duties: _____	
Extension: _____	_____	_____	

EMPLOYEE AND WORK AREA DATA:

Work Duration/Frequency (number of hours/day/week/year): _____	Personal Protective Equipment Used: _____
Describe Control Measures used in Operation: NONE	Number of Employee Performing Similar Duties: _____
Operation/Process/Lab Procedure: _____	

FIELD MONITORING DATA:

Reading	Time	Location Test	Peak	dBA	dBC	31.5	63	125	250	500	1000	2000	4000	8000	16000
1	14:01	1		57.6											
2	14:03	2		58.5											
3	14:04	3		54.7											
4	14:06	4		57.4											
5	14:08	5		65.1											
6	14:09	6		66.7											
7	14:10	7		66.1											
8	14:12	8		61.8											
9	14:14	9		61.9											
10	14:15	10		68.2											
11	14:16	11		67.9											
12	14:18	12		62.9											
13	14:20	13		64.1											
14	14:21	14		68.2											
15	14:22	15		66.2											
16	14:24	16		64.2											
17	14:26	17		61.2											
18	14:28	18		59.8											
19	14:30	19		59.7											
20	14:31	20		60.7											

Industrial Hygienist/Technician (print): BRENT WILSON	Signature: 	Date: 8/1/08	Employee number: _____
---	---	------------------------	---------------------------

INSTRUMENT AND CALIBRATION DATA:

SLM/OBA Mfg. & S/N: CAL QUEST 1700 6/10/08 HTE 060023		Calibrator Mfg. & S/N: QUEST QC-20 Q0260018 CAL 6/10/08, 94dBA 1000 Hz		Calibrator Mfg. and Serial Number: QUEST QC-20 CAL. 6/10/08 1000 Hz		Q0260018 94dBA			
P R E		125	250	500	1000	2000			
	dBA				93.5				
	dBC						93.5		
	Band								
Location, Temp, & Barometric Press:				Location, Temp, & Barometric Press:					
Name (Print): BRENT WILSON		Initials: BW	Date/Time: 8/01/2008 14:01		Name (Print): BRENT WILSON		Initials: BW		
Date/Time: 8/01/2008 15:40		Dosemeter Mfg and S/N: Quest		Calibrator Mfg. & S/N: Quest		Calibrator and Readout Mfg. & Serial Number:			
P R E	Percent ADD		SLM		P O S T	Percent Add		SLM	
	Location, Temp, and Barometric Press:					Location, Temp, and Barometric Press:			
Name (Print):		Initials:	Date/Time Time::		Name (Print):		Initials:	Date/	

DOSIMETER SURVEY DATA:

Survey Number:					
Time On:					
Time Off:					
Percent Readout:					
Total Time:					

NOTES AND CALCULATIONS:

QUEST 1700 SETTINGS:	- No Vehicle NOISE FROM LOCAL STREETS & LOTS
- SLOW RESPONSE	- MILD BREEZE
- A WEIGHT	- No other significant ENVIRONMENTAL NOISE
- SPL Mode	
- 40 to 100 RANGE	
w/ Foam over microphone.	READINGS 1-11, 27, 28 } MEASURED @ 5 FT
	29-38 } above ROOF/GROUND
	ALL OTHER READINGS were taken 12 INCHES
	above parapet wall.

EORM NOISE MONITORING DATA SHEET

PROJECT DATA:

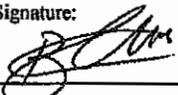
Type of Sample (personal, area):	Building Number/Room:	Date/Time:	Supervisor's Name
			Extension:
Employee Name (last, first):	Employee Number	Job Title/Duties:	
Extension:			
Employee Name (last, first):	Employee Number	Job Title/Duties:	
Extension:			
Employee Name (last, first):	Employee Number	Job Title/Duties:	
Extension:			

EMPLOYEE AND WORK AREA DATA:

Work Duration/Frequency (number of hours/day/week/year):	Personal Protective Equipment Used:
Describe Control Measures used In Operation:	Number of Employee Performing Similar Duties:
Operation/Process/Lab Procedure:	

FIELD MONITORING DATA:

Reading	Time	Location Test	Peak	dBA	dBC	31.5	63	125	250	500	1000	2000	4000	8000	16000
1	14:32	21		60.4											
2	14:34	22		64.7											
3	14:36	23		68.0											
4	14:38	24		72.3											
5	14:41	25		67.5											
6	14:43	26		63.7											
7	14:45	27		72.4											
8	14:53	28		75.1											
9	15:10	29		53.2											
10	15:12	30		54.0											
11	15:15	31		52.5											
12	15:18	32		52.7											
13	15:22	33		53.5											
14	15:24	34		54.2											
15	15:26	35		52.4											
16	15:29	36		53.2											
17	15:33	37		56.8											
18	15:35	38		59.0											
19															
20															

Industrial Hygienist/Technician (print): BRENT WILSON	Signature: 	Date: 8/1/08	Employee number: —
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EORM NOISE MONITORING DATA SHEET

PROJECT DATA:

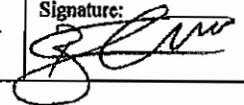
Type of Sample (personal, area): AREA	Building Number/Room: AIXTPON 1139 KARLSTAD DR. SUNNYVALE CA 94089	Date/Time: 21:00 8/6/08	Supervisor's Name Extension: -
Employee Name (last, first): Extension: -	Employee Number -	Job Title/Duties: -	
Employee Name (last, first): Extension: -	Employee Number -	Job Title/Duties: -	
Employee Name (last, first): Extension: -	Employee Number -	Job Title/Duties: -	

EMPLOYEE AND WORK AREA DATA:

Work Duration/Frequency (number of hours/day/week/year): -	Personal Protective Equipment Used: -
Describe Control Measures used In Operation: NONE	Number of Employee Performing Similar Duties: -
Operation/Process/Lab Procedure: -	

FIELD MONITORING DATA:

Reading	Time	Location Test	Peak	dBA	dBC	31.5	63	125	250	500	1000	2000	4000	8000	16000
1	21:11	1		59.8											
2	21:12	2		57.5											
3	21:14	3		57.0											
4	21:15	4		57.3											
5	21:16	5		60.8											
6	21:17	6		61.3											
7	21:18	7		62.3											
8	21:20	8		60.7											
9	21:21	9		64.6											
10	21:24	10		62.6											
11	21:26	11		65.3											
12	21:27	12		61.8											
13	21:29	13		61.9											
14	21:30	14		63.8											
15	21:31	15		64.2											
16	21:32	16		63.6											
17	21:33	17		62.2											
18	21:34	18		59.6											
19	21:35	19		59.6											
20	21:36	20		60.8											

Industrial Hygienist/Technician (print): BRENT WILSON	Signature: 	Date: 8/6/08	Employee number: -
---	---	------------------------	------------------------------

INSTRUMENT AND CALIBRATION DATA:

SLM/OBA Mfg. & S/N: QUEST 2100 CAL DAE 110019 6/24/08		Calibrator Mfg. & S/N: QUEST QC-10 QIE 110275 CAL 4/18/08 1142BA HZ		Calibrator Mfg. and Serial Number: QIE 110275 1142BA QUEST QC-10 CAL 4/18/08 1000 Hz		
P R E		125	250	500	1000	2000
	dBA				113.9	
	dBC					
	Band					
Location, Temp, & Barometire Press:						
Name (Print): BRENT WILSON		Initials: BW		Date/Time: 8/6/08 21:03		
Name (Print): BRENT WILSON		Initials: BW		Date/Time: 8/6/08 22:50		
Dosimeter Mfg and S/N: Quest		Calibrator Mfg. & S/N: Quest		Calibrator and Readout Mfg. & Serial Number:		
P R E	Percent ADD		SLM			
	BW					
	Location, Temp, and Barometric Press:					
P O S T	Percent Add		SLM			
	BW					
	Location, Temp, and Barometric Press:					
Name (Print):		Initials:		Date/Time:		
Name (Print):		Initials:		Date/		

DOSIMETER SURVEY DATA:

Survey Number:					
Time On:					
Time Off:					
Percent Readout:					
Total Time:					

NOTES AND CALCULATIONS:

QUEST 2100 SETTINGS:

- SLOW RESPONSE
- A WEIGHT
- SPL Mode
- 50 to 120 RANGE

w/ Foam over microphone

- No Vehicle Noise From Local Streets & Lots

- MILD BREEZE

- No other significant environmental noise

READINGS 1-11, 27, 28, 29-38 measured @ 5ft above roof/ground

All other readings were taken 12 inches above parapet wall.

EORM NOISE MONITORING DATA SHEET

PROJECT DATA:

Type of Sample (personal, area):	Building Number/Room:	Date/Time:	Supervisor's Name
			Extension:
Employee Name (last, first):	Employee Number	Job Title/Duties:	
Extension:			
Employee Name (last, first):	Employee Number	Job Title/Duties:	
Extension:			
Employee Name (last, first):	Employee Number	Job Title/Duties:	
Extension:			

EMPLOYEE AND WORK AREA DATA:

Work Duration/Frequency (number of hours/day/week/year):	Personal Protective Equipment Used:
Describe Control Measures used in Operation:	Number of Employee Performing Similar Duties:
Operation/Process/Lab Procedure:	

FIELD MONITORING DATA:

Reading	Time	Location Test	Peak	dBA	dBC	31.5	63	125	250	500	1000	2000	4000	8000	16000
1	21:38	21		61.4											
2	21:39	22		65.8											
3	21:40	23		73.1											
4	21:41	24		73.1											
5	21:43	25		67.6											
6	21:44	26		62.5											
7	21:56	29		55.5											
8	21:58	30		53.2											
9	22:01	31		51.5											
10	22:03	32		52.6											
11	22:06	33		52.5											
12	22:08	34		53.2											
13	22:10	35		52.6											
14	22:11	36		54.5											
15	21:51	37		61.4											
16	21:54	38		62.4											
17	22:18	27		74.6											
18	22:19	28		75.4											
19															
20															

Industrial Hygienist/Technician (print):	Signature:	Date:	Employee number:
BRENT WILSON		8/6/08	

Charles M Salter Associates Inc

Consultants in
Acoustics
Audio/Visual
System Design
and Telecommunications

130 Sutter Street, Suite 500
San Francisco
California 94104
Tel: 415 397 0442
Fax: 415 397 0454
info@cmsalter.com
www.cmsalter.com

Charles M Salter, PE
David R Schwind, FAES
Anthony P Nash, PE
Eva Duesler
Thomas A Schindler, PE
Kenneth W Graven, PE
Eric L Broadhurst, PE
Phillip N Sanders
Art P Alvarado
John C Freytag, PE
Durand R Begault, Ph.D.
Michael D Toy, PE
Thomas J Corbett

Ross A Jerozal
Jason R Duty
Cristina L Miyar
Joey G D'Angelo
Eric A Yee
Joshua M Roper
Troy Gumbel
Randy D Waldeck
Peter K Holst
Andrew L Stanley
Christopher A Peltier
Timothy G Brown
Jeff Clukey
Ethan Salter
Elaine Y Hsieh
Alexander K Salter
Jeremy L Decker
Ryan McClain
Claudia Kraehe
Heather Migut
Josselyn Salter
Candice Huey
Brian Good
Ira D Noordzee
Robie Garcia
Jasmine Recidoro
Alison Whitson

16 September 2008

Gary Fair
Aixtron Semiconductor
1139 Karlstad Drive
Sunnyvale, CA 94089
Email: gfair@genus.com

**Subject: Aixtron Semiconductor, Sunnyvale –
Rooftop Mechanical Equipment Noise Measurement Results
and Mitigation Recommendations
CSA Project No. 08-0446**

Dear Gary:

The following presents the results of our rooftop equipment noise measurements at Aixtron in Sunnyvale; we have also provided conceptual mitigation recommendations to meet the City's noise ordinance.

EXECUTIVE SUMMARY

- The City of Sunnyvale's noise ordinance sets a noise level limit of 60 dB during the daytime (i.e., 7:00 a.m. to 10:00 p.m.) and 45 dB during the nighttime (i.e., 10:00 p.m. to 7:00 a.m.).
- The noise level along the western property line (at a height of six feet) was 56 to 67 dB, at the northern property line the noise level was 53 dB, and at the residential property line to the east of the facility (i.e., Danbury Place) the noise level was 51 to 53 dB.
- In order to reduce the rooftop mechanical equipment noise levels to the City Ordinance criteria, barriers at the chiller and scrubber fans are required; alternatively, a barrier at the edge of the roof parapet could be added. The minimum barrier height to attenuate the chiller is 16 feet.
- It may not be feasible to construct the necessary barriers; a structural engineer should be consulted to determine the feasibility of our recommendations.

CRITERIA

The City of Sunnyvale's Municipal Code¹ stipulates that operational noise may not exceed:

- 75 dBA at any point on the property line of the premises upon which the noise or sound is generated or produced
- 60 dBA during daytime hours (i.e., 7:00 a.m. to 10:00 p.m.) at any point on adjacent residentially zoned property
- 50 dBA during nighttime hours (i.e., 10:00 p.m. to 7:00 a.m.) at any point on adjacent residentially zoned property

In addition, if the noise occurs during the nighttime hours and the enforcing officer determines that the noise involves a steady, audible tone such as a whine, screech or hum, the noise shall not exceed 45 dBA.

We understand that the City is requiring that you achieve the 45 dBA nighttime noise standard.

MEASUREMENTS

On 21 August 2008, we conducted close-up measurements of some of the rooftop equipment at Aixtron; specifically, we measured the chiller, Scrubber #1, and Scrubber #2. We also conducted measurements at the parking lot along the western property line.

Scrubber Fans #1 and #2 and the chiller are the primary noise sources. Both the chiller and Scrubber Fan #1 can be considered tonal noise sources. At various locations along the western property line in the rear parking lot, at a height of six feet above the parking lot, we measured noise levels of 56 to 67 dB. During the measurements in the parking lot, an air compressor at the ground level and Scrubber #1 were clearly audible.

The noise level at the northern property line, at a height of six feet, was 53 dB. The noise level at the property line to the east of the facility (i.e., Danbury Place) was 51 to 53 dB. The chiller was audible at both measurement locations.

CONCEPTUAL MITIGATION

The following conceptual mitigation recommendations are provided to allow you to obtain a rough estimate of the retrofit cost to meet the City's noise ordinance. Before any mitigation actions are taken, we need more detailed information on the scrubber fans and chiller so that we can provide updated mitigation recommendations.

¹ City of Sunnyvale Municipal Code, Section 19.42.030.

Gary Fair
16 September 2008
Page 3

In addition, it will be necessary to conduct acoustical measurements with the chiller and scrubbers shut off to determine whether additional treatments are required for the other pieces of mechanical equipment. We were not able to determine the noise level of the other rooftop equipment, since the chiller and scrubber fans dominate the current noise environment.

Option 1: Localized Barriers

Chiller

In order to reduce the noise levels from the mechanical equipment, enclosures (barriers) are necessary around some of the equipment. Specifically, a barrier extending from the roof deck to six feet above the top of the chiller should be installed around the chiller. One manufacturer of a suitable noise barrier is Sound Fighter (www.soundfighter.com); another manufacturer is IAC (www.industrialacoustics.com). This type of barrier is acoustically absorptive and is recommended for the tones generated by the chiller and scrubber fans; this may allow the City to consider increasing the nighttime noise criterion from 45 dB to 50 dB. In addition, the absorptive barrier will reduce noise reflections from the roof deck. The manufacturer of the chiller will need to be involved with the design process to verify that the barrier will not affect the operation of the chiller.

Per Sound Fighter, the material cost of a four-sided barrier 16-feet tall with a setback of ten feet from the edges of the chiller would be approximately \$80,000; the labor cost is usually 50 to 70-percent of the material cost. There would also be engineering and design fees that should be discussed with a structural engineer.

Scrubber Fans

Barriers will also likely be required around the two scrubber fan housings. The barrier around these units should be two-feet taller than the units. Mitigation will be required for the Scrubber Fan #1 discharge (and potentially on the discharge of Scrubber Fan #2). The mitigation might involve a silencer or the addition of a plenum. We will need more information on the scrubber fans (e.g., flow rate, static pressure, fan type) to provide detailed discharge noise mitigation recommendations. Since we understand the discharge from the scrubbers is corrosive, we will also need information on the chemical makeup of the exhaust stream to determine whether the addition of a silencer is feasible.

For costing purposes, silencers generally cost around \$5,000 to \$15,000 for this type of application.

Gary Fair
16 September 2008
Page 4

Option 2: Parapet Barrier

In lieu of the localized barriers, you may consider constructing a rooftop parapet barrier (i.e., a barrier along the edge of the roof). Our preliminary calculations indicate the barrier would need to be at least 22 feet in height.

If an absorptive barrier were specified for the parapet barrier, the cost would be approximately \$650,000 for the materials (per Sound Fighter). There would also be engineering and design fees that should be discussed with a structural engineer.

It is possible that silencers would be needed for the discharges of the scrubber fans; however, we would need to conduct additional measurements and discuss the current fan configuration with the building's mechanical engineer to determine whether silencers are necessary.

We have provided conceptual renderings of the parapet barrier; Figure 1 shows the existing building with six foot parapet; Figure 2 shows the existing building with the addition of a 22-foot tall parapet. The view is from the southwest (just south of the apartment building to the west) looking northeast.

CONCLUSIONS

As discussed above, barriers with a minimum height of sixteen feet are necessary to reduce the noise level to the City's residential property line noise criteria of 60 dB during the day and 50 dB at night. It is not feasible to reduce the equipment noise level to 45 dB; however, if the tones from the chiller are attenuated, we believe the City's 50 dB nighttime criterion should be applied in lieu of the 45 dB criterion (which applies when there is a tone).

It may not be feasible to build the necessary barriers due to structural concerns (i.e., roof load, wind load). A structural engineer should review our preliminary recommendations to determine whether the implementation is feasible.

* * *

Gary Fair
16 September 2008
Page 5

ATTACHMENT F
Page 5 of 7

This concludes our measurement results and conceptual mitigation recommendations for the rooftop equipment at Aixtron. Please do not hesitate to contact us with any questions.

Sincerely,

CHARLES M. SALTER ASSOCIATES, INC.



Randy D. Waldeck, P.E.
Principal Consultant

RDW

2008_09_16 Aixtron Semiconductor Msmt Results and Recommends for City (08-0446).doc

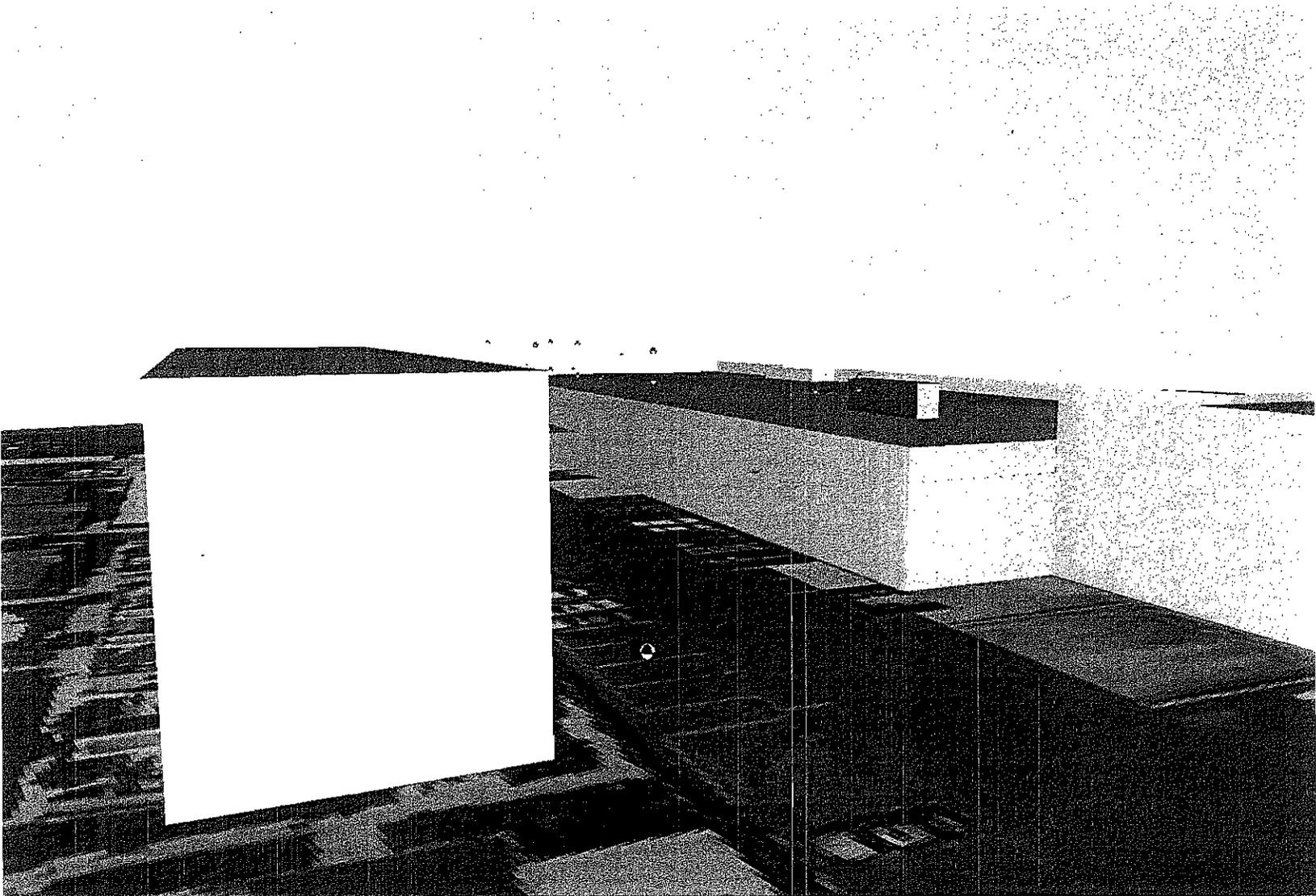


FIGURE 1 – EXISTING ROOF PARAPET (AIXTRON BUILDING ON RIGHT)

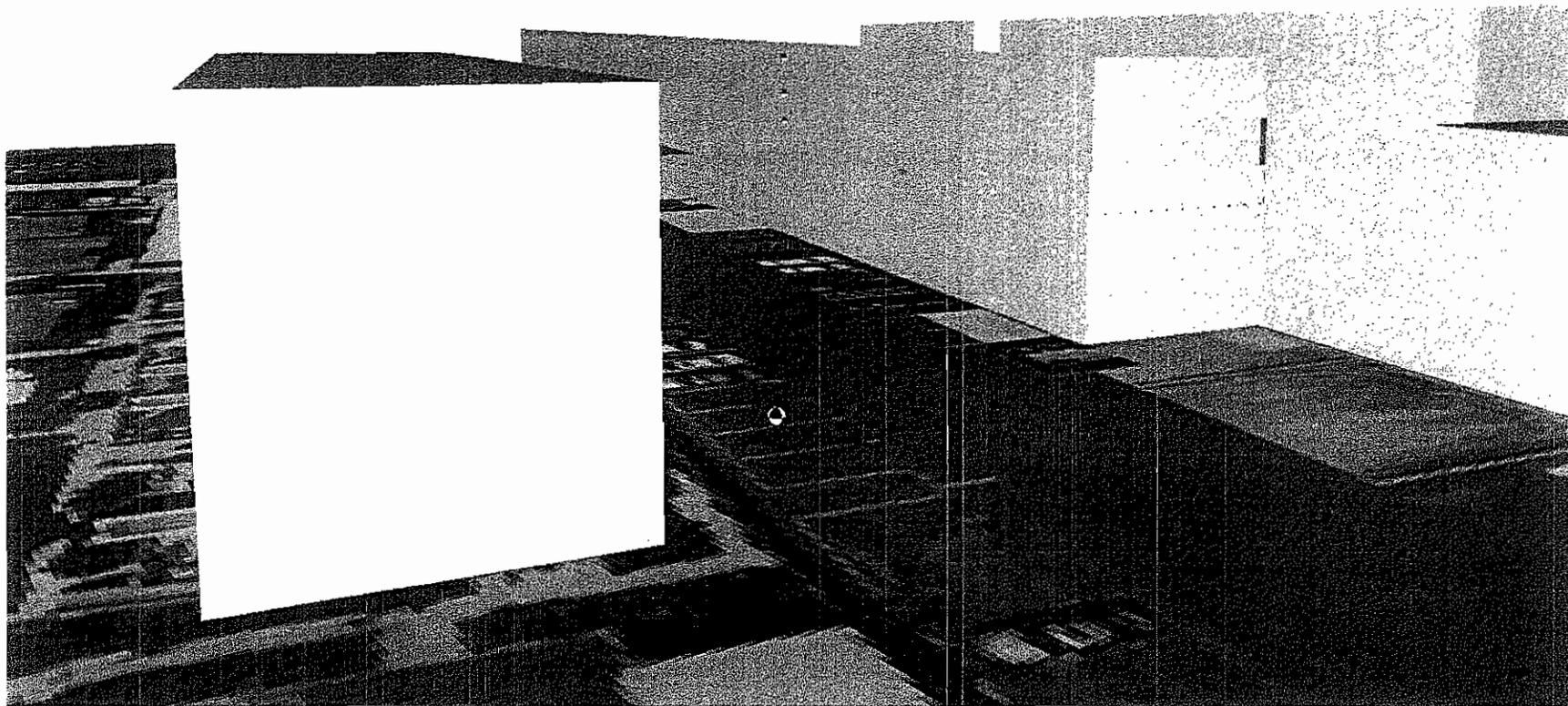
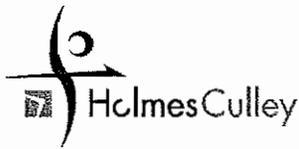


FIGURE 2 – EXISTING ROOF PARAPET (AIXTRON BUILDING ON RIGHT)



REPORT

CONSULTING STRUCTURAL ENGINEERS

4 November 2008

08126.10

Gary Fair
Aixtron Semiconductor
1139 Karlstad Drive
Sunnyvale, CA 94035

ROOFTOP MECHANICAL EQUIPMENT NOISE MITIGATION PANELS
1139 KARLSTAND DRIVE, SUNNYVALE, CALIFORNIA
CONCEPTUAL DESIGN REPORT

San Francisco

Telephone

415 693 1600

Dear Mr. Fair

Facsimile

415 693 1760

Holmes Culley has undertaken a conceptual design study for the two noise mitigation barrier options presented in the Rooftop Mechanical Equipment Noise Measurement Results and Recommendations report prepared by *Charles M. Salter Associates, Inc.*, dated September 16, 2008. The findings of our study are as follows:

Internet Address

Executive Summary

www.holmesculley.com

Option 1 calls for localized barriers around the chiller unit and the scrubber fans. It was determined that this option is structurally feasible provided the barriers are braced and new 6x12 purlins are provided below the barrier wall posts and the brace anchorage. A sample detail of the bracing and new framing members can be found on sheet S-1 attached to this letter. Due to lack of information on the existing drawings some assumptions had to be made on the size of the existing glue laminated girders. Should Aixtron wish to proceed with this option, these member sizes will need to be verified in the field to confirm our assumptions.

130 Sutter Street

Suite 400

San Francisco

Option 2 calls for a 22 foot tall perimeter parapet barrier around the entire building. This option was determined to not be structurally feasible. The existing building's roof diaphragm does not have the lateral strength to withstand the increased wind loads which would result from the dramatic increase in building height.

CA 94104

USA

SCOPE OF WORK

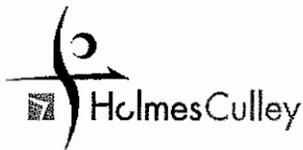
The scope of work for this project (in accordance with the Holmes Culley Work Authorization of October 27, 2008) is generally as follows:

Offices in

Provide structural consulting services for the two proposed noise mitigation barrier options:

New Zealand

Australia



Option 1 calls for localized barriers around the Chiller and around the Scrubber Fans #1 and #2. The barrier panels need to extend 6 feet above the high point of the Chiller and 2 feet above the Scrubber Fans. The barriers will be supported on the roof structure.

Option 2 calls for a rooftop perimeter parapet barrier. According to the report prepared by Charles M. Salter Associates, Inc., this parapet barrier would need to be about 22 feet tall. Structurally, we foresee this barrier as being supported and anchored to the top of the existing tilt-up concrete wall panels and braced with diagonals to the existing roof framing. We are assuming at this time that a seismic analysis of the existing building's seismic force resisting elements are not required for the increased building weight due to the addition of these panels.

We will prepare conceptual design studies to reflect the structural work that would be necessary for each option. We will provide conceptual design report and structural sketches to represent and describe the scope of structural work.

Limitations

Findings presented as a part of this project are for the sole use of Aixtron Semiconductor in its evaluation of the subject property. The findings are not intended for use by other parties, and may not contain sufficient information for the purposes of other parties or other uses. Our professional services are performed using a degree of care and skill normally exercised, under similar circumstances, by reputable consultants practicing in this field at this time. No other warranty, expressed or implied, is made as to the professional advice presented in this report.

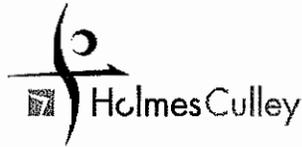
Property Description

Our evaluation is based on the structural tenant improvement plans produced by Kee Wong Engineering, Inc., dated June 25th, 1992. Only sheets S-1, S-2, S-5 and S-6 were provided to us. Structural drawings of the building's original construction were not available for our use.

The building is located at 1139 Karlstad Drive, Sunnyvale, California and is a one story concrete tilt-up building of approximately 97,000 gsf. The roof is a panelized roof system consisting of plywood sheathing over 2x subpurlins which span to 4x purlins. The 4x purlins span to glue laminated girders which are supported by steel pipe columns and the perimeter concrete walls.

Evaluation

The evaluation of each option is based on the sound barrier manufactured by Sound Fighter (www.soundfighter.com) as recommended in the report by *Charles M. Salter Associates Inc.*



Option 1 consisting of 16 foot tall localized barriers around the chiller unit and scrubber fans was determined to be feasible provided the following items are performed. The sound barrier wall will need to be braced to the existing roof at each post location. The posts for the barrier wall and anchorage for the bracing can not be supported by the existing roof sheathing therefore new purlins will need to be placed below these elements. These new purlins will span to the existing glue laminated girders. The size and grade of the existing girders are not shown on the plans provided to us; therefore some assumptions had to be made. Should Aixtron wish to proceed with this option, these member sizes will need to be verified in the field to confirm our assumptions. It should also be noted that at the locations of the barrier wall posts and the bracing anchorage, the existing roofing material will need to be removed to expose the sheathing below and then patched around the new structural elements. A sample detail of the structural work can be found on sheet S-1 attached to this letter and can be used by an experienced licensed contractor for budget pricing.

Option 2 consisting of a 22 foot tall barrier around the entire perimeter of the roof was determined to not be feasible. A barrier of this height doubles the height of the building. The existing building's roof diaphragm does not have adequate strength to resist the increased wind loads that would be a result of the increase in building height. Strengthening the existing roof diaphragm would require removing and replacing all the existing roof sheathing. It would also require drilling and epoxying new bolts through the existing ledger into the existing concrete wall along the entire perimeter of the building.

Conclusion

Option 1 of providing local sound barriers around the chiller unit and scrubber fans is feasible provided the wall is braced and new structural framing is provided below the wall posts and brace anchorage to support the loads imposed by the wall.

Option 2 of providing a 22 foot tall perimeter parapet wall around the building was determined to not be feasible due to the existing building's roof diaphragm not having the strength to withstand the increased wind loads due to the increase in the building height.

Yours sincerely

A handwritten signature in black ink, appearing to read "AH", followed by a horizontal line.

Abram Haen
PROJECT ENGINEER

08126.10LECOL1103.001.doc

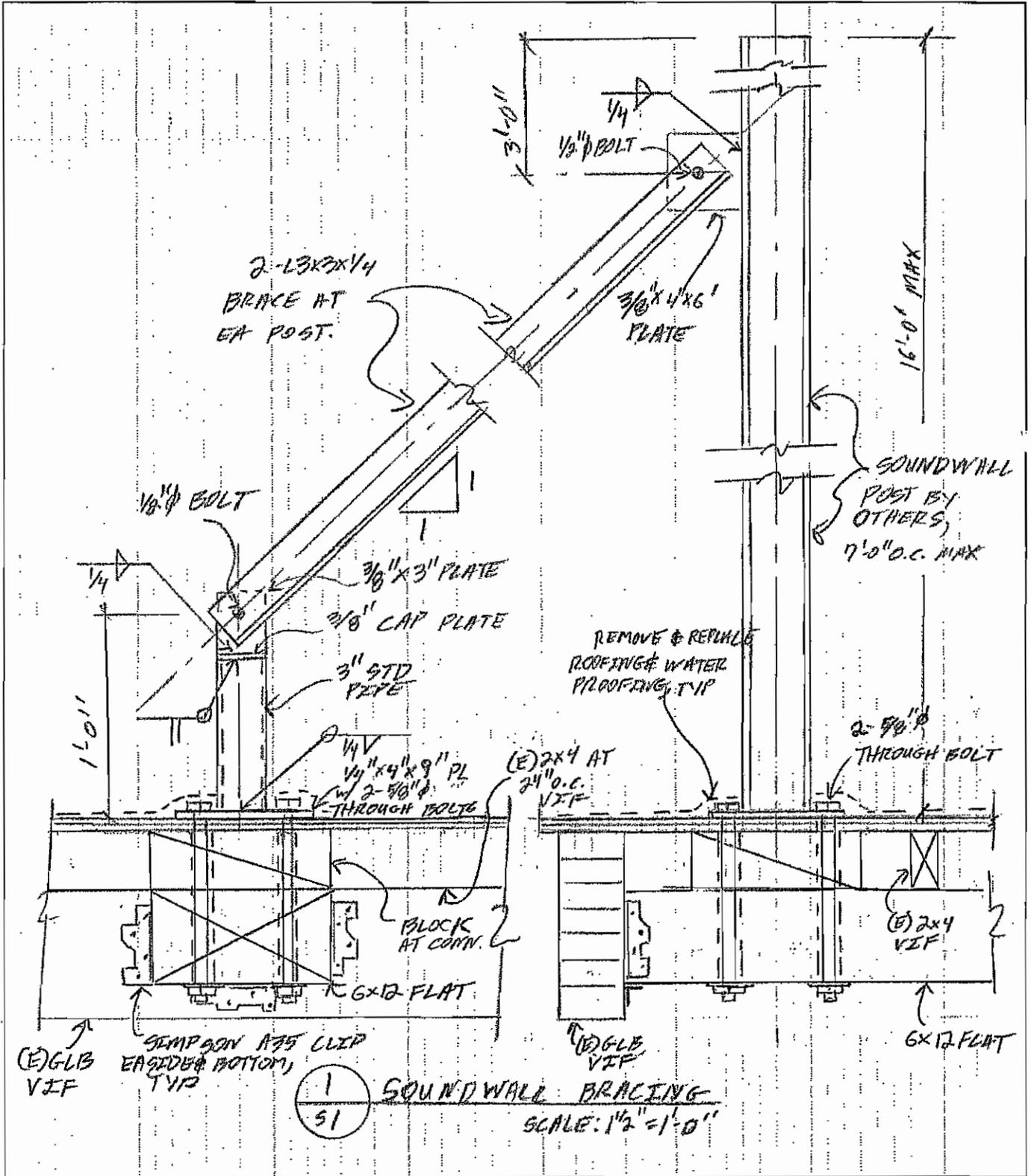
Project: 1139 KARL STAD - MECH NOISE PANELS

Project No: 08/26.10

CALCS/SKETCHES

By: AH Checked: _____

Date: 11/3/08 Page: 51



November 18, 2008

VIA HAND DELIVERY

Ms. Noren Caliva
Assistant Planner
P.O. Box 3707
Sunnyvale, CA 94088-3707

Re: Noise Variance-- 1139 Karlstad Drive (2008-1067)

Dear Ms. Caliva:

This is to explain the facts and the rationale justifying issuance of a variance from the otherwise-applicable noise standard in this instance.

Background. Aixtron, Inc. (formerly Genus, Inc.) began its industrial operations at 1139 Karlstad Drive in 1992, complying in every way with the General Plan and zoning regulations that were in effect at that time, including the applicable noise standard that operational noise cannot exceed 75 dBA at the industrial property boundary. Aixtron's industrial operations have not materially changed since 1992.

In 1993, the City of Sunnyvale ("City") re-designated Aixtron's property and the surrounding area for "Industrial to Residential" ("ITR") land uses. Over the subsequent 15 years, this new General Plan designation caused the redevelopment of many nearby properties as single-family and multi-family housing.

While Aixtron's industrial land use produces no more noise than it ever has, properly operating in compliance with all applicable industrial land use policies, residential neighbors now live nearby.

Variance Findings. Sunnyvale Municipal Code Section 19.84.050 authorizes administrative relief from the strict application of ordinances in circumstances where a court, in equity, would grant such relief in order to serve the fundamental purposes of justice and fairness. The present circumstances are a classic instance in which fundamental fairness requires issuance of the requested variance. The City may issue a variance when it can determine that all three of the following circumstances (paraphrased here from Section 19.84.050) exist:

Ms. Noren Caliva
November 18, 2008
Page 2

1. Because of extraordinary circumstances applicable to the property or its surroundings, strict application of the ordinance would deprive the company of privileges enjoyed by other properties within the same zoning district.

Aixtron's industrial land use was perfectly legal when it first was instituted at this location. It remains so, as a "legal nonconforming use", even though the City later allowed residential land uses to grow up all around it. Legal non-conforming land uses are those which were authorized by the zoning regulations that applied when they began, but which later (blamelessly) become "non-conforming" when the zoning regulations are amended. As a legal principle, their right to continue in operation avoids the obvious injustice of forcing them to relocate when zoning regulations are amended.

Industrial land uses are allowed the "privilege" of generating noise up to 75 dBA at the property line. When residential land uses are allowed to develop on adjacent properties, the maximum noise level at the industrial use's property line drops to 45 dBA, for certain types of noise, at night. Strict application of the "residential" noise standard in this situation would deprive Aixtron of the privilege of continuing to operate as a legal nonconforming industrial use within its current zone district. The practical effect of Aixtron's continuation of its legal non-conforming industrial land use at this location is to disregard the label of the current zone district as amended and, instead, to apply the noise standard that applies within the original Industrial zone district.

2. Granting the variance will not be materially detrimental to the public welfare or injurious to land uses in the immediate vicinity.

Property owners or investors who redeveloped their properties for residential purposes near Aixtron's industrial operation within the past fifteen years certainly were aware of its industrial nature. Since Aixtron's operations run all day, every day, they also had to be aware of whatever noise was audible at the property lines. Allowing this operation to continue will not harm any property owner, since there will be no increase in noise above its consistent historic level. All nearby residential structures were designed and built with full awareness that industrial land uses continued in the area. All neighborhood residents, also, had to have been aware of the industrial nature and characteristics of Aixtron's operations. All property owners and residents literally "came to" this situation. It has not arisen suddenly or changed, or gotten worse in the past fifteen years. On the contrary, it has remained constant while more residents arrived in the vicinity.

Nevertheless, Aixtron has investigated various methods of reducing perceived noise on adjacent properties. Some, like building tall parapet walls at the perimeters of the roof, are completely infeasible, for structural, cost and appearance reasons. As noted in the enclosed technical reports, roof-top perimeter sound walls would be very tall, ugly, practically impossible

Ms. Noren Caliva
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to build due to their weight and side-force loading, and prohibitively expensive. Others, like building sound barriers around the rooftop equipment causing the noise, are only slightly less expensive and ugly, and are neither cost-effective nor technically feasible. It is both feasible and effective, however, to substantially reduce the sound generated by the rooftop fans by covering them with an improved acoustic blanket developed and produced by the original equipment manufacturer. Aixtron proposes to purchase and install these acoustic blankets, which are cost-effectively capable of reducing the sound levels by approximately 6 dBA, a reduction in perceived noise that will be readily apparent to people in the neighborhood, if the requested variance is granted.

Granting the requested variance will not harm the public welfare or nearby properties for the additional reason that Aixtron's operations at this location are not necessarily permanent. In the normal course of business cycles, Aixtron someday will move elsewhere. Evaluating harm to the public welfare and injury to nearby land uses (as opposed to evaluating mere annoyances to various individual neighbors) requires a long view. 'Not only has Aixtron's operation continued legally for fifteen years-- longer than the residential land uses nearby-- but eventually this area will complete its redevelopment from Industrial to Residential uses, as required by the current zoning. A crucial purpose of all variances is literally to "do justice". Requiring investments in sound attenuation costing hundreds of thousands of dollars is particularly unjust if those investments cannot be recouped or amortized in the presumably few years remaining of Aixtron's occupancy of this site.

3. Granting the variance will serve the purpose of the ordinance without granting special privileges not enjoyed by other similar properties.

The City consciously anticipated a gradual transition from Industrial to Residential land uses in this neighborhood, when it designated this area for precisely the transition that has occurred. It has been obvious since 1993 that during subsequent years, some mixing and co-existence of Industrial and Residential land uses must occur. It would be unjust to penalize Aixtron, one of the last properties to redevelop, with exorbitant noise-reduction costs, in the latter term of its occupancy. Instead of harming the public welfare by granting the requested variance, it is clear that denying the variance would harm this legal non-conforming land use, through no fault of its own.

Granting this variance will serve the purpose of the General Plan re-designation to Residential uses by allowing the transition from Industrial uses to be completed in due course, without unfairly penalizing one of the last properties (and occupants) to change land uses. Aixtron will receive no special privilege not enjoyed by other industrial operations. Instead, it simply will be allowed to continue its operations, which were perfectly legal before residential land uses arrived in the vicinity, after the City changed the zoning regulations.

Ms. Noren Caliva
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Fundamental Fairness Requires Granting The Requested Variance. Aixtron is sensitive to the actual problems caused to neighboring residents, despite the important “legal” fact that residential uses arrived well after Aixtron was established as an industrial land use at this location. Therefore, Aixtron is willing voluntarily to invest in effective sound attenuation devices (the “acoustic blankets” described above) , in order to help eliminate the issue

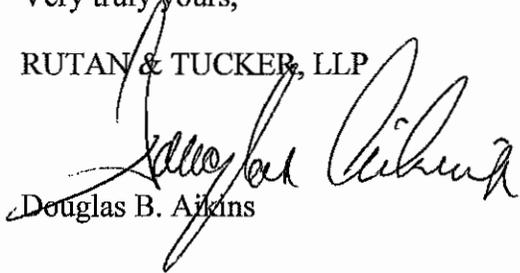
This neighborhood already has a fairly high “ambient” noise level—surrounding uses and traffic adds to the perception of high noise levels throughout the day and night. It is not fair to penalize Aixtron alone by forcing it either to relocate its business prematurely, or to invest hundreds of thousands of dollars in sound attenuation, due only to its incremental addition to high neighborhood sound levels.

The City has an opportunity here to craft a fair, balanced, temporary solution to a problem that by its very nature will be permanently resolved when Aixtron eventually finds another Industrially zoned location for its business. If this variance is denied, these same circumstances summarized above will justify a court in enjoining punitive enforcement against Aixtron. This variance—like all variances-- is requested, and should be granted, for the purpose of avoiding unnecessary litigation. Granting this variance will be in the best interests of all concerned; to allow an orderly transition from Industrial uses to Residential uses in the neighborhood to be completed, granting time for Aixtron to relocate its operations elsewhere.

We appreciate your consideration of the foregoing information, including the acoustic and mitigation studies attached. Please feel free to contact either Mr. Steve Stephens of Aixtron, or me directly, should you have any questions.

Very truly yours,

RUTAN & TUCKER, LLP


Douglas B. Atkins

DBA:mtr

Cc: Mr. Steve Stevens; Aixtron, Inc.

RECEIVED

January 14, 2009

JAN 14 2009

PLANNING DIVISION

VIA HAND DELIVERY

Ms. Noren Caliva
Assistant Planner
P.O. Box 3707
Sunnyvale, CA 94088-3707

**Re: Aixtron, Inc. ("Aixtron") Application for a Noise
Variance-- 1139 Karlstad Drive (2008-1067);
Cost-Effectiveness of Mitigation Methods**

Dear Ms. Caliva:

I have enclosed a "Matrix" prepared by Charles M. Salter Associates, Aixtron's professional acoustical engineering consultants, in support of Aixtron's application for a variance from the noise limits that apply in "Residential" zone districts. The enclosed Matrix conveys several points fairly clearly regarding the cost-effectiveness of available sound attenuation methods. This letter summarizes those points.

Background. In 1993, the City of Sunnyvale ("City") designated Aixtron's property and the surrounding area for "Industrial to Residential" ("ITR") land uses. Over the subsequent 15 years, this new General Plan designation caused the redevelopment of many nearby properties from Industrial uses to single-family and multi-family Residential uses.

Aixtron's industrial land use was perfectly legal when it first was instituted at this location. It remains so, as a "legal nonconforming use", even though the City later allowed residential land uses to grow up around it. Legal non-conforming land uses are those which were authorized by the zoning regulations that applied when they began, but which later (blamelessly) become "non-conforming" when the zoning regulations are amended. As a legal principle, their legal right to continue in operation avoids the obvious injustice of forcing them to relocate when zoning regulations are amended.

Property owners or investors who redeveloped their properties for residential purposes near Aixtron's industrial operation within the past fifteen years certainly were aware of its industrial nature. Since Aixtron's operations run all day, every day, they also had to be aware of whatever noise was audible at the property lines. Allowing this operation to continue will not harm any property owner, since there will be no increase in noise above its consistent historic level. All nearby residential structures were designed and built with full awareness that

Ms. Noren Caliva
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industrial land uses continued in the area. All neighborhood residents, also, had to have been aware of the industrial nature and characteristics of Aixtron's operations. All property owners and residents literally "came to" this situation. It has not arisen suddenly or changed, or gotten worse in the past fifteen years. On the contrary, the noise level has remained constant while more residents arrived in the vicinity.

Sound Attenuation Matrix. Even though Aixtron is legally entitled to maintain its current operation as a "legal non-conforming use", the company voluntarily has investigated various methods of reducing the noise perceived by adjacent residents. The sound perceived by neighbors is generated primarily by three rooftop machines that are necessary to Aixtron's operations; a "chiller" and two "scrubbers". Some extreme mitigation methods, like building tall parapet walls at the perimeters of the roof, are obviously completely infeasible, for structural, cost and appearance reasons. Roof-top perimeter sound walls would be very tall, ugly, practically impossible to build due to their weight and side-force loading, and prohibitively expensive. Doing nothing, however, is also not an option, since Aixtron strives to be a good neighbor in all of its facilities.

The enclosed Matrix shows that feasible sound attenuation methods fall into a clear pattern of cost-effectiveness. **Option 1** is construction of a structural sound barrier around the two scrubbers and the addition of silencers on the scrubber exhaust ducts. As noted, for the expense of a very large sum of money (\$46,208), practically no sound attenuation would be perceived. Option 1, therefore, can be rejected as not cost-effective.

Option 2 is installation of a commercially available "acoustic blanket" (made by the original equipment manufacturer) on the chiller. It provides a very substantial degree of sound attenuation at the most reasonable cost. Compared to all other mitigation methods analyzed, it offers the most cost-effective mitigation solution.

Option 3 is construction of a structural sound barrier around the chiller. It provides sound attenuation at approximately the same level as Option 2, but at well over six (6) times the cost. Its cost-effectiveness can be rated objectively, therefore, as roughly 1/6 that of Option 2, and so it also should be rejected as an option, when compared to Option 2.

Option 4 is use of a sound blanket on the chiller, and structural barriers and silencers on the scrubbers. While the noise reduction achieved by this method would be significantly better "on paper" than that of Option 2, the improvement would not be noticeable to neighbors. A drop in perceived noise levels of less than 3 dB is generally classified as "not noticeable". As to its cost-effectiveness, it costs over three (3) times as much as Option 2, while achieving just a 35% improvement over the sound attenuation provided by Option 2. This option can be rejected for two reasons: in relative terms it is far less cost-effective than Option 2, and in absolute terms it is

Ms. Noren Caliva
January 14, 20099
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simply an exorbitant cost to impose on Aixtron in the circumstances, for little if any perceived improvement.

Option 5 is included in the Matrix simply to show what the maximum feasible sound attenuation technology could achieve. Building a barrier around the chiller and using two scrubber silencers could provide the highest level of sound attenuation, but at an objectively exorbitant cost. The reduction in noise perceived by neighbors would be roughly 50% greater than that produced by Option 2, but at a cost that is well over 800% higher. As noted in the Matrix, this option's cost per decibel is nearly 5 and a half times that of Option 2. In the circumstances, therefore, this option also should be rejected as not cost-effective.

Mitigation Proposal. A crucial purpose of all variances is literally to "do justice" by an administrative procedure, saving all parties the costs and burdens of a judicial proceeding. In this instance, the "success" of granting this variance can be measured by comparing its result to the result that can be predicted if the parties were to try to resolve the neighbors' complaints in court. Our prediction is that a court, acting "in equity", would recognize Aixtron's right to continue to operate in its current location as a "legal non-conforming use", without requiring any changes in its rooftop machinery (since they have not changed during the 15 years that new residents have arrived in the vicinity).

If the court did, however, impose some sound mitigation obligations, it would limit the burdens of the mitigation program by the following "equitable" criteria:

- * It would reject all technically or physically "infeasible" mitigation methods.
- * It would focus on methods like Option 2, which provide substantial, noticeable sound attenuation as perceived by the neighbors.
- * It would reject methods that provided only incremental improvements over Option 2 at substantially greater costs (Options 3, 4 and 5)
- * It would reject methods that were objectively unjustifiable in these circumstances, where Aixtron's occupancy of this site will end in a few years, and extremely expensive mitigation costs cannot be amortized (options 3, 4 and 5).

When granting this variance is compared to a court's resolution of the matter, Option 2 stands out as the measure of "victory"; it represents a 5.3 decibel (very substantial) reduction in perceived noise, at a reasonable cost, which Aixtron is willing to implement voluntarily as a condition of the variance, all without incurring the costs, burdens and risks of a judicial solution.

Fundamental Fairness Requires Granting The Variance As Proposed. Aixtron is willing voluntarily to invest in effective sound attenuation devices (Option 2 described above) in

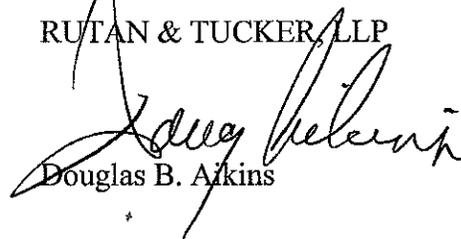
Ms. Noren Caliva
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Page 4

order to help eliminate the neighbors' complaints about high ambient noise in the vicinity and Aixtron's particular contributions to the area's noise levels.

We appreciate your consideration of the foregoing information, including the Matrix. Please feel free to contact either Mr. Steve Stevens of Aixtron, or me directly, should you have any questions.

Very truly yours,

RUTAN & TUCKER, LLP



Douglas B. Atkins

DBA:mtr

Cc: Mr. Steve Stevens; Aixtron, Inc.

Aixtron Semiconductor - Matrix of Noise Mitigation Options

CSA Project No. 08-0446

- 1) Noise Reduction is to the West Property Line Receivers (both ground level and 3rd floor)
- 2) Chiller Barrier = 16' tall, 170' total length
- 3) Scrubber Barriers = 7' tall, 40' total length (each)
- 4) Average of \$26/square foot for Sound Fighter Barrier
- 5) Labor for barrier installation is 50 to 70% of material cost; engineering assumed to be 10% of material cost

Option Number	Description	Estimated Cost	Noise Reduction at 3rd Floor of Building to the West, dB	Cost per dB
1	Barrier around scrubbers and two scrubber silencers, no chiller treatment	\$ 46,208	0.5	\$ 92,416
2	Chiller sound blanket only	\$ 23,000	5.3	\$ 4,340
3	Barrier around chiller only	\$ 144,000	5.9	\$ 24,407
4	Chiller sound blanket, scrubber barriers, scrubber silencers	\$ 69,208	7.2	\$ 9,612
5	Barrier around chiller and scrubbers and two scrubber silencers	\$ 190,208	8.1	\$ 23,482

MEMORANDUM

TO: Ms. Noren Caliva; City of Sunnyvale
FROM: Douglas B. Aikins
DATE: February 10, 2009
FILE NO.: 027246-0002
RE: Aixtron, Inc./City of Sunnyvale

This is to summarize the factual and equitable bases for granting the requested variance, conditioned upon implementation of "Option #2", installation of an engineered acoustic blanket (made by the original equipment manufacturer) on the rooftop chiller.

1. The equipment noise has not changed materially since 1992, when current operations began. The only changes in circumstances since that date have been (a) rezoning to allow residential uses nearby, and (b) redevelopment of the area for multi-family residences.
2. Current operations are legally entitled to continue as a "legal nonconforming use". Nearby residents "came to the nuisance" after operations began, and so neither the City nor nearby residents would prevail in a lawsuit to abate or terminate the operations.
3. In correspondence dated November 18, 2008 and January 14, 2009, Aixtron voluntarily offered to implement Option 2; installation of the roughly \$23,000 chiller acoustic blanket. This voluntary mitigation measure would reduce overall rooftop equipment noise by roughly 4.5-5.3 dB; a substantial and readily noticeable reduction in pre-existing noise. Granting the variance as proposed, therefore, "can be seen with certainty" to have a beneficial effect, and not a "significant adverse effect" upon the environment. Accordingly, per CEQA Guideline 15061(b)(3), the variance (including the voluntary mitigation measure) is "doctrinally exempt" from CEQA, through what is known as the "common sense exemption". Preparing the Mitigated Negative Declaration was an unjustified and burdensome expense upon the applicant.
4. The purpose of all variances is to "do justice"; that is, to duplicate the reasoning and results of a Superior Court hearing the matter "in equity", without incurring the costs, risks and procedural burdens of litigation. Variances are not intended or designed to compel compliance with the applicable zoning regulations (45-50 dB noise levels here), or to strike some Solomonian compromise with complaining neighbors. Here, the most likely predicted result of a lawsuit (by the City or by neighbors) to compel abatement of the noise would be to let it continue unchanged, since it pre-dated residential development around it, it was authorized knowingly by the City, and since all residential developments were built to the City's interior noise attenuation standards. A court most assuredly would accept Aixtron's voluntary offer of a 4.5-to-5.3 dB sound reduction, and would require no more "mitigation" than that.
5. Aixtron has only a limited remaining lease term, and will relocate its operations within the next few years. It therefore has no opportunity to amortize a substantial investment in

Ms. Noren Caliva; City of Sunnyvale
February 10, 2009
Page 2

noise mitigation. Whatever solution is reached will be temporary, and then the property, like surrounding properties, will redevelop for residential uses.

6. Option 2 is obviously the most cost-effective solution; it produces the greatest sound reduction at the least cost. Mandating Option #4, at 3.5 times the cost of Option 2, is unjustifiable in circumstances where Aixtron will have no opportunity to amortize such a substantial investment. Characterizing Option 4's additional mitigation cost of \$46,208.00 as "reasonable" [MND, page 15] is unsupported and unjustified.

7. Aixtron's acoustical engineers (Salter) have re-calculated their earlier sound readings; these were taken from the areas where nearby residents most often would perceive noise. In the new readings, Option 4 reduces sound by only 2.5 dB (previously only 1.9 dB) over Option 2, at 3.5 times the cost. As noted in previous correspondence (January 14, 2009) reductions in perceived noise less than 3.0 dB are generally classified by acoustical engineers as "Not Noticeable".

8. Granting the variance as requested, incorporating Aixtron's voluntary \$23,000 mitigation program, will noticeably reduce perceived noise within the four quadrants surrounding the facility on average by 4.5 dB, which new level is generally below the 50 dB daytime standard, and closely approaches the 45 db nighttime standard.

9. It is important to recognize that Aixtron has done nothing wrong; nothing that wasn't authorized by City ordinances when it began its operations, and nothing that isn't authorized presently in industrial zone districts. Granting this variance as requested, conditioned upon implementation of Option 2, will "do justice" by immediately improving the noise conditions perceived by neighbors, by avoiding an unjustified and arbitrary exaction on a pre-existing, "legal non-conforming" land use, and by recognizing the temporary nature of Aixtron's occupancy of this site.

Noren Caliva - Aixtron noise variance

From: M Peng
To: Chris Koelbel <CKoelbel@ci.sunnyvale.ca.us>, <ncaliva@ci.sunnyvale.ca.us>
Date: 11/23/2008 4:46 PM
Subject: Aixtron noise variance

Hi Chris and Noren:

Can you tell us the time frame and status about public hearing of Aixtron noise variance? Can we submit our concern now? Since last communicate with Chris is a month again. Please help us to reduce noise from our neighbor AixTron. I always have good impression that Sunnyvale is good city to live and the city will protect their residents.

Thank you for help

mei

Noren Caliva - Re: Variance from city planner

From: Gregory Storey
To: <NCaliva@ci.sunnyvale.ca.us>, <CKoelbel@ci.sunnyvale.ca.us>
Date: 11/26/2008 9:21 AM
Subject: Re: Variance from city planner
CC:

Noren and Chris:

I am another resident at Danbury Place in Sunnyvale. My unit is directly across from Aixtron - and possi

Greg Storey
1115 Munich Terrace
Sunnyvale, Ca 94089

To the extent it's relevant to the City's determination of whether it will grant a variance, the City should k
President had the gall to suggest that the noise possibly is not coming from Aixtron, but rather from the 1
matter honestly and in good faith, the facts show that Aixtron clearly has not.

In legal terms, as I'm sure you know, the term "unclean hands" is often used. The theory is that a party w
request is barred. This concept is relevant here. Aixtron has lost its right to argue what is "fair" by itself

Noren Caliva - Re: Variance from city planner

From: Kooly Goody
To: <ncaliva@ci.sunnyvale.ca.us>
Date: 12/1/2008 2:04 PM
Subject: Re: Variance from city planner
CC: Hi Lin

Hi Noren,

I am one of the Danbury residents who are suffering from the manufacturing noise from AIXTRON. I understand that AIXTRON has applied for variance. We are all anxiously waiting for the date of hearing. As the holiday season approaching and many people will be on vacation and we really would like to have the issue being addressed as soon as possible. Your effort will be highly appreciated. I am looking forward to hearing from you.

Best regards,

Sue Jin
1155 Kassel Terrace
Sunnyvale, CA 94089

Noren Caliva - Noise from Aixtron - PLEASE READ

From: Kevin Ngo
To: <NCaliva@ci.sunnyvale.ca.us>
Date: 12/4/2008 10:12 PM
Subject: Noise from Aixtron - PLEASE READ
CC:

Hi Noren,

I am a resident of Danbury Place and have lived directly across the street from Aixtron on Karlstad for 4 years. I wanted to express my comments regarding the non-stop, 24/7 noise from Aixtron and their recent submission for variance.

First, I want to say that I am extremely disappointed by the City of Sunnyvale. The City has put in place rules to protect the rights of its citizens and in this case have failed. Despite tremendous efforts of the residents of Danbury Place to raise our concerns of the noise levels through emails to the City, in person at the council meetings, and even to the local newspaper, Aixtron continues to get away with exceeding noise limits with zero penalty. We know for a fact they are exceeding these limits because Chris Koelbel from your office has come out to take measurements himself and have confirmed the results.

Despite the shortcomings that we as residents have endured, we continue to trust that the City will make the right decision when it comes time to decide on the variance. Please let us know when you receive a date for the discussion of variance as we would like to be present and show our numbers in force.

Finally, I do hope that we can come to a conclusion on this matter soon as it has been a topic of concern for so many months.

Please do not hesitate to let me know if I can be of any assistance.

Thank you,

Kevin Ngo

ATTACHMENT J

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Noren Caliva - strong Noise from company 'Aixtron'

From: "Wenyi Jin" <wenyi.jin@gmail.com>
To: "Noren Caliva" <NCaliva@ci.sunnyvale.ca.us>, "Chris Koelbel" <CKoelbel@ci.sunnyvale.ca.us>, <council@ci.sunnyvale.ca.us>, <otto@ottolee.org>, <mhamilton@ci.sunnyvale.ca.us>, <jh2@aol.com>, <cmoylan@ci.sunnyvale.ca.us>
Date: 12/20/2008 12:16 PM
Subject: strong Noise from company 'Aixtron'
CC: <ASpitaleri@ci.sunnyvale.ca.us>, <allensun@gmail.com>, <john.davalos@gmail.com>, "Lisa Valles" <katznkooks94089@gmail.com>, <marziavilla@hotmail.com>, "Patrick Lok" <danbury@oicirtap.com>, <dancing_helen78@yahoo.com>, "Joonggun Lee" <dhankoon@yahoo.com>, <ferizsukha@yahoo.com>, "M Peng" <gairpug@yahoo.com>, "Gregory Storey" <gkstorey2000@yahoo.com>, <judy_smit88@yahoo.com>, "Kevin Ngo" <kevinngo1760@yahoo.com>, "Kooly Goody" <koolygoody@yahoo.com>, <Lihtao@yahoo.com>, <maerniu@yahoo.com>, "Neale and Elaine Muir" <nealebmuir@yahoo.com>, <stanfordbshan@yahoo.com>

Hi All,

I am a resident of Danbury Place, Sunnyvale. I have been suffering from the noise generated by the company 'Aixtron' on 1139 Karlstad since I moved in.

Since the first email I wrote on Mar 18, 2008, to City of Sunnyvale, to complain the noise problem, it has been 9 months.

In the past 9 months, the company keeps generating noise that is 4 times higher than the noise limit. The noise is generated 24 hours a day and 7 days a week.

In the past 9 months, more than 20 residents living around the factory keeps contacting City of Sunnyvale and expressing their complains in council meetings.

In the past 9 months, what has City of Sunnyvale done for this issue?

If speed limit in highway is 60 m/h, I believe 240m/h is against the law;
 If the noise limit is 45db, I believe 4 times higher is against the law.

We all know this, but why City of Sunnyvale effectively doing nothing?

Is City of Sunnyvale of the Sunnyvale residents, by the Sunnyvale residents, and for the Sunnyvale residents?

It was City of Sunnyvale that approved these homes. Did you simply sit in the office and looked at the map, then approved it. Should the planning office measure the noise or verify the noise report?

If City of Sunnyvale do want to help us, please don't let this issue delayed

month by month; please understand that everyday is a suffering day for the residents live around that company.

ATTACHMENT J

Page 6 **of** 13

Thanks,
Wenyi

Noren Caliva - The massive equipment behind the AIXTRON INC. building in the parking area

From: "feri z.sukha" <ferizsukha@yahoo.com>
To: Noren Caliva <NCaliva@ci.sunnyvale.ca.us>
Date: 2/9/2009 3:38 PM
Subject: The massive equipment behind the AIXTRON INC. building in the parking area

Hi Noren,

On Public Notice sheet the yellow page I received I noticed, under Proposed Project it only indicates existing roof equipment noise!. How about the noise from the massive equipment behind the AIXTRON INC. building which is covered inside a thin open wire and send the loud noise all around the neighborhood?

Just want to make sure Planning Commission is covering the disturbing noise from this company from the Roof, Back and Front of the building not just part of the problem on the Roof. I visited a family at Tamarind, their living room, kitchen and bed room windows are facing the equipment in the parking lot behind the Aixtron building. This Family use to live in a noisy city San Francisco. They admitted and surprised that the noise in San Francisco did not make them SICK as much as the 24X7 noise from behind their rooms does! Just want to make sure the uncovered noisy equipment behind the wall in the parking lot is also part of the agenda!

I moved in this neighborhood two years ago, and as of today I never ever opened my windows for fresh air, set in the living room or spent time and enjoyed the life on the patio!
The 24X7 noise from this company is very disturbing and is not healthy for the mind.

~ Thanks

Noren Caliva - Re: [BULK] Re: Noise from Aixtron - PLEASE READ

From: Hi Lin <stanfordbshan@yahoo.com>
To: Noren Caliva <NCaliva@ci.sunnyvale.ca.us>
Date: 2/9/2009 11:59 AM
Subject: Re: [BULK] Re: Noise from Aixtron - PLEASE READ
CC: <ASpitaleri@ci.sunnyvale.ca.us>, Chris Koelbel <CKoelbel@ci.sunnyvale.ca.us>, <allensun@gmail.com>, <john.davalos@gmail.com>, Lisa Valles <katznkooks94089@gmail.com>, <marziavilla@hotmail.com>, Patrick Lok <danbury@oicirtap.com>, Joonggun Lee <dhankoon@yahoo.com>, <ferizsukha@yahoo.com>, M Peng <gairpug@yahoo.com>, Gregory Storey <gkstorey2000@yahoo.com>, <judy_smit88@yahoo.com>, Kevin Ngo <kevinngo1760@yahoo.com>, Kooly Goody <koolygoody@yahoo.com>, <Lihtao@yahoo.com>, <maerniu@yahoo.com>, Neale and Elaine Muir <nealebmuir@yahoo.com>, Wenyi Jin <wenyi.jin@gmail.com>, Helen Guan <dancing_helen78@yahoo.com>

Hi, Noren,

I would like to make the following comment with regard to the AIXTRON noise issue. I wish it would appear in the staff report.

I am a resident in the newly developed Danbury IV community, which directly faces the AIXTRON facility. The 24x7 noise from their roof top as well as the massive equipment behind the building is affecting our daily life. My wife was quite sensitive to noise during her pregnancy and we could not sleep well due to the noise from AIXTRON. From the city measurement, their noise is 5-6dB above night noise limit. Due to the logarithmic nature of the units, this would translate into 4X the energy flux than the upper limit (2X the wave amplitude). This is like driving 130 m/h on high ways with 65m/h speed limits. The AIXTRON management team is not friendly with their neighbors and is ignoring the rights of neighboring residents for the past years. Nothing constructive has been done to improve the situation despite numerous complaints from residents. We would like the city to step in and enforce the noise limit standard so that we have a peaceful neighborhood. Thanks.

best
Bin

ATTACHMENT J
Page 9 of 13

From:
To: <ncaliva@ci.sunnyvale.ca.us>
Date: 2/10/2009 1:36 PM
Subject: complaint noise violation from 1139 Karlstad Dr (file # 2008-1067)

Ms Noren Caliva --

I wish to remain anonymous.

Please relay my concerns to the Sunnyvale Council members.

I am a reside within the Danbury Place community. While I do not have a line of sight to the violator, I do find the noise disturbance an issue when from my windows are open at night. I can only imagine how neighbors feel, who are directly affected by the noise violation.

While there may be no negative environmental impact from the noise violation, there is a sleep deprivation and psychological impact to those who are affected. As a resident of Sunnyvale, I am forced and required to comply with any law, rules, and ordinances which is imposed by Sunnyvale. I certainly therefore expect the businesses operating with my city to comply to the ordinances and laws that are established to keep the city civil.

I therefore expect the Council members to reject the request to allow the roof equipment for 1139 Karlstad Drive to exceed the noise standards.

Resident of Sunnyvale and Danbury Place
Anonymous

Noren Caliva - Aixtron 24/7 Noise

From: Manish Bedekar <malkans@yahoo.com>
To: <ncaliva@ci.sunnyvale.ca.us>
Date: 2/12/2009 10:23 AM
Subject: Aixtron 24/7 Noise

Dear Noren,

My name is Manish Bedekar. I am a resident of 1090 Munich Terrace, Sunnyvale, CA 94089. I do hear the Aixtron noise. It is especially loud in the evening/ night when I am putting my kids to bed. I can even hear it with windows closed. This is extremely irritating and would like this noise to stop as soon as possible.

I will try to make the meeting, but sending this feedback in case I am unable to.

Manish Bedekar

ATTACHMENT J
Page 11 of 13

From: Matt Lucas <mattlucas70@hotmail.com>
To: <ncaliva@ci.sunnyvale.ca.us>
Date: 2/12/2009 7:53 PM
Subject: Aixtron noise pollution

Dear Noren,

I am a resident of Danbury Place and although I am unable to attend the Public hearing that is planned for next week I would like to provide my comments for the council to consider.

My family lives one row back from Aixtron, and during the day the noise does not have a huge impact on our quality of life. However, I have noticed that from our children's bedrooms (that face Aixtron) the noise is rather high. There is a constant hum that becomes really quite irritating while one is trying to fall asleep. For us, the impact is not huge, just an inconvenience, but I really do sympathize with those homeowners living closer.

I feel strongly, on the other hand, that Aixtron should meet its obligations by reducing the noise level to one that meets recognized reasonable standards. It is most certainly not noise from the 101 highway as the CEO of Aixtron apparently asserted. I also believe that Sunnyvale council ought to meet its obligations to the residential community that it encouraged to move to this area when it approved a change in zoning from one of light industry to one of residential, and permitted builders to erect communities here. Sunnyvale enjoys significant property tax revenue from the residents of Danbury place and surrounding communities and the council ought to take responsibility for its past actions.

I appreciate you considering my opinion and taking the time to hear the voices of those residents whose lives are being effected by this unpleasant circumstance.

Best wishes,

Matthew Lucas
1106 Munich Terrace
Sunnyvale
CA 94089

Noren Caliva - [BULK] A Danbury Place owner objection to Aixtron Noise Variance Filing

From: thomson ngai <tngai_ca@yahoo.ca>
To: <ncaliva@ci.sunnyvale.ca.us>
Date: 2/15/2009 12:34 PM
Subject: [BULK] A Danbury Place owner objection to Aixtron Noise Variance Filing
CC: <tinges@excite.com>

Dear Noren,

I'm a resident of Danbury Place in Sunnyvale. My townhome is on Karlstad Ave and is directly opposite from Aixtron company. We will not be able to attend the hearing because we'll not be in town next week. I'm writing you to strongly urge the city to make sure Aixtron comply within the noise limits put forth by the city.

We have two babies in our house and the noise from Aixtron definitely affects us. The noise is from the big fans on its roof top. We'll accept it if it were under the city's tolerance level; however, we learned that Aixtron is significantly exceeding the noise limit by 2 to 3 times the allowed limit. The most straight forward conclusion should be that Aixtron fixes the issue; however, they chose to ignore the rule and filed a variance. This irresponsible action from Aixtron is totally unacceptable as the company is oblivious of the environment change around it. It's not in a commercial zone any more and around it now there were thousands of homes. Its noise level is adversely impacting families.

We're not making unreasonable request of the company, but simply wants it to be in compliance with city rules. I strong urge the city to consider thousands of families living in the area and reject its filing of variance to the noise level. Should you have any questions on this, please do not hesitate to reply to me.

Yours Sincerely,
Thomson Ngai

RECEIVED

FEB 17 2009

PLANNING DIVISION

February 17, 2009

City of Sunnyvale
Planning Commission
456 W. Olive Avenue
Sunnyvale CA 94086

Re: File Number 2008-1067

To Whom It May Concern:

My name is Jeanette Reyes. My family and I live at 1154 Kassel Terrace in Sunnyvale, California. I am writing in regards to the noise/din generated from Aixtron, Inc at 1139 Karlstad Drive in Sunnyvale California.

Two of our bedroom windows look toward Aixtron, Inc. My family members and guests have complained that they are unable to have many peaceful nights sleep with the constant, penetrating noise produced from Aixtron, Inc. They find the noise very annoying, nerve racking and have suffered from headaches.

We would hope the Planning Commission would direct Aixtron, Inc. to reduce the noise level to the normal standards and not allow Aixtron, Inc. to continue the roof mounted equipment to exceed noise standards.

Your consideration to this matter is greatly appreciated.

Thank you on behalf of my family and myself.



Jeanette Reyes
1154 Kassel Terrace
Sunnyvale CA 94089
408.294.5073

INITIAL STUDY
City of Sunnyvale
Department of Community Development
Planning Division
P.O. Box 3707
Sunnyvale, CA 94088-3707

Project #: 2008-1067
Project Address: 1139 Karlstad Drive, Sunnyvale
Applicant: Aixtron Inc.

Project Title	Application for a Variance from noise standards.
Lead Agency Name and Address	City of Sunnyvale PO Box 3707 Sunnyvale, CA 94088-3707
Contact Person	Noren Caliva, Assistant Planner
Phone Number	(408) 730-7637
Project Location	1139 Karlstad Drive, Sunnyvale
Project Sponsor's Name	Aixtron Inc., Steve Stephens
Address	1139 Karlstad Drive Sunnyvale, CA 94089
Zoning	R-4/PD (High Density Residential/Planned Development)
General Plan	Industrial to Medium-High Density Residential
Other Public Agencies whose approval is required	None

Description of the Project

The project consists of an application for Variance from the City's Operating Standards (Noise or Sound Level – Sunnyvale Municipal Code §19.42.030(a)) for existing roof-mounted equipment at an existing industrial business. Aixtron, Inc. is not proposing to modify their operations in any manner but is requesting to be allowed to continue their existing operations.

ITR Background and Environmental Context

The neighborhood in which the subject business is located has been historically used for industrial and office uses. A study (Futures Study, File #7989), allowing the development of residential units in industrial zones, was completed in 1993 to address the City's ongoing housing shortages. As a result of the study, City Council approved a rezone, which added the Industrial to Residential (ITR) Combining District and the R-3 (Medium-Density) and R-4 (High Density Residential) designation to the existing M-S and M-3 Zones. The ITR Combining District allows industrial, office, commercial and residential uses to exist within the same zoning district, and allows existing industrial, office and commercial sites to convert to residential use. The R-3 and R-4 district defines the residential density and development standards.

A subsequent study was completed in 2002 (File #2001-0116), in which the General Plan designation for the area bounded by Highway 237, 101 and Lawrence Expressway (location of the subject site) was approved modified to allow medium and high density residential

Environmental Checklist Form

Project Address: 1139 Karlstad Drive, Sunnyvale

Applicant: Aixtron, Inc.

development. The subject site was rezoned to High Density Residential (R-4) in 2003. Properties within the neighborhood have recently transitioned into residential uses. The adjacent properties to the north and east have been recently developed with three-story townhomes that are zoned M-S/ITR/R-3/PD (Industrial and Service/Industrial to Residential/Medium-Density Residential/Planned Development). The properties to the west are developed with three-story townhome/apartment units and an existing two-story industrial/office building, which are zoned as R-4/PD (High Density Residential/Planned Development) and M-S/ITR/R-3/PD respectively. The adjacent properties to the south are currently occupied by industrial businesses, which are also zoned as M-S/ITR/R-3/PD.

Application Background

Aixtron, Inc. (formerly Genus) is an equipment supplier for the semiconductor industry, and began operations at this site in 1992. The business operates 24-hours, seven days a week. Two scrubbers and one chiller unit were installed on the roof in the 1990's, which are essential for the operation of the business. With the exception of general maintenance and minor interior improvements, the site and business operation have virtually remained the same since its establishment on this site.

The application is the result of complaints that have been received by the City's Neighborhood Preservation Division regarding noise emitted by the existing roof-mounted equipment at Aixtron, Inc. The complaints were submitted by residents of the adjacent homes (Danbury) to the north and east, which were constructed within the last four years.

Sunnyvale Municipal Code (SMC), Title 19

SMC §19.42.030(a) (Noise or Sound Level) states the following:

Operational noise shall not exceed seventy-five dBA at any point on the property line of the premises upon which the noise or sound is generated or produced; provided, however, that the noise or sound level shall not exceed fifty dBA during nighttime or sixty dBA during daytime hours at any point on adjacent residentially zoned property. If the noise occurs during nighttime hours and the enforcing officer has determined that the noise involves a steady, audible tone such as a whine, screech or hum, or is a staccato or intermittent noise (e.g., hammering) or includes music or speech, the allowable noise or sound level shall not exceed forty-five dBA.

As the above section states, the more restrictive noise level applies to any property that is adjacent to a residentially zoned property. Typically this applies to commercial or industrial businesses adjacent to residential uses. The section is also applicable to existing industrial or commercial businesses in ITR Zones when an adjacent parcel is converted from non-residential to residential. In effect, the allowable maximum noise level for properties in an ITR zoning combining district is lowered when an adjacent property is redeveloped to residential.

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
3. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
4. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
5. "Negative Declaration: Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section 17, "Earlier Analysis," may be cross-referenced).
6. Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c) (3) (d). In this case, a brief discussion should identify the following:
7. Earlier Analysis Used. Identify and state where they are available for review.
8. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
9. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project
10. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

Environmental Checklist Form

Project #: 2008-1067 Page 4 of 20

Project Address: 1139 Karlstad Drive, Sunnyvale

Applicant: Aixtron, Inc.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Agricultural Resources | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Air Quality | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Utilities/Service Systems |
| <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Mandatory Findings of Significance |
| <input type="checkbox"/> Geology/Soils | <input type="checkbox"/> Population/Housing | |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potential significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature
Noren Calliva, Assistant Planner

Date
For the City of Sunnyvale
(Lead Agency)

Environmental Checklist Form

Project #: 2008-1067 Page 5 of 20

Project Address: 1139 Karlstad Drive, Sunnyvale

Applicant: Aixtron, Inc.

	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
1. AESTHETICS. Would the project:					
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94
b. Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94, 101
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94
2. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3, 94, 100, 111
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3, 94, 100, 111
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3, 96, 97, 100, 111
d. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	62, 63, 111, 112
e. Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	111, 112
3. BIOLOGICAL RESOURCES:					
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U. S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94, 111, 112, 109

Environmental Checklist Form

Project #: 2008-1067 Page 6 of 26

Project Address: 1139 Karlstad Drive, Sunnyvale

Applicant: Aixtron, Inc.

	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
b. Have a substantially adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94, 111, 112, 109
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94, 111, 112, 109
d. Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94, 111, 112, 109
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94, 111, 112, 109
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	41,94, 111, 112
4. CULTURAL RESOURCES. Would the project:					
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10, 42, 60, 61, 94, 111
b. Cause a substantial adverse change in the significance of an archaeological resources pursuant to Section 15064.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10, 42, 94
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10, 42, 94, 111
d. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 111, 112
5. LAND USE AND PLANNING. Would the project:					
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 11, 12, 21, 28

Environmental Checklist Form

Project #: 2008-1067

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Project Address: 1139 Karlstad Drive, Sunnyvale

Applicant: Aixtron, Inc.

	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
b. Conflict with an applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	31, 28, 111
c. Conflict with any applicable habitat conservation plan or natural communities conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 41, 94, 111
6. MINERAL RESOURCES. Would the project:					
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94
7. NOISE. Would the project result in:					
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Disc.
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 16, 26, 94, 111, 112, 115
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 16, 26, 94, 111, 112, 115
d. A substantially temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 16, 26, 94, 111, 112, 115
8. POPULATION AND HOUSING. Would the project:					
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 94
b. Displace substantial numbers of existing housing, necessitating the construction of	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 11, 111, 112

Environmental Checklist Form

Project #: 2008-1067

Project Address: 1139 Karlstad Drive, Sunnyvale

Applicant: Aixtron, Inc.

	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
replacement housing elsewhere?					
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 11, 111, 112
9. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
a. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 111, 112
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	26, 65, 66, 103, 104
c. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	26, 65, 66, 103, 104
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 111, 112
e. Other services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	111
10. MANDATORY FINDINGS OF SIGNIFICANCE					
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 10, 26, 42, 59, 60, 61, 111, 112
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of the past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1, 2, 111, 112

Environmental Checklist Form

Project #: 2008-1067

Project Address: 1139 Karlstad Drive, Sunnyvale

Applicant: Aixtron, Inc.

	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	111, 112
11. GEOLOGY AND SOILS. Would the project:					
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UBC, UPC, UMC, NEC
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"
b. Result in substantial soil erosion or the loss of topsoil?					"
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"
d. Be located on expansive soil, as defined in Table 18-a-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"

Environmental Checklist Form

Project #: 2008-1067 Page 10 of 20

Project Address: 1139 Karlstad Drive, Sunnyvale

Applicant: Aixtron, Inc.

	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
12. UTILITIES AND SERVICE SYSTEMS. Would the project:					
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 20, 24, 87, 88, 89, 90, 111, 112
b. Require or result in construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 20, 24, 25, 87, 88, 89, 111, 112
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 20, 24, 25, 87, 88, 89, 111, 112
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 20, 24, 25, 87, 88, 89, 111, 112
e. Result in a determination by the wastewater treatment provider which services or may serve the project determined that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 20, 24, 25, 87, 88, 89, 111, 112
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 22, 90, 111, 112
g. Comply with federal, state, and local statues and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 22, 90, 111, 112
13. TRANSPORTATION/TRAFFIC. Would the project:					
a. Cause an increase in the traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 12, 71, 75-77, 111, 112
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 12, 71, 75-77, 80, 84, 111, 112

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Applicant: Aixtron, Inc.

	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
agency for designated roads or highways?					
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 111, 112, 113
d. Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 12, 71, 75-77, 80, 84, 111, 112
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 111, 112
f. Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	37, 111
g. Conflict with adopted policies or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 12, 81, 111, 112
14. HAZARDS AND HAZARDOUS MATERIALS. Would the project?					
a. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC

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	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC
g. Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UFC, UBC, SVMC
15. RECREATION					
a. Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 18, 111, 112
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 18, 111, 112
16. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:					
a. Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	94
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	94
c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	94

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	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
Farmland, to non-agricultural use					
17. HYDROLOGY AND WATER QUALITY. Would the project:					
a. Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
b. Substantially degrade groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or surface runoff in a manner which would result in flooding on- or off site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
e. Create or contribute runoff which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
f. Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
g. Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112

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	Potentially Significant Impact	Less than Sig. With Mitigation	Less Than Significant	No Impact	Source
the failure of a levee or dam?					
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2, 24, 25, 111, 112

DISCUSSION OF IMPACTS THAT ARE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED:

7. NOISE (a)

Acoustical Reports – Findings

The applicant submitted two acoustical reports prepared by Charles M. Salter Associates, Inc. and Environmental and Occupational Risk Management. The following discussion addresses the findings and recommendations for mitigation in both reports.

The acoustical report prepared by Environmental and Occupational Risk Management analyzed the existing exterior daytime noise levels at the site on August 1, 2008 and nighttime noise levels on August 6, 2008. Charles M. Salter Associates, Inc. analyzed the existing exterior daytime and nighttime noise levels at the site on August 21, 2008. The study measured the noise levels due to the roof-mounted equipment at ten separate locations along the property line. The acoustical report prepared by Charles M. Salter Associates, Inc. Environmental and Occupational Risk Management noted similar noise levels. The following table summarizes the existing noise levels measured at the noisiest points along the property lines:

Table 1. Existing Average Noise Levels

	Daytime (dB)	Nighttime (dB)
North (adjacent to residential)	54.53	55.53
East (adjacent to residential)	53.53	52.63
South (adjacent to industrial)	54.2	54.5
West (adjacent to residential)	59.56	62.459

Applicable Ordinances

SMC §19.42.030(a) (Noise or Sound Level) states the following:

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Operational noise shall not exceed seventy-five dBA at any point on the property line of the premises upon which the noise or sound is generated or produced; provided, however, that the noise or sound level shall not exceed fifty dBA during nighttime or sixty dBA during daytime hours at any point on adjacent residentially zoned property. If the noise occurs during nighttime hours and the enforcing officer has determined that the noise involves a steady, audible tone such as a whine, screech or hum, or is a staccato or intermittent noise (e.g., hammering) or includes music or speech, the allowable noise or sound level shall not exceed forty-five dBA.

As the above section states, the more restrictive noise level applies to any property that is adjacent to a residentially zoned property. According to the noise measurements provided in the acoustical reports, the existing daytime (7:00 a.m. to 10:00 p.m.) noise levels emitted by Aixtron, Inc. are in compliance with SMC §19.42.030(a). However, the nighttime (10:00 p.m. to 7:00 a.m.) noise levels do not comply with SMC §19.42.030(a), as the noise levels exceed both the 45dB and 50dB limitations.

Options for Mitigation

The acoustical reports recommend that the equipment be maintained on a regular basis and to meet equipment specifications, and exploration of noise attenuating materials and enclosures for the two scrubbers and one chiller unit. One option identified in the Charles M. Salter Associates, Inc. report was a 22-foot tall parapet barrier around the entire roofline. This option was eliminated as a possible mitigation measure, as it was determined to be structurally infeasible in a report prepared by Holmes Culley, dated November 4, 2008. The table below summarizes the remaining options for mitigation, including the level noise reduction, estimated cost of construction, and cost of construction per dB of reduction:

Table 2. Options for Mitigation

	Noise Reduction (dB)	Total Cost	Cost per dB Reduction
1. Barrier around scrubbers and two scrubber silencers, no chiller treatment	0.5	\$46,208	\$92,416
2. Chiller sound blanket only	5.3	\$23,000	\$4,340
3. Barrier around chiller only	5.9	\$144,000	\$24,407
4. Chiller sound blanket, scrubber barriers, scrubber silencers	7.2	\$69,208	\$9,612
5. Barrier around chiller and scrubbers and two scrubber silencers	8.1	\$190,208	\$23,480

~~Although Option #5 would result in the most noise reduction among the options identified, cost considerations must also be made. Therefore, the preferred mitigation is Option #4, which results in significant noise reduction with a reasonable cost. The following table shows the estimated noise levels with implementation of the Option #4:~~

Table 3. Estimated Noise Levels with Implementation of Mitigation Option #4

	Daytime (dB)	Nighttime (dB)
North (adjacent to residential)	46.8	48.3
East (adjacent to residential)	46.3	45.4
South (adjacent to industrial)	47	47.3
West (adjacent to residential)	51.8	55.2

The mitigation options that would result in the greatest noise reduction and cost-effectiveness are options #2 and #4. The applicant has stated voluntary implementation of option #2. The following table shows a comparison between the estimated noise levels with implementation of mitigation options #2 or #4, both measured on the first floor (6 feet from the ground) and at the third floor (30 feet from the ground):

Estimated Nighttime Noise Levels with Implementation of Mitigation Options #2 or #4

	Option #2 (dBA)	Option #4 (dBA)
North: 1 st Floor	<u>40.7</u>	<u>38.4</u>
3 rd Floor	<u>51.4</u>	<u>50.1</u>
East: 1 st Floor	<u>44.0</u>	<u>42.2</u>
3 rd Floor	<u>51.0</u>	<u>49.7</u>
West: 1 st Floor	<u>48.3</u>	<u>42.2</u>
3 rd Floor	<u>54.8</u>	<u>52.9</u>

The daytime noise levels currently meet the noise standards contained in SMC §19.42.030(a), and the resulting noise levels with implementation of mitigation Option #4 will improve the noise levels perceived by the adjacent residents.

The resulting nighttime noise levels will also be improved and will meet the 50dB limitation contained in SMC §19.42.030(a) for the residential properties to the north and east. The noise levels for the adjacent residential properties along the west property line will remain noncompliant. If the 45dB limitation is applied, implementation of mitigation Option #4 will still result in noise levels that do not meet the nighttime noise standard for all adjacent residential properties. Although Option #4 will not result in full compliance with SMC §19.42.030(a), staff finds that it is a reasonable mitigation that will reduce the impacts to adjacent residents. On February 17, 2009, Charles M. Salter Associates provided comments on the Draft MND clarifying that the chiller sound blankets would

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change the character (tone) of the noise as well as reduce the decibal levels. With the elimination of the steady, audible tone the applicable operational noise standard would be 50 dBA.

As the lease agreement for Aixtron Inc. will be either be renewed or terminated on December 31, 2012, consideration must be made regarding the potential "temporary" nature of the existing use and noise. Therefore, staff finds option #2 to be a reasonable solution that would substantially reduce the noise levels perceived by the neighbors and would be cost-effective for Aixtron Inc. In the case that the lease agreement is renewed and Aixtron Inc. continues operation at this site, staff finds that option #4, potentially achieving near-compliance, is reasonable. Therefore, staff finds that a phased mitigation strategy is reasonable, first requiring installation of the chiller sound blanket, then installation of scrubber barriers and scrubber silencers by January 1, 2013.

The selected mitigation measures for this project will result in significant perceived noise reduction to neighboring residents. Resultant noise levels, with mitigation, are less than 5 dBA above the code requirements for Phase I mitigation (chiller sound blanket only) and less than 3 dBA over requirements for Phase II mitigation (scrubber barriers and scrubber silencers). Implementation of the mitigation measures regarding air ventilation and closure of windows identified through the development of the adjacent residential projects will further reduce the impacts to less than significant.

Mitigation Measures

The following mitigation measures shall be required:

- ~~WHAT: 1) The two scrubbers and one chiller unit shall be maintained on a regular basis and shall meet equipment specifications.~~
- ~~2) Install a chiller sound blanket, structural scrubber barriers, and scrubber silencers per specifications recommended by Charles M. Salter Associates.~~
- 1) The two scrubbers and one chiller unit shall be maintained on a regular basis and shall meet equipment specifications.
 - 2) Install a chiller sound blanket, per specifications recommended by Charles M. Salter Associates, Inc. within 30 days of the hearing date.
 - 3) Install structural scrubber barriers and scrubber silencers, per specifications recommended by Charles M. Salter Associates, Inc., by no later than January 1, 2013.

~~WHEN: These mitigation measures will be converted into conditions of approval for this Variance Application prior to its final approval by the City's Planning Commission. The conditions will become valid when the Variance is~~

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~~approved and must be installed within three months.~~ These mitigation measures will be converted into conditions of approval for this Variance Application prior to its final approval by the City's Planning Commission. The conditions will become valid when the Variance is approved, requiring installation of mitigation measure #2 within 30 days of the hearing date, and mitigation measure #3 by January 1, 2013.

WHO: ~~The property owner will be solely responsible for implementation and maintenance of these mitigation measures.~~ applicant, Aixtron, Inc., will be solely responsible for implementation and maintenance of these mitigation measures.

HOW: The conditions of approval will require these mitigation measures to be incorporated into the construction plans, to be reviewed and approved by the City of Sunnyvale.

Noren Caliva, Assistant Planner**2/19/2009**

Completed By

Date

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City of Sunnyvale General Plan:

2. Map
3. Air Quality Sub-Element
4. Community Design Sub-Element
5. Community Participation Sub-Element
6. Cultural Arts Sub-Element
7. Executive Summary
8. Fire Services Sub-Element
9. Fiscal Sub-Element
10. Heritage Preservation Sub-Element
11. Housing & Community Revitalization Sub-Element
12. Land Use & Transportation Sub-Element
13. Law Enforcement Sub-Element
14. Legislative Management Sub-Element
15. Library Sub-Element
16. Noise Sub-Element
17. Open Space Sub-Element
18. Recreation Sub-Element
19. Safety & Seismic Safety Sub-Element
20. Sanitary Sewer System Sub-Element
21. Socio-Economic Sub-Element
22. Solid Waste Management Sub-Element
23. Support Services Sub-Element
24. Surface Run-off Sub-Element
25. Water Resources Sub-Element

City of Sunnyvale Municipal Code:

27. Chapter 10
28. Zoning Map
29. Chapter 19.42. Operating Standards
30. Chapter 19.28. Downtown Specific Plan District
31. Chapter 19.18. Residential Zoning Districts
32. Chapter 19.20. Commercial Zoning Districts
33. Chapter 19.22. Industrial Zoning Districts
34. Chapter 19.24. Office Zoning Districts
35. Chapter 19.26. Combining Zoning Districts
36. Chapter 19.28. Downtown Specific Plan
37. Chapter 19.46. Off-Street Parking & Loading
38. Chapter 19.56. Solar Access
39. Chapter 19.66. Affordable Housing
40. Chapter 19.72. Conversion of Mobile Home Parks to Other Uses
41. Chapter 19.94. Tree Preservation
42. Chapter 19.96. Heritage Preservation

Specific Plans

43. El Camino Real Precise Plan
44. Lockheed Site Master Use Permit
45. Moffett Field Comprehensive Use Plan
46. 101 & Lawrence Site Specific Plan
47. Southern Pacific Corridor Plan

Environmental Impact Reports

48. Futures Study Environmental Impact Report
49. Lockheed Site Master Use Permit Environmental Impact Report
50. Tasman Corridor LRT Environmental Impact Study (supplemental)
51. Kaiser Permanente Medical Center Replacement

Center Environmental Impact Report (City of Santa Clara)

52. Downtown Development Program Environmental Impact Report
53. Caribbean-Moffett Park Environmental Impact Report
54. Southern Pacific Corridor Plan Environmental Impact Report

Maps

55. City of Sunnyvale Aerial Maps
56. Flood Insurance Rate Maps (FEMA)
57. Santa Clara County Assessors Parcel
58. Utility Maps (50 scale)

Lists/Inventories

59. Sunnyvale Cultural Resources Inventory List
60. Heritage Landmark Designation List
61. Santa Clara County Heritage Resource Inventory
62. Hazardous Waste & Substances Sites List (State of California)
63. List of Known Contaminants in Sunnyvale

Legislation/Acts/Bills/Codes

64. Subdivision Map Act
65. Uniform Fire Code, including amendments per SMC adoption
66. National Fire Code (National Fire Protection Association)
67. Title 19 California Administrative Code
68. California Assembly Bill 2185/2187 (Waters Bill)
69. California Assembly Bill 3777 (La Follette Bill)
70. Superfund Amendments & Reauthorization Act (SARA) Title III

Transportation

71. California Department of Transportation Highway Design Manual
72. California Department of Transportation Traffic Manual
73. California Department of Transportation Standard Plan
74. California Department of Transportation Standard Specification
75. Institute of Transportation Engineers - Trip Generation
76. Institute of Transportation Engineers Transportation and Traffic Engineering Handbook
77. U.S. Dept. of Transportation Federal Highway Admin. Manual on Uniform Traffic Control Devices for Street and Highways
78. California Vehicle Code
79. Traffic Engineering Theory & Practice by L. J. Pegnataro
80. Santa Clara County Congestion Management Program and Technical Guidelines
81. Santa Clara County Transportation Agency Short Range Transit Plan

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- 82. Santa Clara County Transportation Plan
- 83. Traffic Volume Studies, City of Sunnyvale Public works Department of Traffic Engineering Division
- 84. Santa Clara County Sub-Regional Deficiency Plan
- 85. Bicycle Plan

Public Works

- 86. Standard Specifications and Details of the Department of Public Works
- 87. Storm Drain Master Plan
- 88. Sanitary Sewer Master Plan
- 89. Water Master Plan
- 90. Solid Waste Management Plan of Santa Clara County
- 91. Geotechnical Investigation Reports
- 92. Engineering Division Project Files
- 93. Subdivision and Parcel Map Files

Miscellaneous

- 94. Field Inspection
- 95. Environmental Information Form
- 96. Annual Summary of Containment Excesses (BAAQMD)
- 97. Current Air Quality Data
- 98. Chemical Emergency Preparedness Program (EPA) Interim Document in 1985?)
- 99. Association of Bay Area Governments (ABAG)

Population Projections

- 100. Bay Area Clean Air Plan
- 101. City-wide Design Guidelines
- 102. Industrial Design Guidelines

Building Safety

- 103. Uniform Building Code, Volume 1, (Including the California Building Code, Volume 1)
- 104. Uniform Building Code, Volume 2, (Including the California Building Code, Volume 2)
- 105. Uniform Plumbing Code, (Including the California Plumbing Code)
- 106. Uniform Mechanical Code, (Including the California Mechanical Code)
- 107. National Electrical Code (Including California Electrical Code)
- 108. Title 16 of the Sunnyvale Municipal Code

Additional References

- 109. USFWS/CA Dept. F&G Special Status Lists
- 110. Project Traffic Impact Analysis
- 111. Project Description
- 112. Project Development Plans
- 113. Santa Clara County Airport Land Use Plan
- 114. Federal Aviation Administration
- 115. Accoustical Analysis by Illingsworth & Rodkin, 2006