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June 25, 2019

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Department of City Planning
200 North Spring Street, Room 750
Los Angeles CA 90012

REPORT ON CONSTRUCTION NOISE IMPACTS FOR NEW HOMES AT 1888 NORTH LUCILE AVENUE AND 3627 WEST LANDA STREET

Re: ZA-2015-1569-ZV-ZAD-1A; ENV-2015-1568-MND (3627 W. Landa St)
and ZA-2015-1567-ZAA-ZAD-1A (1888 N. Lucile Avenue)

Dear Mr. Chiang:

I have again been asked by John Henning to review the potential noise impacts that could result from construction activities in the proposed demolition activities and building of two homes and related structures at 3627 W. Landa Street and 1888 N. Lucile Avenue ("Project"). I have designed hundreds of homes in California as an architectural designer for 44 years since 1975. I have also worked as an acoustical consultant reviewing and preparing environmental noise studies and CEQA project studies since 1985. I've included my professional resume as an attachment to this Report.

I have reviewed relevant documents from this Project's application documents, including the current May, 2019 Initial Study for this Project, the previous February, 2016 Mitigated Negative Declaration ("MND"), *Appellant Neighbor's Grounds for Appeal* letters dated October 1, 2018, and *Responses to Appellant's Grounds for Appeal, Re: 1888 Lucile*, "Exhibit 5," *Memorandum* dated October 8, 2018 from Dudek's noise consultants, the applicant's *Air Quality and Noise Impact Assessmen*t, April 8, 2019, by Z Consulting Company, the recent June 4, 2019 Initial Study submitted by the applicant's consultants, and its accompanying June 4, 2019 *Memorandum* from Dudek.[1]

All page references in my Report to the Project's Initial Study refer to the May 2019 Initial Study, not to the subsequent, confusing June 4, 2019 Initial Study which omits important information and changes some page numbers. For example, the June 4, 2019 Initial Study omits without explanation the Project's noise measurement location map,[2] the applicant's Noise Study,

[1] Note: all page citations made within this Report are to the page's stated pagination (referenced herein as "p. ##") or to the page's location in the referenced PDF document (referenced herein as "PDF p. ##"). Furthermore, all documents referenced herein are hyperlinked with full URL citations embedded thereto and are further available upon request.
[2] *See:* Initial Study, PDF p. 127, Fig. 8 "Noise Measurement Locations" map is missing in the June 4, 2019 I.S.

and various Appendices with noise data and information.[3] Without that essential noise-related information, the June 4, 2019 Initial Study has even less evidence on which to base its conclusions. The City just released a newer June 21, 2019 Initial Study which again includes changed page numbers but without providing adequate time for public review.

The applicant's consultants apparently submitted their later-revised June 4, 2019 Initial Study to argue against the necessity for the MND's mitigations.[4] They also seek to erase or negate their earlier admissions this Project may have significant noise impacts except for adoption of conditions of approval and project design features by now claiming entitlement to a Class 3 categorical exemption. They appear to be concealing the applicant's attempts to evade adopted mitigation measures and his proposal to replace formal mitigations with his own proposals that Dudek originally claimed in the May 2019 Initial Study were "applicant-proposed construction measures."[5] Dudek then deceitfully labels these same measures in the June 4, 2019 Initial Study as "Project Construction Regulatory Compliance Measures." This is misleading because the City has no regulations requiring temporary noise barriers or requiring demolition phasing as proposed. There is no procedure authorized by CEQA for an applicant to dispel with a MND's approved mitigation measures, replace them by claiming to be categorically exempt from CEQA, and instead use his own unvetted, substitute measures that are not circulated for public review as were the 2016 MND-approved mitigation measures. Accordingly this Report's page number citations refer to the more meaningful May 2019 Initial Study where the reader can find Project-related noise data and analysis.

I. EXECUTIVE SUMMARY

As explained in this Report, I have made the following conclusions about this Project's construction noise impacts on its neighborhood:

Section II: Substantial evidence shows that Project construction noise will create significant noise impacts within the neighborhood affecting many dozens of surrounding homes. (p. 4)

Section III: No substantial evidence exists to support that some of Project's types of construction noise impacts will be less-than-significant, like from backup alarms and ground-borne vibration. (p. 6)

Section IV: Project noise levels will be more severe and significant at homes to the north and downhill due to unusual steepness of Project site. (p. 7)

> Caisson drilling noise levels will be significant at nearest homes to the north of Project site because they are close and no temporary noise barrier blocks that direction. (p. 9)
>
> Construction noise levels will exceed maximum allowable interior noise levels of 45 dBA L_{max} at nearby homes. (p. 10)

[3] *See:* June 4, 2019 Initial Study, PDF p. 68 that states: "Noise measurement logs are included in Appendix A" but there no longer is any content in Appendix A in the June 4, 2019 Initial Study, PDF page 130.
[4] *See:* June 4, 2019 *Memorandum* from Collin Ramsey, Dudek to Jack Chang, City of Los Angeles.
[5] *See:* May, 2019 Initial Study, PDF p. 14. *Then see:* June 4, 2019 Initial Study, PDF p. 14.

Section V: Categorical exemptions cannot rely on weak *de facto* mitigation measures to evade CEQA's requirement for a MND or EIR. (p. 15)

Section VI: Construction noise impacts will be significant. (p. 23)

A. Initial Study fails to provide sufficient information to assess Project's noise impacts (p. 23)

B. The Initial Study does not describe all applicable thresholds of significance for maximum construction noise levels. (p. 25)

C. Dozens of homes near the Project site could be subjected to excessive construction noise levels from operation of heavy equipment that exceed the City's maximum limit of 75 dBA L_{max} at 50 feet from the source, and also exceed the City's threshold of significance of generating an increase in existing ambient noise levels by more than 5 or 10 dBA L_{eq}. (p. 28)

D. The Project's construction noise level increases will exceed existing ambient exterior noise levels by 5 dBA for more than 10 days in a three-month period in its neighborhood, and that is considered a significant noise impact which would adversely affect between 24 to 59 neighborhood homes (p. 31)

E. Project construction noise from combined use of other equipment will be significant at dozens of homes because it will also exceed City's noise limit of 75 dBA L_{max} at 50 feet and be clearly audible at distant homes. (p. 41)

F. Initial Study fails to consider significant noise impacts of use of heavy construction equipment's warning beepers or backup alarms that could exceed City's maximum noise level limits. (p. 45)

G. Project construction will expose neighbors' outdoor yards to significant and excessive increases in exterior noise levels of more than 5 dBA above existing ambient noise levels measured in CNEL. (p. 45)

H. Project construction will expose neighboring homes to significant and excessive interior noise levels during drilling or other operations of greater than City's maximum daily noise level limit of 45 dBA L_{dn}. (p. 51)

I. Ground-borne vibration impacts will be significant to immediate neighbors during foundation construction and other Project site work. (p. 52)

J. Initial Study fails to consider standard mitigation measures and conditions of approval pursuant to an adequate MND or EIR. (p. 57)

II. SUBSTANTIAL EVIDENCE SHOWS THAT PROJECT CONSTRUCTION NOISE WILL CREATE SIGNIFICANT NOISE IMPACTS WITHIN NEIGHBORHOOD AFFECTING DOZENS OF SURROUNDING HOMES

The following significant construction noise impacts are discussed briefly here for the reader's convenience, and are analyzed in greater detail in later sections of this Report. Contrary to the unsupported and erroneous determinations in the Initial Study, construction noise will be very significant at many surrounding homes to this Project's site.

Construction Noise Level Increases Will Exceed City's Maximum 5 dBA Standards Above Ambient Noise Levels

The Project's construction noise increases will be significant and will greatly exceed the City's 2006 CEQA Threshold Guide's standards of increasing ambient exterior noise levels in this neighborhood by over 5 dBA[6] for more than 10 days in a three-month period. For example, the loudest phases of construction (excavation/grading and finishing) will potentially generate noise levels upwards of 99 dBA L_{max} at the nearest homes located perhaps just 10 feet from the proposed Project site. This noise level will not be reduced by any temporary noise barrier because those barriers are only required for foundation and retaining wall caisson drilling. **Such construction noise levels would massively exceed the Project site's 55.7 dBA L_{eq} daytime ambient noise level by 43 dBA at nearby homes.** That noise level would be 39 dBA greater than the City's most lenient 10 dBA exceedance threshold of significance at the nearest residential property lines. (L.A. CEQA Thresholds Guide, p. I.1:3).

Such construction noise would also generate noise levels that exceed ambient noise levels on neighboring properties by more than 5 dB and that would violate the City's Noise Ordinance, LAMC sections 112.01(a) and 112.04(b). Loud increases in noise above ambient conditions would be a significant noise impact of a type that the Initial Study never even considers, much less analyzes. Such construction noise increases would exceed City standards at dozens of homes in the neighborhood.

Construction Noise Will Exceed City's Maximum 75 dBA L_{max} at 50 feet in Residential Area

Not only will Project construction noise create significant noise level increases at many neighboring homes, but the heavy equipment proposed for use on this steep residential property will generate noise levels that exceed other City standards. The Initial Study offers little to quiet that equipment's use; with no temporary noise barrier use being required during excavation and grading operations, that heavy equipment construction noise would greatly exceed the City's noise regulation setting a maximum of 75 dBA L_{max} when measured at 50 feet.

It should be clear to City officials that any of the construction equipment listed in the Initial Study's equipment noise emissions, PDF p. 184, Table 1, as generating more than a maximum of 75 dBA L_{max} at 50 feet, will exceed the City Noise Ordinance § 112.05 maximum limit. For example, using a single jackhammer without additional sound barriers can create maximum

[6] A-weighted Sound Level ("dBA"): The sound pressure measured using the A-weighting filter network that de-emphasizes the very low and very high frequency components of the sound spectrum in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.

noise level of 89 dBA L_{max} at 50 feet so that equipment does not comply with the Noise Ordinance. Only three items in that list of 56 equipment types emit less than a maximum noise level of 75 dBA L_{max} at 50 feet. All the other equipment types listed in that Table 1 emit greater noise levels than that, and thus should be restricted per LAMC § 112.05 or require noise mitigation in this Project's residential setting. There are feasible ways with appropriate noise mitigations to reduce such construction noise levels, but the Initial Study fails to consider such measures. If the applicant proposes to proceed with equipment that does not comply with § 112.05's 75 dBA L_{max} at 50 feet standard, and also does not prove compliance is infeasible, then that clear evidence of a significant noise impact will require the City to prepare an EIR for this Project.[7]

The applicant's Noise Study also fails to actually consider this "maximum" permissible noise standard because it erroneously evaluates a different, irrelevant *average* noise threshold of 75 dBA $\mathbf{L_{eq}}$ at 50 feet, a noise standard that does not exist in Los Angeles.[8] Dozens of neighborhood homes would be exposed to loud Project construction noise that exceeds the City's maximum of 75 dBA L_{max} at 50 feet standard with only the very sparse Project Design Features and conditions proposed in the Initial Study. In using the wrong standard, the Initial Study does not have substantial evidence to support its less-than-significant noise impact determination.

Construction Noise Will Exceed City's Interior Room Maximum Noise Level of 45 dBA $L_{max.}$

Project construction will expose interior rooms in homes in the neighborhood to significant and excessive noise levels during caisson drilling or other loud construction activities. Neighbors in their interior rooms could be at significant risk from the greater than the maximum daily average noise level limit of 45 dBA L_{dn}.[9] This City standard is meant to protect neighbors against unreasonable annoyance impacts from loud construction even during the daytime.

Many neighbors will not be able to block out that excessive noise by closing their windows. For example, if three jackhammers are used at the same time, they could generate a combined noise level of 93.8 dBA L_{max} at 50 feet. If they are used for four hours in a day, their combined noise level averaged over the remainder of a 24-hour day without that noise would be 86 dBA L_{dn} at 50 feet. For neighbors as far away as 300 feet, that noise level would diminish to about 70.4 dBA L_{dn}. If they close their windows to try to block out that jackhammering noise, that would not be sufficient. Closed windows would reduce the exterior noise within their rooms by about 25 dB, resulting in an interior noise level exposure of about 45.4 dBA L_{dn}, but that is still in excess of the City's maximum 45 dBA L_{dn} standard. Dozens of homes are within 300 feet of this Project's

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[7] *See:* LAMC section 112.05: "Said noise limitations shall not apply where compliance therewith is technically infeasible. The burden of proving that compliance is technically infeasible shall be upon the person or persons charged with a violation of this section. Technical infeasibility shall mean that said noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers and/or other noise reduction device or techniques during the operation of the equipment."

[8] *See:* Initial Study, PDF p. 142, Table 8, fourth column labeled "Sig[nificance] Threshold (L_{eq} @ 50') where it identifies 75 dBA L_{eq} at 50 feet as that construction noise threshold. The City's actual threshold is a maximum of 75 dBA $\mathbf{L_{max}}$ at 50 feet, not an average $\mathbf{L_{eq}}$.

[9] *See:* General Plan Noise Element, p. 4-3, Policy P12; *see also:* LAMC section 91.1207.14.2: "Allowable Interior Noise Levels. Interior noise levels attributable to exterior sources shall not exceed 45 db in any habitable room. The noise metric shall be either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL) . . .".

construction site where jackhammering will be conducted . Thus dozens of families would be exposed to significant noise impacts even within their interior rooms yet with nothing they could do about it. Yet the Initial Study never even discloses this interior room noise standard nor evaluates this kind of significant noise impact.

Neighbors should be worried because even use of a single piece of heavy equipment doing grading and excavating for 11 hours during a 14-hour workday will generate noise levels that exceed this City's interior room noise standard with the windows closed. Equipment such as an excavator or backhoe generating a noise level of 85 dBA L_{eq} at 50 feet, when operated for 11 hours a day, produces an average noise level of 81.6 dBA L_{dn} at 50 feet. For the closest homes with their windows closed at that 50-foot distance, their interior room noise levels would be reduced by about 25 dB to 56.6 dBA L_{dn}. But that noise level is still greatly in excess of the City's maximum allowed 45 dBA L_{dn}. Another dozen homes up to 180 feet away would also be exposed to excessive construction noise where their interior rooms with windows closed would exceed this 45 dBA L_{dn} noise standard.[10] This example shows that even the former MND's mitigation XII-20 limiting construction to avoid operating several pieces of equipment simultaneously will not reduce the Project's construction noise impacts to less than significant.

III. NO SUBSTANTIAL EVIDENCE EXISTS TO SUPPORT THAT SOME OF PROJECT'S TYPES OF NOISE IMPACTS WILL BE LESS-THAN-SIGNIFICANT

The Initial Study and the Project applicant's *Air Pollution and Noise Impact Assessment* ("Noise Study") entirely ignore several foreseeable and significantly loud construction noise sources. The Project's May 8, 2019 Initial Study contains no evidence whatsoever, much less substantial evidence, that this Project will have a less-than-significant noise impact caused by the following construction activities:

- Use of backup alarms on heavy equipment as mandated by federal laws
- Ground-borne Vibration impacts resulting from earth-disturbing activities

Neither the Project's Initial Study nor the applicant's Noise Study[11] even identifies or analyzes the noise impacts that typical backup warning alarms used on heavy equipment make. As shown below, such noise impacts will be significant in the Project's neighborhood.

The same can be said for this Project's ground-borne vibration impacts to the nearest neighboring homes. The Initial Study presents just two paragraphs about construction-caused ground-borne vibration impacts and it concludes vibration impacts will be less-than-significant.[12] But neither there nor anywhere else in the Initial Study are these bare conclusions of this Project having less-than-significant ground-borne vibration impacts supported with any evidence at all. No Project Design Features are proposed by the applicant to limit construction vibration impacts. The applicant's Noise Study does not even address ground-borne vibration impacts. But as demonstrated below, this Project will create significant and severe ground-borne vibration

[10] See Figure A that shows where homes are located within about 180 feet of this Project site.
[11] See: *Air Quality and Noise Impact Assessmen*t, April 8, 2019, by Z Consulting Company, at Initial Study, PDF p. 131.
[12] *See:* Initial Study, PDF p. 69, "Construction".

impacts to neighboring residents. Such disturbance will result because the Project's demolition phase, excavation operations, site grading and drilling for foundation pilings or caissons will cause serious ground-borne vibrations at homes as close as 10 to 15 feet away. Construction vibration will cause significant annoyance impacts to neighbors and could cause potential structural damage to their homes. As shown below, such ground-borne vibration impacts will exceed typical vibration standards used by the City for other construction projects.

These issues of significant backup alarm noise and ground-borne vibration impacts were raised in my previous letter of December 14, 2018, but the City's current Initial Study and previous 2016 MND offer no evidence to the contrary.

Additionally, the Initial Study presents clearly erroneous conclusions that the noise impacts from the operation of heavy equipment (other than drill rigs) on the Project site will be less-than-significant during construction. Besides drilling, the Project will use heavy equipment like an excavator, jackhammer, tractor, loader, backhoe, dump truck, crane, and concrete truck. But no temporary noise barrier is proposed to shield noise from these equipment types. The upper proposed home's lot at 3627 Landa Street that is not as steep and may not need caisson drilling would not be required to install temporary noise barriers. But neighboring homes are very close on the east, south and west sides. The Initial Study offers no substantial evidence that the Project's noise impacts from use of this other heavy equipment will be less-than-significant as heard anywhere in the neighborhood. All of the construction equipment noise levels predicted in the Project's Noise Study Table 7 are not substantiated with calculations or reasonable assumptions. As an indication of their unreliability, those equipment noise level characterizations are significantly lower than what are estimated in the City's 2006 CEQA Threshold Guide.[13]

IV. PROJECT NOISE LEVELS WILL BE SEVERE AND SIGNIFICANT AT HOMES TO THE NORTH AND DOWNHILL DUE TO UNUSUAL STEEPNESS OF PROJECT SITE

This Project poses unusual circumstances that may preclude the use of a Categorical Exemption. The Project site, especially for the lower home to be built along Lucile Avenue, is very steep with a slope as steep as about 60%.[14] However, the 2002 City's CEQA Guidelines, on page 14, for Class 4 minor alterations to land, only allows a CEQA Categorical Exemption for grading of

[13] *See:* 2006 L.A. CEQA Thresholds Guide, p. I.1-8, Exhibit I.1-1 "Noise Level Ranges Of Typical Construction Equipment", Source: EPA, 1971. Available online: http://planning.lacity.org/Documents/MajorProjects/CEQAThresholdsGuide.pdf

[14] *See:* Initial Study, PDF pp. 44 and 199 where slope gradients of 2:1 are described. The Project site's slope percentage is calculated by dividing the vertical rise by the horizontal run. Multiply this number by 100 to arrive at the percentage slope. For instance, 1 foot rise divided by 2 foot run = 0.5 x 100 = 50% slope. The Project's topographic mapping also supports this slope percentage. *See:* May 23, 2017 Survey Map for 1888 Lucile Avenue and 3627 Landa Street with topographic contour lines, that shows a 12-foot rise in about 20 feet horizontal distance on the lower lot. That topography of 6:10 represents a 60% slope. The architect's "West Elevation (Lucile Home)" shows a grade slope of about a 30-degree angle.

land up to 15% slope.[15] The Initial Study does not explain why the part of this Project that requires grading and excavating on this Project site's steep site that has a slope percentage greatly in excess of the City's Class 4 standards is categorically exempt.

The Initial Study itself twice mischaracterizes this Project site as having a "gentle slope", but in reality a 60% slope is sometimes defined as an "extreme slope," not a gentle slope. For example, the City determined that only 0.14 % of the single-family areas in the Hillside Area are greater than a 45% slope.[16] This Project's steepness of slope not only necessitates additional noisy, time-consuming caisson foundation work, but also increases the construction work's noise impacts as the hillside itself acts like a canyon wall to reflect more noise towards homes that are at a lower elevation, unblocked by intervening homes, and situated to the north. Those homes to the north expose more of their roofs than walls to direct view from this Project site when compared to typical homes on low-slope lots. Roofs of homes do not block sound transmission as well as exterior walls because roofs have typically have some unblocked ventilation openings and roofs are often less dense than exterior walls that may have heavy stucco covering. Therefore, this Project site's steepness presents an unusual circumstance not allowed by the City's CEQA Guidelines for a Class 4 Categorical Exemption, and therefore not allowed for any Categorical Exemption including a Class 3 exemption as now is being requested.

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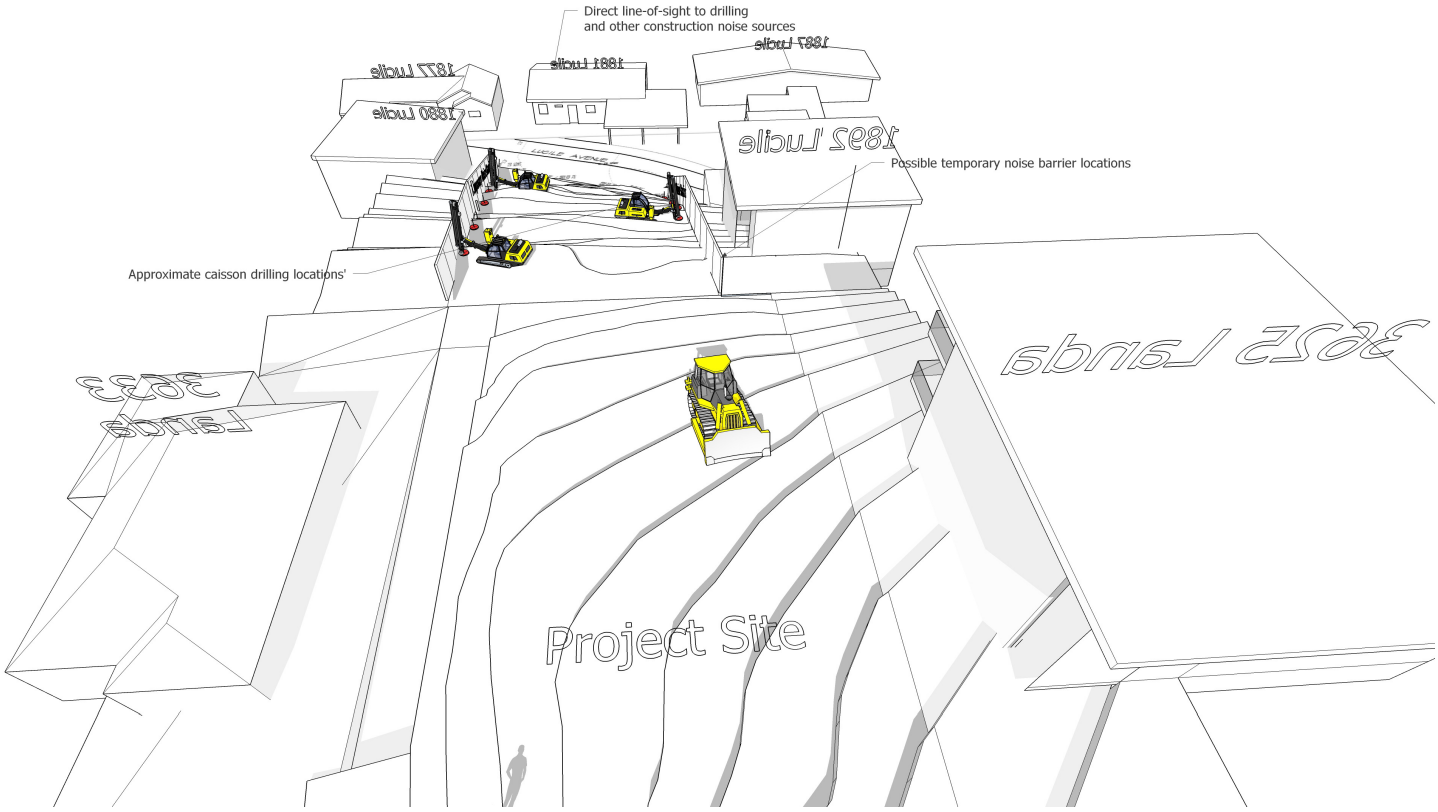
[15] *See:* City's Dept. of Building and Safety "Categorical Exemption Questionnaire" on page 19: "Is the grading to be done on land with an existing slope of fifteen percent or less (< 15%) ?" http://buildingincalifornia.com/wp-content/uploads/2014/02/geology_engineering.pdf

[16] *See:* http://planning.lacity.org/Code_Studies/BaselineHillsideOrd/CPC-2010-581-CA052710SRpt.pdf, page A-20.

The Project's noise impacts would be more severe at neighboring homes because of the site's steepness:

Figure 1
SIMULATED VIEW LOOKING DOWNHILL TO NORTH FROM PROJECT SITE[17]



Due to this site's steepness, such Project construction noise levels from auger drilling and even louder construction activities will exceed the City's interior noise exposure standards of 45 dBA L_{dn} at some homes in a downhill direction with their windows open.

In any case, there is no question that the Project as proposed will create significant noise impacts in its neighborhood. This Report will document various types of significant noise impacts that will occur if approved with the Initial Study as proposed by the applicant.

Caisson Drilling Noise Levels Will Be Significant At Nearest Homes to the North of Project Site Because They are Close and No Temporary Noise Barrier Blocks That Direction

The Initial Study provides no evidence at all that Project noise resulting from drill rig operations for the 1888 Lucile Avenue home's proposed foundation will be less-than-significant at some nearby homes across the street to the north. The Initial Study proposes no temporary noise barrier between the drill rigs and the homes to the north at 1887, 1881 and 1877 Lucile Avenue.

[17] The 3D simulations of the Project site's topography in this Report are based upon the applicant's May 23, 2017 Survey Map for 1888 Lucile Avenue and 3627 Landa Street with its topographic contour lines, and with surrounding homes located per Google Earth aerial mapping.

Barriers are only proposed to the east and west of the temporary drill rigs. At distances as close as about 70 feet from a probable drilling location to the home at 1881 Lucile Avenue with no intervening noise barrier, such drilling noise levels will greatly exceed the City's maximum standards. An auger drill rig will generate a noise level of about 85 dBA L_{max} at a 50-foot distance. At the nearest homes to the north only about 70 feet away at the closest and unshielded by any temporary noise barrier, that drilling noise level would be reduced by distance to about 82.1 dBA L_{max}. The daytime ambient noise level near those homes is claimed in the Initial Study to be 55.7 dBA L_{eq}. Therefore drilling noise would be as much as 26.4 dBA louder than ambient noise levels at these homes to the north. (82.1 – 55.7 = 26.4) That represents a significant noise level increase because it would be more than 5 dBA greater than the ambient noise level at those homes.[18] The Initial Study however never evaluates drilling noise levels at homes to the north.

Yet the Initial Study and Noise Study never disclose how loud that the Project's construction noise from operation of multiple pieces of heavy equipment and frequent construction vehicle traffic will be at these nearby homes. The Noise Study only purports to evaluate and calculate noise impacts on neighbors from such equipment as if they are shielded by temporary noise barriers, but no Project Design Feature is proposed to shield such heavy equipment's noise to the north. The Project's noise control feature for temporary noise barriers only applies to operation of the drill rigs during drilling and then only for the closest neighbors to both the east and west.[19] No temporary noise barrier use is proposed to shield drilling noise from nearby neighboring homes to the north immediately across Lucile Avenue.

Construction Noise Levels Will Exceed Maximum Allowable Interior Noise Levels of 45 dBA L_{max} at Nearby Homes.

The Initial Study and its Noise Study present no evidence to show that this Project's construction noise will be consistent with the City's and California's noise standards that restrict noise levels in interior rooms of nearby homes from exceeding a day-night average noise level of 45 dBA L_{dn}. Calculation of a day-night sound level also requires measurement of noise levels at nighttime, but the applicant's noise consultant only obtained brief two, 1-hour noise level measurements in the daytime, not at nighttime. Nonetheless, as shown below, daytime construction noise even with the proposed Project Design Features will be so loud that the day-night averaged sound levels at homes in the neighborhood will exceed the permissible limit of 45 dBA L_{dn}.

The Initial Study severely underestimates how loud the Project's construction noise will be, as is evident comparing its noise level estimations[20] with data in the *2006 L.A. CEQA Thresholds Guide*, p. I.1-9, Exhibit I.1-2. For example, the Project's noise consultant estimates site preparation and grading equipment with mufflers to generate noise levels between **62 to 68 dBA L_{eq}** at 50 feet. By comparison, the 2006 L.A. CEQA Thresholds Guide estimates noise levels from equipment operating with mufflers during excavation and grading to be about **86 dBA L_{eq}**

[18] *See:* 2006 L.A. CEQA Thresholds Guide for a 5 dB increase being considered to be significant.
[19] *See:* Initial Study, PDF p. 67.
[20] *See:* Initial Study, PDF p. 182, "Air Quality and Noise Impact Assessment", Tbl.: Construction Equipment Noise Data"

at 50 feet. The Project's noise consultant therefore, without clearly revealing calculations, estimates Project noise levels to be between 19 to 24 dB lower than the City's data predicts. That severe discrepancy is due to several serious factors:

The Project's Noise Study fails to account for increased noise levels when more than a single piece of heavy equipment operates simultaneously. The Project proposes using multiple pieces of equipment at any time during all of its construction phases.[21] For example, there would not be a need for three jackhammers if only one was being used at a time. Yet nowhere does the Initial Study evaluate the noise impacts from the simultaneous use of three jackhammers. Construction noise is louder when multiple noise sources are operated simultaneously. No Project Design Feature is proposed to prohibit multiple noise sources during construction. The City previously acknowledged in 2016 for this same Project that the use of multiple equipment at the same time would create significant noise impacts. The 2016 MND even included noise mitigation #XII-20 that states, in part: "*Demolition and construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.*" The applicant now however is proposing with the Initial Study and correspondence dated June 4, 2019 abandoning this particular approved noise mitigation without explanation.

The Noise Study erroneously uses as a threshold of significance an *average* noise level which is obviously lower than a *maximum* noise level, but the City's standards prohibit construction noise that exceeds a maximum of **75 dBA L_{max}**, not an averaged 75 dBA **L_{eq}**.[22]

The Noise Study greatly underestimates maximum equipment noise levels by considering a "usage factor" which is the percentage of time the equipment is operating under full power.[23] That usage factor may be relevant when considering an average noise level, but is entirely irrelevant when evaluating a maximum noise level as the City's noise ordinance requires. A neighbor should not be subjected to excessive noise levels above the City's permissible maximum levels just because the equipment is only operated part of the time during a work day.

The Noise Study assumes without evidence or calculations that various Project Design Features will reduce noise impacts at neighboring homes by 10 dBA. There is no substantial evidence in the Project's Noise Study or Initial Study that a 10 dBA reduction will occur with any of the equipment types when abiding by the Project Design Features. Instead, the applicant's noise consultant jumped to that conclusion without supporting that determination with meaningful facts and calculations. Those Features are quite inadequate.

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[21] *See:* Initial Study, PDF p. 134, Table 1, "Construction Schedule and Equipment" where three jammerhammers are listed as Project construction equipment.

[22] *See:* Initial Study, PDF p. 182 where noise levels are evaluated as: "L_{eq} at 50 feet." L_{eq} represents an average noise level called an "equivalent continuous noise level" (*See:* Initial Study, PDF p. 138). But the LAMC § 112.05 prohibits construction noise louder than a maximum of 75 dBA L_{max}.

[23] *See:* Initial Study, PDF p. 182, "Air Quality and Noise Impact Assessment", Tbl.: Construction Equipment Noise Data", fourth column for "Usage Factor", and footnote B.

For example:

A. Restricting construction to daytime hours does not lower Project noise levels in the daytime at all. Such a restriction would only be meaningful when calculating a project's day-night weighted average (dBA L_{dn} or CNEL) noise level, but the Initial Study does not evaluate that noise metric anywhere.

   If anything, the newly proposed Project Design Feature that would allow weekday construction to occur from 7:00 a.m. **to 9:00 p.m.** will increase the Project's harmful noise impacts. The 2016 MND restricted weekday construction from only 7:00 a.m. **to 6:00 p.m.** Now the applicant is seeking to extend a construction workday by 27% by adding another three hours per day of construction work. That longer workday also potentially increases the Project's day-night 24-hour average noise level, but nothing in the Initial Study discloses this consequence.

B. The demolition procedure is described leaving the existing home's east-facing wall during demolition intact until the last. But it does not limit construction noise levels at homes to the north because that remaining home's remaining wall before demolition is in the wrong position and will not shield the northern neighbors from construction noise.

C. Requiring mufflers does not reduce equipment noise by 10 dBA because most heavy construction equipment already had mufflers when their noise levels were evaluated. Besides, the City estimates that mufflers only reduce equipment noise by between 1 to 3 dBA, not 10 dBA.[24] That applicant's Noise Study is essentially double-counting the decibels and the benefit of mufflers, and as such, is severely underestimating how loud construction noise will be. Previously the MND included as a noise mitigation: "*The project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices*." The Initial Study however abandons this noise mitigation and replaces it with this ineffective measure: "All heavy construction equipment that is able to use mufflers will do so." That measure is so vague and weak that it cannot be enforced, and as such, offers no realistic evidence of any reduction in construction noise levels. That measure surely does not support any conclusion of a less-than-significant noise impact. For example, jackhammers do not have conventional mufflers, for much of their noise is generated where their metal pointed end breaks up concrete, and therefore this measure offers no reduction in jackhammer noise when these loudest of equipment types are used.

D. The temporary noise barriers on the east and west sides of the drilling rigs would not block any line-of-sight between the drill rigs and homes to the north.Therefore those barriers will not reduce drill rig noise at those homes by any decibels, much less by 10 dBA as the Initial Study claims.[25] There is no evidence in the Initial Study that the proposed temporary noise barriers will actually interrupt the line-of-sight between the drill rigs and all exterior walls of nearby homes to the east and west so as to produce claimed drill rig noise level reductions.

[24] *See:* 2006 L.A. CEQA Thresholds Guide, p. I.1-9, Exhibit I.1-2, for difference between noise levels during different construction phases without and with mufflers. (e.g. only between 1 to 3 dBA).
[25] *See:* Initial Study, PDF pp. 67, 95, and 144.

For that matter, because the Project's steep hillside has grades up to 60%, that steep slope also elevates some neighboring homes. As the result, temporary noise barriers will not even block the line-of-sight from the drill rigs to the upper floors of homes to the east or southeast of the construction site when drilling caisson holes on the west of the Project site. (See illustrations on next pages) In that case where neighboring walls will remain visible without blocking line-of-sight, these noise barriers will have negligible attenuation effect, not 10 dBA of noise reduction. The upper floor windows and northern deck of the home at 3625 Landa Street will not be blocked from line-of-sight to the drill rig because it is not "the nearest home to the east" to benefit from the Project Design Feature. Moreover, the Noise Study itself documents that a noise barrier that just barely blocks the line-of-sight from the noise source to the receiver only reduces the noise by 5 dB at most, and maybe only 3 dB for homes that are more distant from the noise barrier. Similarly, there is no evidence in the Initial Study that the proposed temporary noise barriers will actually interrupt the line-of-sight between the drill rigs and any other nearby homes to the north so as to produce any drill rig noise level reductions in that direction.

The significant discrepancies in the applicant's predicted noise levels and his consultants' errors using the wrong noise metric, rather than what the City's municipal code requires, demonstrates that the City does not have substantial evidence to support the Initial Study's determination of a less-than-significant noise impact.

Figure 2
SIMULATED VIEW LOOKING SOUTH ACROSS LUCILE AVENUE TO THE PROJECT SITE SHOWING THAT PROPOSED NOISE BARRIERS TO THE EAST AND WEST WILL NOT ADEQUATELY BLOCK DIRECT LINE-OF-SIGHT TO TWO-STORY EXISTING HOMES ON SUCH A STEEP HILLSIDE

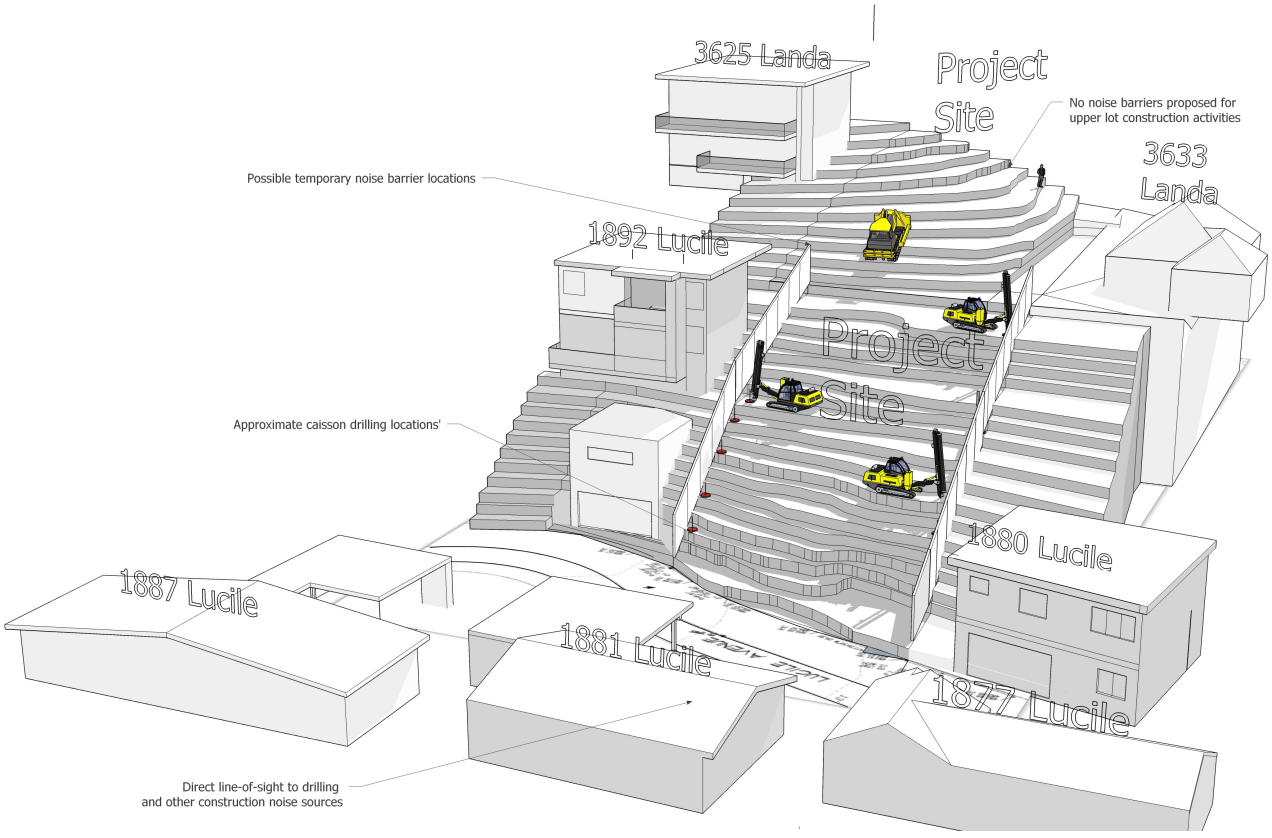


Figure 3
SIMULATED VIEW LOOKING NORTH FROM PROJECT SITE TO SEVERAL EXISTING HOMES ACROSS LUCILE AVENUE THAT WILL NOT BE SHIELDED FROM PROJECT DRILLING NOISE BY ANY PROPOSED TEMPORARY NOISE BARRIER

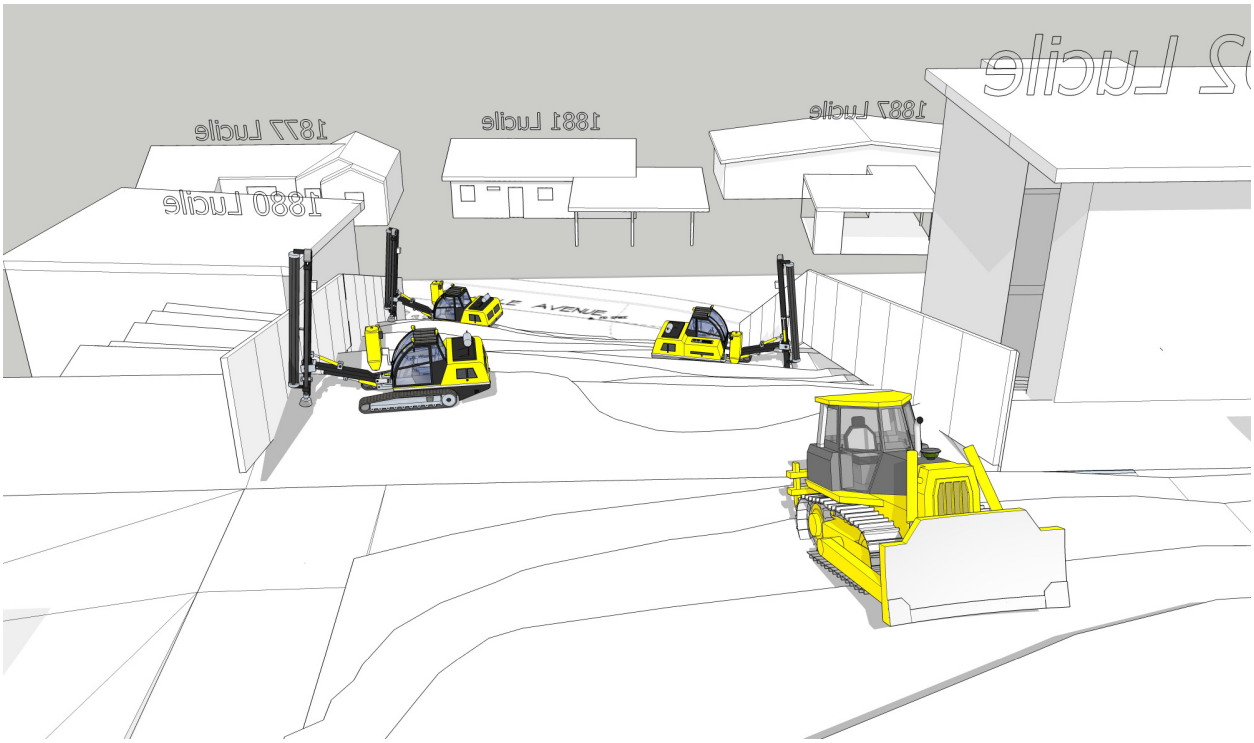
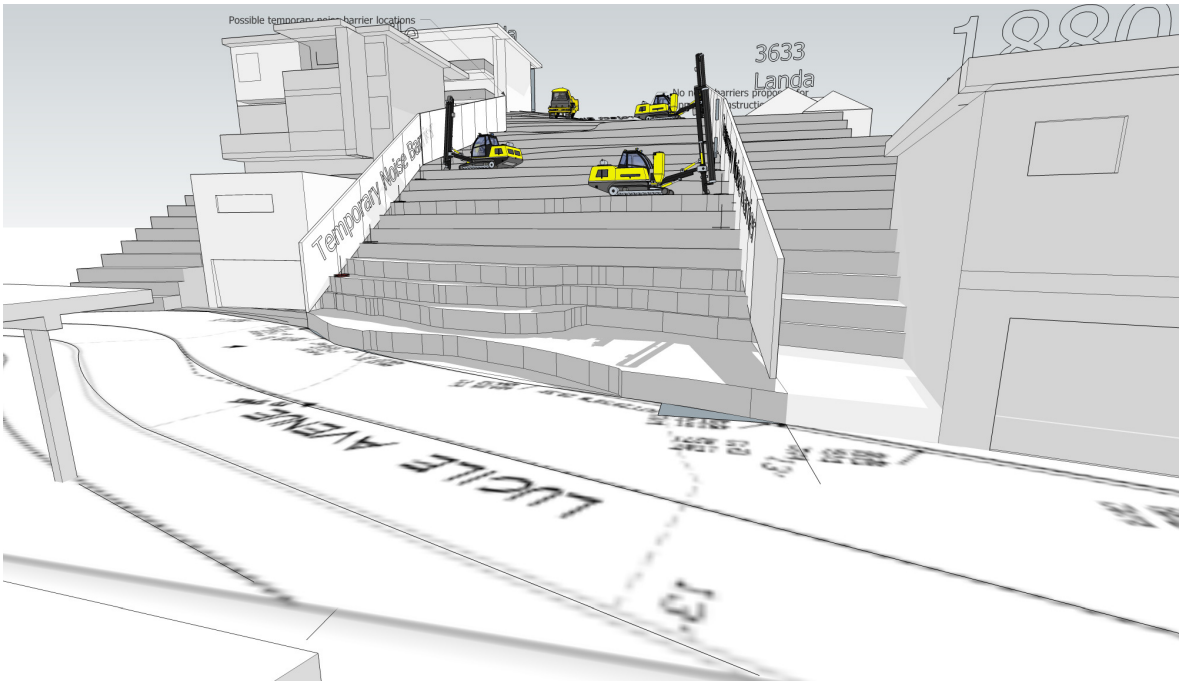


Figure 4
SIMULATED VIEW LOOKING SOUTH ILLUSTRATING HOW TEMPORARY NOISE BARRIERS CANNOT BLOCK DIRECT LINE-OF-SIGHT FROM DRILL RIGS TO TWO-STORY HOMES ON STEEP HILLSIDE FROM DRILLING NOISE IMPACTS



V. CATEGORICAL EXEMPTIONS CANNOT RELY ON WEAK *DE FACTO* MITIGATION MEASURES TO EVADE CEQA'S REQUIREMENT FOR A MND OR EIR.

Critical to the CEQA review process under a MND or EIR is a lead agency's consideration of project design features ("PDF"), regulatory compliance measures ("RCM"), and other mitigation measures ("MM") intended to reduce potentially significant environmental impacts.[26] This is typically proposed in the CEQA document's Mitigation and Monitoring Reporting and Program ("MMRP"), which can subsequently be made enforceable via conditions of approval ("COA") attached to the project approvals, thus making MMRP compliance mandatory and ensuring impacts will be either less than significant or mitigated to the fullest extent feasible.

Here, because this Landa/Lucile Project is now being reviewed under a Categorical exemption, no explicit mitigation measures or MMRP are being considered or publicly vetted. Nevertheless, based on the relevant documents and admissions, it is clear that this Project was designed with Project Design Features and approved subject to RCMs/COAs (i.e., de facto mitigation measures) to purportedly ensure the Project would not cause excessive noise to surrounding single-family homes during construction, "to help attenuate noise to the east," and to provide additional confidence that the construction noise impacts will be less than significant by complying with the Los Angeles Noise Ordinance.[27] However, these statements serve as an implicit admission by the City that the proposed construction activities have the potential of causing a significant noise impact, which necessitates a more thorough CEQA review (i.e., MND, EIR).

The City previously proposed and approved a MND for a similar Project on this same Site on or about February 10, 2016.[28] That MND determined that the Project's construction noise would be potentially significant unless mitigated.[29] The MND proposed noise mitigation measure XII-20:

> **Increased Noise Levels (Demolition, Grading, and Construction Activities)**
>
> • Construction and demolition shall be restricted to the hours of 7:00 am to 6:00 pm Monday through Friday, and 8:00 am to 6:00 pm on Saturday.
>
> • Demolition and construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.
>
> • The project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices.

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[26] *See e.g.*, Baldwin Hills Crenshaw Plaza Master Plan (DCP Case No. ENV-2012-1962) Draft EIR Noise Section, PDF pp. 22; *also see:* 6533 W. Selma Avenue (DCP Case No. ENV-2016-3751) MND, PDF pp. 200-201.
[27] *See:* Initial Study, PDF pp. 14, 135, 141, 142.
[28] *See:* ENV-2015-1568-MND (3627 West Landa Street, 1888 North Lucile Avenue; Case No. ZA-2015-1567-ZAD-ZAA; ZA-2015-1569-ZV-ZAD), signed February 10, 2016. The floor areas of the two homes then proposed are not the same but are similar to what is now proposed in 2019.
[29] *Ibid*, MND p. 22, Item XII(d).

The current Initial Study makes no reference to that previous DCP determination. That 2016 MND is not even mentioned, as if it did not exist or apply to this Project. The current Initial Study also abandons the MND's noise mitigations about operating several pieces of equipment simultaneously and using state-of-the-art noise shielding. Now instead the Initial Study claims with this proposed Categorical Exemption there will be no significant noise impacts because of various Project Design Features and de facto mitigation measures. The City provides no explanation for this relaxed interpretation.

Moreover, as discussed below, these de facto mitigation measures are inadequate and improper under CEQA.

1. Applicant's Noise-Attenuating Project Design Features

Under CEQA, a lead agency may not use project-specific mitigation measures to reduce project impacts as a means to qualify for a categorical exemption and evade a more demanding CEQA review.[30] Mitigation measures are not appropriate for categorical exemptions because lead agencies are not required to evaluate mitigation measures during the preliminary review of a project; instead, consideration of mitigation measures are reserved (as relevant here) for MNDs subject to CEQA's fair argument standard whereby the lead agency shall treat an impact as significant if there is a disagreement between experts over the significance of an effect.[31] While the distinction between elements of a project and measures designed to mitigate impacts of the project may not always be clear, any mischaracterization is significant if it precludes or obfuscates required disclosure of the project's environmental impacts and analysis of potential mitigation measures.[32]

Here, as discussed above, the Project includes jackhammering rock foundations and caisson drilling to prevent a home from sliding down a steep hillside, construction methods which are by

[30] *See e.g., Salmon Protection & Watershed Network v. County of Marin* (2004) 125 Cal. App. 4th 1098, 1102-1103, 1108 (when invalidated categorical exemption "*subject to conditions meant to minimize 'adverse physical effects on the natural environment*[,]'" the court stated while "mitigation measures may support a negative declaration but not a categorical exemption … Reliance upon mitigation measures (whether included in the application or later adopted) involves an evaluative process of assessing those mitigation measures and weighing them against potential environmental impacts, and *that process must be conducted under established CEQA standards and procedures for EIR's or negative declarations*." Emphasis added); *Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster* (1997) 52 Cal. App. 4th 1165, 1200 ("In determining whether the significant effect exception to a categorical exemption exists, '[i]t is the possibility of a significant effect . . . which is at issue, not a determination of the actual effect, which would be the subject of a negative declaration or an EIR. Appellants *cannot escape the law by taking a minor step in mitigation and then find themselves exempt from the exception to the exemption*.' [Citation]." Emp. added).

[31] *See: Azusa Land Reclamation Co., 52* Cal. App. 4th at 1200-1201 (citing CEQA Guidelines section 15064(h)(2)).

[32] *See: Mission Bay Alliance v. Office of Community Investment & Infrastructure* (2016) 6 Cal. App. 5th 160, 184-185; *Lotus v. Department of Transportation* (2014) 223 Cal. App. 4th 645, 656-57, fn.8 (Absent a determination regarding the significance of the impacts to the root systems of the old growth redwood trees, it is impossible to determine whether mitigation measures are required or to evaluate whether other more effective measures than those proposed should be considered … *Simply stating that there will be no significant impacts because the project incorporates 'special construction techniques' is not adequate or permissible*." (Emphasis added)).

no means common and typical construction for single-family home projects as intended by the State Legislature when it proposed the Class 3 Categorical Exemption category.[33]

As such, the Project includes a couple of noise-attenuating Project Design Features to purportedly mitigate these Project-specific construction noise impacts that would occur "due to the close proximity of surrounding single-family residential land uses,"[34] including:

- **TEMPORARY NOISE BARRIERS**. This Project includes temporary noise barriers just for the use of stationary equipment such as drill rigs. Those temporary noise barriers are to reduce noise impacts associated with that type of construction during drilling of the home's foundation caissons on steep hillsides.[35] They are to be positioned on the east and west side of the drill rig to break the line-of-sight between the drill rig's engine and the nearest neighbors to both the east and west. There is no mention, much less requirement, that the temporary noise barrier be of sufficient height, girth, material, or absorptive properties that will achieve a specified acoustical performance rating (e.g., STC or OITC rating).[36] At most, they will partially block direct noise from the barriers but some direct noise will diffract (bend) around such barrier wall surfaces and continue directly toward neighboring homes, or bounce to the north from uphill ground surfaces that reflect such loud noise toward nearby homes along Lucile Avenue.

  The Project's temporary noise barriers as proposed would not block any construction noise emitted toward homes to the north or south, homes that are still close enough for those construction noise levels to be excessive. As such, this Project Design Feature has unknown sound absorption/ attenuation properties. Thus, it is entirely speculative whether it will sufficiently reduce noise levels to prevent significant impacts to those neighboring receptors.

- **DEMOLITION PROCEDURES:** The Project proposes to shield some demolition noise impacts to neighboring homes on the east of the Site by starting demolition activities on the west side and progressing to the east. The east-facing wall of the structure would be preserved for as long as possible.[37] The Initial Study concludes, but without substantial evidence, that "[f]ollowing this procedure, much of the demolition noise will be shielded from the receptors to the east." The Applicant has failed to provide any meaningful information about this project design feature and, therefore, it is entirely speculative

[33] For example, the 2002 City's CEQA Thresholds only offer a Categorical Exemption for sites not steeper than 15%, but this Project site has slopes with about a 60% grade.
[34] *See* Initial Study PDF p. 14
[35] *See:* Initial Study, p. 14
[36] STC: "Sound Transmission Class." OITC: "Outdoor/Indoor Transmission Class." STC is the oldest and most widely recognized sound control rating system. STC ratings are measured as a difference in decibel levels, where a higher rating indicates more complete sound absorption and sound deadening performance. STC was originally developed to measure the sound transmission between interior walls. OITC is a newer rating system developed specifically for measuring sound transmission of low- and mid-frequency noises through exterior walls. While not as well known as STC, OITC is a more appropriate measure when comparing the true sound control performance of an exterior wall.
[37] *See:* Initial Study, PDF p. 135 for this noise control feature labeled "Demolition procedures."

whether this PDF will sufficiently reduce noise levels to prevent significant impacts to receptors.

- **MUFFLERS**. The Project also proposes that "[a]ll heavy construction equipment that is able to use mufflers will do so." The Initial Study fails to demonstrate that this measure will reduce the Project's overall noise levels significantly. This measure is vague and unenforceable by not defining which equipment is considered to be *heavy equipment*. The three jackhammers proposed for use during Project construction are likely not considered to be heavy equipment because they can be carried by workers and jackhammers have no engines.[38] Yet jackhammers are one of the loudest types of construction equipment being proposed for use on this Project.[39] Noise from jackhammers can be quieted but not clearly by this Project Design Feature.

The above-listed Project Design Features are not merely measures taken to comply with building codes, but rather minor steps taken by the Applicant to minimize noise impacts that were relied upon by DCP, which is not allowed for categorical exemption projects. Additionally, the Applicant has failed to provide any meaningful information about these Project Design Features and, thus, their effectiveness is entirely speculative when considering the many factors that that must be considered when designing competent noise barriers and crafting other useful mitigation measures (as discussed below).

While temporary noise barriers can reduce noise levels by up to 10 dBA if they are tall and long enough,[40] their effectiveness is highly dependent on a multitude of factors, most notably that they are of sufficient height to break the line-of-sight between the noise sources and receivers (i.e., diffracted noise); have sufficient thickness and density of material to cause sufficient transmission loss of noise traveling through the barrier and ultimately reaching the receiver (i.e., transmitted noise); and placement of the barrier, with optimal performance occurring when placed near either the noise source or receiver.[41] Ineffective noise barriers include those that are not tall enough to break the line-of-sight,[42] where transmission loss is not at least 10 dBA more than the desired noise reduction,[43] or when placed approximately halfway between the noise source and receiver.[44] Like with noise barriers, transmission loss of outside noise through a building structure (i.e., barrier insertion loss) is highly variable and can range from a 5 to 35 dBA

[38] The Initial Study, PDF p. 135, states: "All heavy construction equipment that is able to utilize mufflers will do so. As engine noise is the predominant source of noise associated with most construction equipment, utilization of mufflers will substantially reduce noise impacts." Jackhammers would be used during demolition work. (See PDF pp. 67, 182, 184, 196)

[39] Source: Initial Study, PDF p. 182, "Construction Equipment Noise Data – dBA," demolition construction phase, 89 dBA L_{max} at 50 feet.

[40] *See:* Initial Study, PDF p. 186, Figure 13; *also see* (Caltrans (Sept. 2013) Technical Noise Supplement, PDF pp. 147-160.

[41] *Ibid*., PDF pp. 146-152; *see also* 22147 Clarendon Street (DCP Case No. ENV-2015-1853) Draft-EIR Appendix G-Noise Study, PDF p. 16.

[42] *See* Noise Solution (6/4/14) Applications and Limitations of Acoustical Walls; *see also* Wilson Ihrig & Associates (11/12/14) Preliminary Noise Assessment Study, p. 12.

[43] Caltrans (Sep. 2013) Technical Noise Supplement, PDF p. 148-149.

[44] *Ibid*., PDF p. 151.

reduction depending on materials used (e.g., light frame, masonry, brick), sound rating of material used (i.e., STC/OITC),[45] and whether windows are generally open or closed.[46]

Here, however, the Project's Initial Study fails to provide many details about the temporary noise barriers, including their heights in relation to noise source, thickness, materials, STC/OITC rating, or locations in relation to all the most-affected noise sources and receivers. All that the Initial Study[47] states, and only about the temporary noise barriers' locations, is:

> "The noise barriers will be placed on both the east and west side of the drill rig in an orientation that breaks line-of-site between the drill rig's engine and the nearest neighbors to both the east and west. The noise barrier will be located as close to the drill rig as possible to maximize effectiveness."

That restriction will have no benefit to nearby homes to the north if only the east and west sides are blocked by temporary noise barriers.

Moreover, merely breaking the line-of-sight from the noise source to the homes will not reduce construction drilling noise by 10 dBA. The Project's Noise Study[48] itself states: "Typically, a 5-dBA [insertion loss] can be expected for receivers whose line-of-sight to the roadway is just blocked by the barrier," meaning that at most only a 5 dBA reduction can be expected, not a 10 dBA reduction as claimed in the Noise Study.[49] The Noise Study's Figure 13 (Line-of-Sight) also shows that a line-of-sight blockage as proposed by this Project's Project Design Feature only results in a 5 dBA reduction in noise levels. The Initial Study therefore significantly exaggerates the amount of noise reduction that neighbors can expect.

Similarly, no meaningful data is provided in the Initial Study about the proposed temporary noise barriers to reasonably estimate noise attenuation at any of the surrounding homes most likely to be impacted by this Project's construction noise. Moreover, the Noise Study fails to indicate the (1) *individual noise levels* generated by the Project's various heavy equipment sources at each

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[45] *Supra* fn. 57.

[46] Federal Highway Administration ("FHWA") (Dec. 2011) Highway Traffic Noise-Analysis and Abatement Guidance, pp. 30-31 (Tbl. 6); *see also* Wilson, Ihrig & Associates (11/19/14) Title 24 Acoustical Evaluation Exterior Sound Insulation, PDF p. 7-8 ("Title 24 requires all exterior elements surrounding this area must provide a minimum 18 dBA noise reduction … The STC was originally developed to evaluate speech privacy through interior partitions. The OITC rating was adopted more recently to provide a more accurate measure of the noise reduction for typical exterior noise sources (e.g., airplanes, traffic), which have a different frequency content than speech."); *see e.g.,* 1000 S. Hill St. (DCP Case No. ENV-2016-4711) MND Appendix G-Noise Calculations, PDF p. 20 (showing 0-5-dBA attenuation scenario); Villa Marina Mixed Use Project (DCP Case No. ENV-2004-3812) Draft EIR Appendix E-Noise Calculations, PDF p. 3 (showing up to 15-dBA insertion loss); 22147 Clarendon Street (DCP Case No. ENV-2015-1853) Draft EIR Noise Section, PDF p. 13; 1034 S. Hill (DCP Case No. ENV-2016-4711) MND, PDF p. 167.

[47] *See:* Initial Study, pp. 14 – 15; Also see Initial Study, PDF p. 66.

[48] *See:* Initial Study, PDF p. 186, quoted from the FHWA Highway Noise Barrier Design Handbook.

[49] *See:* Initial Study, PDF pp. 67, 95 and 144. e.g. On PDF p. 144, the Initial Study erroneously states: "*Any substantial material (buildings, terrain, walls, etc.) that breaks line-of-site between a noise source and the receptor will reduce the noise level experienced by that receptor by at least 10 dBA.*" Yet on PDF p. 186, the Initial Study, Fig. 13 excerpted from the Federal Highway Administration's Noise Barrier Design Handbook shows only a 5 dB loss from a noise barrier if the line-of-sight is just blocked and the barrier does not extend higher than the line-of-sight.

home; (2) *combined noise levels* for all these noise sources when added together (i.e., composite noise levels); or (3) *compare composite noise levels against the 3- or 5-dBA increase thresholds* under the City Threshold Guide, or any other threshold supported by substantial evidence. By failing in the first instance to provide a good-faith estimate of actual noise impacts, the *Noise Study cannot justify with substantial evidence* that noise impacts to receptors are less than significant. Nor can it claim that *de facto* mitigation measures provide sufficient noise attenuation because the Applicant has failed to even determine what level of attenuation is necessary in the first place.

In sum, contrary to CEQA, the Applicant has precluded and obfuscated the Project's noise impacts and analysis of potential mitigation measures by seeking to abandon the MND's noise mitigation measures and now relying on *de facto* mitigation measures not tethered to actual and competent analysis.

2. City's Noise-Attenuating Regulatory Compliance Measures & Conditions of Approval

Under CEQA, mitigation measures ("MM") are to include enforceable performance criteria capable of reducing, minimizing, rectifying, compensating, or avoiding the impact altogether[50]—which ensures the integrity of the public decision-making process by precluding stubborn problems or serious criticism from being swept under the rug.[51] To this end, CEQA requires: (1) mitigation measures to be fully enforceable, actually implemented, and not mere expressions of hope;[52] (2) lead agencies cannot rely on compliance with existing laws of uncertain efficacy;[53] and (3) agencies can defer crafting of mitigation measures to post project-approval only when guided by performance standards and armed with meaningful information reasonably justifying an expectation of compliance.[54]

Here, Department of City Planning's proposed Initial Study includes some noise-attenuating regulatory compliance measures ("RCM") and conditions of approval ("COA") to mitigate Project-specific impacts, including:

- **RESTRICTED CONSTRUCTION HOURS:** Construction will be confined to daytime hours only, as defined by the City of Los Angeles Construction Noise Ordinance (7:00 AM-9:00 PM, Monday through Friday, 8:00 AM-6:00 PM Saturdays). Construction activities that generate noise will also be prohibited on Sundays and all federal holidays. [55]

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[50] *See City of Maywood v. Los Angeles Unified School Dist*. (2012) 208 Cal.App.4th 362, 407; *see also* CEQA Guidelines § 15370.

[51] *Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935; *see also Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260, 280–281.

[52] CEQA Guidelines §§ 15126.4(a)(2), 15097; *see also Lincoln Place Tenants Ass'n v. City of Los Angeles* (2005) 130 Cal.App.4th 1491, 1508; *Federation of Hillside & Canyon Ass'ns v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1261.

[53] *See Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 17 Cal.App.5th 413, 433 ("none of these measures had any probability of implementation, their inclusion in the EIR was illusory."); *Californians for Alternatives to Toxics v. Department of Food and Agriculture* (2005) 136 Cal.App.4th 1, 17 ("[c]ompliance with the law is not enough to support a finding of no significant impact under the CEQA.").

[54] CEQA Guidelines § 15126.4(a)(1)(B); *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 92-93; *Oro Fino Gold Mining Corp. v. County of El Dorado* (1990) 225 Cal.App.3d 872, 884.

[55] *See:* Initial Study, PDF pp. 65, 135. *See also* LAMC § 41.40.

- **DECIBEL LIMITS:** The Initial Study bases its finding the Project would have a less-than-significant noise impact upon the applicant's compliance with the City's Municipal Code § 112.05 which sets some decibel limits on the operation of power equipment and tools.[56]

The above-listed RCMs/COAs, however, are not enforceable or reasonably expected to be complied with so as to ensure neighbors are not adversely impacted. First, restricting construction hours does not include a specific performance criterion (e.g., dBA or dBC noise level) that would constitute a sufficiently negative impact or nuisance. Nor does the condition requiring the Applicant to monitor noise via sound metering include any criterion. Nor does it specify mandatory actions to be taken by the Applicant when noise levels are excessive (e.g., cease construction). Hence, implementation is merely aspirational and subject to Applicant's voluntary actions. Nor does the City take a "'belt and suspenders' approach" by requiring the Applicant to perform noise testing upon the start of and during operations to ensure compliance with the City's Noise Ordinance.[57]

Second, the Initial Study admits the City's decibel noise limitations shall not apply where compliance is technically infeasible. (*ibid*) The Initial Study does not define which of the Project's construction activities will be infeasible to adequately mitigate. The Initial Study states that "[n]oise barriers are not practical for phases of construction that require constant mobility around the site, such as site preparation and grading."[58] Thus since the City claims such mobile equipment noise is not practical to regulate, such construction noise generated during site preparation and grading would not be restricted by the City's RCM and would remain potentially significant at neighboring homes. Therefore, it is entirely speculative whether this RCM will sufficiently reduce noise levels to prevent significant noise impacts to neighbors.

Third, the COAs and RCMs requiring compliance with the Noise Ordinance, including LAMC § 112.05 (limiting construction noise levels to 75 dBA L_{max} at 50 feet) and LAMC § 112.01 (5-dBA increase in ambient noise levels limit due to operation of a radio, boombox, backup warning beeper, or similar device often found on construction sites) are inadequate because the conditions do not require noise metering by the Applicant. Additionally, the Code would allow an additional 5-dB increase for powered equipment or devices (including, e.g., leaf blowers, which are not construction equipment) which creates a loud, raucous or impulsive sound (LAMC § 112.04). While the Code may allow up to a 5-dB increase for ***individual*** noise sources, the City Threshold Guide imposes a 5-dB increase threshold for ***all*** noise sources—something ignored by the Noise Study. Additionally, it is impractical to expect police officers, much less a lay member of the public, to compute complex noise calculations to determine whether noise levels are exceeded over a sufficient period of time to trigger the 5-dBA CNEL increase in ambient noise levels. Lastly, the codified noise standards are A-weighted that (as discussed above) ignores low-frequency noise impacts. Hence, enforcement/compliance is entirely speculative and insufficient under CEQA.

Fourth, compliance with the City's Noise Ordinance presumes noise complaints will be timely inspected by LAPD's Noise Enforcement or the local police station (i.e., Central Community

[56] *See:* Initial Study, PDF pp. 68. 138, 142.
[57] *Walters v. City of Redondo Beach* (2016) 1 Cal.App.5th 809, 824.
[58] *See:* Initial Study, PDF p. 67.

Police Station) with properly calibrated sound meters. However, according to LAPD,[59] only Noise Enforcement is routinely equipped with said meters, leaving the local police station's VICE unit unequipped to make an objective investigation. Additionally, no aggregated data or reports are made available to the public regarding the number of complaints received, citations issued, or how often the City follows up a lengthy nuisance abatement process, often a two-year process until final resolution. Yet again, enforcement/compliance is entirely speculative.
Fifth, even if compliance with the City noise regulations is achieved, *compliance alone is not dispositive on the question* of whether Project-related noise may have significant noise impacts.[60] Lead agencies may not ignore substantial evidence to the contrary.

Sixth, the newly-proposed measures increase the number of hours per day that construction may occur. The 2016 MND limited construction to "the hours of 7:00 am to **6:00 pm** Monday through Friday, and 8:00 am to 6:00 pm on Saturday." Now however three additional hours per day are being proposed where the mitigation limits construction to only the hours between 7:00 AM - **9:00 PM**, Monday through Friday and 8:00 AM - 6:00 PM Saturdays. (emphasis added) That change is inconsistent with the MND's mitigation, and could significantly increase the total construction noise level that the neighborhood is exposed to when averaged over a 24-hour day. That change would allow loud construction to occur from 6 p.m. to 9 p.m. when many neighbors may be home relaxing and having dinner. That change would allow noisy construction work to occur for 27% more time each weekday than the mitigation allowed. (14 hrs. / 11 hrs. = 1.27) Yet nothing is stated in the applicant's June 4, 2019 Initial Study to direct the reader's attention to this change or explain why this longer-work change might not lead to a significant increase in noise impacts.

The abovementioned issues are symptomatic of a poorly crafted noise ordinance that prove difficult to enforce.[61] Here, the Initial Study's claim that COA/RCM compliance will suffice

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[59] Per several phone calls with officers within the LAPD Noise Enforcement Unit, Central Community Police Station, and local Vice Unit.

[60] *See: Keep Our Mountains Quiet v. County of Santa Clara* (2015) 236 Cal.App.4th 714, 734, fn. 11.

[61] Come On Feel The Noise: The Problem With Municipal Noise Regulation (2006) 15 U. Miami Bus. L. Rev. 47, PDF pp. 28-29 ("*Actual enforcement of the ordinance can also prove difficult* … some have been apt to call noise ordinances a *sorry collection of restrictions* or state that noise laws have 'been *almost entirely unworkable*.'" Emph. added); Int'l J. Police Strat. & Mgmt. (2000) Policing Entertainment Districts, PDF pp. 12, 22 ("*Few cities have enforceable noise ordinances* (Table IV(26)). Decibel limits are too low, ambient noise levels are too high, and it is difficult to attribute noise to sources. Enforcement requires specialized equipment, training and, sometimes, citizen complaints … To simplify noise regulation, the *city of Irvine required the Irvine Amphitheater to install a permanent noise-monitoring station*. When the noise level reaches a certain limit, the Amphitheater must turn down the volume." Emph. added); The Great Mash-Up Debate: A Holistic Approach To Controlling Noise Pollution In Florida's Downtown Districts (2016) 14 Ave Maria L. Rev. 222, PDF pp. 14-18 ("Due to the i*ntricate nature of the investigation report, the enforcement of local ordinances may not be an effective remedy*. When a resident makes a noise complaint, an enforcement officer will arrive at the scene and begin the report. In order to verify the complaint, the enforcement officer must corroborate the noise. *By the time the form is complete and the officer has been able to measure the noise to determine if there has been a violation, the business (restaurant, bar, or nightclub) might have had the opportunity to turn down or shut off the music*. Thus, the process itself *renders the ordinance ineffective* … Prior to the issuance of the notice of violation, a code inspector or law enforcement *officer will generally first issue an oral or written warning* to immediately cease the violation. In some cities, such as Miami Beach, an inspector may issue *one oral courtesy per day* … A code enforcement officer may *hesitate in enforcing a noise complaint* without building a strong case that will likely result in favor of the prosecution." Emph. added).

serves only to sweep under the rug the problems of loud construction noise. The City cannot rely on illusory mitigation measures of unknown efficacy when the Applicant has failed to disclose, much less analyze, reasonably foreseeable impacts to nearby receptors. Nor, can the City cure the Applicant's flawed Categorical Exemption request by merely adopting additional noise-related COAs because recirculation of the Project's CEQA review would be required.[62]

VI. CONSTRUCTION NOISE IMPACTS WILL BE SIGNIFICANT

A. INITIAL STUDY FAILS TO PROVIDE SUFFICIENT INFORMATION TO ASSESS PROJECT'S NOISE IMPACTS

The L.A. CEQA Threshold Guide (p. I.1:2-3) provides clear construction-related screening thresholds that require "further study" in an expanded Initial Study ("IS"), Negative Declaration ("ND"), MND, or EIR if construction activities are within 500 feet of noise sensitive uses, such as residential uses. In evaluating this screening threshold, applicants are to provide "information on construction activities" (*id.*), yet not enough is presented in the Initial Study's noise discussion.

These screening thresholds assist the City and DCP in responding to the questions in the State's Initial Study Checklist[63] and to determine the appropriate environmental document (e.g., ND, MND, EIR) (*id.* at p. vii). These are less demanding than the City's significance thresholds that assist the City and DCP to determine "whether a project's impacts would be presumed significant under normal circumstances and, therefore, require mitigation to be identified" (*id.*). Here, the Initial Study lacks basic information and analysis required to satisfy even the minimal standards for screening evaluations under the L.A. CEQA Thresholds Guide—much less satisfy the more demanding requirements for significance determinations (discussed below).

When determining if construction noise impacts are significant under the L.A. CEQA Thresholds Guide (pp. I.1:4, I.2:5), applicants are required to establish ambient noise levels by either taking field measurements, by implementing a noise-monitoring program consistent with the City Code, or by using the "presumed Ambient Noise Levels" (LAMC § 111.03) The applicant did <u>not</u> submit nighttime field measurements of ambient noise levels near the Project site. Without such information, and pursuant to the L.A. CEQA Thresholds Guide, the presumed Ambient Noise Levels set forth in LAMC § 111.03 should apply, which provides a 40-dBA nighttime (10 p.m. – 7 a.m.) baseline. Under the L.A. CEQA Thresholds Guide (pp. I.1:3-5), applicants are required to provide specific facts and analysis when making significance determinations, which the Initial Study's noise discussion fails to satisfy as demonstrated below:

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[62] *See Gentry v. Murrieta* (1995) 36 Cal.App.4th 1359, 1380 ("if there was substantial evidence to support a fair argument that the Project would have a significant effect… then the City could not adopt new mitigation conditions aimed at this effect without recirculating its proposed negative declaration. Nevertheless, the City added mitigation condition… without recirculating. In so doing, it abused its discretion ….").

[63] CEQA Guidelines, Appendix G: Environmental Checklist Form, http://resources.ca.gov/ceqa/guidelines/Appendix_G.html.

Environmental Setting Requirements*: including the identification of noise sensitive land uses within 500 feet of the project site, and quantification of ambient noise levels (existing and projected at the time of construction) measured in CNEL.*[64]

The Project applicant did not submit nighttime ambient noise level measurements and the Initial Study does not contain such measurements obtained from other sources. The Initial Study also does not predict the construction noise levels that will occur at neighboring homes.

Project Impact Requirements*: including the duration of construction activities, identify the type, amount, and scheduling of construction equipment to be used during each construction phase, and the distance from construction activities to noise sensitive uses.*

Here, the Project's noise discussion fails to provide the location of equipment in relation to the residential uses adjacent or near to the Project site. Because the applicant has failed to provide sufficient information regarding equipment phasing and equipment usage, it is impossible for the applicant or public to assess the collective noise impacts from numerous construction equipment and activities operating during any phase of the 16-month construction period—much less demonstrate with substantial evidence that said impacts would be less than significant under applicable thresholds and standards.

Calculation of Noise Emissions Requirements*: including the noise levels provided in the L.A. CEQA Threshold Guide or other applicable references, or other noise models if appropriate, and determine the combined noise levels from equipment that will be operated simultaneously.*

Here, the Project's noise discussion fails to accurately disclose the maximum typical heavy equipment noise levels included in the L.A. CEQA Threshold Guide, much less determine or calculate the combined noise levels from equipment operating simultaneously. The Initial Study's Project Design Feature no longer requires, as the previous mitigation measure did, for demolition and construction activities to be scheduled so as to avoid operating several pieces of equipment simultaneously. This Project consists of the construction of two separate homes, both of which may have construction occurring at the same time with cumulative noise impacts louder than for just one home's construction.

Comparison to Ambient Noise Levels/Significance Threshold Requirements: *in establishing the change in noise level from construction activities at the location of sensitive receptors, applicants are to subtract the projected noise level without construction equipment from the projected noise level during construction activities. Considering the number of days various noise levels are projected, the applicant shall determine whether construction activities would exceed both the number of days, times of day, and dBA increases in the significance threshold.*

Here, the Initial Study's noise discussion fails to identify most of the applicable thresholds under the L.A. CEQA Threshold Guide, fails to quantify and determine the significance of the temporary increases in ambient noise during construction, and does

[64] Community Noise Equivalent Level ("CNEL"): The average A-weighted noise level in a 24-hour day, obtained after adding 5 dB to evening hours (7:00 p.m. to 10:00 p.m.) and 10 dB to sound levels measured in the night (between 10:00 p.m. and 7:00 a.m.).

not mention the City's General Plan Noise Element or Municipal Code that sets permissible interior noise level limit of 45 CNEL,[65] much less demonstrate that the Project's construction noise will not exceed this 45 CNEL limit at neighboring homes.

Cumulative Impacts*: including the identification of construction activities for related projects that would coincide with the project's construction operations; calculate noise levels using the same above-listed methodology and logarithmically add the noise from these construction activities to the project-related construction noise to determine the cumulative effect of the construction activities.*

Here, the Initial Study's noise section fails to consider, calculate and mitigate for the cumulative and thus potentially louder noise impacts of building two homes at one time.

To summarize, the Project's noise discussion in the Initial Study is fundamentally flawed because it lacks sufficiently meaningful information, much less analysis supported by substantial evidence, that informs the City and the public of all the potentially significant construction noise impacts. Moreover, the omission of most of the City's applicable thresholds conceals the true noise impacts of this Project. Based on my review and the facts/analysis discussed herein, there is a fair argument that construction noise will exceed the City's thresholds and, therefore, be significant. In fact, there is substantial evidence supported by facts and scientific calculations demonstrating that such noise impacts *will be significant during construction.* As such, the Initial Study is inadequate, a Categorical Exemption is inappropriate, and a more thorough noise analysis is warranted in accordance with the City's L.A. CEQA Thresholds Guide and best practices exercised by other public agencies. Critically, this review should be pursuant to an EIR, where specific mitigation measures can be considered and made enforceable.

To demonstrate the various ways the Project's construction noise impacts will be significant, one must first recognize the applicable noise standards pertinent to this Project, which in some cases the noise discussion fails to do, and includes the following:

B. THE INITIAL STUDY DOES NOT DESCRIBE ALL APPLICABLE THRESHOLDS OF SIGNIFICANCE FOR MAXIMUM CONSTRUCTION NOISE LEVELS.

The City must analyze if construction of these two homes at the same time would result in a substantial temporary increase in ambient noise levels in the Project vicinity above levels existing without the project? [66] The Initial Study points to two thresholds of significance where the Project's construction noise level is not permitted to exceed 75 dBA L_{max} at a distance of

[65] *See* City (2/3/99) General Plan Noise Element, p. 2:13 (stating the California Noise Standard for "addressing noise problems and define incompatible noise sensitive uses," including residential dwellings, is set at an interior noise level of a CNEL of 45 dB), https://planning.lacity.org/cwd/gnlpln/noiseElt.pdf. As discussed herein this comment Report, the Project's construction noise will exceed this limit of 45 CNEL. *See also:* LAMC section 91.1207.14.2: "Allowable Interior Noise Levels. Interior noise levels attributable to exterior sources shall not exceed 45 db in any habitable room. The noise metric shall be either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL) . . .".

[66] See L.A. CEQA Thresholds Guide (2006) Page I.1-1, A. Initial Study Checklist Question XI.(d).

50 feet and construction is not allowed between 9 p.m. – 7 a.m.[67] But the Initial Study does not identify several other important and applicable City noise standards such as not increasing ambient noise levels in the neighborhood *outdoors* at any residential property line by more than 5 dBA CNEL, or increasing *interior* residential noise levels above 45 dBA L_{dn}. By failing to evaluate the Project's significant noise level increases compared to ambient noise levels using these other applicable noise standards, the Initial Study fails to comply with CEQA. The Initial Study also does not describe what threshold of significance applies to ground-borne vibration during construction.

The Project applicant has only submitted two noise level measurements, each about one-hour long in the daytime, and both indicating noise levels of 55.7 dBA $L_{eq\text{-}1\ hr.}$ No measurements were reported during nighttime hours. The City in this case assumes that the daytime ambient noise level in this residential area is 55.7 dBA L_{eq} but the nighttime ambient noise level is 40 dBA L_{eq}.[68] This daytime ambient noise level of 55.7 dBA L_{eq} should have been used in part to evaluate this Project's construction noise level increases based upon the L_{dn} or CNEL metric. But the City overlooked this obligation. It is required to evaluate the day-night average noise level during Project construction to compare to the City's ambient noise levels or other noise standards, but it has not done so in the Initial Study.

The City elsewhere than this Project's Initial Study defines[69] that a project would normally have a significant impact on noise levels from construction if:

> 1) Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA (CNEL) or more at a noise sensitive use. (L.A. CEQA Thresholds Guide, p. I.1:3) (In this case and only if construction lasts shorter than 10 days, Project noise levels would be significant if they exceed 65.6 dBA CNEL at homes in the neighborhood. (55.6 dBA CNEL calculated daytime ambient level + 10 dBA = **65.6 dBA CNEL**)) This standard is not applicable to this Project though due to the length of Project construction exceeding 10 days in three months.
>
> 2) Construction activities lasting more than 10 days in a three-month period would generate noise levels that exceed existing 24-hour weighted average ambient exterior noise levels by 5 dBA or more at a noise sensitive use or at any neighbor's residential property line outdoors.[70] (In this case, because Project construction will certainly last more than 10 days in a three-month period,[71] the Project noise levels would be significant if they exceed **60.6 dBA**

[67] *See:* Initial Study, PDF p. 138, referencing LAMC § 112.05 for a maximum 75 dBA noise level at 50 feet for construction machinery (e.g. tractors, dozers, drills, loaders, shovels/cranes, etc.); Also, LAMC § 41.40 prohibiting construction using machines between 9 p.m. and 7 a.m.

[68] See L.A. Municipal Code, SEC. 111.03. MINIMUM AMBIENT NOISE LEVEL. For this residential zone, the ambient noise level at nighttime is presumed to be 40 dBA nighttime. Also see L.A. CEQA Thresholds Guide (2006) Page I.1-9, Exhibit I.1-3, "Presumed Ambient Noise Levels")

[69] See L.A. CEQA Thresholds Guide (2006) Page I.1-3, Section 2(A) Significance Threshold.

[70] The noise impacts on neighboring residents would extend over the entire construction phase of the Project, which is estimated to be 16 months including grading, foundation and construction. (October 1, 2018 *Appellant Neighbor's Grounds For Appeal, Re: 1888 Lucile Ave.*; p. 16.)

[71] *See:* Initial Study, PDF p. 134: "approximate construction schedule is from August 2019 to June 2021", and, for example, demolition predicted to last for 45 work days in a 51-day timeframe, including jackhammering.

CNEL at residential property lines in the neighborhood. (55.6 CNEL + 5 = 60.6 CNEL) See page 48 below for explanation and calculation of this 60.6 dBA CNEL threshold of significance.) The Initial Study does not analyze this threshold of significance contained in the 2006 L.A. CEQA Thresholds Guide, p. I-2.3,

3) Another standard is that the City's Municipal Code § 112.05(a) defines that a project's maximum allowed noise level resulting from use of construction equipment like an auger drill rig or a crane is **75 dBA L_{max}** as measured at a distance of 50 feet from that equipment.[72] The Initial Study purports to consider this standard, but mistakenly uses 75 dBA **L_{eq}** instead which is the wrong metric. The Initial Study uses an *averaged* noise level and not the required *maximum* noise level the City's Noise Ordinance actually regulates. Nearly all of the heavy construction equipment emits noise levels greater than this 75 dBA L_{max} threshold of significance, so absent careful noise mitigations, this standard may become a barrier for the Project.

4) One other standard to be considered is the California Noise Insulation Standards (Building Code Title 24, Section 3501 et seq.). This standard for residential land uses sets a maximum interior noise level of **45 dBA L_{dn}** in any habitable room, averaged over a 24-hour period. The City's General Plan Noise Element also sets that permissible interior noise level limit of **45 dBA L_{DN}** or **45 CNEL**.[73] As also does LAMC section 91.1207.14.2. This standard protects against sleep disturbance impacts at nighttime, and more pertinent here to actual construction noise, against unreasonable annoyance impacts during the daytime. The Initial Study never evaluates this standard.

5) The General Plan Noise Element identifies an exterior sound level greater than 70 dBA CNEL for a single family residential neighborhood as "normally unacceptable," requiring analysis and noise insulation features for projects. The Initial Study also never evaluates this standard which will be exceeded by construction noise impacting neighboring properties.

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[72] See L.A. Municipal Code SEC. 112.05. MAXIMUM NOISE LEVEL OF POWERED EQUIPMENT OR POWERED HAND TOOLS:
Between the hours of 7:00 a.m. and 10:00p.m., in any residential zone of the City or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet there from:
(a) 75dB(A) for construction, industrial, and agricultural machinery including crawler-tractors, **dozers**, **rotary drills and augers**, **loaders**, power shovels, **cranes**, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, **compactors**, scrapers, wagons, pavement breakers, **compressors** and **pneumatic** or **other powered equipment**. (*emphasis added*)

Note (by author of this review): This code section 112.05 also states: "*Said noise limitations shall not apply where compliance therewith is technically infeasible. . . . . Technical infeasibility shall mean that said noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of the equipment."* However, for purposes of determining whether or not such construction noise is significant, technical infeasibility for compliance is of no consequence.

[73] *See*: City (2/3/99) General Plan Noise Element, p. 2:13 (stating the California Noise Standard for "addressing noise problems and define incompatible noise sensitive uses," including residential dwellings, is set at an interior noise level of a CNEL of 45 dB), https://planning.lacity.org/cwd/gnlpln/noiseElt.pdf. As discussed here in this comment Report, the Project's construction noise will exceed this limit of 45 dBA CNEL.

6) The Project construction vibration impact would be significant if it exceeded the Federal Transit Administration ("FTA") vibration threshold of significance of 80 VdB at residences, or exceeded the Caltrans' recommended level of 0.2 in/sec PPV.[74] The Initial Study never evaluates this standard either.

7) Project construction occurs between 9:00 p.m. and 7:00 a.m. on weekdays, in part.

Of the seven applicable construction noise standards listed above, the Initial Study only discloses two of them(#3 and #7) as existing and being relevant to this Project. (Maximum of 75 dBA L_{max} at 50 feet and allowable construction hours) The lack of any analysis in the Initial Study of the Project's consistency with the other five noise/vibration standards demonstrates the City has no substantial evidence supporting its determination that Project construction noise impacts will be less-than-significant.

C. DOZENS OF HOMES NEAR THE PROJECT SITE COULD BE SUBJECTED TO EXCESSIVE CONSTRUCTION NOISE LEVELS FROM OPERATION OF HEAVY EQUIPMENT THAT EXCEED THE CITY'S MAXIMUM LIMIT OF A NOISE LEVEL OF 75 dBA L_{MAX} AT 50 FEET FROM THE SOURCE, AND ALSO EXCEED THE CITY'S THRESHOLD OF SIGNIFICANCE IN GENERATING AN INCREASE IN EXISTING AMBIENT NOISE LEVELS BY MORE THAN 5 OR 10 dBA L_{EQ}.

Based on the acoustical principles and math discussed below, it is apparent that this Project will generate and expose dozens of neighboring residents to noise levels in excess of the above-listed thresholds and standards.

Predictable Construction Noise Levels for Proposed Foundation Construction

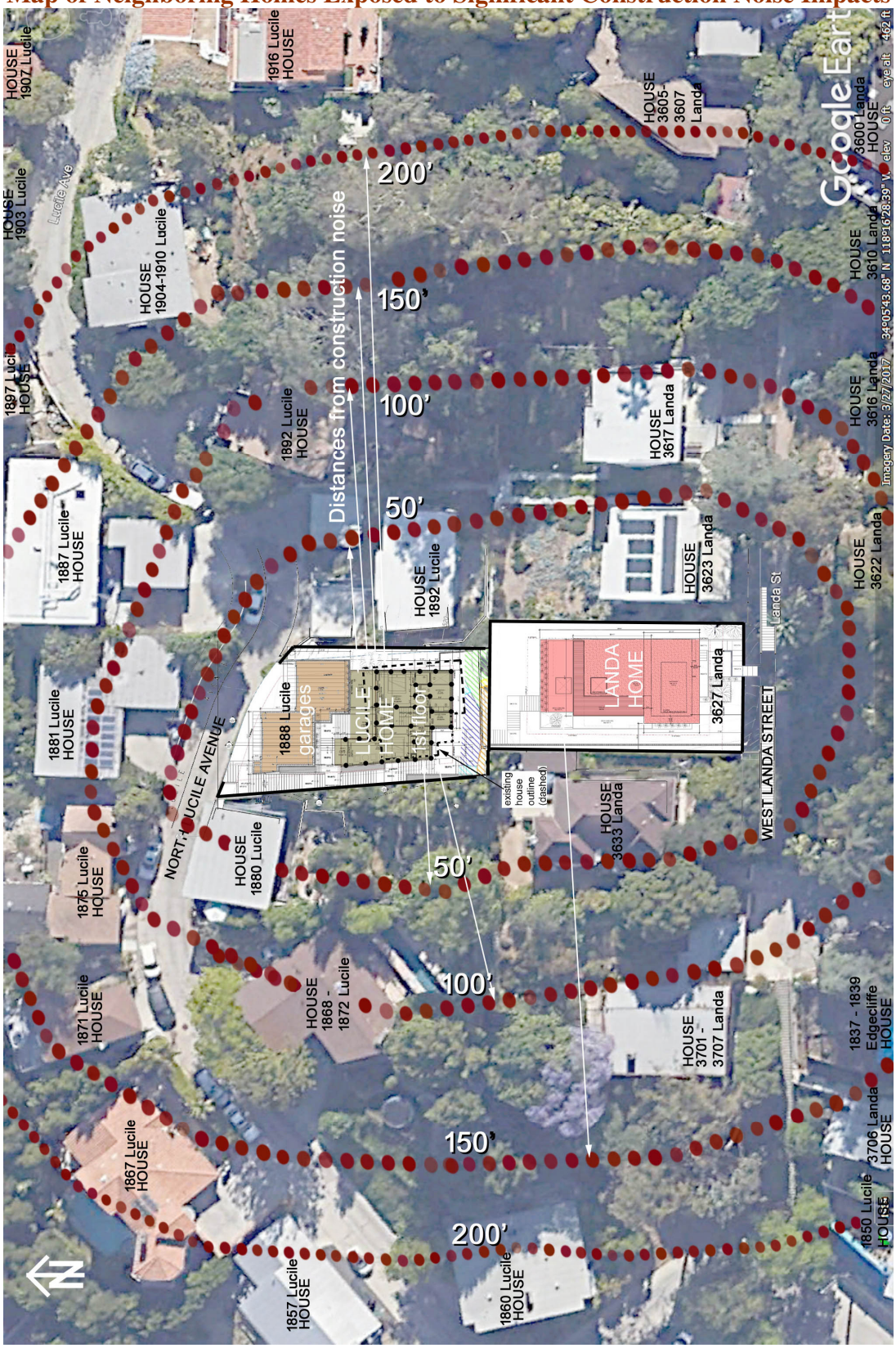
To evaluate the significance of this Project's construction noise impacts, the first step is to review these standards listed above, including those in the City of L.A.'s CEQA Threshold Guide for its definition of applicable thresholds of significance for noise impacts.

The Project's likely noise levels to be generated during foundation construction activities should be compared to all of those above-listed thresholds of significance. This Project's Lucile/Landa homes construction will generate loud noise levels during pile or caisson drilling operations. The Project's "Geology and Soils Report Approval Letter" dated January 7, 2015 identifies that these will be "two new pile-supported single family residences." These two homes are recommended to have conventional and/or drilled-pile foundations bearing on competent bedrock. Those piles or caissons may extend 10 feet or more into bedrock, likely similar to foundations of adjacent homes.

As will be demonstrated, this Project's foundation construction activities with noisy caisson drilling operations will generate noise levels in excess of all of the noise standards identified above. As such, this Project will create significant noise impacts in its neighborhood. As shown below in **Figure A**, dozens of homes exist within a few hundred feet of this Project site.

[74] *See* FTA (May 2006) Transit Noise and Vibration Impact Assessment, pp. 12:10-14, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf.

FIGURE A
Map of Neighboring Homes Exposed to Significant Construction Noise Impacts



The noise generated during caisson drilling will likely be the most significant noise source during the Project's foundation construction. To drill a possible 12 or more caisson holes, an auger drill rig and crane will likely be used near constantly for more than one day. The City needs to know how many hours per day such drilling will occur, and also how many days such construction activities will last. The more hours a day that drilling occurs, the greater the Project's averaged noise levels will be. The more days that construction goes on, the less tolerant neighbors will become of continuing noise. To address such reduced tolerance for persistent construction noise, the City's standards even compel a reduction in a project's allowable noise levels when such noisy construction takes longer than 10 days within a three-month period.

Duration of Construction Activities for Foundation Caisson Drilling

On February 9, 2018, I personally spoke to Mr. Darnell Tapia, a construction estimator with Leon Kraus Drilling[75], about his experience drilling in Los Angeles' hillsides. He estimated that drilling for caisson installations would proceed at a rate of about 125 linear feet to 150 linear feet of depth per day with unknown soil conditions, and a maximum of 200 linear feet per day under the best of conditions. He also estimated from his experience that auger drill rigs are used nearly full time during such deep drilling operations.[76]

The Project documents that have been made available do not reveal how many caissons and piles will be drilled for these two homes' foundations. To roughly estimate how many caissons might be drilled, we contacted a local architect with experience with such foundations, Michael Mekeel of Offenhauser/Mekeel Architects He obtained a site plan and cross-sections of foundation details and needed retaining walls for the 1888 Lucile Avenue home.[77] He estimated that at least 12 piles would be needed below two retaining walls along the home site's east and west side property lines. There may more piles for as many as four to seven retaining walls needed.[78]

To estimate the depth of these new caisson holes, the least amount of drilling would require about 15 feet of depth per caisson. This depth is approximated from the caisson depths shown in Project documents for the two neighboring homes which scale to about 15 feet each.[79]

For the two Lucile/Landa homes, assuming 12 caissons at 15 feet of depth each, approximately **180 linear feet** of caisson holes would need to be drilled. (12 x 15 = 180). It will likely take

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[75] For reference: Leon Kraus Drilling: 13753 Gladstone Ave; Sylmar, CA 91342, Phone (818) 367-4237

[76] Therefore with nearly full time use during caisson drilling, the applicant would not be able to relax his noise compliance obligation pursuant to City laws, but may have to adhere to stricter standards if drilling results in high-pitched noise or repeated impulsive noises: "To account for people's increased tolerance for short-duration noise impacts, the Noise Regulation provides a 5 dBA allowance (increase) for noise sources occurring more than 5 minutes, but less than 15, in any 1-hour period, and an additional 5 dBA allowance for noise sources occurring 5 minutes or less in any 1-hour period. Additionally, the Noise Regulation provides a penalty of 5 dBA for steady high-pitched noise or repeated impulsive noises." (Los Angeles Municipal Code, chapter XI, article I, section 111.02(b))

[77] *See*: Attachment B for Site Plan and Cross-sections with added notations in red ink.

[78] *See*: *Appellant Neighbor's Grounds For Appeal Re: 1888 Lucile Ave.*, October 1, 2018, p. 6: "As shown by the attached diagram, the Lucile project requires not 3 retaining walls, but rather, 7 retaining walls. (Tab C.)"

[79] *See*: Project file, Exhibit 4, "Section A", showing a cross-section view of foundations for adjacent homes at 1892 N. Lucile Avenue and 3823 W. Landa Street.

more than one day to drill those caissons holes.[80] Other construction noise sources such as bulldozers, excavation equipment, sawing, hammering that exceed City standards at close by homes will also create significantly intrusive noise sources lasting for months.

D. THE PROJECT'S CONSTRUCTION NOISE LEVEL INCREASES WILL EXCEED EXISTING AMBIENT EXTERIOR NOISE LEVELS BY 5 dBA FOR MORE THAN 10 DAYS IN A THREE-MONTH PERIOD IN ITS NEIGHBORHOOD, AND THAT IS CONSIDERED A SIGNIFICANT NOISE IMPACT WHICH WOULD IMPACT BETWEEN 24 TO 59 NEIGHBORHOOD HOMES.

Noise level increases during Project construction will exceed the City's thresholds of significance. With neighboring homes as close as 15 feet to this Project, and as close as 10 feet to the Project's retaining walls, significant levels of construction noise will likely exceed City thresholds at these homes for more than 10 days in a three-month period. Such longer construction periods occur for other similar Los Angeles home construction projects.[81] This Lucile/Landa Project will be noisier than ordinary single-family home projects because it consists of the demolition of one existing home, site excavation and grading on a steep hillside, and the construction of two new homes and their garages. As demonstrated below, noise limit exceedances of City thresholds will occur regularly during Project site preparation, caisson drilling, and other construction equipment use.

Foundation Construction Noise will be Excessive

First, consider just the noise impacts in building these homes' foundations. Even if only the site work and foundation construction noise levels exceed City standards, and not other onsite construction noise levels, this Project will generate noise increases above ambient noise levels by more than 10 dBA, and that would be significant.[82] If more caissons are required than roughly assumed or if greater depths of drilling are required, then the caisson construction period could increase to more than 10 days. Caisson construction activities exceeding 10 days would trigger

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[80] As estimated by Leon Kraus Drilling at a different location, the drilling for the Lucile/Landa homes' caisson installations would proceed at a rate of about 125 linear feet to 150 linear feet of depth per day with unknown soil conditions. (180 / 125 = approximately 1.4 days of drilling)

[81] *See e.g.*, 3599 Lankershim Boulevard (DCP Case No. ENV-2014-4031-EIR, *Single-Family Residence in Studio City Project*; the proposed project was the development of a two-story single-family residence with basement) (*from* EIR, Section IV.E Noise, p. IV.E-14: "For the proposed project, the construction scenario is expected to last approximately 15 months, and noise levels are projected to periodically exceed the 5 dBA standard for construction lasting more than 10 days in a three month period by a maximum of 12.1 dBA at the closest sensitive receptor. Therefore, the proposed project would result in a potentially significant impact to noise relating to 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, and the consideration of mitigation measures and alternatives is required.") http://planning.lacity.org/eir/StudioCitySingleFam/DEIR/4E%20Noise.pdf

[82] See L.A. CEQA Thresholds Guide (2006) Page I.1-3, Section 2(A) Significance Threshold. The City defines that "a project would normally have a significant impact on noise levels from construction if construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise sensitive use."

the stricter 5 dBA increase standard.[83] Or other excessively noisy construction from operation of heavy equipment and vehicles lasting a total of more than 10 days within a 3-month period would invoke that stricter 5 dBA increase standard.

The exact locations for proposed caisson drilling were not made available, but this generalized diagram on the next page, Figure "B," as based upon advice from a local architect, illustrates their approximate positions for my firm's Report noise impact analysis.

Many neighboring homes will be exposed to more than this significant noise level because of this Project's steep hillside lots, the foundation work being proposed, and the close proximity of many neighboring homes. To calculate such noise levels, the following assumptions are made as to how loud the equipment is, how many hours per day it will be used, whether noise muffling will also occur, and the distances to neighboring homes in the vicinity.

Auger Drilling Equipment Operational Noise Levels

For this calculation, the caisson installation equipment or auger drill rig will generate about **85 dBA L_{max} at a 50-foot** distance.[84] Numerous equipment noise prediction reference sources, including even this Initial Study's Appendix D, identify auger drill rigs producing 85 dBA L_{max} at a 50-foot distance, as does the FHWA.[85]

This Project's May 2019 Initial Study's estimation of a drill rig generating a noise level of 77 dBA L_{eq} at 50 feet[86] is irrelevant and erroneous because that is a calculated *average* noise level, not a *maximum* noise level that must be used when compared to the City's noise ordinance LAMC § 112.05. If the Initial Study had correctly implemented § 112.05, it would have used a maximum noise level of 85 dBA L_{max} for drill rigs found in the fourth column of the table on PDF p. 184, a value of 85 dBA L_{max} from the Federal Highway Administration Roadway Construction Noise Model.

Equipment Noise Mitigation

The Project's Initial Study vaguely requires a *de facto* mitigation measure for the use of mufflers if that heavy construction "equipment is able to use mufflers" to somewhat quiet the noise from the equipment during its operations.[87]

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[83] The City defines that "a project would normally have a significant impact on noise levels from construction if "construction activities lasting more than 10 days in a three month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise sensitive use." *Ibid*.

[84] See *Construction Noise Assessment* (2017) by Illingworth & Rodkin, Inc., page 6, Table 3, "Construction Equipment 50-foot Noise Emission Limits" - Auger Drill Rig: 85 dBA L_{max} Source: Federal Highway Administration Roadway Construction Noise Model.

[85] *See:* Initial Study, PDF p. 184, Table 1, Auger Drill Rig, 4th column: 85 dBA L_{max} at 50 feet. *See* also the 2006 FHWA Roadway Construction Noise Manual Users Guide, p. 3, Table IV.F-7; or p. 3, Table 1. Available online at: https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf The *L.A. CEQA Thresholds Guide*, p. I.1-9, Exhibit I.1-2, "Outdoor Construction Noise Levels", identifies excavation and grading activities to produce noise levels slightly louder of 86 dBA at 50 feet with mufflers.

[86] *See:* Initial Study, PDF p. 182, for Drill Rig, fifth column.

[87] See Initial Study, PDF p. 14, "Mufflers. All heavy construction equipment that is able to use mufflers will do so."

Figure B
APPROXIMATE LOCATION FOR CAISSON DRILLING
(Caisson locations only shown in a generalized way for noise impact analysis purposes)

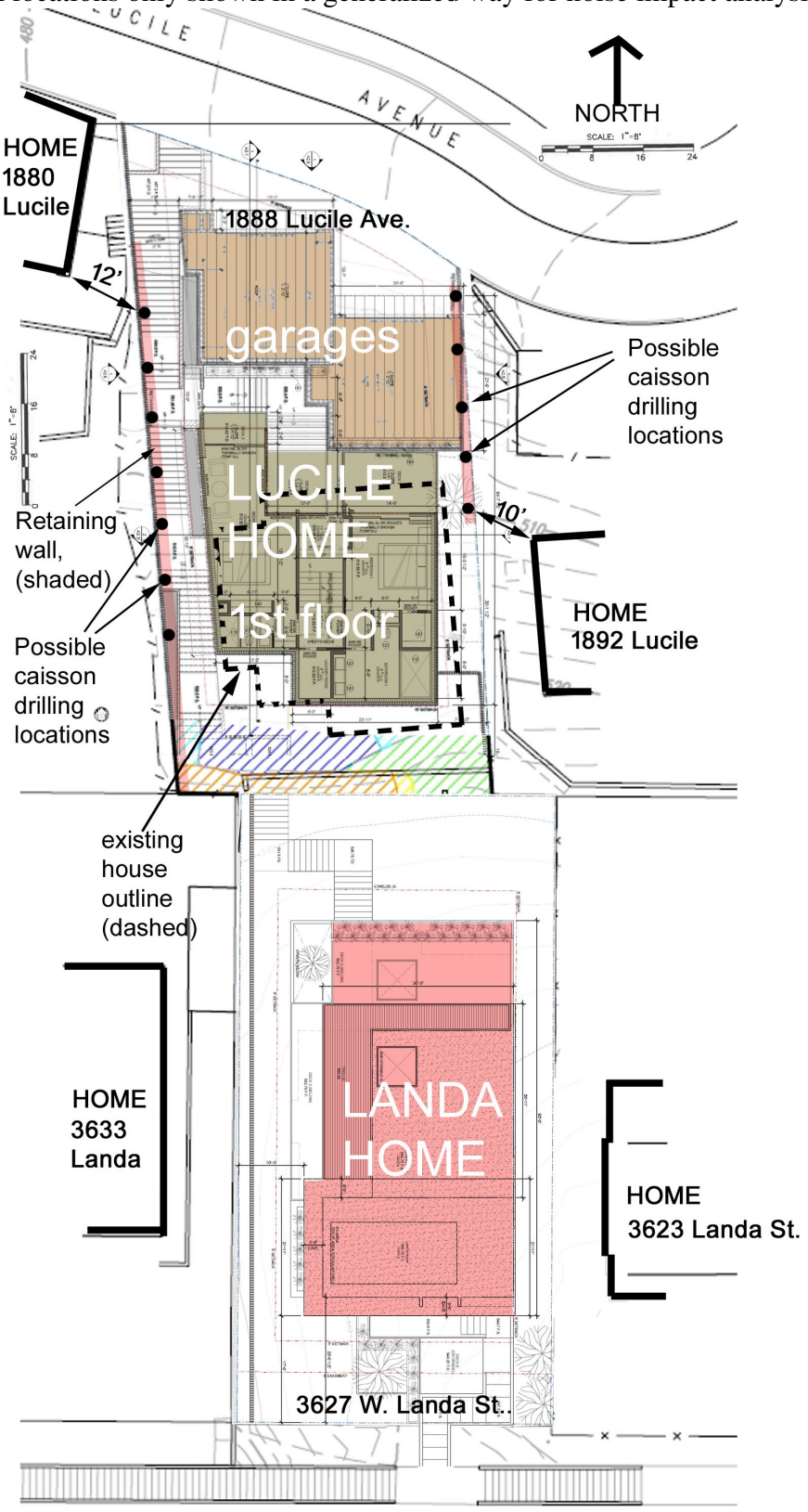
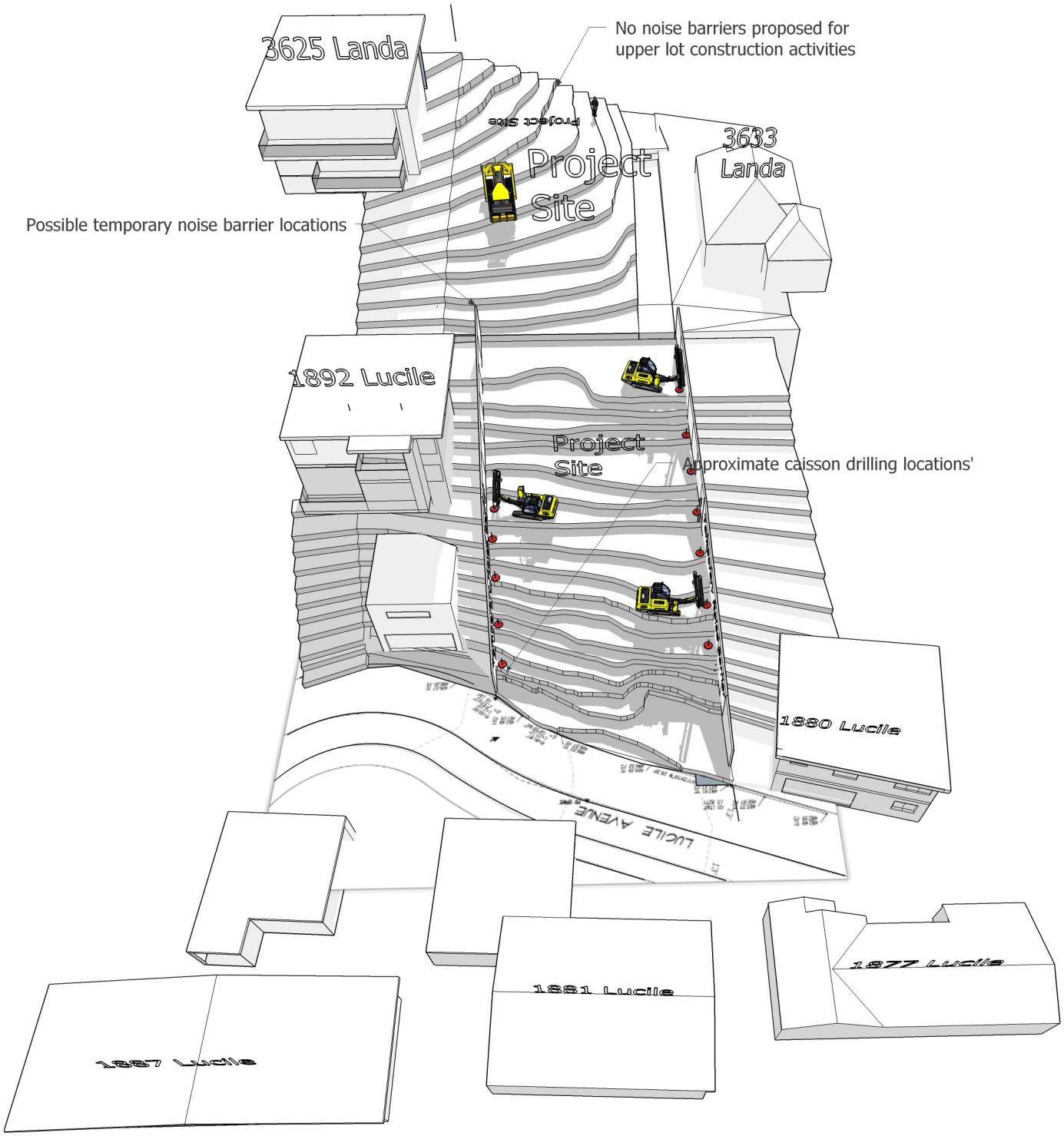


Figure B-2
3D-VIEW OF NEIGHBORING HOMES TO APPROXIMATE LOCATION FOR CAISSON DRILLING
(North direction is toward bottom of illustration; topo map represents 2-foot contour intervals)



Calculation of Auger Drilling Equipment Noise Levels[88]

To evaluate whether this Project's construction noise levels will be significant and will exceed City standards by exceeding ambient noise levels by more than 10 dBA, it is necessary to calculate how loud that construction noise will be at neighboring homes some distance from this Project's drilling operations.

In this Project's neighborhood, some homes are significantly higher in elevation compared to this Project's hillside site, and their upper floors may have direct line-of-sight exposure to such equipment activity. Accordingly some neighboring homes will not be shielded from direct noise paths during drilling. Calculations can provide relatively accurate estimations of noise exposure when such direct views exist unblocked by topography or intervening structures.

The distance from the noise source to a receptor is a primary consideration in determining the actual noise level experienced at the receptor. Most reference noise levels are specified at a distance of 50 feet from the source. The calculation of noise from a point source, such as construction equipment, at other distances uses the following "Equation 1" for noise attenuation over distance:

$$(1) \qquad L_2 = L_1 - |20\ log_{10}\left(\frac{d_1}{d_2}\right)|,$$

Where:

L_1 = known sound level at d_1
L_2 = desired sound level at d_2
d_1 = distance of known sound level from the noise source
d_2 = distance of the sensitive receptor from the noise source

This equation is the mathematical expression for a noise level being reduced by 6 dBA for each doubling of distance from the source. [89]

Typical noise levels for construction equipment are shown in Tables 1 and 2 below.

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[88] Formulas for noise level calculation are from the Inglewood Oil Field Specific Plan Project Draft EIR, (2015), which was accessed online at http://www.culvercity.org/home/showdocument?id=9697 on February 9, 2018, and alternatively a copy will be provided to the City if requested.

[89] U.S. Department of Transportation Federal Highway Administration ("FHWA") Website (8/24/17) Highway Traffic Noise Analysis and Abatement Policy and Guidance, https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide02.cfm; *see also* California Department of Transportation ("Caltrans") (Sep. 2013) Technical Noise Supplement, pp. 2:27-28 (stating for point sources, "sound level attenuates or drops off at a rate of 6 dBA for each doubling of the distance[;]". Also see CalTrans *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, Oct. 1998; p. 25, Equation N-2141.1, or http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013B.pdf

Table 1:
Typical Construction Noise Levels, Equipment Powered by Internal Combustion Engines
(U.S. EPA, 1971, NTID300.1 Report)[90]

Type	Noise Levels (dBA) at 50 Feet
Earth Moving	
Compactors (Rollers)	73 - 76
Front Loaders	73 - 84
Backhoes	73 - 92
Tractors	75 - 95
Scrapers, Graders	78 - 92
Pavers	85 - 87
Trucks	81 - 94
Materials Handling	
Concrete Mixers	72 - 87
Concrete Pumps	81 - 83
Cranes (Movable)	72 - 86
Cranes (Derrick)	85 - 87
Stationary	
Pumps	68 - 71
Generators	71 - 83
Compressors	75 - 86

Impact Equipment

Type	Noise Levels (dBA) at 50 Feet
Saws	71 - 82
Vibrators	68 - 82

Notes:
[1] Referenced Noise Levels from the Environmental Protection Agency (EPA)

[90] U.S. EPA (12/31/71) Noise from Construction Equipment and Operations Building Equipment, and Home Appliance, p. 11, https://nepis.epa.gov/Exe/ZyPDF.cgi/9101NN3I.PDF?Dockey=9101NN3I.PDF; *see also* MD Acoustics (10/30/17) Noise Impact Study for Commonwealth Development, p. 31 (utilizing U.S. EPA Noise Levels for mixed-commercial development in the City of San Jacinto, CA), https://www.sanjacintoca.gov/UserFiles/Servers/Server_10384345/File/City%20Government/Community%20Development/Planning/CEQA/Commonwealth%20Crossings/07-NoiseStudy.pdf.

Table 2
NOISE LEVEL RANGES OF TYPICAL CONSTRUCTION EQUIPMENT
(L.A. CEQA Threshold Guide, p. I.1-8)

Equipment	Levels in dBA at 50 feet[a]
Front Loader	73-86
Trucks	82-95
Cranes (moveable)	75-88
Cranes (derrick)	86-89
Vibrator	68-82
Saws	72-82
Pneumatic Impact Equipment	83-88
Jackhammers	81-98
Pumps	68-72
Generators	71-83
Compressors	75-87
Concrete Mixers	75-88
Concrete Pumps	81-85
Back Hoe	73-95
Pile Driving (peaks)	95-107
Tractor	77-98
Scraper/Grader	80-93
Paver	85-88

[a] Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of emissions as that shown in this table.

Source: EPA, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.

Equipment Acoustic Utilization Factor

If heavy equipment is operated full time and at full power throughout a day, its noise impact in the neighborhood will be greater than if operated intermittently or for just a few hours of a day. Equipment noise levels are cumulative when averaged over hours, so they are higher when not interrupted by long, quiet periods. During drilling at this Project site, such an auger drill rig would be operated nearly constantly for much of the work day according to Mr. Tapia who was consulted about similar drilling. With the estimated number of caissons to be drilled, such construction would take at least one day. While continuous use of individual equipment may not be realistic, the applicant has failed to provide the City or the public any information regarding construction timing or likely concurrent equipment usage. Nevertheless, the construction impacts raised herein identify numerous construction equipment and activities that will be likely employed and that will generate significant noise levels on an ongoing basis that require adequate analysis and mitigation. This constitutes substantial evidence supporting a fair argument that the Project will have significant construction noise impacts that can be feasibly mitigated.

In the circumstance of this Project with its caisson hole drilling, the auger drill rig equipment will remain relatively stationary for long hours as deep holes are slowly drilled. For construction equipment, the average noise level, L_{eq}, is related to the maximum noise level, L_{max}, by the following equation:

$L_{eq} = L_{max} + 10 \log (AUF)$, where,

L_{eq} is the average noise level from a piece of construction equipment at 50 feet,

L_{max} is the maximum noise level from a piece of construction equipment at 50 feet, and

AUF is the acoustic utilization factor, which is the fraction of time that a piece of construction equipment is typically at full power.

The L_{max} and AUF data for construction equipment noise from operation of the auger drill rig are tabulated in the impact analysis calculations below in this Table 3:

Table 3:
CALCULATION OF AUGER DRILL NOISE LEVELS AT DIFFERENT DISTANCES

Max. Auger Noise Level: (dBA Lmax)	AUF% use factor (dBA Leq)	Average Auger Noise Level: (dBA Leq)	Distance in feet from noise source: 25	50	100	150	200	250	300	350	400	
			Loudness at specified distance in dBA Leq									
85	20%	78	84.0	78.0	72.0	68.5	66.0	64.0	62.4	61.1	59.9	20%
85	40%	81	87.0	81.0	75.0	71.5	69.0	67.0	65.5	64.1	63.0	40%
85	60%	82.8	88.8	82.8	76.8	73.2	70.7	68.8	67.2	65.9	64.7	60%
85	80%	84	90.0	84.0	78.0	74.5	72.0	70.1	68.5	67.1	66.0	80%
85	100%	85	91.0	85.0	79.0	75.5	73.0	71.0	69.4	68.1	66.9	100%
80	20%	73	79.0	73.0	67.0	63.5	61.0	59.0	57.4	56.1	54.9	20%
80	40%	76	82.0	76.0	70.0	66.5	64.0	62.0	60.5	59.1	58.0	40%
80	60%	77.8	83.8	77.8	71.8	68.2	65.7	63.8	62.2	60.9	59.7	60%
80	80%	79	85.0	79.0	73.0	69.5	67.0	65.1	63.5	62.1	61.0	80%
80	100%	80	86.0	80.0	74.0	70.5	68.0	66.0	64.4	63.1	61.9	100%

EXCEEDS THRESHOLD OF SIGNIFICANCE OF 65.7dBA Leq

65.7dBA Leq threshold of significance if drilling for more than 1 day
60.7 dBA Leq threshold of significance if noise for more than 10 days

where Ld = Lref - 20 log (d/ref) and where Leq = Lmax + 10*log (AUF)

Note: these calculations show that Project drilling noise levels will exceed City standards of a 10 dB maximum increase above presumed ambient noise levels at all distances of up to 400 feet from source of drilling for a 80% or 100% use factor, not taking into account either decreases in loudness due to shielding of other structures or increases in loudness due to reflections of noise from steep hillside surfaces or other structures.

The threshold of significance under the circumstance that the Project's foundation caisson construction drilling occurs for more than one day and less than 10 days is **65.7 dBA L_{eq}**.[91] That means that if drill rig noise levels exceed 65.7 dBA L_{eq} at a neighboring residence, its noise impact just based upon an increase in loudness during drilling would be significant. **Table 3** above shows that this City's 10 dBA maximum increase noise standard for drilling is exceeded at distances up to about 400 feet from possible caisson drilling locations where drill rig noise is not effectively shielded by temporary noise barriers or other existing structures on other properties.

The Table 3 shows that noise standard exceedance would also occur during drilling as measured at homes and their outdoor yards within 200 feet, even when a muffler or the applicant's proposed temporary noise barrier that just breaks the line-of-sight is used on an auger drill rig to reduce its noise by 5 dBA.

Calculating Number of Days of Excessive Construction Noise to Determine Threshold of Significance for Noise Impacts above Existing Ambient Noise Level

Some assumptions must be made to determine which thresholds of significance for noise level increases should be used. As discussed above, there is good reason to predict that all of this Project's excessively noisy construction phases will last for more than 10 days in a 3-month period. The Project application documents do not comply with the City's CEQA Thresholds Guide to contain required information about the type and amount of equipment, description of construction phasing or scheduling of equipment, or the location of equipment in relation to the residential uses adjacent to the Project site. Regardless of whether excessive construction noise levels occur for less than or for more than 10 days in a 3-month period, this Project's noise levels will exceed these City standards pertaining to excessive construction noise levels:

> L.A.'s CEQA Threshold Guide (2006), page I-1.3, states that:
>
> *A project would normally have a significant impact on noise levels from construction if:*
>
> • *Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise sensitive use;*
>
> • *Construction activities lasting more than 10 days in a three month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise sensitive use;*

Drilling for the Project home's foundation caissons will undoubtedly take more than one day. So at a minimum, the threshold of significance would be exceeded if construction noise levels at neighboring homes would exceed 10 dBA above the existing ambient exterior noise level. If drilling and other noisy construction lasts for more than 10 days, a 5 dBA threshold of exceedance would apply.

The Initial Study states that measurements reveal that this Project's site daytime ambient noise levels are about 55.7 dBA L_{eq}. Therefore if this Project generates construction noise during foundation drilling of greater than **65.7 dBA L_{eq}** at neighboring homes, its noise impact will be considered to be significant. This threshold of significance of 65.7 dBA L_{eq} can be compared to **Table 3** above to evaluate at what distance the Project's noise impacts will be significant. Similarly, a **60.7 dBA L_{eq}** threshold can be compared if that drilling lasts for more than 10 days.

[91] Calculation: 55.7 dBA L_{eq} + 10 dB = 65.7 dBA L_{eq}

For example, the loudest phases of construction (excavation/grading and finishing) will potentially generate noise levels upwards of 99 dBA at the nearest homes located perhaps just 10 feet from the proposed Project site.[92] Such construction noise levels would exceed the Project site's 55.7 dBA L_{eq} daytime ambient noise level by **43 dBA**.[93] That noise level would be *39 dBA greater than the City's 10 dBA exceedance threshold of significance* at the nearest residential property lines. (L.A. CEQA Thresholds Guide, p. I.1:3). This would be a significant noise impact.

Site Excavation Noise Levels will be Significant

Or for example, site excavation of at least 11 feet in depth for the Project's lower floors will also last more than one day. The center of these excavation areas would be about 25 feet from the Project's adjacent residential property lines. Excavation activities from just one piece of heavy equipment like a backhoe produces noise levels of up to 95 dBA at 50 feet. At 35 feet, such equipment noise is increased by the shorter distance to about 98 dBA.[94] No temporary noise barriers are proposed for excavation equipment noise reduction, only for drill rig noise. That noise level from excavation of 98 dBA or louder when excavation occurs in the center of the Project's site would *exceed the presumed daytime ambient noise level of 50 dBA by about 48 dBA*. Excavation activities closer than 35 feet would produce even louder noise, especially when more than a single piece of heavy equipment is operated simultaneously.[95] That noise level would greatly exceed the City's presumed daytime threshold of significance of 5 dBA during excavation and is considered significant.[96] Therefore, the consideration of mitigation measures and alternatives is required.

From **Table 3** above, it can be seen that construction noise levels from auger drilling would exceed a 65.7 dBA L_{eq} threshold of significance up to 200 feet from the drilling locations for any *acoustic utilization factor*.[97] If auger drilling occurs for more than 60% of the time as can be expected and temporary noise barriers are used as proposed, that threshold would be exceeded at 200 feet from the drilling location even to the east and west and would include another couple of dozen homes.[98] This Table 3 also shows that if construction noise exceedances above City

[92] Calculation is based upon a construction noise level of 86 dBA at 50 feet, but increased to 99 dBA as distance shrinks to 10 feet from property line for closest excavation and grading activities. The adjacent home at 1892 Lucile Avenue is approximately 10 feet from where this Project's caissons will be drilled along its eastern retaining wall (See Figure B).

[93] Exceedance calculation: (99 dBA [at 10 feet] construction noise during excavation of) – (55.7 dBA daytime ambient level) = (43 dBA exceedance above daytime ambient level). That increase would be 39 dBA greater than the City's 10 dBA threshold of significance (LAMC § 111.02).

[94] Noise level increase due to shorter distance is calculated as increased by about 6 dB for each halving of distance.

[95] The Initial Study does not propose any mitigation measure or Project Design Feature to prohibit multiple noise sources occurring at one time, although the MND did.

[96] Excavation work, including demolition and site preparation phases, will take more than 10 days within a 3-month period, thus a 5 dBA noise level increase standard applies. *See:* Initial Study, PDF p. 134, Table 1, Construction Schedule and Equipment, predicting those phases to take 59 work days in a 9 week period.

[97] Acoustic utilization factor: Defined as the fraction of time that a piece of construction equipment is typically at full power; herein considered for 20%, 40%, 60%, 80% or 100% of the time.

[98] See Figure C on page 45 with locations of affected homes within 300 feet of Project construction. Homes where the line-of-sight from the drill rig to any exterior walls of the homes is just broken by the temporary noise barriers will have a 5 dBA reduction in construction noise per Initial Study, Appendix D. Also, more

standards occur for more than 10 days in a 3-month period, and thus results in a lower, 60.7 dBA L_{eq} threshold of significance, then homes within 400 feet of the Project could be exposed to significant noise impacts for nearly all calculated acoustic utilization factors, or essentially any feasible drilling operations. Within 200 feet of this Project's construction, there are 24 homes. Within 300 feet of such construction, there are about 59 homes. **See Figure C below** on page 43.

E. PROJECT CONSTRUCTION NOISE FROM COMBINED USE OF OTHER EQUIPMENT WILL BE SIGNIFICANT AT HOMES BECAUSE IT WILL ALSO EXCEED CITY'S NOISE LIMIT OF 75 dBA L_{MAX} AT 50 FEET AND BE CLEARLY AUDIBLE AT DISTANT HOMES.

Construction activities that generate a noise level greater than 75 dBA L_{max} at 50 feet would produce a significant noise impact according to the City's Noise Ordinance.[99] One can determine approximately how many homes will be exposed to such excessive and significant noise levels from this Project's other heavy construction equipment that will be unblocked by any temporary noise barriers. Individual operations of each jackhammer will each emit maximum noise levels of about **89 dBA L_{max} at 50 feet**.[100] But more than one jackhammer will at times be operating on this Project site, and the combined noise levels from more than one being operated will be louder than from just one's use. The applicant proposes using three jackhammers, presumably at the same time.[101] During demolition, other equipment may be operating at the same time including a mini excavator, two backhoes, and one dump truck. Consider however the significance of the Project's noise impact on neighbors of <u>just the operation of three jackhammers</u> at the same time.

If three jackhammers (or three other heavy equipment units) each generate 89 dBA L_{max} at 50 feet, when combined they would **produce a noise level of 93.8 dBA L_{max} at 50 feet**.[102] This is a noise level that would significantly exceed the City's threshold of significance of 75 dBA L_{max} at 50 feet by more than 18 dBA. If operated equidistant from any home in the Project's neighborhood, their combined maximum noise level would drop to about 87.8 dBA L_{max} at 100 feet, 81.8 dBA L_{max} at 200 feet, and 75.8 dBA L_{max} at 400 feet.[103] Those noise levels would be

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distant homes not nearby and directly behind the temporary noise barrier will have even less noise attenuation because "[f]or those residents not directly behind the barrier, a noise reduction of 3 to 5 dB(A) can typically be provided…" (*See:* Initial Study, PDF p. 186, quoted from the FHWA Noise Barrier Design Handbook.)

[99] According to § 112.05 of the LAMC, construction activities may not exceed 75 dBA L_{max} at a distance of 50 feet between the hours of 7:00 a.m. and 10:00 p.m. in any residential zone of the City or within 500 feet thereof.

[100] *See:* Initial Study, PDF p. 184, Table 1, CA/T equipment noise emissions, 5th column, Jackhammer: 89 dBA L_{max}

[101] *See:* Initial Study, PDF p. 134, Construction Schedule and Equipment list.

[102] Calculation: Sound levels in decibels are logarithmic values that cannot be combined by normal algebraic addition. Instead, the sound levels in decibels are first converted to energy equivalents, the energy equivalents are added algebraically, and the total energy equivalent is converted back to its decibel values. In this case, 89 dB + 89 dB + 89 dB = 10*log(10^(89/10) + (10^(89/10) + (10^(89/10)) = **93.8 dB**.

[103] Given noise attenuation due to distance is reduced by about 6 dB for each doubling of distance from a point source, one can calculate a dB level at different distances when there is a known dB level for a known distance by the following equation: $dB_2 = dB_1 - 10 \times A \times LOG(d_2/d_1)$ where:
LOG = logarithm, base 10,

excessive as defined by the Noise Ordinance, LAMC § 112.05, and would create significant noise impacts because they would be starkly audible as they would greatly exceed the ambient noise levels at those homes. Even at 400 feet, their combined noise level of 75.8 dBA L_{max} would greatly exceed the City's presumed daytime noise level of 50 dBA L_{eq} **by over 25 dBA**.[104]

There are dozens of homes within 300 to 400 feet of this Project site as shown on **Figure C** below that could be exposed to significant noise impacts from the operation of multiple equipment during Project construction. Even at a distance of 800 feet from the Project site, the noise level from simultaneous operation of three loud jackhammers would be about 69.8 dBA $L_{max.}$[105] At that noise level and distance, the Project's noise would be clearly audible above the presumed 50 dBA L_{eq} daytime ambient noise level by over 19 dBA. Within 800 feet are likely more than 100 homes which could be exposed to this Project's excessive construction noise.

There is an additional factor pertinent to jackhammer noise because of its unique, impulsive character that is particularly annoying to people. But the Initial Study entirely fails to identify the City's Noise Ordinance requirement per LAMC § 111.02(b)(2) that predicted noise levels from certain construction equipment like jackhammers be increased for purposes of significance analysis by 5 dB to account for its "repeated impulsive noise." The predicted noise impacts of three jackhammers used simultaneously for Project demolition would have to be increased by those 5 dB, resulting in a significantly greater noise impact than calculated above of **98.8 dBA L_{max}** at 50 feet.[106] That noise level as adjusted for the jackhammer noise character would be over 23 dBA greater than the City's threshold of significance of 75 dBA L_{max} at 50 feet.

By comparison, the Initial Study evaluates jackhammer noise as if it would emit only 72 dBA L_{eq} at 50 feet. The Initial Study ignores that three may be used, ignores the 5-dB adjustment from LAMC § 111.02, and ignores that the City's requirement that maximum, not average, noise levels must be referenced.

Even acknowledging that many of these homes will be blocked from direct line-of-sight by intervening residential structures between them and these three combined noise sources, and thus not exposed to the total noise level just calculated, that still leaves a large number of homes to be significantly impacted by this Project's construction noise that will still be above the City's threshold of significance.

A = dB drop-off rate coefficient (in this Project's case, a = 2.0 for a 6 dB drop off rate (point source, no atmospheric absorption)).
dB_1 = dB level at know distance from source, d1
dB_2 = dB level at another distance from source, d2
d_1 = known distance from source for known decibel level dB1
d_2 = second distance from source for which known decibel level estimate (dB2) is desired
In this case, at a location 100' (d_2) from the Project site work, where dB_1 = 89.8 dBA L_{max} at 50' (d_1) from the three combined noise sources, $dB_2 = dB_1 - 10 \times A \times LOG(d_2/d_1)$ = 89.8 – 10 x 2.0 x LOG (100'/50') = 83.8 dBA L_{max}. At distances of 200 feet and 400 feet, this same formula results in the values above.

[104] The Initial Study contains no noise level measurements at neighboring homes that far away, so the City requires that we presume the daytime ambient noise level is 50 dBA L_{eq} in such residential areas.

[105] Calculation: Reduction by 6 dBA for each doubling of distance: 75.8 dBA L_{max} – 6 dB = 69.8 dBA L_{max}

[106] Calculation: 93.8 + 5 dB penalty adjustment for impulsive noise per LAMC § 111.02 = 98.8 dBA L_{max}.

Figure C
Homes within 200 or 300 feet of Project Construction of Lucile House or Landa House

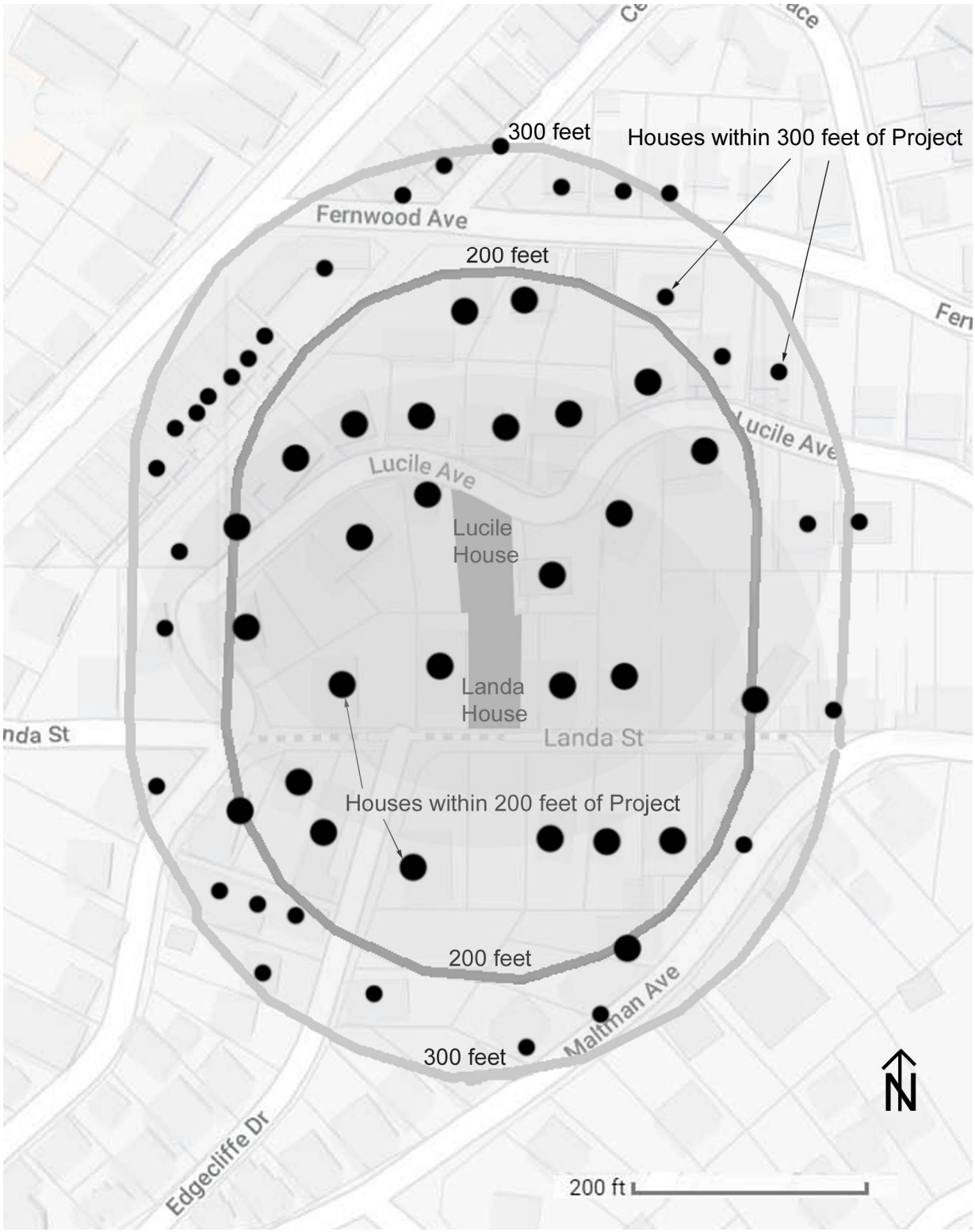
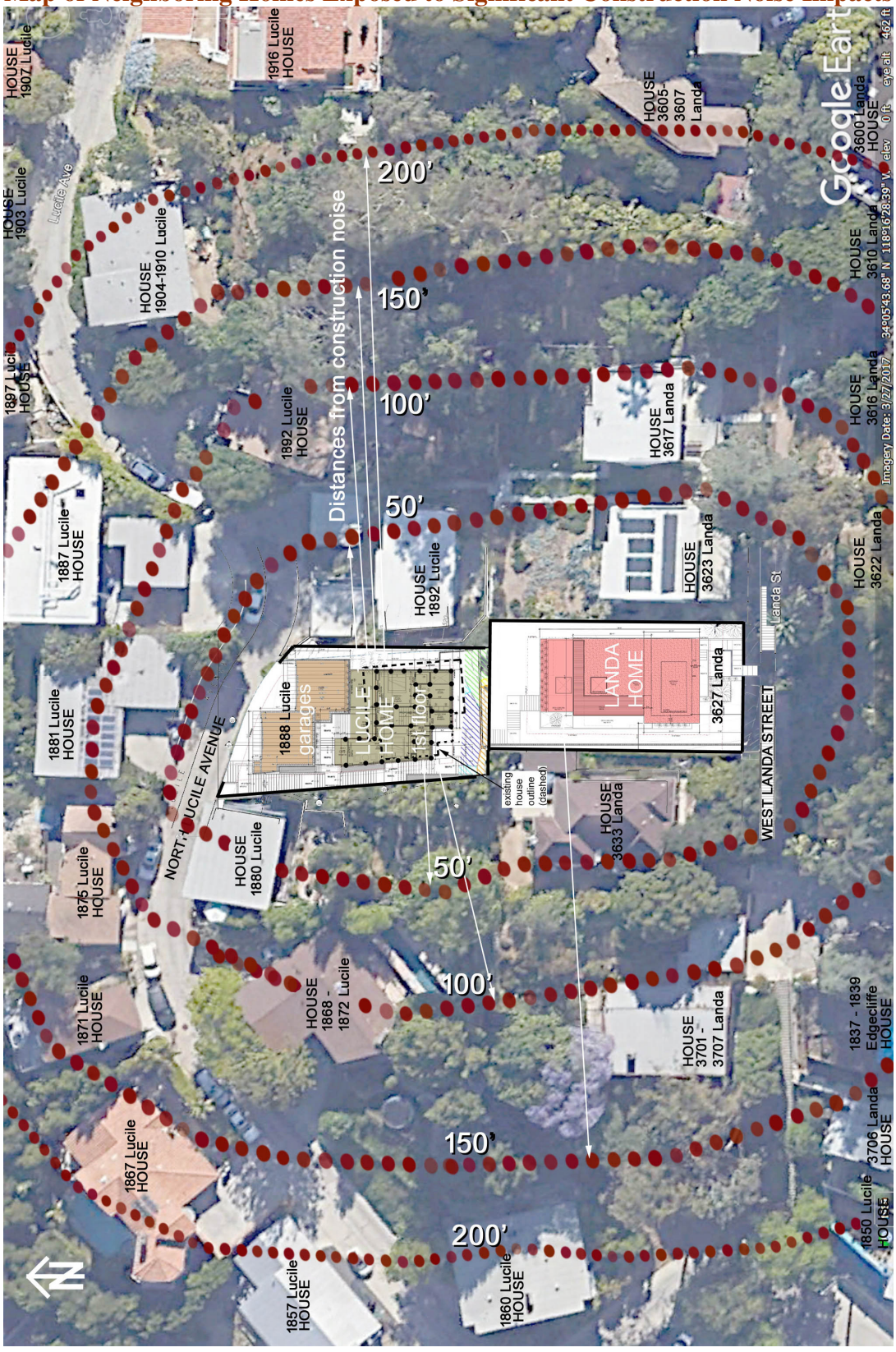


FIGURE A (REPEATED)

Map of Neighboring Homes Exposed to Significant Construction Noise Impacts



F. INITIAL STUDY FAILS TO CONSIDER SIGNIFICANT NOISE IMPACTS OF USE OF HEAVY CONSTRUCTION EQUIPMENT WARNING BEEPERS OR BACKUP ALARMS THAT COULD EXCEED CITY'S MAXIMUM NOISE LEVEL LIMITS.

The Initial Study fails to disclose that noise from heavy equipment backup warning beepers would be very audible and would generate significant noise impacts at dozens of homes near this Project site. Backup alarms or beepers are a frequent source of complaints from neighbors, even when used only during the daytime. Backup alarms must generate a noise level at least 5 to 10 dBA above the background noise in the vicinity of the rear of the machine where a person would be warned by the alarm. Thus, they are significantly louder than the drilling equipment and site grading equipment's noise. Yet the Initial Study fails to describe their decibel rating or suggest placing limits on their loudness. Backup alarms typically produce from 97 to 112 decibels at four feet,[107] which attenuates to about 75 to 91 dBA at 50 feet,[108] and can even be heard at the distances where the nearest neighbors live. At those noise levels, their use would exceed the City's maximum limit of 75 dBA L_{max} at 50 feet.[109] These backup alarms beep about once per second at a penetrating frequency of about 1,100 Hertz designed to be easily heard by most people.

A single backup warning beeper emitting 91 dBA L_{max} at 50 feet could be as loud as 72 dBA L_{max} at 400 feet away. (Calculated being 6 dB quieter for each doubling of distance.) No temporary noise barrier would be used during construction where backup alarms are operated. Noise levels of 72 dBA L_{max} which would be over 16 dBA greater than ambient noise levels[110] would exceed the City's maximum 5 or 10 dB increase standard in its CEQA Thresholds Guide as discussed above. Use of such backup beepers that amplify sounds, disturb the quiet, and generate a noise level that exceeds ambient noise levels on neighboring properties by more than 5 dB also would violate the City's Noise Ordinance, LAMC sections 112.01(a) and 112.04(b).[111] The Initial Study never evaluated such backup alarm noise impacts. Such significant noise level increases could impact dozens of homes within 400 feet of this Project. The City is therefore without substantial evidence to conclude there would be a less-than-significant construction noise impact during this Project's heavy equipment use.

G. PROJECT CONSTRUCTION WILL EXPOSE NEIGHBORS' OUTDOOR YARDS TO SIGNIFICANT AND EXCESSIVE INCREASES IN EXTERIOR NOISE LEVELS OF MORE THAN 5 dBA ABOVE EXISTING AMBIENT NOISE LEVELS MEASURED IN CNEL.

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[107] Source of back-up alarm noise levels from alarm manufactured by Pollak, #41-761, "Manually adjustable Back-up Alarm," rated at 112, 107, 97 dB.

[108] Noise level attenuation due to distance is calculated as reduced by about 6 dB for each doubling of distance.

[109] *See:* LAMC section 112.05(a).

[110] Calculation: 91 – 75 = 16 dBA louder

[111] *See:* LAMC section 112.04(b): " . . . no person shall operate … any machinery, equipment, tools, or other mechanical or electrical device… as to create any noise which would cause the noise level on the premises of any other occupied property… to exceed the ambient noise level by more than five (5) decibels."

Los Angeles additionally evaluates the significance of this Project's noise impact by examining how much louder construction noise will be than the average ambient noise level that exists at a neighbor's property lines during a 24-hour day. If the Project causes the average daily noise level there at any neighbor's property line to increase by 5 dBA CNEL[112] or more, that increase would be significant.[113] This threshold is important to protect neighbors' use of their outdoor yards from nearby excessive construction noise.

At this Lucile Avenue Project site, with a reported ambient noise level during the day of 55.7 dBA L_{eq} and at night a presumed noise level of 40 dBA L_{eq}, the day-night average CNEL noise level is currently about **55.6 dBA CNEL**.[114] (See below footnote for both the calculation and the formula used on the next page.) As will be shown, this Project will generate noise levels that greatly exceed this City threshold of significance of an additional 5 dBA CNEL at not only adjacent properties, but also at many other residential outdoor yards in the neighborhood.

First though, here is how the CNEL for the existing ambient day/night averaged noise level is calculated:

Community Noise Equivalent Level

CNEL is the same as L_{dn} except for an additional weighting of almost 5 dBA for the evening hours between 7 p.m. and 10 p.m. The equation is essentially the same as Equation 2-23, with an additional definition of $W_i = 10\log_{10}(3)$, which is 4.77. Calculations for CNEL are similar to L_{dn}. The result is normally about 0.5 dBA higher than L_{dn} using the same 24-hour data. The equation for the CNEL is as follows:

$$CNEL = 10\log_{10}\left[\left(\frac{1}{24}\right)\sum_{i=1}^{24} 10^{L_{eq}(h)_i + W_i/100}\right] \qquad \textbf{(2-24)}$$

Where:

$W_i = 0$ for day hours (7 a.m. to 7 p.m.)

$W_i = 10\log_{10}(3) = 4.77$ for evening hours (7 p.m. to 10 p.m.)

$W_i = 10$ for night hours (10 p.m. to 7 a.m.)

$L_{eq}(h)_i = L_{eq}$ for the *i*th hour

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[112] Community Noise Equivalent Level ("CNEL"): The average A-weighted noise level in a 24-hour day, obtained after adding 5 dB to evening hours (7:00 p.m. to 10:00 p.m.) and 10 dB to sound levels measured in the night (between 10:00 p.m. and 7:00 a.m.).

[113] See *2006 L.A. CEQA Thresholds Guide*, p. I.2-3, "A. Significance Threshold. A project would normally have a significant impact on noise levels from project operations if the project causes the ambient noise level measured at the property line of affected uses to increase by 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable" category, **or any 5 dBA or greater noise increase** (. . .)." *(emphasis added)*

[114] Calculation of CNEL: Assign **55.7 dBA L_{eq}** to each daytime hour from 7 a.m. – 7 p.m., and **60.7 dBA L_{eq}** for each evening hour from 7 p.m. – 10 p.m., (i.e. add 5 dB to each hour presumed at 55.7 dB), and **50 dBA L_{eq}** for each hour from 10p.m. – 7 a.m. (i.e. add 10 dB to each nighttime hour presumed at 40 dB. Then calculate the logarithmic average of these noise levels for all 24 hours in a day with this formula:
CNEL$=10\log_{10}[(1/24)x\{(10^{(40+10)/10}x7\text{ hrs})+(10^{(55.7)/10}x12\text{ hrs})+(10^{(55.7+5)/10}x3\text{ hrs})+(10^{(40+10)/10}x2\text{ hrs})\}]$
= 55.6 CNEL (See also **Exhibit 1** ("Long-term Noise Measurement Summary" CNEL calculation))

Source: Cal. Dept of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, Sept. 2013; p. 2-53
http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013B.pdf

Or the above CNEL formula (#2-24) can be formatted slightly differently but with the same result:

(Night: 7 hrs) (Day: 12 hrs) (Evening: 3 hrs) (Night: 2 hrs)

$$CNEL = 10\log_{10}\left\{\frac{1}{24}\left[\sum_{0000}^{0700} 10^{(L_i+10)/10} + \sum_{0700}^{1900} 10^{L_i/10} + \sum_{1900}^{2200} 10^{(L_i+5)/10} + \sum_{2200}^{2400} 10^{(L_i+10)/10}\right]\right\}$$

Source: http://www.modalshop.com/filelibrary/831-Appendix%20C.pdf

With this formula, one can calculate what the City would consider to be the existing ambient noise level in this Project's vicinity, which on a day-night averaged basis, is **55.6 dBA CNEL**:

Calculation:

CNEL$=10\log_{10}[(1/24)x\{(10^{(40+10)/10}x7\text{ hrs})+(10^{(55.7)/10}x12\text{ hrs})+(10^{(55.7+5)/10}x3\text{ hrs})+(10^{(40+10)/10}x2\text{ hrs})\}] =$
$=10\log_{10}[(1/24)x\{700{,}000 + 4{,}458{,}423 + 3{,}524{,}693 + 200{,}000\}$
$=10\log_{10}[(1/24)x8{,}883{,}116] = 10 \times \log_{10}[370.129] = 10 \times 5.56 =$ **55.6 CNEL**

Thus the calculated ambient noise level at the Project site is **55.6 CNEL**. This is one of several baselines for measuring the Project's noise impacts. Also the City considers a project's construction noise level increase of 5 dB greater than this ambient noise level to be significant. Therefore the threshold of significance for Project construction noise increases at nearby residential property lines is **60.6 dBA CNEL**. (55.6 + 5 = 60.6) Any construction noise exceedance of this 60.6 dBA CNEL threshold at neighboring property lines (i.e. their outdoor yards) is considered to be a significant noise impact.

Next, several examples are presented showing such excessive construction noise levels:

(1). NOISE LEVEL FROM CAISSON DRILLING FOR EVEN 6 HOURS PER DAY WOULD GREATLY EXCEED CITY'S THRESHOLD OF SIGNIFICANCE.

The likely noise levels during caisson drilling will be calculated below first without the proposed temporary noise barrier, and then with a barrier reducing that noise level as much as purportedly claimed in the Initial Study by 10 dB.[115]

If heavy construction noise during caisson drilling occurs, for example, **for six hours in a work day** (where the allowable construction workday is 7 a.m. – 6 p.m., even less than the permitted 7 a.m. – 9 p.m. workday specified in the Initial Study), and if the drilling auger generates a noise level of 85 dBA L_{eq} at a 50-foot distance, and the drill rig or auger's source of the noise (engine) is located 10 feet from a neighboring property line near where drilled caissons for retaining walls are likely to be installed, and the job site is relatively quiet for the five hours of that permissible work day, the CNEL calculation for the noise level the closest neighbors would be exposed to is as follows:

[115] *See:* Initial Study, PDF pp. 67, 95, and 144.

Because an auger drill rig produces a noise level of 85 dBA L_{eq} at 50 feet,[116] then at a property line 10 feet away from auger equipment, the construction noise level would be **99.0 dBA L_{eq}**. (This calculation is based upon noise increasing by 6 dB for each halving of distance between source and receiver, and the standard formula.)[117]

Then, assuming the other Project construction noise levels during all the other hours during that workday are no higher than the existing ambient noise level, calculations show that the neighboring property line would be exposed to a day-night average noise level of about **93.0 dBA CNEL**:

Calculation:

CNEL=

$=10\log_{10}[(1/24)x\{(10^{(40+10)/10}x7\ hrs)+(10^{(99)/10}x\mathbf{6\ hrs})+(10^{(55.7)/10}x\mathbf{6\ hrs})+(10^{(55.7+5)/10}x3\ hrs)+(10^{(40+10)/10}x2\ hrs)\}]$

$=10\log_{10}[(1/24)x\{700{,}000 + 47{,}659{,}694{,}408 + 13{,}375{,}268 + 3{,}524{,}693 + 200{,}000\}$

$=10\log_{10}[(1/24)x47{,}677{,}494{,}04?] = 10 \times \log_{10}[1{,}986{,}562{,}252] = 10 \times 9.30 =$ **93.0 dBA CNEL**

(This formula is similar to the previous one above that calculated the ambient noise level except that 6 hours of drilling auger noise of 99 dBA L_{eq} at 10 feet is increased during the daytime, representing how loud drilling activity will be 10 feet from the Project site's side lot property lines to the east or west.)

The City's threshold of significance is any construction noise level increase of more than 5 dB greater than the presumed 55.6 dBA CNEL ambient level here, which then is 60.6 dBA CNEL. But, for example, with six hours of drilling producing 93.0 dBA CNEL at a property line 10 feet away, drilling noise **would exceed this City threshold of significance by over 32 dBA CNEL**. (93.0 – 60.6 = 32.4 dB) This exceedance would be an extremely significant noise impact that requires analysis in an MND or EIR and effective mitigations. This impact would be greater yet if during the Initial Study's permissible 14 hour work-day, more than 6 hours of drilling occurred. Caisson drilling for longer than 6 hours a day is common in order to efficiently use the heavy equipment. Or this type of noise impact would be more significant yet if the drilling occurs even closer to the property line where the applicant's architectural drawings indicate retaining walls will be constructed, and will likely need pile foundations. (See **Figure B** above for approximate locations for this Project's proposed retaining wall caisson drilling.)

Now, with the use of temporary noise barriers that reduce caisson drilling noise levels at neighboring lots to the east and west by as much as 10 dB as the Initial Study purportedly asserts,[118] this Project's construction noise levels will still be extremely significant and disturbing to this neighborhood. With six hours of drilling producing a drilling noise level of 93.0 dBA CNEL at a neighbor's property line 10 feet away, and reducing that noise level by 10 dB with the use of temporary noise barriers, that drilling noise level **would exceed this City threshold of significance by over 22 dBA CNEL**. (93.0 – 60.6 – 10.0 = 22.4 dBA) This exceedance would still become an extremely significant noise impact that requires analysis and

[116] See *Construction Noise Assessment* (2017) by Illingworth & Rodkin, Inc., page 6, Table 3, "Construction Equipment 50-foot Noise Emission Limits" - Auger Drill Rig: **85 dBA L_{max}** Source: Federal Highway Administration Roadway Construction Noise Model.

[117] Calculation: Here, L_v(at 10 feet) = [85 dB – 20 x Log(10/50)] = [85 dB – 20 x -0.70] = [85 + 14] = **99 dB**

[118] *See:* Initial Study, PDF pp. 67, 95 and 144.

effective mitigations. Clearly, the proposed Project Design Features or de facto noise mitigation of using temporary noise barriers will be ineffective in reducing the Project's noise impacts to a less-than-significant level.[119]

(2). NOISE LEVEL FROM CAISSON DRILLING FOR EVEN ONE HOUR PER DAY WOULD GREATLY EXCEED CITY'S THRESHOLD OF SIGNIFICANCE.

With the same facts assumed in the above example, including that no other construction noise occurs except with only **one hour per day** of caisson drilling, those Project noise levels would still significantly impact adjacent residences. It would produce a noise level of **75.2 dBA CNEL** at adjacent property lines with the use of temporary noise barriers reducing drilling noise purportedly by 10 dB. (85.2 – 10 = 75.2) That 75.2 dBA CNEL noise level would be much greater than the City's 60.6 dBA CNEL threshold of significance identified above. (i.e. **14.6 dB** greater than threshold of significance) Even one-hour per day of caisson drilling would create a significant noise impact.

Calculation:

CNEL=$10\log_{10}[(1/24)x\{(10^{(40+10)/10}x7\ hrs)+(10^{(99)/10}x\mathbf{1\ hr})+(10^{(55.7)/10}x11\ hrs)+(10^{(55.7+5)/10}x3\ hrs)+(10^{(40+10)/10}x2\ hrs)\}]$ =

$=10\log_{10}[(1/24)x\{700{,}000 + 7{,}943{,}282{,}347 + 371{,}535 + 4{,}986{,}888 + 200{,}000\}$

$=10\log_{10}[(1/24)x7{,}948{,}640{,}770] = 10 \times \log_{10}[331{,}193{,}365] = 10 \times 8.52 =$ **85.2 dBA CNEL** without barriers

(3). NOISE LEVEL FROM CAISSON DRILLING FOR SIX HOURS PER DAY WOULD EXCEED CITY'S THRESHOLD OF SIGNIFICANCE EVEN 200 FEET AWAY.

Other apprehensive residents in the Project's neighborhood might want to know if the Project would significantly impact their property with construction noise even if they are more distant than those who live on adjacent parcels. Calculations provided below demonstrate that auger drilling without better noise mitigations lasting 6 hours per day, without other Project construction noise during those hours or other work hours, would exceed the City's threshold of significance at some residential lots even 200 feet away.

First, consider that numerous homes exist to the north and south of this Project site that will not have such drilling noise blocked by the temporary noise barriers only proposed on the east and west sides of the drill rigs. Moreover, the temporary noise barrier height is only proposed to just break the line-of-sight to those nearest homes to the east and west, and that height will decrease noise levels by at most 5 dBA.[120] The noise level from just the auger drilling at 200 feet away from homes would be about **73 dBA L_{eq}** if the auger produces 85 dBA L_{eq} at 50 feet.[121] For

[119] A noise level of 83 dBA CNEL, including a 10 dB reduction from a noise barrier, would also be inconsistent with the General Plan's Table IV.E-2 "Land Use Compatibility" chart (Noise Element, Exhibit I, p. I-1) showing that any residential noise exposure greater than 75 dBA CNEL is "clearly unacceptable." (93 CNEL – 10 = 83 CNEL)

[120] *See:* Initial Study, PDF p. 187, Fig. 13 "line-of-sight". Also, "Typically, a 5-dB(A) [insertion loss] can be expected for receivers whose line-of-sight to the roadway is just blocked by the barrier."

[121] Calculation is based upon noise levels decreasing by 6 dB for each doubling of distance between source and receiver. The distance increase from 50 feet to 200 feet involves two doublings. (to 100', and to 200') At 200 feet away, the noise level would therefore be about 12 dB quieter (6 dB x 2 doublings = 12 dB). Thus 85 dBA L_{eq} – 12 dBA = **73 dBA L_{eq} at a distance of 200 feet**.

homes blocked by the temporary noise barriers, they would be exposed to about 68 dBA L_{eq} of drilling noise. Then that drilling noise level can be calculated in terms of the day-night average CNEL metric at homes 200 feet away from the drilling.

With that construction noise level continuing for six hours at a measurable level of 73 dBA L_{eq} at 200 feet away, and with existing reported or presumed ambient noise levels for the other 18 hours of a day, more distant residential lots could be exposed to Project noise level increases of a day-night averaged noise level of **67.2 dBA CNEL:**

Calculation:

CNEL=$10\log_{10}[(1/24)x\{(10^{(40+10)/10}x7\text{ hrs})+(10^{(73)/10}x\mathbf{6\text{ hrs}})+(10^{(55.7)/10}x6\text{ hrs})+(10^{(55.7+5)/10}x3\text{ hrs})+(10^{(40+10)/10}x2\text{ hrs})\}]$

$=10\log_{10}[(1/24)x\{700{,}000 + 119{,}715{,}739 + 2{,}229{,}211 + 1{,}114{,}606 + 200{,}000\}$

$=10\log_{10}[(1/24)x\ 123{,}959{,}556] = 10 \times \log_{10}[5{,}164{,}982] = 10 \times 6.72 =$ **67.2 dBA CNEL**

That noise level of 67.2 dBA CNEL would create a significant noise impact even 200 feet away where not blocked by the temporary noise barriers because it would exceed the City's threshold of significance of 60.6 dBA CNEL by more than 5 dBA. (67.2 – 60.6 = 6.6 dB increase.) There are about three dozen homes with outdoor years within 200 feet of where this Project's drilling would occur.[122] While some of them are partially shielded to some extent by intervening homes from such construction noise, and some will be partially screened by temporary noise barriers, many of the neighborhood homes in direct line-of-sight of this 1888 Lucile Avenue hillside lot will be closer and thus will not be adequately buffered. This too demonstrates that heavy construction noise on this Project site will generate a significant noise impact by increasing the 24-hour average noise level in many neighbors' yards by more than 5 dBA CNEL.

For homes to the east and west that would be partially shielded by temporary noise barriers, those within 100 feet will also be exposed to excessive, significant noise levels. A noise level of 67.2 dBA CNEL at 200 feet is about 73.2 dBA CNEL at 100 feet. If reduced by 5 dB by temporary noise barriers, that drilling noise level would be about 68.2 dBA CNEL, and still greater than the City's 60.7 dBA CNEL threshold of significance in this neighborhood with the data that has been presented. Even with a 10 dB reduction due to some form of a noise barrier, that resulting noise level of 63.2 dBA CNEL would still exceed the City's 60.6 dBA CNEL threshold of significance by 2.6 dB.

The Initial Study, p. 65, Section XIII(a) accordingly incorrectly evaluates this Project's temporary construction noise level "generating a substantial temporary . . . increase in ambient noise levels in the vicinity of the project in excess of standards …" where the Initial Study determines this impact would be less-than-significant. This finding is not supported in the Initial Study or attached Noise Study. With the few *de facto* noise mitigations as proposed, none of which effectively and sufficiently lessen caisson drilling noise at adjacent property lines, the Project's noise level increases will still be quite excessive as shown above in examples (1), (2), and (3). Therefore, the Project as proposed is not compliant with CEQA in protecting neighbors' outdoor yards (and homes) from excessive construction noise.

[122] See Figure "C" above for location of the yards and homes within 200 feet of this Project site.

H. PROJECT CONSTRUCTION WILL EXPOSE NEIGHBORING HOMES TO SIGNIFICANT AND EXCESSIVE INTERIOR NOISE LEVELS DURING DRILLING OR OTHER OPERATIONS OF GREATER THAN CITY'S MAXIMUM DAILY NOISE LEVEL LIMIT OF 45 dBA L_{DN}.

The Los Angeles General Plan's Noise Element identifies a maximum residential noise standard of 45 dBA L_{dn} in any habitable room, averaged over a 24-hour period.[123] This standard protects against sleep disturbance impacts at nighttime, and more pertinently here to actual construction noise, against unreasonable annoyance impacts during the daytime. While the City does not enforce this 45 dBA L_{dn} standard for single-family homes during applications for a typical building permit, this standard nonetheless remains as an identified threshold of significance for purposes of determining significant impacts under CEQA when other factors present here require environmental review.

For example, if this Project's caisson drilling operations with a 60% *acoustic utilization factor* (AUF) generate muffled noise levels of 77.8 dBA L_{eq} at 50 feet, then at a 200-foot distance such noise levels would be about 65.7 dBA L_{eq}. (See tabular calculations above in Table 3.). There are about 24 homes within 200 feet of this Project's drilling locations that could be exposed to Project construction noise levels as high as this. (See Figure A, aerial photo map of neighboring homes with lines marking 200 foot distances from site drilling locations, or Figure C.) During a long work day (as permitted according to the Initial Study between 7:00 a.m. to 9:00 p.m. with 14 hours of drilling, with drilling using a 60% use factor continuing for those 14 hours, one can calculate the day-night weighed average noise level heard 200 feet away.[124] The use of the auger drill rig would generate a calculated "day-night average" noise level of **63.5 dBA L_{dn} at that 200-foot distance** for homes not blocked by the temporary noise barrier.[125]

The formula for calculation of the L_{dn} noise level is (using CalTrans equation N-2223.3)[126]

> "The L_{dn} descriptor is actually a 24 hour L_{eq}, or the energy-averaged result of 24 1-hour L_{eq}'s, with the exception that the night-time hours (defined as 2200 - 0700 hours) are assessed a 10 dBA "penalty". . . . . Mathematically this "day-night" descriptor is expressed as:

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[123] *See e.g.*, General Plan Noise Element, p. 2:2; LAMC § 91.1207.14.2 ("Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either the day-night average sound level (L_{dn}) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan."); L.A. CEQA Thresholds Guide, p. I.4:4 (screening threshold for airport noise impacts includes whether sensitive uses, including dwelling units and habitable rooms, have "adequate acoustic insulation to ensure an interior CNEL of 45 dB or less ….").

[124] The work day for drilling may be 14 hours long because the Initial Study allows 14 hours of construction between 7 a.m. – 9 p.m.

[125] This calculation of a day-night averaged noise level given an 'AUF' of 60% and the L_{eq} noise level of 65.7 dBA L_{eq} results from considering that noise levels for 14 daytime hours are 65.7 dBA L_{eq}, for another 1 daylight hour which is supposedly reported to be 55.7 dBA L_{eq}, and the remaining 9 nighttime hours in a 24-hour day are presumed to be at least 40 dBA L_{eq}. The logarithmic averaging of those 24 hours results in that 63.5 dBA L_{dn} day-night weighted average noise level. See calculation on next page.

[126] *See* Oct. 1998 CalTrans Technical Noise Supplement, p. 48, equation N-2223.3, for calculation of L_{dn}: http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013B.pdf

$$L_{dn} = 10\ Log_{10}\left[\left(\frac{1}{24}\right)\sum_{i=1}^{24} 10^{L_{eq(h)i} + W_i/10}\right] \qquad \text{(eq.N-2223.3)}$$

where: $W_i = 0$ for day hours (0700 - 2200); $W_i = 10$ for night hours (2200 - 0700); $L_{eq(h)i} = L_{eq}$(for the i^{th} hour)

Calculation:

$L_{dn} = 10\log_{10}[(1/24)x\{(10^{65.7/10)}$ x 14 hrs-drilling)+ $(10^{55.7/10)}$ x 1 hrs-quiet)+ $(10^{(40+10)/10)}$ x 9 hrs-night)}]

$=10\log_{10}[(1/24)x\{37,153,522 \times 14 + 371,535 \times 1 + 100,000 \times 9\}]$

$=10\log_{10}[(1/24)x\ 53,286,467] = 10 \times \log_{10}[2,220,269] = 10 \times 6.35 =$ **63.5 dBA L_{dn}**

For neighbors at that 200-foot distance from this Project's foundation hole drilling locations who have their windows open on such days, their homes would attenuate (reduce) that exterior noise level by as much as 15 dBA.[127] Thus their homes' interior noise levels in rooms facing this Project would be over approximately 48 dBA L_{dn}. (63.5 – 15 = 48.5) That residential interior noise level would be greater than the City's threshold of significance of 45 dBA L_{dn} even at that 200-foot distance.

Moreover, this Project location presents that unusual circumstance of being perched on a **steep** hillside with a grade of up to 60% on the lower lot facing Lucile Avenue. That steepness of slope not only necessitates additional noisy, time-consuming caisson foundation work. The steep hillside also increases the construction work's noise impacts as it reflects more noise towards homes that are at a lower elevation, unblocked by intervening homes, and situated to the north. Those homes to the north expose more of their roofs than walls to direct view from this Project site. Roofs do not block sound transmission as well as exterior walls because roofs have typically have some unblocked ventilation openings and roofs are often less dense than exterior walls that may have heavy stucco covering. Such Project noise levels from auger drilling and even louder construction activities would exceed the City's interior noise exposure standards of 45 dBA L_{dn}. That would create a significant noise impact, and would harm a substantial number of neighboring residents.

I. GROUND-BORNE VIBRATION IMPACTS WILL BE SIGNIFICANT TO IMMEDIATE NEIGHBORS DURING FOUNDATION CONSTRUCTION AND OTHER SITE WORK.

This Project proposes demolition of an existing home, site grading, foundation excavation and drilling for installation of footing caissons and retaining walls. These construction activities will cause significant vibration impacts to neighboring homes or their occupants. The Project's Initial Study however concludes without evidence that there will be no impact due to ground-borne noise or vibration by claiming "*As such, it is anticipated that vibration generated during construction of the Project would not cause damage to buildings nor affect sensitive receptors. Therefore, construction impacts associated with vibration would be less than significant.*" The Initial Study is not factually accurate. Had the Initial Study been supported with calculations, it would be obvious that Project demolition, excavation operations, site grading and drilling for foundation pilings or caissons will cause serious ground-borne vibrations.

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[127] Residential rooms with open windows typically attenuate exterior noise levels by between 10 to 15 dBA as most of the acoustic energy of exterior noise is blocked by the more solid wall and roof surfaces.

Some homes in the immediate vicinity of the Project site would be exposed to construction-related vibration levels above acceptable thresholds of significance. These nearest neighboring homes would be exposed to even greater vibration impacts than is often assumed because they are closer to proposed excavation activities than 25 feet, a distance often used for vibration discussion. Some homes are only about 10 to 15 feet away from Project construction locations.[128] At such close distances as 15 feet from where deep soil excavation is proposed for the Project's basement foundation, vibration impacts at least can significantly disturb neighbors and exceed applicable vibration safety standards. The vibration impacts from this construction work at this close distance can be shown to be severe. Construction vibration could even damage two of those adjacent older neighboring homes built in 1939 and 1948.[129] "Historic-period homes (i.e., constructed in 1969 or earlier)" are not generally built with current, more stringent seismic codes and construction practices, so they are less resistant to earth-borne movements such as vibration caused by pile-driving or excavation.[130]

A vibration level of 0.20 PPV in./sec. or greater is the threshold at which there is a risk of "architectural" damage to normal dwelling – houses with plastered walls and ceilings.[131] This Project may generate ground-bourne vibrations that exceed this vibration level at adjacent homes.

Ground-borne vibration would be generated during construction of the Project by various construction activities and equipment, such as the demolition of existing structures and pavement, site preparation work, excavation of below-grade levels, foundation work, and new building erection. The City has not adopted any quantitative thresholds for construction vibration. However, CEQA requires the City to consider whether the Project would result in the exposure of persons or their structures to excessive ground-borne vibration or ground-borne noise levels. As such, FTA policies and guidelines are often utilized to assess impacts due to ground-borne vibration for projects reviewed by the City.[132] To evaluate the Project's vibration

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[128] *See* Responses to Appellant's Grounds for Appeal, Re: 1888 Lucile, Exhibit 4, "Plot Plan," submitted by Crest Real Estate. (PDF p. 17 of *LUC ELAAPC addtl doc packet.pdf*) indicating a 7-foot setback from the common property line to the home to the east at 3617 West Landa Street; see also the Architectural drawings for the *Landa Project Site Plan*, Sheet A1.0, indicating an 8-foot setback from that common property line to its east. (7 feet + 8 feet = 15 feet separation distance.); *see also* correspondence from Michael Mekeer, Architect, about placement of retaining wall caissons along east and west side yard property lines, which are within 10 to 12 feet of adjacent homes; *see* Figure B for location of pile drilling.

[129] The adjacent home at 1880 Lucile Avenue was built in 1948. Adjacent home at 3633 Landa St. was built in 1939. Both of these historic-period homes have stucco on their exterior walls; stucco is rigid and more likely to be damaged by severe construction vibration than most other building materials. (See: *Responses to Appellant's Grounds for Appeal, Re: 1888 Lucile*, *"Exhibit 1*") (Not Exhibit 1 attached to this Report)

[130] *See* South Coast 101 HOV Lanes Project, EIR/EIS, p. 16. http://www.dot.ca.gov/dist05/projects/sb_101hov/final/tech_reports/vibration_report.pdf

[131] *See* South Coast HOV Lane Project, p. 10, Table 1: "Vibration Level and Intensity" http://sbcountyplanning.org/PDF/boards/MPC/06-06-2012/SOUTH-COAST-LANES/Vibration%20Study.pdf

[132] *See* FTA (May 2006) Transit Noise And Vibration Impact Assessment, pp. 8:3, 12:10-14, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf; *See e.g.,* 631 S. Spring St. (DCP Case No. ENV-2015-2356-EIR) DEIR Noise Section, PDF pp. 8-9, 13, 23, 28, https://planning.lacity.org/eir/SpringStHotel/Deir/DEIR%20Sections/Spring%20St%20Hotel%20IV.H%20Noise.pdf; 622 S. Lucas Ave. (DCP Case No. ENV-2015-3927-MND) MND, PDF pp. 195-197, http://cityplanning.lacity.org/staffrpt/mnd/Pub_102716/ENV-2015-3927.pdf; 1720 N. Vine St. (DCP Case

impacts, one should use the FTA's vibration impact thresholds for sensitive buildings to determine whether ground-borne vibration would be "excessive." A vibration velocity level of 75 VdB[133] is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people.[134] Therefore, as shown in **Table 5** below, the FTA recommends an 80 VdB threshold of significance at residences and buildings where people typically sleep (e.g., nearby residences).

Table 5:
Ground-Borne Vibration ("GBV") and Ground-Borne Noise ("GBN") Impact Criteria for General Assessment *(FTA)*:[135]

Land Use Category	GBV Impact Levels (VdB re 1 micro-inch /sec)			GBN Impact Levels (dB re 20 micro Pascals)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB[4]	65 VdB[4]	65 VdB[4]	N/A[4]	N/A[4]	N/A[4]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

Notes:
1. "Frequent Events" is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.
2. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.
3. "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.
4. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.
5. Vibration-sensitive equipment is generally not sensitive to ground-borne noise.

No. ENV-2011-675-EIR) DEIR Vol. I, PDF pp. 79, 646-647, 658, 665-667, https://planning.lacity.org/eir/Millennium%20Hollywood%20Project/DEIR/DEIR%20Sections/Millennium%20Hollywood%20DEIR_Volume%201_COMPILED.pdf.

[133] Vibration velocity ("VdB") is used to describe vibration because it corresponds well to human response to environmental vibration. Vibration is defined by the maximum vibration level during an event. Human sensitivity to vibration increases with increasing numbers of events during the day. The abbreviation "VdB" is used for vibration decibels to reduce the potential for confusion with sound decibels.

[134] *See e.g.*, 631 S. Spring St. (DCP Case No. ENV-2015-2356-EIR) DEIR Appendix H-1, p. IV.H:3, https://planning.lacity.org/eir/SpringStHotel/DEIR/DEIR%20Sections/Spring%20St%20Hotel%20IV.H%20Noise.pdf.

[135] *See* FTA (May 2006) Transit Noise And Vibration Impact Assessment, p. 8:3 (Table 8-1), https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf.

Vibration impacts during some construction activities for this demolition/two house/two garage Project will significantly exceed that 80 VdB threshold of significance limit at neighboring homes. The Project applicant has not disclosed how the Project's foundation walls will be constructed.

When caisson drilling is used to support the home's foundation and retaining walls on the steep hillside, the vibration impacts would be significant at the closest neighboring homes. Table 6 below presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet. The nearest homes are 10 to 15 feet to this Project's construction activities. Accordingly, the vibration levels associated with caisson drilling is 0.089 in/sec PPV and 87 VdB at 25 feet. But at only 15 feet from caisson drilling, the vibration level is calculated to be nearly **94 VdB:**

> Calculation: L_v(15 feet) = 87 VdB – 30 x Log(15/25) = 87 VdB – (30 x –0.22) = 87 + 6.6 = **93.6 VdB**.

At a distance of 10 feet from caisson drilling for a retaining wall on the property line between this 1888 Lucile Avenue Project site and the home adjacent to the east at 1892 Lucile Avenue, that vibration level is calculated to be about **99 VdB**.[136] The FTA's maximum acceptable level is 80 VdB for homes (See Table 5 above for "Category 2"). This Project's vibration levels could exceed this standard by about 14 to 19 VdB.[137] Exposing this nearest neighboring home to a vibration level of **99 VdB** could cause structural damage to this home because 94 VdB is the threshold for such damage (see Table 7 on page 33 below). Accordingly, this Project's demolition work, site grading, retaining wall drilling, foundation preparation and construction activities could result in significant vibration impacts.

Table 6: Vibration Source Levels for Construction Equipment (FTA, 2006, Report FTA-VA-90-1003-06)[138]

TABLE 5 Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 ft. (in/sec)	Approximate L_v at 25 ft. (VdB)
Pile Driver (Impact)	upper range	1.158	112
	typical	0.644	104
Pile Driver (Sonic)	upper range	0.734	105
	typical	0.170	93
Clam shovel drop		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

Source: Source: United States Environmental Protection Agency, 1973, Legal Compilation on Noise, Vol. 1, p. 2-104.

[136] Calculation: L_v(10 feet) = 87 VdB – 30 x Log(10/25) = 87 VdB – (30 x – 0.40) = 87 + 12 = **99 VdB**. *See* formula reference on following pages.

[137] Calculations: 94 – 80 = 14 VdB exceedence; 99 – 80 = 19 VdB exceedance.

[138] FTA (May 2006) Transit Noise and Vibration Impact Assessment, p. 12:12 (Table 12-2), https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf.

Table 7: Construction Vibration Damage Criteria (FTA, Report FTA-VA-90-1003-06)[139]

TABLE 14 VIBRATION CRITERIA TO PREVENT DAMAGE TO STRUCTURES

Building Category	PPV (in/sec)	RMS (VdB)
Reinforced-concrete, steel or timber (no plaster)	0.5	102
Engineered concrete and masonry (no plaster)	0.3	98
Non-engineered timber and masonry buildings	0.2	94
Buildings extremely susceptible to vibration damage	0.12	90

Source: Federal Transit Administration, 2006. *Transit Noise and Vibration Impact Assessment* (FTA-VA-90-1003-06).

Vibration levels at the nearest residences immediately adjacent to the Project site (one built in 1959 and another built 1948) would be substantially higher than 0.2 in/sec. PPV because they are closer than 25 feet to Project excavation activities. Construction vibration could cause a significant impact including potential structural damage to these homes. Neighboring homes are non-engineered timber-framed buildings that appear to be stucco-covered that could be damaged by vibration levels greater than 94 VdB, as reflected in **Table 7** above.

Construction activities would be located within 50 feet of four existing homes. At that distance, vibration impacts would exceed the Caltrans recommended level of 0.2 in/sec PPV concerning structural damage and FTA's maximum acceptable level of 80 VdB with respect to human response for residential uses (i.e., annoyance). Thus, caisson drilling during Project construction activities could result in the exposure of existing offsite sensitive receptors to excessive ground vibration and vibration noise levels. This impact would be potentially significant.

Project construction activities could create vibration levels that exceed the threshold of significance at some older adjacent homes. For example, a *vibratory roller* operating only about 15 feet from a neighboring home could have a vibratory level of *100 VdB*, a level which would greatly exceed the 80 VdB limit.[140] Alternatively, a *large bulldozer* or a *caisson drilling rig* operated that close during excavations might produce a vibration level of *94 VdB* that also could greatly exceed that 80 VdB limit.[141] Alternatively, a *clam shell drop* producing about 94 VdB at

[139] *Ibid*., p. 12:13 (Table 12-3).

[140] *See* Table 6 above, showing a *vibratory roller* with an approximate vibration level (L_v) of 94 VdB at 25 feet would be about *100 VdB at 15 feet*. The Estimated L_v is calculated as: $L_v(D) = L_v(25\text{ feet}) - 30\text{Log}(D/25)$ where:

$L_v(D)$= estimated velocity level in decibels at distance.
$L_v(25\text{ feet})$ = RMS velocity amplitude at 25 feet.
D= distance from equipment to receiver. (in this case, 15 feet.)

Here, $L_v(15\text{ feet}) = 94\text{ VdB} - 30 \times \text{Log}(15/25) = 94\text{ VdB} - 30 \times -0.22 = 94 + 6.6 =$ **100.6 VdB**.
For formula used here, see FTA (May 2006) Transit Noise And Vibration Impact Assessment, p. 12:11.
See also DEIR for Temple Israel of Hollywood Enhancement Project, p, IV.H:24 for formula, online at https://planning.lacity.org/eir/TempleIsrael/DEIR/DEIR%20Sections/IV.H.%20Noise.pdf

[141] *Ibid*., a *large bulldozer* generates a vibration level (L_v) of 87 VdB at 25 feet which, closer at the nearest homes 15 feet away or closer, would be about *94 dBA at 15 feet*. Here, $L_v(15\text{ feet}) = 87\text{ VdB} - 30 \times \text{Log}(15/25) = 87\text{ VdB} - 30 \times -0.22 = 87 + 6.6 = 93.6\text{ VdB}$ **= ~ 94 VdB.**

25 feet could still produce a significant vibration level of *80.6 VdB* at a distance of 70 feet.[142] There are about 7 homes within 70 feet of this Project's ground level excavation area that could be significantly exposed to vibration levels greater than 80 VdB.[143]

A vibration limit of 0.20 in/sec PPV should be used to minimize the potential for cosmetic damage at nearby buildings of standard conventional construction. Table 6 above indicates that the Project's foundation work would exceed that vibration limit at a distance of 25 feet for the equipment such as clam shovels and vibratory rollers. If the City also accepts a vibration threshold for this Project of greater than 80 VdB, then the use of hoe rams, loaded trucks, caisson drilling, and large bulldozers would generate excessive and significant vibration impacts at that distance of 25 feet.

With Project vibration impacts being so significant to some neighboring residents and in excess of FTA impact thresholds, this Project's Initial Study is not accurate and without substantial evidence in determining there will be "no impacts" due to construction vibration. Notably, the Initial Study and Project application documents provide absolutely no evidence that there will be no construction vibration impacts to neighboring residences.

J. INITIAL STUDY FAILS TO CONSIDER STANDARD MITIGATION MEASURES AND CONDITIONS OF APPROVAL PURSUANT TO AN ADEQUATE MND OR EIR.

Critical to the MND/EIR review process is the consideration of mitigation measures and project design features to reduce a project's impact to less than significant, which can subsequently be made enforceable as mandatory conditions of approval. Here, because the Initial Study recommends a Categorical Exemption and does not propose a Mitigated Negative Declaration, the few proposed Project Design Features (*de facto* mitigation measures) were not analyzed or knowledgeably vetted by the agency or public. It is unclear what will become of the 2016 MND and its noise mitigation measures if this newly requested Categorical Exemption is approved. Therefore, the Project Design Features proposed in the Initial Study are untethered to reasoned analysis.[144] They also fail to include some previously proposed mitigation measures for this same Project.

The Initial Study now recommends some new Project Design Features:

- Restricted construction hours that however allow weekday construction to extend for three additional hours than the MND did until 9:00 p.m.
- Temporary Noise Barriers only on east and west sides of drill rig operation
- Demolition Procedures
- Mufflers on some heavy construction equipment "if able to use mufflers"
- Decibel limits within Noise Ordinance but only if feasible

[142] *Ibid*, the impact from a *clam shell drop* generates a vibration level (L_v) of 94 VdB at 25 feet which, at homes 70 feet away, would be about *80.6 VdB*. Here, L_v(70 feet) = 94 VdB – 30 x Log(70/25) = = 94 VdB – (30 x 0.48) = 94 – 13.4 = **80.6 VdB.**

[143] Homes within 70 feet of Project construction include those at 1880 Lucile, 1872 Lucile, 3633 Landa, 3623 Landa, 1892 Lucile, 1881 Lucile, and 1896 Lucile Avenue.

[144] See Project's MND, p. 22, XXII(d) for mitigation measures "XII-20" found on the MND's p. 3 and listed above.

The Initial Study no longer makes reference to these approved noise mitigations in the MND, and the applicant is seeking to have them be nullified:

> XII-20. Increased Noise Levels (Demolition, Grading, and Construction Activities)
>
> • Construction and demolition shall be restricted to the hours of 7:00 am to 6:00 pm Monday through Friday, and 8:00 am to 6:00 pm on Saturday.
>
> • Demolition and construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.
>
> • The project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices.

These changes and further lack of adequate mitigation is a sharp deviation of the City's practice for similar projects, where it considers various standard mitigation measures and project design features that serve to directly or indirectly reduce a project's noise impacts below the City's thresholds of significance. Many of the City's typical and standard measures are entirely missing from this Project's measures. Among these measures considered for other projects within the City—but missing from the Project's approval —include:

Construction-Related:

- Require construction activities to be placed as far as possible from the nearest off-site land uses.
- Require construction and demolition activities to be scheduled to avoid operating several loud pieces of equipment simultaneously; alternatively to reduce the overall length of the construction period, combine noisy operations to occur in the same time period if it will not be significantly greater than if operations were performed separately.
- Require the replacement of noisy equipment with quieter equipment, such as utilizing vibratory pile driver instead of conventional pile driver (or even prohibit the use of driven (impact) pile systems altogether), using rubber-tired equipment rather than track equipment, or using quieted and enclosed air compressors with properly working mufflers on all engines.
- Require construction contractor to avoid using vibratory rollers and packers near sensitive areas.
- Require construction staging areas to be as far from sensitive receptors as reasonably possible.
- Require all construction truck traffic to be restricted in hours and to truck routes approved by the Department of Building and Safety, which shall avoid residential areas and other noise-sensitive receptors.
- Require the construction of noise barriers, such as temporary walls or piles of excavated material, between noisy activities and noise-sensitive receivers.
- Require flexible sound control curtains to be placed around all drilling apparatuses, drill rigs, and jackhammers when in use and more extensive noise control barriers protecting adjacent residential structures.

- Require power construction equipment operated at the project site to be equipped with effective state-of-the-art noise control devices (e.g., equipment mufflers, enclosures, and barriers) with contractors maintaining all sound-reducing devices and restrictions throughout the construction period and keeping documentation showing compliance.
- Require contractors to use either plug-in electric or solar powered on-site generators to the extent feasible.
- Require grading and construction contractors to use equipment that generates lower vibration levels such as rubber-tired equipment rather than metal-tracked equipment, such as a combination loader/excavator for light-duty construction operations.
- Two weeks before the commencement of construction at the Project Site, require notification to be provided to the immediate surrounding off-site properties that disclose the construction schedule, including the various types of activities and equipment that would be occurring throughout the construction period. A noise disturbance coordinator and hotline telephone number shall be provided to enable the public to call and address construction-related issues.
- Require all mitigation measures restricting construction activity to be posted at the Project Site and all construction personnel shall be instructed as to the nature of the noise and vibration mitigation measures.
- Require a noise monitoring/control plan that includes absolute noise limits for classes of equipment, noise limits at lot lines of specific noise sensitive properties, specific noise control treatments to be utilized (such as the above-mentioned measures), and a designated compliance officer to respond to promptly respond to complaints and take immediate correction action if limits/restrictions are not complied with.

Construction-Vibration Related:

- Require the heavily-loaded trucks to be routed away from residential streets, if possible. Select streets with fewest homes if no alternatives are available.
- Require the operation of earth-moving equipment on the construction site as far away from vibration-sensitive sites as possible.
- Require phase demolition, earth-moving, and ground-impacting operations so as not to occur in the same time period. Unlike noise, the total vibration level produced could be significantly less when each vibration source operates separately.
- Limit impact pile-driving in vibration-sensitive areas where possible. Drilled piles or the use of a sonic or vibratory pile driver causes lower vibration levels where the geological conditions permit their use.
- Require demolition methods not involving impact, such as sawing bridge decks into sections that can be loaded onto trucks results in lower vibration levels than impact demolition by pavement breakers, and milling generates lower vibration levels than excavation using clam shell or chisel drops.
- Limit vibratory rollers and packers near sensitive areas.

The above-listed measures include sample mitigation measures from the L.A. CEQA Threshold Guide (pp. I.1:5, I.2:7-8), control measures from the FTA's Transit Noise And Vibration Impact Assessment (pp. 12:8-10),
[https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf]

and mitigation measures, design features and conditions of approval compiled from a host of other projects within the City.

Unfortunately, none of the three mitigation measures the City previously adopted in mitigation measure "XII-20" were adequately considered by the City because of the Project's conclusory noise discussion in its Initial Study lacks sufficiently meaningful facts or analysis of the Project's construction noise impacts —much less substantial evidence that the Project's impacts would be less than significant per the L.A. CEQA Thresholds Guide.

IV. CONCLUSION

As discussed above, the Project's Initial Study's noise discussion fails to provide basic information required for the City to adequately assess the true noise impacts of this Project. As a result, significant construction and vibration noise impacts are being overlooked. This Report presents fair arguments that the Project as proposed with vague design features and conditions will still create significant noise impacts in its residential neighborhood. This Report also demonstrates that the City simply does not have substantial evidence to support a determination that the Project's noise impacts will be less-than-significant. That analysis and factual evidence in this Report above demonstrates the current Initial Study and proposed Categorical Exemption are inadequate for this Project's CEQA review. Moreover, feasible mitigation measures are available and need to be considered pursuant to a CEQA-compliant MND or EIR—just like similar projects reviewed by the City.

If further opportunities become available to review this Project or its environmental impacts, please notify me at that time. I request all future notices about this Project pertaining to its CEQA approval, any determinations by City officials, or any public hearings or other City public meetings about this Project, and I refer you to California laws that require the City of Los Angeles to send or mail notice to anyone filing a written request for such them, pursuant to the CEQA §§ 21083.9, 21092.2, 21080.4, 21167(f), 21108, as well as Gov. Code § 65092. Please provide notice by regular mail and electronic mail to: Dale La Forest & Associates, 101 E. Alma Street, Suite 100-A, Mt. Shasta, CA 96067 and dlaforest@gmail.com.

Sincerely,

Dale La Forest

Dale La Forest

Professional Planner, Designer, INCE Associate (Institute of Noise Control Engineering)
Dale La Forest & Associates

Attachment A: RESUME

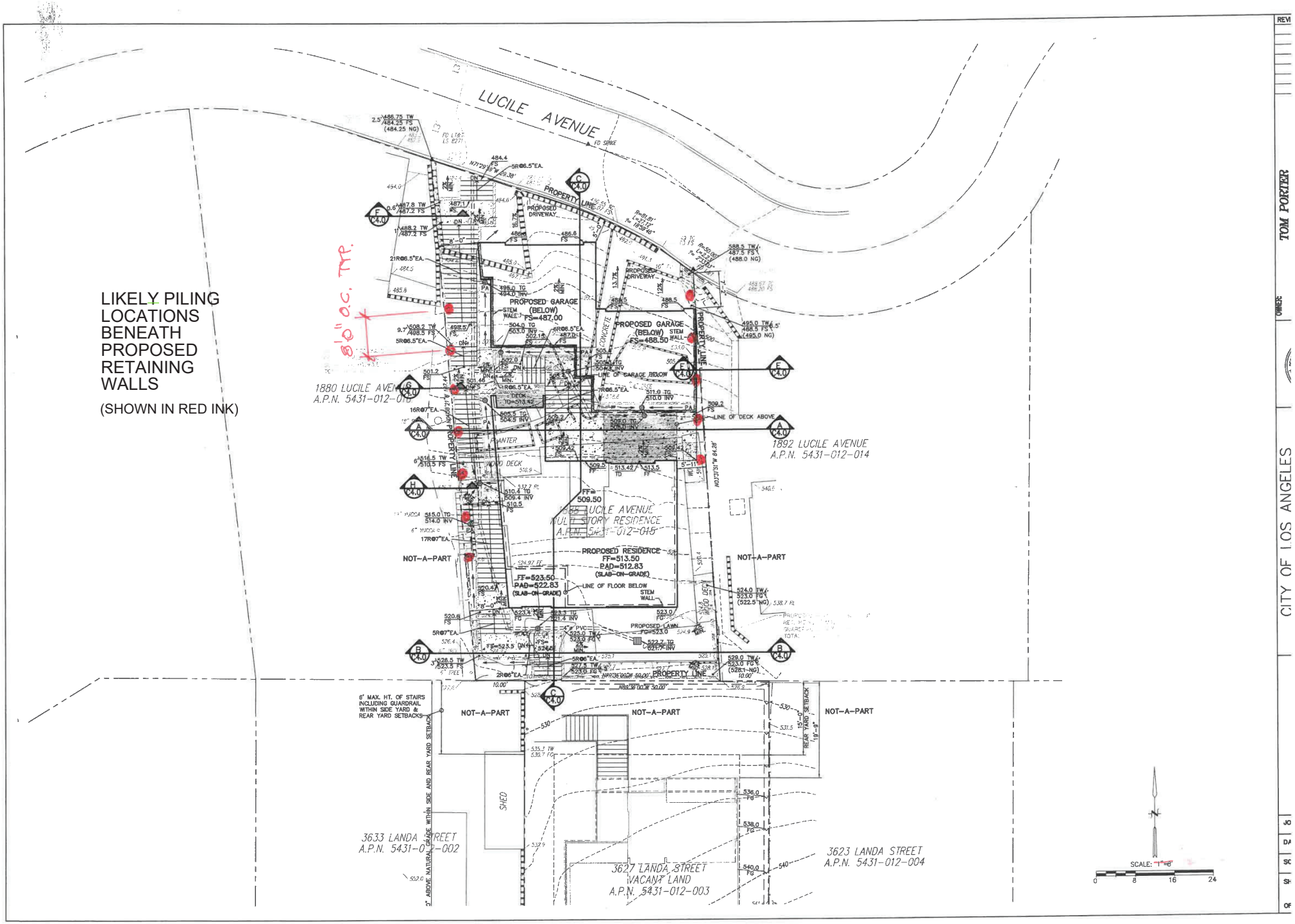
Attachment B: SITE PLAN AND STRUCTURAL CROSS SECTIONS – for Proposed Residence at 1888 Lucile Avenue, with red highlighted review notes showing likely foundation pile locations by Architect Michael Mekeel of Offenhauser/Mekeel Architects, 8762 Holloway Drive, West Hollywood, CA 90069

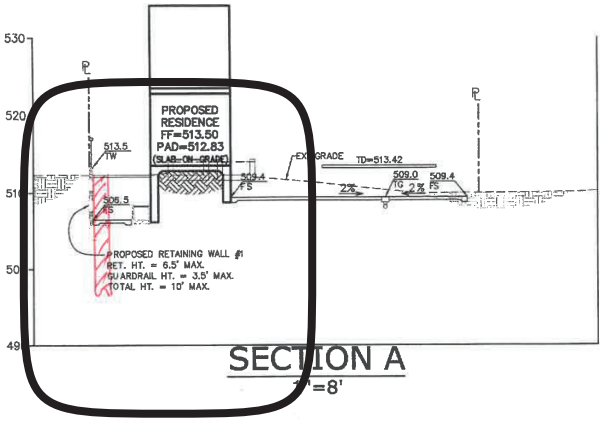
Exhibit 1: "Long-term Noise Measurement Summary" CNEL calculation: 55.6 CNEL

Attachment A

EDUCATION AND EXPERIENCE

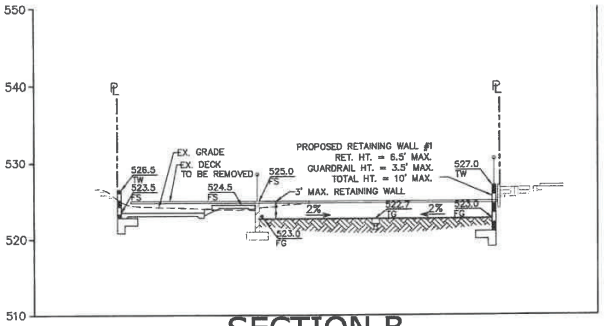
I received a Bachelor of Architecture Degree with Master of Architecture studies in architecture and planning from the University of Michigan (1966 – 1973). My university education included architectural acoustics and the math and physics related to analysis of sound transmission. In the last 44 years, I have designed hundreds of homes in California. During the last 20 years, I have also prepared expert acoustical studies for various development projects and reviewed and commented upon dozens of noise studies prepared by others. My expertise in environmental noise analysis comes from this formal educational training in architecture and planning, and from many years of evaluation of acoustics as relates to environmental analysis and challenging flawed project applications prepared by less-than-professional, industry-biased acousticians. I regularly measure and calculate noise propagation and the effects of noise barriers and building acoustics as they apply to single-family homes near projects and their vehicular travel routes. I have also prepared initial environmental studies for noise-sensitive development projects including hotel and campground projects along major highways. I have reviewed dozens of quarry project and batch plant project environmental documents. I have designed highway noise walls, recommended noise mitigations, and have designed residential and commercial structures to limit their occupants' exposure to excessive exterior noise levels throughout California.
Dale La Forest


LUCILE AVENUE
LIKELY PILING LOCATIONS BENEATH PROPOSED RETAINING WALLS
(SHOWN IN RED INK)
8'0" o.c. TYP.
1880 LUCILE AVENUE
A.P.N. 5431-012-016
1892 LUCILE AVENUE
A.P.N. 5431-012-014
PROPOSED GARAGE (BELOW) FS=487.00
PROPOSED GARAGE (BELOW) FS=488.50
PROPOSED RESIDENCE FF=513.50 PAD=512.83 (SLAB-ON-GRADE)
FF=523.50 PAD=522.83 (SLAB-ON-GRADE)
FF=509.50
PROPERTY LINE
NOT-A-PART
6' MAX. HT. OF STAIRS INCLUDING GUARDRAIL WITHIN SIDE YARD & REAR YARD SETBACKS
SHED
3633 LANDA STREET
A.P.N. 5431-012-002
3627 LANDA STREET
VACANT LAND
A.P.N. 5431-012-003
3623 LANDA STREET
A.P.N. 5431-012-004
SCALE: 1" = 8'
0
8
16
24
CITY OF LOS ANGELES
TOM PORTER



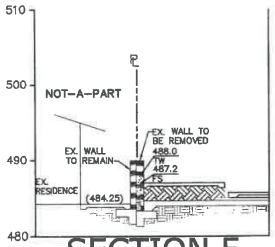
SECTION A
1"=8'

PILE LOCATIONS NOTED
IN RED INK
BENEATH PROPOSED
RETAINING WALL

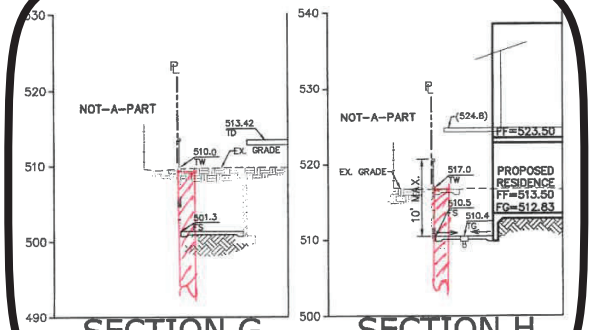


SECTION B
1"=8'

4 TEMP. EXCAVATION
N.T.S.



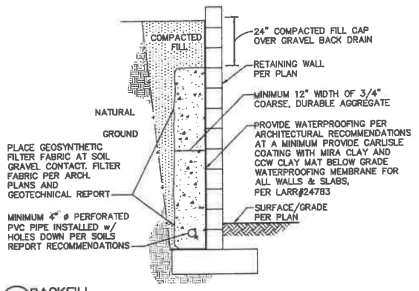
SECTION F
1"=8'



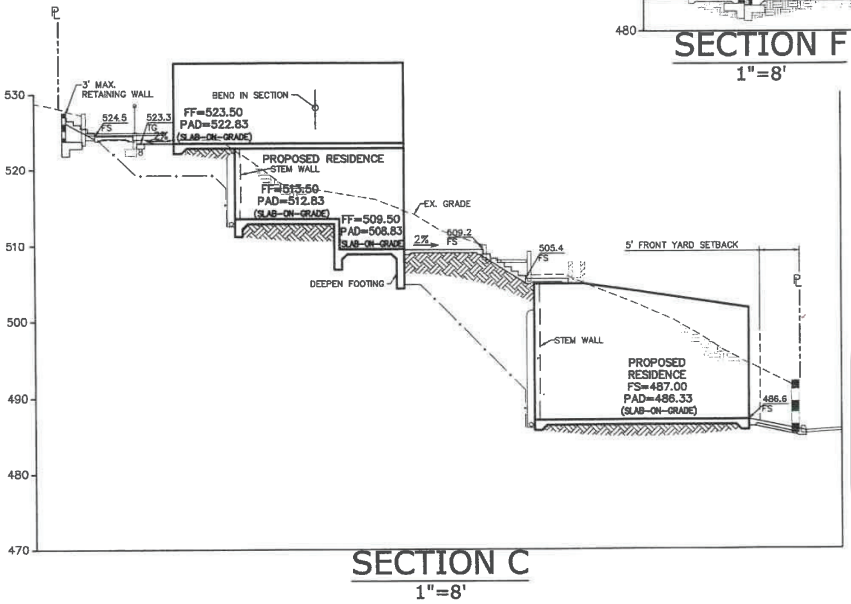
SECTION G
1"=8'

SECTION H
1"=8'

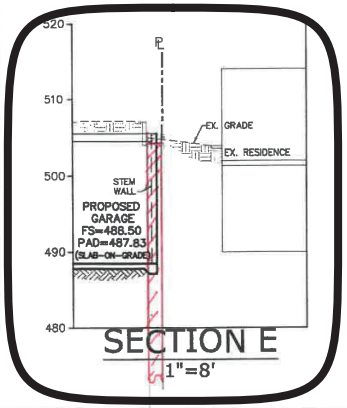
PILE LOCATIONS NOTED
IN RED INK
BENEATH PROPOSED
RETAINING WALL



3 BACKFILL
N.T.S.



SECTION C
1"=8'



SECTION E
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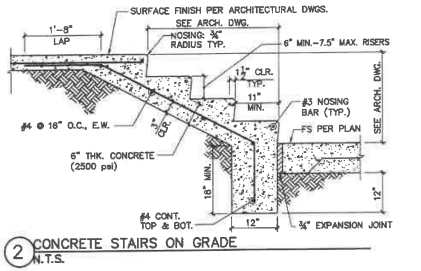
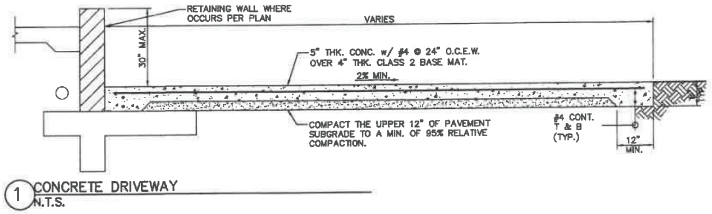


2 CONCRETE STAIRS ON GRADE
N.T.S.



1 CONCRETE DRIVEWAY
N.T.S.

Long-Term Noise Measurement Summary

KEY: Orange Cells are for input
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output)

Landa - Lucile Project; calculation of ambient noise level at site

Computation of CNEL

Hour of Day (military time)	Sound Level (dBA)	Sound Power . = 10^(dBA/10)	Period of 24-hour Day (1=included; 0=not) Day	Evening	Night	Sound Power Breakdown by Period of Day Day	Evening	Night
0:00	40	10,000	0	0	1	0	0	10,000
1:00	40	10,000	0	0	1	0	0	10,000
2:00	40	10,000	0	0	1	0	0	10,000
3:00	40	10,000	0	0	1	0	0	10,000
4:00	40	10,000	0	0	1	0	0	10,000
5:00	40	10,000	0	0	1	**0**	0	10,000
6:00	40	10,000	0	0	1	0	0	10,000
7:00	55.7	371,535	1	0	0	371,535	0	0
8:00	55.7	371,535	1	0	0	371,535	0	0
9:00	55.7	371,535	1	0	0	371,535	0	0
10:00	55.7	371,535	1	0	0	371,535	0	0
11:00	55.7	371,535	1	0	0	371,535	0	0
12:00	55.7	371,535	1	0	0	371,535	0	0
13:00	55.7	371,535	1	0	0	371,535	0	0
14:00	55.7	371,535	1	0	0	371,535	0	0
15:00	55.7	371,535	1	0	0	371,535	0	0
16:00	55.7	371,535	1	0	0	371,535	0	0
17:00	55.7	371,535	1	0	0	371,535	0	0
18:00	55.7	371,535	1	0	0	371,535	0	0
19:00	55.7	371,535	0	1	0	0	371,535	0
20:00	55.7	371,535	0	1	0	0	371,535	0
21:00	55.7	371,535	0	1	0	0	371,535	0
22:00	40	10,000	0	0	1	0	0	10,000
23:00	40	10,000	0	0	1	0	0	10,000
Sum of Sound Power during Period without penalty :						4,458,423	1,114,606	90,000
Log Factor for CNEL Penalty (i.e. 10*log(x)) :						1	3	10
Sound Power during Period with Penalty :						4,458,423	3,343,817	900,000

Total Daily Sound Power, with penalties :	8,702,240
Hours per Day :	24
Average Hourly Sound Power, with penalties :	362,593
CNEL :	**55.6**

Notes:
Computation of the CNEL based on 1-hour Leq measurements for each hour of a day are based on equation 2-24 on page 2-53 of the 2013 CalTrans Technical Noise Supplement

Log factors for the CNEL penalties are provided in Table 2-11 on page 2-48 of the 2013 CalTrans TeNS

Source:
California Dept. of Transportation (CalTrans), Division of Environmental Analysis (2013) Technical Noise Supplement
available: http://www.dot.ca.gov/env/noise/docs/tens-sep2013.pdf Accessed Oct. 31, 2018

EXHIBIT 1

L.A. CEQA THRESHOLDS GUIDE

Your Resource for Preparing
CEQA Analyses in Los Angeles

City of Los Angeles
2006

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Your Resource for Preparing CEQA Analyses in Los Angeles

2006

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities.

This Thresholds Guide is intended to provide general information about CEQA. It should not be used as a substitute for professional or legal advice. The reader should refer to the CEQA Statutes and Guidelines and consult with the appropriate City departments, as necessary.

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EXECUTIVE SUMMARY

Purpose

The *L.A. CEQA Thresholds Guide: Your Resource for Preparing CEQA Analyses in Los Angeles* (*Thresholds Guide*) is a guidance document that draws together practical information useful to City staff, project proponents, and the public involved in the environmental review of projects in the City of Los Angeles subject to the California Environmental Quality Act (CEQA). The CEQA process, established by state law, requires the review of proposed projects in order to identify and address potential environmental effects.

This is the City's initial effort to develop citywide guidance for CEQA impact analyses. The applicability and use of the *Thresholds Guide* may be re-evaluated after a period of use. The *Thresholds Guide* is intended to be available as a voluntary tool. It supports the City's development reform efforts to streamline and enhance the City's permit and development processes. The *Thresholds Guide* is a consensus document that represents the technical input from a citywide working group, comprised of representatives from 18 City departments and bureaus, including the Environmental Affairs Department (EAD).

Content

The *Thresholds Guide* includes two sets of criteria to evaluate project impacts: screening and significance criteria. The **screening criteria** provide assistance in responding to the questions in the State's Initial Study Checklist and, thus, determining the appropriate environmental document to prepare (e.g., negative declaration, mitigated negative declaration, or environmental impact report). The **significance thresholds** assist in determining whether a project's impacts would be presumed significant under normal circumstances and, therefore, require mitigation to be identified.

The *Thresholds Guide* contains three types of significance thresholds - **quantitative, qualitative, and case-by-case**. Quantitative thresholds provide a measurable criterion with which to compare one or more characteristics of the proposed project, such as "the vehicle-to-capacity ratio increase at a study intersection is greater than 0.020." A qualitative threshold requires comparison to non-numerical criteria, such as "interference with a wildlife movement corridor." The case-by-case thresholds were developed for issue areas where a definitive threshold could not be established, either because impacts are site- or project-specific or because there is no consistent technical guidance available. The existence of screening criteria and significance thresholds may also encourage project proponents to incorporate impact-reducing measures into project designs, prior to submitting project applications to the City, to reduce potential impacts below the significance level.

The screening criteria and significance thresholds are based on a variety of factors, including existing local, state, and federal regulations, administrative practices of other public agencies, and commonly accepted professional standards. Each threshold has been reviewed with respect to meeting the following goals: objectivity and applicability, defensibility, practicality, nexus between impacts and mitigation, and legal liability.

The *Thresholds Guide* provides assistance in evaluating 46 of the most common environmental issues in the City of Los Angeles, grouped into the following categories:

- Air Quality
- Population and Housing

- Biological Resources
- Cultural Resources
- Geology
- Hazards
- Land Use
- Noise
- Public Services
- Public Utilities
- Transportation
- Visual Resources
- Water Resources

The information is organized generally in the same order in which the issues appear in the State's Initial Study Checklist, although the *Thresholds Guide* does not identify thresholds for all issues found in the Checklist.

Within each issue area, the *Thresholds Guide* includes three parts: **1. Initial Study Screening Process** (Initial Study Checklist Question, Introduction, Screening Criteria, and Evaluation of Screening Criteria); **2. Determination of Significance** (Significance Threshold, Environmental Setting, Project Impacts, Cumulative Impacts, and Sample Mitigation Measures); and **3. Data, Resources, and References** (Resources, Background Information, Selected Legislation, and Exhibits).

How the *Thresholds Guide* works

The *Thresholds Guide* provides technical assistance in evaluating the potential significance of a project's environmental impacts by putting in one place existing information and practices from a variety of sources which are useful for impact analyses. The *Thresholds Guide* applies to non-exempt, discretionary projects (including public and private projects and plans) in the City of Los Angeles under "normal" conditions. It recognizes that the impacts resulting from a particular action depend on the project setting, design, and operational components and that the determination of significance and the appropriate criteria for evaluation are the responsibility of the lead agency.

The *Thresholds Guide* does not change the authority of decision-makers or the lead agency or affect the City's CEQA Guidelines (including the list of categorical exemptions). The *Thresholds Guide* does not change existing department procedures for processing CEQA documents or introduce new evaluation methods.

The purpose and applicability of the *Thresholds Guide* are fully described in the Preface and Content and Use Sections of the Introduction. The *Thresholds Guide* provides some general information about CEQA requirements, but should not be used as a substitute for professional or legal advice. For more information, the reader should refer to the CEQA Statutes and State and City Guidelines; current case law, regulations, and scientific methods; and consult with the appropriate City departments, as necessary.

Background and Process

Numerous public and private projects and plans are undertaken each year within the City of Los Angeles. Each of these must comply with all applicable laws, regulations, and policies, including CEQA. For those projects needing discretionary approval from the City of Los Angeles, the department granting the approval generally acts as the lead agency on behalf of the City and ensures that all CEQA requirements are fulfilled. The *Thresholds Guide* can simplify the CEQA process by offering a consistent set of evaluation criteria applicable to most discretionary projects in the City.

The *Thresholds Guide* was presented and discussed at a public workshop hosted by the Environmental Affairs Commission (EAC). The EAC sent recommendations on the *Thresholds Guide* to the Environmental Quality and Waste Management Committee of the City Council, and the full Council authorized departments to use the *Thresholds Guide* in CEQA analyses in August 2001 (see Council File 98-2064).

For information, and to view or download a copy of the *Thresholds Guide*, please point your browser to EAD's Home Page at http://www.lacity.org/EAD, and click on CEQA/.

INTRODUCTION

PREFACE

The *L.A. CEQA Thresholds Guide: Your Resource for Preparing CEQA Analyses in Los Angeles (Thresholds Guide)* is a guidance document that draws together practical information useful to City staff, project proponents, and the public involved in the environmental review of projects subject to the California Environmental Quality Act (CEQA). The *Thresholds Guide* is a resource available to provide information to those interested in the CEQA process.

The *Thresholds Guide* provides assistance in evaluating the significance of project impacts on 46 of the most common environmental issues in the City of Los Angeles. This guidance is supplemented by an introduction to each issue area, a recommended analysis method for project impacts, guidance for environmental setting and cumulative impact sections, sample mitigation measures, and references. The *Thresholds Guide* is geared toward readers familiar with the CEQA process. For additional information on the terminology and requirements of CEQA, please refer to the Glossary to the *Thresholds Guide*, The Los Angeles City CEQA Guidelines (City CEQA Guidelines), the State Guidelines for Implementation of the California Environmental Quality Act (State CEQA Guidelines) or the City's Guide to Understanding CEQA in the City of Los Angeles.

The preparation of the *Thresholds Guide* was initiated as part of the City's Development Reform efforts to streamline the City's permit and development processes. It is a tool that compiles information that is useful in the preparation of environmental documents. This information can be used to improve the level of consistency, predictability, and objectivity of the City's environmental documents, while reducing costs and time delays in the environmental review process.

CEQA requires the analysis of discretionary projects to disclose their potential effects on the environment and to allow public participation in the environmental review process. Central to the implementation of CEQA is the identification of "significant" or "potentially significant" impacts that would occur as a result of a proposed project, as this determines the level of review required and the need for mitigation measures to reduce or eliminate project impacts. For projects needing discretionary approval from the City of Los Angeles, the department granting the approval generally acts as the lead agency on behalf of the City and is known as the lead City agency.

The *Thresholds Guide* applies only to those non-exempt projects subject to CEQA that require an Initial Study, negative declaration, mitigated negative declaration, or EIR. It applies both to public and private projects, including residential, commercial, institutional, industrial, and infrastructure projects. Most screening criteria and significance thresholds also apply to Master planned developments, specific plans, zone changes, and other "plan" level proposals.

The *Thresholds Guide* does not impact the existing discretionary authority of decision-makers, although the guidance contained in it could provide more complete information to these decision-makers. The *Thresholds Guide* does not replace or invalidate the City's CEQA Guidelines, as it addresses the content of environmental documents as opposed to procedural requirements. It has no effect on the City's list of projects exempt from the CEQA process (see Article X of the City CEQA Guidelines, which lists project types eligible for categorical exemptions). The *Thresholds Guide* can be used as a complement to existing department procedures for processing CEQA documents, by building on the information in the CEQA Guidelines and providing technical assistance for the environmental analysis and determination of significance. The *Thresholds Guide* does not change the authority of the lead agency, as identified in the State CEQA Guidelines, to determine significance thresholds on a case-by-case basis dependent upon unique environments, evolving regulatory requirements, and the nature of projects encountered by each lead agency.

The guidance in the *Thresholds Guide* does not substitute for the use of independent judgment to determine significance or the evaluation of the evidence in the record, but is intended to provide sufficient flexibility to use the most appropriate criteria for a particular project. CEQA includes additional topics and requirements that are not addressed in the *Thresholds Guide*. The project evaluator and lead agency are still responsible for all CEQA requirements, whether or not they are discussed in the *Thresholds Guide*. The City CEQA Guidelines, the State CEQA Guidelines, and other references describe all of the requirements of the CEQA process and should be consulted if additional assistance is required.

As noted above, the fundamental purpose of CEQA is to publicly disclose and evaluate potential environmental impacts associated with proposed projects. As such, CEQA contains specific public notification and participation requirements. In addition, City policy in the General Plan Framework Element and a similar policy in the Transportation Element is to "assure that (sic) fair treatment of people of all races, cultures, incomes and education levels with respect to the development, implementation and enforcement of environmental laws, regulations, and policies, including affirmative efforts to inform and involve environmental groups, especially environmental justice groups, in early planning stages through notification

and two-way communication.[1]" This assurance may involve efforts to identify and reach affected populations, including low-income communities and communities of color.

CONTENT AND USE

The *Thresholds Guide* presents two sets of criteria to evaluate project impacts: the screening and significance criteria. The screening criteria provide assistance in responding to Initial Study Checklist questions, and can help determine when further study is needed to decide whether a significant impact could potentially occur. Additional study (either in the context of an expanded Initial Study, negative declaration, or EIR) will assist project evaluators in determining whether the project impact falls above or below the significance threshold. The significance threshold identifies the level of impact over which mitigation (or a Statement of Overriding Considerations, if mitigation is not feasible) is required.

By defining screening criteria and significance thresholds, the *Thresholds Guide* provides guidance in determining the appropriate environmental document required for a project within the City of Los Angeles – negative declaration, mitigated negative declaration, or environmental impact report (EIR) – and whether a project's impacts would be presumed significant under normal circumstances, and therefore, require mitigation. The existence of screening criteria and significance thresholds may also encourage project proponents to incorporate impact-reducing measures into project designs, prior to submitting project applications to the City, to reduce potential impacts below the significance level.

The screening criteria and significance thresholds presented in the *Thresholds Guide* are based on a variety of factors, including existing local, state, and federal regulations, administrative practices of other public agencies, and commonly accepted professional standards (common practice). Each threshold was then reviewed with respect to meeting the following goals: objectivity and applicability, defensibility, practicality, nexus between impacts and mitigation, and legal liability. This document, therefore, represents a compilation of existing information and practices and does not introduce new evaluation methods, nor does it diminish the value of independent judgment on the part of the project evaluator. However, the guidance provided in the *Thresholds Guide* can simplify the CEQA process by providing a consistent set of criteria applicable to most discretionary projects in the City. Because evaluation practices continue to evolve due to changing regulations, scientific methods, and court decisions, the project evaluator and lead City agency should always use the best information and evaluation methods available, including those from sources other than the *Thresholds Guide*.

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1 *City of Los Angeles, General Plan Framework Element, Policy 3.1.9, page 3-8.*

There are three types of significance thresholds identified in the *Thresholds Guide*: quantitative, qualitative, and case-by-case (also called factors for consideration). Quantitative thresholds provide a measurable criterion with which to compare one or more characteristics of the proposed project, such as "the vehicle-to-capacity ratio increase at a study intersection is greater than 0.020." A qualitative threshold requires comparison to non-numerical criteria, such as "interference with a wildlife movement corridor." For some issue areas, a definitive threshold could not be established, either because the significance of impacts is specific to site conditions or project operations, or because there is no consistent technical guidance available. For these issues, the case-by-case thresholds provide factors for the project evaluator to consider, in light of specific project circumstances, in the determination of significance.

The *Thresholds Guide* does not identify thresholds for all issues found in the State's Initial Study Checklist, but focuses on those that are most commonly of concern throughout the City. In addition, the *Thresholds Guide* provides information on the topic of Shading, which is not listed in the Initial Study Checklist. It also provides expanded information on transportation issues, consistent with the City Department of Transportation's traffic study policies and procedures.

The impact resulting from a particular action depends on the project setting, design, and operational components. Therefore, the use of the *Thresholds Guide* may be appropriate for projects located within City boundaries under "normal" conditions, but there may be circumstances in which another set of criteria better applies to the proposed action or setting, and should be used for the determination of significance. For City-sponsored projects located outside City boundaries, City departments conducting CEQA review must consider the local environmental setting, as well as applicable regulations and policies, and determine if another set of criteria applies or is more appropriate.

Since conditions may vary depending upon the type of project and/or approval that is required, the lead City agency responsible for the implementation of CEQA for a particular project may develop internal departmental direction (e.g., thresholds), not inconsistent with the guidance in the *Thresholds Guide,* to address issues that commonly arise within the jurisdiction of that department. Project applicants should consult with the lead City department regarding any additional or further defined screening criteria or significance thresholds that may apply.

The case study and flowcharts in Exhibits 1-4 illustrate the process of using the screening criteria and significance thresholds, and how their use relates to the Initial Study Checklist and the impact evaluation process. The exhibits all assume that a project is not exempt from CEQA

requirements. The case study (Exhibit 1) assesses operational noise impacts for four project types by posing a series of questions about each "project." This exercise concludes with an Initial Study evaluation and a determination of the type of CEQA document appropriate for that project. The flowcharts (Exhibits 2-4) describe the steps in conceptual terms, focusing on three phases of the CEQA process: 1) the Initial Study Checklist Process (using the screening and significance criteria to determine which boxes to check on the Checklist); 2) the Initial Study Determination (what type of CEQA document to prepare); and 3) the Impact Evaluation and Mitigation Process. The impact from a particular project may fall (a) below the screening criteria, (b) between the screening criteria and the significance threshold, or (c) above the significance threshold.

Exhibit 1
CASE STUDY: OPERATIONAL NOISE

Initial Study Checklist Questions

X.a): Would the proposal result in increases in existing noise levels?
X.b): Would the proposal result in exposure of people to severe noise levels?

Initial Study Screening Criteria

- Would the proposed project introduce a stationary noise source that is likely to be audible beyond the property line of the project site?
- Would the project include 75 or more dwelling units or 100,000 square feet (sf) or greater of nonresidential development, or have the potential to generate 1,000 or more average daily vehicle trips (ADT)?

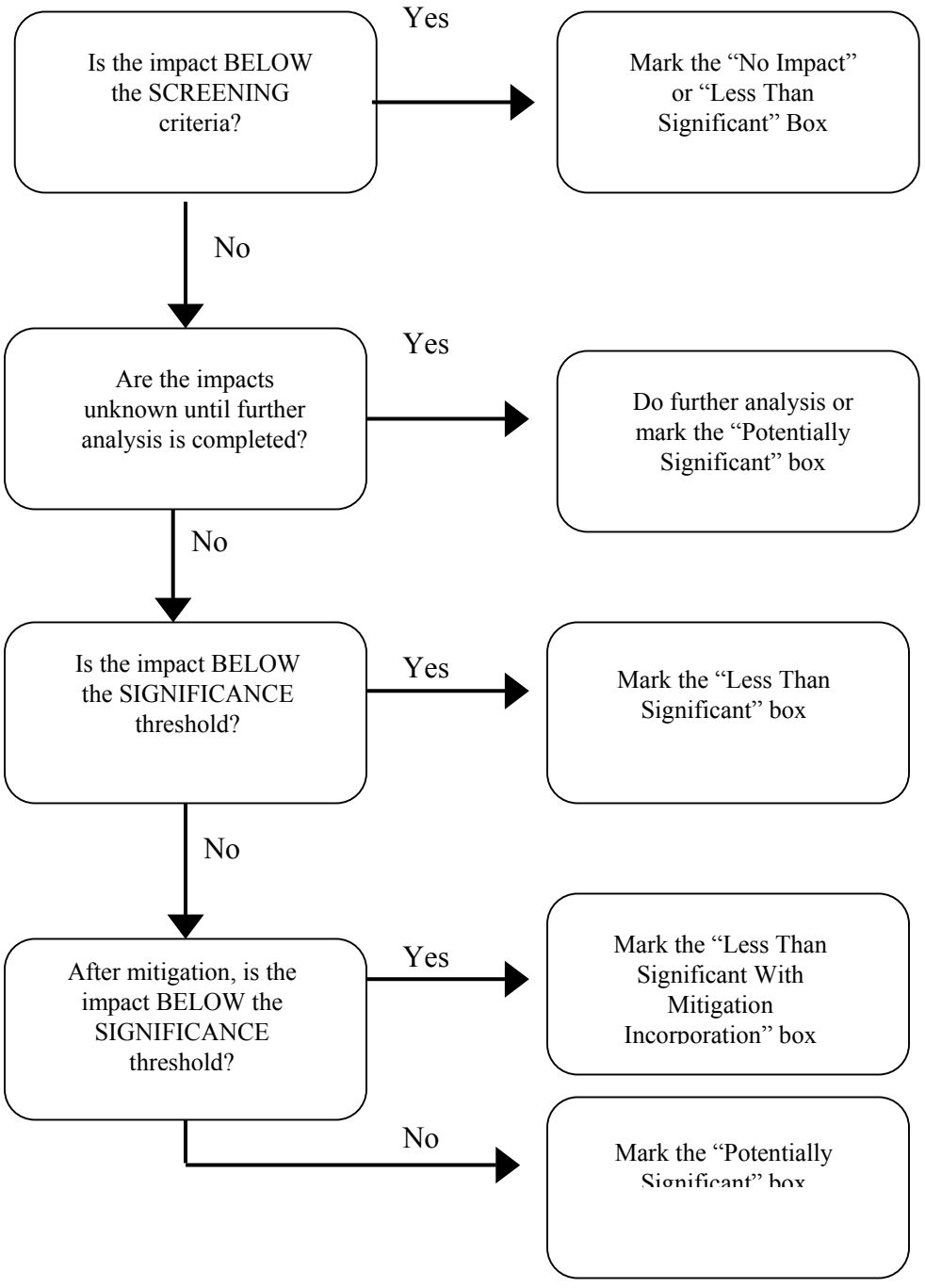
Significance Threshold

A project would normally have a significant impact on noise levels from project operation if the project causes the ambient noise level measured at the property line of an affected use to increase by 3 decibels (dBA) or more in community noise equivalency level (CNEL) to or within the "normally unacceptable" or "clearly unacceptable" category of the noise exposure chart prepared by the California Department of Health Services (DHS), or any 5 dBA or greater noise increase.

Case	Introduce Stationary Source with Noise Emissions Audible Beyond Property Line?	Include more than 75 du, 100,000 sf nonresidential, or 1,000 ADT?	Increase in Ambient Level?	Increase Remaining After Mitigation	Initial Study Evaluation	Results/ Document Prepared
1	No	No	-	-	No Impact	Neg Dec
2	No	Yes	2 dBA	-	Less Than Significant Impact	Neg Dec
3	Yes	No	5 dBA	2.5 dBA	Potentially Significant Unless Mitigation Incorporated	Mitigated Neg Dec
4	Yes	Yes	7 dBA	5 dBA	Potentially Significant Impact	EIR

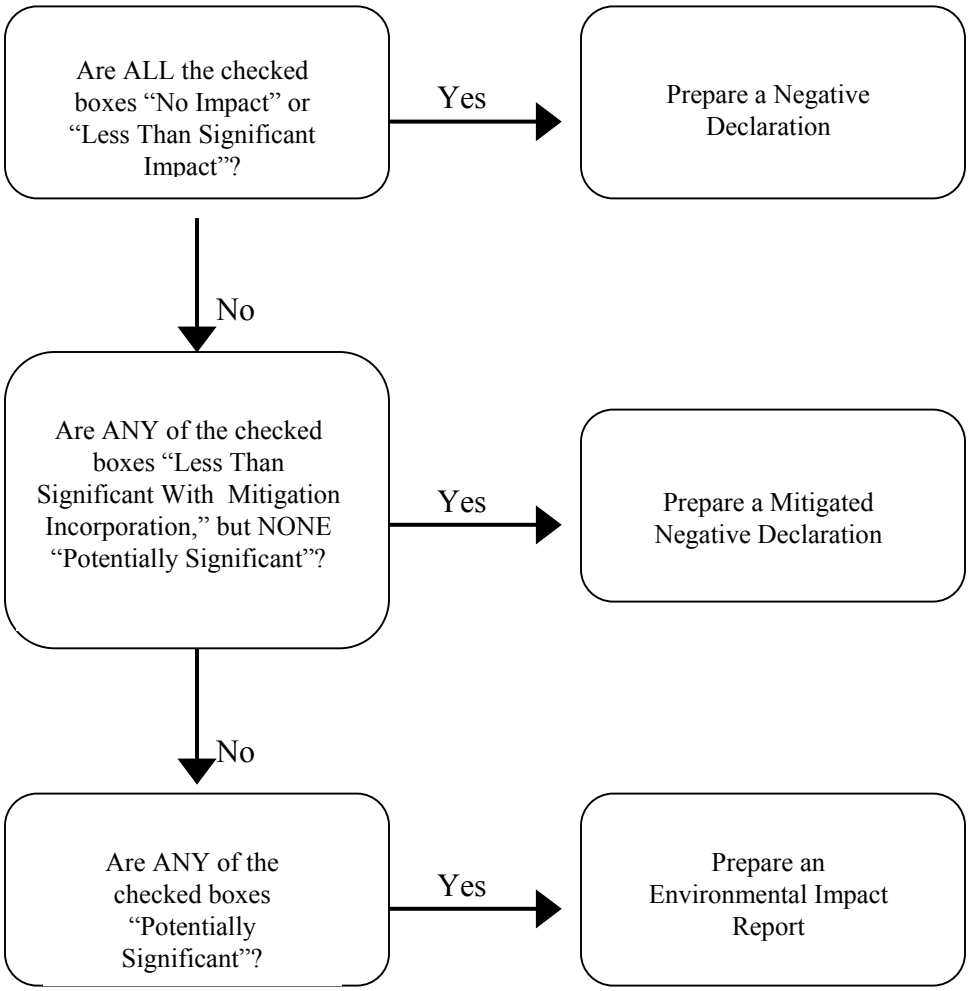
Notes: Assumes project is not exempt under CEQA.
The noise exposure chart prepared by the DHS is reproduced in the *Thresholds Guide.*
If the noise level before and/or after mitigation is not known or cannot be determined, additional analysis could be undertaken prior to completing the Initial Study Evaluation or within an EIR.

Exhibit 2
INITIAL STUDY CHECKLIST PROCESS*



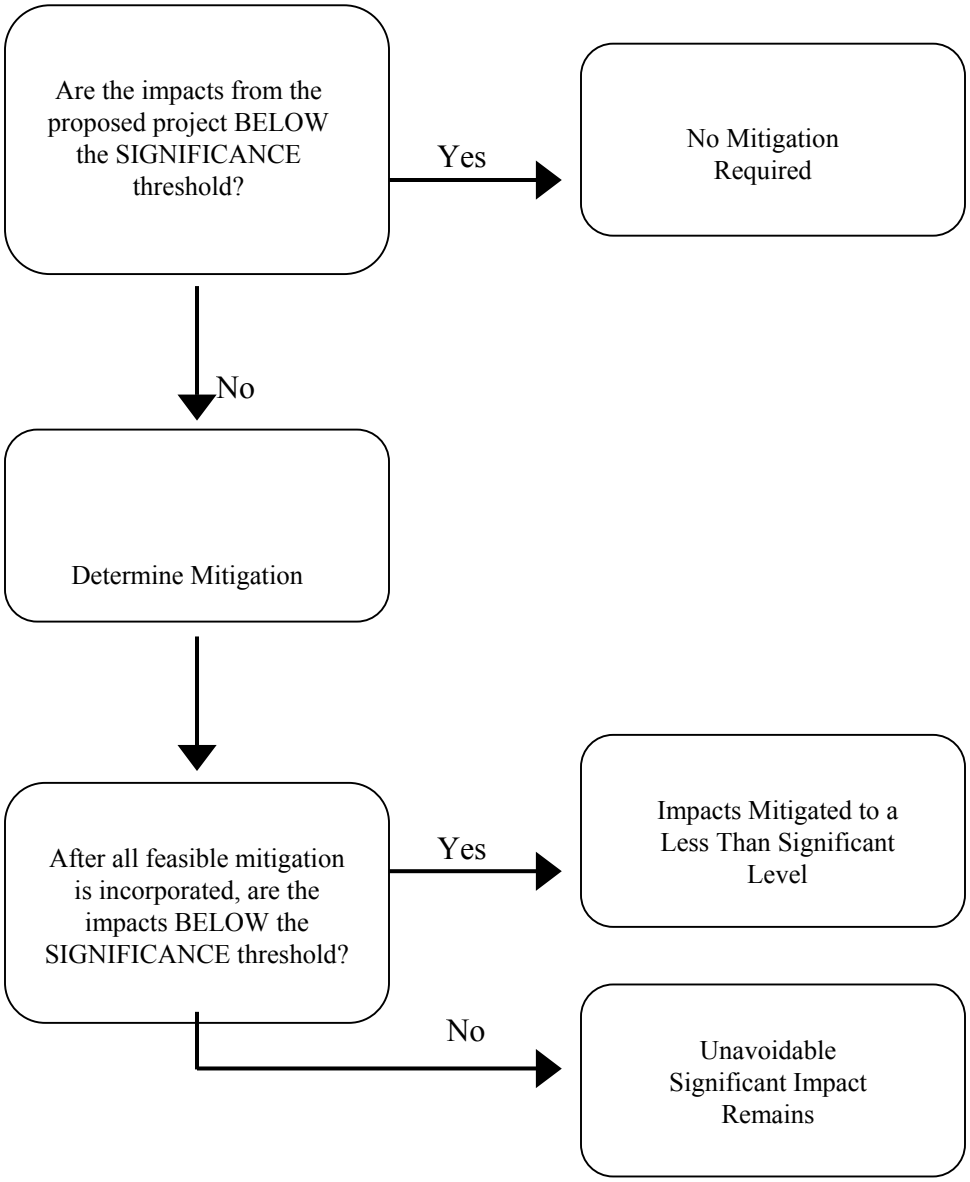
* *Assumes the project has had no previous review and is not exempt under CEQA.*

Exhibit 3
INITIAL STUDY DETERMINATION*



* *Assumes the project is not exempt under CEQA.*

Exhibit 4
IMPACT EVALUATION AND MITIGATION PROCESS



Note: If a project would result in one or more significant impacts, the lead agency, prior to project approval, must adopt certain findings as stated in CEQA Section 21081. Additional requirements related to mitigation measures are described in Section 21081.6.

DOCUMENT STRUCTURE

The *Los Angeles CEQA Thresholds Guide* is arranged by issue area, generally in the same order in which the issues appear in the State's Initial Study Checklist. The major environmental categories covered in the document are as follows:

- Air Quality
- Biological Resources
- Cultural Resources
- Geology
- Hazards
- Land Use
- Noise
- Population and Housing
- Public Services
- Public Utilities
- Transportation
- Visual Resources
- Water Resources

For each environmental issue area, the following information is provided:

1. Initial Study Screening Process

Initial Study Checklist Question: This lists the question(s) from the State's Initial Study Checklist addressed within this issue area.

Introduction: The introduction provides a brief description of the issue area, including what types of project activities could be expected to have an impact, how the resource/issue would be affected, and important regulatory agencies and/or regulations.

Screening Criteria: The screening criteria assist in deciding when further study (additional review) is needed to determine whether a project impact could be significant. It assumes that the project is not exempt from CEQA requirements. Criteria are phrased as yes/no questions. For many issue areas, further study is recommended when one or more questions are answered with a "yes." A "no" response to all questions indicates that further study is not required, and there would normally be no significant impact from the proposed project on the subject issue.

Evaluation of Screening Criteria: This section contains any additional information needed to apply the screening criteria and identifies references that may be used in the evaluation.

2. Determination of Significance

Significance Threshold: The significance threshold provides guidance in determining whether or not a project impact would be significant. The threshold assumes that a project

exceeds the screening criteria. The quantitative and qualitative thresholds are phrased in the positive, so that if the project meets one or more of the criteria listed (a "yes" response), it would normally be considered to have a significant impact on the environment. Where a definitive threshold is not available, the *Thresholds Guide* provides case-by-case thresholds which consist of a list of conditions or criteria to be considered for an individual determination of significance.

Environmental Setting: This section identifies the type of information that is appropriate for a project setting or background section.

Project Impacts: This section provides a recommended methodology with which to analyze the proposed project, including the identification and evaluation of direct and indirect impacts, as appropriate, that may occur during construction or operation. It also identifies sources of relevant information and technical resources, and provides the basic steps to follow in the analysis. Impact methodologies are assumed to apply to both project level and plan level analyses unless otherwise specified. Other analysis methods may be appropriate, depending on project circumstances.

Cumulative Impacts: This section presents a method to evaluate cumulative impacts, based on either a related projects list or a planned development approach (the amount of overall growth expected for the project area, according to planning documents or forecasts, by the time of project completion). The methodology describes only the type of analysis that is appropriate and does not address the size or location of related projects to consider in the analysis. In cases where the methodology is the same as that for project impacts, the project impact section is referenced rather than repeating the information.

Sample Mitigation Measures: This section provides a sample list of measures that may be used to reduce project impacts. It does not address specific mitigation measures for certain project types, nor does it recommend or prioritize mitigation measures. Consideration of alternative projects (e.g., smaller scale, different uses) to reduce impacts is assumed to be part of the project alternatives analysis required in an EIR and is not included in the sample mitigation measures listed in the *Thresholds Guide*.

3. Data, Resources, and References

This section provides additional information related to the environmental issue. It may contain references to agencies or others with expertise in the subject area, reference documents, and selected legislation. For references that do not identify an agency or author, the entry refers to the City of Los Angeles. Several sections also provide exhibits and/or supplemental background information that illustrates or further explains concepts addressed in the section.

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Public Works/Bureau of Street Lighting
Recreation and Parks

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INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE

INITIAL STUDY CHECKLIST QUESTION	THRESHOLDS GUIDE SECTION
I. AESTHETICS: *Would the project:*	
a) Have a substantial adverse effect on a scenic vista?	A.1 Aesthetics A.2 Obstruction of Views
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	A.1 Aesthetics E.3 Landform Alterations
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	A.1 Aesthetics A.3 Shading
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	(Glare Not Addressed) A.4 Nighttime Illumination

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

INITIAL STUDY CHECKLIST QUESTION	THRESHOLDS GUIDE SECTION
II. 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 famland. Would the project:*	(Agriculture Not Addressed)
III. 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?	B.1 Construction Emissions B.2 Operational Emissions B.3 Toxic Air Contaminants
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	B.1 Construction Emissions B.2 Operational Emissions B.3 Toxic Air Contaminants

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

INITIAL STUDY CHECKLIST QUESTION	THRESHOLDS GUIDE SECTION
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)?	B.1 Construction Emissions B.2 Operational Emissions
d) Expose sensitive receptors to substantial pollutant concentrations?	B.1 Construction Emissions B.2 Operational Emissions B.3 Toxic Air Contaminants
e) Create objectionable odors affecting a substantial number of people?	B.2 Operational Emissions
IV. BIOLOGICAL RESOURCES: *Would the project:*	
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by California Department of Fish and Game or U.S. Fish and Wildlife Service?	C. Biological Resources

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

INITIAL STUDY CHECKLIST QUESTION	THRESHOLDS GUIDE SECTION
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	C. Biological Resources
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	C. Biological Resources
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	C. Biological Resources
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	C. Biological Resources
f) Conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional, or state habitat conservation plan?	C. Biological Resources

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

V. CULTURAL RESOURCES: *Would the project:*		
a) Cause a substantial adverse change in the significance of a historical resource as defined in'15064.5?	D.3	Historical Resources
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?	D.2	Archaeological Resources
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	D.1	Paleontological Resources
	E.3	Landform Alterations
d) Disturb any human remains, including those interred outside of formal cemeteries?	D.2	Archaeological Resources

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

VI.	**GEOLOGIC PROBLEMS:** *Would the project:*		
a)	Expose people 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 Publications 42.	E.1	Geologic Hazards
ii)	Strong seismic ground shaking?	E.1	Geologic Hazards
iii)	Seismic-related ground failure, including liquefaction?	E.1	Geologic Hazards
iv)	Landslides?	E.1	Geologic Hazards
b)	Result in substantial soil erosion or the loss of topsoil?	E.2	Sedimentation and Erosion
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?	E.1	Geologic Hazards

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks of life or property?	Not Addressed	
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?	E.3	Landform Alteration
VII. 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?	F.1 F.2	Risk of Upset/Emergency Preparedness Human Health Hazards
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	F.1 F.2	Risk of Upset/Emergency Preparedness Human Health Hazards
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	F.2	Human Health Hazards

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

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?	F.2	Human Health Hazards
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?	F.1 K.2	Risk of Upset/Emergency Preparedness Fire Protection & Emergency Medical Services
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working within the project area?	F.1 K.2	Risk of Upset/Emergency Preparedness Fire Protection & Emergency Medical Services
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	F.1 K.2	Risk of Upset/Emergency Preparedness Fire Protection & Emergency Medical Services
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?	K.2	Fire Protection & Emergency Medical Services

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

VIII. HYDROLOGY AND WATER QUALITY: *Would the project:*			
a)	Violate any water quality standards or waste discharge requirements?	G.2	Surface Water Quality
b)	Substantially deplete 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)?	G.2 G.3	Surface Water Quality Groundwater Level
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?	G.1 G.2	Surface Water Hydrology Surface Water Quality
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 amount of surface runoff in a manner which would result in flooding on- or off-site?	G.1	Surface Water Hydrology

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	G.1	Surface Water Hydrology
f)	Otherwise substantially degrade water quality?	G.3	Groundwater Level
g)	Place housing within a 100-year flood hazard area as mapped on a federal flood hazard Boundary or flood Insurance Rate Map or other flood hazard delineation map?	G.1 G.2 G.3 G.4	Surface Water Hydrology Surface Water Quality Groundwater Level Groundwater Quality
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	G.4	Groundwater Quality
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	G.1 G.3	Surface Water Hydrology Groundwater Level
j)	Inundation by seiche, tsunami, or mudflow?	E.1 G.3	Geologic Hazards Groundwater Level

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

IX.	**LAND USE AND PLANNING:** *Would the project:*		
a)	Physically divide an established community?	H.2	Land Use Compatibility
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding mitigating an environmental effect?	H.1 H.2	Land Use Consistency Land Use Compatibility
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	H.1 H.2	Land Use Consistency Land Use Compatibility
X.	**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?	E.4	Mineral Resources
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, general plan, or other land use plan?	E.4	Mineral Resources

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

XI. 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?	I.1 I.2 I.3 I.4	Construction Noise Operational Noise Railroad Noise Airport Noise
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	I.1 I.2 I.3 I.4	Construction Noise Operational Noise Railroad Noise Airport Noise
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	I.2 I.3 I.4	Operational Noise Railroad Noise Airport Noise
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above the existing without the project?	I.1 I.2 I.3 I.4	Construction Noise Operational Noise Railroad Noise Airport Noise

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

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 expose people residing or working in the project area to excessive noise levels?	I.1 I.2 I.4	Construction Noise Operational Noise Airport Noise
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	I.1 I.2 I.4	Construction Noise Operational Noise Airport Noise
XII.	**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)?	J.1	Population and Housing Growth
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	J.1 J.2	Population and Housing Growth Population and Housing Displacement
c)	Displace substantial numbers of existing people, necessitating the construction of replacement housing elsewhere	J.2	Population and Housing Displacement

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

XIII. PUBLIC SERVICES: *Would the project:*			
a)	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the above public services:	K.1	Police Protection
i)	Fire protection?	K.2	Fire Protection & Emergency Medical Services
ii)	Police protection	K.1	Police Protection
iii)	Schools?	K.3	Public Schools
iv)	Parks?	K.4	Recreation and Parks
v)	Other public facilities?	K.5	Libraries

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

XIV. RECREATION:			
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the family would occur or be accelerated?	K.4	Recreation and Parks
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?	K.4	Recreation and Parks
XV. TRANSPORTATION/TRAFFIC: *Would the project:*			
a)	Cause an increase in 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?	L.1 L.2 L.3 L.4 L.8	Intersection Capacity Street Segment Capacity Freeway Capacity Neighborhood Intrusion Impacts In-Street Construction Impacts
b)	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	L.1 L.2 L.3	Intersection Capacity Street Segment Capacity Freeway Capacity

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

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?	Not Addressed	
d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Not Addressed	
e)	Result in inadequate emergency access?	L.5	Project Access
f)	Result in inadequate parking capacity?	L.7	Parking
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	L.6	Transit System Capacity
XVI. UTILITIES AND SERVICE SYSTEMS: *Would the project:*			
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	M.2	Wastewater
b)	Require or result in the construction of new water or wastewater treatment facilities, the construction of which could cause significant environmental effects?	G.1 M.1 M.2	Surface Water Hydrology Water Wastewater

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

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?	G.1 M.2	Surface Water Hydrology Wastewater
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	M.1	Water
e)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	K.2	Wastewater
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	K.3	Solid Waste
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	M.3	Solid Waste

INITIAL STUDY CHECKLIST QUESTIONS AND RELATED SECTIONS IN L.A. CEQA THRESHOLDS GUIDE, continued

XVII. MANDATORY FINDINGS OF SIGNIFICANCE: *Does the project:*		
a)	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?	All sections, particularly: C. Biological Resources D.1 Paleontological Resources D.2 Archaeological Resources D.3 Historical Resources
b)	Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	All Sections
c)	Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Not addressed specifically, each section addresses indirectly

LIST OF ABBREVIATIONS/ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
ACEC	Areas of Critical Concern
ACM	asbestos-containing material
ACOE	United States Army Corps of Engineers
ADT	average daily traffic
AEM	Area Equivalent Method
AEP	Association of Environmental Professionals
AF	acre feet
AQMP	Air Quality Management Plan
AQ-TAN	Air Quality Technical Analysis Note
ARMR	Archaeological Resource Management Reports
ASTM	American Society of Testing Methods
ATSAC	Automated Traffic Surveillance and Control
AVORS	Additional Valley Outfall Relief Sewer
AVR	average vehicle ridership
BACM	Best Available Control Measures
BACT	Best Available Control Technologies
Basin	South Coast Air Basin
BLM	Bureau of Land Management
BMP	best management practices
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAC	California Administrative Code
CAL3QHC	air quality model
California Register	California Register of Historical Resources
CALINE/4	air quality model
CalOSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAP	Clean Air Program
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBD	Central Business District
CCAA	California Clean Air Act
CCR	California Code of Regulations
CCSCE	Center for the Continuing Study of the California Economy
CDD	Community Development Department
CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CEQ	Council of Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGC	California Government Code
CHAS	Comprehensive Housing Affordability Study
CHC	Cultural Heritage Commission
CIP	Capital Improvement Program
CIS	Coastal Interceptor Sewer

List of Abbreviations/Acronyms, continued

CiSWMPP	City Solid Waste Management Policy Plan
CIWMB	California Integrated Waste Management Board
CMA	Critical Movement Analysis
CMP	Congestion Management Program
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
COS	Central Outfall Sewer
CRA	Community Redevelopment Agency
CRV	California Redemption Value
cu.yd.	cubic yards
CWA	Clean Water Act
CWC	California Water Code
D/C	demand to capacity
dB	decibel
dBA	A-weighted decibel scale
DFO	Designated Federal Official
DHS	Department of Health Services
DMV	California Department of Motor Vehicles
DOF	Department of Finance
DOT	United States Department of Transportation
DWP	Department of Water and Power
DWR	Department of Water Resources
EAD	Environmental Affairs Department
EDI	City of Los Angeles Environmental Data Index
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMFAC	emission factors
EPA	U.S. Environmental Protection Agency
ERCs	Emission Reduction Credits
EVIS	East Valley Interceptor Sewer
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FLMPA	Federal Land Management and Policy Act of 1976
gpcd	gallons per capita per day
gpd	gallons per day
gpm	gallons per minute
Gr.sq.ft.	gross square feet
gsf	gross square feet
HABS	Historic American Building Survey
HAPs	Hazardous Air Pollutants
HI	hazard index

List of Abbreviations/Acronyms, continued

HNM	Helicopter Noise Model
HOV	high occupancy vehicles
HPOZ	Historic Preservation Overlay Zone
HRA	health risk assessment
HSC	Health and Safety Code
HTP	Hyperion Treatment Plant
HUD	Department of Housing and Urban Development
HVAC	heating, ventilation, and air conditioning
ICO	interim control ordinance
INM	Integrated Noise Model
ISWM	Integrated Solid Waste Management
ISWMO	Integrated Solid Waste Management Office
ITE	Institute of Transportation Engineers
IWG	Interagency Working Group
L.A.	Los Angeles
LACMTA	Los Angeles County Metropolitan Transportation Authority
LADOT	Los Angeles Department of Transportation
LAFD	Los Angeles Fire Department
LAGWRP	Los Angeles-Glendale Water Reclamation Plant
LAMC	Los Angeles Municipal Code
LAPD	Los Angeles Police Department
LAPL	Los Angeles Public Library
LARWQCB	Los Angeles Regional Water Quality Control Board
LAUSD	Los Angeles Unified School District
LAX	Los Angeles International Airport
Ldn	Day-Night Sound Level
LEQV2	noise model
LGC	Local Government Commission
LOS	level of service
LUPAMS	Land Use Planning and Mapping System
LUST	leaking underground storage tank
MAAQI	Mobile Assessment for Air Quality Impacts
MACT	Maximum Achievable Control Technology
MFI	Median Family Income
mgd	million gallons per day
MOU	Memorandum of Understanding
mph	miles per hour
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MUTCD	Manual on Uniform Traffic Control Devices
MWD	Metropolitan Water District of Southern California
NAAQS	National Ambient Air Quality Standard
NAGPRA	Native American Graves Protection and Repatriation Act of 1990
National Register	National Register of Historic Places
NCHRP	National Cooperative Highway Research Program
NCOS-NOS	North Central Outfall Sewer-North Outfall Sewer

List of Abbreviations/Acronyms, continued

NEJAC	National Environmental Justice Advisory Council
NEPA	National Environmental Policy Act
NESHAPs	National Emissions Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NORS	North Outfall Replacement Sewer
NOS	North Outfall Sewer
NOS-LCSFVRS	North Outfall Sewer-La Cienega, San Fernando Valley Relief Sewer
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NSPS	New Source Performance Standard
NSR	New Source Review
OEJ	Office of Environmental Justice
OHP	California Office of Historic Preservation
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	lead
PM	particulate matter
PM_{10}	coarse particulates
$PM_{2.5}$	fine particulates
POD	Pedestrian Oriented District
PRC	Public Resources Code
RACM	Reasonably Available Control Measures
RCP&G	Regional Comprehensive Plan and Guide
RD	Reporting District
RECLAIM	Regional Clean Air Incentives Market
ROG	Reactive Organic Gas
ROW	right-of-way
RTCs	RECLAIM Trading Credits
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SEA	Significant Ecological Area
sf	square feet
SIP	State Implementation Plan
SMGB	State Mining and Geology Board
SO_2	sulfur dioxide
SOCAB	South Coast Air Basin
SOUND32	noise model
SOV	single occupant vehicle
SO_x	sulfur oxides
sq.ft.	square feet

List of Abbreviations/Acronyms, continued

SRRE	Source Reduction and Recycling Element
TDM	Transportation Demand Management
The Gas Company	Southern California Gas Company
TIA	Transportation Impact Assessment
TITP	Terminal Island Treatment Plant
TOD	Transit Oriented District
TRB	Transportation Research Board
TSM	Transportation System Management
TSP	Transportation Specific Plan
TWRP	Donald C. Tillman Water Reclamation Plant
U.S.	United States
UCLA	University of California at Los Angeles
ULARA	Upper Los Angeles River Area
ULI	Urban Land Institute
USAF	United States Air Force
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
V/C	Volume to Capacity
VOC	Volatile Organic Compound
WDR	Waste Discharge Requirements
ZI	Zoning Information

GLOSSARY

Alternatives - A range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain the project's objectives but would avoid or substantially lessen any of the significant effects of the project. The comparative merits of the alternatives are evaluated in an EIR or EIS.

Applicant - A legal entity or person who proposes to carry out a project and needs a lease, permit, license, certificate, or other entitlement for use, or who is requesting financial assistance from one or more public agencies to carry out a project.

Approval - The action by a decision-making body, which commits the City to a definite course of action with regard to a project, intended to be carried out by any person.

California Environmental Quality Act (CEQA) - Statute enacted by the California legislature contained in the California Public Resources Code, Section 21000 et seq. The *Thresholds Guide* provides guidance on the determination of significant impacts, one provision of CEQA.

California Law – California Law consists of 29 codes, covering various subject areas, the State Constitution and Statutes. Codes included the following: Business and Professions Code, Civil Code, Code of Civil Procedure, Commercial Code, Corporations Code, Education code, Election Code, Evidence Code, Family Code, Financial Code, Fish and Game Code, Food and Agricultural Code, Government Code, Harbors and Navigation Code, Health and Safety Code, Insurance Code, Labor Code, Military and Veterans Code, Penal Code, Probate Code, Public Contract Code, Public Resources Code, Public Utilities Code, Revenue and Taxation Code, Streets and Highways Code, Unemployment Insurance Code, Vehicle Code, Water Code, and Welfare and Institutions Code.

Categorical Exemption - An exemption from the requirements of CEQA based on a finding by the Secretary For Resources and the Los Angeles City Council that certain types of projects do not have a significant effect on the environment.

CEQA Guidelines - The CEQA Guidelines provide agencies with criteria and procedures for the evaluation of projects and the preparation of environmental documents. The State CEQA Guidelines are contained in Title 14, Division 6 of the California Administrative Code. The Los Angeles City CEQA Guidelines are adopted by ordinance of the City Council.

Code of Federal Regulations (CFR) - is a codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government. The CFR is divided into 50 titles, which represent broad areas subject to Federal regulation. Each title is divided into chapters, which usually bear the name of the issuing agency. Each chapter is further subdivided into parts covering specific regulatory areas. Large parts may be subdivided into subparts.

Community Plan – A portion of the General Plan that focuses on the setting and

needs of a particular area. It supports the policies of the General Plan. Los Angeles has 35 Community Planning Areas. The 35 Community Plans make up the City's Land Use Element.

Decision-Making Body - A group or individual having project approval authority.

Discretionary Project - An activity defined as a project which requires the exercise of judgment, deliberation, or a decision on the part of the public agency or body in the process of approving or disapproving a particular activity, as distinguished from activities where the public agency or body merely has to determine whether there has been compliance with applicable statutes, ordinances, or regulations.

Entitlement - Used to describe discretionary land use approval granted by the Planning Department. Includes Zone Variances, Zone Changes, Conditional Use Permits, General Plan Amendments, Specific Plan Exceptions, Subdivisions, Parcel Maps, and Site Plan Review.

Environment - Environment, for the purposes of implementing CEQA, is the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Environmental and Public Facilities Maps - Show the location of and describe various environmental features and public facilities. The City Planning Department Citywide Division prepared the 42 maps in 1996.

Environmental Assessment Form (EAF) - An environmental form submitted to the Environmental Review Section of the City Planning Department which provides the necessary information to determine the recommended environmental clearance for projects requiring any discretionary action.

Environmental Data Index (EDI) – The EDI is a citywide tabular report describing the geographical distribution of a wide array of environmental characteristics on a census tract basis. Data for 30 environmental elements are included. The City Planning Department prepared the EDI in 1978.

Environmental Documents- Environmental documents, according to CEQA, include Initial Study, Negative Declaration, draft and final EIR, Joint EIR/EIS, Notice of Preparation and General Exemption, Notice of Completion, Notice of Determination, and Notice of Exemption.

Environmental Impact Report (EIR) - An Environmental Impact Report is a concise statement setting forth the environmental effects and considerations pertaining to a project as specified in Section 21100 of CEQA.

Environmental Impact Statement (EIS) - An Environmental Impact Statement may be required pursuant to the National Environmental Policy Act (NEPA) if a federal agency or funding is involved. Like an EIR, an EIS describes the environmental impacts of a proposed project and its alternatives.

Feasible - Feasible means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

Federal Register – The Federal Register is the official daily publication for Rules, Proposed rules, and Notices of Federal agencies and organizations, as well as Executive Orders and other Presidential Documents.

Framework Element – This strategy for long-term growth sets a citywide context to guide the update of the Community Plans and citywide elements of the General Plan. The Framework Element refines adopted City policy and updates and supersedes Concept Los Angeles, a strategy to preserve residential neighborhoods by focusing growth into centers. Approved by City Council in December 1996.

General Exemption - An exemption from the requirements of CEQA is granted if it can be seen with reasonable certainty that the project in question could not possibly have a significant effect on the environment.

General Plan – A "blueprint" for future development with a long-term outlook. Required by State law to be prepared by each county and city and include seven elements: land use, circulation, housing, conservation, open space, noise, and safety. May also include optional elements. Includes policies, goals, objectives, and programs. Development must not only meet specific zoning requirements, but also the broader policies, goals and objectives set forth in the General Plan. The City's General Plan is organized into the following Elements: Framework; Land Use; Air Quality; Transportation; Housing; Infrastructure Systems; Open Space and Conservation; Noise; Public Facilities and Services; Historic Preservation and Cultural Resources; Safety; and Urban Form and Neighborhood Design.

Initial Study - A comprehensive analysis of those aspects of the environment, which could potentially affect a project or be affected by a project conducted to determine whether a project may have a significant effect on the environment.

Lead Agency - The public agency which has the principal responsibility for carrying out or approving a project. The Lead Agency will prepare the environmental documents for the project either directly or by contract.

Lead City Agency - A Lead City Agency is the City department, bureau, division, section, office, or agency which has the principal responsibility of carrying out a project which is subject to the provisions of CEQA, or has the principal responsibility for processing the application for a lease, permit, license, or other entitlement for use for a project which is subject to the provisions of CEQA. If more than one City Agency meets the Lead City Agency criteria, the Lead City Agency shall be the City Agency that normally acts first on such projects.

Ministerial Project - Activities undertaken by public agencies pursuant to a statute, ordinance, or regulation that sets forth the conditions upon which the undertaking must or must not be granted. A ministerial decision involves only the use of fixed standards or objective measurements without professional judgment.

Mitigated Negative Declaration (MND) - When significant impacts may occur as a result of the implementation of a project, but mitigation and/or project modification reduce impacts to a less than significant level, then a Mitigated Negative Declaration

is issued with discussion and conditions attached.

Mitigation - Mitigation includes avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or compensating for the impact by replacing or providing substitute resources or environments.

National Environmental Policy Act (NEPA) - The National Environmental Policy Act is the federal law requiring an environmental assessment for federal actions that involve impacts on the environment. NEPA is set forth in 42 U.S.C.A. 4321 et seq.

Negative Declaration (ND) - A statement by the Lead Agency briefly setting forth the reasons why the project, although not otherwise exempt, will not have a significant effect on the environment and therefore does not require the preparation of an EIR.

Notice of Completion (NOC) - A brief notice filed with the State Clearinghouse in the Governor's Office of Planning and Research by a Lead Agency as soon as it has completed a draft EIR and is prepared to send out copies for review.

Notice of Determination (NOD) - A public notice filed with the City and County Clerk by the Lead City Agency after a project subject to the provisions of CEQA and involving a Negative Declaration, Mitigated Negative Declaration or an EIR has been approved.

Notice of Exemption (NOE) - A public notice which may be filed with the City and County Clerk by a Lead City Agency after the decision-making body has approved a project and has determined that it is a ministerial, categorically exempt, or emergency project, or is otherwise exempted pursuant to the provisions of Section 21080 (b) of the California Public Resources Code.

Notice of Preparation (NOP) - A brief notice sent by a Lead City Agency to notify Responsible Agencies and interested parties that the Lead City Agency plans to prepare an EIR for a proposed project.

Office of Planning and Research (OPR) - Assists in the understanding and implementation of CEQA by (1) preparing and updating the State CEQA Guidelines; (2) evaluating Categorical Exemptions; (3) distributing documents to state agencies through the State Clearinghouse; (4) coordinating between other public agencies; and (5) preparing and distributing publications related to the understanding and use of CEQA.

Participating City Agency - A City department, bureau, division, section, office, officer, or agency, which is required by Charter or action of the City Council to review a particular class of projects and make comments or recommendations to the Lead City Agency.

Responsible Agency - A public agency, such as a city or county, which proposes to carry out or has approval power over a project, but is not the Lead Agency for the project.

Significant Effect - A substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the proposed activity including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. This *Thresholds Guide* is intended to assist in the determination of significant effects.

Specific Plan – describes the allowable land uses, identifies open space, and details infrastructure availability and financing for a portion of a community. Specific plans implement, but are not technically a part of the General Plan. Los Angeles has various specific plans throughout the City, such as West Los Angeles, Warner Center, etc.

State Clearinghouse - In the Governor's Office of Planning and Research. Responsible for distributing environmental documents to state agencies, departments, boards, and commissions for review and comment. Coordinates the responses to ensure accurate and consistent responses from the state.

Statement of Overriding Considerations - A statement with findings identifying public objectives that, in the opinion of the decision-making body, warrant approval of a project notwithstanding its significant adverse impact(s) on the environment.

Statutory Exemption - Exemption from the requirements of CEQA based on the determination by the California Legislature that a specific type of project should be exempt from CEQA.

Zoning – The purpose of zoning regulations is to implement the policies of the General Plan. Zoning lists the kinds of uses allowed on a parcel and sets standards such as minimum lot size, maximum building height, and minimum front yard depth. Zoning must comply with the general plan, is adopted by ordinance, and carries the weight of local law. The City's Zoning is found in Chapter 1 of the Los Angeles Municipal Code (LAMC).

A. AESTHETICS AND VISUAL RESOURCES

A. AESTHETICS AND VISUAL RESOURCES

INTRODUCTION

Aesthetics, views, shading, and nighttime illumination issues are related elements in the visual environment. Aesthetics generally refer to the identification of visual resources and the quality of what can be seen, or overall visual perception of the environment. Views refer to visual access and obstruction, or whether it is possible to see a focal point or panoramic view from an area. Shading issues are concerned with effects of shadows cast by existing or proposed structures on adjacent land uses. Nighttime illumination addresses the effects of a proposed project's exterior lighting upon adjoining uses.

A.1. AESTHETICS

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

I.a): Would the project have a substantial adverse effect on a scenic vista?
I.b): Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
I.c): Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

B. Introduction

Aesthetic impact assessment generally deals with the issue of contrast, or the degree to which elements of the environment differ visually.[1] Aesthetic features occur in a diverse array of environments, ranging in character from urban centers to rural regions and wildlands. Adverse visual effects can include the loss of natural features or areas, the removal of urban features with aesthetic value, or the introduction of contrasting urban features into natural areas or urban settings.[2]

Natural features may include, but are not limited to: open space; native or ornamental vegetation/landscaping; topographic or geologic features; and natural water sources. The loss of natural aesthetic features or the introduction of contrasting urban features may have a local impact, or, if part of a larger landscape, may contribute to a cumulative decline in overall visual character.

Urban features that may contribute to a valued aesthetic character or image include: structures of architectural or historic significance or visual prominence; public plazas, art or gardens; heritage oaks or other trees or plants protected by the City; consistent design elements (such as setbacks, massing, height, and signage) along a street or district; pedestrian amenities; landscaped medians or

[1] *Visual contrast has four components: form, line, color and texture. Differences in these elements generate visual contrast. The Bureau of Land Management (BLM) (Contrast Rating System), Soil Conservation Service (Visual Absorption Capability), and Federal Highway Administration (FHWA) (Visual Absorption Capacity) all utilize established qualitative and quantitative methods to measure potential visual impacts and the ability of natural areas to absorb visual impacts.*

park areas; etc. Aesthetic character may be purposely generated, nurtured or preserved, as is the case with City-designated scenic corridors and historical districts, or may exist without such cause or purpose, such as may be the case with certain retail districts or residential neighborhoods.

The introduction of contrasting features or development into aesthetically valued urban areas can overpower familiar features, eliminate context or associations with history, or create visual discord where there have been apparent efforts to maintain or promote a thematic or consistent character.

There is an extraordinary range of aesthetic characteristics and contrasts within the City of Los Angeles, including suburban neighborhoods, dense urban areas, the Port, airports, and hillside residential areas. Given the size and diversity of the City, there are no aesthetic standards that apply to all areas. However, the Community Plan and any applicable specific plan, local coastal plan, or redevelopment plan may contain specific guidelines and requirements related to aesthetics. General aesthetic requirements that apply to individual zoning districts or to types of land uses are provided in the Los Angeles Municipal Code (LAMC). Selected requirements, including the Landscape Ordinance, are included in Exhibit A.1-1. While certain screening and significance thresholds can be identified for this issue, a degree of discretionary judgment may be required to determine the "value" of the aesthetic resource and potential project impacts.

C. Screening Criteria

- Does the project include a proposed zone change or variance that would increase density, height, and bulk in areas where there is a consistent theme, style, or building height and setbacks?

- Does the project include a proposal to develop or allow development in an existing natural open space area (not including previously developed or infill lots)?

- Would the project result in the removal of one or more features that contribute to the valued aesthetic character or image of the neighborhood, community, or localized area?

- Would the project introduce features that would detract from the existing valued aesthetic quality of a neighborhood, community, or localized area by conflicting with important aesthetic elements or the quality of the area (such as theme, style, setbacks, density, massing, etc.) or by being inconsistent with applicable design guidelines?

[2] *See C. BIOLOGICAL RESOURCES, as appropriate.*

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration or EIR may be required. Refer to the Significance Threshold for Aesthetics, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to all of the preceding questions indicates that there would normally be no significant impact on Aesthetics from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project, including drawings or renderings. Features that contribute to a valued aesthetic image may include, but are not limited to: structures of architectural or historical significance or visual prominence; public plazas, art, or gardens; heritage oaks or other trees protected by the City; or other features of recognized value to the aesthetic or visual character of an area. Projects that detract from the existing aesthetic quality of an area may include, but are not limited to, major contrasts in building height and bulk (e.g., buildings "too big" for a street), excessive vegetation loss or grading of slopes in natural areas, introduction of high rise structures in low density areas, etc. Compare the project features with the existing characteristics of the project site and the surrounding area. Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

The determination of significance shall be made on a case-by-case basis, considering the following factors:

- The amount or relative proportion of existing features or elements that substantially contribute to the valued visual character or image of a neighborhood, community, or localized area, which would be removed, altered, or demolished;

- The amount of natural open space to be graded or developed;

- The degree to which proposed structures in natural open space areas would be effectively integrated into the aesthetics of the site, through appropriate design, etc;

- The degree of contrast between proposed features and existing features that represent the area's valued aesthetic image;

- The degree to which a proposed zone change would result in buildings that would detract from the existing style or image of the area due to density, height, bulk, setbacks, signage, or other physical elements;

- The degree to which the project would contribute to the area's aesthetic value; and

- Applicable guidelines and regulations.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Identification and description of the natural or built feature(s) that gives the existing neighborhood/local area its valued aesthetic character or image;

- Summary of adopted plans or policies that relate to the aesthetics of the project area, such as those found in a specific plan, Redevelopment Plan, local coastal plan, the Community Plan, or the Planning and Zoning Code, including the Landscape Ordinance; and

- Description of any feature on the project site or in the surrounding area that is listed, designated or otherwise recognized by the City (e.g., a scenic corridor, historic district, heritage oak trees).

Project Impacts

Based on the project description, and a review of the project site and surrounding area, identify the degree to which the proposed project would result in the loss, removal, alteration, or destruction of any existing natural or urban aesthetic feature(s) that contributes to the valued aesthetic character of the area. In addition, identify the major features of the proposed project that would be added to the site, including building heights, bulk, setbacks, architectural style, or any proposed zone changes or variances. Evaluate the degree to which the introduction of new features or the loss of existing aesthetic elements would alter, degrade, or contrast with the existing valued aesthetic character of the area.

Examples of contrast in areas where there is a consistent architectural theme, style or other aesthetic character could include, but are not limited to, the following:

- The project's architectural style, building materials, massing, or size would contrast with adjacent development, such that the value or quality of the area is diminished;

- The project would cause or contribute to a change in the overall character of the area (e.g., from residential to commercial, single-family to multi-family, etc.) and/or new development would contrast with existing architectural styles or themes; and

- The project would grade or remove open space or natural lands and introduce contrasting built features.

Cumulative Impacts

Review the list of related projects and identify those projects that would result in the removal, alteration, or destruction of similar aesthetic features as the proposed project, and/or would add structural or other features that would contrast conspicuously with the valued aesthetic character of the same area as the project. Consider both natural and built features that give the area its image or character. Determine whether the impact of the related projects, in combination with the proposed project, would result in a significant aesthetic impact, using the methodology described above.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Replace existing natural aesthetic features proposed for removal;

- Minimize grading of natural and semi-natural open space;

- Modify structure design to eliminate or screen contrasting/detracting features;

- Consider adaptive reuse of important existing structures;
- Place new utilities underground, where appropriate;

- Incorporate policies and/or design which effectively integrates natural aesthetics into the project (i.e., cluster development, greenbelts, landscaping, etc.);

- Utilize architectural styles, materials, scale, massing, setbacks, signage, circulation patterns, pedestrian orientation, streetscape amenities, and landscaping common to and/or consistent with the character of existing surrounding uses;

- Continue the existing aesthetic treatments along the frontage of new structures (such as street furniture, landscaping, street trees, parks, or pedestrian-oriented walks);

- Screen roof and mechanical equipment, garbage dumpsters, and equipment from public view; and

- Use building styles and finishes that integrate effectively with the natural terrain.

See also the Landscape Ordinance for additional suggestions.

3. DATA, RESOURCES, AND REFERENCES

City of Los Angeles General Plan, including Framework Element, Draft Open Space and Conservation Element, Scenic Highways Plan of the Circulation Element, District Plans, Community Plans, and Local Coastal Program. Plans are available from the City Planning Department's Central Maps and Publications office at 200 N. Spring St., 5th Floor, Los Angeles, California 90012; Telephone: (213) 978-1255.

LAMC, Chapter 1, Planning and Zoning Code. Available from the Central Maps and Publications Office (see above), on http://www.lacity.org/PLN/

Landscape Ordinance, No. 170,978 as amended, and Guidelines to Implement the Landscape Ordinance. Available from the Central Maps and Publications Office (see above).

See also C. BIOLOGICAL RESOURCES; and D.3. HISTORICAL RESOURCES

Exhibit A.1-1

SELECTED AESTHETIC-RELATED REGULATIONS IN THE LOS ANGELES MUNICIPAL CODE

Chapter 1, Article 2, Sec. 12.21.1. Building heights and setbacks shall not exceed the maximum heights identified per zoning district in this section.

Chapter 4, Article 6. Oak trees meeting certain requirements shall be relocated or replaced. Oak tree reports shall be prepared for tentative map approval.

Chapter 1, Article 7, Sec. 17.05 S, and T. The Mulholland Scenic Parkway and Valley Circle Boulevard - Plummer Street Scenic Corridor shall have trails along the roadways, which meander within a landscaped parkway. Signs and road related fixtures in the corridor areas to be of a design to blend with the scenic environment. Attractive masonry walls or landscaping shall provide screening of adjacent developments.

Chapter 1, Article 7, Sec. 17.08 F. Subdividers shall either plant street trees or make cash payments for such plantings.

Chapter 1, Article 2, Sec. 12.22 A 23. Mini-shopping centers shall construct a six-foot masonry wall along residential zones and trash storage areas. Three-foot high decorative screening walls or hedges shall be constructed between parking areas and sidewalks/parkways. All center street frontages will include a landscaped setback. At least 5 percent of surface parking areas shall be landscaped. Street frontages and parking areas shall be planted with shade trees. Off-site commercial signs, flashing signs, pole signs or roof signs are prohibited.

Chapter 1, Article 2, Sec. 12.21 A 6(d) and (e), and (i). Public and private parking areas shall be enclosed by a wall, except in the "M2" and "M3" Zones, along an alley, public parking area, or a "P", PB", "C" or "M" Zone. Unimproved or non-parking portions of parking lots shall be landscaped.

Chapter 1, Article 2, Sec. 12.21.1 A 3 (See also Division 62). Restrictions on the number, size and location of parking area signs within "P" and "CR" Zones. Sign plans shall be submitted with applications for signs. Prohibited signs shall include posters, pennants, or banners, flashing signs or signs.

Chapter 1, Article 2, Sec. 12.14 A, and Sec. 12.17 A 3(b), and Sec. 12.17.1 A 2(b)(4). The display/storage of merchandise within the "C2", "C5" and "CM" Zones shall be confined to the rear of the lot as measured from street frontages.
Chapter 1, Article 2, Sec. 12.13.5 A 3, and Sec. 12.14 A, and 12.14A, and Sec. 12.18 B 5(b) and (d). All activities, including storage, in the "C1.5" Zone, and certain activities in the "C2" Zone, shall be conducted wholly within an enclosed building. Auto stations in the "C2" Zone shall have a six-foot

high wall along lot lines, which abut "A" or "R" Zones. Open storage areas in the "MR2" Zone shall be enclosed on all sides with a solid wall not less than eight feet in height sufficient to screen the use from public view.

Chapter 1, Article 2, Sec. 12.19 A 1(4)(2), and 12.20 A 1(e). Automobile dismantling yards, junkyards and certain types of storage in the "M2" or "M3" Zones shall be enclosed within a building or an eight-foot solid masonry wall.

City of Los Angeles Landscape Ordinance, No. 170,978, as amended, and Guidelines. Updates the City's requirements for landscaping at new buildings, based on a point system.

A.2. OBSTRUCTION OF VIEWS

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Question

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

B. Introduction

The term "views" generally refers to visual access to, or the visibility of, a particular sight from a given vantage point or corridor. "Focal views" focus on a particular object, scene, setting, or feature of visual interest; "panoramic views" or vistas provide visual access to a large geographic area, for which the field of view can be wide and extend into the distance. Examples of focal views include natural landforms, public art/signs, individual buildings, and specific, important trees. Panoramic views are usually associated with vantage points looking out over a section of urban or natural areas that provide a geographic orientation not commonly available. Examples of panoramic views might include an urban skyline, valley, mountain range, the ocean, or other water bodies.

The State of California and the City of Los Angeles have recognized the value of access to visual resources through planning and zoning regulations, which designate, preserve, and enhance public views.[1] Through the General Plan, Community Plans, and the designation of scenic resources, the City specifies development standards, which help prevent the obstruction of views. These standards include the regulation of building height, mass, and floor to area ratio, as well as landscaping and grading, which are the principal issues in view obstruction. Individual specific or master plans may include additional standards such as view-sensitive site planning, structure design and grading requirements, transfer of development rights to avoid development in sensitive viewsheds, and preservation of mountain ridges and other visual resources to minimize obstruction of views.

Structures and other elements (e.g., towers, buildings, walls, signs, manufactured slopes, and landscaping) constructed or added as part of a project may obstruct focal or panoramic views. (To

[1] *See California Government Code Section (CGC) 65302, which permits the Land Use Element of a General Plan to make provision for protection of aesthetic resources and views; Nollan v. California Coastal Commission, 483 U.S. 825 (1987) where view protection was identified as a legitimate government interest; and the 1979 Scenic Highway Plan where views of aesthetic resources are identified as meriting protection and enhancement.*

evaluate the aesthetic impact of a particular element, see A.1. AESTHETICS.)

C. Screening Criteria

- Would the project occur within or adjacent to a valued focal or panoramic vista or within view of any designated scenic highway, corridor, or parkway?

- Would the project obstruct, interrupt, or diminish a valued focal and/or panoramic view?

- Does the project propose standards for height and bulk of structures and other elements that inadequately protect existing visual resources and/or views?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Thresholds for Obstruction of Views, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to all of the above questions indicates that there would normally be no significant impact on Views from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project, project site, and surrounding area. Review the Scenic Highways Plan, the applicable Community Plan, and the Los Angeles Municipal Code (LAMC), if necessary, to determine whether the project site is located in or near a designated scenic area or contains any identified scenic vistas. Also, review applicable zoning ordinances, interim control ordinances (ICOs), specific plans, or other plans applicable to the project site to determine potential viewsheds or vistas, specific criteria concerning viewshed impact mitigation, as well as height and bulk requirements. Assess whether existing views would be obstructed, interrupted, or diminished by structures or other vertical elements constructed as part of the proposed project. Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

The determination of significance shall be made on a case-by-case basis, considering the following factors:

- The nature and quality of recognized or valued views (such as natural topography, settings, man-

made or natural features of visual interest, and resources such as mountains or the ocean);

- Whether the project affects views from a designated scenic highway, corridor, or parkway;
- The extent of obstruction (e.g., total blockage, partial interruption, or minor diminishment); and
- The extent to which the project affects recognized views available from a length of a public roadway, bike path, or trail, as opposed to a single, fixed vantage point.

B. Methodology to Determine Significance

Environmental Setting

Characterize the existing view environment of the project site and surrounding vicinity (e.g., cityscape or open space, undeveloped or urbanized, existence of any water elements, etc.). Describe the site and surrounding area with respect to existing land uses, topography, landforms, location within or proximity to scenic highways or corridors and natural or built areas of scenic value. Identify and characterize existing views of the project site and valued views from the site. Note whether views are limited or unique, and identify the visual elements associated with the view. Use photographs and/or drawings, as appropriate (see Exhibits A.2-1 and A.2-2).

Project Impacts

Using the information from the Evaluation of Screening Criteria and Environmental Setting, determine the nature and quality of any key visual components identified. Identify project elements that would obstruct or interrupt existing views and the probable extent to which views would be impacted. Obstructing or interrupting views from a designated scenic highway, corridor, or parkway would likely be viewed as an adverse impact.

To determine the extent to which a project would affect views available from along a public roadway, bike path, trail, or other view corridor, and from single, fixed vantage points, identify the areas from which the project is visible. Consider whether and to what degree the project could impact views from these locations.

View obstruction may be determined with view sections, field of view analysis, line-of-sight analysis, or other appropriate method (see Exhibits A.2-3 and A.2-4, and 3. Data, Resources, and References).

For long-range programs or projects that propose policy changes, where specific structure

designs (i.e., elevations and/or building footprints) have not been identified, use the maximum development envelope (i.e., maximum heights, minimum setbacks, maximum lot coverage, and maximum contiguous floorplate) permitted according to the applicable zoning.

Cumulative Impacts

Review the list of related projects and identify those that would affect the same view opportunities as the project. Using the same methodology as described above for Project Impacts, discuss the combined visual impact of the project plus related projects on the identified view opportunities.

Sample Mitigation Measures

Projects are required to comply with the view preservation requirements (i.e., limits on structure location, height and massing, controls on landscaping and grading) of the Scenic Highway Plan. Compliance with the siting and development standards of the General Plan, Community Plans, specific plans, other applicable plans, zoning ordinances and ICOs is also required. Potential mitigation measures include the following:

- Design structures to conform to the existing natural terrain (e.g. multi-level structures on hillsides which are "stepped" in line with the slopes);

- Reduce the width and/or height of new structures to reduce the extent of obstruction;

- Design street networks to minimize view obstruction and/or enhance existing views;

- Locate new structures on portions of the site that do not interfere with existing views;

- Use open space areas to minimize view obstruction and/or enhance existing views; and

- Transfer buildable floor area from a view impacted area to a non-view impacted area on the same or different site. Requires preparation and City approval of a transfer of floor area plan in accordance with Ordinance 163,617; or apply for density transfer to floor area averaging in accordance with City procedures.

3. DATA, RESOURCES, AND REFERENCES

City Planning Department, 201 North Figueroa Street, 3rd Floor, Los Angeles, California 90012; Telephone: (213) 977-6083. Plan check services are available at the Construction Services Center, at 201 North Figueroa Street, 3rd Floor, Los Angeles, CA. 90012. Start at Building and Safety Department Counter and staff will refer visitors to the Planning Dept. as appropriate. Additional information is available from the City Planning Department, Community Planning Bureau, 200 N. Spring, 6th Floor, Los Angeles, California 90012; Telephone: Eastside (213) 978-1183, Metro/Central (213) 978-1179, South LA (213) 978-1168, West/Coastal (213-978-1177 and Valley 6262 Van Nuys Blvd., Van Nuys, CA 91401, (818) 374-5050.

Scenic Highways Plan, 1979.

See also A.1. AESTHETICS.

Line of Sight/View Analysis

Potential view obstruction may be determined through the following analysis:

After the scenic features or view opportunities have been identified, identify the locations (view points) from which these scenic features are visible. Graphics should be prepared that clearly convey the view line (line-of-sight from the view point to the scenic view - either to a focal point or several representative lines-of-sight along a panoramic view), as shown in Exhibits A.2-1 and A.2-2.

Next, for each view line, a view section (cross-section) may also be prepared. View sections, (see Exhibit A.2-3), depict locations and elevations of the view point, view resources and project elements. These sections should identify the extent to which the view is clear or obstructed by existing and proposed structures.

Where a view line is obstructed by a proposed structure or vertical element, prepare a field of view graphic, as shown in Exhibit A.2-4, to portray the extent of the obstruction. The field of view graphic should show where the view is interrupted, and allow for the measurement of potential obstruction by project elements, through representation of the intersection of view lines and proposed structures. This methodology may be adapted to different circumstances, including where the scenic view is either panoramic or a focal point and where the view location is either a single point or a segment.

Sample of Policies in the Scenic Highway Plan

- Policies. Scenic resources, including natural and man-made features, should be identified, preserved, and enhanced.
- Scenic Highway Selection Criteria. Scenic highways should include either a public right-of-way (ROW) which traverses an undeveloped area of scenic quality or which traverses an urban area which contains cultural, historical, or aesthetic values.
- Corridor Development Criteria. Grading should be minimized. Landscaping should be utilized to preserve and enhance the natural setting. Existing vegetation and views should be preserved.
- Programs. Corridor plans shall be developed for each scenic highway. Federal and State funds should be sought for acquisition, access, development, preservation and enhancement of scenic corridors. Scenic corridor projects should be included in the Capital Improvement Program (CIP). Property and scenic easements should be acquired.
- Policies. Corridor Plans for each scenic highway should include development controls for landscaping, contour grading, screening, hiking, biking and equestrian trails, view protection, provisions for scenic turnouts, vista points, rest stops, and other complementary facilities.
- Corridor Development Criteria. Development should be controlled adjacent to scenic highways and land adjacent to the ROW required to insure perpetuation of the corridor's scenic qualities. The scenic highway should be developed with construction materials compatible with the setting. Existing vegetation and views should be preserved. Only traffic, identification and informational signs should be permitted. Building height, setbacks, spacing, location and design should be regulated. In urban scenic corridors, screening/buffering, sign control, street lighting, landscaping, mini-parks, green median strips, street furniture, walkway design, murals, and fountains should be utilized.

Exhibit A.2-1
VIEW ANALYSIS METHODOLOGY

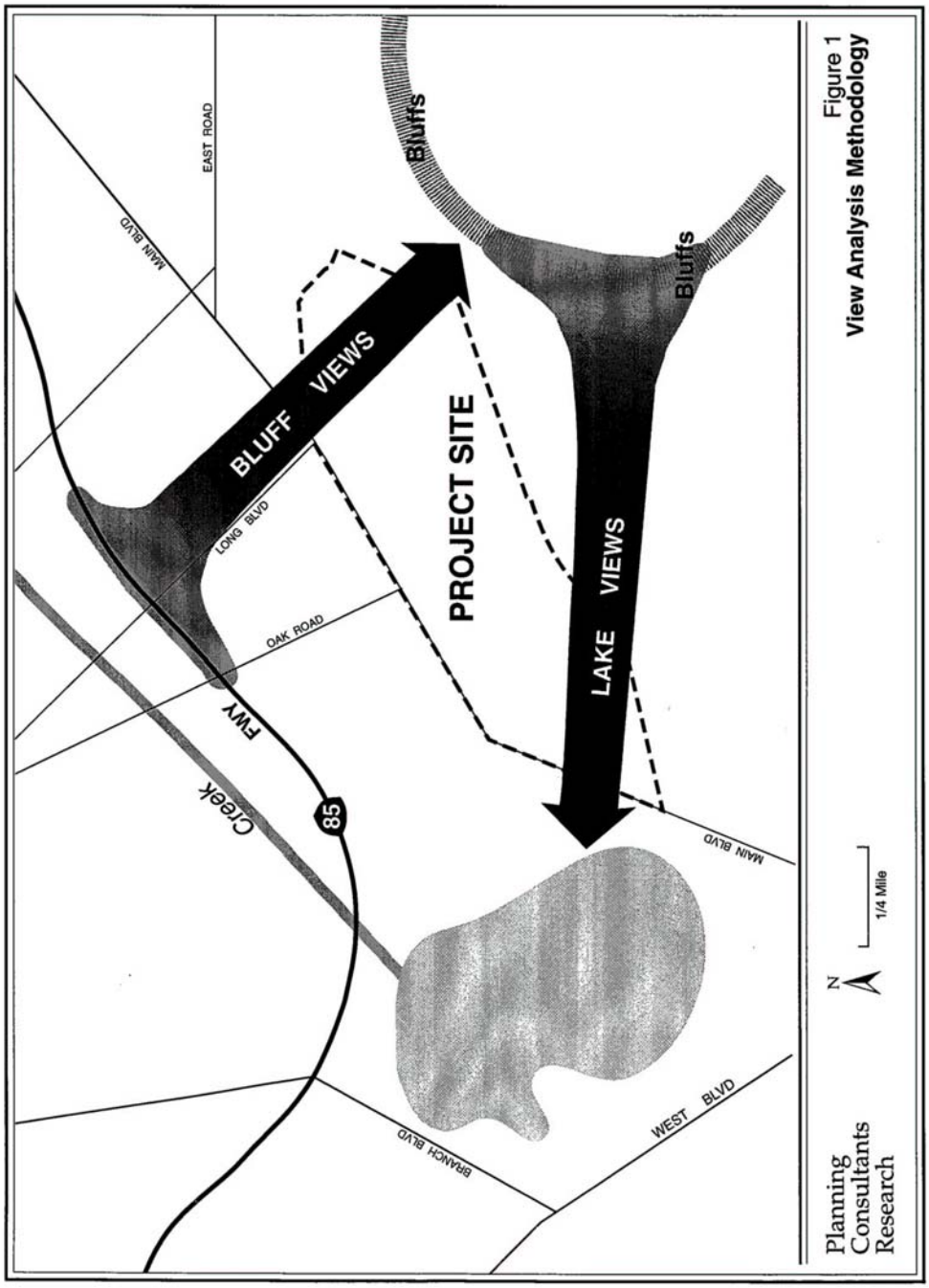


Exhibit A.2-2
VIEW LINES

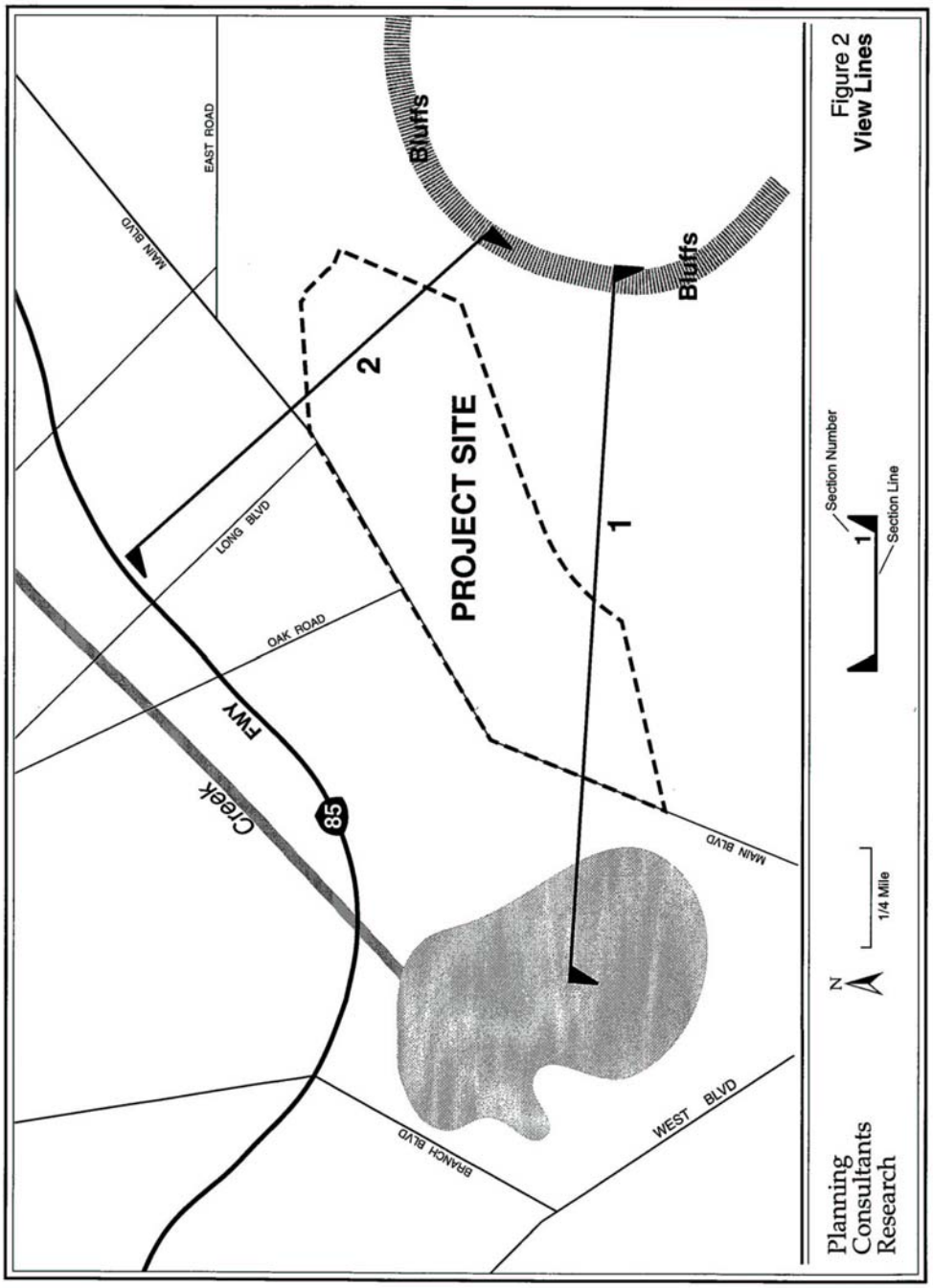
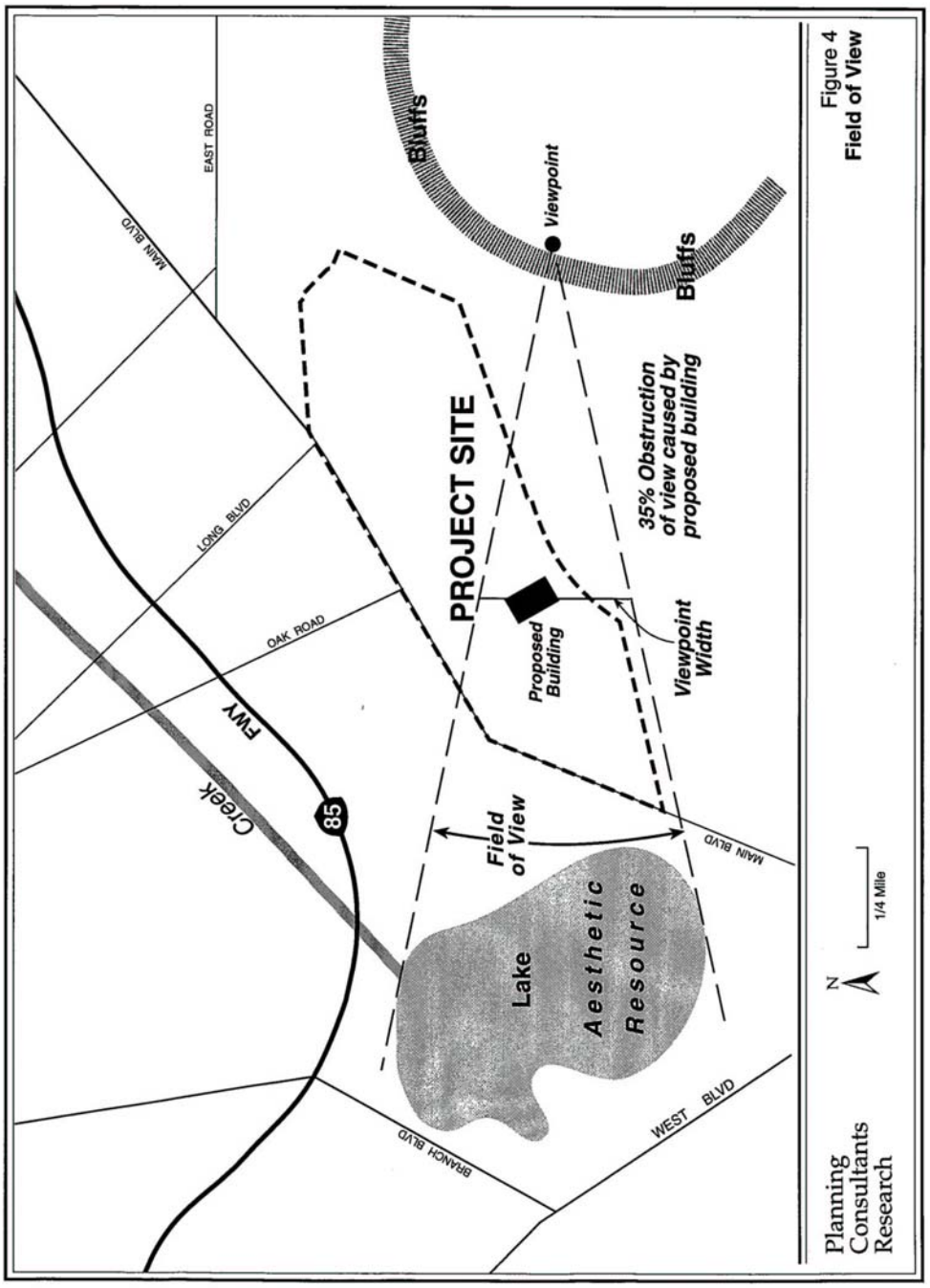


Exhibit A.2-3
VIEW SECTIONS

Exhibit A.2-4
FIELD OF VIEW



A.3. SHADING

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Question

I.c): Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

B. Introduction

Shading refers to the effect of shadows cast upon adjacent areas by proposed structures. Consequences of shadows upon land uses may be positive, including cooling effects during warm weather, or negative, such as the loss of natural light necessary for solar energy purposes or the loss of warming influences during cool weather. Shadow effects are dependent upon several factors, including the local topography, the height and bulk of the project's structural elements, sensitivity of adjacent land uses, season, and duration of shadow projection. Facilities and operations sensitive to the effects of shading include: routinely useable outdoor spaces associated with residential, recreational, or institutional (e.g., schools, convalescent homes) land uses; commercial uses such as pedestrian-oriented outdoor spaces or restaurants with outdoor eating areas; nurseries; and existing solar collectors. These uses are considered sensitive because sunlight is important to function, physical comfort, or commerce.

Shading of existing sensitive uses can occur with the development of new structures located to the south of these uses. The relative effects of shading from structures are site-specific.

C. Screening Criteria

- Would the project include light-blocking structures in excess of 60 feet in height above the ground elevation that would be located within a distance of three times the height of the proposed structure to a shadow-sensitive use on the north, northwest or northeast[1]?

[1] *Depending upon the position of the sun relative to the earth's rotation, shadows cast by a structure are projected east or west of true north according to the time of day and the season. For an explanation of the variation in shadow bearings specific to the latitude of Los Angeles, see Project Impacts.*

A "yes" response to the preceding question indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration or EIR may be required. Refer to the Significance Threshold for Shading, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to the preceding question indicates that there would normally be no significant impact on Shading from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project, project site and surrounding area. Locate shadow-sensitive uses in the area, including, but not limited to residential, commercial, institutional or other land use types where sunlight is important to function, physical comfort, or commerce. First, calculate the distance and direction between the project and each shadow-sensitive use and determine whether the project would include light-blocking structures in excess of 60 feet in height or the equivalent. For example, structures or structural elements in excess of 30 feet in height, and located at an elevation 30 feet higher than surrounding land uses, would be equivalent to a structure in excess of 60 feet at the same elevation as the surrounding land uses. Next, determine whether shade-sensitive uses exist to the north, northeast, or northwest within a distance of three times the height of the proposed structure(s). For example, identify shade-sensitive uses located within 270 feet and north of a proposed 90-foot tall structure. Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A project impact would normally be considered significant if shadow-sensitive uses would be shaded by project-related structures for more than three hours between the hours of 9:00 a.m. and 3:00 p.m. Pacific Standard Time (between late October and early April), or for more than four hours between the hours of 9:00 a.m. and 5:00 p.m. Pacific Daylight Time (between early April and late October).

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include a description of shade-sensitive uses in the surrounding area located to the north of the project site. Identify the distance from the project to each use and describe any elevation differences between the sensitive use(s) and the project site.

Facilities and operations that are sensitive to the effects of shading generally include, but are not limited to, routinely useable outdoor spaces associated with residential, recreational or institutional land uses; commercial uses such as pedestrian-oriented outdoor spaces or restaurants with outdoor eating areas; nurseries; and existing solar collectors.

Project Impacts

Review the project description and identify any proposed light-blocking structures or structural elements that would exceed 60 feet in height relative to nearby shade-sensitive uses. Determine the number of hours shadow-sensitive uses would be shaded by project-related structures.

As appropriate, diagram the footprint of the proposed structure(s) and nearby shade sensitive uses. Calculate and diagram the length of shadows that would be cast by proposed buildings during extreme conditions, as represented by the Winter Solstice (December 22) and Summer Solstice (June 21). The Spring and Fall Equinox represent intermediate conditions.

Exhibit A.3-1 identifies shadow length values and shadow bearings in the Los Angeles area for the solstices and equinox for morning, noon, and afternoon hours. The shadow length multiplier values represent the length of a shadow proportional to the height of a given building, at specific times of day. Hence, a building of 100 feet in height would cast a shadow 303 feet long at 9:00 a.m. during the Winter Solstice.

Exhibit A.3-2 provides morning and afternoon maximum shadow lengths generated for given structure heights during the Winter Solstice. Exhibit A.3-3 provides the same information calculated for the Summer Solstice. Use these tables, together with the shadow bearings provided in Exhibit A.3-1, to determine shadow patterns from the proposed project.

Exhibit A.3-4 shows how to plot shadows generated by individual buildings for a specific season and time of day. For buildings located on topography elevated above surrounding

shadow-sensitive uses, the differences in ground elevation between the building and a shadow-sensitive use is added to the shadow length to account for the elevation difference.

Based on the shadow patterns, determine the number of hours a project structure would shade an adjacent sensitive use. For programs or long range projects where specific structure design (i.e., building footprints and/or dimensions) have not been determined, use the maximum development envelope (i.e., maximum heights, minimum setbacks, and maximum lot coverage permitted according to the zoning) and determine shadow patterns as described above.

Cumulative Impacts

Review the list of related projects and identify those, which would affect the same shadow-sensitive uses as the proposed project. Calculate the project shadows of the related projects and determine the combined effect of these shadows, along with those of the proposed project, using the methodology described above.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Limit the width/size of structural elements above 60 feet in height; and

- Move proposed structures further from shadow-sensitive uses.

3. DATA, RESOURCES, AND REFERENCES

City of Los Angeles specific plans, particularly West Los Angeles and Warner Center. Available from the City Planning Department's Central Maps and Publications Office at 200 N. Spring Street, 5th Floor, Los Angeles, California 90012; Telephone: (213) 978-1255 or http://www.lacity.org/PLN/.

Exhibit A.3-1
SHADOW LENGTH MULTIPLIERS AND BEARINGS FOR 34° LATITUDE - LOS ANGELES

Time		Shadow Length Multiplier[a]		Shadow Bearing[b,c]
Winter Solstice (December 22)				
9 a.m.		3.03		45/West
NOON		1.60		0/North
3 p.m.		3.03		45/East
Spring/Fall Equinox (March 22/September 22)				
8 a.m.		2.18		73/West
NOON		0.72		0/North
4 p.m.		2.18		73/East
Summer Solstice (June 22)				
9 a.m.		2.18		85/West
1 p.m. (solar noon)		0.16		0/North
5 p.m.		2.18		85/East

[a] Shadow length is identified per unit of height; the height of the structure is multiplied by the shadow length multiplier. Therefore, a 100-foot building would cast a shadow 303 feet long during the Winter Solstice at 9 a.m. (e.g., 100 x 3.03).

[b] Shadow bearing is identified in degrees from north. 45/West means 45 degrees west of north; 73/East means 73 degrees east of north, etc.

[c] Shadow sensitive uses located greater than 45° west or east of due north would not be affected by winter shadows, regardless of the distance between the proposed building and the shadow-sensitive use. Similarly, shadow sensitive uses located greater than 85° west or east of due north would not be affected by summer shadows.

Source: Planning Consultants Research, 1995.

Exhibit A.3-2
MAXIMUM SHADOW LENGTH GENERATED FOR GIVEN SOURCE HEIGHTS DURING WINTER SOLSTICE

Source Height (in feet)[a]	Maximum Shadow Length (in feet)[b]		Source Height (in feet)[a]	Maximum Shadow Length (in feet)[b]
60	182		310	939
70	212		320	970
80	242		330	1,000
90	273		340	1,030
100	300		350	1,061
110	333		360	1,091
120	364		370	1,121
130	394		380	1,151
140	424		390	1,182
150	455		400	1,212
160	485		410	1,242
170	515		420	1,273
180	545		430	1,303
190	576		440	1,333
200	606		450	1,364
210	636		460	1,394
220	667		470	1,424
230	697		480	1,454
240	727		490	1,485
250	758		500	1,515

---

[a] Height increments could include either of the following: (1) the height of a proposed building; or (2) in cases of varying topography, the height of a proposed building together with the differential in finished ground elevations between the proposed building and an adjacent shadow-sensitive use.

[b] Shadow length at 9:00 a.m. or 3:00 p.m. during the Winter Solstice.

Source: Planning Consultants Research, 1995.

Exhibit A.3-3
MAXIMUM SHADOW LENGTH GENERATED FOR GIVEN SOURCE HEIGHTS DURING SUMMER SOLSTICE

Source Height (in feet)[a]	**Maximum Shadow Length** (in feet)[b]		**Source Height** (in feet)[a]	**Maximum Shadow Length** (in feet)[b]
60	80		310	412
70	93		320	426
80	106		330	439
90	120		340	452
100	133		350	466
110	146		360	479
120	160		370	492
130	173		380	505
140	186		390	519
150	200		400	532
160	213		410	545
170	226		420	559
180	239		430	572
190	253		440	585
200	266		450	599
210	279		460	612
220	293		470	625
230	306		480	638
240	319		490	652
250	333		500	665

[a] Height increments could include either of the following: (1) the height of a proposed building; or (2) in cases of varying topography, the height of a proposed building together with the differential in finished ground elevations between the proposed building and an adjacent shadow-sensitive use.

[b] Shadow length at 9:00 a.m. or 5:00 p.m. during the Summer Solstice (June 22).

Source: Planning Consultants Research, 1995.

Exhibit A.3-4
SHADOW PLOTTING METHODOLOGY

To plot potential shadows, use the following steps:

- Draw the building footprint. Measure the shadow lengths for the structure along the shadow bearings identified for the Winter Solstice in Exhibit A.3-1. Project the shadows the distance indicated in Exhibit A.3-2, from each corner of the structure. Connect the end points of the shadows cast, at the times of day for which shadow projections were made, by drawing an arc which incorporates the end points of the morning, noon and afternoon shadows, as projected from a single corner of the structure (see Exhibit A.3-5). This represents the coverage of the shadow cast by the structure throughout the day.

- Undertake the above on a separate footprint for each season identified in Exhibit A.3-1.

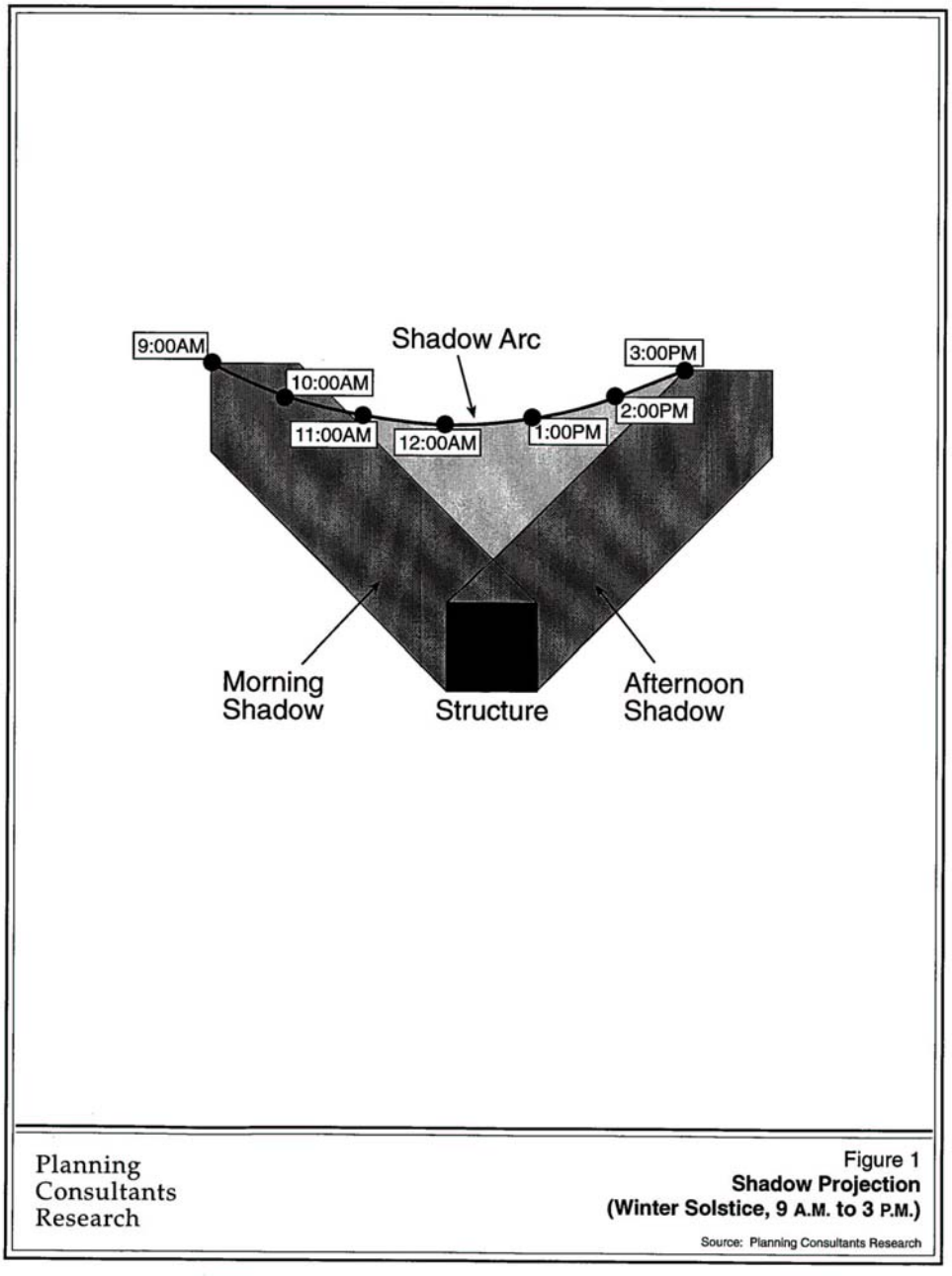
- At 9:00 a.m. on the Winter Solstice, shadows project at 45° west of true north. As time approaches noon, shadows both move closer to true north (at a rate of 15° per hour) and also shorten in length. After the noon hour, shadows begin to move east and elongate until 3:00 p.m., at which time they project at 45° east of true north. Summer shadows move, shorten and then lengthen in the same way throughout the day, except that they project further southward (i.e., 85° from true north during the Summer Solstice and progressing at a rate of 21.25° per hour) and reach maximum lengths shorter than those of winter shadows.

- Subdivide the shadow into equal sections which represent where the end point of the shadow will be located during each hour of the day (i.e., six equal sections to represent the six hours between 9:00 a.m. and 3:00 p.m. during the winter and eight equal sections to represent the eight hours between 9:00 a.m. and 5:00 p.m. during the summer).

- Place the sun shadow layout generated above onto a base map, which shows adjacent lot lines and the approximate location of shadow-sensitive uses (see Exhibit A.3-6).

- Determine the length of time during the day that a land use receives a shadow cast by the structure. The shadow projected by a structure, moves at a constant rate from west to east, corresponding to the movement of the sun throughout the day, and thus allowing a general determination of shadow movement, onto and away from a shade-sensitive use.

Exhibit A.3-5
Shadow Projection

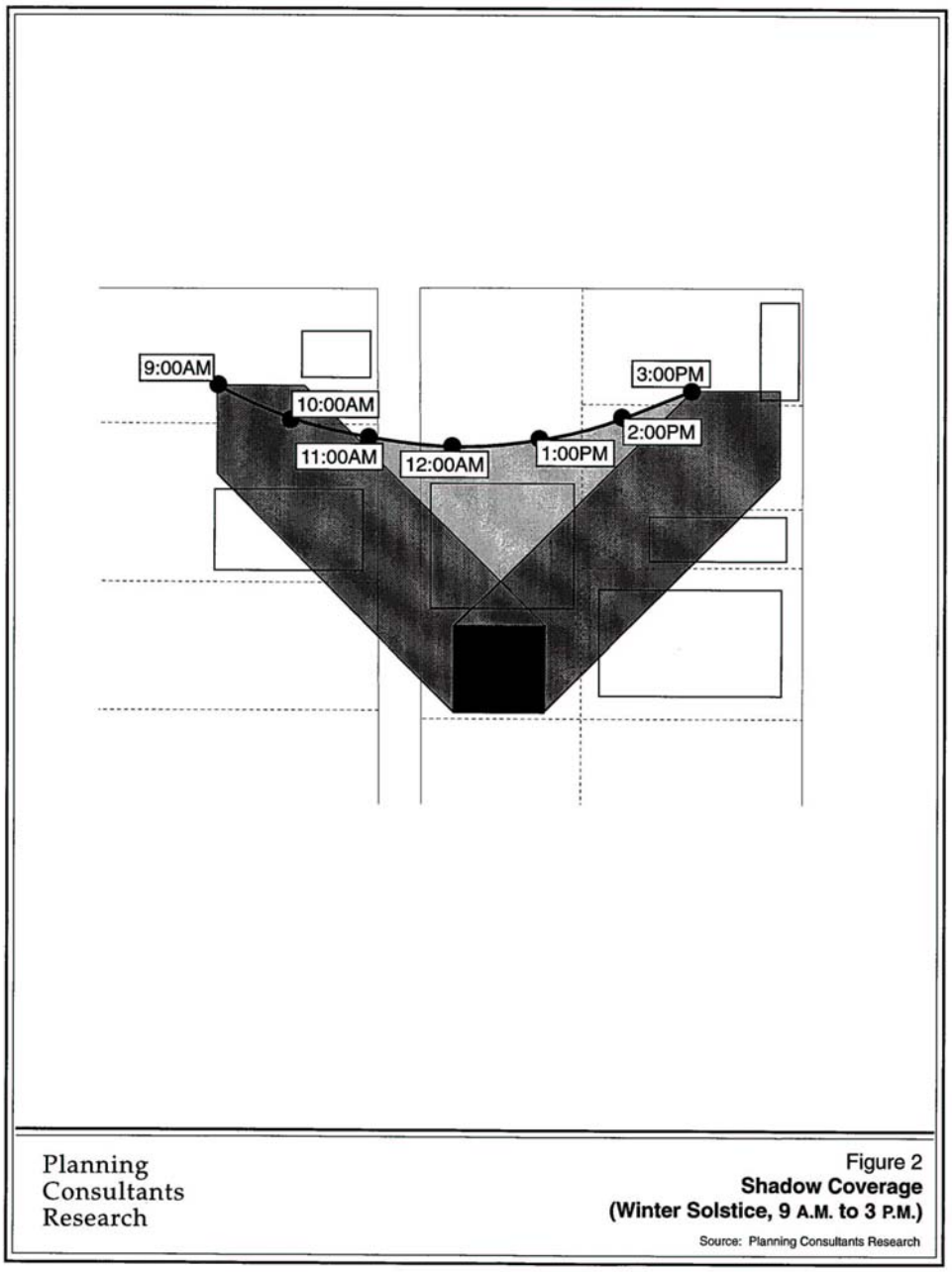


Planning
Consultants
Research

Figure 1
Shadow Projection
(Winter Solstice, 9 A.M. to 3 P.M.)

Source: Planning Consultants Research

Exhibit A.3-6
Shadow Coverage



A.4. NIGHTTIME ILLUMINATION

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Question

I.d): Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

B. Introduction

This section involves the extent to which a proposed project's artificial lighting affects the visual environment. Nighttime illumination of varying intensities is characteristic of most urban and suburban land uses including those in the City of Los Angeles. Artificial lighting has become more widely utilized in recent years to address security concerns and aesthetics.

New light sources introduced by a project may increase ambient nighttime illumination levels. Additionally, nighttime spillover of light onto adjacent properties has the potential to interfere with certain functions, including vision, sleep, privacy, and general enjoyment of the natural nighttime condition. The significance of the impact depends on the type of use affected, proximity to the affected use, the intensity of the light source, and the existing ambient light environment. Uses considered sensitive to nighttime light include, but are not limited to, residential, some commercial and institutional uses, and natural areas.[1] The City regulates a number of light sources (see Exhibit A.4-1).

C Screening Criteria

- Would the proposed project introduce light likely to increase ambient nighttime illumination levels beyond the property line of the project site?

- Does the project include lighting that would routinely spillover onto a light-sensitive land use?

A "yes" response to both of the preceding questions indicates further study in an expanded

[1] *The effect of artificial lighting on biological resources is addressed in C. BIOLOGICAL RESOURCES.*

Initial Study, Negative Declaration, Mitigated Negative Declaration or EIR may be required. Refer to the Significance Threshold for Nighttime Illumination, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to either of the preceding questions indicates that there would be no significant Nighttime Illumination impact from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project for the types of lighting included. Review surrounding land use information to determine the location of light-sensitive land uses. Light-sensitive land uses may include, but are not limited to, residences, including board and care facilities; commercial or institutional uses that require minimal nighttime illumination for proper function, physical comfort, or commerce; and natural areas. Determine the potential for routine spillover of light or an increase in ambient light levels by considering the project's proximity to light-sensitive uses, the intensity of project light sources, and the existing ambient light environment.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

The determination of significance shall be made on a case-by-case basis, considering the following factors:

- The change in ambient illumination levels as a result of project sources; and
- The extent to which project lighting would spill off the project site and effect adjacent light-sensitive areas.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Description of existing ambient light conditions on-site and in the surrounding vicinity, including background lighting conditions, and existing light spill-over from the project site; and

- Identification and description of the light-sensitive land uses in the area.

Project Impacts

Using the information from the Evaluation of Screening Criteria and Environmental Setting, determine the change in illumination resulting from project light sources. Describe the proposed light sources, including a locational graphic, as appropriate. Note whether existing light sources on site will remain or be removed. Assess the extent to which project lighting (including illuminated signage) would spill off the project site onto adjacent light-sensitive areas, considering the direction in which the light would be focused, whether shielding techniques would be used, and the extent to which project lighting would illuminate such sensitive land uses.

For projects involving a change in policies or long-range programs where proposed land uses are known, but specific structure designs (i.e., building or use footprints) have not been determined, identify general locations where high-intensity lighting or signage would likely occur, and evaluate the potential impacts on light-sensitive uses.

Cumulative Impacts

Review the list of related projects and identify any projects that may cause routine spill-over of light onto the same light-sensitive land uses as the project. Evaluate the impact from these projects, combined with the impact of the proposed project, using the methodology described above.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Use high pressure sodium and/or cut-off fixtures instead of typical mercury-vapor fixtures for outdoor lighting;

- Prohibit or limit signs with flashing, mechanical, strobe, or blinking lights; moving parts; or lighted monument signs;

- Provide structural and/or vegetative screening from sensitive uses;

- Design exterior lighting to confine illumination to the project site, and/or to areas which do not include light-sensitive uses; and

- Restrict the operation of outdoor lighting for recreational activities to the hours of 7:00 a.m. to 10:00 p.m.

3. DATA, RESOURCES, AND REFERENCES

Los Angeles Municipal Code (LAMC), available from the City Clerk or http://lacity.org/lacity102.htm.

Illumination Engineering Society of North America. American National Standard Practice for Roadway Lighting.

Illumination Engineering Society of North America. Lighting Handbook, Reference and Application.

Exhibit A.4-1
SELECTED CITY MUNICIPAL CODE LIGHTING REGULATIONS

Chapter 1, Article 2, Sec. 12.21 A 5(k). All lights used to illuminate a parking area shall be designed, located and arranged so as to reflect the light away from any streets and adjacent premises.

Chapter 1, Article 2, Sec. 12.12.1 A 3(b). All signs permitted in the "P" Zone may be illuminated, but shall comply with the requirements set forth in Section 62.200 of this Code, and shall not contain any flashing, moving or animated parts or features.

Chapter 1, Article 2, Sec. 12.12.1.5 A 2(a). Parking buildings in the "PB" Zone shall be constructed with a continuous, enclosing wall at least three and one-half feet in height at each floor level. Said wall need not be solid but shall be constructed of materials so as to block light emitted from the building.

Chapter 1, Article 2, Sec. 12.14 A (6g). Lights used to illuminate service stations shall be arranged so as to reflect the light away from the adjacent premises in an "A" or "R" Zone, and the light standard for such lights shall not exceed 20 feet in height.

Chapter 1, Article 2, Sec. 12.22 A 23(b)(1). Mini-Shopping Centers shall have low-level security type lighting. All exterior lighting shall be directed onto the mini-shopping center site, and all flood lighting shall be designed to eliminate glare to adjoining properties.

Chapter 1, Article 2, Sec. 12.50 E. No illuminated or flashing signs shall be installed or maintained within an Airport Hazard Area which would either make it difficult for flyers to distinguish between said lights and aeronautical lights, or which would result in glare in the eyes of flyers.

Chapter 1, Article 7, Sec. 17.08 C. Plans for street lighting shall be submitted to and approved by the Bureau of Street Lighting for subdivision maps.

Division 62, Sec. 91.6205 M. No sign shall be illuminated in such a manner as to produce a light intensity of greater than three foot-candles above ambient lighting, as measured at the property line of the nearest residentially zoned property.

Chapter 9, Article 3, Section 93.0117. No exterior light source may cause more than two foot-candles of lighting intensity or generate direct glare onto exterior glazed windows or glass doors; elevated habitable porch, deck, or balcony; or any ground surface intended for uses such as recreation, barbecue or lawn areas or any other property containing a residential unit or units.

Note: A project may be subject to additional requirements of a specific plan, if it is located within a specific plan area.

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B. AIR QUALITY

B. AIR QUALITY

INTRODUCTION

This section addresses the air quality impacts of projects. Air quality impacts may occur during the construction or operation phase of a project, and may come from stationary, mobile, or area sources. The topic of air quality has been divided into the following sections:

- Construction emissions
- Operational emissions
- Toxic air contaminants

The California Health and Safety Code (HSC) defines air pollution as any discharge, release, or other propagation into the atmosphere, and includes, but is not limited to, smoke, charred paper, dust, soot, grime, carbon, fumes, gases, odors, particulate matter, acids, or any combination thereof. Sources of air pollution can be classified as either stationary sources (e.g., industrial processes, generators), mobile sources (e.g., automobiles, trucks), or area sources (e.g., residential water heaters).

As described below, the South Coast Air Quality Management District (SCAQMD) is the main regulatory authority in the region (the South Coast Air Basin (Basin), which includes the City of Los Angeles) with regard to air quality issues. In April 1993, the SCAQMD adopted a CEQA Air Quality Handbook that provides guidance for the CEQA analysis of potential air quality impacts of new projects. The CEQA Air Quality Handbook addresses screening criteria for stationary and mobile source emissions; the effects of certain pollutants (e.g., toxics, carbon monoxide) on sensitive receptors; and area sources (e.g., landfills, construction sites, etc.). It also provides recommended thresholds to assist in determining the significance of potential project impacts from these sources. The SCAQMD is the responsible agency for air quality permits. Compliance with SCAQMD rules and permit conditions is a component of the region's efforts to achieve and maintain air quality standards.

The City of Los Angeles has not adopted specific Citywide significance thresholds for air quality impacts. However, because of the SCAQMD's regulatory role in the air basin, this *Thresholds Guide* references the screening criteria, significance thresholds and analysis methodologies in the CEQA Air Quality Handbook to assist in evaluating projects proposed within the City. Because the CEQA Air Quality Handbook may not be appropriate for every project, it is the responsibility of the lead City department to determine the appropriate standards for a particular

project.

Regulatory Framework

The Federal and California Clean Air Acts require that federal, state, and local authorities adopt air pollution reduction measures to meet health-based air quality standards (ambient air quality standards) for six specific (known as "criteria") pollutants within certain timelines. The state standards are stricter than the federal standards. The current air quality planning efforts, and the responsibilities of agencies involved in these efforts, are described below.

Federal Clean Air Act (CAA)

Title I of the CAA identifies attainment, nonattainment, and unclassifiable areas with regard to the criteria pollutants, and sets deadlines for all areas to reach attainment for the following criteria pollutants: ozone; nitrogen dioxide (NO_2); sulfur dioxide (SO_2); particulates (PM10); carbon monoxide (CO); and lead (Pb). The CAA required each state with one or more non-attainment areas to prepare a State Implementation Plan (SIP) to describe how and when each area of the state will meet attainment for all criteria pollutants. The South Coast Air Basin was identified as the only "extreme" nonattainment area for ozone and a "serious" nonattainment area for PM10 and CO. Compliance with these standards must be demonstrated in the Basin as follows: ozone by the year 2010; PM10 by the year 2006; and CO by the year 2000.

Title II of the CAA contains a number of provisions with regard to mobile sources, including requirements for reformulated gasoline, new tailpipe emission standards for cars and trucks, nitrogen oxides (NOx) standards for heavy-duty vehicles, and a program for cleaner fleet vehicles. Identification and regulation of hazardous air pollutants are addressed in Title III. Under Title V, conditions for operating permits are specified. In 1997, EPA promulgated new ambient air quality standards for fine particulates (PM2.5) and ozone. The implementation guidelines, including deadlines, are under development.

California Clean Air Act (CCAA)

The CCAA designates air basins as either in attainment or nonattainment for each state air quality standard. The South Coast Air Basin is designated as a "severe" nonattainment area for ozone, CO, NO_2, and PM10. The CCAA set specific targets for achieving clean air, including an annual five-percent reduction in pollutants (averaged every five consecutive three-year periods) until attainment is reached. It also incorporates the permit programs of the CAA, including New Source Review (NSR) of stationary sources, and requires a mandatory vehicle inspection program for vehicles registered in nonattinment areas (smog check).

Air Quality Management Plan (AQMP)

The 2003 AQMP describes a comprehensive air pollution control program focused on attaining the state and federal ambient air quality standards and planning requirements in the Basin and those portions of the Southeast Desert Air Basin that are under the SCAQMD's jurisdiction, (the Antelope and Cochella Valleys). It calls for the implementation of all-feasible control measures, and the advancement and use of technologies for which breakthroughs are on the horizon. The AQMP is updated every 3 years. Revisions to the Plan are considered amendments to the SIP.

Regional Comprehensive Plan and Guide (RCP&G)

The RCP&G, developed by the Southern California Association of Governments (SCAG), was adopted in May 1995. It provides a framework for regional goals, and assists local jurisdictions in meeting state and federal requirements and devising appropriate land use strategies. The components of the RCP&G, which include air quality, transportation and land use, among others, each contain goals and strategies for identifying and reducing cumulative impacts from new projects and plans, as required by CEQA and other state and federal regulations.

Framework and Air Quality Elements

The City approved a comprehensive update to the long-term growth strategy in its General Plan. The Framework Element sets policy direction for the City's 35 Community Plan areas, in which detailed land use plans are described, and 12 citywide Elements (e.g., Transportation and Housing). The Framework Element supports land use and transportation policies and patterns that will assist the region in meeting air quality goals, for example, by encouraging the location of residential and commercial uses near transit centers and continuing the City's "centers" development concept.

The Air Quality Element was adopted in November 1992. The objectives are to aid the region in attaining state and federal air quality standards, while continuing to allow economic growth and improvement in the quality of life for City residents. This Element also discusses how the City plans to implement local programs contained in the SCAQMD's AQMP.

Los Angeles County Congestion Management Program

The Congestion Management Program (CMP) for Los Angeles County was developed to meet the requirements of Section 65089 of the California Government Code and addresses regional congestion by linking transportation, land use, and air quality decisions. The goals of the CMP

include the following:

- To link land use, transportation, and air quality decisions;

- To develop a partnership among transportation decision-makers on devising appropriate transportation solutions that include all modes of travel; and

- To propose transportation projects that are eligible for state gas tax funds.

Responsibilities of Regulatory Agencies

Environmental Protection Agency (EPA)

The EPA administers the CAA and other air quality legislation. As a regulatory agency, EPA's principal functions include the following: (1) setting federal ambient air quality standards; (2) preparing guidance for and approval of SIPs to meet or maintain these ambient air quality standards; (3) establishing national emission limits for major sources of air pollution; (4) inspecting and monitoring emission sources; (5) enforcing federal air quality laws and promulgating new regulations; and, (6) providing financial and technical support for air quality research and development programs.

California Air Resources Board (CARB)

The CARB is the state agency responsible for the coordination and administration of both state and federal air pollution control programs in California. The CARB prepares and submits a SIP to EPA, undertakes research, sets state ambient air quality standards, provides technical assistance to local air districts, compiles emission inventories, develops suggested control measures, establishes emission standards for motor vehicles, and provides oversight of air district control programs.

SCAQMD

SCAQMD shares responsibility with the CARB for ensuring that all state and federal ambient air quality standards are achieved and maintained throughout the Basin. Local air districts, including the SCAQMD, are responsible for the preparation of AQMPs, inspection of stationary sources, monitoring of ambient air quality, and planning activities such as modeling and maintenance of the emission inventory. State law assigns to local air districts the primary responsibility for the control of air pollution from stationary sources, while reserving an oversight role for the CARB. Local air districts are also responsible for developing mobile source strategies necessary to achieve the ambient air quality standards, while CARB regulates tailpipe emissions

from mobile sources.

SCAG

SCAG is a joint powers agency encompassing the counties of Los Angeles, Orange, Imperial, Riverside, San Bernardino, and Ventura and is the Metropolitan Planning Organization (MPO) for this region. SCAG's responsibility with respect to air quality planning is primarily in developing transportation, land use and energy conservation measures as part of the RCP&G, Regional Transportation Improvement Program (RTIP), and Regional Transportation Plan (RTP). SCAG also has statutory authority in conjunction with the SCAQMD for the implementation and monitoring of land use strategies and transportation control measures contained in the AQMP. SCAG prepares the required air quality conformity analyses for transportation plans, programs, and projects to comply with the federal Transportation Conformity Rule. As part of the CEQA process for regionally significant projects, SCAG evaluates the consistency of such projects with the goals and policies of the RCP&G.

B.1. CONSTRUCTION EMISSIONS

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

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

III.b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

III.c) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

III.d) Would the project expose sensitive receptors to substantial pollutant concentrations?

B. Introduction

Construction of new projects has the potential to create air quality impacts through earth moving operations and the use of heavy-duty equipment. Fugitive dust emissions result from land clearing, demolition, ground excavation, cut and fill operations, and equipment traffic over temporary roads at construction sites. Mobile source emissions, primarily nitrogen oxides (NOx), result from the use of construction equipment such as bulldozers, trucks, and scrapers. These emissions are most significant when using heavy-duty, diesel-fueled equipment. Mobile source emissions also result from vehicle trips by construction workers to and from the project site. Emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources individually, as well as collectively.

As described in B. AIR QUALITY (the Introduction to the Air Quality sections), a number of plans, policies and regulations have been adopted by agencies at the local, state and federal levels to address air quality concerns. Each of these plans contains regulations, control

strategies, or policies and programs designed to reduce the air pollutant emissions of new, and in some cases existing, development projects. The primary strategy related to construction emissions implemented and enforced by the South Coast Air Quality Management District (SCAQMD) is Rule 403, Fugitive Dust. Exhibits B.1-1 and B.1-2 reproduce a list of dust control strategies allowed by Rule 403. Compliance with SCAQMD rules and permit conditions is a component of the region's efforts to achieve and maintain air quality standards.

Refer to B.2. OPERATIONAL EMISSIONS for a discussion of carbon monoxide (CO) hotspots and F.2. HUMAN HEALTH HAZARDS for removal of asbestos containing material.

C. Screening Criteria

- Would site preparation or construction activities for the proposed project result in substantial emissions that would not be controlled on site by existing regulations?

A "yes" response to the preceding question indicates that further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR, may be required. Refer to the Significance Threshold for Construction Emissions, and review the associated Methodology to Determine Significance as appropriate.

A "no" response to the preceding question indicates that there would normally be no significant impact from Construction Emissions from the proposed project.

D. Evaluation of Screening Criteria

Although the City of Los Angeles has not adopted specific guidance with regard to construction emissions, a number of sources are available to assist in this evaluation. SCAQMD's CEQA Air Quality Handbook contains a Screening Table for Construction based on construction emissions occurring over a three-month (quarterly) period (CEQA Air Quality Handbook pages 6-12). The table lists the sizes and amounts of various types of development projects and construction activities, over which a potentially significant air quality impact could occur, considering both dust generation and exhaust from construction equipment. In addition, the Environmental Protection Agency (EPA) publication, Compilation of Air Pollutant Emission Factors (AP-42), contains emission factors and methodologies for calculating emissions from off-highway mobile construction equipment and non-vehicular equipment. AP-42 also contains factors to estimate the dust generation per acre of graded land.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

Although the City has not adopted a Citywide significance threshold for construction emissions, SCAQMD's CEQA Air Quality Handbook and/or EPA's AP-42 contain emission factors and assessment methodologies. It is the responsibility of the lead City department to determine the appropriate standards. This *Thresholds Guide* reprints guidance from the CEQA Air Quality Handbook to assist in the evaluation of project impacts, as determined appropriate by each lead City agency.

Project-related factors to be used in a case-by-case evaluation of significance include the following:

Combustion Emissions from Construction Equipment

Type, number of pieces and usage for each type of construction equipment;
Estimated fuel usage and type of fuel (diesel, natural gas) for each type of equipment; and
Emission factors for each type of equipment.

Fugitive Dust

Grading, Excavation and Hauling:

Amount of soil to be disturbed on-site or moved off-site;
Emission factors for disturbed soil;
Duration of grading, excavation and hauling activities;
Type and number of pieces of equipment to be used; and
Projected haul route.

Heavy-Duty Equipment Travel on Unpaved Roads:

Length and type of road;
Type, number of pieces, weight and usage of equipment; and
Type of soil.

Other Mobile Source Emissions
Number and average length of construction worker trips to project site, per day; and
Duration of construction activities.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, provide the regulatory framework and discuss regional and local air quality, including ambient air monitoring data from the monitoring station closest to or most representative of the project site. Monitoring data may be obtained from the SCAQMD Air Quality Evaluation Staff or the CEQA Air Quality Handbook. Identify the location of sensitive receptors, such as residences, schools, childcare centers, hospitals, parks, or similar uses, in relation to the project site.

Project Impacts

Using the information described in the significance factors listed above, and guidance from the appropriate source, calculate the emissions from all construction-related activities, including equipment, earth moving, and worker travel, using the worst-case day. Identify measures that will be taken as part of the construction activity to reduce air emissions, including measures to comply with Rule 403. Determine the impact from all project-related construction emissions.

Cumulative Impacts

Review the related projects list and identify those projects with construction schedules that would coincide with the schedule of the proposed project. Estimate the potential emissions from the related projects that would occur during construction of the proposed project, based on available information and using the methodology above. Determine the combined emissions for the proposed and related projects and the resulting cumulative impact.

Sample Mitigation Measures

All construction projects must comply with the requirements of SCAQMD Rule 403, Fugitive Dust, which requires the implementation of Reasonably Available Control Measures (RACM) for all fugitive dust sources, and the Air Quality Management Plan (AQMP), which identifies Best Available Control Measures (BACM) and Best Available Control Technologies (BACT) for area sources and point sources, respectively.

Potential mitigation measures beyond current requirements include the following:

Establish an on-site construction equipment staging area and construction worker parking lot, located on either paved surfaces or unpaved surfaces subjected to soil stabilization treatments, as close as possible to a public highway. Control access to public roadways by limiting curb cuts/driveways to minimize project construction impacts upon roadway traffic operations;

Properly maintain non-vehicular equipment engines to minimize the volume of exhaust emissions;

Use electricity from power poles, rather than temporary diesel or gasoline powered generators;

Use on-site mobile equipment powered by alternative fuel sources (i.e., methanol, natural gas, propane or butane);

Pave construction roads;

Inspect construction equipment prior to leaving the site and wash off loose dirt with wheel washers, as necessary; and

Provide ridesharing or shuttle service for construction workers.

3. DATA, RESOURCES, AND REFERENCES

Air Quality Element, 1992. Available from the City Planning Department's Central Publications Unit at 200 N. Spring St., 5th Floor, Los Angeles, California 90012; Telephone: (213) 978-1255.

EPA, Compilation of Air Pollutant Emission Factors, AP-42.

SCAQMD, CEQA Air Quality Handbook, 1993. AQMP and Appendices, adopted August 2003.

SCAQMD, Rules and Regulations. Volumes I, II and III. Information regarding a particular rule or regulation may be obtained by calling the SCAQMD at (909) 396-3600 or 1-(800)-CUT-SMOG.

See also B. AIR QUALITY for description of regulatory framework, including the regulations and agencies involved.

Exhibit B.1-1

REPRINT OF SCAQMD RULE 403 (Amended December 1998), PAGE 14

REASONABLY AVAILABLE CONTROL MEASURES FOR HIGH WIND CONDITIONS

FUGITIVE DUST
SOURCE CATEGORY CONTROL MEASURES

Earth-moving

(1A) Cease all active operations, OR

(2A) Apply water to soil not more than 15 minutes prior to moving such soil. **Disturbed surface areas**

(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR

(1B) Apply chemical stabilizers prior to wind event; OR

(2B) Apply water to all unstabilized disturbed areas 3 times per day, if there is any evidence of wind-driven fugitive dust, watering frequency is increased to a minimum of 4 times per day; OR

(3B) Take the actions specified in Table 2, Item (3C); OR

(4B) Utilize any combination of control actions (1B), (2B) and (3B) such that, in total, these actions apply to all disturbed surface areas.

Unpaved roads

(1C) Apply chemical stabilizers prior to wind event; OR

(2C) Apply water twice [once] per hour during active operation; OR

(3C) Stop all vehicular traffic.

Open storage piles

(1D) Apply water twice [once] per hour; OR

(2D) Install temporary coverings.

Paved road track-out

(1E) Cover all haul vehicles; OR

(2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.

All Categories

(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 1 may be used.

*Measures in [brackets] are reasonably control measures and only apply to sources not within the South Coast Air Basin.

Exhibit B.1-2
REPRINT OF SCAQMD RULE 403 (Amended December 1998), PAGES 15 AND 16

DUST CONTROL FOR EXEMPTION FROM PARAGRAPH (d)(4)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS

Earth-moving (except construction cutting and filling areas, and mining operations)

(1a) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR

(1a-1) For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.

Earth-moving: Construction fill areas:

(1b) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board, and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.

Earth-moving: Construction cut areas and mining operations

(1c) Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.

Exhibit B.1-2, continued
REPRINT OF SCAQMD RULE 403 (Amended December 1998), PAGES 15 AND 16

DUST CONTROL FOR EXEMPTION FROM PARAGRAPH (d)(3)

FUGITIVE DUST
SOURCE CATEGORY CONTROL ACTIONS

Disturbed surface areas (except completed grading areas)

(2a/b) Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 [70] percent of the unstabilized areas.

Disturbed surface area: Completed grading areas

(2c) Apply chemical stabilizers within five working days of grading completion; OR
(2d) Take actions (3a) or (3c) specified for inactive disturbed surface areas

Inactive disturbed surface areas

(3a) Apply water to at least 80 [70] percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR

(3b) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR

(3c) Establish a vegetative ground cover within 21 [30] days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR

(3d) Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Unpaved Roads

(4a) Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR

(4b) Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR

*Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

Exhibit B.1-2, continued
REPRINT OF SCAQMD RULE 403 (Amended December 1998), PAGES 15 AND 16

DUST CONTROL FOR EXEMPTION FROM PARAGRAPH (d)(3)

FUGITIVE DUST
SOURCE CATEGORY CONTROL ACTIONS

Unpaved Roads (cont'd.)

(4c) Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.

Open storage piles

(5a) Apply chemical stabilizers; OR

(5b) Apply water to at least 80 [70] percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR

(5c) Install temporary coverings, OR

(5d) Install a three-sided enclosure with walls with no more than 50 percent porosity, which extend, at a minimum, to the top of the pile.

All Categories

(6a) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

*Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

B.2. OPERATIONAL EMISSIONS

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

III.a): Would the project conflict with or obstruct implementation of the applicable air quality plans?

III.b): Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

III.c): Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including exceeding emissions which exceed quantitative thresholds for ozone precursors)?

III.d): Would the project expose sensitive receptors to substantial pollutant concentrations?

III.e): Would the project create objectionable odors affecting a substantial number of people?

B. Introduction

Operational emissions are defined as those, which occur after project construction activities have been completed, and the project becomes operational. Operational emissions are produced by the occupants of a facility or development and by both mobile and stationary sources connected to the facility or development. Depending on the characteristics of the individual project, operational activities have the potential to generate emissions of criteria and/or toxic air contaminants. This section focuses on emissions of criteria pollutants by point, mobile, and area sources. Toxic air emissions, which may occur during operational activities, are discussed separately in B.3. TOXIC AIR CONTAMINANTS.

Stationary source emissions include point source emissions that have an identifiable location, such as a smokestack, as well as area source emissions, such as fumes or minor sources of exhaust, which are emitted by multiple, small sources. Stationary point sources include project equipment and processes such as power plants and refinery boilers, while area sources originate from diverse sources such as generators and residential water heaters. Certain industrial and commercial operations, such as dairies and wastewater treatment plants, may

result in odors that impact sensitive receptors in the surrounding area.

Mobile source emissions occur as a result of motor vehicle, train, ship, and airplane travel. Motor vehicle emissions result from passenger vehicles and truck travel throughout the South Coast Air Basin (Basin) and are generally analyzed on a regional basis. Projects can be either direct sources of vehicle trips, such as a bus or shipping service, or indirectly generate or attract trips from or to the project site, such as a regional shopping center or employee work site.

Motor vehicle emissions can influence local air quality through changes in carbon monoxide (CO) concentrations, which are usually highest at busy intersections, parking garages, or other focused areas of vehicle activity. Because CO dissipates quickly, and based on methodologies established by the South Coast Air Quality Management District (SCAQMD) and California Air Resources Board (CARB), changes in CO concentrations are generally analyzed only where they would be in proximity to sensitive receptors.

Regulatory Framework

As described in B. AIR QUALITY, a number of plans, policies, and regulations have been adopted by local, state and federal agencies to address air quality concerns. Each of these plans and regulations are designed to reduce criteria pollutants for which state and federal health-based standards have been set.

Emissions from new, expanded and/or relocated stationary sources are regulated extensively by the SCAQMD through Regulation XIII, New Source Review (NSR); the permitting process for specific equipment and industrial processes; and compliance with source-specific regulations. NSR requires that any net increase in air pollutants from new or modified sources is offset by a reduction in emissions from another source. If the potential to emit is small (less than four tons/year) for any given criteria pollutant, a facility is exempt from providing emission offsets. However, if potential annual emissions are equal to or greater than four tons of reactive organic gases (ROG), nitrogen oxides (NOx), sulfur oxides (SOx), or particulate matter (PM10), they must be offset by Emission Reduction Credits (ERCs). The rule also requires that new sources install Best Available Control Technology (BACT) as a means of limiting air emissions.

In October 1993, the SCAQMD adopted the Regional Clean Air Incentives Market (RECLAIM) program to provide certain stationary source facilities added flexibility in meeting emission reduction requirements and to lower the cost of compliance. RECLAIM facilities are those that generate four or more tons of NOx and SOx per year. Each facility is assigned an emissions cap that decreases over time, and is allowed to select appropriate and cost-effective strategies to meet the emissions cap. Facilities are allowed "RECLAIM Trading Credits"

(RTCs) to account for excess reduction of emissions, which can be traded (sold) to other facilities that are not able to reduce emissions as effectively.

Title V of the Clean Air Act Amendments (CAAA) requires certain facilities to obtain a single, facility-wide air permit, which consolidates and replaces all previously issued air permits for individual pieces of equipment. Locally, Title V is implemented through SCAQMD's Regulation XXX and is applicable to a facility if it is a Major stationary source or subject to Title IV, solid waste incineration requirements, a New Source Performance Standard (NSPS), or a National Emission Standard for Hazardous Air Pollutants (NESHAP). Major sources are facilities with actual emissions of 8 tons per year of volatile organic compounds (VOC), NOx, or any single Hazardous Air Pollutant (HAP) or with yearly emissions in excess of 80 tons of SOx, 40 tons of CO, or 56 tons of PM10.

The SCAQMD's Rule 2202, On-Road Motor Vehicle Mitigation Options (required for employers of more than 250 people), provides a menu of strategies to reduce or otherwise mitigate the mobile source emissions resulting from employee commute trips. In addition, land use strategies and improvements to public transit that result in fewer single occupant vehicle (SOV) trips are being implemented by various agencies in the region, including the City. Other mobile source emission reduction strategies, such as market incentives and intercredit trading programs, are currently under study. Tailpipe emissions are regulated by CARB.

In air quality nonattainment and maintenance areas, transportation plans, programs, and projects must contribute to reducing motor vehicle emissions and be drawn from a conforming air quality plan. Conformity is a determination made by the Metropolitan Planning Organization (MPO) and United States Department of Transportation (DOT) that the transportation plans and programs meet the "purpose" of the State Implementation Plan (SIP), namely, reducing pollutant emissions to meet the National Ambient Air Quality Standards (NAAQS). All federally assisted and regionally significant projects, including non-federally assisted projects, are subject to the federal Transportation Conformity Rule. The Southern California Association of Governments (SCAG) is the MPO for the 5-county southern California region, including Los Angeles County and its member cities.

Because the City of Los Angeles has not established or adopted Citywide screening criteria or significance thresholds for operational emissions, the *Thresholds Guide* reprints guidance from the SCAQMD's CEQA Air Quality Handbook to assist in the evaluation of project impacts. The Screening Criteria, Evaluation of Screening Criteria, Significance Threshold and Project Impact sections that appear in this document are all reprinted from, or summaries of, the guidance in the CEQA Air Quality Handbook. For further information, please refer to the CEQA Air Quality Handbook, available from the SCAQMD. It is the responsibility of the lead City department to determine the appropriate significance criteria.

C. Screening Criteria

Would the proposed project:

Result in a development and/or activity level equal to or greater than the thresholds provided in the CEQA Air Quality Handbook's Screening Table for Operation – Daily Thresholds of Potential Significance for Air Quality[1] (see Exhibit B.2-1)?

Conflict with the regional population forecast and distribution in the most recent Air Quality Management Plan (AQMP)?

Have the potential to create or be subjected to an objectionable odor or localized CO hot spot that could impact sensitive receptors?

A "yes" response to any of the preceding questions indicates that further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Operational Emissions, and review the associated Methodology to Determine Significance as appropriate.

A "no" response to all of the preceding questions indicates that there would normally be no significant impact from Operational Emissions from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project, and identify all new or modified sources of stationary and mobile source emissions. Use Exhibit B.2-1 to assess the potential to exceed the daily emissions thresholds for criteria pollutants. Consider the population likely to result from project implementation and identify conflicts with the regional population forecast and distribution in the most recent AQMP. Determine the potential for objectionable odors to impact sensitive receptors. Sensitive land uses include residences, board and care facilities, schools, playgrounds, hospitals, parks, childcare centers, and outdoor athletic facilities.

Compare this information to the Screening Criteria.

[1] *This table is based on potential mobile source emissions for specified land uses and is not intended to screen for stationary sources. Stationary sources are screened on an individual basis by SCAQMD permit staff. (J. Nadler, SCAQMD, personal communication, October 1997.)*

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A proposed project would normally have a significant impact on air quality from project operations if any of the following would occur:

Operational emissions exceed 10 tons per year of volatile organic gases or any of the daily thresholds presented below (as reprinted from the CEQA Air Quality Handbook):

Pollutant	Significance Threshold (lbs./day)
ROG	55
NOx	55
CO	550
PM10	150
SOx	150

Either of the following conditions would occur at an intersection or roadway within one-quarter mile of a sensitive receptor:

The proposed project causes or contributes to an exceedance of the California 1-hour or 8-hour CO standards of 20 or 9.0 parts per million (ppm), respectively; or

The incremental increase due to the project is equal to or greater than 1.0 ppm for the California 1-hour CO standard, or 0.45 ppm for the 8-hour CO standard.

The project creates an objectionable odor at the nearest sensitive receptor.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

The air quality regulatory framework;
Description of existing ambient air quality conditions as indicated by data from the SCAQMD monitoring station closest to, or most representative of, the project site;

Summary of regional climate and air quality conditions, including a wind rose (which diagrams the frequency of occurrence for each wind direction), if odors are anticipated;

Description of the project site and surrounding area, including the location of sensitive receptors; and

Summary of the existing transportation system and traffic conditions, such as traffic volumes, Level of Service (LOS), transit facilities, etc.

Project Impacts

Project-related factors to be used in evaluating significance include the following:

Type, number of pieces, and usage of equipment;

Rate, quantity, and type of fuel consumption;

Emission factors, assuming implementation of applicable rules and regulations;

Type(s) and size(s) of land uses, including location of vehicle driveways and parking facilities;

The location and usage of equipment or processes that may emit odors;

Modes of transportation, fleet mix, length, number, and type (e.g., work, non-work) of trips, main routes;

Number of employees per land use category; and

Vehicle speeds and ambient temperature.

Pollutant emission rates for known pieces of equipment or processes, as well as energy consumption, are generally available from the manufacturer or from the SCAQMD. If information regarding the number and type of equipment proposed is not available, stationary source emissions may be estimated by using other indicators, such as emission rates per square foot of development. Standardized default values are provided in the CEQA Air Quality Handbook, or consult CARB source classification codes and Environmental Protection Agency (EPA) emission factors.

There are three main methods of determining mobile source and energy consumption emissions as identified by the SCAQMD, depending on the level of detail needed. These include the use of:

Screening Tables 9-7 and 9-8 in the CEQA Air Quality Handbook;

Computer modeling, using the most recent version of Mobile Assessment for Air Quality Impacts (MAAQI); and

Methodology and emission factors in Appendix 9 of the CEQA Air Quality Handbook.

The MAAQI model, and the methodology in Appendix 9 of the CEQA Air Quality Handbook, allow estimation of emissions of criteria pollutants from vehicle trips associated with new or modified development, incorporating the most recent vehicle emission factors (EMFAC) from CARB. User-defined inputs to the models include project type, average vehicle miles traveled, year, season, trip speed, and other parameters. This information would be identified in the project traffic study. (See Appendix 9 of the CEQA Air Quality Handbook for more information.) Determine project-related mobile source emissions and compare to the daily emissions threshold reprinted from the CEQA Air Quality Handbook in the significance threshold.

Localized Mobile Sources (CO Hotspots)

Calculate future CO levels and the incremental increase in CO levels resulting from the proposed project at an intersection, driveway, parking facility, or roadway within one-quarter mile of a sensitive receptor. Assess whether there is an exceedance of the California standards.

Where more detailed or site specific analysis is desired, the CEQA Handbook recommends a dispersion model to estimate potential CO "hotspots," such as CALINE and CAL3QHC. For a detailed explanation of the CALINE4 model, refer to the California Air Resources Board publication *Air Quality Technical Analysis Note (AQ-TAN):* Microscale CO Procedures for California Users. Caltrans has also prepared a “CO Protocol” which is available for use within California and was developed based on information specific to California roads and driving conditions. Project-specific information from the traffic study or SCAQMD default values may be used.

Ambient CO concentrations through the year 2010 are presented in the CEQA Handbook and in the SCAQMD's *Draft Technical Report V-I: Assessment of Nitrogen Dioxide and Carbon Monoxide in the South Coast Air Basin.*

Based on the project's operational components, including activities and measures designed to reduce odors, determine whether the project would create an objectionable odor at the nearest sensitive receptor. Consider patterns of air flow/prevailing winds as applicable.

Using the information from the Evaluation of Screening Criteria, the project evaluation described above, and guidance from the appropriate source, calculate the emissions from operational activities, using the worst-case conditions. Identify measures that will be taken as part of the project to reduce air emissions. Determine the impact from all project sources.

Cumulative Impacts

Review the list of related projects and identify those that would have pollutant or odor emissions. Determine the potential impacts of all such projects, together with the proposed project, using the methodology above.

Sample Mitigation Measures

Potential mitigation measures include the following:

Install on-site pollution control equipment;

Modify industrial processes to reduce emissions;

Provide telecommunications centers near residential areas;

Establish shuttle service from residential areas to transit centers or commercial core areas;

Construct off-site pedestrian facility improvements, such as overpasses and wider sidewalks;

Contribute to regional transit systems (e.g., right-of-way, capital improvements, etc.);

Construct, contribute, or dedicate land for the provision of off-site bicycle trails linking the facility to designated bicycle commuting routes;

Provide video-conferencing facilities;

Implement home dispatching system where employees receive routing schedule by phone instead of driving to work;

Use low-emission fleet vehicles;

Provide on-site child care facilities;

Provide services, facilities, or incentives to reduce employee work trips. Consider ride share programs or shuttle service for employees;

Include adequate ventilation systems in parking structures to dissipate CO emissions;

Contribute to signal synchronization at congested areas;

Locate sensitive receptors away from potential "hotspots;" and

Provide barriers, such as wall or vegetative screen, between hotspots and sensitive receptors.

See L.1 INTERSECTION CAPACITY for Transportation Demand Management (TDM) measures.

See M.4 ENERGY for energy conservation mitigation measures.

3. DATA, RESOURCES, AND REFERENCES

SCAQMD, CEQA Staff (909-396-3109) and www.aqmd.gov\ceqa.

CARB. AQ-TAN. Microscale CO Procedures for California Users. June 1988.

CARB. CALINE4 - A Dispersion Model For Predicting Air Pollutant Concentrations Near Roadways. Revised June 1989. www.dot.ca.gov/hq/env/air/calinesw.htm.

California Department of Transportation (Caltrans). CO Transportation Project Protocol, 1997.

Local Government Commission (LGC), Land Use Strategies for More Livable Places, June 1992. (This publication may be obtained by writing to LGC, 909 12th Street, Suite 205, Sacramento, CA 95814.)

SCAQMD, Draft Technical Report V-I: Assessment of NO_2 and CO in the SCAB. December 1990.

See also B. AIR QUALITY and B.1. CONSTRUCTION EMISSIONS.

Urbemis 2002 (version 7.4.2) A Model that Estimates Air Pollution from a Wide Variety of Land Use Projects. www.aqmd.gov/ceqa/urbemis.htm.

Exhibit B.2-1
REPRINT OF SCAQMD CEQA AIR QUALITY HANDBOOK, PAGES 6-10 TO 6-12
SCREENING TABLE FOR OPERATION
DAILY THRESHOLDS OF POTENTIAL SIGNIFICANCE FOR AIR QUALITY

Primary Land Use	Potentially Significant Air Quality Impact
Residential	
Single Family Housing	166 units
Apartments	261 units
Condominiums	297 units
Mobile Homes	340 units
Retirement Community	612 units
Education	
Elementary School	220,000 sq.ft.
High School	177,000 sq.ft.
Community College	150,000 sq.ft.
University [a]	813 students
Commercial	
Airport [a]	15 Daily Commercial Flights
Business Park	136,000 sq.ft.
Day Care	26,000 sq.ft.
Discount Store [a]	32,000 sq.ft.
Fast Food w/o Drive-Thru	3,500 sq.ft.
Fast Food with Drive-Thru	2,800 sq.ft.
Hardware Store [a]	28,000 sq.ft.
Hotel	213 rooms
Medical Office	61,000 sq.ft.
Motel	220 rooms
Movie Theater [a]	30,000 sq.ft.
Car Sales [a]	43,000 sq.ft.
Office (small, 10-100)	96,221 sq.ft.
Office (medium, 100-200)	139,222 sq.ft.
Office (large, 200->)	201,000 sq.ft.
Office Park	171,000 sq.ft.
Racquet Club	98,000 sq.ft.
Research Center	245,000 sq.ft.
Resort Hotel	199 rooms
Restaurant	23,000 sq.ft.
Restaurant (high-turnover) [a]	9,000 sq.ft.

Exhibit B.2-1, continued
REPRINT OF SCAQMD CEQA AIR QUALITY HANDBOOK, PAGES 6-10 TO 6-12
SCREENING TABLE FOR OPERATION
DAILY THRESHOLDS OF POTENTIAL SIGNIFICANCE FOR AIR QUALITY

Primary Land Use	Potentially Significant Air Quality Impact
Commercial (cont'd.)	
Shopping Center (small, 10-500)	22,000 sq.ft.
Shopping Center (medium, 500-1,000)	50,000 sq.ft.
Shopping Center (large, 1,000-1,600)	64,000 sq.ft.
Special Activity Center [a] (Stadiums and Amusement Parks)	87 employees
Supermarket	12,500 sq.ft.
Industrial/Mining	
Light Industrial	276,000 sq.ft.
Heavy Industrial [a]	1,284,000 sq.ft.
Industrial Park	276,000 sq.ft.
Aircraft Manufacturing & Repairs	[b]
Bulk Terminals	[b]
Cement Plant	[b]
Chemical Plant	[b]
Hazardous Waste Treatment & Storage	[b]
Manufacturing	500,000 sq.ft.
Mining	[b]
Pulp/Paper Mills	[b]
Refinery	[b]
Institutional/Governmental	
Clinic [a]	94,000 sq.ft.
Government Center [a]	83,000 sq.ft.
Hospital [a]	176 Beds
Library	51,000 sq.ft.
Nursing Home	741 Beds
U.S. Post Office	26,000 sq.ft.
Freeway Lane Addition	All
Designation of a New Transportation Corridor	All
New Freeway/Highway	All
Auxiliary Lanes	Beyond One Ramp

Exhibit B.2-1, continued
REPRINT OF SCAQMD CEQA AIR QUALITY HANDBOOK, PAGES 6-10 TO 6-12
SCREENING TABLE FOR OPERATION
DAILY THRESHOLDS OF POTENTIAL SIGNIFICANCE FOR AIR QUALITY

Primary Land Use	Potentially Significant Air Quality Impact
Institutional/Governmental (cont'd.)	
Waterport	[b]
Sewage Treatment Plant	[b]
Rail	All
Cogeneration Project	[b]
Landfill	[b]
Incineration	Hazardous, Medical or Municipal Waste
Power Generating Facility	[b]
Waste-To-Energy Plant	[b]

[a] *Trip generation rates from the 5th Edition ITE Manual were based upon small sample sizes.*

[b] *New facilities, expansions or other changes that could result in emissions exceeding the significance thresholds.*

These size construction projects have the potential to exceed the daily emissions significance thresholds. Local governments should use these thresholds as screening tools when a project proponent first approaches the lead agency for a permit, to determine whether or not the proposed project will be significant. Moreover, using these thresholds, a project proponent should be advised to include feasible mitigation measures at the project design level rather than in later stages of the project.

Definitions:

"Manufacturing" means to make goods and articles by hand or machinery, often on a large scale and with division of labor.

"Industry" means any large-scale business activity or manufacturing productive enterprises collectively, especially as distinguished from agriculture.

B.3. TOXIC AIR CONTAMINANTS

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

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

III.b): Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

III.d): Would the project expose sensitive receptors to substantial pollutant concentrations?

B. Introduction

The California Health and Safety Code (HSC) Section 39655 defines a toxic air contaminant as "an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health." Toxic air contaminants are further classified as carcinogenic or non-carcinogenic substances.

Due to the adverse potential health effects of exposure to toxic air contaminants, both the federal and state governments have established lists of pollutants, which are either regulated at the state level through AB 1807, or at the federal level through the National Emissions Standards for Hazardous Air Pollutants (NESHAPs). The state regulations governing toxic air contaminants are more stringent than federal regulations. The primary responsibility for the implementation of these regulations within the City resides with the South Coast Air Quality Management District (SCAQMD) through its permitting authority. SCAQMD Rules 1401 (New Source Review (NSR) of Carcinogenic Air Contaminants) and 212 (Standards for Approving Permits) implement HSC Section 41700 that requires efforts to be undertaken to prevent new emissions that endanger public health.[1] The California Air Pollution Control Officers Association (CAPCOA) has set forth specific guidelines for the assessment of non-carcinogenic air contaminants from stationary point sources.

[1] *SCAQMD Rule 1402 regulates toxic emissions from existing facilities.*

SCAQMD's CEQA Air Quality Handbook (pages 3-6 to 3-7) lists the federal and state legislation that governs the regulation of toxic air contaminants. In addition to AB 1807 (Tanner Air Toxics Act), AB 2588 addresses toxic "hot spots," AB 3205 regulates toxic releases within 1,000 feet of schools, and AB 3374 involves monitoring of disposal sites.

Under Title III of the 1990 Clean Air Act Amendments (CAAA), the Environmental Protection Agency (EPA) was required to publish a list of categories of major sources of the Hazardous Air Pollutants (Toxics or HAPs) listed in Section 112 by November 1991. That list was then divided into a 10-year regulatory schedule for developing Maximum Achievable Control Technology (MACT) standards for every category or subcategory with specific accomplishments required in 2, 4, 7, and 10 year periods after enactment.

A carcinogenic air contaminant is a substance that has been shown to cause cancer in animals or humans. There is no specific concentration of carcinogenic air contaminants that can be considered completely safe. Thus, the amount of increased risk a person has of getting cancer from exposure to carcinogenic air toxics is used as an indicator of potential significant health effects.

Non-carcinogenic toxic air contaminants are defined as those which cause health effects other than cancer, such as lung, kidney, or liver diseases; respiratory or eye irritation; and nervous, reproductive or immune system disorders. By using health studies and adding safety margins, health experts have set reference exposure levels for these toxic chemicals. The risk of non-cancer health effects is described as a ratio, or hazard index. It compares an individual's highest exposure levels at a given site to the reference exposure level for that toxic.

Impacts from toxic air contaminants can occur during either the construction or operational phases of a project. During certain construction activities, potential releases of toxic air contaminants could occur during site remediation activities, or during building demolition. Toxic air contaminants may also be released during industrial or manufacturing processes, or other activities that involve the use, storage, processing, or disposal of toxic materials.

For a discussion of accidental chemical releases, please refer to F.1. RISK OF UPSET/EMERGENCY PREPAREDNESS. Exposure to asbestos is discussed in F.2. HUMAN HEALTH HAZARDS.

C. Screening Criteria

- Would the project use, store, or process carcinogenic or non-carcinogenic toxic air contaminants which could result in airborne emissions?

A "yes" response to the preceding question indicates that further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the significance threshold for Toxic Air Contaminants, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to the preceding question indicates that there would normally be no significant impact from Toxic Air Contaminants from the proposed project.

D. Evaluation of Screening Criteria

Review the proposed project and its associated components, including demolition, site preparation, construction, and operation. Determine the potential for toxic airborne emissions. Professional assistance may be required. Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

The determination of significance shall be made on a case-by-case basis, considering the following factors:

- The regulatory framework for the toxic material(s) and process (es) involved;
- The proximity of the toxic air contaminants to sensitive receptors;
- The quantity, volume and toxicity of the contaminants expected to be emitted;
- The likelihood and potential level of exposure; and
- The degree to which project design will reduce the risk of exposure.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include a discussion of the applicable regulatory setting and existing facilities or operations in the area, which may release toxic air

emissions. Identify the location and type of all sensitive uses, which could be impacted by project emissions.

Project Impacts

Review the proposed project including construction and operation activities. Identify and evaluate project features or components that would reduce the risk of exposure. The CEQA Air Quality Handbook defines the following land uses as sensitive receptors: residences, schools, playgrounds, child care facilities, long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, and outdoor athletic facilities. Consider the regulatory framework and determine the resulting risk of exposure. Additional information to assist with project evaluation is provided in the CEQA Air Quality Handbook.

Cumulative Impacts

Review the related projects and identify those that would involve the potential release of toxic air contaminants and could contribute to a concentration of toxic air contaminants. Evaluate the potential cumulative impacts as described above for Project Impacts. Information to assist with cumulative evaluation is provided in the CEQA Air Quality Handbook.

Sample Mitigation Measures

New sources of toxic air contaminants are regulated in the South Coast Air Basin (Basin) by the SCAQMD. Permit requirements generally result in emissions that are considered to be less than significant by the SCAQMD. Consult the CEQA Air Quality Handbook for additional information.

Potential mitigation measures include the following:

- Provide barriers that reduce emissions (e.g., screens, vents, closed systems);

- Use non-toxic or less toxic substances in project construction or operation; and

- Investigate opportunities and implement programs to improve efficiency and/or reduce the amount of waste emissions generated.

3. DATA, RESOURCES, AND REFERENCES

SCAQMD, Toxics Division. Information on health risk assessments, toxics permits and compliance may be obtained by calling the SCAQMD Toxics and Waste Management Branch at (909) 396-2388.

CAPCOA, Air Toxics Assessment Manual, 1987 and Air Toxics "Hot Spots" Program Risk Assessment Guidelines. (updated yearly). Available by calling CAPCOA at (916) 676-4323.

California Air Resources Board (CARB). Documents available for each AB 1807 toxic air contaminant which is identified. Contact the CARB's Public Information Office at (916) 322-2990 or call ARB Air Quality Measures Branch (916) 445-6318. California Air Toxics Program web page http://www.arb.ca.gov/toxics/toxics.htm.

HSC Section 44300 et sec. Air Toxics "Hot Spots" Information and Assessment Act of 1987 and Section 39650 et sec. Toxic Air Contaminants (Chapter 3.5).

SCAQMD, Procedures for Preparing Risk Assessments to Comply with Air Toxics Rules of the SCAQMD.

Environmental Protection Agency (EPA), Guideline on Air Quality Models (revised). EPA-450/2-78-027R. Available at http://www.epa.gov/

See also B. AIR QUALITY, B.1. CONSTRUCTION EMISSIONS, and B.2. OPERATIONAL EMISSIONS.

C. BIOLOGICAL RESOURCES

C. BIOLOGICAL RESOURCES

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

IV.a): Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

IV.b): Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

IV.c): Would the project 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?

IV.d): Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

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

IV.f): Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

B. Introduction

A wide variety of sensitive biological resources, including both plant and animal species, reside in or use resources within the City of Los Angeles. The City encompasses a variety of open space and natural areas that serve as habitat for sensitive species. Much of this natural open space is found in or is adjacent to the foothill regions of the San Gabriel, Santa Susana, Santa Monica and Verdugo Mountains, the Simi Hills, and along the coastline between Malibu and the Palos Verdes Peninsula.

Many of the outlying areas are contiguous with larger natural areas, and may be part of significant wildlife habitats or movement corridors. In contrast, the central and valley portions of the City contain fewer natural areas.

Various-sized remnants of native habitats, such as hillside and canyon areas, wetland habitats, dunes, beaches and marine habitats exist in many areas of the City. Although these areas may have been modified from their natural conditions, they are still important habitats for wildlife. Habitat values are generally highest in areas of relatively large acreage adjacent to other similar habitat systems. Some sensitive biotic resources may persist even in urbanized settings, such as oak trees, rare plants, peregrine falcons, Monarch butterflies and bats.

Federal and state agencies, including the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (DFG), maintain listings of sensitive species and habitat (i.e., federal or state listed endangered, federal or state listed threatened, Species of Special Concern, federal or state candidate species; and federally listed critical habitat).

A project may impact biological resources through the loss or destruction of individuals of a sensitive species or through degradation of sensitive habitat. Habitat degradation may occur through grading or excavation, increases in water or air pollutants, increased noise, light, or vibration, interruption of fresh or salt water supplies, reduction in food supplies or foraging areas, or interference with established wildlife movement patterns on or between habitat areas. Projects, which create long-term or episodic impacts to natural areas -- such as by generating toxic fumes or fugitive dust -- could also result in degradation or destruction of a natural habitat. New development, construction, roadways, and agricultural use all have the potential to lower or remove natural resource values of natural open space systems.

Exhibit C-1 divides the City into five geographic zones for the purpose of identifying potential sensitive biological resources. Natural open space areas within the City's 11 Planning Subregions that may contain habitat for sensitive species are shown on Exhibits C-2 through C-5. These maps are based upon interpretation of aerial photography of the City dated November 1992[1]. The maps include open space areas, as well as several areas that appear to be devoted to agriculture and mineral extraction. The latter areas are mapped because they are of substantial size and presently or potentially meet habitat needs for plants and animals. Urban parks, golf courses, and small reservoirs are excluded from this mapping unless they are physically contiguous with other habitats, such as at the Sepulveda and Hansen flood control basins. A few vacant lots within the City are also indicated on these maps by virtue of their size and present or future potential to support biological

[1] *Areas that have been developed since November 1992 may be shown as open space habitat on these maps.*

resources. Additionally, Significant Ecological Areas (SEAs), established by the County of Los Angeles through its General Plan, are shown. Exhibit C-6, describes the SEAs, open space habitats, and other potential/known sensitive resources in each planning subregion.

Both federal and state legislation calls for the protection of sensitive species, and the habitat that supports them, to reduce the chance that existing and future development will seriously endanger the continued existence of native biological resources. The presence of adequate habitat, including food and water, shelter, and nesting sites, is critical to a species' long-term survival. Exhibit C-7 provides a summary of existing known sensitive biological resources and classifications within the City of Los Angeles and vicinity, along with their federal and state listed status, habitat requirements, and the biological assessment zone (from Exhibit C-1) in which the species may exist. This exhibit also provides applicable classifications from the California Native Plant Society (CNPS).

The habitat types in the remaining natural open space areas are quite diverse. Chaparral, which supports a wide variety of wildlife, is most prevalent on the north slopes and higher-elevation south slopes of the Santa Monica and Verdugo Mountains. Open-structured coastal scrub and grassland are prevalent on the lower-elevation south slopes of these ranges, and also in the Simi Hills, Santa Susana and San Gabriel Mountains. Grasslands also occur in flood control basins and near reservoirs in various parts of the City. Along the coast, sandy beaches, rocky cliffs, headlands and promontories support marine invertebrates, fishes, mammals, birds and plants. In addition, coastal habitats, including the dunes, marshes and bluffs, support a number of unique, threatened and endangered plants and animals.

For the purposes of the *Thresholds Guide*, a sensitive biological resource is defined as follows:

- A plant or animal that is currently listed by a state or federal agency(ies) as endangered, threatened, rare, protected, sensitive or a Species of Special Concern or federally listed critical habitat;

- A plant or animal that is currently listed by a state or federal agency(ies) as a candidate species or proposed for state or federal listing; or

- A locally designated or recognized species or habitat.

C. Screening Criteria

For projects proposed on sites within the City of Los Angeles that are located in Area 5 of Exhibit C-1, or **in the unshaded portions** of Exhibits C-2 through C-5:

- Do known individuals or populations of a sensitive species use or inhabit the site during one or more seasons of the year, according to readily available published accounts, the project proponent and/or property owner?

- Is the project site immediately adjacent to undeveloped natural open space containing native vegetation (such as the shaded areas on Exhibits C-2 through C-5) or does the site appear to serve as a buffer between existing development and more natural habitat areas? Could it be part of a movement corridor or habitat linkage system?

- Is a natural water source, such as a lake, river, vernal pool, ephemeral stream, marsh or the ocean present on or adjacent to the site?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Biological Resources and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to all of the preceding questions indicates that there would normally be no significant impact on Biological Resources from the proposed project.

For projects proposed on sites within the City of Los Angeles that are located **within a shaded open space area** as identified on Exhibits C-2 through C-5:

- Do known individuals or populations of a sensitive species use or inhabit the site during one or more seasons of the year, according to readily available published accounts, the project proponent and/or property owner?

- Does the project site contain natural open space and/or known native vegetation?

- Does the site serve as a buffer between existing development and more natural habitat areas?

- Does the site serve as a known wildlife movement corridor between habitat areas?

- Is a natural water source, such as a lake, river, vernal pool, ephemeral stream, marsh or the ocean present on, or immediately adjacent to, the project site?

- Is the project site relatively undisturbed or undeveloped, that is, free of structures, agricultural fields, pavement, etc.? Is it free of regular maintenance activities such as disking or clearing, maintenance and repair of linear utilities, maintenance or repair of roads, or maintenance and repair of municipal reservoirs and associated infrastructure?[2]

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Biological Resources and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to each of the previous questions indicates that there would normally be no significant impact on Biological Resources from the proposed project.

D. Evaluation of Screening Criteria

Locate the proposed project site on the appropriate map presented in Exhibits C-1 through C-5. Determine the existing conditions on the project site and surrounding area, including whether existing vegetation is native, urbanized, or ruderal (i.e, weedy or introduced plants where native vegetation has been disturbed).

If the site is located in an unshaded portion of Exhibits C-2 through C-5, review the first set of screening questions. Look for evidence that a sensitive species outside of the normal range, or an urban migratory species, uses or inhabits the site during one or more seasons. Look for unmanaged vegetation, cave-like areas, evidence of nesting, hunting, tracks or droppings, and review readily available published accounts of such sightings. Also, confer with the property owner and project proponent. Check for natural sources of water on or adjacent to the site as well as proximity of the site to areas of undeveloped open space to determine whether the site could serve as a buffer or wildlife movement corridor.

If the site is located within a shaded portion of Exhibits C-2 through C-5, review the second set of questions. Review Exhibits C-1 and C-7 to assist in identifying which species may potentially be located on the project site. If the project site has been developed or substantially disturbed since these maps were prepared in November 1992, use the questions for sites within the unshaded

[2] *Natural surface disturbances, such as fire or flood, are not considered to be resource-degrading.*

portions of the maps. The federal and state species lists change periodically; always compare with the most recent edition.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A project would normally have a significant impact on biological resources if it could result in:

- The loss of individuals, or the reduction of existing habitat, of a state or federal listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat;

- The loss of individuals or the reduction of existing habitat of a locally designated species or a reduction in a locally designated natural habitat or plant community;

- Interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a sensitive species;

- The alteration of an existing wetland habitat; or

- Interference with habitat such that normal species behaviors are disturbed (e.g., from the introduction of noise, light) to a degree that may diminish the chances for long-term survival of a sensitive species.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- A physical description of the project site, including acreage, topography, presence of sensitive features (e.g., wetlands, flowing, standing or ephemeral water sources, rock outcroppings, caves, etc.), major habitats and vegetation communities present, potential presence of wildlife populations, sensitive resources, migration corridors, and relationship to the surrounding land;

- In marine environments, describe the presence or absence of tidal wetlands, the bottom topography and depth, access to open ocean systems, information on existing biota, and the existence of movement or migration corridors of marine mammals; and

- A statement of the potential for existing sensitive resources, based upon review of Exhibit C-7, and other biological reference documents, including the California Natural Diversity Database (CNDDB), federal and state agency lists, regulatory statutes, and applicable City documents.

- A review of local, state, and federal regulations that apply to the project site.

Prepare or reference baseline assessments of potential occurrence of sensitive resources (from literature and existing resource data bases) and conduct a field reconnaissance survey, as needed. Surveys should be performed during appropriate seasons, and should include all significant biotic elements, including corridor and habitat linkages, with an assessment of the nature of their occurrence (e.g., resident, transient, migratory, etc.). Species inventories should include organisms observed during surveys, along with those reasonably expected to occur over time, with a listing of sensitive biological elements and their agency status. See Exhibit C-7 for a list of sensitive resources potentially present within the City, and Exhibits C-1 through C-5 for habitat maps for various areas of the City.

Project Impacts

Prepare a biological assessment of the site, based on the known and potential biological resources on and adjacent to the site. Determine the actual presence or absence within project boundaries or on adjacent lands of sensitive plants, animals or habitats listed as "potentially present" in resource databases. Also, note the quality of existing vegetation.

Review the project description, including site preparation, construction and operational plans, to identify which biological resources could be lost or degraded by project implementation, if any, including habitats, shelter, movement corridors, foraging grounds, and nesting areas. Professional assistance may be required. Compare the results to the Significance Threshold. Incremental loss of areas used seasonally may be significant depending upon the value of the habitat that remains.

Cumulative Impacts

Review the list of related projects and identify those that, in combination with the proposed project, could impact sensitive biological resources. Consider especially impacts to the same species, habitat, or open space area as those affected by the proposed project. Include site preparation and construction activities as well as operational activities. Note whether the projects could combine to obstruct wildlife movement corridors, contribute to habitat fragmentation, or affect sensitive plants or animals. Assess the incremental losses to habitat, foraging areas, wintering grounds, nesting sites, etc., and any potential takings of sensitive species.

Also, evaluate the impact of cumulative project operational activities on sensitive species and habitats. Consider effects such as increased traffic, noise, fumes, general human activity, ambient lighting, fencing, fugitive dust pollution, infiltration of herbicides or industrial waste chemicals, and harassment of wildlife by domestic pets.

Sample Mitigation Measures

Specific project mitigation measures should be based on recommendations in the biological assessment and involve consultation with appropriate resource protection agencies. Potential mitigation measures include the following:

- Revise project construction plans to avoid grading or excavation during sensitive seasons (e.g., rain, nesting, etc.);

- Design the project such that the most biologically-sensitive portions of the site are preserved for natural habitat;

- Block human and domestic animal access to sensitive habitats adjacent to the project site;

- Provide for revegetation/restoration after project construction; and

- Mitigation banking: Compensate (to the satisfaction of resource agencies) for the loss of habitat values in one area by purchasing or deed-restricting similar or better habitat systems on other sites. These areas would be high value ecosystems, preferably containing viable populations of sensitive resources.

3. DATA, RESOURCES, AND REFERENCES

Los Angeles County Department of Regional Planning; Telephone: (213) 974-6411. SEA information. http://planning.co.la.ca.us.

Exhibit C-8 contains general references regarding biological resources in the Los Angeles area.

USFWS, Ecological Services, Carlsbad Field Office, 6010 Hidden Valley Road, Carlsbad, California, 92009; Telephone: (760) 431-9440. The USFWS can provide information regarding the Endangered Species Act, federally listed species, and federal wildlife resources and their protection.

Selected Legislation

Federal

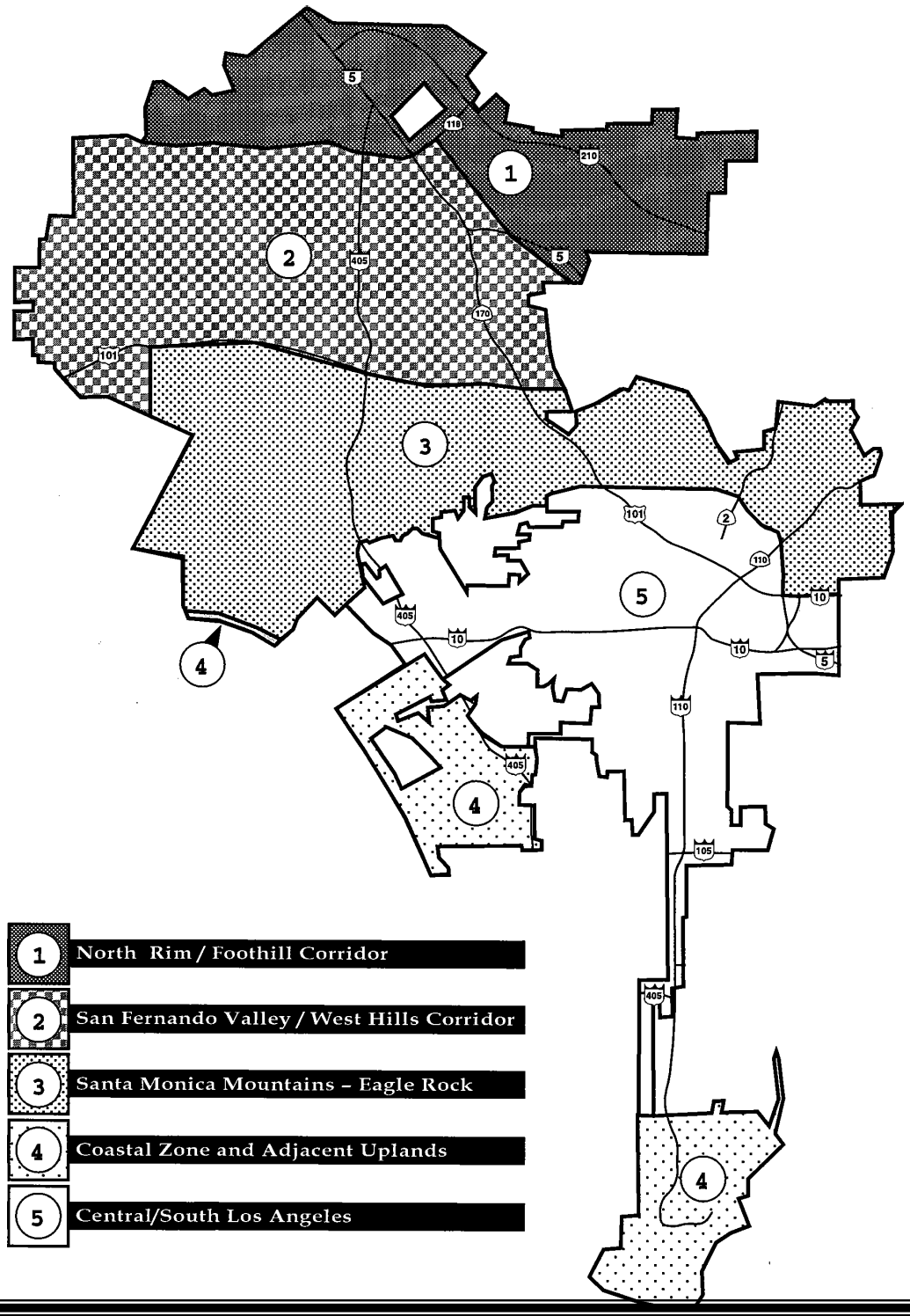
Endangered Species Act of 1973, PL 93-205 (16 U.S.C. 1531)

Purpose is to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth.

State

California Endangered Species Act, Fish and Game Code, Division 3, Chapter 1.5.

Declares that these species of fish, wildlife, and plants are of ecological, educational, historical, recreational, esthetic, economic, and scientific value to the people of this state, and the conservation, protection, and enhancement of these species and their habitat is of statewide concern. Provides for a state list of endangered and threatened species by the Fish and Game Commission and restricts activities that may impact these species.



Planning
Consultants
Research

Exhibit C-1
Habitat-Oriented Biological Assessment Planning Zones

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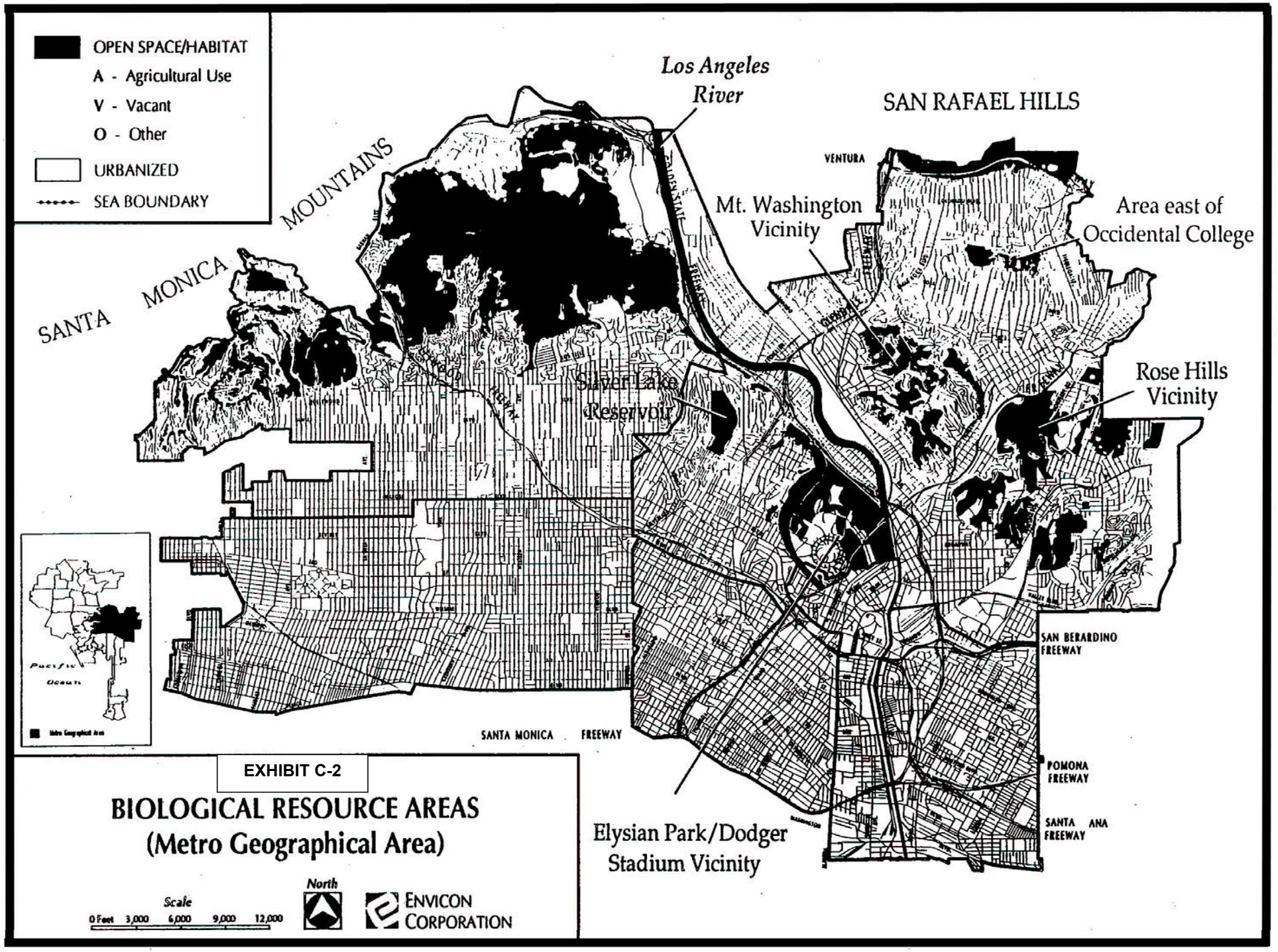
OPEN SPACE/HABITAT
A - Agricultural Use
V - Vacant
O - Other
URBANIZED
SEA BOUNDARY
Los Angeles River
SAN RAFAEL HILLS
SANTA MONICA MOUNTAINS
VENTURA
Mt. Washington Vicinity
Area east of Occidental College
Silver Lake Reservoir
Rose Hills Vicinity
SAN BERARDINO FREEWAY
SANTA MONICA FREEWAY
POMONA FREEWAY
SANTA ANA FREEWAY
Elysian Park/Dodger Stadium Vicinity
Pacific Ocean
Metro Geographical Area
EXHIBIT C-2
BIOLOGICAL RESOURCE AREAS
(Metro Geographical Area)
Scale
0 Feet 3,000 6,000 9,000 12,000
North
ENVICON CORPORATION

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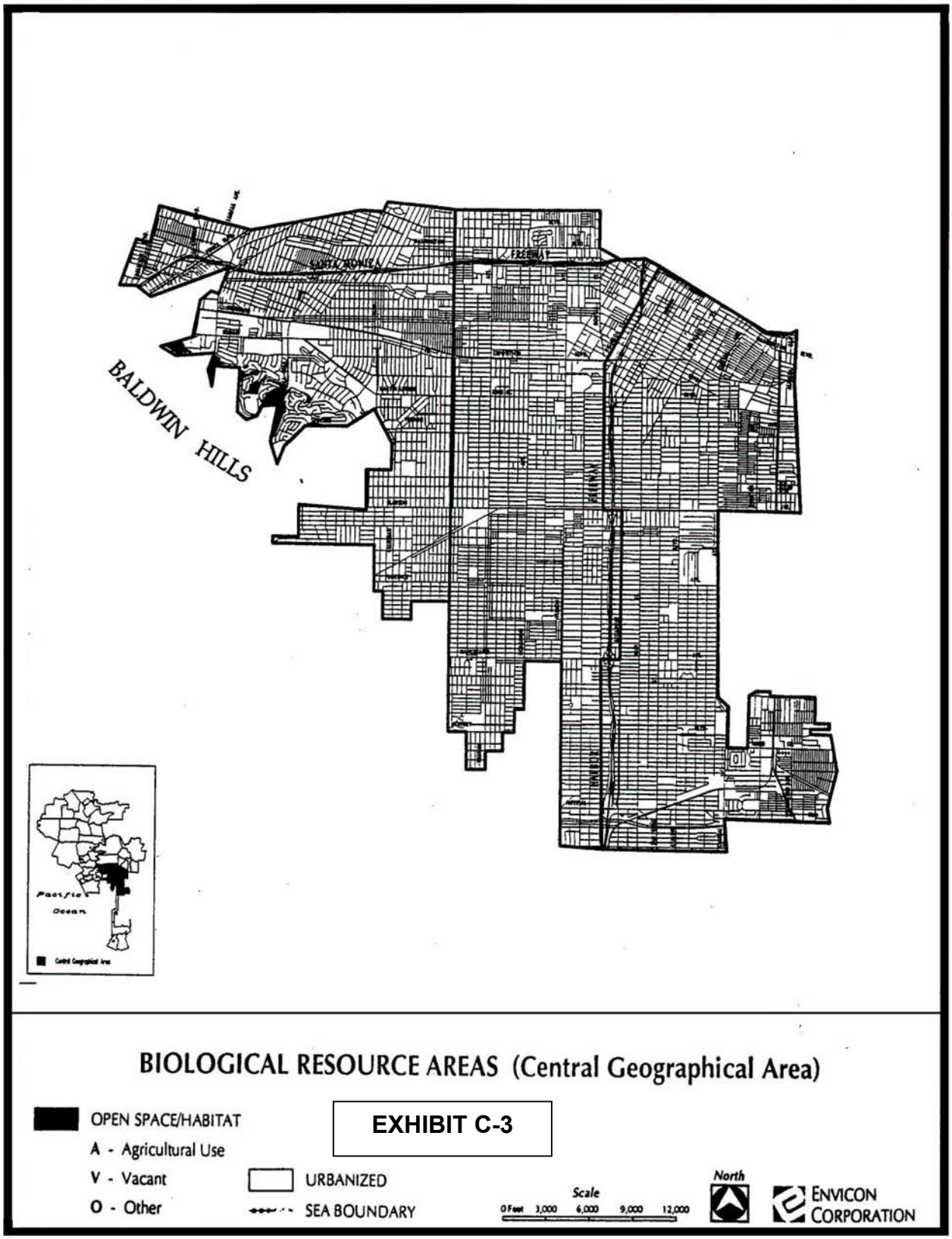
BALDWIN HILLS
BIOLOGICAL RESOURCE AREAS (Central Geographical Area)
OPEN SPACE/HABITAT
A - Agricultural Use
V - Vacant
O - Other
URBANIZED
SEA BOUNDARY
EXHIBIT C-3
Scale
0 Feet 3,000 6,000 9,000 12,000
North
ENVICON CORPORATION

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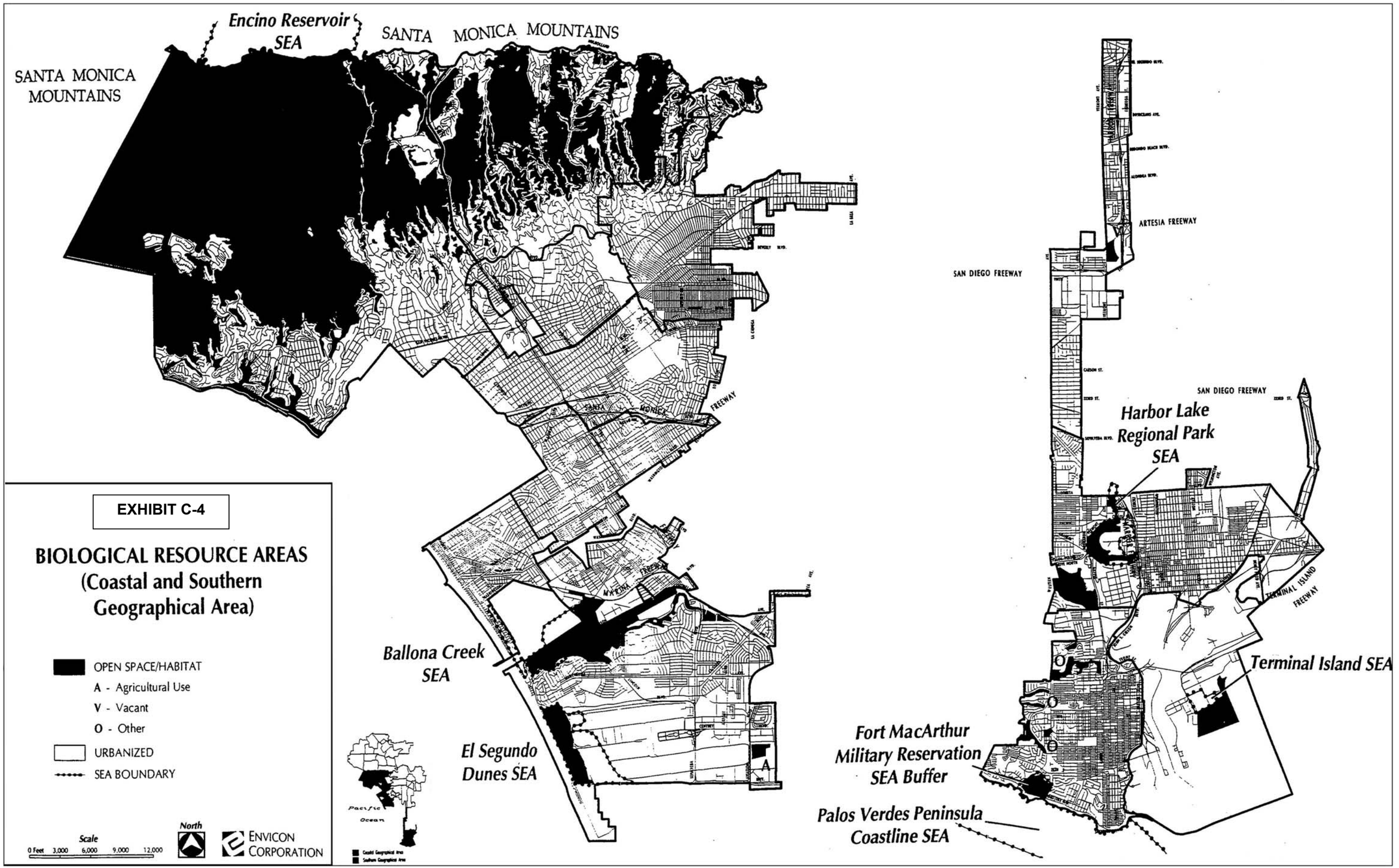
Encino Reservoir SEA
SANTA MONICA MOUNTAINS
SANTA MONICA MOUNTAINS
SANTA MONICA FREEWAY
ARTESIA FREEWAY
SAN DIEGO FREEWAY
SAN DIEGO FREEWAY
Harbor Lake Regional Park SEA
TERMINAL ISLAND FREEWAY
Terminal Island SEA
Ballona Creek SEA
El Segundo Dunes SEA
Fort MacArthur Military Reservation SEA Buffer
Palos Verdes Peninsula Coastline SEA
Pacific Ocean
Coastal Geographical Area
Southern Geographical Area
EXHIBIT C-4
BIOLOGICAL RESOURCE AREAS
(Coastal and Southern Geographical Area)
OPEN SPACE/HABITAT
A - Agricultural Use
V - Vacant
O - Other
URBANIZED
SEA BOUNDARY
Scale
0 Feet 3,000 6,000 9,000 12,000
North
ENVICON CORPORATION

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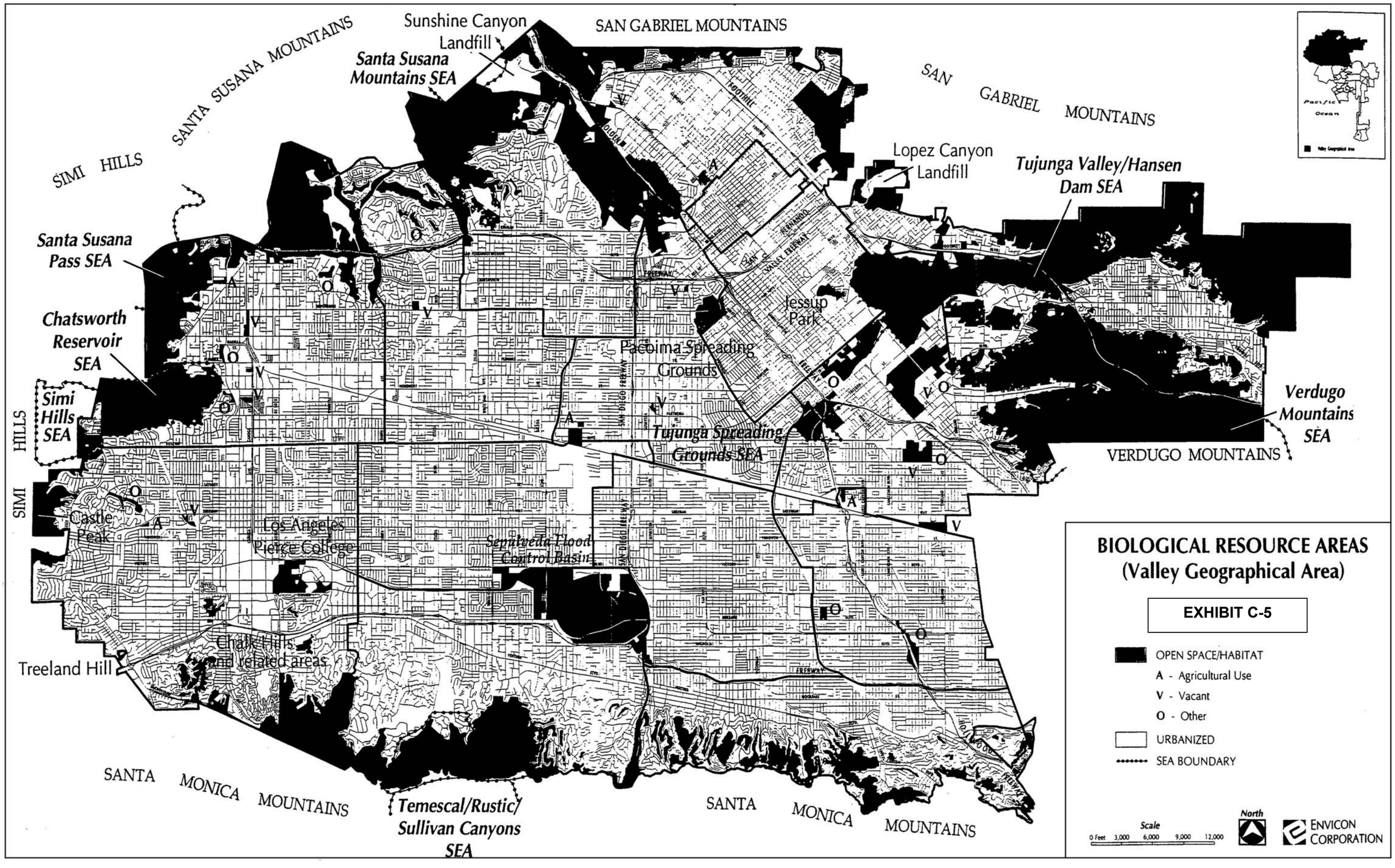
SANTA SUSANA MOUNTAINS
SIMI HILLS
Sunshine Canyon Landfill
SAN GABRIEL MOUNTAINS
Santa Susana Mountains SEA
SAN GABRIEL MOUNTAINS
Lopez Canyon Landfill
Tujunga Valley/Hansen Dam SEA
Santa Susana Pass SEA
Chatsworth Reservoir SEA
Jessup Park
Pacoima Spreading Grounds
Simi Hills SEA
HILLS
Tujunga Spreading Grounds SEA
Verdugo Mountains SEA
VERDUGO MOUNTAINS
SIMI
Castle Peak
Los Angeles Pierce College
Sepulveda Flood Control Basin
Chalk Hills and related areas
Treeland Hill
SANTA MONICA MOUNTAINS
Temescal/Rustic/ Sullivan Canyons SEA
SANTA MONICA MOUNTAINS
Pacific Ocean
Valley Geographical Area
BIOLOGICAL RESOURCE AREAS
(Valley Geographical Area)
EXHIBIT C-5
OPEN SPACE/HABITAT
A - Agricultural Use
V - Vacant
O - Other
URBANIZED
SEA BOUNDARY
Scale
0 Feet 3,000 6,000 9,000 12,000
North
ENVICON CORPORATION

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Exhibit C-6
NATURAL HABITATS AND SIGNIFICANT ECOLOGICAL AREAS (SEAs) WITHIN THE CITY OF LOS ANGELES[1]

The following discusses the open space resources and SEAs in each of the eleven Planning Subregions of the City, starting in the north and proceeding generally south. Within each subregion, the mapped open spaces and habitats they contain are briefly discussed, and the reader is referred to those general and site-specific accounts of biological resources that were found applicable to each subregion. Often, an open space area occurs in more than one subregion (e.g. Santa Monica Mountains). Such occurrences are discussed separately in each case, but in greatest detail when first encountered in the discussion. Therefore, the reader may find reference in the discussion to a prior description of an open space area in an earlier subregion. There is additional information about SEAs at the end of this section.[2]

Northwest Valley Planning Subregion

Chatsworth Reservoir SEA. The Chatsworth Reservoir is owned by the Los Angeles Department of Water and Power, and abuts the foot of the Simi Hills in the Western San Fernando Valley. A variety of habitats are present here, including grassland, oak woodland and savannah, freshwater marsh and open water, which offer important wintering and breeding grounds for songbirds and waterfowl (England and Nelson, 1976). The Chatsworth reservoir is one of five areas in the San Fernando Valley that is used regularly by wintering Canada Geese (*Branta canadensis*). Many-stemmed dudleya (*Dudleya multicaulis*) is reported in rocky areas on the south side of the reservoir (NDDB, 1994).

Simi Hills and Simi Hills SEA, and Santa Susana Pass SEA. The Simi Hills are generally located north of the Ventura Freeway (US 101), south of the Simi Valley Freeway (SR 118), and west of the San Fernando Valley. As such, they lie largely outside of the City boundary, and are mostly within Ventura County. However, portions of its eastern flank bordering the western San Fernando Valley from the vicinity of Castle Peak to Santa Susana Pass lie within the City. Wieslander (1934) mapped the vegetation of this region between 1927 and 1933. Wiekel (1983) has prepared a biological inventory and mapping for this area, although additional specific biological resource inventories of the Simi Hills within the City and County of Los Angeles are generally lacking. A survey over the areas of Dayton and Woolsey Canyons (Envicom Corp., 1990) in the Simi Hills just east of the Chatsworth Reservoir is the best representative inventory available for the eastern Simi Hills. Habitats present include grassland, coastal scrub, chaparral, riparian and oak woodland, and limited areas of walnut woodland. The state-listed Rare Santa Susana tarplant

[1] *Reprinted from the EIR for the Framework Element.*

[2] *SEA boundaries are established by Los Angeles County. The current legal boundaries and status should be verified.*

Exhibit C-6, continued
NATURAL HABITATS AND SIGNIFICANT ECOLOGICAL AREAS (SEAs) WITHIN THE CITY OF LOS ANGELES[1]

(*Hemizonia mint Jionii*) is prevalent in the sandstone outcrops, and Humboldt lily (*Lilium humboldtii ocellatum*) occurs in the under story of riparian woodland in upper Dayton Canyon.

The Simi Hills SEA is almost entirely within the unincorporated area of Los Angeles County, with only a small fraction extending into the City. The remaining portions of this SEA are located west of Chatsworth Reservoir and Valley Circle Boulevard, and north and south of Lakeside Park (a residential community). Santa Susana tarplant occurs adjacent to Valley Circle Boulevard in the northern area (Wishner, personal observation, 1990). The Simi Hills SEA contains representative examples of chaparral, coastal scrub, southern oak woodland and riparian woodland, and the area also serves as a wildlife corridor for movement between the Chatsworth Reservoir SEA and the large, undeveloped portions of the Simi Hills in Ventura County to the west (England and Nelson, 1976).

The southern portion of the Santa Susana Pass SEA that is located south of the Simi Valley Freeway (SR 118) is actually located in the Simi Hills, within the City of Los Angeles (the remainder of the SEA north of the freeway is in the Santa Susana Mountains, and outside the City boundary). The Santa Susana Pass SEA is an important wildlife movement zone between the Santa Susana Mountains and the Simi Hills (England and Nelson 1976), which is referred to as the "primary Simi Valley Freeway habitat linkage" by Edelman (1991). Intact crossings for large mammals include the Rocky Peak Road freeway overpass (just outside City/County line). Habitats encompassed by the Santa Susana Pass SEA (within the City) include chaparral, coastal scrub, grassland, oak woodland, and riparian woodland. The SEA also contains concentrations of Santa Susana tarplant, which is associated with sandstone outcrops in chaparral and coastal scrub habitats.

Discrepancies between the original boundaries recommended (England and Nelson, 1976) and adopted by the County of Los Angeles and the extent of open space habitat for plants and animals shown on Exhibits C-2 through C-5, are the result of "deletions" of areas from the SEA as they have become developed.

Santa Susana Mountains and Santa Susana Mountains SEA. The Santa Susana Mountains form an open-space link between the San Gabriel Mountains (northeast) and the Simi Hills and Santa Monica Mountains (southwest). With the exception of a resource inventory and mapping prepared by Wiekel (1983) and bird lists for O'Melveny Park (Martin, 1992), specific biological resource accounts of the Santa Susana Mountains are generally lacking. The range does support grassland, chaparral, oak woodland and savanna, riparian woodland, and big-cone spruce woodland (latter on the north slope only).

Exhibit C-6, continued
NATURAL HABITATS AND SIGNIFICANT ECOLOGICAL AREAS (SEAs) WITHIN THE CITY OF LOS ANGELES[1]

A small, eastern extension of the Santa Susana Mountains SEA is located within the City boundary, although much of the former SEA here is occupied by the Sunshine Canyon Sanitary Landfill.[3] Habitats of the Santa Susana Mountains SEA include grassland, coastal sage scrub, chaparral, oak woodland and savannah, and riparian woodlands (England and Nelson, 1976). Porter Ranch is also included in this geographic region.

Van Norman Reservoir and vicinity. This large open space area in the northern San Fernando Valley receives water via aqueduct over the San Fernando Pass--the divide between the Santa Susana and San Gabriel Mountains. The size of the reservoir containing open water was substantially reduced following the Sylmar earthquake in 1971, when the lower dam was drained. As a result, portions of that area have recovered to form willow forest habitat. Upland portions of the reservoir area support grassland and coastal scrub vegetation. The area is one of five, which are regularly used by wintering Canada geese. To the south and adjacent to the reservoir are agricultural lands, a cemetery, a parcel containing remnant grassland, coastal scrub and oak woodland, and several vacant lots. These form a cohesive unit, which offers resources for plants and animals as an adjunct to the reservoir site. Across the Golden State Freeway (I-5) from the Van Norman Reservoir (in the Northeast Valley subregion) is a substantial area of grassland, coastal scrub, and small open water habitat, which adds to the effective size and resource value of the reservoir site.

Pacoima Spreading Grounds. This area of storm water runoff collection located southwest of the junction of the Golden State Freeway (I-5) and the Simi Valley Freeway (SR 118) is divided approximately in half between the Northwest and Northeast Valley Planning Subregions. It supports marsh-like habitat when ponding occurs (City of Los Angeles, 1989), and offers opportunities for migrating waterfowl and shorebirds.

Northeast Valley Planning Subregion

San Gabriel Mountains. This subregion contains portions of the foothills of the San Gabriel Mountains bordering the San Fernando Valley and extending from the western end of the range eastward to Pacoima Canyon, Lopez Canyon, Little Tujunga Canyon and Big Tujunga Canyon. From there, the City includes the foothills of the range bordering on the San Gabriel Valley eastward to approximately Hines Canyon, and extending upward into the mountains to the vicinity of Mount Lukens. Biological resources of the San Gabriel Mountains are discussed generally (Hanes, 1976; Schoenherr, 1976 and 1992; USDA:FS, 1987; Long, 1994), but specific biological accounts of areas

[3] *The footprint of the landfill shown in Exhibit C-2 is as of November 1992, and does not reflect the expansion which has occurred since that date.*

Exhibit C-6, continued
NATURAL HABITATS AND SIGNIFICANT ECOLOGICAL AREAS (SEAs) WITHIN THE CITY OF LOS ANGELES[1]

within the City [with the exception of detailed vegetation maps prepared by Wieslander (1934)] are limited to project-related environmental impact reports and sensitive species records in the Natural Diversity Data Base. Habitats evident in the City boundary on aerial photographs include primarily coastal scrub and chaparral, and limited areas of oak and riparian woodlands, and grasslands.

Verdugo Mountains and Verdugo Mountains SEA. The City includes the entire northwestern end of this mountain range bordering the San Fernando Valley and the San Gabriel Valley. This geographic location makes the Verdugo Mountains an important habitat linkage between the San Gabriel Mountains to the north, and the Santa Monica Mountains to the south (England and Nelson, 1976). Both general and specific accounts of biological resources therein are lacking or limited to project-related environmental impact reports or accounts of sensitive species, and the detailed vegetation maps of the area prepared by Wieslander in 1934. As shown on aerial photographs, habitats present in these mountains include grassland, coastal scrub, chaparral, riparian and oak woodlands.

A substantial portion of the Verdugo Mountains SEA lies within the City, while the remainder is within the corporate boundaries of Burbank and Glendale. Although England and Nelson (1976) indicate "considerable information exists on the area," this information was not available for preparation of the General Plan Framework EIR.

Tujunga Valley/Hansen Dam Park SEA. The Tujunga Valley occupies the floodplain of Big Tujunga Canyon. Hansen Dam is a flood control basin receiving stream discharge from Lopez, Kagel, Little Tujunga, and Big Tujunga Canyons. The floodplain behind Hansen Dam (Hansen Dam Park) supports one of the last examples of alluvial scrub vegetation in the freshwater marsh, willow forest and scrub. Alluvial scrub is habitat for the state-listed Endangered Nevin's barberry (*Berberis nevinii*) and the state- and federally-listed Endangered slender-horned spineflower (*Dodecahema leptoceras*), which have been found here (England and Nelson, 1976; City of Los Angeles, 1989a). Long (1994) has prepared a list of plants and birds occurring at the Tujunga Ponds. The park reportedly (City of Los Angeles 1989) supports a south coast minnow/sucker stream which sustains native populations of arroyo chub (*Gila orcutti*) and Santa Ana sucker (*Catostomus santaanae*). Swift et al. (1993) report that arroyo chub remains common in Big Tujunga, whereas Pacific speckled dace (*Rhinichthys oscrilus*) and Santa Ana sucker have become scarce and perhaps extirpated. Areas to the southwest (below the dam) are used as a spreading ground for groundwater

Exhibit C-6, continued
NATURAL HABITATS AND SIGNIFICANT ECOLOGICAL AREAS (SEAs) WITHIN THE CITY OF LOS ANGELES[1]

recharge, which has created several freshwater marsh areas used by marsh birds, migratory waterfowl, and shorebirds (England and Nelson, 1976).[4]

Jessup Park. A small area of chaparral, coastal scrub and grassland habitats (as evident on aerial photographs) occurs just west of Hansen Dam Park--No specific details of biological resources present could be found in the available literature.

Tujunga Spreading Grounds SEA. This SEA is located in the Tujunga Wash downstream from Hansen Dam, at the juncture of the Golden State Freeway (I-5) and the Hollywood Freeway (SR 170). Although it contains little natural vegetation, it is an area of ponded water serving as an important nesting, feeding and resting ground for many migrating, resident and wintering bird species (England and Nelson, 1976).

Pacoima Spreading Grounds. This area of storm water runoff collection located southwest of the junction of the Golden State Freeway (I-5) and the Simi Valley Freeway (SR 118) is divided approximately in half between the Northwest and Northeast Valley Planning Subregions. It supports "marsh-like habitat" when ponding occurs (City of Los Angeles, 1989), and offers opportunities for migrating waterfowl and shorebirds

Van Norman Reservoir vicinity. Across the Golden State Freeway (I-5) from the Van Norman Reservoir (in the adjacent Northeast Valley subregion) is a substantial area of grassland, coastal scrub, and small open water habitat, which adds to the effective size and resource value of the reservoir site.

Southwest Valley Planning Subregion

Santa Monica Mountains and Encino Reservoir SEA. The biological resources of the Santa Monica Mountains are considered in general (Raven et al., 1986; Othmer, 1980; USDI:NPS, 1982; De Lisle et al., 1986). Wielander (1934) mapped the vegetation in detail between 1927 and 1933. Aside from project-related environmental impact reports and accounts of sensitive species, specific details are generally lacking. The subregion includes portions of the north slope of the range from the vicinity of Topanga Canyon Boulevard (south of US 101) eastward to the Sepulveda Pass (San Diego Freeway; I-405). As evidenced on aerial photographs, habitats in the area include mostly chaparral, but also oak and riparian woodland, and small amounts of grassland, coastal scrub and

[4] *The SEA boundary shown on Exhibit C-2 is as originally proposed by England and Nelson (1976). A portion of the area was "redesignated to open space," therefore, not adopted as SEA under the Los Angeles County General Plan.*

Exhibit C-6, continued
NATURAL HABITATS AND SIGNIFICANT ECOLOGICAL AREAS (SEAs) WITHIN THE CITY OF LOS ANGELES[1]

walnut woodland. A small portion of Topanga State Park is included in upper Caballero (Reseda) Canyon, with the bulk occurring in the West Los Angeles subregion.

The Encino Reservoir SEA contains "the best stand of inland chaparral, coastal scrub and streamside vegetation remaining on the inland slope of the Santa Monica Mountains" (England and Nelson, 1976). In addition, the reservoir itself is an open, fresh water habitat. Along with Chatsworth Reservoir, the Sepulveda Basin, Van Norman Reservoir, and Los Angeles Pierce College, the Encino Reservoir is an important wintering ground for Canada geese.

Simi Hills and Simi Hills SEA. The Simi Hills are represented in this subregion by small areas at the western end of the San Fernando Valley, with the majority occurring in the Northwest Valley subregion. As discussed for that subregion, with the exception of an inventory and mapping by Weikel (1983), general and specific accounts of biological resources of the range are lacking. As evidenced by aerial photographs, the area within the City and subregion support grassland, chaparral, coastal scrub, oak and riparian woodland, and walnut woodland. Castle Peak[5] is a prominent rocky peak that is a major roosting site for great horned (*Bubo virginianus*) and barn owls (*Tyto alba*), and probably a hibernaculum for one or more species of bats (Wishner, personal observation, 1987). None of the Simi Hills SEA occurs in the Southwest Valley subregion.

Los Angeles Pierce College. The campus of the former Clarence W. Pierce School of Agriculture retains a substantial amount of agricultural open space that is attractive to wintering Canada geese. As such, it is one of only five areas in the San Fernando Valley where Canada geese can forage. The recently-graded (fall 1993) Warner Ridge property adjacent to the west side of the Campus was also used by geese in the winter of 1994, since the area supported a dense growth of young grasses following the grading (Wishner, personal observation, 1994). In addition to the agricultural lands at Pierce College, the campus also contains an outdoor Nature Center with a pond and surrounding hillsides supporting grassland, and an arboretum. A number of sensitive or unusual bird species occur on the campus, especially in winter, and it is a popular location during the annual Christmas Bird Count conducted by the Audubon Society. The hilly portions of the campus represent an extension of the Chalk Hills discussed below.

Chalk Hills and related areas. The Chalk Hills in Woodland Hills are a privately-owned, small island of grassland vegetation south of the Ventura Freeway (US 101) in the foothills of the Santa Monica Mountains. Close proximity to these mountains enables this area to support wildlife species

[5] *Castle Peak is located west of Valley Circle Boulevard between Vanowen St. and Bell Canyon Rd.*

Exhibit C-6, continued
NATURAL HABITATS AND SIGNIFICANT ECOLOGICAL AREAS (SEAs) WITHIN THE CITY OF LOS ANGELES[1]

including coyote (*Canis latrans*), bobcat (*Felis rufies*), western harvest mouse (*Reithrodontomys megalotis*), and California quail (*Callipepla californica*). Barn owls, great horned owls, red-tailed hawks (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*) are resident in the trees of the surrounding neighborhood and forage in the grassland. The site is the only location of square-stemmed buckwheat (*Eriogonum angulosum*) in the Santa Monica Mountains zone. Similar, geologically-related areas occur between the Chalk Hills and Pierce College, and to the west of Topanga Canyon Boulevard both to the north and south of the Ventura Freeway (US 101), and again on the western edge of the subregion at Boething's Treeland Nursery.

Sepulveda Flood Control Basin. The Los Angeles River and tributaries draining the western San Fernando Valley discharge into the Sepulveda Basin. A variety of open space land uses occur here including agriculture, wastewater treatment, outdoor recreation, and an outdoor nature center. The area is one of only five areas of the San Fernando Valley that is regularly used by wintering Canada geese. The area also includes grassland and open water habitats, as well as two lakes (one is concrete lined), and a segment of riparian woodland on the river. The basin is a popular location for the annual Christmas Bird Count conducted by the Audubon Society. A portion of the Sepulveda Basin has been restored to attract migratory waterfowl and other wildlife.

Southeast Valley Planning Subregion

No substantial areas of natural habitat for plants and animals are evident on aerial photographs covering this subregion. Although the Los Angeles River passes through this area, it is a vertical-walled, concrete-lined segment of the stream.

Metro Center Planning Subregion

Santa Monica Mountains and Griffith Park SEA. Griffith Park, located at the east end of the Santa Monica Mountains, supports coastal scrub, chaparral, riparian and oak woodland habitats. The area also includes the Hollywood Reservoir. England and Nelson (1976) consider Griffith Park an important "island" rest stop for migrating birds, as well as a "reservoir for native species" and "corridor" for wildlife movement between the Santa Monica Mountains and San Gabriel Mountains, via the Verdugo Mountains. The Department of Recreation and Parks manages a portion of the Park as a bird sanctuary.

Exhibit C-6, continued
NATURAL HABITATS AND SIGNIFICANT ECOLOGICAL AREAS (SEAs) WITHIN THE CITY OF LOS ANGELES[1]

Central Los Angeles Planning Subregion

No substantial areas of natural habitat for plants and animals are evident on aerial photographs covering this subregion. Although the Los Angeles River passes through this area, it is a vertical-walled, concrete-lined segment of the stream.

Northeast Los Angeles Planning Subregion

Los Angeles River. The river in this subregion is a concrete-lined conveyance channel, although a five-mile stretch of the river from Griffith Park to the Golden State (I-5) and Pasadena (SR 11) Freeway interchange contains a natural bottom (City of Los Angeles, 1991). The river is perennial below the Sepulveda Basin since 1985 as a result of the discharge of tertiary-treated wastewater from the Tillman Reclamation Plant. A limited amount of riparian scrub vegetation is present in the bed of the river, subject to scouring and reappearance elsewhere in the shifting bottom sediments.

Elysian Park/Dodger Stadium. Undeveloped portions of this area support chaparral and oak woodland vegetation, as evident on aerial photography. No specific details of biological resources present there could be found in the literature.

Mount Washington and vicinity. In the area east of the Golden State Freeway (I-5) and between the Glendale (SR 2) and Pasadena (SR 11) Freeways, there occurs a number of small pockets of grassland and coastal scrub habitat in the mountainous area in the vicinity of Mount Washington. No specific details of biological resources present there could be found in the literature.

Areas east of Occidental College. Small pockets of grassland and coastal scrub habitats remain in the mountainous area just to the east of Occidental College. No specific details of biological resources present there could be found in the literature.

Rose Hill/Arroyo Seco Parks and Vicinity. Areas of remnant grassland habitat occur at Rose Hill Park and Arroyo Seco Park, and in the mountainous terrain to the south and east. Included here is also the open water habitat of Ascot Reservoir. No specific details of the biological resources present there could be found in the literature.

Silverlake and Ivanhoe Reservoirs. These reservoirs located west of the Golden State (I-5) and Glendale (SR 2) freeway interchanges are concrete-lined open water habitats with some waterfowl use.

Exhibit C-6, continued
NATURAL HABITATS AND SIGNIFICANT ECOLOGICAL AREAS (SEAs) WITHIN THE CITY OF LOS ANGELES[1]

San Rafael Hills. The San Rafael Hills represent a southeastward extension of the Verdugo Mountains. A small portion of the foothills on the southern flank of these mountains and on both sides of the Foothill Freeway (I-210) occurs within this subregion. As evident on aerial photographs, the primary habitat type present is chaparral.

South Los Angeles Planning Subregion

No substantial areas of natural habitat for plants and animals are evident on aerial photographs covering this subregion.

Southwest Los Angeles Planning Subregion

El Segundo Dunes SEA. Located west of the runways of the Los Angeles International Airport, the El Segundo Dunes SEA is the last remnant of a coastal dune system that once stretched several miles in each direction from here (England and Nelson, 1976). A substantial portion of the original SEA has been deleted due to airport expansion. The present SEA borders a portion of Dockweiler Beach State Park. The vegetation found here, referred to as coastal dune scrub, occurs nowhere else in the County. The dunes support the entire world population of the El Segundo Blue butterfly (*Euphilotes battoides allyni*), a federally listed endangered species. Much of the area has been disturbed by a former residential development, but the area is currently undergoing restoration. The specific biological resources of the El Segundo Dunes are discussed by Mattoni (1990).

Ballona Wetlands and Ballona Creek SEA. The Ballona Wetlands, located just north of the El Segundo Dunes, are privately owned and subject to a future restoration (ca. 280 acres) of the area to tidally influenced coastal saltmarsh under the Playa Vista Plan (City of Los Angeles, 1992; Mattoni, 1990a). The specific biological resources of the Ballona region have been investigated in some detail (Dailey et al., 1974; Envicom Corp., 1979; Schreiber, 1981; Jones and Stokes Associates 1981; Corey, 1990; Corey and Massey, 1990; Allen, 1991; Carter, 1991; Henrickson, 1991; Mattoni, 1991; Soltz, 1991). Habitats present include coastal saltmarsh willow woodlands, freshwater marsh, coastal dunes, and coastal scrub. The Ballona Creek SEA, generally encompassing the Ballona Wetlands, is one of two remaining remnants of coastal saltmarsh habitat in Los Angeles County (England and Nelson, 1976), and is used as a breeding ground for several state-listed Endangered species including Belding's savanna sparrow (*Passerculus sandwichensis beldingi*), California least tern (*Sterna antillarum browni*), saltmarsh skipper (*Panoquina errans*), and saltmarsh harvest mouse (*Sorex ornatus salicornicus*).

Exhibit C-6, continued
NATURAL HABITATS AND SIGNIFICANT ECOLOGICAL AREAS (SEAs) WITHIN THE CITY OF LOS ANGELES[1]

Baldwin Hills. The Baldwin Hills support coastal scrub and grassland communities, reportedly containing plant species now found only at the edge of the Los Angeles Metropolitan area and on the desert side of the San Gabriel Mountains (England and Nelson, 1976)[6]. According to these authors, they are "one of the last remaining open spaces in the western portion of the Los Angeles Basin."

West Los Angeles Planning Subregion

Santa Monica Mountains including Topanga State Park. The largest portions of the Santa Monica Mountains that are contained within the City occur in this subregion. The biological resources of the Santa Monica Mountains are considered in general (Raven et al., 1986; Othmer, 1980; USDI:NPS, 1982; De Lisle et al., 1986). Wieslander (1934) mapped the vegetation in detail between 1927 and 1933. Muns (1983) has compiled a flora for Topanga State Park. Aside from project-related environmental impact reports and accounts of sensitive species, specific details are generally lacking. The subregion includes the south slopes of the range from Topanga State Park eastward to Laurel Canyon. As evidenced on aerial photographs, habitats in the area include mostly chaparral, but also coastal scrub, oak and riparian woodland, and small amounts of grassland.

Will Rogers State Park Beach coastline. In the Pacific Palisades, sandy beach as well as rocky and sandy intertidal zones offer habitat for shorebirds.

Stone Canyon Reservoir. There are actually two reservoirs here. The upper reservoir is concrete-lined, and the lower one is larger, with natural banks. The area provides habitat for waterfowl, and also support a small area of walnut woodland.

Harbor Planning Subregion

Palos Verdes Peninsula Coastline SEA. The City includes the eastern portion of this SEA from near Cabrillo Beach Park/Point Fermin westward to the City boundary. The Fort MacArthur Military Reservation is included as a buffer for the SEA. The shoreline encompasses headlands, rocky shoreline, sandy beaches, intertidal areas, kelp beds, coastal strand, and coastal scrub vegetation (England and Nelson, 1976). The coastal cliffs and offshore rocks offer roosting and feeding sites for shorebirds, gulls and other seabirds including the state- and federally-endangered brown pelican. The state- and federally-listed Endangered peregrine falcon (*Falco peregrinus*

[6] *This area was originally considered as a potential SEA in 1976, however, most of the area was "redesignated to open space", and has subsequently been incorporated into the Kenneth Hahn State Recreation Area (Koutnik, personal communication, Oct. 6, 1994).*

Exhibit C-6, continued
NATURAL HABITATS AND SIGNIFICANT ECOLOGICAL AREAS (SEAs) WITHIN THE CITY OF LOS ANGELES[1]

anatum), and Species of Special Concern prairie falcon (*Falco mexicanus*) are reported to winter along bluff tops in this area.

Harbor Lake Regional Park SEA. Harbor Lake Regional Park, located northwest of the junction of the Harbor Freeway (SR 110) and Anaheim Boulevard, supports one of two remaining wetland areas that once covered the South Bay area (the other area is Madrona Marsh, outside the City) (England and Nelson, 1976). Habitats present include willow forest, freshwater marsh and open water habitats, which support frogs, toads, water-dependent birds, and migratory birds. The Harbor Lake area is noted for the number of songbirds found there during migration, including many which are outside their normal ranges (so-called "vagrants").

San Pedro Harbor. This area is heavily used for shipping traffic and recreational activities (i.e., jet skis and boating). Some biological value does remain in the harbor, particularly along the northern part of the jetty separating the harbor from the open ocean. Of special interest is the sandy beach on the ocean-side of the jetty adjacent to Cabrillo Park, where grunion (*Leuresthes tenuis*) spawn in spring on nights of high tides following a full moon. The harbor also provides habitat for fish and water birds. The heavy human activity in the area has reduced the value of the harbor to wildlife.

Significant Ecological Areas (SEAs)

The County of Los Angeles, through its General Plan, established 61 Significant Ecological Areas (SEAs), which represent a wide variety of biological communities within the County. The SEAs function to preserve this variety and to provide a level of protection to the resources within them. These SEAs are living laboratories containing examples of the County's diverse ecological heritage. SEAs are intended to be preserved in an ecologically viable condition for the purposes of public education, research, and other non-disruptive outdoor uses but do not preclude limited compatible development. The County General Plan outlines a process to regulate land uses in these areas and creates an advisory committee of scientists appointed to oversee the regulation of these policies.

A conditional use permit is required for development in SEAs in order to protect resources contained in SEAs from incompatible development, which may result in or have potential for environmental degradation[7]. A biological constraints analysis is required to describe in a general manner the extent, location, and sensitivities of ecological resources found within an SEA.

[7] *Section 22.56.215 of the County Code.*

Exhibit C-6, continued
NATURAL HABITATS AND SIGNIFICANT ECOLOGICAL AREAS (SEAs) WITHIN THE CITY OF LOS ANGELES[1]

Development proposed within a designated SEA is subject to review based on design compatibility criteria provided to guide specific land use decisions.

The SEAs are classified into the following eight categories:

Class 1 - The habitat of state and federally listed endangered, rare, or threatened plants and animals

Class 2 - Biotic communities, vegetative associations, and habitats of plants and animal species that are either one of a kind, or are restricted in distribution on a regional basis.

Class 3 - Biotic communities, vegetative associations, and habitats of plants and animal species that are either one of a kind, or are restricted in distribution in Los Angeles County.

Class 4 – Habitat that serves, at some point in the life cycle of a species or group of species, as a concentrated breeding, feeding, resting, or migrating grounds, and is limited in availability.

Class 5 - Biotic resources that are of scientific interest because they either are at an extreme in the physical or geographic range of a population of community, or they represent an unusual variation in a population or community.

Class 6 – Areas important as game habitat or fisheries resources.

Class 7 - Areas that would preserve relatively undisturbed examples of natural biotic communities in Los Angeles County.

Class 8 - Special areas, not meeting the above criteria, but that have some notable biological features (such as a wildlife corridor) can also be designated as SEAs.

Exhibit C-7
SENSITIVE SPECIES COMPENDIUM - CITY OF LOS ANGELES[1]

KEY

State Status - California Department of Fish and Game (CDFG)	
SE	State Listed Endangered
ST	State Listed Threatened
CSC	Species of Special Concern[2]
SCE	State Candidate Endangered
SCT	State Candidate Threatened
SFP	State Fully Protected
SP	State Protected
SR	State Listed Rare
Federal Status - U.S. Fish and Wildlife Service (USFWS)	
FE	Federally Listed Endangered
FT	Federally Listed Threatened
FCH	Federally Listed Critical Habitat
FPE	Federally Proposed Endangered
FPT	Federally Proposed Threatened
FPCH	Federally Proposed Critical Habitat
FPD	Federally Proposed Delisting
FC	Federal Candidate Species
EXT	Extinct

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1 This list is current as of January 2001. Check the most recent state and federal lists for updates and changes, or consult the CDFG's California Natural Diversity Database.

2 CSC - California Special Concern species. The Department has designated certain vertebrate species as "Species of Special Concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as "Species of Special Concern" is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long term viability. Not all "Species of Special Concern" have declined equally; some species may be just starting to decline, while others may have already reached the point where they meet the criteria for listing as a "Threatened" or "Endangered" species under the State and/or Federal Endangered Species Acts.

Exhibit C-7, continued
SENSITIVE SPECIES COMPENDIUM - CITY OF LOS ANGELES

KEY (continued)

California Native Plant Society (CNPS)	
1A	Plants presumed extinct in California[3]
1B	Plants that are rare, threatened, or endangered in California or elsewhere[3]
2	Plants that are rare, threatened, or endangered in California, but more common elsewhere[3]
3	Plants about which more information is needed - a review list[4]
4	Plants of limited distribution - a watch list[5]

Habitat Code Designations - California Natural Diversity Database (CNDDB)	
AF	Alluvial Fan Sage Scrub
BW	Brackish Water
CB	Coastal Bluff Scrub
CD	Coastal Dunes
CH	Chaparral
CL	Coastal Lagoon

3 *All of the plants constituting Lists 1A, 1B, and 2 meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endatnered Species Act) of the California Department of Fish and Game Code, and are eligible for listing. According to the DFG, if the taxa on List 1A are rediscovered, they should be fully considered during preparation of environmental documents relating to CEQA. List 1B and 2 plants should be fully considered during preparation of environmental documents relating to CEQA.*

4 *Some of the plants constituting List 3 meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for listing. The DFG recommends that List 3 plants be evaluated for consideration during preparation of environmental documents relating to CEQA.*

5 *Very few of the plants constituting List 4 meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and few, if any, are eligible for listing. Nevertheless, many of them are significant locally, and the DFG recommends that List 4 plants be evaluated for consideration during preparation of environmental documents relating to CEQA. This may be particularly appropriate for the type locality of a List 4 plant, for populations at the periphery of a species' range or in areas where the taxon is especially uncommon or has sustained heavy losses, or for populations exhibiting unusual morphology or occurring on unusual substrates.*

Exhibit C-7, continued
SENSITIVE SPECIES COMPENDIUM - CITY OF LOS ANGELES

KEY (continued)

Habitat Code Designations - California Natural Diversity Database (CNDDB) (Con't)	
CM	Coastal Salt Marsh
CO	Coastal Habitats
CP	Chenopod Scrub
CS	Coastal Sage Scrub
DR	Desert Riparian
DW	Desert Wash
ES	El Segundo Dunes
ET	Estuary
FM	Freshwater Marsh
GL	Grassland (native or introduced)
MF	Montane Forest (mixed hardwood, coniferous)
OW	Oak Woodland (coast live, valley, canyon or scrub oaks)
PJ	Pinyon-Juniper Woodland
PL	Playa Habitats, coastal or inland
RP	Riparian Scrub
RV	Rivers (open water or aquatic habitats)
RW	Riparian Woodland
SG/SJ	San Gabriel/San Jacinto Mountains
VP	Vernal Pools
WA	Water (general open water habitats)

Exhibit C-7, continued
SENSITIVE SPECIES COMPENDIUM - CITY OF LOS ANGELES

SCIENTIFIC NAME	COMMON NAME	STATUS	ZONE *	HABITAT
Invertebrates				
Euphilotes battoides allyni	El Segundo blue butterfly	FE	4	CD
Glaucopsyche lygdamus palosverdesensis	Palos verdes blue butterfly	FE, FCH	4	CS
Raphiomidas t. terminatus	El Segundo flower-loving fly	EXT	4	ES
Streptocephalus woottoni	Riverside fairy shrimp	FE, FPCH	4	CH
Fish				
Catostomus santaanae	Santa Ana sucker	CSC, FT	1,3	RV
Eucyclogobius newberryi	tidewater goby	CSC, FE, FPD, FCH	4	BW
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	FE, FPCH, SE, SFP	Unknown	
Gila orcutti	arroyo chub	CSC	1,2,3,4	RV
Onchorhynchus mykiss	southern steelhead	FE, FCH, CSC	Unknown	
Rhinichthys osculus ssp. 3	Santa Ana speckled dace	CSC	1	RV
Amphibians				
Bufo microscaphus californicus	arroyo southwestern toad	CSC, SP, FE, FCH	1,2,3,4	RV, DR
Rana aurora draytoni	California red-legged frog	FT, FPCH, CSC, SP	1,2,3,4	
Rana muscosa	So. California population of mountain yellow-legged frog	FPE, CSC, SP	1,2,3,4	
Scaphiopus hammondii	western spadefoot toad	CSC, SP	1	VP, RV, CS, CH
Reptiles				
Anniella p. pulchra	silvery legless lizard	CSC	1,2,3,4	CH, OW, CS
Clemmys marmorata pallida	southwestern pond turtle	CSC, SP	1,2,3,4	RV
Lampropeltis zonata pulchra	San Diego mountain kingsnake	CSC, SP	1,2,3	CH, CS, OW
Phrynosoma coronatum blainvillei	San Diego horned lizard	CSC, SP	1,2,3,4	CS, CH, AF
Salvadora hexalepis virgultea	coast patch-nosed snake	CSC	1,2,3,4	CS, CH, OW
Thamnophis (Nerodia) hammondii	two-striped garter snake	CSC, SP	1,2,3,4	RV, FM
Xantusia riversiana	island night lizard	FT, SP	1,2,3,4	

* Refer to Exhibit C-1.

Exhibit C-7, continued
SENSITIVE SPECIES COMPENDIUM - CITY OF LOS ANGELES

SCIENTIFIC NAME	COMMON NAME	STATUS	ZONE *	HABITAT
Birds				
Accipiter cooperii	Cooper's hawk (nest)	CSC	1,2,3,4	RW, OW
Accipiter striatus (migrant)	sharp-shinned hawk (nest)	CSC	1,2,3,4	RW
Aimophila ruficeps canescens	So. Cal.rufous-crowned sparrow	CSC	1,2,3,4	CS, CH
Amphispiza b. belli	Bell's sage sparrow	CSC	1,2,3,4	CS, CH
Asio flammeus	short-eared owl	CSC	3,4	CM, FM
Asio otus	long-eared owl	CSC	1,2,3,4	OW, RP
Athene cunicularia hypugea	burrowing owl	CSC	1,2,3,4	GL, DW, CS, CB
Charadrius alexandrinus nivosus	western snowy plover	FT, FCH, CSC	4	PL, ET, CD
Charadrius montanus	mountain plover	FPT, CSC	1,2,3	
Chlidonias niger	black tern	CSC	4	PL, CO, ET
Circus cyaneus	northern harrier (nest)	CSC	1,2,3,4	FM, ET, CM
Coccyzus americanus occidentalis	western yellow-billed cuckoo	SE	1,2,3,4	RW
Cypseloides niger (migrant)	black swift (nest)	CSC	1,2,3,4	RV, waterfalls
Dendroica petechia brewsteri	yellow warbler (nest)	CSC	1,2,3,4	RP, RW, CH
Elanus leucurus	white-tailed kite	SFP	1,2,3,4	GL, ET, FM, OW
Epidonax traillii	willow flycatcher (all subspecies)	SE	1,3	RW, RP
Epidonax traillii extimus	Southwestern willow flycatcher	FE, FCH, SE	1,3	RW, RP
Eremophila alpestris actia	California horned lark	CSC	1,2,3,4	GL, CS
Falco columbarius (migrant)	Merlin	CSC	1,2,3,4	gen. Flyover
Falco mexicanus	prairie falcon (nest)	CSC	1,2,3,4	DR, DW, CH
Falco peregrinus anatum	American peregrine falcon	(FE delisted 8/25/99) SE, SFP	1,2,3,4	CO, PL, ET
Icteria virens	yellow-breasted chat (nest)	CSC	1,2,3,4	RP, RW
Ixobrychus exilis hesperis (migrant)	western least bittern	CSC	1,2,3,4	RP, ET, FM, SM
Lanius ludovicianus	Loggerhead shrike	CSC	1,2,3,4	CS, CH, CP, DW

* Refer to Exhibit C-1

Exhibit C-7, continued
SENSITIVE SPECIES COMPENDIUM - CITY OF LOS ANGELES

SCIENTIFIC NAME	COMMON NAME	STATUS	ZONE *	HABITAT
Birds (cont'd.)				
Laterallus jamaicensis coturniculus	California black rail	ST, SFP	4	FM, CM
Numenius americanus	long-billed curlew (nest)	CSC	4	CO, WA
Pandion haliaetus (migrant)	osprey (nest)	CSC	1,2,3,4	CO, WA, RV
Passerculus sanwichensis beldingi	Belding's savannah sparrow	SE	4	CM
Pelecanus occidentalis californicus	California brown pelican	SE, FE, SFP	4	CO
Phalacrocorax auritus	double-crested cormorant (rookery)	CSC	1,2,3,4	CO, WA, RV
Piranga rubra (migrant)	summer tanager	CSC	1,4	RW
Polioptila c. californica	California gnatcatcher	FT, FCH, CSC	1,4	CS, CH
Rallus longirostris levipes	light-footed clapper rail	SE, FE, SFP	4	CM
Riparia riparia (migrant)	bank swallow	ST	1,2,3	CO, RP, RV
Sterna antillarum browni	California least tern	SE, FE, SFP	4	CD, ET, PL
Vermivora virginiae (migrant)	Virginia's warbler	CSC	3	CH, OW, RW
Vireo bellii pusillus	least Bell's vireo	SE, FE, FCH	1,2,3	RP, RW
Mammals				
Antrozous pallidus pacificus	pallid bat	CSC	1,2,3,4	CS,CH,GL
Eumetopias jubatus	northern sea lion	FT	4	CO
Eumops perotis californicus	California mastiff bat	CSC	1,2,3,4	general
Lepus californicus bennettii	San Diego blacktailed jackrabbit	CSC	1,2,3,4	CS,CP,CH, DW
Macrotus californicus	California leaf-nosed bat	CSC	1	general
Microtis californicus stephensii	Stephen's California vole	CSC	4	FM,GL
Neotoma lepida intermedia	San Diego desert woodrat	CSC	1,2,3,4	CS,CH,DW
Onychomys torridus ramona	southern grasshopper mouse	CSC	1,3	CL,CS,CH, DW
Perognathus longimembris brevinasus	Los Angeles pocket mouse	CSC	1,4	CS,CH,DW
Perognathus longimembris pacificus	Pacific pocket mouse	CSC, FE	4	CS
Plecotus townsendii pallescens	pale big-eared bat	CSC	1,2,3,4	DW,CH,OW
Sorex ornatus salicornicus	southern Calif. saltmarsh shrew	CSC	4	CM

* Refer to Exhibit C-1

Exhibit C-7, continued
SENSITIVE SPECIES COMPENDIUM - CITY OF LOS ANGELES

SCIENTIFIC NAME	COMMON NAME	STATUS	ZONE*	HABITAT
Plants				
Abronia maritima	red sand-verbena	4	4	CD
Acanthomintha obovata cordata	heart-leaved thorn-mint	4	unknown	CH,OW,PJ, GL
Androsace elongata acuta	California androsace	4	unknown	CH,OW,CS
Aster greatae	Greata's aster	1B	unknown	CH
Astragalus brauntonii	Braunton's milk vetch	FE, 1B	2,3	MF,CH,CS, GL
Astragalus pycnostachyus v. *lanosissimus*	Ventura marsh milk-vetch	SE, FPE, 1B	3,4	CM
Astragalus tener v. *titi*	coastal dunes milk-vetch	SE, FE, 1B	4	CB,CD
Atriplex pacifica	south coast saltscale	1B	4	CB,CS,PL
Atriplex parishii	Parish's brittlescale	1B	1	CS,VP,PL
Atriplex serenana v. *davidsonii*	Davidson's saltscale	1B	unknown	CBS,CS
Baccharis malibuensis	Malibu baccharis	1B	3	CS,CH,OW
Baccharis p. plummerae	Plummer's baccharis	4	3	MF,CH,OW,CS
Berberis nevinii	Nevin's barberry	SE, FE, 1B	1,2,3	CH,AF,CS
Calandrinia breweri	Brewer's calandrinia	4	unknown	CH,CS
Calandrinia maritima	seaside calandrinia	4	4	CBS,GL
Calochortus catalinae	Catalina mariposa lily	4	1,2,3	CH,OW,CS, GL
Calochortus c. v. *clavatus*	club-haired mariposa lily	4	1,3	CH,OW,GL
Calochortus plummerae	Plummer's mariposa lily	1B	3	CH,OW,CS, GL,MF
Calystegia peirsonii	Peirson's morning-glory	4	1	CH,CS,OW, CS,MF
Calystegia sepium binghamiae	Santa Barbara morning-glory	1A	4	CM
Camissonia lewisii	Lewis's evening-primrose	3	unknown	CB,OW,CD, CS,GL
Castilleja plagiotoma	Mojave Indian paintbrush	4	1	PJ,GB
Centromadia parryi ssp. australis (Hemizonia minthornii)	Santa Susana tarplant	SR, 1B	1,2,3	CH, CS
Cercocarpus betuloides v. *blancheae*	island mountain-mahogany	4	3	CH
Chorizanthe parryi v. *fernandina*	San Fernando Valley spineflower	SCE, FC, 1B	1,3	CS
Chorizanthe p. v. *parryi*	Parry's spineflower	3	3	CS,AF,CH, OW
Chorizanthe spinosa	Mojave spineflower	4	1	CS,DW
Convolvulus simulans	small-flowered morning-glory	4	unknown	CS,GL
Cordylanthus m. maritimus	salt marsh bird's-beak	SE, FE, 1B	4	CM
Crossosoma californicum	Catalina crossosoma	1B	4	CS

Refer to Exhibit C-1

Exhibit C-7, continued
SENSITIVE SPECIES COMPENDIUM - CITY OF LOS ANGELES

SCIENTIFIC NAME	COMMON NAME	STATUS	ZONE *	HABITAT
Plants (Con't)				
Deinandra minthornii (Hemizonia parryi australis)	southern tarplant	1B	Unknown	ET, GL, VP
Dichondra occidentalis	western dichondra	4	4	CH,OW,CS, GL
Dithyrea maritima	beach spectaclepod	ST, 1B	4	CD,CS
Dodecahema leptoceras	slender-horned spineflower	SE, FE,1B	1	AF,CH
Dudleya b. blochmaniae	Blochman's dudleya	1B	3	CS,CB,CH, GL
Dudleya cymosa marcescens	marcescent dudleya	SR, FT, 1B	3	CH
Dudleya cymosa ovatifolia	Santa Monica Mtns. dudleya	FT, 1B	3,4	CH,CS
Dudleya multicaulis	many-stemmed dudleya	1B	2	CH,CS,GL
Dudleya virens	bright green dudleya	1B	4	CH,CS
Erysimum insulare suffrutescens	suffrutescent wallflower	4	unknown	CB,CD,CS
Fremontodendron mexicanum	Mexican flannelbush	SR, FE, 1B	1,2,3	MF,CH,OW
Galium angustifolium gabrielense	San Antonio Canyon bedstraw	4	1	MF
Galium cliftonsmithii	Santa Barbara bedstraw	4	2,4	OW
Galium johnstonii	Johnston's bedstraw	4	unknown	MF
Goodmania luteola	golden goodmania	4	Unknown	DW,PL,GL
Helianthus nuttallii parishii	Los Angeles sunflower	1A	3	CM,FM
Heuchera abramsii	Abram's alumroot	4	Unknown	MF
Heuchera elegans	urn-flowered alumroot	4	Unknown	MF
Hulsea vestita gabrielensis	San Gabriel Mtns. sunflower	4	1	MF
Juglans c. v. *californica*	So.Cal. black walnut	4	1,2,3	CH,OW,AF
Juncus acutus leopoldii	southwestern spiny rush	4	4	CD,CM
Juncus duranii	Duran's rush	4	Unknown	MF
Lasthenia glabrata coulteri	Coulter's goldfields	1B	Unknown	CM,PL,VP
Lepechinia fragrans	fragrant pitcher sage	4	3	CH
Lilium humboldtii ocellatum	ocellated Humboldt lily	4	1,2,3	CH,OW,CO
Linanthus orcuttii	Orcutt's linanthus	1B	Unknown	CH,MF
Lupinus elatus	silky lupine	4	Unknown	MF
Lupinus excubitus v. *johnstonii*	interior bush lupine	4	Unknown	MF
Lupinus peirsonii	Peirson's lupine	1B	Unknown	CH,CS,RW
Malacothamnus davidsonii	Davidson's bush mallow	1B	1,3	CS,RW
Microseris douglasii v. *platycarpha*	small-flowered microseris	4	Unknown	OW,CS,GL
Monardella cinerea	gray monardella	4	Unknown	MF

Refer to Exhibit C-1

Exhibit C-7, continued
SENSITIVE SPECIES COMPENDIUM - CITY OF LOS ANGELES

SCIENTIFIC NAME	COMMON NAME	STATUS	ZONE *	HABITAT
Plants (Con't)				
Monardella viridis saxicola	rock monardella	4	Unknown	CH,MF
Mucronea californica	California spineflower	4	Unknown	CH,CD,CS, GL
Muilla coronata	crowned muilla	4	Unknown	DW
Nama stenocarpum	mud nama	2	Unknown	FM
Nemacaulis d. v. *denudata*	coast woolly-heads	2	4	CD
Nemacladus gracilis	slender nemacladus	4	Unknown	OW,GL
Orcuttia californica	California Orcutt grass	SE, FE,1B	1,4	VP
Oreonana vestita	woolly mountain-parsley	1B	Unknown	MF
Oxytheca caryophylloides	chickweed oxytheca	4	Unknown	MF
Pentachaeta lyonii	Lyon's pentachaeta	SE, FE, 1B	3,4	CH,GL
Perideridia g. gairdneri	Gairdner's yampah	4	Unknown	CH,GL,VP,MF
Perideridia pringlei	adobe yampah	4	Unknown	CH,OW,CS
Phacelia exilis	Transverse Range phacelia	4	Unknown	MF
Phacelia mohavensis	Mojave phacelia	4	Unknown	OW,MF
Phacelia stellaris	Brand's phacelia	1B	Unknown	CD,CS
Polygala cornuta v. *fishiae*	Fish's milkwort	4	4	CH,OW,RW
Quercus engelmannii	Engelmann oak	4	Unknown	CH,OW,RW,GL
Ribes divaricatum v. *parishii*	Parish's gooseberry	1B	2	RW
Romneya coulteri	Coulter's matilija poppy	4	Unknown	CH,CS
Scutellaria bolanderi austromontana	southern skullcap	1B	Unknown	CH,OW,MF
Selaginella asprella	bluish spike-moss	4	Unknown	MF
Senecio ionophyllus	Tehachapi ragwort	4	Unknown	MF
Suaeda esteroa	estuary seablite	1B	4	CM
Suaeda taxifolia	woolly seablite	4	4	CB,CM
Swertia neglecta	pine green-gentian	4	Unknown	MF
Syntrichopappus lemmonii	Lemmon's syntrichopappus	4	Unknown	CH
Thermopsis californica v. *argentata*	silvery false lupine	4	Unknown	MF

Refer to Exhibit C-1

Exhibit C-7, continued
SENSITIVE SPECIES COMPENDIUM - CITY OF LOS ANGELES

NDDB Highest Inventory Priority Plant Communities of Los Angeles City	
Community	**Mapping Zone of Occurrence (NDDB data)**
Walnut Forest	3
California Walnut Woodland	1,2
Valley Oak Woodland	1,2
Southern Willow Scrub	1
Southern Sycamore Alder Riparian Woodland	1,2,3
Southern Mixed Riparian Forest	1
Southern Cottonwood Willow Riparian Forest	1,3
Southern Coast Live Oak Riparian Forest	1,2,3
Riversidian Alluvial Fan Sage Scrub	1
Valley Needlegrass Grassland	2
Southern Dune Scrub	1
Southern Coastal Bluff Scrub	4
Coastal Salt Marsh	3

Source: Frank Hovore & Associates, December 1995; Environmental Affairs Department, 2001.

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D. CULTURAL RESOURCES

D.1. PALEONTOLOGICAL RESOURCES

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Question

V.c): Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

B. Introduction

Paleontological resources are the fossilized remains of organisms that have lived in the region in the geologic past and the accompanying geologic strata. Because the majority of species that have existed on Earth are extinct, the fossil record represents the primary source of data on ancient life forms. In addition, the fossil record is finite, and many scientists feel that no single species is sufficiently understood or represented in research as to preclude further need for specimens. Paleontological resources are considered non-renewable and important.

Paleontological resources occur throughout the City of Los Angeles. They are not evenly distributed; the potential for fossil occurrence depends on the rock type exposed at the surface in a given area. Rocks are classified into three principal types: igneous, metamorphic and sedimentary. Sedimentary rocks contain the bulk of fossils in the City, although metamorphic rocks may also contain fossils. Igneous rocks do not contain fossils. In addition to igneous and most metamorphic rocks, areas of artificial landfill, streambeds and beach sand do not contain fossils.

The older sedimentary rocks are exposed in the hills and mountains, while younger rock units are present in low-lying and flat valley and basin floors. The majority of igneous rocks in the region are found in the Santa Monica Mountains and the northern San Fernando Valley. Within the City of Los Angeles, metamorphic rocks are found mostly in the Santa Monica Mountains and within scattered exposures around the region.

Direct destruction of fossils within fossil-bearing rock units may result from grading or excavation associated with a project, particularly during the construction phase. Indirect destruction or loss of fossils exposed at the surface may result from increased erosion, human access, or other activity in a project area. Increased access could result from the opening of private or otherwise closed lands, new access routes through sensitive areas, or through excavation or the removal of

vegetation.

Paleontological resources are protected by state and federal legislation. State regulations mandate protection of paleontological resources on public lands and CEQA requires evaluation of impacts to paleontological sites. Paleontological resources are also subject to certain state regulations for historical resources.[1] City guidelines for the protection of paleontological resources are specified in Section VIII of the Conservation Element, and for public works projects, Standard Specifications for Public Works Construction, Section 6-3.2. Information on rock types can be found in 3. Data, Resources, and References.

C. Screening Criteria

- Could implementation of the project result in the disturbance of surface or subsurface fossils, either through site preparation, construction or operational activities, or through an increase in human activities at or near the fossil site?

A "yes" response to the preceding question indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Paleontological Resources and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to the preceding question indicates that there would normally be no significant impact on Paleontological Resources from the proposed project.

D. Evaluation of Screening Criteria

Assess the potential for discovery of paleontological resources. The following sources are available: existing paleontological surveys for the project site; Los Angeles County Natural History Museum; Environmental and Public Facilities Maps - Vertebrate Paleontological Resource Sensitivity Areas in the City of Los Angeles and Invertebrate Paleontological Resource Sensitivity Areas in the City of Los Angeles; Exhibit D.1-1; or other appropriate resources.

Evaluate the degree of disturbance to the project site. Consider whether the site has been vacant or covered by surfaces that required little or no excavation or grading, such that there has been little surface or subsurface disturbance. Sites from which native topsoil has been removed, such as

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1 *The California Office of Historic Preservation (OHP) has jurisdiction over projects that may impact historic resources. For regulation of historic resources, see Exhibits D.3-1 to D.3-3.*

landfills, are unlikely to retain paleontological resource potential.

Review the description of the project and the construction/operation activities. Assess the amount of grading, excavation, erosion, and increased human activity (e.g., opening of previously closed lands, new access routes through sensitive areas, or removal of vegetation that could disturb surface and subsurface fossils). Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

The determination of significance shall be made on a case-by-case basis, considering the following factors:

- Whether, or the degree to which, the project might result in the permanent loss of, or loss of access to, a paleontological resource; and
- Whether the paleontological resource is of regional or statewide significance.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Description of the physical setting, paleontology, and geology of the project site and surrounding area;
- Summary of surveys and research for the project site; and
- Summary of requirements and/or policies for paleontological resources that apply to the project. (See 3. Data, Resources, and References.)

Project Impacts

Using the information from the Evaluation of Screening Criteria, Environmental Setting, and project description, estimate the extent and importance of paleontological resources likely to be contained on the site and the consequences that would likely result from the project. Consider

compliance with guidelines and regulations such as the California Public Resources Code, Federal Antiquities Act, Conservation Element, and, for public works projects, Standard Specifications for Public Works Construction. Regional or statewide significance may be based on the quality and integrity of the resource, remaining supply, feasibility of recovery, or scientific or public importance. Assistance from the Los Angeles County Museum of Natural History or a professional consultant may be required.

Determine whether excavation, grading, or operational activities would impact to the depth of the subsurface rock units containing the fossils. Evaluate the potential destruction of fossils exposed on the surface by considering the increased human activity generated by the project, including potential for soil erosion, construction traffic in sensitive areas, and increased human access to sensitive areas after project completion. If the area has been disturbed through previous grading or excavation or installation of subsurface utilities, it is likely that fossils would have been discovered at that time, have been destroyed, or are no longer in their original location (e.g., they have been brought in from other areas with fill).

Cumulative Impacts

Review the list of related projects and estimate the extent of paleontological resources likely to be contained on the sites and the consequences that would likely result from these related projects. Determine the cumulative impact to fossils of regional or statewide significance from the related projects combined with the proposed project. In particular, consider cumulative impacts to fossils from the same time period. Evaluate the destruction of fossils by considering the cumulative increase in human activity, excavation, grading, or operational activities.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Revise the proposed project to avoid excavation or grading in areas with known or potential surface exposures of fossils, or within rock units with a high potential for paleontological resources;

- Provide erosion protection (e.g., retaining walls, drainage channels) to protect surface resources;

- Restrict or prevent access to sensitive resource areas on site;

- Retain a qualified paleontologist to monitor, and, if necessary, salvage scientifically significant fossil remains. Ensure scientific specimens become the property of a public, nonprofit educational institution, such as the Los Angeles County Museum of Natural History or similar institution;

- Protect subsurface fossils in place, through covering with appropriate soil materials; and

- Divert grading efforts in the area of an exposed fossil to allow evaluation and, if necessary, salvage of exposed fossils.

3. DATA, RESOURCES, AND REFERENCES

Los Angeles County Museum of Natural History, Department of Vertebrate Paleontology: 900 Exposition Boulevard, Los Angeles, California 90007; Telephone: (213) 763-3489, Lawrence G. Barnes Ph.D.; 213-763-3329. The Museum of Natural History does not maintain records of paleontological surveys or studies, but does perform record checks to determine if fossil resources are present within or near a project area, provides technical assistance, and acts as a repository for salvage fossils.

California Office of Historic Preservation: P.O. Box 942896, Sacramento, California 94296-0001; Telephone: (916) 653-6624. OHP has legal jurisdiction over projects, which may impact historic resources, which include certain paleontological resources. OHP can provide guidance as to the evaluation of significance of historic resources.

Conservation Element provides guidelines for the preservation of paleontological resources.

City Planning Department, Environmental and Public Facilities Maps (1997):

- Vertebrate Paleontological Resources Sensitivity Areas in the City of Los Angeles
- Invertebrate Paleontological Resources Sensitivity Areas in the City of Los Angeles

These maps were based on information prepared by the County of Los Angeles Natural History Museum in 1993 and delineate areas of similar paleontological sensitivity within the City. These sensitivity zones may contain several different rock units that share a common history of production of paleontological resources.

California Division of Mines and Geology (CDMG), 655 S. Hope St. Rm 700, Los Angeles, California 90017-2321; Telephone: (213) 239-0878. The following documents are available

from CDMG:

- CDMG Geologic Atlas Sheets of California - Los Angeles: These maps show the geologic formations underlying the City of Los Angeles in a single map, at a scale of 1:250,000.

- Dibblee Geological Foundation Maps - applicable United States Geological Survey (USGS) topographic quadrangle: Dibblee maps show geologic information in greater detail than Geologic Atlas Sheets, at a scale of 1:24,000, corresponding to 7½ minute USGS topographic quadrangles.

The Society of Vertebrate Paleontology, an international association of professional paleontologists, has developed guidelines for protection and preservation of paleontological resources, as well as mitigation standards for impacts to paleontological resources, in response to CEQA.

Rock Types

Sedimentary rocks are usually layered or bedded and formed from cemented accumulations of sand, silt or mud. The sedimentary rocks in the City range in age from the Cretaceous (100 million years before present) to the Recent periods. Intrusive igneous rocks, formed at depth from molten magma and intruded into other rock bodies, tend to be homogeneous masses, such as granite, and do not contain fossils. Extrusive igneous rocks, such as volcanic rocks, very rarely contain plants or animal fossils. Metamorphic rocks, products of modifications to igneous or sedimentary rocks by heat, pressure or fluids, may or may not contain fossils, depending on the degree of alteration and the original rock type.

Selected Legislation

Federal

Federal Antiquities Act of 1906 (P. L. 59-202; 32 Stat. 225)

This act forbids, and establishes criminal sanctions for, the disturbance of any object of antiquity on federal land without obtaining a permit from an authorizing authority.

Federal Land Management and Policy Act of 1976 (FLMPA) (P.L. 94-579, 43 U.S.C. 1701-1782)

FLMPA provides authority for the Bureau of Land Management (BLM) to regulate lands under its jurisdiction, to be managed in a manner to "protect the quality of scientific, scenic, historic,

ecological, environmental...and archaeological values." Authority is given to establish Areas of Critical Concern (ACEC).

National Environmental Policy Act (NEPA) of 1969 (P. L. 91-190; 83 Stat. 852, 42 U.S.C. 4321-3427)

With regard to paleontological resources, NEPA mandates the evaluation of impacts in order to "preserve important historic, cultural and natural aspects of our national heritage" (Section 101b.4).

State

Public Resources Code, Section 5097.5 (Stats. 1965, c. 1136, p. 2792)

This section prohibits "the excavation or removal of any vertebrate paleontological site...or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands."

CEQA (13 PRC, 21000 et seq)

According to CEQA, "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military or cultural annals of California (Div. 1, PRC 5020.1) (italics added). This has been subsequently interpreted as requiring identification of potential adverse impacts of a project to any object or site of scientific importance.

Guidelines for the Implementation of CEQA, as amended May 10, 1980 (14 Ca. Admin. Code: 15000 et seq)

The CEQA Guidelines authorize the Lead Agency to require mitigation to reduce and avoid significant effects on the environment. CEQA, Appendix G, subsection J, states, "A project will normally have a significant effect on the environment if it will disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group; or a paleontological site except as a part of a scientific study."

California Administrative Code, Title 14, Section 4307

States, "no person shall remove, injure, disfigure, deface, or destroy any object of paleontological, archaeological, or historical interest or value."

Local

Standard Specifications for Public Works Construction, Section 6-3.2

Requires that grading, excavation, or other ground disturbing activities for a public project be halted in the area of a paleontological or archaeological find, until such time as a resource expert can review the find, determine its significance, and if required, determine appropriate mitigation measures.

Exhibit D.1-1
PALEONTOLOGICAL POTENTIAL BY ROCK UNIT/GEOLOGIC FORMATION

Formation/Rock Unit	Paleontological Potential	Fossils Present
Palos Verdes Sand	High	Vertebrates and Invertebrates
San Pedro Sand	High	Vertebrates and Invertebrates
Lomita Marl	High	Vertebrates
Timms Point Silt	High	Vertebrates and Invertebrates
Fernando Formation or Reppeto Formation	High	Vertebrates and Invertebrates
Pico Formation	High	Vertebrates and Invertebrates
Monterey Formation	High	Vertebrates
Altamira Shale	High	Vertebrates
Model Formation	High	Vertebrates
Topanga Formation	High	Vertebrates and Invertebrates
Santa Suzana Formation[a]	High	Invertebrates
Chico Formation and/or Tuna Canyon Formation	High	Vertebrates and Invertebrates
Quaternary Alluvium	Low to High [b]	Vertebrates
Las Virgenes Sandstone[a]	Low	Invertebrates
Simi Conglomerate[a]	Low	none reported
Trabucco Formation	Low	none reported
Santa Monica Slate	Low	Invertebrates

[a] These rock units are grouped together as the Martinez Formation in the older literature on the region.

[b] Potential for discovery of resources in Quaternary deposits increases with increased depth of excavations.

NOTE: "Low," High" and "Undetermined" potential are scientifically recognized terms identifying the chance of fossil discovery during excavation into a given geologic unit. It is not uncommon for low potential deposits to overlay or otherwise cover more rock units with a high potential for discovery. Information on rock units on a particular site may be obtained from existing geotechnical studies prepared for the project site or from maps, such as the CDMG Geologic Atlas Sheets of California or the Dibblee Geological Foundation Maps.

Source: RMW Paleo Associates, 1995, based on literature, published and unpublished records of discovery of fossils in each geologic unit, the relative abundance of fossils at past discovery sites and the depositional environment associated with individual geologic units.

D.2. ARCHAEOLOGICAL RESOURCES

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

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

V.d): Would the project disturb any human remains, including those interred outside of formal cemeteries?

B. Introduction

Archaeology involves the physical, structural, and documentary evidence of past human endeavors. Such cultural resources may or may not be visible on the surface, and may be of either prehistoric or historic origin. Because of its climate, topography, and natural resources, the greater Los Angeles area is known to have supported prehistoric and historic cultures. The location of known archaeological sites is confidential to prevent scavenging of artifacts. Artifacts are considered finite and non-renewable resources.

Construction or operation activities, which affect the surface or subsurface of the ground at or near archaeological resources, can disturb or destroy them. Artifacts may be lost or destroyed through grading, crushing, scattering, or removal from the ground. In addition, scattering or otherwise taking the artifacts out of their original placement may result in the loss of important information about the relationship of artifacts to each other. With archaeological resources, the relationship of materials to each other in the ground is more informative than the same artifacts removed to a laboratory for study. Impacts may also occur through the alteration or destruction of a physical landscape with special values to Native Americans. The Native American Graves and Repatriation Act of 1990 protect Native American remains (see 3. Data, Resources, and References).

The California state inventory of known, documented archaeological resources for the Los Angeles area is maintained at the South Central Coastal (Regional) Information Center, at the Institute of Archaeology of the University of California at Los Angeles (UCLA) (known as the Information Center). All resources on this inventory should be evaluated for potential impacts in CEQA documentation. In addition, federal standards for eligibility to the National Register of

Historic Places[1] (National Register) may be used to determine whether known or potential resources should be examined under CEQA. Archaeological resources may be present on the grounds of historic sites or districts.

C. Screening Criteria

- Would the proposed project occur in an area with archaeological resources, human remains having archaeological associations, an archaeological study area, or a Native American sacred place, and involve grading, excavation, accelerated erosion, or other activities or changes to the site that could affect archaeological resources?

A "yes" response to the preceding question indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Archaeological Resources, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to the preceding question indicates that there would normally be no significant impact on Archaeological Resources from the proposed project.

D. Evaluation of Screening Criteria

The following sources may provide assistance in identifying the presence or potential presence of archaeological resources: existing archaeological surveys and documented historical accounts; the Information Center at the UCLA Institute of Archaeology; the Native American Heritage Commission; California Department of Transportation (Caltrans); the Army Corps of Engineers (ACOE); State Park Service; National Register; local, county, and state landmarks lists; Sanborn Fire Insurance maps; the Environmental and Public Facilities Map, Prehistoric and Historic Archaeological Sites and Survey Areas; and other appropriate resources.

Where sufficient information or research is not available to determine the presence or absence of archaeological resources, consider the following:

- Presence of elements or features that are historically or culturally important to a significant earlier community.

[1] *For federal eligibility criteria regarding listing of archaeological resources in the National Register, see Exhibit D.3-1 in D.3. HISTORICAL RESOURCES.*

- Features of the area that would create a favorable environment for prehistoric or historical use, such as:

  - A water source, travel corridor, native plants or animals, or sources of rock for construction, making tools, or artwork; or

  - Location in an area with unusual views, a defensive position or other values for ceremonial, ritual or astronomical observances.

Evaluate the degree of disturbance to the project site. Consider if the site has been vacant or covered by surfaces that required little or no excavation or grading, such that there has been little surface or subsurface disturbance (sites from which native topsoil has been removed, such as landfills, are unlikely to retain archaeological resource potential). Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A project would normally have a significant impact upon archaeological resources if it could disturb, damage, or degrade an archaeological resource or its setting that is found to be important under the criteria of CEQA because it:

- Is associated with an event or person of recognized importance in California or American prehistory or of recognized scientific importance in prehistory;

- Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological research questions;

- Has a special or particular quality, such as the oldest, best, largest, or last surviving example of its kind;

- Is at least 100-years-old[2] and possesses substantial stratigraphic integrity; or

[2] *Although the CEQA criteria state that "important archaeological resources" are those which are at least 100-years-old, the California Register provides that any site found eligible for nomination to the National Register will automatically be included within the California Register and subject to all protections thereof. The National Register requires that a site or structure be at least 50-years-old.*

- Involves important research questions that historical research has shown can be answered only with archaeological methods.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Description of the physical setting, archaeology, and geology of the project site and surrounding area;

- Summary of surveys and research for the project site; and

- Summary of requirements and/or policies for archaeological resources that apply to the project. (See 3. Data, Resources, and References).

Project Impacts

If the project site is located in an area with known or potential presence of an archaeological resource, archaeological study area, or human remains having archaeological associations, reviews the description of the project and construction/operation activities. Assess the amount of grading, excavation, erosion and increased human activity (e.g., opening of previously closed lands, new access routes through sensitive areas, or through removal of vegetation) that would occur with project implementation.

Estimate the importance of archaeological resources likely to be contained on the site and the consequences that would likely result from the project. The significance of a site is measured by eligibility of the resource to the California Register of Historical Resources (California Register) or the National Register. Criteria for listing in the National Register include association with events, persons, history or prehistory or embodiment of distinctive characteristics. These criteria are based on context (theme, place, and time), integrity (location, design, setting, materials, workmanship, feeling), and association. The California Register uses the National Register criteria for listing resources significant at the national, state, or local level.

Consider compliance with guidelines and regulations such as the California Public Resources Code, Federal Antiquities Act (and subsequent federal legislation), Conservation

Element, and, for public projects, Standard Specifications for Public Works Construction. Assistance from the Information Center or a professional consultant may be required.

Most existing archaeological site records, information about what areas have already been surveyed, information concerning sites that have been tested or evaluated, and a library of excavation reports, are maintained as part of the State Inventory at the Information Center. The most immediate and complete source of updated site information is a "Quick Check" conducted by the Information Center. Under new directives, the Information Center is beginning to gather information about designated landmarks, historical sites, and historical maps, but this archive is not yet complete. The Information Center maintains a list of qualified archaeological consultants which is made available on request.

Determine whether construction or operational activities would disturb, damage, or degrade an important resource or its setting. Consider excavation and grading that directly impacts a resource; construction of permanent buildings that result in loss of access to buried resources; added human activity that may lead to scavenging or uncovering of resources; and increases in soil erosion. If the area has been disturbed through previous grading or excavation or installation of subsurface utilities, it is likely that resources would have been discovered at that time or have been destroyed.

Cumulative Impacts

Review the list of related projects and identify those in areas with known or the potential presence of archaeological resources. In the same manner as for project impacts, estimate the extent and importance of archaeological resources likely to be contained on the sites and the consequences that would likely result from these related projects. Determine the cumulative impact from the related projects combined with the proposed project. In particular, consider cumulative impacts to the population of resources which would remain and impacts to groupings (e.g., same camp, village, or settlement). Evaluate the destruction of resources exposed on the surface by considering the cumulative increase in human activity and soil erosion.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Cover archaeological sites with a layer of fill before building surface facilities such as tennis courts, parking lots, or gardens above them, when the following

conditions can be met:

  - The underlying site will not be seriously compacted;
  - The fill will not be chemically active;
  - The site is protected against natural deterioration; and
  - The site has been recorded and tested, and full parameters are known, i.e., horizontal extent, depth, age, cultural complexity, etc;

- Deed archaeological sites into permanent conservation easements;

- Undertake data recovery. Data recovery requires the preparation of an excavation plan[3] which sets forth the size of the sample to be acquired, the methods and techniques of excavation, methods and techniques of laboratory studies to be conducted, documentation procedures, and the place where all materials and documentation will be curated; and

- Conduct resource recovery. Some features or objects (rock rings, rock art, structural elements, architectural elements, etc.) can be documented in place, and then either relocated for public interpretation on the subject property, or removed to a museum or other institution for safekeeping and display.

3 *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format. Preservation Planning Bulletin No. 4 (a).*

3. DATA, RESOURCES, AND REFERENCES

Information Center: UCLA Institute of Archaeology, Fowler Museum of Cultural History, Los Angeles, California 90095; Telephone: (310) 825-4361.

California Office of Historic Preservation (OHP), P.O. Box 942896, Sacramento, California 94296-0001; Telephone: (916) 653-6624. Maintains many publications, including Instructions for Recording Historical Resources, 1995, and California Register: Proposed Guidelines for the Nomination of Properties, 1995.

The Cultural Heritage Commission (CHC), Los Angeles Conservancy, Natural History Museum of Los Angeles County, and the Community Redevelopment Agency (CRA) of the City of Los Angeles, have limited inventories of historical landmarks, but their data do not include archaeological sites and should be augmented by consultation with the Information Center.

CEQA, Appendix K, Archaeological Resources, contains standards for review and mitigation.

Archaeological Resource Management Report (ARMR): Recommended Contents and Format, OHP, 1989. Contains a useful checklist and guidelines for reviewing the adequacy of the preparation and organization of archaeological reports.

CEQA and Archaeological Resources, 1994. Governor's Office of Planning and Research (OPR).

Conservation Plan Element: Section II-3, Preservation of Archaeological Sites and Paleontological Findings, 2001.

City of Los Angeles -- Archaeological Resources Information:

In a comprehensive review of the City's archaeological resources completed in August 1993, the Information Center, which assigns site numbers and curates site records, estimated that only two percent of the City's approximately 800 square miles has been surveyed for archaeological resources. At that time, however, 196 prehistoric sites, 50 historical sites, and 10 undefined isolated occurrences had already been recorded. Of these, at least 26 sites were known to contain human burials, and 10 sites had both prehistoric and historic components. The prehistoric sites include named Native American villages, buried deposits and features, pit houses, occupied caves and rockshelters, bedrock mortars, camp sites, cemeteries and rock art. Historical sites were distinctly underrepresented in the records, since standing historic structures have not been regularly assigned archaeological site numbers or assessed for the potential existence of associated buried features until

recent state guidelines advised that this should be done. The historical sites already recorded are as varied as pre-1830s limekilns, stage stops, mission structures and dams, a log cabin, many adobes, quarries, oil exploration and development features, a submerged ship, a Civil War asphalt mine, aspects of the Pueblo and early water canal features, Chinatown, and a Japanese labor camp.

Selected Legislation

Federal

Federal Antiquities Act of 1906 (P. L. 59-209; 16 U.S.C. 431-433)

Basis for all following legislation. The government, acting for the people, should protect archaeological and historical sites and "any object of antiquity," and preserve them for public availability. Forbids disturbance of said objects of antiquity on federal lands without a permit issued by the responsible agency. Establishes criminal sanctions for unauthorized use or destruction of antiquities.

Historic Sites Act of 1935 (P. L. 74-292, 16 U.S.C. 461-467, 49 Stat. 666)

Declares, "it to be national policy to preserve for public use historic sites, properties, buildings, and objects of national significance." Gives the National Park Service (NPS) (through the Secretary of the Interior) broad powers to execute this policy, including criminal sanctions, on both federal and non-federal lands. It also sets up an advisory board to aid the Secretary of the Interior in implementing this Act.

Reservoir Salvage Act of 1960 (P. L. 86-523; 74 Stat. 220)

Requires Secretary of the Interior to institute an archaeological salvage program in connection with federally funded reservoir programs requiring the responsible agencies to comply with this program.

Historic Preservation Act of 1966 (P. L. 89-665; 80 Stat. 915)

Expansion of the National Register to include sites of not only national, but local significance; authorizes program of matching funds for their acquisition and preservation; and establishes the Advisory Council on Historic Preservation to help implement and monitor this Act.

National Environmental Policy Act (NEPA) of 1969 (P. L. 91-190; 83 Stat. 852)

Requires that cultural resources be considered in assessing the environmental impact of proposed federal projects.

Executive Order 11593 of May 13, 1971: "Protection and Enhancement of the Cultural Environment" Richard M. Nixon (36 F.R. 8921)

States that the federal government shall provide leadership in preserving, restoring and maintaining the historic and cultural environment; specifies that all federal agencies shall institute inventories for historic and archaeological sites, and shall provide for their protection as specified by P. L. 89-665.

Archaeological and Historical Preservation Act of 1974 (P. L. 93-291, U.S.C. 469-469c; 88 Stat. 174)

Amends the Reservoir Salvage Act of 1960 to include all federal programs which may impact cultural resources; authorizes expenditure of program funds for salvage projects; and requires Secretary of the Interior to report annually to Congress on the effectiveness of the program.

Federal Land Policy and Management Act of 1976 (P. L. 94-579; 90 Stat. 2743)

Directs the Bureau of Land Management (BLM) to manage lands on the basis of multiple use in a manner that will protect the quality of scientific, historical, and archaeological values. It provides the guidelines for the acquisition and management of these resources.

American Indian Religious Freedom Act of 1978 (P. L. 95-341; 92 Stat. 469)

States that it is the policy of the United States to protect and preserve for Native Americans their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian including access to sites, use and possession of sacred objects, and the freedom to worship through ceremonial and traditional rites.

Native American Heritage Bill - Chapters 1492 (1984) and 370 (1992)

Policy to protect Native American remains and maintain integrity of their archaeological database; and to establish guidelines for recordation of reburial of human remains and grave goods.

Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) - (P. L. 101-601; 104 Stat. 3048, 25 U.S.C. 3001)

Conveys to Native Americans, of demonstrated lineal descendence, human remains and funerary or religious items that are held by federal agencies and federally-supported museums, or that have been recovered from federal lands. Also makes the sale or purchase of Native American human remains, "whether or not they derive from federal or Indian lands, illegal."

State

California Public Resources Code

Section 5097.5 (Stats. 1965, C. 11362792)

Defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands. Prohibits the knowing destruction of objects of antiquity without a permit (expressed permission) on public lands, and provides for criminal sanctions. Amended in 1987 to require consultation with the California Native American Heritage Commission whenever Native American graves are found. Violations for taking or possessing remains or artifacts are felonies.

Chapter 1332, Section 5097.9

Establishes the California Native American Heritage Commission to make recommendations to encourage private property owners to protect and preserve sacred places in a natural state and to allow appropriate access to Native Americans for ceremonial or spiritual activities. The Commission is authorized to assist Native Americans in obtaining appropriate access to sacred places on public lands, and to aid state agencies in any negotiations with federal agencies for the protection of Native American sacred places on federally administered lands in California.

Section 5097.98-99 (Stats. 1982, C. 1492. Amended 1987)

Requires that the Governor's California Native American Heritage Commission be consulted whenever Native American graves are found. Makes it illegal to take or possess remains or artifacts taken from Native American graves. Does not apply to materials taken before 1984. Violations occurring after January 1, 1988, become felonies.

CEQA (P. R. C. Section 21001)

Requires that cultural resources be considered in assessing the environmental impact of proposed projects.

California Register (1993, AB 2881, Chapter 1075)

Amends the Public Resources Code as it affects historical resources. Purpose is to develop and maintain, "an authoritative guide to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from substantial adverse change." Sites, places, or objects which are eligible to the National Register (50-years-old or more) are automatically included in the California Register.

California Penal Code, Title 14, Part 1, Section 622.5

Provides that any person, not the owner thereof, who willingly destroys or injures objects of archaeological or historical value, whether on public or private land, is guilty of a misdemeanor.

California Administrative Code, Title 14, Section 4307

States, "no person shall remove, injure, disfigure, deface or destroy any object of paleontological, archaeological, or historical interest or value."

Local

Standard Specifications for Public Works Construction, Section 6-3.2

Requires that grading, excavation, or other ground disturbing activities for a public project be halted in the area of a paleontological or archaeological find, until such time as a resource expert can review the find, determine its significance, and if required, determine appropriate mitigation measures.

D.3. HISTORICAL RESOURCES

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Question

V.a): Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

B. Introduction

Historical resources are found throughout the City of Los Angeles and are reminders of the City's historical and cultural development. Resources include, for example, buildings, structures, street lighting systems, spaces, sites, or components thereof. Uses include residential, non-residential (e.g., commercial, industrial, institutional), and public facilities. Resources may be important individually or as part of a district or grouping of complementary resources.

Significant historical resources include those designated or eligible for designation in the National Register of Historic Places (National Register); the California Register of Historical Resources (California Register) or other state program; as a City of Los Angeles Historic Cultural Monument; or in a City of Los Angeles Historic Preservation Overlay Zone (HPOZ). Historical resources may also include resources listed in the State Historic resources Inventory as significant at the local level or higher and those evaluated as potentially significant in a survey or other professional evaluation.

Agencies with jurisdiction over historical resources include the National Park Service (NPS), the California Office of Historic Preservation (OHP), and the City of Los Angeles (see Exhibits D.3-1 to D.3-4 for additional information). The NPS maintains the National Register. Criteria for listing in the National Register include association with events, persons, history, or prehistory or embodiment of distinctive characteristics. These criteria are based on context (theme, place, and time), integrity (location, design, setting, materials, workmanship, feeling, and association), and, if a recent resource, exceptional importance.

OHP implements state preservation law and is responsible for the California Register. The California Register uses the National Register criteria for listing resources significant at the national, state, or local level.

Within the City of Los Angeles, the Cultural Heritage Commission (CHC) is responsible for designating resources as Historic-Cultural Monuments. Monuments, which must meet criteria similar to those for the National Register, are designated and protected. The City assigns an HPOZ to an area that meets certain criteria in order to preserve historical resources and ensure that new development is compatible with the area. Projects within an HPOZ are monitored by the City Planning Department in order to maintain the historic integrity of the area.

Projects that affect historical resources, such as by demolition, relocation, rehabilitation, conversion, alteration, or construction, may have a significant impact. The stock of significant historical resources cannot be replenished and is finite. Thus, the permanent loss of a resource is irreversible. While, in some circumstances, the resource's integrity can be maintained after rehabilitation, conversion, alteration, or construction, insensitive work also may result in a significant impact.

C. Screening Criteria

- Are there historical resources on the project site or in the vicinity, which would be adversely impacted by the project through, for example, demolition, construction, conversion, rehabilitation, relocation, or alteration?

A "yes" response to the preceding question indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration or EIR may be required. Refer to the Significance Threshold for Historical Resources, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to the preceding question indicates that there would normally be no significant impact on Historical Resources from the proposed project.

D. Evaluation of Screening Criteria

Evaluate the historical significance of the resource by considering the following questions. In general, a "yes" response to any of the questions indicates an historical resource may be involved.

1. Has the site been coded by the Department of Building and Safety with a Zoning Instruction (ZI) number in the 145 series (which indicates prior identification of the property as historic)?

2. Has the resource been designated by the City of Los Angeles as an Historic-Cultural

Monument or as a contributor to an HPOZ?

3. Is the resource included within the California Register maintained by the OHP and ranked with an evaluation code of 1 (National Register listed resource) or 2 (determined eligible for listing in the National Register)?

4. Has the resource been classified as historic in an historical resources survey conducted as part of the updating of the Community Plan, the adoption of a redevelopment area or other planning project?

5. Is the resource subject to other federal, state, or local preservation guidelines or restrictions?

6. Does the resource have known associations with an architect, master builder or person or event important in history such that the resource may be of exceptional importance?

7. Is the resource over 50-years-old and a substantially intact example of an architectural style significant in Los Angeles? (Age is calculated from an original building permit or the Land Use Planning and Mapping System (LUPAMS) maintained by the City Planning Department. See Exhibit D.3-5 for significant architectural styles.)

Review the description of the proposed project and determine the type of activities proposed during site preparation, construction, and operation. Projects that affect historical resources, such as demolition, relocation, rehabilitation, conversion, alteration, or construction, may have a significant impact if the project results in a substantial adverse change which would impair historical significance. Insensitive rehabilitation, conversion, alteration or construction may also result in a significant impact. Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A project would normally have a significant impact on historical resources if it would result in a substantial adverse change in the significance of an historical resource.

A substantial adverse change in significance occurs if the project involves:

- Demolition of a significant resource;
- Relocation that does not maintain the integrity and significance of a significant resource;

- Conversion, rehabilitation, or alteration of a significant resource which does not conform to the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings; or

- Construction that reduces the integrity or significance of important resources on the site or in the vicinity.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Architectural description and condition of the resource(s);

- Listing, designation, or determination from city, state, or federal agency (e.g., listed or determined eligible for the National Register or California Register; designated as a City of Los Angeles Historic-Cultural Monument; included within an HPOZ as a contributor);

- Construction history (date of construction and major alterations, architect, builder and owner);

- Significance of owner, architect, builder, or architectural style in history; and

- Context of resource (population, district, grouping, etc.).

Project Impacts

Conduct an evaluation of the historical resource to determine its significance (based on listing or eligibility for listing). Field surveys and research, in addition to the review of the Initial Study screening process may be necessary to determine whether a resource is listed or eligible for listing. If a resource is not listed on the National Register, California Register, City of Los Angeles Historic-Cultural Monuments, or, if applicable, HPOZ, use the appropriate criteria for listing to determine whether it is eligible. Assistance is available from the agencies with jurisdiction over such resources and from the information included in 3. Data, Resources, and References. A professional consultant may be required.

Review the description of the proposed project and consider the potential impacts. When the demolition of an historical resource is proposed, weigh the impact given the significance of the resource and the population of similar resources which would remain. If the resource to be demolished is part of a district or grouping, also assess the impact to the listing or eligibility of the district or grouping.

When a significant historical resource is relocated, the ability to retain listing or eligibility depends upon individual circumstances. For example, relocation of a resource whose most significant feature is setting or position on a parcel would be more detrimental than if the key element is the architectural style and structural features. The style and feature would relocate with the building; however, the setting would not. Also, consider changes in the context (e.g., removal from a district).

Evaluate conversion, rehabilitation, or alteration to a significant historical resource in terms of the extent of the work and the impact on the listing or eligibility of the resource. Also, determine whether the work meets the standards for rehabilitation established by the Secretary of the Interior and the OHP (see Exhibits D.3-1 and D.3-4). Consider whether the conversion, rehabilitation, or alteration work would be compatible with the massing, size, scale, and architectural features of the resource. Projects more sensitive to historic integrity include minor repairs or temporary work that does not permanently affect significant elements and character.

If new construction is proposed, give key consideration to compatibility with the massing, size, scale, and architectural features of the historical resource(s). Determine the impacts to the setting and character of the area as well as whether the new construction might indirectly reduce the viability of a district or grouping of historical resources.

Cumulative Impacts

Review the list of related projects and identify those that:

- Are located within the same National Register district, HPOZ, general area, neighborhood, or community; or

- Involve resources with the same historical context or use (e.g., by the same architect or in the same period).

Determine the impact of the related projects. Consider the cumulative impacts of the proposed and related projects to the population of resources which would remain, and to districts and groupings.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Prepare a preservation plan or element which provides guidelines to ensure that the project conforms to the standards for rehabilitation established by the Secretary of the Interior and the OHP;

- Require new construction to be compatible with historical resources on the site and in the vicinity (e.g., mass, height, materials, setback, retention of mature landscaping);

- Require the project sponsor to relocate the historical resource or offer it for relocation by another individual or organization (provided that eligibility will be maintained following the relocation);

- Require the project sponsor to adaptively reuse the historical resource or incorporate it into the project;

- Undertake documentation according to the requirements of the Historic American Building Survey (HABS) such as large format photography, measured drawings and written narrative. Make available copies of this documentation to the Los Angeles Public Library (LAPL) and local preservation organizations and historical societies; and

- Require the project sponsor to allow local preservation organizations and historical societies to document the resource and/or remove significant historic elements for archives.

3. DATA, RESOURCES, AND REFERENCES

NPS, Pacific Great Basin Support Office, 1111 Jackson St., Suite 700, Oakland, CA. 94607, Telephone: (510) 817-1396. NPS maintains the National Register.

OHP, P.O. Box 942896, Sacramento, California 94296-0001; Telephone: (916) 653-6624. OHP duties include: administration of National Register, California Register, State Historical Landmarks and State Points of Historical Interest programs, and State Historical resources Inventory; Section 106 process (National Historic Preservation Act); and Responsible Agency for CEQA review.

CHC and the Cultural Affairs Department, 433 South Spring Street, 10th Floor, Los Angeles, California 90013; Telephone: INFO Desk (213) 473-7700. Responsible for designation and monitoring of City of Los Angeles Historic-Cultural Monuments.

Department of Building and Safety. Customer Call Center (888)-LA4-BUILD or outside Los Angeles County: (213) 977-6941, 201 N. Figueroa Street, Los Angeles, CA 90012. Maintains ZI codes for property parcels. The ZI 145 series is currently used for historic buildings.

City Planning Department; Telephone: (213) 482-7077; Bureau of Engineering; Telephone: (213) 847-8704; and Community Redevelopment Agency (CRA) of the City of Los Angeles; Telephone: (213) 977-1600, maintain historical resources surveys.

Bureau of Street Lighting; 600 S. Spring St. 14th Floor, Los Angeles, CA 90013. Telephone: (213) 847-6400, is responsible for historic street lights in the City.

Los Angeles Conservancy, a regional non-profit preservation organization; 523 W. 6th St. Los Angeles, CA 90014, Telephone: (213) 623-2489. This organization's activities include:

- Historical resources surveys;
- Information regarding how to obtain the results of surveys; and
- Information regarding the significance of particular architects and buildings.

Recording Historic Structures, HABS/Historic American Engineering Record, John A. Burns, ed, Washington: American Institute of Architects Press, 1989.

References to other sources are included within HABS/Historic American Engineering Record, An Annotated Bibliography, compiled by James C. Massey, et al, NPS, 1992.

Exhibit D.3-1
NATIONAL CRITERIA AND STANDARDS

National Register

To be eligible for listing in the National Register, a resource must possess significance in American history and culture, architecture, or archaeology. These criteria are the Register's standards for determining the significance of properties. Buildings, sites, districts, structures, or objects of potential significance must possess integrity of location, design, setting, and materials and meet one or more of four established criteria:

A. Are associated with events that have made a significant contribution to the broad patterns of our history;

B. Are associated with the lives of persons significant in our past;

C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Yield, or may be likely to yield, information important in prehistory or history.

Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

2. The historic character of a property shall be retained and preserved. The removal of historic material or alteration of features and spaces shall be avoided.

3. Each property shall be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other buildings, shall not be undertaken.

4. Most properties change over time; those changes that have acquired significance in their own right shall be retained and preserved.

5. Distinctive features, finishes and construction techniques or examples of skilled craftsmanship, which characterize an historic property, shall be preserved.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive historic feature, the new feature shall match

the old in design, color, texture, and other visual qualities, and where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Exhibit D.3-2
CALIFORNIA REGISTER CRITERIA AND EVALUATION SYSTEM

The evaluation instructions and classification system proscribed by OHP in its "Instructions for Completing the California Historical resources Inventory Form, June 1990" provide the following general categories of evaluation. Categories 1 through 4 involve various levels of National Register eligibility. The California Register may include surveyed resources ranked from 1 - 5.

1. Listed in the National Register.

2. Determined eligible for listing in the National Register in a formal process involving federal agencies.

3. Appears eligible for listing in the National Register in the judgment of the persons completing or reviewing the form.

4. May become eligible for listing in the National Register.

5. Ineligible for the National Register, but of local interest.

6. None of the above.

7. Undetermined.

Resources eligible to be nominated for listing in the California Register include:

- Individual historical resources;
- Historical resources contributing to the significance of an historic district under criteria adopted by the Commission;
- Historical resources identified as significant in historical resource surveys, if the survey meets the criteria listed in California Public Resources Code . 5024.1(g); and
- Locally designated resources if the criteria for local designation have been determined by the Commission to be consistent with California Register criteria adopted by the Commission.

Exhibit D.3-3
CITY OF LOS ANGELES CRITERIA

City of Los Angeles Historic-Cultural Monument Designation

In the City of Los Angeles, resources may be designated as Historic-Cultural Monuments under Sections 22.120, et seq., of the Los Angeles Municipal Code (LAMC). An historical or cultural monument is defined as:

> "any site (including significant trees or other plant life located thereon), building or structure of particular historic or cultural significance to the City of Los Angeles, such as historic structures or sites in which the broad cultural, political, economic or social history of the nation, state or community is reflected or exemplified, or which are identified with historic personages or with important events in the main currents of national, state or local history, or which embody the distinguishing characteristics of an architectural-type specimen, inherently valuable for a study of a period style or method of construction, or a notable work of a master builder, designer, or architect whose individual genius influenced his age."

City of Los Angeles Historic Preservation Overlay Zones (HPOZs)

HPOZs are essentially locally designated historic districts or groupings of historical resources. Under the HPOZ ordinance (LAMC Section 12.20.3.), to be significant, structures, natural features or sites within the involved area or the area as a whole shall meet one or more of the following criteria:

(A) has substantial value as part of the development, heritage or cultural characteristics of, or is associated with the life of a person important in the history of the city, state or nation;

(B) is associated with an event that has made a substantial contribution to the broad patterns of our history;

(C) is constructed in a distinctive architectural style characteristic of an era of history;

(D) embodies those distinguishing characteristics of an architectural type or engineering specimen;

(E) is the work of an architect or designer who has substantially influenced the development of the City;

(F) contains elements of design, details, materials or craftsmanship which represent an important innovation;

(G) is part of or related to a square, park or other distinctive area and should be developed or preserved according to a plan based on a historic, cultural, architectural or aesthetic motif;

(H) owing to its unique location or singular physical characteristics, represents an established feature of the neighborhood, community or City; or

(I) retaining the structure would help preserve and protect an historic place or area of historic interest in the City.

Exhibit D.3-4
STATE OFFICE OF HISTORIC PRESERVATION (OHP)
LIST OF NON-ADVERSE REPAIRS AND IMPROVEMENTS

According to the OHP and the Advisory Council on Historic Preservation, the following work does not usually involve adverse effect on historical resources:

1. Electrical work, limited to upgrading or in-kind replacement;

2. Plumbing work, limited to upgrading or in-kind replacement, with the exception of historic fixtures which shall be repaired when possible;

3. Installation of mechanical equipment, which does not affect the exterior of the building or require installation of new ductwork throughout the interior;

4. Repainting of existing painted surfaces if destructive surface preparation treatments are not used, including, but not limited to, water blasting, sandblasting, and chemical removal;

5. In-kind repair/partial replacement of porches, cornices, exterior siding, doors, balustrades, stairs, or other trim;

6. In-kind replacement of deteriorated windows;

7. Replacement of windowpanes in-kind or with double or triple glazing so long as glazing is clear and not colored and replacement does not alter existing window material and form;

8. Caulking and weather stripping with compatibly colored materials;

9. In-kind repair/replacement of roof materials;

10. Installation of insulation, with the exception of urea formaldehyde foam insulation or any thermal insulation with a water content into wall cavities, provided that decorative interior plaster or woodwork or exterior siding is not altered by this work item;

11. Installation of fire or smoke detectors;

12. Installation of security devices, including deadbolts, door locks, window latches, and door peepholes, and the installation of electronic security systems;

13. In-kind repair/replacement of driveway or walkways;

14. In-kind repair/replacement of fencing;

15. Floor refinishing;

16. In-kind repair/replacement of floors;

17. Installation of grab bars and minor interior modifications for handicap accessibility;

18. In-kind repair/replacement of signs and awnings; and

19. In-kind repair/replacement of interior stairs.

Exhibit D.3-5
ARCHITECTURAL STYLES AND PERIODS

The following architectural styles and related periods of significance are historically important in Los Angeles:

Adobe	1800-1870
Monterey	1840-1870
Greek Revival	1825-1860
Classical Revival	1840-1870
Italianate	1870-1900
Gothic Revival	1870-1900
Eastlake	1870-1900
Second Empire	1870-1885
Queen Anne	1880-1905
Chateauesque	1890-1915
American Foursquare	1894-1908
Turn of the Century	1895-1905
Beaux Arts	1895-1930
Mission Revival	1890-1915
Craftsman	1895-1925
Pueblo Revival	1900-1930
Commercial Vernacular	1910-1925
Spanish Colonial Revival	1915-1930
Modernism	1920-1940
Art Deco	1920-1940
Monterey Revival	1925-1940
Colonial Revival	1930-1945
Tudor Revival	1930-1945
Streamline Moderne	1935-1945
PWA Moderne	1930-1940
California Ranch House	1935-1990
Corporate International	1945-1990

Source: Los Angeles Conservancy, 1995.

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Turn of the Century	1895-1905
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Mission Revival	1890-1915
Craftsman	1895-1925
Pueblo Revival	1900-1930
Commercial Vernacular	1910-1925
Spanish Colonial Revival	1915-1930
Modernism	1920-1940
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PWA Moderne	1930-1940
California Ranch House	1935-1990
Corporate International	1945-1990

Source: Los Angeles Conservancy, 1995.

E. GEOLOGY

E.1. GEOLOGIC HAZARDS

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

VI.a.i): Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

VI.a.ii): Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

VI.a.iii): Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

VI.a.iv): Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

VI.c): Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

VIII.j): Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?

B. Introduction

Geologic processes that result in geologic hazards include: surface rupture, ground shaking, ground failure, tsunamis, seiches, landslides, mudflows, and subsidence of the land.[1] Because the region is generally considered to be geologically active, most projects will be exposed to some risk from geologic hazards, such as earthquakes. Thus, significant geologic impacts exceed the typical risk of hazard for the region.

[1] *Sediment and erosion are addressed in E.2. SEDIMENTATION AND EROSION.*

Surface ruptures are the displacement and cracking of the ground surface along a fault trace. Surface ruptures are visible instances of horizontal or vertical displacement, or a combination of the two, typically confined to a narrow zone along the fault. The effects of ground shaking, the actual trembling or jerking motion of the ground during an earthquake, can vary widely across an area and depend on such factors as earthquake intensity and fault mechanism, duration of shaking, soil conditions, type of building, and other factors. Ground failure results from the cyclical ground acceleration generated during an earthquake, producing landslides, ground cracking, subsidence and differential settlement. Liquefaction is a form of earthquake-induced ground failure that occurs primarily in relatively shallow, loose, granular, water-saturated soils.

Tsunamis are large ocean waves generated by large-scale, short-duration submarine earthquakes. Tsunami waves are capable of traveling great distances (over 1,000 miles) and damaging low-lying coastal regions. Seiches are waves formed from oscillations in enclosed or restricted bodies of water (i.e., harbors, lakes). Seiches can cause water to overtop reservoirs and lakes.

Mudflows and landslides are the downslope movement of soil and/or rock under the influence of gravity. Mudflow and landslide processes are influenced by factors such as thickness of soil or fill over bedrock, steepness and height of slope, physical properties of the fill, soil or bedrock materials and moisture content. These factors may increase the effective force of gravity upon a slope, decrease the ability of a slope to resist gravitational influence or a combination of the two, which can lead to mudflows and landslides.

Subsidence is a localized mass movement that involves the gradual downward settling or sinking of the Earth's surface, resulting from the extraction of mineral resources, subsurface oil, groundwater, or other subsurface liquids, such as natural gas. Settlement is the gradual downward movement of a structure due to compression of the soil below the foundation. The principal cause of subsidence is the extraction of subsurface liquids, whereas settlement results from the compression of soils due to the weight of the structure or by surcharging following the placement of fill.

Construction is regulated by the Los Angeles Building Code, Sections 91.000 through 91.7016 of the Los Angeles Municipal Code (LAMC). The Los Angeles Building Code provides requirements for construction, grading, excavations, use of fill, and foundation work including type of materials, design, procedures, etc., which are intended to limit the probability of occurrence and the severity of consequences from geological hazards. Necessary permits, plan checks, and inspections are also specified.

C. Screening Criteria

- Is the project located in an area susceptible to unusual geologic hazards considering the following:

  - Designation on official maps and databases;

  - Past episodes on-site or in the surrounding area; and

  - Physical properties of the site, including the topography, soil or underlying bedrock (including thickness of bedrock and soil compressibility, strength, moisture content, and distribution)?

- Would the project include any of the following:

  - Placement of structures designed for regular occupancy or infrastructure on fill; or

  - Active or planned extraction (removal) of mineral resources, groundwater, oil, or natural gas on-site or in the surrounding area?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Geologic Hazards, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to all of the preceding questions indicates that there would normally be no significant Geologic Hazard impact from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project, project site, and surrounding area. To assist in determining whether the project is located in an area of known or suspected geologic hazard, consult the following maps and databases:

- Environmental and Public Facilities Maps, including:

  - Alquist-Priolo Special Study Zones and Fault Rupture Study Areas,
  - Inundation and Tsunami Hazard Areas,

- Areas Susceptible to Liquefaction,
- Landslide Inventory and Hillside Areas,
- Areas Containing Significant Mineral Deposits, and
- Oil Field and Oil Drilling Areas;

- ZIMAS (Zone Information & Map Access System): http://zimas.lacity.org

- Navigate LA: http://navigatela.lacity.org/

- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) for tsunami hazards

Using the above information, field research, published reports, or other appropriate maps or studies, as available, assess whether the project is located in an area susceptible to geologic hazards. Consider past episodes on site or in the surrounding area; steepness/height of slopes; physical properties of the soil; the presence of fill; or extraction of resources below the surface. If necessary, consult with the Bureau of Engineering or Department of Building and Safety.

Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A project would normally have a significant geologic hazard impact if it would cause or accelerate geologic hazards, which would result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Description of the physical setting and geology, such as the topography, steepness and height of slopes or cliffs, physical properties of the soil and underlying bedrock, proximity to bodies of water, presence of fill, and extraction or mining activities;

- Identification of the geologic processes that may result in geologic hazards on the project site or in the surrounding area; and

- Summary of requirements and/or policies for geologic hazards that apply to the project site.

Project Impacts

Using the information from the Evaluation of Screening Criteria and the description of the proposed project, project site, and surrounding area, determine the geologic hazards that the project would cause or accelerate. Substantial damage to structures or infrastructure and exposure of people to substantial risk of injury is related to the probable frequency of potential geologic hazards (i.e., likely number of events per year or decade) and the probable severity of the consequences to people, property, or infrastructure that may result (i.e., injuries to people and the valuation of property damage). Consider that the geologically active nature of the region means that most projects will be exposed to geologic hazards, such as seismic activity. Significant impacts, as indicated by the significance threshold, exceed the typical risk of hazard for the region. Consider the type of uses that would be included in the project, the characteristics of the occupants of the project, and the change in risk of hazard or damage that would result from the project.

Cumulative Impacts

Review the description of the related projects. Identify those with elements, activities, or operations which would cause or accelerate geologic hazards that would extend off-site. Consider the impact from the combined effect of the related and proposed projects, in the same manner as described above for Project Impacts.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Use interim precautionary steps during construction; and
- Use design and structural features that exceed the requirements of the Los Angeles Building Code and Planning and Zoning Code. (Chapter 1 of the Municipal Code).

3. DATA, RESOURCES, AND REFERENCES

Department of Building and Safety, 201 North Figueroa Street, 4th Floor, Construction Services Center, Los Angeles, California 90012; Telephone: (213) 833-8389.

Bureau of Engineering, Geotechnical Engineering Group, 650 S. Spring St., Suite 495, Los Angeles, CA 90014. (213) 847-4010.

Bureau of Engineering, Structural Engineering Group, 650 S. Spring St., Suite 400, Los Angeles, CA. 90014. (213) 847-8774.

City Planning Department, Environmental and Public Facilities Maps (1996):

- Alquist-Priolo Special Study Zones and Fault Rupture Areas illustrates the approximate locations of Alquist-Priolo Special Study Zones and fault rupture areas;
- Inundation and Tsunami Hazard Areas;
- Areas Susceptible to Liquefaction;
- Landslide Inventory and Hillside Areas illustrates the approximate locations of hillside areas, areas with known or probable bedrock landslides, and areas of surficial landslides larger than five acres;
- Areas Containing Significant Mineral Deposits identifies areas within a Mineral Resource Zone (MRZ) 2. Projects within this designation may experience subsidence/settlement where mineral extraction has occurred or is planned; and
- Oil Field and Oil Drilling Areas show areas known to have supported at least six months of oil production, indicating an increased risk for subsidence.
- ZIMAS (Zone Information & Map Access System) http://zimas.lacity.org
- Navigate LA http://navigatela.lacity.org/
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps.

Planning and Zoning code is available from the City Planning Department's Central Publications Unit at 200 N. Spring St., 5th Floor, Los Angeles, CA., 90012; Online at: http://amlegal.com/los_angeles_ca/.

Selected Legislation

Federal

Flood Insurance Rate Maps (FIRMs) (10 CFR Section 1022.11, 43 CFR Section 64.3)

FIRMs are prepared by the Federal Insurance Administration of the Department of Housing and Urban Development (HUD) after a risk study for a community has been completed and the risk premium rates have been established. The maps indicate the risk premium zones applicable in the community and when those rates are effective. They are used in making flood plain determinations and to determine if a proposed action is located in the base or critical action flood plain, as appropriate.

State

Alquist-Priolo Earthquake Fault Zoning Act (PRC Section 2621.5)

Provides policies and criteria to assist cities, counties, and state agencies in the development of structures for human occupancy across the trace of active faults. Intended to provide the citizens of the state with increased safety and to minimize the loss of life during and immediately following earthquakes by facilitating seismic retrofitting to strengthen buildings, including historical buildings, against ground shaking.

E.2. SEDIMENTATION AND EROSION

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Question

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

B. Introduction

Projects that change the natural ground surface may expose earth materials, which are subject to erosion from both wind and water forces. Impacts are related to the amount of land exposed to wind and water forces and the characteristics of the site. Such erosion affects not only the integrity of the ground surface, but also results in the transport and deposition of dust in the surrounding locale and/or sediments in downstream water bodies. Impacts of sediment runoff on water quality are addressed in G.2. SURFACE WATER QUALITY.

Construction is regulated by the Los Angeles Building Code (Sections 91.7000 through 91.7016 of the Los Angeles Municipal Code (LAMC)). The Los Angeles Building Code provides requirements for construction, grading, excavations, use of fill, and foundation work including type of materials, design, procedures, etc., which are intended to limit the probability of occurrence and the severity of consequences from sedimentation and erosion. Necessary permits, plan checks, and inspections are specified. Also included in these requirements is the provision that any grading work in excess of 200 cubic yards (cu.yd.) that will occur between November 1 and April 15 (the "rainy season") must include an erosion control system approved by the Department of Building and Safety.

Under the National Pollutant Discharge Elimination System (NPDES), the State Water Resources Control Board has issued two general stormwater discharge permits for Los Angeles County to cover industrial and construction activities. The permits are required for specific industry types based on standard industrial classification and for construction activities on five acres or more. The Regional Water Quality Control Board (RWQCB) oversees implementation and enforcement of the general permits, including Waste Discharge Requirements (WDR). The Public Works Department, Bureau of Engineering, Stormwater Management Division, is the agency responsible for overseeing implementation of permit responsibilities for the City. Presently, under the General

Construction Stormwater Permit, projects greater than five acres are required to incorporate, to the maximum extent possible, permanent or post-construction best management practices (BMPs) in project planning and design.

C. Screening Criteria

- Would the project result in grading, clearing or excavation of more than 20,000 cu.yd. on a slope of ten percent or more?

- Does the project include grading, clearing, or excavation activities in an area of known or suspected erosion hazard (based upon designation on official maps and databases)?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Sedimentation and Erosion, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to all of the preceding questions indicates that there would normally be no significant Sedimentation and Erosion impact from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project, project site, and surrounding area. To determine if the project is located in an area of known or suspected erosion hazard, consult the following maps and databases:

- Environmental and Public Facilities Maps, Landslide Inventory and Hillside Areas; and

- Zimas (Zone Information & Map Access System) http://zimas.lacity.org/

- Navagate LA http://navagatela.lacity.org

Indications of high and very high levels of erosion hazard indicate known or suspected erosion hazard. Determine whether the project includes grading, clearing or excavation activities that could result in sedimentation and erosion impacts. If necessary, use field research, published reports, or other appropriate studies, as available, or consult with the Bureau of Engineering or Department of Building and Safety. Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A project would normally have significant sedimentation or erosion impacts if it would:

- Constitute a geologic hazard to other properties by causing or accelerating instability from erosion; or

- Accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition which would not be contained or controlled on-site.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Description of the physical setting and geology, such as the topography of the site, steepness and height of slopes or cliffs, characteristics of the soil, and type and extent of vegetation;

- Identification of the erosion processes that may result in geologic hazards on the project site or in the surrounding area; and

- Summary of requirements and/or policies for erosion hazards that apply to project site.

Project Impacts

Using the information from the Evaluation of Screening Criteria and the description of the proposed project, project site, and surrounding area, determine the erosion hazards that the project would cause or accelerate. Assess the probable frequency of potential geologic hazards (i.e., likely number of events per year or decade) and the probable severity of the consequences to people, property, or infrastructure that may result (i.e., injuries to people and the valuation of property damage). Consider the type of uses that would be included in the project, the characteristics of the occupants of the project, and the change in risk of

hazard or damage that would result from the project. Determine whether sediment runoff would be contained or controlled on-site. Exposure between November 1 and April 15 (the "rainy season") and removal of vegetative cover are more likely to result in erosion and sedimentation. Conditions such as steep slopes and cliffs or impermeable soil can also exacerbate runoff.

Cumulative Impacts

Review the description of the related projects. Identify those with activities or operations which would cause or accelerate erosion hazards. Assess the probable frequency of potential geologic hazards and the probable severity of the consequences to people, property, or infrastructure that may result from the combined effect of the proposed and related projects, in the same manner as described above for Project Impacts.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Establish an erosion control plan prior to construction;

- Revegetate cleared areas as soon as feasible after grading or construction with temporary seeding, permanent seeding, mulching, and stabilization, vegetative buffer strips, protection of trees, or other soil stabilization practices;

- Reduce sedimentation by using detention basins, straw bale dikes, silt fences, earth dikes, brush barriers, velocity dissipation devices, drainage swales, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, sediment traps, temporary sediment basins, or other controls; and

- Incorporate permeable paving materials that permit water penetration.

3. DATA, RESOURCES, AND REFERENCES

Department of Building and Safety, 201 North Figueroa Street, 3rd Floor, Construction Services Center, Los Angeles, California 90012; Telephone: (888) 524-2845. Technical requirements for grading activities and grading plan submittals are contained in the Los Angeles Building Code, and are outlined in form B-164 of the Department of Building and Safety.

Environmental and Public Facilities Maps (1996) Landslide Inventory and Hillside Areas illustrates the approximate locations of hillside areas, areas of known or probable bedrock landslides, and areas of surficial landslides larger than five acres.

General Permit No. CA 5000002 - WDR for Stormwater Runoff Associated with Construction Activities (Requirements of the NPDES).

Navigate LA available online at: http://navagate.la.lacity.org.

Zone Information & Map Access System, (ZIMAS) available online at: http://zimas.lacity.org

See also E.1. GEOLOGIC HAZARDS.

E.3. LANDFORM ALTERATION

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Question

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

V.c): Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

B. Introduction

This section addresses the potential effects of a project on distinct and prominent geologic or physical features, such as hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds and wetlands. While some of the environmental impacts surrounding these resources are evaluated in other sections of this document (such as A.1. AESTHETICS), this section directly addresses the alteration of these landforms, which primarily occurs through grading and other earth moving activities. These activities may alter landforms in various ways, including lowering ridgelines, covering wetlands, filling canyons, or removing rock outcrops.

All grading in Los Angeles is regulated by the Los Angeles Building Code (Sections 91.7000 through 91.7016, of the Los Angeles Municipal Code (LAMC)), which includes requirements for excavations, fills, and the planting and irrigation of graded slopes. Grading may also be regulated by policies, which apply to specific geographic areas, such as those, which may be imposed by a specific plan, a local coastal program or the California Coastal Act, the Community Plan, or the General Plan and its elements.

Examples of specific policies that support the protection of distinct and prominent landforms include:

- Sections 30251 and 30253 of the California Coastal Act which require that activities within the coastal zone (generally includes land and water 1000 yards inland of the mean high tide line) minimize alteration of natural landforms and do not create or contribute to erosion, geologic instability, etc., in coastal areas;

- Several Community Plans encourage "cluster type" development in hillside areas in order to minimize the amount of grading and alteration of the natural landform; and

- The Mulholland Scenic Parkway Specific Plan includes policies, which regulate grading activities within the specific plan area. These policies are intended to minimize grading, preserve significant ridgelines, and minimize alteration of the natural landform characteristics of the Santa Monica Mountains through the use of grading standards set forth in the City Planning Department's Landform Grading Manual.

C. Screening Criteria

- Does the project site contain any distinct and prominent geologic or physical features that may be physically altered by project implementation?

A "yes" response to the preceding question indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration or EIR may be required. Refer to the Significance Threshold for Landform Alteration, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to the preceding question indicates that there would normally be no significant impact on Landform Alteration from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project, proposed grading plans and proposed project operations. Identify any distinct and prominent resources on the project site, which may include, but are not limited to, hilltops, ridgelines, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands. Determine whether the project activities could physically alter the identified landform(s) through, for example: lowering ridgelines; reducing wetlands or streambeds; filling canyons; or removing rock outcrops. Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A project would normally have a significant impact on landform alteration if one or more distinct and prominent geologic or topographic features would be destroyed, permanently covered or

materially and adversely modified. Such features may include, but are not limited to, hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds and wetlands.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Describe the existing slopes and topography of the site and surrounding areas, including any distinct or prominent geologic or physical features. Include a map, as appropriate;

- Identify any specific grading or landform alteration policies that apply to the project site as imposed by any specific plan, local coastal program or the California Coastal Act, the Community Plan, the General Plan and its elements, the Hillside Ordinance or other portions of the LAMC; and

- Describe any drainage and diversion structures, retaining walls, cribbing and other surface protection devices existing on the site or immediately adjacent.

Project Impacts

Review the grading and construction plans to identify which distinct and prominent geologic or physical features on the project site would be impacted by project construction or operation. Determine what type of impact the project would have on the resource(s), such as major changes to existing slopes or ridgelines, the filling of canyons, removal or destruction of rock outcrops, covering of wetland areas, etc. Determine whether these changes would destroy an existing prominent resource and/or whether other project activities would result in adverse modifications. Note how long modifications would last and whether the resource would be restored.

The project-grading plan may be used to determine grading amounts and other earth moving activities that may impact a landform. Identify the location and quantities of cut and fill areas, height of cut and/or fill slopes, steepness and stability of proposed slopes and structures, details and location of proposed drainage devices, and, if it would impact an identified landform, the location of disposal sites for excess materials.

Cumulative Impacts

Review the list of related projects. Identify those with distinct and prominent geologic or physical features that would be altered. Assess the impact on these features from implementation of the related projects in the manner described above in Project Impacts. Identify cumulative impacts that would occur and determine their significance. Consider multiple impacts on a single feature or the combined impact on a group of like features.

Sample Mitigation Measures

Potential mitigation measures include the following:

- the modification of grading or excavation plans to avoid a distinct landform; and

- a reduction in amount of grading to conform to natural contours.

3. DATA, RESOURCES, AND REFERENCES

Specific plans, Coastal Act, especially policies 30251 and 30253, for projects within the coastal zone, and various specific plans, which include hillside areas, such as the Mulholland Scenic Parkway Specific Plan. Available from the City Planning Department's Central Publications Unit (see address and telephone below).

Landform Grading Manual, available from the City Planning Department's Central Publications Unit at 200 N. Spring St. 5th Floor, Los Angeles, California 90012; Telephone: (213) 978-1255.

See also E.1. GEOLOGIC HAZARDS and E.2. SEDIMENTATION AND EROSION.

E.4. MINERAL RESOURCES

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

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

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

B. Introduction

Underlying the City of Los Angeles are finite deposits of non-renewable mineral resources, including petroleum and natural gas, limestone, and aggregate (e.g., rock, sand, and gravel). Development that includes placement of structures over resource areas or blocks access to a resource area results in the loss of availability of resources. Impacts are related to the characteristics of the resource and the degree of loss.

Federal, State and City agencies regulate or have documented the presence of mineral resources. The State Geologist, California Division of Mines and Geology (CDMG), and State Mining and Geology Board (SMGB) provide assistance and direction with regard to mineral resources. The SMGB uses a classification system that divides land into four Mineral Resource Zones (MRZ) based on quantity and significance of mineral resources. (See Exhibit E.4-1) Projects located within the MRZ-2 designation are subject to City policies established in Section VII, Mineral Resources, of the Conservation Element. The Bureau of Land Management (BLM) and the United States Forest Service (USFS) issue permits for mining activity on federal lands.

C. Screening Criteria

- Is the project located within, or would it block access to, a MRZ-2, or other known or potential mineral resource area (based upon designation on official maps and databases such as those identified below)?

A "yes" response to the preceding question indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Mineral Resources, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to the preceding question indicates that there would normally be no significant impact on Mineral Resources from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project, project site, and surrounding area. To determine if the project is located in, or could block access to, a mineral resource area, consult the following maps:

- Environmental and Public Facilities Maps, including:

  - Areas Containing Significant Mineral Deposits; and
  - Oil Field and Oil Drilling Areas.

In addition, use field research, published reports, or other appropriate studies, as available, to assess whether the project is located in a MRZ-2 or other important mineral resource area. Consult with the CDMG as needed.

Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

The determination of significance shall be made on a case-by-case basis, considering the following factors:

- Whether, or the degree to which, the project might result in the permanent loss of, or loss of access to, a mineral resource that is located in a MRZ-2 or other known or potential mineral resource area; and

- Whether the mineral resource is of regional or statewide significance, or is noted in the Conservation Element as being of local importance.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Description of the project site and surrounding area;

- Discussion of the mineral resource on the site, as well as within a regional and statewide context; and

- Summary of the requirements and/or policies for mineral resources that apply to the project site.

Project Impacts

Using the information from the Evaluation of Screening Criteria and the description of the proposed project, assess whether implementation of the project would result in a loss of, or loss of access to, the identified mineral resource. Determine whether alternative means of accessing the mineral resource exist and whether the loss of access would be permanent or temporary. Also, consider the importance of the mineral on a state, regional and local level, in terms of economic value, remaining supply, and feasibility of recovering the resource.

Cumulative Impacts

Review the description of the related projects. Identify those with activities and operations, which are within, or would block access to, a MRZ-2 or other important mineral resource area. Assess whether the related projects would result in the cumulative loss of, or loss of access to the mineral resource(s). Consider the importance of the resource and then consider the impact from the combined effect of the proposed and related projects, in the same manner as described above for Project Impacts.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Design the project so that no or only nonpermanent structures are atop or blocking the mineral resource area; and

- Establish easements to preserve possible future use of the mineral resource.

3. DATA, RESOURCES, AND REFERENCES

CDMG, Southern California Regional Office located at 655 S. Hope St., #700, Los Angeles, California 90017-3231; Telephone: (213) 239-0878. CDMG prepares a Mineral Land Classification Report for the City of Los Angeles area. The criteria used in the classification reports are established by the SMGB and are contained in California Surface Mining and Reclamation Policies and Procedures, Special Publication 51, 1983.

City Planning Department, Environmental and Public Facilities Maps (1996):

- Areas Containing Significant Mineral Deposits illustrates the approximate locations of MRZ-2 areas within the City of Los Angeles; and
- Oil Field and Oil Drilling Areas shows areas known to have supported at least six months of oil production.

Conservation Element of the General Plan, available from the City Planning Department's Central Publications Unit at 200 N. Spring St. 5th Floor, Los Angeles, California 90012; Telephone: (213) 978-1255, Online at: http://www.lacity.org/PLN/.

Selected Legislation

State

Surface Mining and Reclamation Act of 1975

PRC Section 2711 declares that the extraction of minerals is essential to the continued economic well-being of the state and to the needs of the society, and that the reclamation of mined lands is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety.

Exhibit E.4-1
STATE MINING AND GEOLOGY BOARD (SMGB)
MINERAL RESOURCE ZONE (MRZ) CLASSIFICATIONS

The SMGB classification system divides land into four MRZs, reflecting varying degrees of significance. These categories are as follows:

- **MRZ-1**: Areas where available geologic information indicates there is little likelihood for the presence of significant mineral resources;

- **MRZ-2a:** Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present, as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information;

- **MRZ-2b:** Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present, as determined by limited data;

- **MRZ-3a:** Areas containing known mineral occurrences of undetermined mineral resource significance;

- **MRZ-3b:** Areas containing inferred mineral occurrences of undetermined mineral resource significance. Land classified MRZ-3b represents areas in geologic settings that appear to be favorable environments for the occurrence of specific types of mineral deposits; and

- **MRZ-4:** Areas of no known mineral occurrences where geologic information does not rule out either the presence or absence of significant mineral resources.

F. HAZARDS

F.1. RISK OF UPSET/EMERGENCY PREPAREDNESS

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

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

VII.b): Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous chemicals into the environment?

VII.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 create a safety hazard for people residing or working in the project area?

VII.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?

VII.g): Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

B. Introduction

Hazardous materials generally are chemicals, which have the capability of causing harm during an accidental release or mishap, and are characterized as being toxic, corrosive, flammable, reactive, an irritant or strong sensitizer. The term “hazardous substances” encompasses every chemical regulated by both the United States Department of Transportation's (DOT) "hazardous materials" regulations and the Environmental Protection Agency's (EPA) "hazardous waste" regulations, including emergency response. Hazardous wastes require special handling and disposal because of their potential to damage public health and the environment.

Activities and operations that use or manage hazardous or potentially hazardous or explosive substances could create a hazardous situation if an accidental explosion or release of these substances occurred. Individual circumstances, including the type of substance, quantity used or managed, and the nature of the activities and operations, affect the probable frequency and severity of consequences from a hazardous situation. Federal, state, and local laws regulate the use and management of hazardous or potentially hazardous or explosive substances. For example, the Clean Air Act Amendments (CAAA) of 1990 require facilities that exceed federal threshold levels of listed substances to prepare Risk Management Plans. State threshold levels have also been established.

Emergency response plans and emergency evacuation plans specify appropriate actions to be undertaken with regard to emergency situations such as warning systems, evacuation plans/procedures, and emergency action plans. These plans are required by state environmental and occupational health laws and regulations for businesses that use specified hazardous or extremely hazardous materials or involve a potential threatened release of acutely hazardous materials above certain threshold limits. Projects may require new or revised plans due to the construction or expansion of operations.[1]

Creation of human health hazards or exposure of people to existing sources of potential health hazards, including asbestos, is addressed in F.2. HUMAN HEALTH HAZARDS. According to the federal Occupational Safety and Health Administration (OSHA), hazardous chemicals are chemicals that would be a risk to employees if there is exposure in the workplace. They are listed and regulated through OSHA and the California Occupational Safety and Health Administration (CalOSHA).

Toxic air emissions are addressed in B.3. TOXIC AIR CONTAMINANTS.

C. Screening Criteria

- Would the project use or manage hazardous or potentially hazardous or explosive substances (including, but not limited to, oil, pesticides, chemicals, or radiation)?

- Would the project require a new or revised risk management plan, emergency response, or emergency evacuation plan?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Risk of Upset/Emergency Preparedness, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to all of the preceding questions indicates that there would normally be no significant impact on Risk of Upset/Emergency Preparedness from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project. Determine whether operation or construction would involve the use, generation, disposal, transport, or management of potentially hazardous or explosive substances (including, but not limited to, oil, pesticides, chemicals, or radiation) in

[1] *Risks due to earthquake-related hazards are addressed in E.1. GEOLOGIC HAZARDS.*

sufficient quantities to cause a potential hazard. Emergency response and evacuation plans are required for businesses that use hazardous materials or involve a potential threatened release of acutely hazardous materials during operation or construction. Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

The determination of significance shall be made on a case-by-case basis, considering the following factors:

- The regulatory framework;
- The probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance;
- The degree to which the project may require a new, or interfere with an existing, emergency response or evacuation plan, and the severity of the consequences; and
- The degree to which project design will reduce the frequency or severity of a potential accidental release or explosion of a hazardous substance.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Description of the project site, including any on-site activities or structures;
- Physical description of land uses and activities in the surrounding area and along appropriate transportation routes (generally, from the project site to the nearest designated truck route), including distance to sensitive receptors, such as schools, hospitals, or residential uses;
- Description of emergency response or evacuation plan(s) affecting the project and/or the surrounding area; and
- Summary of the regulatory framework.

Project Impacts

Review the description of the proposed project. Identify the activities and operations which would involve the use, generation, disposal, transport, or management of potentially hazardous or explosive substances (including, but not limited to, oil, pesticides, chemicals, or radiation) in sufficient quantities to cause a potential hazard. Estimate the probable frequency of a potential accidental release or explosion of a hazardous substance and the probable severity of the consequences to people or property that would result. Elements of individual projects, such as the type of substance, the quantity used or managed, and the nature of the activities and operations, affect the risk of accidental explosion or release of hazardous substances. Identify and evaluate project features or components that would reduce the risk associated with use or management of hazardous, potentially hazardous, or explosive substances. Consider the regulatory framework and determine the resulting risk.

Review applicable emergency response or evacuation plans. Determine the impact of the project on implementation of the plan(s) and whether the project would require new or expanded plans to be written, because of project activities or location.

Cumulative Impacts

Review the description of the related projects. Identify those with activities and operations which would involve the use, generation, disposal, transport, or management of potentially hazardous or explosive substances (including, but not limited to, oil, pesticides, chemicals, or radiation). Determine the combined impact from the related and proposed projects, in the same manner as described above for Project Impacts. Determine the cumulative impact on the implementation and adequacy of emergency response or evacuation plans due to increases in the amount of hazardous materials used or the location of the projects.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Use non-toxic or less toxic substances in project construction or operation;

- Investigate opportunities and implement programs to reduce the amount of waste chemicals generated; and

- Redesign operations and or use alternate transportation routes.

3. DATA, RESOURCES, AND REFERENCES

Los Angeles Fire Department (LAFD), Bureau of Fire Prevention and Public Safety; 200 N. Main St., Room 1000, Los Angeles, CA. 90012; Telephone: Research Unit (213) 485-6021.

Los Angeles County Fire Department, Hazardous Materials Division; Telephone: (213) 890-4045.

CalOSHA Consultation Service; 10350 Heritage Park Dr., Suite 201, Santa Fe Springs, CA 90670. Telephone: (562) 944-9366, or Consultation Toll Free at (888) 963-9424.

Hazardous materials are defined and listed in various federal and state laws and regulations. These include, but are not limited to, 40 CFR 302 (hazardous substances), 40 CFR 261 (hazardous waste), 49 CFR 172.101 and appendices (hazardous materials), 22 CCR, Section 66261 (hazardous waste), 20 HSC, Chapter 6.5 (hazardous waste).

Requirements for emergency response plans, emergency evacuation plans, and emergency action plans can be found in numerous state and federal laws and regulations. A partial list includes, but is not limited to, the following: 29 CFR 1910.120; Title 8, CCR Sections 3215, 3220 and 5192; Title 22 CCR Section 66265.50-52; and 20 HSC Sections 25504 and 25534.

Risk Management Plans are required under certain conditions by federal and state laws and regulations. The regulations list substances and threshold levels that trigger preparation of Risk Management Plans. Some relevant federal regulations can be found in 40 CFR 68 et seq, which implement Section 112(r)(7) of the CAAA. Some State regulations are listed in Title 22 CCR Section 66261.113, 20 HSC Section 25531 et seq., Title 8 Section 5189, and Title 19 Sections 2510 and 2620 to 2732.

Work place operations and exposure are included in laws and regulations of OSHA and CalOSHA. See, for example, 29 CFR 1910 and Title 8, CCR, Section 5192(a)(3)(A) through (D) and Section 5155.

F.2. HUMAN HEALTH HAZARDS

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

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

VII.b): Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous chemicals into the environment?

VII.c): Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

VII.d): Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

B. Introduction

A variety of activities, operations, and projects can create human health hazards, or expose people to existing sources of potential health hazards. Impacts can result directly from a process or substance (e.g., removal of asbestos containing materials) or indirectly (e.g., transmission of a disease by rodents or insects). Individual circumstances, including the type of hazard and nature of the activities and operations, affect the probable frequency and severity of consequences from the health hazard. Federal, state, and local laws regulate these hazards.

Hazardous materials generally are substances which, by their nature and reactivity, have the capability of causing harm or a health hazard during normal exposure or an accidental release or mishap, and are characterized as being toxic, corrosive, flammable, reactive, an irritant or strong sensitizer. The term “hazardous substances” encompasses chemicals regulated by both the United States Department of Transportation's (DOT) "hazardous materials" regulations and the Environmental Protection Agency's (EPA) "hazardous waste" regulations, including emergency response. Hazardous wastes require special handling and disposal because of their potential to damage public health and the environment. A designation of “acutely” or “extremely” hazardous refers to specific listed chemicals and quantities.

A health hazard may also occur where there is contact with or contamination from asbestos-containing material (ACM), which includes both friable ACM and Class I nonfriable ACM. Friable asbestos is more easily airborne than non-friable asbestos. Actions which may cause ACM to be broken, crumbled, pulverized, or reduced to powder include physical wear and disturbance by mechanical force, such as, but not limited to, sanding, sand blasting, cutting or abrading, improper handling or removal, or leaching of matrix binders. Class I nonfriable ACM includes, but is not limited to, fractured or crushed asbestos cement products, transite materials, mastic, roofing felts, roofing tiles, cement water pipes and resilient floor covering. Friable ACM is material containing more than 1 percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. California Occupational Safety and Health Administration (CalOSHA) defines asbestos-containing construction material as material which contains more than 1/10 of 1 percent asbestos by weight.

Risk of accidental explosion or release of hazardous substances and interference with an emergency response or evacuation plan is addressed in F.1. RISK OF UPSET/EMERGENCY PREPAREDNESS. According to the Occupational Safety and Health Administration (OSHA), hazardous chemicals are chemicals that would be a risk to employees if there were exposure above specified limits in the workplace. They are listed and regulated through OSHA and CalOSHA.

C. Screening Criteria

- Would the project create a health hazard, such as by introducing or directly modifying any of the following (or similar) facilities/activities:

    - Pipeline for hazardous or potentially hazardous or explosive substance which is:

        - More than eight miles in length; or

        - Less than eight miles in length with more than one-half mile subject to activity at any time;

    - Subterranean storage field or above ground tanks;

    - Solid waste facility;

    - Waste water treatment plant;

    - Major utility transmission or distribution facility;

- Land use or activity with recognized vector (e.g., rodents, insects, etc.) management problems; or

- Facility that uses or manages hazardous substances in sufficient quantities to cause a potential hazard?

- Would the project locate people adjacent to a health hazard, such as any of the above uses?

- Would the project create a health hazard through activities that involve the disturbance, removal, storage, or disposal of ACM or lead paints?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Human Health Hazards, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to all of the preceding questions indicates that there would normally be no significant impact on Human Health Hazards from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project, project site, and surrounding area. Determine whether any of the uses or activities listed would be part of the project or adjacent to the project site. Health hazards may be created by increasing the frequency or severity of consequences from human exposure to hazardous materials or conditions. Vector management issues may include conditions or activities that attract rodents, insects, or other vectors. Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

The determination of significance shall be made on a case-by-case basis, considering the following factors:

- The regulatory framework for the health hazard;

- The probable frequency and severity of consequences to people from exposure to the health hazard; and

- The degree to which project design would reduce the frequency of exposure or severity of consequences of exposure to the health hazard.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Description of the project site and surrounding area, identifying potential health hazards and sensitive receptors; and

- Summary of applicable health and safety regulations.

Project Impacts

Review the description of the proposed project, project site, and surrounding area. Identify the activities and operations, which could create a health hazard. Specific circumstances, including the type of hazard, distance between the hazard and people, and the nature of the activities and operations, affect the probable frequency and severity of the consequences. Identify and evaluate project features or components that would reduce the human health risk below that typically associated with the proposed land use or activity. Considering this and the regulatory framework, determine the resulting hazard.

Cumulative Impacts

Review the description of the related projects. Identify those with activities or operations, which would create a health hazard, such as by introducing any of the uses or activities listed in the Screening Criteria to locations where people could be impacted. Determine the combined impact from the proposed and related projects, in the same manner as described above for Project Impacts.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Relocate storage of hazardous substances away from site boundaries;
- Develop a community warning plan;

- Provide spill containment measures;

- Develop a health and safety plan;

- Provide barriers that contain hazards (e.g., appropriate buffers between land uses or air curtains of sufficient strength to control insect vectors); and

- Reduce or eliminate conditions that exacerbate the frequency or severity of occurrences (e.g., avoid landscaping, such as ivy, which can provide nesting areas for rodents; prevent ponding of water which can provide breeding areas for mosquitos).

3. DATA, RESOURCES, AND REFERENCES

Los Angeles County Department of Health Services; 313 N. Figueroa St., Los Angeles, CA 90012. Telephone: (213) 240-8144.

South Coast Air Quality Management District (SCAQMD), Rules and Regulations. Regulation X – Subpart M and Rules 470, 1108, 1108.1, 1120, 1403, and 1414. Information regarding a particular rule or regulation may be obtained by calling the SCAQMD at (909) 396-2000 or 1-800-CUT-SMOG.

Federal extremely hazardous substances and planning thresholds are listed in 40 CFR 355, Appendices A and B. State extremely hazardous substances and planning thresholds are referenced in 19 CCR 2729(a). State acutely hazardous materials and threshold quantities are listed in 8 CCR 5189, Appendix A and referenced in 20 HSC 25532.

State extremely hazardous wastes are asterisked in 22 CCR, Div. 4.5, Chapter 11, Appendix X and referred to in 22 CCR 66261.110 and 66261.113.

State and federal acutely hazardous wastes are listed in 22 CCR 66261.33(c) and 40 CFR 261. Subpart D, respectively.

Asbestos-containing construction material is defined in 8 CCR 1529(b), a CalOSHA regulation.

See also F.1. RISK OF UPSET/EMERGENCY PREPAREDNESS.

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G. WATER RESOURCES

G. WATER RESOURCES

G.1. SURFACE WATER HYDROLOGY

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

VIII.c): Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

VIII.d): Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

VIII.e): Would the project create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems, or provide substantial additional sources of polluted runoff?

VIII.g): Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

VIII.h): Would the project place within a 100-year flood hazard area structures, which would impede or redirect flood flows?

VIII.i): Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

XVI.b): Would the project result in the construction of new water or wastewater treatment facilities, the construction of which could cause significant environmental effects?

XVI.c): Would the project 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?

B. Introduction

This section addresses the potential surface water hydrology impacts that may be associated with the implementation of a project, including flood hazard impacts and changes in the amount or movement of surface water. Surface water impacts may occur when a project results in either

increased on- or off-site storm water flows, changes in absorption rates, alterations to existing surface water flow patterns or directions (including the intake and use of water from a surface water body), or other factors which result in a changed rate of flow. Surface waters include lakes, rivers, streams, reservoirs, the ocean, and similar water bodies. Flood hazard is defined as flooding which occurs during a storm event, particularly the 50-year developed storm event.[1] Impacts may also occur when development of a project results in the depletion of natural flood plain values through development of land within a flood plain area, which is accounted for in the 50-year developed storm event. These impacts typically result in an increased potential for flood hazard.

C. Screening Criteria

- Is the project located within a 100-year flood plain, an area designated as hillside (as identified in the Los Angeles Municipal Code (LAMC) Section 91.7001), or other known flood-prone area?

- Would run-off from the project site drain onto an unimproved street or on to adjacent properties other than public right-of-way (ROW)?

- Would project implementation affect a surface water body such that the amount of surface water, current, course or direction of flow would change?

- Would the run-off factor for the developed project site exceed the percentage of imperviousness for the existing land use category, as contained in the Bureau of Engineering Manual, Part G, Storm Drain Design?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Surface Water Hydrology, and review the associated Methodology to Determine Significance, as appropriate.

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[1] *The 50-year developed storm event is the maximum predicted rainfall event used by the City and County of Los Angeles for determining storm water runoff quantities utilized in the design of the local storm drain system. This specification has been incorporated in the Bureau of Engineering Manual Part G, Storm Drain Design. The year refers to a calculated storm magnitude, which would occur with an approximate frequency of every 50 years. "Developed" refers to hydrology calculations, which assume that all land is developed according to its general plan/zoning designation. A "developed condition" permeability factor is assigned to each parcel, even if it is currently vacant, in order to design adequate storm drain facilities for future conditions.*

A "no" response to each of the preceding questions indicates that there would normally be no significant impact on Surface Water Hydrology from the proposed project.

D. Evaluation of Screening Criteria

Identify the location of the proposed project site using the Environmental and Public Facilities Maps (100 Year and 500 Year Flood Plains and Landslide Inventory and Hillside Areas) and/or relevant Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM). In addition, use the United States Geological Survey (USGS) topographic map(s) for the site and any available project or field study information to determine the potential for flooding.

Determine whether changes to the project site would cause run-off to drain on to an unimproved street or on to adjacent properties other than public ROW. Review the proposed activities and geological conditions of the project site and surrounding area to determine the project's potential to affect the existing current, direction of flow, or amount of water in a surface water body, including lakes, rivers, streams, or the ocean. Consult the Department of Public Works Bureau of Engineering, Los Angeles County Flood Control District and the Army Corps of Engineers (ACOE), as necessary.

Review the project plans and identify the percentage of imperviousness for the site, after project completion. Compare to the percentage for the existing zoning classification reproduced in Exhibit G.1-1. See the Bureau of Engineering Storm Drain Manual if assistance is needed.

Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A proposed project would normally have a significant impact on surface water hydrology if it would:

- Cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources;

- Substantially reduce or increase the amount of surface water in a water body; or

- Result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow.

B. Methodology to Determine Significance

Environmental Setting

Describe the project site, including the topography, soil types, location and size of impermeable surfaces (buildings, paving, hardscape, parking lots), location within a flood plain, and the size and location of drainage facilities. Note the existing direction of flow of surface water runoff from the site. Identify storm drains and surface water bodies to which the runoff drains directly or eventually.

Project Impacts

Determine whether the project would result in a change in water flows during a projected 50-year developed storm event that would flood the site or off-site properties, upstream or downstream and cause harm to people or damage to property or sensitive biological resources (see C. BIOLOGICAL RESOURCES for a definition of sensitive biological resources). Consider topography, soil types, location and size of impermeable surfaces, the size and location of drainage facilities, and flood control facilities. Mechanisms of flood control include, but are not limited to: dams, flood control basins, levees, channelization, pumping stations, upstream retention, diversion of run-off, and spreading grounds. Also, consider the nature of the land uses involved when determining the likelihood of harm or damage. (The City has designated certain land uses as appropriate to locate within a defined flood plain.)

Determine whether the project would result in an increase or decrease of water in a surface water body during project construction or operation, and whether project-related changes in the current or direction of flow of water would be permanent and adverse. Consult with the Bureau of Engineering, the Los Angeles County Flood Control District, or the ACOE, as appropriate.

Cumulative Impacts

Identify the related projects that could affect the same surface water body or flood plain as the proposed project. Using the methodology identified in Project Impacts, determine the combined effect of the proposed and related projects. Consult with the Bureau of Engineering and other flood control agencies, as appropriate.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Construct new or improved existing storm water management facilities to reduce or retard the amount of peak runoff from the project site. Such measures may include the construction of detention basins or other structures that will slow down or delay the peak flow of storm water runoff from the site;
- Redesign the project such that structures and other important facilities that would be adversely affected by flooding are no longer located within flood hazard areas or so that the floodway open space is preserved;

- Raise the building pad or ground floor of proposed structures to an elevation above flood prone areas; and

- Reduce impervious surfaces and materials. Maximize landscaped and natural areas.

3. DATA, RESOURCES, AND REFERENCES

Bureau of Engineering Public Counters. Construction Services Center, 4th Floor, 201 North Figueroa Street, Los Angeles, California 90012; Telephone: (213) 977-6032. Valley District, Van Nuys Municipal Building, 14410 Sylvan Street, 2nd Floor, Van Nuys, California 91401; Telephone: (818) 756-8421. Harbor District, San Pedro Municipal Building, 638 South Beacon Street, Room 400, San Pedro, California 90731; Telephone: (310) 732-4677. West Los Angeles District, 1828 Sawtelle Boulevard, 3rd Floor, Los Angeles, CA 90025-5516; Telephone: (310) 575-8384.

Bureau of Engineering, Structural and Technical Engineering, 650 South Spring Street, Room 400, Los Angeles, California 90014-1913; Telephone: (213) 847-4010.

Department of Building and Safety, Construction Services Center, 201N. Figueroa St., 4th Floor, Los Angeles, California 90012; Telephone: (213) 847-8774.

Los Angeles County Flood Control District, 900 South Fremont, Alhambra, California 91803; Telephone: (626) 458-5100.

ACOE, 911 Wilshire Boulevard, #1525, Los Angeles, California 90017; Telephone: (213) 452-3908.

Bureau of Engineering Manual, Part G, Storm Drain Design.

Flood Insurance Rate Maps (FIRMs) (10 CFR Section 1022.11, 43 CFR Section 64.3). FIRMs are prepared by the Federal Insurance Administration of the Department of Housing and Urban Development (HUD) after a risk study for a community has been completed and the risk premium rates have been established. The maps indicate the risk premium zones applicable in the community and when those rates are effective. They are used in making flood plain determinations and to determine if a proposed action is located in the base or critical action flood plain, as appropriate.

USGS topographic maps.

City Planning Department, Environmental and Public Facilities Maps (1996):

- 100 Year and 500 Year Flood Plains; and
- Landslide Inventory and Hillside Areas.

Exhibit G.1-1
DEVELOPMENT CLASSIFICATIONS
(Typical Percentage of Imperviousness, by Zone)

Zoning Classification	Type of Development	I_d
	Park (lawn areas only)	15
	Undeveloped Hillside or Mountainous Areas[a]	35
A1, A2, RA	Agricultural and One-Family Dwelling	35
RE11, RE15, RE20, RE40	One-Family Dwelling - Level Area	35
	- Hillside Area	50
R1, RD1.5, RD2	One-Family Dwelling - Large Hillside Lot	50
RS, R1, RE9	One-Family Dwelling - Level Area	40
	- Hillside Area	70
R2, RW1, RW2, RD3, RD4, RD5, RD6	Multiple Dwelling	60
R3	Multiple Dwelling	70
R4, R5, P, PB, CR, C1, C2, C4, C5, CM, MR1, MR2, M1, M2, M3	Multiple Dwelling, Parking, All Commercial and Manufacturing	100
	Playgrounds, Schools	100
RPD[b]	¾ of land area with I_d per development above; ¼ of land area with I_d for park	

Notes:

I_d is the percentage of imperviousness of a sub-area.

[a] To be used in computing runoff prior to development regardless of zoning classification.

[b] Residential Planned Development – Investigate development (in field or from plans) before allocating value of I_d

Source: Bureau of Engineering Manual Part G, Storm Drain Design.

G.2. SURFACE WATER QUALITY

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Question

VIII.a): Violate any water quality standards or waste discharge requirements?

VIII.b): Substantially deplete groundwater supplies or interfere substantially with ground water recharge such that there would be a net deficit in aquifer volume of 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)?

VIII.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?

VIII.g): Place housing within a l00-year flood hazard area as mapped on a federal flood hazard Boundary or flood Insurance Rate Map or other flood hazard delineation map?

B. Introduction

Water quality may be impacted by pollutants discharged directly into receiving waters. Industrial flows discharged from manufacturing, cleaning, or cooling operations, and activities such as dewatering of groundwater encountered during construction can usually be directed to an outfall or pipe and are therefore categorized as "point sources."

Water quality may also be affected by pollutants found in surface water runoff originating from a wide range of dispersed sources, or "nonpoint sources." In rural settings, such as agricultural or forestland, this runoff is treated as non-point sources. In urban settings, this runoff is typically guided into a "storm drain system" and ultimately discharged to the receiving waters at a specific location(s). Hence, these storm drain system discharges are treated as point sources. Stormwater runoff is part of the natural hydrologic cycle. Drainage patterns and pollutant concentrations are frequently altered through processes such as urbanization and agriculture. Recent studies have indicated that stormwater runoff is a significant source of water pollution, which may result in declines in fisheries and other aquatic life, restrictions on recreational activities, and general

impairment of the existing and potential beneficial uses of receiving waters. "Stormwater runoff" encompasses "urban runoff," which includes the discharge of pollutants to water bodies from such non-storm (or "dry weather") related activities as irrigation, hosing sidewalks, draining swimming pools, and washing cars. Dry weather flows also include illegal discharges to the storm drain system, such as unauthorized connections, leaks, or spills.

Regulatory Framework

In 1948, Congress enacted the Water Pollution Control Act, which has since been amended significantly on several occasions, and is now commonly referred to as the Clean Water Act (CWA). The CWA delineates a national permitting system for point discharges known as the National Pollutant Discharge Elimination System (NPDES). NPDES is the basic regulatory and enforcement tool available under the CWA. NPDES permits typically incorporate specific discharge limitations for point source discharges to ensure that dischargers meet permit conditions and protect state-defined water quality standards. California is authorized to administer key components of the federal water quality management program in the state.

The existing NPDES framework was expanded in 1987 to regulate stormwater runoff (discharges) originating from municipal and industrial sources. The Los Angeles Regional Water Quality Control Board (LARWQCB) is authorized to implement a municipal stormwater-permitting program as part of its general NPDES authority, as an agent of the State Water Resources Control Board (State Board). Municipal permits typically require permittees to develop an areawide stormwater management plan, implement best management practices (BMPs) and perform stormwater monitoring. The City of Los Angeles is a co-permittee under the County of Los Angeles municipal permit.

In general, environmental impacts to surface water quality are assessed in relation to the existing characteristics of the body of water that would receive the discharge (receiving water body), including its size, flows, designated beneficial uses, and present concentrations of pollutants. Increased concentrations of toxic metals, organic compounds, suspended solids, nutrients, pathogenic microorganisms and other pollutants, or changes in temperature may result in sedimentation, eutrophication, habitat degradation, and/or threats to public health.

For point source discharges from proposed projects, the nature of the discharge is directly related to the process that produces the discharge. Nonpoint source impacts to receiving waters during project operation are related to such factors as land use type, size, design, and intensity. Construction activities may also result in the discharge of stormwater runoff pollutants, including dissolved solids, to receiving waters. If a project includes point source discharges, the

pollutants associated with the discharges may need to be identified and quantified for an NPDES permit from the LARWQCB.

Major surface water bodies in the City of Los Angeles include: the Los Angeles River, Tujunga Wash, Ballona Channel, Santa Monica Bay, and San Pedro Bay. In addition, the City is served by an extensive network of storm drains which either drain directly to the Santa Monica Bay, San Pedro Bay, or to waterways that ultimately drain to Santa Monica or San Pedro Bays.

C. Screening Criteria

Would the proposed project:

- Involve or allow an activity or process that would result in a point source discharge to a receiving water body?

- Create conditions, which may result in soil erosion, sediment runoff or nonpoint sources of contamination?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration or EIR may be required. Refer to the Significance Threshold for Surface Water Quality, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to all of the preceding questions indicates that there would normally be no significant impact on Surface Water Quality from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project, project site, and surrounding area. Consider the location, size and slope of the site and the type, size, and intensity of land use(s) proposed. A receiving water body may include rivers, lakes, reservoirs, the ocean and others, as appropriate. Evaluate activities such as manufacturing, processing, cleaning, grading, cooling, dredging, dewatering of groundwater (during construction or operation), auto-related uses (e.g., parking[1], auto

[1] *The City of Los Angeles CEQA Guidelines include a categorical exemption for surface parking lots of up to 110 spaces (equivalent to 35,310 square feet).*

repair), storage of raw materials and/or finished products, use or storage of solid waste or hazardous/toxic materials, agriculture, waste water treatment operations, and landfills. Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A project would normally have a significant impact on surface water quality if discharges associated with the project would create pollution, contamination or nuisance as defined in Section 13050 of the California Water Code (CWC) (see definitions below) or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include a general description of the project site and adjacent areas to which runoff currently drains directly or eventually. Describe the locations of on- or off-site water bodies and existing drainage outlets (i.e., storm drains). Address the existing water quality of water bodies to which the site drains and applicable adopted water quality objectives or standards. Water quality is increasingly being addressed through watershed programs. Within the next few years TMDLs (Total Maximum Daily Loads) will be developed for local watersheds, and the impact of projects on the TMDL allocations will need to be evaluated.

Project Impacts

The CWC includes the following definitions:

"**Pollution**" means an alteration of the quality of the waters of the state to a degree which unreasonably affects either of the following: 1) the waters for beneficial uses or 2) facilities which serve these beneficial uses. "Pollution" may include "Contamination."

"**Contamination**" means an impairment of the quality of the waters of the state by waste to a degree, which creates a hazard to the public health through poisoning or through the spread of

disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

"**Nuisance**" means anything which meets all of the following requirements: 1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; 2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and 3) occurs during, or as a result of, the treatment or disposal of wastes.

Review the description of the proposed project, project site and surrounding area. Determine the nature, quantity, duration, and affect of project discharges. Describe any proposed treatment of the discharge. Assess the impact on the receiving water body relative to existing conditions and any applicable water quality objectives or standards. Consider factors such as the size of the site as a percentage of the entire watershed and the predominant land uses in the watershed. The percentage of imperviousness factors reproduced in Exhibit G.1-1[2] may be used to evaluate the relative amount of runoff from various land use types. Consult with the Bureau of Engineering, the Los Angeles County Flood Control District, the LARWQCB, the Environmental Protection Agency (EPA), or the Army Corps of Engineers (ACOE), as appropriate. A professional consultant may be required.

Cumulative Impacts

Review the description of the related projects. Identify those that are in the same watershed or that drain to the same water body as the proposed project. Evaluate the combined impact on the receiving water body of related project discharges in combination with the proposed project discharge as described for project impacts.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Establish an erosion control plan prior to construction. Include such measures as:

[2] *Exhibit G.1-1, Development Classifications, is found in G.1. SURFACE WATER HYDROLOGY.*

- Use of natural drainage, detention ponds, sediment ponds, or infiltration pits to allow runoff to collect and seep into the ground at a rate which would reduce or prevent downhill erosion,

- Use of barriers to direct and slow the rate of runoff and to filter out large-sized sediments,

-

- Use of downdrains or chutes to carry runoff from the top of a slope to the bottom, and

- Control the use of water for irrigation so as to avoid off-site runoff;

- Employ permeable paving materials that permit water penetration to a soil depth of 18 inches or more, or provide a coefficient of runoff of 0.6 or less;

- Include properly designed and maintained biological oil and grease removal systems in new storm drain systems to treat water before it leaves the project site;

- Properly store hazardous materials to prevent contact with precipitation or runoff;

- Develop and maintain effective monitoring and cleanup program for spills and leaks of hazardous materials;

- Place equipment to be repaired or maintained in uncovered areas on a pad of absorbent material to contain leaks, spills, or small discharges;

- Provide periodic and consistent removal of landscape and construction debris;

- Sweep parking lots at regular, frequent intervals to remove debris. Remove any significant chemical residue left by vehicles by appropriate methods;

- Use non-toxic alternatives for such applications as insecticides, herbicides, rodenticides, and fertilizers. Apply chemical controls only when precipitation is not forecast for the area;

- Use permeable surfaces (such as grassy swales, green strips near parking areas, or porous pavement) to allow infiltration to reduce the peak flow of runoff and minimize the transport of pollutants to receiving waters;

- Install detention basins to remove suspended solids by settlement. Fit basins with trash racks at the inlets to catch floating solids; and

- Periodically monitor the water quality of runoff before discharge.

3. DATA, RESOURCES, AND REFERENCES

For updated information about City ordinances and permit requirements for surface water runoff, contact the Bureau of Engineering, Stormwater Management Division, at 650 South Spring Street, Suite 700, Los Angeles, California 90014; Telephone: 213-847-6350.

LARWQCB Waste Discharge Requirements, Stormwater/Urban Runoff Discharge for Los Angeles County and Co-Permittees, Water Quality Order No. 96-054, NPDES Permit No. CAS614001.

LARWQCB Water Quality Control Plan, June 13, 1994.

National Research Council, Monitoring Southern California's Coastal Waters 1990.

Santa Monica Bay Restoration Project, State of the Bay 1993, January 1994.

State Board, General Permit for Stormwater Discharges Associated With Construction Activities, Water Quality Order No. 92-06-DWQ; General Permit No. CAS000002.

State Board, General Permit for Stormwater Discharges Associated With Industrial Activities Excluding Construction Activities, Water Quality Order No. 91-13-DWQ (as amended by Water Quality Order No. 92-12-DWQ); General Permit No. CAS000001.

State Board, Ocean Plan, August 1995.

State Board, Stormwater Bulletin Board Service. Monitoring data for various watersheds in California.

State Board, Stormwater Quality Task Force, California Stormwater Best Management Practice Handbooks, March 1993. Provides general guidance in developing and implementing BMPs for stormwater quality for municipal, industrial and construction activities. Primarily

addresses the requirements of the stormwater program as developed from section 402 (p) of the CWA.

EPA, Office of Wastewater Enforcement and Compliance, Draft Stormwater Pollution Prevention for Industrial Activities, 1992.

EPA, Water Planning Division, Final Report of the Nationwide Runoff Program, December 30, 1983.

Regulatory Framework

The State Board has the overall responsibility to develop and implement state water quality control policy and is the EPA-designated agency for administering applicable federal CWA programs, including adopting water quality standards for waters of the state. The California Water Code (CWC) establishes nine administrative areas in the State, which are administered by Regional Water Quality Control Boards (RWQCB), which adopt Water Quality Control Plans for their respective regions. The Water Quality Control Plans designate beneficial uses for each receiving water body and establish water quality objectives to ensure reasonable protection of the beneficial uses. The primary method of plan implementation for point discharges is through the issuance of permits.

The owner or operator of any facility discharging or proposing to discharge waste to surface waters (typically from a point source) is required to apply for an NPDES permit with the appropriate RWQCB. Effluent limits are set by the RWQCB for each potential pollutant in accordance with applicable state and federal water quality criteria for the receiving water body. Within the City, the criteria are contained in the Los Angeles Region Basin Plan. The owner or operator of any facility discharging or proposing to discharge waste that may affect groundwater quality or from which waste may be discharged in a diffused manner (e.g. erosion from soil disturbance) must first obtain Waste Discharge Requirements (WDR) from the appropriate RWQCB.

The State Board has issued two general stormwater discharge permits to cover industrial and construction activities, which are required for specific industry types based on standard industrial classification and construction activities on one acre or more or less than one acre but are part of a larger common plan of development that in total disturbs one or more acres. The RWQCB oversees implementation and enforcement of the general permits. The Bureau of Sanitation and Watershed Protection, Stormwater Management Division, are the agencies responsible for overseeing implementation of permit responsibilities for the City. Presently, under

the General Construction Stormwater Permit, projects of one acre or greater are required to incorporate, to the maximum extent possible, permanent or post-construction BMPs in project planning and design as discussed in the current permit, which was approved in December 2001.

Selected Legislation

Federal

NPDES (40 CFR Sec. 122.1)

The NPDES program requires permits for the discharge of pollutants from any point source into waters of the United States. These point sources include: concentrated animal feeding operations, concentrated aquatic animal production facilities, discharges into aquaculture projects, and discharges of stormwater.

Federal Water Pollution Control Act (Clean Water Act - CWA) (33 U.S.C. 1251)
Clean Water Act Amendments of 1972, PL 92-500
Clean Water Act Amendments of 1977, PL 95-217
Clean Water Act Amendments of 1987, PL 100-4

The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.

State

CWC, Division 7 Water Quality

This division of the Code addresses: the conservation, control and utilization of water resources; water quality; and charges the state and regional water boards with coordination and control of water quality. Section 13050 defines pollution, contamination and nuisance, as well as other terms used in the water code.

G.3. GROUNDWATER LEVEL

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

VIII.b): Would the project substantially deplete 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)?

VIII.f): Would the project otherwise substantially degrade water quality?

VIII.g): Would the project place housing within a 100-year flood hazard area as mapped on a federal flood hazard Boundary or flood Insurance Rate Map or other flood hazard delineation map?

VIII.i): Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

VIII.j): Would the project inundation by seiche, tsunami, or mudflow?

B. Introduction

The City of Los Angeles overlies eight groundwater basins as identified in the Los Angeles Region Water Quality Control Plan, adopted by the Los Angeles Regional Water Quality Control Board (LARWQCB), and designated by the California Department of Water Resources (DWR). The Los Angeles Coastal Plain includes the West Coast Basin, the Central Basin, the Santa Monica Basin, and the Hollywood Basin. The San Fernando Valley overlies the San Fernando Basin and portions of the Eagle Rock, Verdugo, and Sylmar Basins. These groundwater basins are depicted in Exhibits G.3-1 and G.3-2. The Los Angeles Region Water Quality Control Plan identifies several beneficial uses common to all of these basins including municipal and domestic supply, industrial process and industrial service supply, and agricultural supply.

Groundwater is a major component of the water supply for many public water suppliers in the Los Angeles metropolitan area, and is also used by private industries, as well as a limited number of

private agricultural and domestic users. Local groundwater provides approximately 15 percent of the total water supply of the City of Los Angeles. The Los Angeles Department of Water and Power (DWP) owns and operates these wells and can act as lead agency under CEQA for projects involving wells and water production facilities. Production rights are adjudicated in three of the four major groundwater basins (West Coast, Central, and San Fernando Basins), and are monitored and controlled by a Watermaster. The DWP serves as the Watermaster for the San Fernando Basin. Production rights are not adjudicated in the Santa Monica and Hollywood basins.

Each groundwater basin is replenished by deep percolation of precipitation and return water from irrigation. Individual basins may also be replenished by surface spreading of local runoff, imported water and reclaimed water; injection of imported water (for protection against saline intrusion); and subsurface inflow from other basins. The major spreading areas are generally on the higher portions of the valley floor near the mountain front, or along major streams or channels.

Water table changes and/or changing the direction of flow may result from extracting groundwater for water supply needs or site dewatering, increasing or decreasing groundwater recharge, intercepting and removing groundwater from cuts or excavations, or remediation of contaminated groundwater. Earthwork cuts or excavations in areas of shallow groundwater may necessitate the use of temporary or permanent removal of groundwater by dewatering systems.[1] Groundwater recharge may be reduced if an area currently available for spreading of stream runoff is reduced, if permeable streambeds are lined, or if permeable areas located above groundwater basins are replaced by hard surfaces (paving, buildings, etc.). Groundwater recharge may be increased if larger permeable areas are created.

Possible impacts resulting from lowering the water table include changes in the production of nearby existing wells, reduced basin yield, salt water intrusion (see G.4, GROUNDWATER QUALITY), subsidence (see E.1., GEOLOGIC HAZARDS), stream flow reduction (see G.1., SURFACE WATER HYDROLOGY), impacts to vegetation, and changes in the direction and rate of travel of existing contaminants in the groundwater. Possible impacts of raising the water table include seepage or other impacts on below ground structures, structural damage from settling or expansion of clay soils (see E.1., GEOLOGIC HAZARDS), and changes in the direction and rate of flow of contaminants including saltwater intrusion (see G.4. GROUNDWATER QUALITY).

[1] *Permanent removal of groundwater allocated to DWP requires an agreement with DWP.*

C. Screening Criteria

- Does the project include the installation of production water wells or a permanent groundwater extraction or dewatering system in a groundwater basin used for potable water supply purposes?

- Does the project include planned groundwater recharge through surface spreading or injection?

- Would the project involve cuts or excavation that would intercept an aquifer?
- Would the project reduce permeable areas overlying a spreading ground used for groundwater recharge?

- Would the run-off factor for the developed project site exceed the percentage of imperviousness for the existing land use category, as contained in Part G of the Bureau of Engineering Manual, Storm Drain Design[2]?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Groundwater Level, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to each of the preceding questions indicates that there would normally be no significant impact from the proposed project on Groundwater Level.

D. Evaluation of Screening Criteria

Review the description of the proposed project, project site and surrounding area. Locate any underlying groundwater basins, aquifers, and spreading grounds. Review Exhibits G.3-1 and G.3-2, and the Environmental and Public Facilities Map, Groundwater Basins and Groundwater Contamination Areas, as necessary. Identify any proposed water wells, recharge activities, permanent groundwater extraction or dewatering systems, or any proposed cuts or excavations that may intercept an aquifer. Evaluate whether there would be a reduction in permeable areas overlying a spreading ground used for groundwater recharge. Determine the percentage of imperviousness and review Exhibit G.1-1.[2] Compare this information with the Screening Criteria.

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2 *Percentage of imperviousness factors from the Bureau of Engineering Manual are reprinted in G.1. SURFACE WATER HYDROLOGY in Exhibit G.1-1.*

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A project would normally have a significant impact on groundwater level if it would:

- Change potable water levels sufficiently to:
  - Reduce the ability of a water utility to use the groundwater basin for public water supplies, conjunctive use purposes, storage of imported water, summer/winter peaking, or to respond to emergencies and drought;
  - Reduce yields of adjacent wells or well fields (public or private); or
  - Adversely change the rate or direction of flow of groundwater; or
- Result in demonstrable and sustained reduction of groundwater recharge capacity.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Identification and description of the underlying groundwater basin(s), including the level, quality, direction of flow, and existing uses of the water;
- Location, existing uses, production capacity, quality, and other pertinent data for spreading grounds and potable water wells in the vicinity (usually within a one mile radius);
- Area and degree of permeability of soils on site; and
- Ongoing or planned groundwater remediation activities.

Project Impacts

Review the description of the proposed project and the information from the Evaluation of Screening Criteria.

Determine which activities could impact the groundwater resources by considering the following factors:

- The rate, duration, location and quantity of extraction, dewatering, spreading, injection, or other activities;

- The projected reduction in groundwater resources and any existing wells in the vicinity (usually within a one mile radius); and

- The projected change in local or regional groundwater flow patterns.

For subsurface cuts and excavation that intercept an aquifer, determine the projected change in localized flow and the quantities of potable groundwater that would require removal, if any. Note impacts to structures from seepage or other potential conditions and determine whether groundwater removals would be temporary or permanent.

If there is a projected loss of a large permeable area, including permeable streambeds, which historically allowed water to percolate, address the following:

- The total amount of permeable area that would be covered or lost;

- The average reduction in volume of recharge water due to project implementation (short-term and long-term, if applicable); and

- The lost recharge potential as compared to the adjudicated or estimated safe yield of the underlying groundwater basin.

Consult with local and regional water agencies and utilities, as needed.

Cumulative Impacts

Review the list of related projects and identify those located over the same groundwater basin or near the same recharge area or well(s) as the proposed project that could change potable water levels or reduce groundwater recharge capacity. Analyze the potential combined effects of the related projects with the proposed project, using the method described in Project Impacts.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Relocate proposed wells;
- Compensate existing, adjacent well owners who would be affected by the proposed project;
- Reduce proposed impermeable areas that would result in loss of recharge capacity;
- Construct replacement recharge capacity at an alternative location in the same basin;
- Avoid areas of shallow groundwater when locating roadways, underground trenches, and buildings requiring subsurface foundations; and
- If use of areas with shallow groundwater is deemed unavoidable, develop a dewatering plan, subject to review and approval of the City. The plan may include such measures as:
  - Modify the structural design of the project so that a permanent dewatering system is not needed, where feasible;
  - Removal of all standing water from excavations during construction;
  - Installation of subsurface drains;
  - Construction of retaining walls to carry water collecting behind the wall to a controlled drainage system;

- Sealing bedrock fractures; or

- Returning the water to the groundwater basin by injection well, where feasible.

3. DATA, RESOURCES, AND REFERENCES

LADWP/Upper Los Angeles River Area (ULARA) Watermaster, 111 North Hope Street, Los Angeles, California 90012-2694; Telephone: (213) 367-0896.

Adjudication Documentation, Report of Referee, Superior Court, Los Angeles County No. 650079, July 1992. A thorough description of the groundwater resources of the San Fernando Valley area.

DWR, Annual Watermaster Reports, published for the Central Basin, West Coast Basin, and Upper Los Angeles River Basin (covering the San Fernando Basin).

DWR Bulletin 104: Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County, June 1991. The most comprehensive study of the area resources for the Coastal Plain Basins.

City Planning Department, Environmental and Public Facilities Maps (1996): Groundwater Basins and Groundwater Contamination Areas.

LARWQCB, Water Quality Control Plan, June 13, 1994.

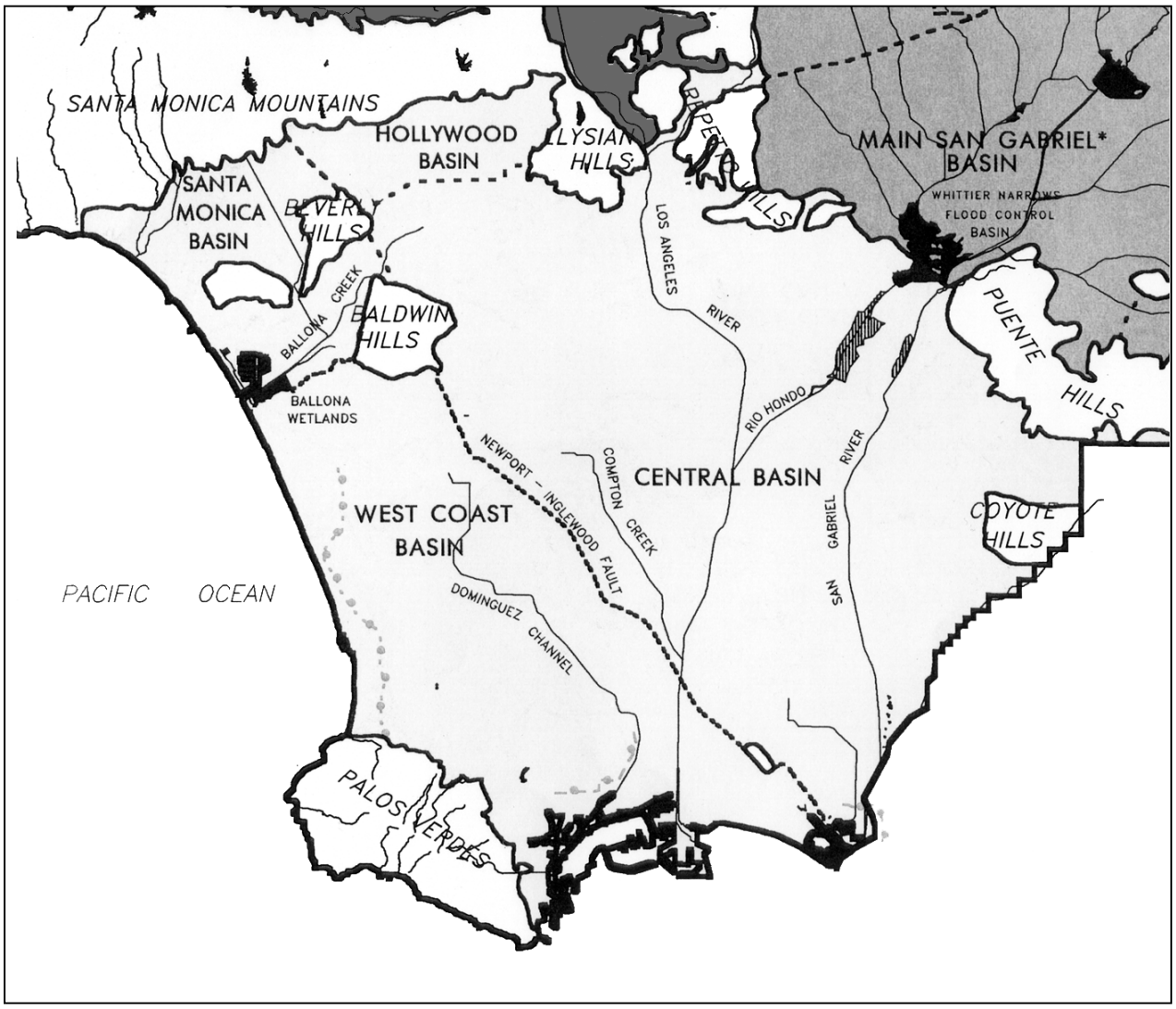

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Exhibit G. 3-1
Los Angeles Basin

_____ Regional Boundary
_____ Streams
* The main San Gabriel is a part of the San Gabriel groundwater basins

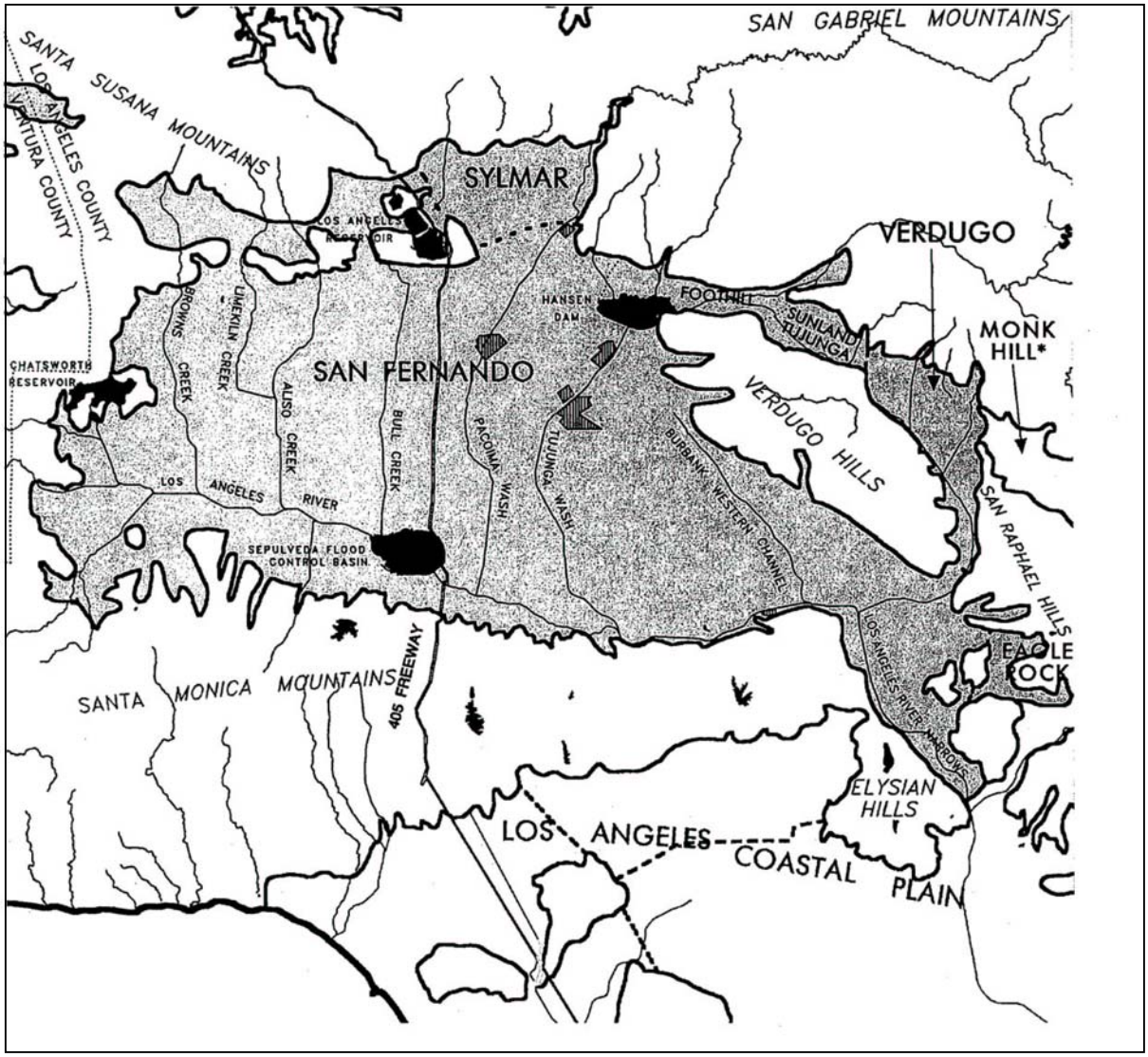

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Exhibit G. 3-2
San Fernando Basin

_____ Regional Boundary
_____ Streams
..... County Line

G.4. GROUNDWATER QUALITY

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

VIII.ga): Would the project place housing within a 100-year flood hazard area as mapped on a federal flood hazard Boundary or flood Insurance Rate Map or other flood hazard delineation map?

VIII.h): Would the project place within a 100-year flood hazard area structures, which would impede or redirect flood flows?

B. Introduction

The City of Los Angeles overlies eight groundwater basins, as identified in the Los Angeles Region Water Quality Control Plan, adopted by the Los Angeles Region Water Quality Control Board (LARWQCB) and designated by the California Department of Water Resources (DWR). The Los Angeles Coastal Plain includes the West Coast Basin, the Central Basin, the Santa Monica Basin and the Hollywood Basin. The San Fernando Valley overlies the San Fernando Basin, and portions of the Eagle Rock, Verdugo and Sylmar Basins. These groundwater basins are depicted in Exhibits G.3-1 and G.3-2[1].

The Los Angeles Region Water Quality Control Plan identifies a number of beneficial uses common to all of these basins, including municipal and domestic supply, industrial process and industrial service supply, and agricultural supply. It also establishes water quality objectives for a number of constituents of each groundwater basin to protect these uses, identifies existing water quality problems in general terms, and sets forth an implementation plan to maintain or improve groundwater quality to allow the objectives to be met.

Historically, the groundwater basins have become contaminated as a result of human activities and natural phenomena. Contamination can result from spills, leaks, leachate, or discharges of contaminants; returns from agricultural or urban irrigation; salt-water intrusion; septic system and wastewater discharges; and other sources. Areas of contaminated groundwater are relatively well

[1] *See G.3. GROUNDWATER LEVEL.*

documented in the Los Angeles area by several agencies that regulate, use or manage groundwater supplies, including the LARWQCB. The Environmental and Public Facilities Map, Groundwater Basins and Groundwater Contamination Areas, indicates major known areas of contamination underlying the City.

Degradation of groundwater quality may result from a variety of activities, including: the discharge or application of wastewater, groundwater, or solid waste to the land surface or subsurface areas; groundwater injections or withdrawals, or other activities that could result in a change in the flow direction of existing plumes of groundwater contamination or saltwater intrusion; drilling that intercepts areas of groundwater contamination; leaking underground or above-ground storage tanks; or accidental spills or releases or other hazardous materials on permeable soils. (See also G.3. GROUNDWATER LEVEL.)

Responsibility for implementation of the Water Quality Control Plan to protect groundwater quality rests with the LARWQCB. A primary mechanism of implementation used by the LARWQCB is the issuance and enforcement of permits (Waste Discharge Requirements, or WDRs) for discharge of any wastewater, groundwater, or contaminants to the ground surface or subsurface. Discharges that require WDRs include, but are not limited to: septic systems, dewatering systems, holding/equalization tanks, evaporation ponds, percolation ponds and leachfields, landfills, land treatment units (bioremediation), oil field brine disposal and land disposal of wastes. Additionally, the LARWQCB, California Department of Toxic Substances Control (DTSC), and the Environmental Protection Agency (EPA) can investigate, regulate, and remediate groundwater contamination (e.g. Superfund projects).

C. Screening Criteria

- Would the project include the installation or operation of water wells,[2] or any groundwater extraction or recharge system, that is in the vicinity (usually within one mile) of the coast, an area of known groundwater contamination or seawater intrusion, a municipal supply well or spreading ground facility?

- Would the project include surface or subsurface application or introduction of potential contaminants or waste materials during construction or operation? Examples of such projects include: on-site disposal systems (septic systems), holding/equalization tanks, evaporation ponds, underground or above-ground storage tanks, percolation ponds and

[2] *Other than monitoring wells and wells intended to remediate existing, or prevent future, groundwater contamination or saltwater intrusion.*

leachfields, landfills and other land surface waste disposal facilities, land treatment units (bioremediation), oil field brine disposal, and agricultural activities.

- Could the project result in releases or spills of contaminants that could reach a groundwater recharge area or spreading ground or otherwise reach groundwater through percolation?

- Would the project involve drilling to or through a clean or contaminated aquifer?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration or EIR may be required. Refer to the Significance Threshold for Groundwater Quality, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to all of the preceding questions indicates that there would normally be no significant impact on Groundwater Quality from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project site, construction and operational activities and the relationship of the site to underlying groundwater basins. Review Exhibits G.3-1 and G.3-2,[3] and the Environmental and Public Facilities Map, Groundwater Basins and Groundwater Contamination Areas, or other relevant maps, reports, and studies to identify groundwater recharge areas, spreading grounds, aquifers, or known areas of contamination. Identify any proposed installation or operation of water wells; groundwater extraction or recharge systems; direct or indirect introduction of contaminants; or drilling to or through an aquifer. Compare this information to the Screening Criteria.

The LARWQCB is a primary source of information regarding existing water quality problems. In addition, water utilities and the Watermaster of each adjudicated groundwater basin may be contacted for information regarding water rights, hydrologic features and groundwater contamination.

[3] *See G.3. GROUNDWATER LEVEL.*

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A project would normally result in a significant impact on groundwater quality if it would:

- Affect the rate or change the direction of movement of existing contaminants;
- Expand the area affected by contaminants;
- Result in an increased level of groundwater contamination (including that from direct percolation, injection or salt water intrusion); or
- Cause regulatory water quality standards at an existing production well to be violated, as defined in the California Code of Regulations (CCR), Title 22, Division 4, and Chapter 15 and in the Safe Drinking Water Act.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Identification and description of the underlying groundwater basin(s), recharge areas, spreading grounds, aquifers and wells. Include the quality, quantity and use of the water;
- Area and degree of permeability of soils on the project site and in areas where operations could involve surface discharges;
- The location and nature of any existing groundwater contamination in the vicinity of the project site (usually within a one-mile radius), including saltwater intrusion and leaking underground storage tanks (available from the local fire department, the County Health Department, or the State Leaking Underground Storage Tanks (LUST) database);
- Description of any ongoing or planned remediation activities; and
- Existing groundwater levels and direction of flow in the vicinity of the project.

Project Impacts

Using the information from the Evaluation of Screening Criteria, describe proposed construction and operational features of the project that involve any intrusion into groundwater, including extraction, dewatering, planned surface application, subsurface disposal, percolation, or injection of potential contaminants or waste materials. Consider the characteristics of the material proposed for application or injection; any pre-treatment; methods of application, injection; etc. Analyze any potential changes in the amount of groundwater contamination (e.g., concentration, levels or area involved) or the rate and direction of flow of existing groundwater contamination due to project-related activities. Also, determine the impact on the water quality of existing production wells and the size of the contaminated area.

Cumulative Impacts

Review the list of related projects and identify those located over the same groundwater basin or in the vicinity of the same area of known groundwater contamination, or seawater intrusion, municipal supply well, spreading ground facility or the coast that could increase groundwater contamination. Analyze the potential combined effect of the related projects with the project using the methods described in Project Impacts.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Modification to reduce or eliminate the discharge or contamination;

- Reduction or modification of planned groundwater extraction; and

- Treatment of extracted contaminated water.

3. DATA, RESOURCES, AND REFERENCES

Los Angeles Department of Water and Power (DWP)/Upper Los Angeles River Area (ULARA), 111 North Hope Street, Los Angeles, California 90012; Telephone: (213) 367-0906. Annual ULARA Watermaster Report describes water rights, and general hydrologic features for the San Fernando, Sylmar, Eagle Rock and Verdugo Basins, and groundwater contamination.

Los Angeles Fire Department (LAFD) - Records of known leaking underground storage tanks and other information on the location and use of hazardous materials.

LARWQCB, 320 West 4th Street, Suite 200, Los Angeles, California 90013; Telephone: (213) 576-6600.

City Planning Department, Environmental and Public Facilities Maps (1996): Groundwater Basins and Groundwater Contamination Areas.

LARWQCB Remedial Investigation of Groundwater Contamination in the San Fernando Valley, December 1991, which describes the nature and extent of groundwater contamination in the San Fernando, Sylmar, Verdugo and Eagle Rock basins. Also provides geologic and hydrogeologic characterizations for each basin.

LARWQCB, Los Angeles Region Water Quality Control Plan, 1994, which describes groundwater basins, beneficial uses, water quality objectives, and the implementation plan to protect water quality objectives and beneficial uses.

Safe Drinking Water Act of 1974, PL 93-523; Safe Drinking Water Act of 1986, PL 99-339, which establishes a federal program to monitor and increase the safety of all commercially and publicly supplied drinking water.

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H. LAND USE

H.1. LAND USE CONSISTENCY

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

IX.b): Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

IX.c): Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

B. Introduction

This section addresses the consistency or compliance of proposed projects with the goals and policies of the General Plan and its elements, including the Framework Element, 35 adopted Community Plans, as well as the Planning and Zoning Code,[1] and any applicable specific plans, interim control ordinances (ICOs), community design overlay districts (CDOs), local coastal plans and redevelopment plans. City and regional utility plans and other adopted plans that contain environmental policies related to the physical environment that are applicable to the project activities and/or site may also be relevant.

C. Screening Criteria

- Is the project inconsistent with the General Plan or its elements, or an applicable specific plan, local coastal plan, redevelopment plan, interim control ordinance or adopted environmental goals or policies?

- Would the project require a General Plan amendment or zone change?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the

[1] *Chapter 1 of the Los Angeles Municipal Code (LAMC).*

Significance Threshold for Land Use Consistency, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to all of the preceding questions indicates that there would normally be no significant impact on Land Use Consistency from the proposed project.

D. Evaluation of Screening Criteria

Review the proposed project for consistency with the General Plan and other adopted environmental goals and policies. Potential areas of inconsistency include, but are not limited to: land use type; height, bulk, design or density; waste or wastewater generation; resource consumption or degradation; and other plan policies that relate to the physical environment. Use the most recent Community Plan maps and Zone Information & Map Access System (ZIMAS) http://zimas.lacity.org/ to assist in identifying ordinances and plan areas that may pertain to the project site, or consult the Community Planning Bureau of the City Planning Department. As appropriate, evaluate the General Plan and its elements (including the Framework Element), Community Plans, specific plans, ICOs, CDO's, local coastal plans, redevelopment plans, Planning & Zoning Code, utility plans, and resource management plans. Identify and assess the project's consistency with applicable habitat conservation plans or natural community conservation plans. Consider whether policies are mandatory or guidance, and which is the agency with primary jurisdiction. Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

The determination of significance shall be made on a case-by-case basis, considering the following factors:

- Whether the proposal is inconsistent with the adopted land use/density designation in the Community Plan, redevelopment plan or specific plan for the site; and

- Whether the proposal is inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Community Plan land use and density designation;

- Zoning designation and other Planning and Zoning Code land use regulations relevant to the project site;
-
- Adopted ICOs, specific plan, redevelopment plan, CDO's local coastal plan or provisions of the Coastal Act, if any, applicable to the project site;

- Other City land use policies, such as the General Plan and Elements, including the Framework Element, Airport Hazard Zone Regulations, etc., if applicable to the project site; and

- Adopted City environmental policies, ordinances and plans, such as the City Solid Waste Management Policy Plan (CiSWMPP), Source Reduction and Recycling Element (SRRE), utility and resource conservation plans or programs, wastewater policies, Clean Air Program (CAP), etc., if any, applicable to the project site.

Project Impacts

Using the information from the Evaluation of Screening Criteria, evaluate the project for consistency with detailed local standards and requirements as well as with the broader context of the General Plan and its elements, environmental plans and policies, and regional utility/environmental plans. Identify project elements that conflict with the plans or policies and whether the conflict(s) would result in the project being inconsistent with the land use designation and/or environmental goals and policies of the City. Consider whether the project includes a proposed General Plan (land use) amendment and/or zone change, and whether all elements of the inconsistency have been addressed (i.e., density, design, etc.). For conflicts with environmental goals and policies, consider whether the project would interfere with the City's efforts to meet such goals, or be inconsistent with adopted policies.

Cumulative Impacts

Identify related projects in the vicinity of the proposed project and evaluate them in the same manner as the proposed project to determine if, when viewed together with the proposed project, conformance with the General Plan or other adopted plans or environmental policies would be significantly affected. Consider whether the combination of projects would conflict with the planned land uses and densities in the General Plan, or would interfere with adopted environmental goals and plans. Plans with a broad, regional perspective may be more applicable or useful in evaluating cumulative impacts because the goals and objectives of these plans may be implemented by comprehensive measures taken by government agencies.

Sample Mitigation Measures

Generally, a project determined to be inconsistent with the General Plan will require, as a condition of approval, a General Plan amendment or zone change to eliminate the inconsistency. This requires a finding that the requested change would not substantially alter the City's goals for the affected community. To mitigate an inconsistency prior to this determination, consider the following:

- Modify the project's proposed land uses to be consistent with designated land uses, zoning and/or General Plan and its element(s); or

- Relocate proposed structures or reduce the project's density/intensity to reduce conflicts or inconsistencies with the Land Use Element and plans.

3. DATA, RESOURCES, AND REFERENCES

The following references are available from the City Planning Department, Community Planning Bureau, 200 N. Spring St., 6th Floor, Los Angeles, California 90012. The Bureau may be reached at (213) 978-3893:

- General Plan and its elements, including the Framework Element and the 35 adopted Community Plans;
- District Zoning maps;
- ICOs;
- CDOs;
- Specific plans;
- Local coastal plans; and
- Airport Hazard Zone maps.

Planning and Zoning Code, (Chapter 1 of the LAMC) is available from the City Planning Department's Central Publications Unit at 200 N. Spring St., 5th Floor, Los Angeles, California 90012; Telephone: (213) 978-1255. For further information, call (213) 978-1310

Zone Information & Map Access System (ZIMAS) available online at: http://zimas.lacity.org.

Redevelopment plans are available from the Community Redevelopment Agency (CRA) of the City of Los Angeles, 354 South Spring Street, Suite 800, Los Angeles, California 90013; Telephone: (213) 977-1600.

City utility plans are available from the following City departments:

Department of Water and Power

- Utility Plans/Power Division
  111 North Hope Street, Room 1121
  Los Angeles, California 90012
  Telephone: (213) 367-0285

- Urban Water Management Plan
  Division of Public Affairs
  Telephone: (213) 367-1361

Department of Public Works
Bureau of Sanitation
- Wastewater plans
  Wastewater Engineering Service Division
  Telephone: (323) 342-6235

- Hyperion System
  Hyperion Treatment Plant
  Telephone: (310) 648-5000

CiSWMPP and SRRE are available from the Solid Resources Citywide Recycling Division of the Bureau of Sanitation, 433 South Spring Street, 5th Floor, Los Angeles, California 90013; Telephone: (213) 473-8228.

Southern California Association of Governments (SCAG) is the Metropolitan Planning Organization (MPO) for the region and offers resources and assistance. SCAG is located at 818 West Seventh Street, 12th Floor, Los Angeles, California 90017; Telephone: (213) 236-1800.

California Department of Fish and Game, South Coast Region, 4949 Viewridge Avenue, San Diego, CA 92123-1662; Telephone: (858) 467-4201.

H.2. LAND USE COMPATIBILITY

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Question

IX.a): Would the project physically divide an established community?

IX.b): Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

IX.c): Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

B. Introduction

This section addresses the potential for projects or programs to create situations of incompatibility between land uses or activities. Such incompatibility may result from environmental impacts associated with the proposed land use. Examples of incompatibility include land uses, which create noise, odor, safety hazards, visual, or other environmental impacts which conflict with surrounding land uses and the activities and conditions typically associated with those land uses. In addition, a project may disrupt the physical arrangement of an established community by introducing new infrastructure or isolating land uses that could interrupt the typical activities or change the land use conditions in a community.

C. Screening Criteria

- Would the project include a land use type that is incompatible with existing or proposed adjacent land uses (due to size, intensity, density or type of use)?

- Would the project include features such as a highway, aboveground infrastructure, or an easement through an established neighborhood community that could cause a permanent disruption in the physical arrangement of that established community or otherwise isolate an existing land use?

- Would the project result in a “spot” zone?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Land Use Compatibility and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to all of the preceding questions indicates that there would normally be no significant Land Use Compatibility impact from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project, including the proposed land use or activity, and the size, density and intensity of the operation. Noise, odor, signage, safety hazards, traffic or other impacts may indicate an incompatibility with existing adjacent or surrounding land uses or current zoning for those sites, if vacant. Also, consider the types of land uses surrounding the project and the typical activities that occur at these sites, compared to those that would occur at the proposed project. Indicate the presence or lack of buffers between the project and adjacent land uses of other types. Note that a zone change required to implement the project may indicate a potential incompatibility with adjacent existing land uses. Review specific plans for urban design compatibility programs or regulations and their relevance to project design.

If the project includes elements such as a highway, aboveground infrastructure or an easement, identify the existing land uses that would be removed or would be adjacent to the new infrastructure. Determine the duration of any disruption of the physical arrangement of an established neighborhood or community. Such impacts may result from a physical separation or the creation of barriers that would disrupt the social or physical interaction between established land uses that comprise a neighborhood or community.

A “spot” zone occurs when the zoning or land use designation for only a portion of a block changes, or a single zone or land use designation becomes surrounded by more or less intensive land uses.

Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

The determination of significance shall be made on a case-by-case basis, considering the following factors:

- The extent of the area that would be impacted, the nature and degree of impacts, and the type of land uses within that area;

- The extent to which existing neighborhoods, communities, or land uses would be disrupted, divided or isolated, and the duration of the disruptions; and

- The number, degree, and type of secondary impacts to surrounding land uses that could result from implementation of the proposed project.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, describe and map, as appropriate, the existing land uses and current zoning of the project site and the properties in the immediate vicinity of the proposed project. Also, identify uses near the site such as schools, libraries and residences which may be particularly sensitive to potential nuisance impacts (e.g., noise, odor, safety hazards) associated with the proposed project.

If the proposed project may disrupt or divide an established community, evaluate the existing neighborhoods or communities immediately surrounding the project. Address the type of land uses in the area, and the location of residences, businesses, schools, and other community facilities in relation to the proposed project and supporting residences.

Project Impacts

A significant land use compatibility impact may be indicated by the presence of one or more significant project impacts, which suggest that the location or intensity of the proposed project could conflict with existing uses. However, the presence of project impacts does not automatically indicate a land use compatibility impact and the effect of these impacts should be evaluated within the primary impact category (e.g., noise, traffic).

Evaluate the nature, extent and number of secondary impacts to determine the extent of any conflict between the project and existing uses in the area. Consider the type of activities typically expected to occur at land uses adjacent to the project and whether nuisance impacts from the proposed project would conflict with these activities.

If the proposed project would add such features as a highway, aboveground infrastructure or easement, determine the extent to which existing neighborhoods or communities would be impacted by its implementation. Evaluate the extent of the physical separation, barrier or other disruption of existing land uses or activities that could result from the proposed project. Indicate the duration of the disruption (e.g., long-term, permanent) of the physical or social interaction between land uses that comprise an established neighborhood or community.

Cumulative Impacts

The cumulative impact assessment should identify other known projects or land use changes proposed in the vicinity of the project that may either combine with the proposed project to create a land use incompatibility with the existing land uses, or be subject to nuisance impacts resulting from a proposed project that creates a land use incompatibility with the related projects. Evaluate the potential impacts using the methodology described above.

Sample Mitigation Measures

Mitigation measures to reduce secondary impacts are found in the individual sections (noise, traffic, etc.). Potential mitigation measures that may reduce land use compatibility impacts include:

- Change the project design, configuration, visual screening, setbacks, building heights, etc., to be compatible with surrounding uses;

- Restrict certain operational characteristics of the proposed use to reduce or eliminate impacts, such as limiting hours of operation or placing restrictions on specific types of uses or activities proposed for the project, etc.;

- Provide enclosed structures around certain activities that normally occur outdoors;

- Place aboveground infrastructure under ground, or grade separate key portions of the proposed highway, rail line, or other infrastructure to minimize physical separations;

- Provide pedestrian and bicycle routes or crossings to increase mobility; and

- Provide a buffer (such as a decorative wall or landscaping) where residential uses are adjacent to non-residential uses.

3. DATA, RESOURCES, AND REFERENCES

City Planning Department, 201 North Figueroa Street, 3rd Floor, Los Angeles, California 90012; Telephone: (213) 977-6083. For plan check, first go to Counter A, 4th floor (Building and Safety). They will refer visitors to the Planning Department as appropriate.

See also H.1. LAND USE CONSISTENCY.

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I. NOISE

I.1. CONSTRUCTION NOISE

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

XI.a): Would the project result in 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?

XI.b): Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

XI.d): Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

XI.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 expose people residing or working in the project area to excessive noise levels?

XI.f): For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

B. Introduction

Construction of facilities and structures requires the use of equipment, which may generate high noise levels and adversely affect noise sensitive uses.[1] In assessing the impact of construction noise upon the environment, the nature and level of activities that generate the noise, the pathway through which the noise travels, the sensitivity of the receptor, and the period of exposure are all considered.

Environmental noise is measured in decibels (dB). To better approximate the range of sensitivity of the human ear to sounds of different frequencies, the A-weighted decibel scale (dBA) was devised. Because the human ear is less sensitive to low frequency sounds, the A-scale de-emphasizes these frequencies by incorporating frequency weighting of the sound signal. When the A-scale is used, the decibel levels are represented by dBA. On this scale, the range of human

[1] *For impacts during operation, see I.2 OPERATIONAL NOISE, I.3. RAILROAD NOISE, and I.4. AIRPORT NOISE, as appropriate.*

hearing extends from about 3 dBA to about 140 dBA. A 10-dBA increase is judged by most people as a doubling of the sound level.

To account for the fluctuation in noise levels over time, noise impacts are commonly evaluated using time-averaged noise levels. The Community Noise Equivalent Level (CNEL) represents an energy average of the A-weighted noise levels over a 24-hour period with 5 dBA and 10 dBA increases added for nighttime noise between the hours of 7:00 p.m. and 10:00 p.m. and 10:00 p.m. to 7:00 a.m., respectively. The increases were selected to account for reduced ambient noise levels during these time periods and increased human sensitivity to noise during the quieter periods of the day.

Typical construction equipment types are presented in Exhibit I.1-1. Noise levels from these equipment types ranges from 76 to 91 dBA for equipment powered by internal combustion engines, saws, and vibrators and from the mid-80s to more than 100 dBA for impact equipment. Exhibit I.1-2 provides typical noise levels for each construction phase. The excavation and finishing phases include the noisiest construction activities.

The Environmental Protection Agency (EPA), establishes emission standards for construction equipment according to the provisions of the Noise Control Act of 1972, set forth in 40 CFR, Part 204. In addition, the City of Los Angeles Noise Ordinance addresses noise generated at construction sites, including permissible hours of construction, increases in ambient noise levels, and the technical feasibility of reducing noise from certain construction equipment. The Los Angeles Police Department (LAPD) enforces the provisions of the Noise Ordinance.[2]

C. Screening Criteria

- Would construction activities occur within 500 feet of a noise sensitive use?

- For projects located within the City of Los Angeles, would construction occur between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at anytime on Sunday?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer

[2] *Refer to Sections 41.40, 112.02, and 112.05 of the Los Angeles Municipal Code (LAMC). Technical infeasibility means that specified noise limitations cannot be achieved despite the use of mufflers, shields, sound barriers and/or any other noise reduction devices or techniques during operation of the equipment.*

to the Significance Threshold for Construction Noise and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to all of the preceding questions indicates that there would normally be no significant impact from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project, including information on construction activities. Consult a map showing the location of noise sensitive uses within 500 feet of the project site. Noise sensitive uses include residences, transient lodgings, schools, libraries, churches, hospitals, nursing homes, auditoriums, concert halls, amphitheaters, playgrounds, and parks. Determine whether construction activities would occur within 500 feet of a noise sensitive use or during the hours specified in the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A project would normally have a significant impact on noise levels from construction if:

- Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise sensitive use;

- Construction activities lasting more than 10 days in a three month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise sensitive use; or

- Construction activities would exceed the ambient noise level by 5 dBA at a noise sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at anytime on Sunday.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Identification of noise sensitive land uses within 500 feet of the project site, including description, location, and distance from the project; and

- Quantification of ambient noise levels (existing and projected at the time of construction) measured in CNEL.

One of the following methodologies can be used to determine ambient noise levels:

- Field measurements involving the use of a noise meter at and surrounding the project site;

- "Presumed Ambient Noise Levels," as set forth in the LAMC, Section 111.03 (see Exhibit I.1-3); or

- A noise monitoring program performed according to the procedures set forth in the LAMC, Sections 111.02 and 112.05. This involves taking measurements at selected locations to establish ambient background noise levels.

Project Impacts

Review the description of the proposed project, including the duration of construction activities. Identify the type, amount, and scheduling of construction equipment to be used during each construction phase, and the distance from construction activities to noise sensitive uses.

Calculate the noise emissions from individual equipment by using the noise levels shown in Exhibits I.1-1 and I.1-2, or other applicable references, the distance to the noise sensitive uses, and noise attenuation standards. Noise models may be used, as appropriate. Noise levels 50 feet from a source decrease by approximately 3 dBA over a hard, unobstructed surface, such as asphalt, and by approximately 4.5 dBA over a soft surface, such as vegetation. For every doubling of distance thereafter, noise levels drop another 3 dBA over a hard surface and 4.5 dBA over a soft surface. Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of emissions as that shown in Exhibit I.1-1.

Determine the combined noise levels from equipment that will be operated simultaneously. Noise levels measured in decibels increase logarithmically and cannot be added arithmetically. When transmission path topography between the construction noise source and the receptor location is complex, consult an experienced noise specialist, as necessary.

Establish the change in noise level from construction activities at the location of sensitive receptors. Subtract the projected noise level without construction equipment from the projected noise level during construction activities. Considering the number of days various noise levels are projected, determine whether construction activities would exceed both the number of days, times of day, and dBA increases in the Significance Threshold.

Cumulative Impacts

As feasible, identify construction activities for related projects that would coincide with the project's construction operations. Calculate noise levels using the methodology in Project Impacts and logarithmically add the noise from these construction activities to the project-related construction noise to determine the cumulative effect of the construction activities. Consult a noise specialist, or use a noise model, as needed.

Sample Mitigation Measures

Potential mitigation measures include the following:

- Use noise control devices, such as equipment mufflers, enclosures, and barriers. Natural and artificial barriers such as ground elevation changes and existing buildings can shield construction noise. Stage construction operations as far from noise sensitive uses as possible;

- Avoid residential areas when planning haul truck routes;

- Maintain all sound-reducing devices and restrictions throughout the construction period;

- Replace noisy equipment with quieter equipment (for example, a vibratory pile driver instead of a conventional pile driver and rubber-tired equipment rather than track equipment); and

- Change the timing and/or sequence of the noisiest construction operations to avoid sensitive times of the day.

3. DATA, RESOURCES, AND REFERENCES

Noise Ordinance No. 161,574, LAMC Section 112.05 and No. 166,170, LAMC Section 41.40 provide construction hours and construction equipment noise thresholds.

Noise Ordinance No. 156,363, LAMC Section 111.02 provides sound level measurement procedures.

Noise Ordinance No. 156,363, LAMC Section 111.03 provides ambient noise levels.

Los Angeles Association of Environmental Professionals (AEP), Thresholds of Significance, Construction noise threshold used by Port of Long Beach, 1992.

EPA, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, Prepared by Bolt, Beranek and Newman, 1971.

Categories of Construction Equipment

1. Impact equipment and tools: This group includes pile drivers, pavement breakers, tampers, rock drills, and small; hand-held pneumatically, hydraulically, or electrically powered tools. In the case of conventional pile drivers, whether steam-powered or diesel-powered, the impact of the hammer dropping onto the pile is the dominant noise-generating component. However, sonic or vibratory pile drivers do not produce impact noise as it vibrates the pile at resonance, rather than using a drop hammer.

2. Equipment powered by internal combustion engines: The internal combustion engine, usually of the diesel type, is used to provide motive and/or operating power. Engine powered equipment can be divided into categories according to its mobility and operating characteristics as earthmoving equipment (highly mobile), materials handling equipment (semi-mobile), and stationary equipment.

3. Other equipment: Certain types of construction equipment, such as power saws or concrete vibrators do not fall under either of the two categories above.

Selected Legislation

Federal

Federal Noise Control Act of 1972 (40 CFR Sec. 204)

Public Law 92-574. Regulates noise emissions from operation of all construction equipment and facilities; establishes noise emission standards for construction equipment and other categories of equipment; and provides standards for the testing, inspection, and monitoring of such equipment. Gives states and municipalities primary responsibility for noise control.

State

California Noise Control Act of 1973 (Health and Safety Code, Division 28)

Declares that excessive noise is a serious hazard to the public health and welfare; establishes the Office of Noise Control with the responsibility to set standards for noise exposure in cooperation with local governments or the state legislature.

Exhibit I.1-1
NOISE LEVEL RANGES OF TYPICAL CONSTRUCTION EQUIPMENT

Equipment	Levels in dBA at 50 feet[a]
Front Loader	73-86
Trucks	82-95
Cranes (moveable)	75-88
Cranes (derrick)	86-89
Vibrator	68-82
Saws	72-82
Pneumatic Impact Equipment	83-88
Jackhammers	81-98
Pumps	68-72
Generators	71-83
Compressors	75-87
Concrete Mixers	75-88
Concrete Pumps	81-85
Back Hoe	73-95
Pile Driving (peaks)	95-107
Tractor	77-98
Scraper/Grader	80-93
Paver	85-88

[a] Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of emissions as that shown in this table.

Source: EPA, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.

Exhibit I.1-2
OUTDOOR CONSTRUCTION NOISE LEVELS

Construction Phase	Noise Level (dBA Leq)	
	50 feet	Noise Levels at 50 feet with Mufflers (dBA)
Ground Clearing	84	82
Excavation, Grading	89	86
Foundations	78	77
Structural	85	83
Finishing	89	86

Source: EPA, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.

Exhibit I.1-3
PRESUMED AMBIENT NOISE LEVELS (dBA)

Zone		Day	Night
Residential:	A1, A2, RA, RE, RS, RD, RW1, RW2, R1, R2, R3, R4, R5	50	40
Commercial:	P, PB, CR, C1, C1.5, C2, C4, C5, CM	60	55
Manufacturing:	M1, MR1, MR2	60	55
Heavy Manufacturing:	M2, M3	65	65

Source: LAMC, Section 111.03.

I.2. OPERATIONAL NOISE

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

XI.a): Would the project result in 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?

XI.b): Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

XI.c): Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

XI.d): A substantial temporary or periodic increase in ambient noise levels in the project vicinity above the existing without the project?

XI.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 expose people residing or working in the project area to excessive noise levels?

XI.f): For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

B. Introduction

Stationary and mobile vehicular noise sources associated with the operation of a project may increase existing noise levels and/or adversely expose people to severe noise levels.[1]

Environmental noise is measured in decibels (dB). To better approximate the range of sensitivity of the human ear to sounds of different frequencies, the A-weighted decibel scale (dBA) was devised. Because the human ear is less sensitive to low frequency sounds, the A-scale de-emphasizes these frequencies by incorporating frequency weighting of the sound signal. When the A-scale is used, the decibel levels are represented by dBA. On this scale, the range of human hearing extends from about 3 dBA to about 140 dBA. A 10-dBA increase is judged by most people as a doubling of the sound level.

[1] *For other noise impacts, see I.1. CONSTRUCTION NOISE, I.3. RAILROAD NOISE, and I.4. AIRPORT NOISE, as appropriate.*

To account for the fluctuation in noise levels over time, noise impacts are commonly evaluated using time-averaged noise levels. The Community Noise Equivalent Level (CNEL) represents an energy average of the A-weighted noise levels over a 24-hour period with 5 dBA and 10 dBA increases added for nighttime noise between the hours of 7:00 p.m. and 10:00 p.m. and 10:00 p.m. to 7:00 a.m., respectively. The increases were selected to account for reduced ambient noise levels during these time periods and increased human sensitivity to noise during the quieter periods of the day.

Because stationary noise sources include a wide range of noise-generating equipment and processes, which come from an equally wide range of uses, noise levels generated by stationary sources can vary substantially (for examples and descriptions, see 3. Data, Resources, and References). The effects of stationary noise depend on factors such as characteristics of the equipment and operations, distance and pathway between the generator and receptor, and weather. Stationary noise sources may be regulated at the point of manufacture (e.g., equipment or engines) or as a part of local codes and requirements (e.g., noise ordinance or zoning).

The predominant noise source within the City of Los Angeles is transportation, including railroad, airport and motor vehicle sources. Traffic volume, average speed, vehicular fleet mix (i.e., combination of automobiles, motorcycles, buses, and trucks), roadway steepness, distance and characteristics of the pathway between generator and receptor, and weather all influence the level of noise near roadways. For example, as the roadway traffic volume, speed, proportion of fleet mix represented by trucks, and roadway grade increase, so do the composite noise levels at the locations affected by the traffic noise. However, as the roadway volume increases beyond a certain point, congestion increases, in turn causing reduced traffic speeds, which would to some extent offset noise from the traffic volume increase. Dense urban areas within the City of Los Angeles may experience noise levels ranging from the low- to high-70 decibel range. The California Department of Motor Vehicles (DMV) has jurisdiction over noise emissions from individual vehicles (Motor Vehicle Code Section 23130).

C. Screening Criteria

- Would the proposed project introduce a stationary noise source[2] likely to be audible beyond the property line of the project site?

- Would the project include 75 or more dwelling units, 100,000 square feet (sf) or greater of

[2] *Stationary noise sources may include, but are not limited to, machinery, engines, energy production, and other mechanical or powered equipment and activities such as loading and unloading or public assembly that may occur at commercial, industrial, manufacturing, or institutional facilities. Stationary noise sources do not include vehicles entering or exiting the property.*

nonresidential development or have the potential to generate 1,000 or more average daily vehicle trips?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Operational Noise, and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to all of the preceding questions indicates that there would normally be no significant impact from Operational Noise from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project and the project traffic study to determine the size of each land use involved, information on stationary noise sources such as machinery or motorized equipment, and the vehicle trips that would be generated by the project. L.1. INTERSECTION CAPACITY explains how to calculate the number of average daily vehicle trips.

Determine the noise level from stationary sources at the property line by evaluating the decibel output of each source, the distance to the property line and the path over which the sound travels. Use an applicable noise model, as needed. In general, at a distance of 50 feet from the source over a hard surface, the decibel level decreases by 3 dBA, and over a soft surface (such as grass) the decibel level decreases by 4.5 dBA. For every doubling of distance thereafter, noise levels drop another 3 dBA over a hard surface and 4.5 dBA over a soft surface.[3]

Compare this information to the Screening Criteria.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A project would normally have a significant impact on noise levels from project operations if the project causes the ambient noise level measured at the property line of affected uses to increase by 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable" category, or any 5 dBA or greater noise increase (see the chart below).

[3] *Federal Highway Administration (FHWA), Highway Traffic Noise Prediction Model (FHWA R77-108), 1978.*

Land Use	Community Noise Exposure CNEL, db			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Single Family, Duplex, Mobile Homes	50 - 60	55 - 70	70 - 75	above 70
Multi-Family Homes	50 - 65	60 - 70	70 - 75	above 70
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	above 80
Transient Lodging - Motels, Hotels	50 - 65	60 - 70	70 - 80	above 80
Auditoriums, Concert Halls, Amphitheaters	-	50 - 70	-	above 65
Sports Arena, Outdoor Spectator Sports	-	50 - 75	-	above 70
Playgrounds, Neighborhood Parks	50 - 70	-	67 - 75	above 72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 75	-	70 - 80	above 80
Office Buildings, Business and Professional Commercial	50 - 70	67 - 77	above 75	-
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	above 75	-

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: California Department of Health Services (DHS).

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Identification of surrounding land uses, including description, location and distance from the project; and

- Quantification of ambient noise levels (existing and projected at the time of project occupancy) measured in CNEL.

One of the following methodologies can be used to determine ambient noise levels:

- Field measurements involving the use of a noise meter at and surrounding the project site;

- "Presumed Ambient Noise Levels," as set forth in the Los Angeles Municipal Code (LAMC), Section 111.03 (see Exhibit I.1-1[4]); or

- A noise-monitoring program performed according to the procedures set forth in LAMC, Section 111.02 and 112.05. This involves taking measurements at selected locations to establish ambient background noise levels.

Project Impacts

The change in ambient noise levels is measured by adding project-generated operational noise to the projected future ambient noise level at the time of project occupancy. The incremental increase in noise generated by the project is the project impact. Calculate the future exterior ambient noise level according to the procedure outlined above, under Environmental Setting.

Stationary Sources

Review the project description and identify the type, amount, noise impact, and operating characteristics of proposed equipment on the project site (e.g., 24-hour function, sporadic use expected). Identify the distance and the characteristics of the pathway between the noise source and the nearby land uses that would receive the noise. Noise models may be used, as appropriate.

Noise levels 50 feet from a source decrease by approximately 3 dBA over a hard, unobstructed surface, such as asphalt, and by approximately 4.5 dBA over a soft surface, such as a vegetated area. For every doubling of distance thereafter, noise levels drop another 3 dBA over a hard surface and 4.5 dBA over a soft surface. These reduction rates can be used to adjust noise levels at the noise receptor locations, based on their relative distances from the project equipment.

4 *See I.1. CONSTRUCTION NOISE.*

Once noise levels from individual pieces of equipment on the project site have been calculated, logarithmically add together the noise levels from all equipment operating simultaneously. (Noise levels measured in decibels increase logarithmically and cannot be added arithmetically.) Where the noise transmission path between the source and the receptor is complex, consult a noise specialist as necessary.

To determine the change in noise level, subtract the projected ambient noise level without the project's stationary noise from the projected noise level during project operation. Use the chart in the Significance Threshold to determine the significance of the difference.

Mobile Vehicular Sources

Review the project description, determine the number of vehicle trips to be generated by the project, and distribute the trips on the street system (use the traffic study or methodology described in L.1. INTERSECTION CAPACITY). Determine the characteristics of the noise transmission pathway. Using a mobile noise prediction model, project the future exterior ambient noise levels for these streets with and without the proposed project. Base the selected noise model on the Federal Highway Administration (FHWA) highway noise prediction procedures described in FHWA-77-108 or the most recent revision. The City of Los Angeles recommends the use of either LEQV2 or SOUND32 prediction models as developed by California Department of Transportation (Caltrans). LEQV2 requires the following information: (a) traffic volumes, (b) roadway, barrier and receiver geometry, (c) vehicle speed, (d) number of lanes, (e) fleet mix, and (f) drop-off rates. It uses angles, distances and elevations to define source-receptor spatial relationships. SOUND32 requires the following information: (a) traffic volumes, (b) roadway, barrier and receiver geometry, and (c) drop-off rates. This model uses a three dimensional coordinate system to define source-receptor spatial relationships.

If monitoring was used to quantify existing noise levels, use existing traffic conditions (volumes, roadway geometry, etc.) to model the existing noise levels. A comparison of monitored existing noise levels and modeled existing noise levels can be used to calibrate the modeling resulting.

To determine the change in noise level, subtract the projected noise level on the selected roadways without the project's traffic-generated noise from the projected noise level, including the project's traffic-generated noise. Use the chart in the Significance Threshold to determine the significance of the difference.

Noise levels increase approximately 3 dBA for each doubling of roadway traffic volume, assuming that the speed and fleet mix remain constant. A change in vehicle speed can also change noise levels. If vehicle speed and fleet mix can be assumed to remain constant after project implementation, and the project would result in traffic that is less than double the existing traffic, then the project's mobile noise impacts can be assumed to be less than significant.

For a program-level analysis where project details are unknown, assume the full build out of allowable land use and density. Use the methodology above to determine program-generated noise increases.

Cumulative Impacts

For impacts from stationary sources, as feasible, identify the type and amount of equipment to be used by the related projects. Determine whether noise from these sources would impact the same land uses impacted by the proposed project. For those, calculate and logarithmetically add the related project noise to project-generated noise to determine the cumulative effect of the activities.

The analysis for project impacts from mobile vehicular sources uses future traffic levels to establish future ambient noise levels. As these traffic levels include trips from the related projects, additional evaluation is not required.

Sample Mitigation Measures

Potential mitigation measures include the following:

Stationary Sources

- Redesign the source to radiate less noise (e.g., substitute a quieter equipment type process or enclose the source with sound absorbent material);

- Use insulation or construct solid barriers between noise sources and noise receivers;

- Separate noise sources from noise receivers by distances sufficient to attenuate the noise to acceptable levels;

- Insulate structures;

- Limit the hours of use for the equipment;

- Prepare an acoustical analysis and adopt the resulting insulation and attenuation measures; and

- Conduct inspections of the equipment prior to issuance of the occupancy permit to verify on-site containment of noise emissions.

Mobile Vehicular Sources

- Attenuate the sound by using barriers, or redirect sound transmission paths;

- Reduce vehicle trip generation, or reduce speed limits on roadways; and

- Locate any delivery, truck loading, or trash pickup areas as far from noise sensitive land uses as possible. Limit designated hours for deliveries.

3. DATA, RESOURCES, AND REFERENCES

Noise Element, 1999. Available from the City Planning Department's Central Publications Unit at 200 N. Spring St., 5th Floor, Los Angeles, California 90012; Telephone: (213) 978-1255.

Noise Ordinance No. 156,363, LAMC Section 111.02 provides sound level measurement procedures.

Noise Ordinance No. 156,363, LAMC Section 111.03 provides ambient noise levels.

Noise Control Act of 1972.

Association of Environmental Professionals (AEP), Thresholds of Significance, Noise Thresholds, 1992.

FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108), 1978.

LEQV2 and SOUND32 sound prediction models, developed by Caltrans.

California Noise Insulation Standards, CAC, Title 25, Housing and Community Development.

California Motor Vehicle Code, Section 23130.

Stationary Source Categories

Agricultural operations: Agricultural noise is generated by a host of soil preparation and crop harvesting equipment, pesticide applicators, and conveying and elevating equipment.

Commercial/Institutional: Building service equipment is generally considered a stationary noise source. Building service equipment includes heating, ventilating, and air conditioning facilities, water and waste water systems elevators, and escalators. The most common urban noise source in the air conditioning category is the modern high efficiency-cooling tower, which contains two noise sources - fans and water spray. The increasing use of window or through the wall packaged air conditioning units leads to the generation of noise outside. In addition to their inherent noise characteristics, as these units age, loose metal parts and window frames may rattle.

Home workshops and gardening tools: Noise from these sources includes various motors that operate power mowers, power trimmers, edgers and leaf blowers, and power operated saws and drills.

Industrial: Much of the equipment used in industry and many industrial processes and operations generate noise. The intakes and discharges from fans, compressors, and engines often penetrate the walls of industrial buildings. Even a wholly enclosed industrial plant can generate noise because ducts and piping outside buildings radiate the noises generated from the inside. Inadequately insulated walls and roofs transmit noise. Sheet metal walls, for example, vibrate in response to inside noise and become effective noise radiators. Outdoor industrial operations also constitute sources of noise, including storage operations, steel and scrap yards, and truck and rail freight handling yards.

Lumbering operations: These operations involve the use of diesel powered equipment, chain saws, and hoisting and conveying equipment. Sawmill noise is produced by saws and planers and other lumber shaping equipment, the operation of hoisting and conveying equipment, and the operation of yard and loading equipment.

Mineral production: Mineral production includes both surface and underground mining; sand and gravel pit operations, and crushed rock operations. Noises generated from these sources include sounds emanating from rock crushers, screens, conveyor belts, diesel engines, electric motors, dump trucks, power shovels, rock drills, and blasting.

Petroleum production and refining: Principal sources of noise from petroleum production operations include pressure-reducing valves in pipes, steam turbines, derricks, gear boxes, compressors, electric

motors, diesel engines, and maintenance equipment.

Port Operations: Primary noise sources from port activities include bulk-loading facilities, shipping container-handling equipment, truck traffic, and train movements. The sound of ship engines and trains running contribute to the low steady-state noise emanating from a port, which is punctuated by ship whistles and train horns.

Public and private utilities: Public and private utilities engage in construction activities producing the same kind of noises discussed in I.1 CONSTRUCTION NOISE. They also operate hydroelectric, steam and diesel electric generation plants, compressors, pumps and pipelines, all of which generate noises similar to those discussed above as industrial noise sources.

Public services: Sources of noise from public services include sirens on emergency vehicles, truck and loading noise from rubbish collection and disposal, and equipment noise generated through the maintenance of streets, sewers and water systems.

Mobile Source Categories

Automobiles: The passenger automobile usually makes much less noise than other types of motor vehicles. They produce little exhaust noise except at low frequencies. The combination of wind, gearing, and tire noises produces an identifiable spectrum of noise at speeds over 40 mph and at distances over 100 feet. At higher speeds, this combination of sounds is identifiable at distances up to one mile under quiet ambient conditions. The loudest element of automobile noise at a long distance is the sound of tires.

Buses: Buses tend to radiate less noise than other heavy vehicles because their engine compartments are sealed. Bus noise, however, usually increases with use because of damage to these seals.

Motorcycles: Motorcycle noise is distinctive because, in addition to noise from intake, exhaust, and gearing systems, motorcycles radiate considerable noise directly through the engine walls.

Trucks: Trucks make more noise than other motor vehicles. Diesel trucks are generally the most significant motor vehicle noise source. A single, large diesel truck may produce noise levels equal to noise generated by 30 passenger cars. Under most conditions of operation, exhaust noise predominates. At low speeds, under heavy acceleration, engine and transmission noise may be louder. At high speeds on level roadways, tire noise predominates. Other sources of noise from trucks include the chassis, brakes, sheet metal parts, loose pins, and cargo.

I.3. RAILROAD NOISE

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

XI.a): Would the project result in 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?

XI.b): Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

XI.c): A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

XI.d): A substantial temporary or periodic increase in ambient noise levels in the project vicinity above the existing without the project?

B. Introduction

Railroad operations may increase existing noise levels and/or adversely affect noise-sensitive land uses. The effects of railroad noise depend on factors such as characteristics of the equipment and operations; distance and characteristics of the pathway between the generator and receptor; and weather. Section 17 of the Federal Noise Control Act, rather than state or local regulations, establishes controls and limits on railroad operations, through the United States Environmental Protection Agency (EPA) and United States Department of Transportation (U.S. DOT).

Environmental noise is measured in decibels (dB). To better approximate the range of sensitivity of the human ear to sounds of different frequencies, the A-weighted decibel scale (dBA) was devised. Because the human ear is less sensitive to low frequency sounds, the A-scale de-emphasizes these frequencies by incorporating frequency weighting of the sound signal. When the A-scale is used, the decibel levels are represented by dBA. On this scale, the range of human hearing extends from about 3 dBA to about 140 dBA. A 10-dBA increase is judged by most people as a doubling of the sound level.

To account for the fluctuation in noise levels over time, noise impacts are commonly evaluated using time-averaged noise levels. The Community Noise Equivalent Level (CNEL) represents an energy average of the A-weighted noise levels over a 24-hour period with 5 dBA and 10 dBA penalties added for nighttime noise between the hours of 7:00 p.m. and 10:00 p.m. and 10:00 p.m. to

7:00 a.m., respectively. The penalties were selected to account for reduced ambient noise levels during these time periods and increased human sensitivity to noise during the quieter periods of the day. The Day-Night Sound Level (Ldn), like CNEL, measures noise exposure over a 24-hour period and adds a penalty based on the time of day, although only for late night/early morning hours (10 dBA penalty from 10:00 p.m. to 7:00 a.m.). Thus, the Ldn measurement is slightly less sensitive than CNEL, but it results in very similar noise ratings for most community settings, usually differing by less than 1 dBA.

Railroad operations are generally classified into either line operations or yard operations. Line operations consist of the movements of trains of various types over the main line and local tracks; yard operations are the various activities concentrated in a railway terminal. Yard operations generate noise through the disassembling and recoupling of cars to form new trains, and the maintenance and repair of cars and locomotives. For analytical purposes these may be considered as complex sources of stationary noise. Railroad operations are a much more common source of railroad noise than yard operations. The noise generated by train pass-bys is based on the type of vehicle in use, how it is operated, and the configuration of the track-bed relative to the surrounding terrain. The Federal Transit Authority (FTA) regulates noise generated by moving trains (e.g. whistles, warning signals, wheels on rails), rail maintenance yards, and activity associated with rail facilities.

The Department of Housing and Urban Development (HUD) prepared a Noise Guidebook, which addresses railroad noise, provides guidance on calculating noise levels from railroad operations, and includes a threshold of 3,000 feet between a railroad line and a noise-sensitive land use.

C. Screening Criteria

- Would project development result in a noise-sensitive land use being located within 3,000 feet of a railroad line?

- Would the project result in an increase in the number or length of non-commuter trains operating on existing tracks within 3,000 feet of a noise-sensitive land use?

A "yes" response to any of the preceding questions indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Railroad Noise and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to all of the preceding questions indicates that there would normally be no significant impact from Railroad Noise from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project, including information on railroad activities. Consult a map showing the location of noise-sensitive land uses within 3,000 feet of the project site. Noise-sensitive land uses include residences, schools, libraries, hospitals, day-care facilities, convalescent/retirement homes, and parks. Determine whether the project would result in railroad noise being generated within 3,000 feet of a noise-sensitive land use.

2. DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A project would normally have a significant impact with regard to exterior noise levels resulting from railroad operations if the project causes noise measured at the property line of a noise sensitive receptor to increase by 3 dBA in CNEL, to or within the "normally unacceptable" or "clearly unacceptable" category, or any 5 dBA or greater noise increase (see the chart below).

Land Use	Community Noise Exposure CNEL, db			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Single Family, Duplex, Mobile Homes	50 - 60	55 - 70	70 - 75	above 70
Multi-Family Homes	50 - 65	60 - 70	70 - 75	above 70
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	above 80
Playgrounds, Neighborhood Parks	50 - 70	---	67 - 75	above 72

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

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: California Department of Health Services (DHS).

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following information:

- Identification of noise-sensitive land uses within 3,000 feet of the project site, including description, location and distance from the site; and

- Ambient noise levels (existing and future) measured in CNEL.

One of the following methodologies can be used to determine ambient noise levels:

- Field measurements involving the use of a noise meter at and surrounding the project site;

- "Presumed Ambient Noise Levels", as set forth in the Los Angeles Municipal Code (LAMC), Section 111.03 (see Exhibit I.1-1[1]); and

- A noise measurement program performed according to the procedures in the LAMC, Section 111.02 and 112.05. This involves taking measurements at selected locations to establish ambient background noise levels.

Project Impacts

Review the project description and identify the proposed number and type of rail operations per day. Use a map showing existing land uses to determine the location of, and distance between, sensitive receptors and railroad noise sources.

Guidance in the HUD Noise Guidebook can be used to calculate the resulting Ldn and, thus, CNEL levels. Using Exhibits I.3-1 and I.3-2, and based on the receptor distance from the railroad track, locate the appropriate distance on the horizontal axis (Effective Distance) and vertical axis (Average Daily Number of Operations). At the point of intersection of these two measurements, the diagonal axis will show the Ldn level.

HUD Methodology Assumptions:

- A clear line of sight exists between the railway track and the sensitive receptor;

[1] *See I.1. CONSTRUCTION NOISE.*

- There are 50 cars per train;
- The average train speed is 30 miles per hour; and
- Nighttime operations represent 15 percent of the 24-hour total.

With diesel locomotives:

- There are two locomotives per train; and
- The site is not near a grade crossing requiring prolonged use of the train's horn or whistle.

With rapid transit and passenger trains:

- Rails are welded together.

If the project characteristics vary substantially from the HUD methodology assumptions, consult a qualified noise specialist for a more detailed analysis, as necessary. For diesel locomotives, the model described in *Assessment of Noise Environment Around Railroad Operations* may be utilized.[2] It includes variables not included in the HUD model, such as attenuation due to barrier shielding, duration in time of a train pass-by, correction for the presence of additional helper locomotives on an upgrade, and accounting for welded rails, bridges, and grade crossings. In addition, this model has several graphs for use in conjunction with the formula. These graphs include the decibel volume for the duration of a train pass-by depending on distance from the source, the noise level of rail cars based on the speed they are traveling, and the attenuation of sound levels due to a shielding barrier.

Establish the change in noise level from the project. Subtract the projected noise level without the project's railroad operations from the projected noise level with the project's railroad operations. Compare this information to the Significance Threshold.

Cumulative Impacts

As feasible, identify the type and amount of railroad activity expected as a result of related projects. Consider noise-sensitive land uses within 3,000 feet of the proposed and related projects(s). Add the increase in noise at the sensitive receptors from the related projects to that from the proposed project to determine the cumulative impact.

2 *Wyle Laboratories, Assessment of Noise Environments Around Railroad Operations, pages 3-24 - 3-37, 1973.*

Sample Mitigation Measures

Potential mitigation measures include the following:

Railroad Lines and Vehicles

- Use continuous welded rail instead of jointed rail on the steel wheel/rail interface;
- Utilize lightweight trucks to minimize unsprung weight;
- Use special grinding (truing) equipment to ensure smooth wheel/rail interaction;
- Use resilient rail fasteners instead of fixed rail fasteners for track fixation;
- Utilize resiliently supported ties where resilient rail fasteners are inadequate; and
- Provide sound barrier walls or insulation.

Rail Yards

- Enclose rail yards with solid fencing or walls;
- Insulate buildings; and
- Include sound attenuators on fans and ducts.

3. DATA, RESOURCES, AND REFERENCES

American Public Transit Association, Guidelines and Principles for Design of Rapid Transit Facilities, 1983.

T.J. Schultz, W.J. Galloway, Office of Policy Development and Research, HUD, Noise Assessment Guidelines - Technical Background, 1980.

U.S. DOT, Los Angeles Rail Rapid Transit Project Final Environmental Impact Statement (EIS), 1983.

EPA, Background Document for Railroad Noise Emission Standards, 1975.

HUD, Noise Guidebook.

Wilson, Ihrig and Associates, Inc., Noise and Vibration Study for the Metro Rail Project, Final Report, 1982.

Wyle Laboratories, Assessment of Noise Environments Around Railroad Operations, 1973 (prepared for Southern Pacific Transportation Co., Union Pacific Railroad, the Atchison, Topeka and Santa Fe Railway Company, the Association of American Railroads.)

See also I.2. OERATIONAL NOISE.

Railroad Operations and Characteristics

There are three major railroad companies with regular freight traffic operating in the City of Los Angeles: Southern Pacific, Santa Fe, and Union Pacific. The Southern Pacific has an active rail yard in the Boyle Heights area within the City of Los Angeles. The Santa Fe and Union Pacific rail yards are located outside the City of Los Angeles, in the cities of Vernon and Commerce, respectively. In addition, such rapid transit systems as Amtrak, light rail trains (Blue Line), and commuter trains (MetroLink) serve the City of Los Angeles.

There are three general types of railroad vehicles: locomotives, rail cars, and rapid transit vehicles. These vehicles, either in combination with one of the other types or by themselves, form three general train categories. These are freight trains, conventional passenger trains, and rapid transit trains. A freight train consists of one or more locomotives, usually diesel, pulling a combination of various types of freight cars. A conventional passenger train is similar to a freight train in that it consists of one or more locomotives pulling several coaches, but one important difference is that the locomotive may either be diesel-electric or all electric (there are also gas turbine locomotives, but these are few in numbers). The third type, rapid transit trains, differs from the others in that there is not a centralized source of propulsion pulling a series of cars, but rather electric motors on the axles of each car.

A diesel locomotive utilizes a diesel engine driving an electrical alternator or generator, which in turn drives electric traction motors on the wheels. An all-electric locomotive, on the other hand, obtains its electrical power from an external source; normally an overhead line or third rail, to drive its traction motors. Having no propulsion system, freight cars and passenger coaches generate noise mainly by the rolling of the wheels on the rails. The magnitude of the noise depends heavily on the condition of the wheels and track, and on the type of vehicle suspension. In regards to rail cars, modern passenger coaches with auxiliary hydraulic suspension systems in addition to normal springs can be about 10 dBA quieter than older passenger coaches or freight cars which have only springs. The noise of rapid transit trains, even though there are electric motors on each axle that are sources

of noise, is also predominantly generated by the interaction of the wheels upon the rails. In fact, because rapid transit vehicles are usually newer and have better suspension systems, they are generally quieter than freight cars or passenger coaches. Exhibit I.3-4 shows average noise levels for locomotives, locomotives with mufflers and railcars.

Evidence indicates that jointed tracks exceed noise levels produced by welded tracks by up to 8 dBA. Railway traffic noise can be affected by several other sources, including jointed tracks, as indicated in Exhibit I.3-5. Rail yard noise is usually not an issue due to the size of rail yards and their location in less noise sensitive industrial areas. However, Exhibit I.3-6 includes some average noise levels for different sources of rail yard noise.

Selected Legislation

Federal

Section 17 of the Federal Noise Control Act requires that the EPA set noise emission standards for the equipment and facilities of interstate railroad carriers and establishes that the Secretary of Transportation will enforce them. In order to ensure safety considerations and technological availability, any standard or revision to a standard may be issued only after consulting with the Secretary of Transportation. These standards apply to the equipment's use and maintenance. On December 31, 1975, the EPA issued its first railroad noise regulation. This regulation set noise emission standards for locomotives and rail cars operated by interstate rail carriers. The regulation, which became effective December 31, 1976, set the following noise emission standards for locomotives measured from a distance of 100 feet:

73 dBA at idle;
93 dBA stationary at all other throttle settings; and
96 dBA moving at any speed.

The standards established for rail cars were:

88 dBA up to 46 miles per hour; and
93 dBA greater than 45 miles per hour.

For new locomotives in service after December 31, 1979, the standards set were:

70 dBA at idle;
87 dBA stationary at all other throttle settings; and
90 dBA moving.

In January 1980, the EPA published final noise emission regulations for four railroad noise sources. The regulations, which took effect in January 1984, set additional noise emission standards for rail yard operations and equipment, such as switcher locomotives, retarders, and car coupling.

Local

The Noise Element includes the following guidelines:

- Ensure that any steel track rapid transit system serving the City considers the use of welded rails in preference to jointed rails in order to reduce track vibration noise; and

- Develop a program to encourage railroads to provide noise-attenuating buffers along railroad rights-of-way (ROW) in residential areas.

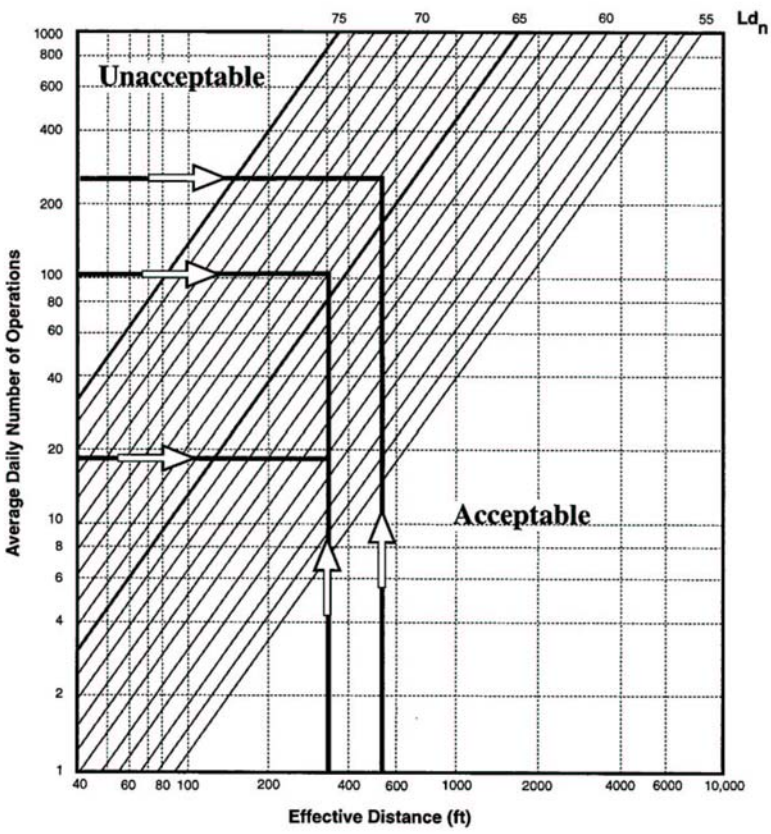

Exhibit I.3-1

Planning
Consultants
Research

FIGURE 1
DIESEL LOCOMOTIVES NOISE
Source: U.S. Department of Housing and Urban Development

Railroads - Rapid Transit and Railway Cars

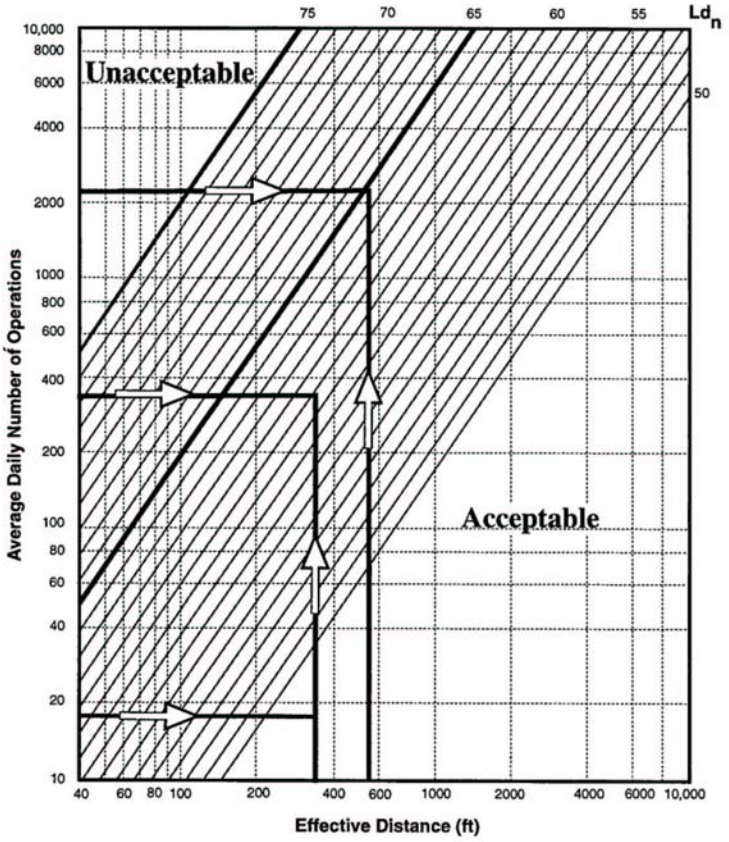

Exhibit I.3-2

Planning
Consultants
Research

FIGURE 2
ELECTRIC RAPID TRANSIT NOISE
Source: U.S. Department of Housing and Urban Development

Exhibit I.3-3
AVERAGE LOCOMOTIVE, RAILCAR, AND RAPID TRANSIT NOISE LEVELS

Type	Overall Maximum[a] (dBA)
Locomotive	93
Locomotive with Exhaust Muffler	87
Railcar -less than 45 miles per hour (mph)	88
Railcar - over 45 mph	93
Rapid Transit	85

[a] At a distance of 100 feet

Source: EPA, Background Document for Railroad Noise Emission Standards, pages 2-2 to 2-4.

Exhibit I.3-4
VARIABLES AFFECTING RAILCAR WHEEL/RAIL NOISE EMISSION

Variable	Noise Emission[a]
Jointed Rails (vs. Welded)	4 to 8 dBA
Grade Crossings	6 to 8 dBA
Wheel Irregularities – Flat Spots or Built-up Tread	Up to 15 dBA
Bridges	
a. Light Steel Structure	Up to 30 dBA
b. Heavy Steel Structure	Up to 15 dBA
c. Concrete Structure	0 to 12 dBA
Short Radius Curves	
a. Less than 600 foot radius	15 to 25 dBA
b. 600 to 900 foot radius	5 to 15 dBA

[a] These factors are assumed to act individually. When in combinations of two or more, the net increase will not be equal to the sum of each component, but most likely the largest individual factor.

Source: Wyle Laboratories, Assessment of Noise Environments Around Railroad Operations, page 2-3.

Exhibit I.3-5
AVERAGE RAIL YARD NOISE LEVELS

Noise Source	Level (dBA)[a]
Switcher Movement	76 - 80
Car Impact	91
Retarder	94 - 109
Public Address Systems	90 - 95
Engine Load Tests	92
Locomotive Service Racks	79.5
Mechanical Refrigerator Car - Engine Side	71
Mechanical Refrigerator Car - Condenser Side	64
Idling Locomotive	73
Idling Locomotive with Exhaust Muffler	70

[a] At a distance of 100 feet

Source: Wyle Laboratories, Assessment of Noise Environments Around Railroad Operations, pages 4-1 to 4-29.

I.4. AIRPORT NOISE

1. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Questions

XI.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?

XI.b): Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

XI.c): A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

XI.d): A substantial temporary or periodic increase in ambient noise levels in the project vicinity above the existing without the project?

XI.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 expose people residing or working in the project area to excessive noise levels?

XI.f): For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

B. Introduction

New or modified airport and heliport operations and associated aircraft activities may increase existing noise levels and may adversely affect noise-sensitive land uses. The California Department of Transportation's (Caltrans) Division of Aeronautics has developed a set of noise regulations, based on the Federal Aviation Administration's (FAA) Federal Aviation Regulations (FAR), which set noise limits for specific aircraft and provide guidance for land-use compatibility around airports. The effects of airport noise depends on factors such as characteristics of the equipment and operations; distance and pathway between the generator and receptor; and weather. Noise generated due to aircraft flyovers depends upon such variables as type and size of the aircraft (e.g. 2- or 3-engine turbofan versus 4-engine widebody turbofan) and its operating characteristics (primarily its thrust level).

The four airports operated by the City of Los Angeles include Los Angeles International (LAX), Van Nuys, Palmdale, and Ontario. The Burbank-Pasadena-Glendale Airport, due to its proximity to the City, influences the noise environment in some areas of Los Angeles. Noise levels generated by the operation of two other airports within or near the City of Los Angeles, Santa

Monica Municipal Airport and Whiteman Airport, generally do not exceed 65 decibels within the Community Noise Equivalency Level (CNEL) contours, and as such do not strongly influence the City's noise environment.

Environmental noise is measured in decibels (dB). To better approximate the range of sensitivity of the human ear to sounds of different frequencies, the A-weighted decibel scale (dBA) was devised. Because the human ear is less sensitive to low frequency sounds, the A-scale de-emphasizes these frequencies by incorporating frequency weighting of the sound signal. When the A-scale is used, the decibel levels are represented by dBA. On this scale, the range of human hearing extends from about 3 dBA to about 140 dBA. A 10-dBA increase is judged by most people as a doubling of the sound level.

To account for the fluctuation in noise levels over time, noise impacts are commonly evaluated using time-averaged noise levels. CNEL represents an energy average of the A-weighted noise levels over a 24-hour period with 5dBA and 10 dBA penalties added for nighttime noise between the hours of 7:00 p.m. and 10:00 p.m. and 10:00 p.m. to 7:00 a.m., respectively. The penalties were selected to account for reduced ambient noise levels during these time periods and increased human sensitivity to noise during the quieter periods of the day. The Day-Night Sound Level (Ldn), like CNEL, measures noise exposure over a 24-hour period and adds a penalty based on the time or day, although only for late night/early morning hours (10 dBA penalty). Thus, the Ldn measurement is slightly less sensitive than CNEL, but it results in very similar noise ratings for most community settings, usually differing by less than 1 dBA.

For the purpose of airport noise impact analyses, CNEL levels are described as contours. A contour is an interpolation of noise levels drawn to connect all points of a similar level. These contours are displayed on maps and appear similar to topographical contours, forming "footprints" surrounding a noise source.

The FAA regulates noise levels for aircraft at all United States airports. In 1969, FAR Part 36 certified noise levels for specific aircraft. FAR Part 150, Airport Noise Compatibility Planning, which became effective in 1981, provides guidance for land-use compatibility around airports. This FAR established a voluntary program, which provides that airport noise impacts are quantified and made public and that noise compatibility plans and mitigation measures are subject to public review and FAA approval. Part 150 states that in general, residential uses are not compatible within the 65 or above dBA Ldn contour and that all types of land uses are compatible in areas below 65 dBA Ldn. In addition, the FAA's Airport Environmental Handbook indicates that its threshold of significance is a 1.5 dBA Ldn increase in noise in any sensitive area located within the 65 dBA Ldn contour.

The Division of Aeronautics is responsible for granting variances from compliance with state noise laws for airports in California. The Division of Aeronautics has also developed noise regulations, adopted in 1970, which are based in part on the FAR Part 150 guidelines. These regulations state that the aircraft noise level in a residential setting should be no greater than 65 dB CNEL. One of the objectives of the Division of Aeronautics is to create an urban development pattern in which all land included within the 65 dB CNEL contour is devoted to either airport or non-sensitive land uses.

C. Screening Criteria

- If the proposed project includes the construction or expansion of an airport or heliport and has the potential to expose noise-sensitive land uses to high noise levels (through proximity of such land uses to the flight path, etc.), would the project result in an incompatible land use existing within the 65 dB CNEL contour of an airport or heliport?

A "yes" response to the preceding question indicates further study in an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required. Refer to the Significance Threshold for Airport Noise and review the associated Methodology to Determine Significance, as appropriate.

A "no" response to the preceding question indicates that there would normally be no significant impact from Airport Noise from the proposed project.

D. Evaluation of Screening Criteria

Review the description of the proposed project, including information on airport activities. Consult a map showing the 65 dB CNEL contour and surrounding land uses. Consider whether potential incompatible land uses have acoustical insulation, an avigation agreement with the airport operator, etc. Operations at commercial airports involving turboprop or piston engine aircraft under 70,000 lbs. have reduced potential to expose sensitive land uses to high noise levels because of the quieter noise levels generated by these aircraft. Compare this information with the screening criteria to determine whether incompatible uses would be located within the 65 dB CNEL contour.

Incompatible land uses include the following[1]:

- Residences, including but not limited to, detached single-family dwellings, multi-family dwellings, high-rise apartments, condominiums and mobile homes, unless:

[1] *Division of Aeronautics, Noise Standards (Title 21, Subchapter 6, Article 1) 1990, pages 225-226.*

- An avigation easement[2] for aircraft noise, has been acquired by the airport proprietor;

- A dwelling unit which was in existence at the same location prior to January 1, 1989, and has adequate acoustic insulation to ensure an interior CNEL of 45 dB or less due to aircraft noise in all habitable rooms;

- A residence is a high rise apartment or condominium having an interior CNEL of 45 dB or less in all habitable rooms due to aircraft noise, and an air circulation or air conditioning system, as appropriate;

- A residence exposed to an exterior CNEL less than 80 dB (75 dB if the residence has an exterior normally occupiable private habitable area) where the airport proprietor has made a genuine effort to acoustically treat the residence or acquire avigation easements for the residence involved, or both, but the property owner has refused to take part in the program; or

- A residence which is owned by the airport proprietor;

- Public and private schools of standard construction for which an avigation easement for noise has not been acquired by the airport proprietor, or that do not have adequate acoustic performance to ensure an interior CNEL of 45 dB or less in all classrooms due to aircraft noise;

- Hospitals and convalescent homes for which an avigation easement for noise has not been acquired by the airport proprietor, or that do not have adequate acoustic performance to provide an interior CNEL of 45 dB or less due to aircraft noise in all rooms used for patient care; and

- Churches and other places of worship for which an avigation easement for noise has not been acquired by the airport proprietor or that do not have adequate acoustic performance to ensure an interior CNEL of 45 dB or less due to aircraft noise.

[2] *An avigation easement is a legal agreement to purchase the right to fly over a property owner's land without penalty.*

2 DETERMINATION OF SIGNIFICANCE

A. Significance Threshold

A significant impact on ambient noise levels would normally occur if noise levels at a noise sensitive use attributable to airport operations exceed 65 dB CNEL and the project increases ambient noise levels by 1.5 dB CNEL or greater.

B. Methodology to Determine Significance

Environmental Setting

In a description of the environmental setting, include the following:

- Identification of ambient noise levels (existing and future) measured in CNEL. Use the 65 dB CNEL contour map or mathematical models to assess existing (at the expected time of project implementation) noise conditions. Model future noise levels by establishing parameters and assumptions, including aircraft fleet compositions at the airport for which a project is being analyzed, fleet forecasts, appropriate aircraft substitutions, departure profiles, tracks, thrusts settings, operational time of day (day, evening, or night), airport configurations (runway length and location, departure and landing thresholds, etc), and the algorithms used to calculate individual aircraft noise profiles. Use a recognized aircraft noise model, such as one of the following:

  - The Integrated Noise Model (INM), developed by the FAA and used extensively for commercial airports, produces noise contours to geographically demonstrate the location and level of average, weighted noise impacts;

  - The Area Equivalent Method (AEM), developed by the FAA, produces the aggregate area of noise impact without demonstrating the location of specific noise levels; it can be used as a screening tool to determine whether the more sophisticated and time consuming INM is warranted;

  - The Helicopter Noise Model (HNM), developed by the FAA, is used for projects which primarily involve helicopter operations; and

  - The Noise Map, developed by the United States Air Force (USAF), is primarily used to analyze military operations.

- Characterization of noise-sensitive land uses within the 65-dBA contour of airport operations, including the description and location within the contour. Identify noise attenuation devices, avigation easements, and other relevant features of the land uses; and

Project Impacts

Use the information from the Evaluation of Screening Criteria and Environmental Setting and one of the aircraft noise models described above to develop future noise contours. Results from the INM are preferred for commercial airports because of the level of sophistication and detail provided. Identify noise sensitive uses at which noise levels exceed 65 dB CNEL as a result of airport operations. Calculate the increase in ambient noise levels due to project operations at these locations. Compare this information to the Significance Threshold.

Cumulative Impacts

The projection of future baseline ambient noise levels incorporates background increases in noise and airport-related noise from the related projects. Therefore, no new analysis is required.

Sample Mitigation Measures

Possible mitigation measures include the following:

- Redirect air traffic over the ocean (for coastal airports) or over less populated areas;*

- Acquire noise-impacted land. The FAA's Uniform Relocation Assistance and Real Property Acquisition rules and provisions govern land acquisition and relocation assistance;

- Purchase avigation easements;

- Reduce the number of flights during evening and nighttime hours;*

- Increase takeoff angles within safety parameters or reducing thrust settings, depending on proximity and configuration of surrounding land uses;*

- Plan runway utilization schedules to take into account adjacent residential areas, noise characteristics of aircraft, and noise-sensitive time periods;*

- Employ shielding to obstruct the noise path to incompatible uses, using natural terrain, buildings, and other obstructions to noise; and

- Develop compatible land uses within the noise boundary through rezoning, or application of acoustical insulation.

* ***Strategies marked with * require FAA approval***

3. DATA, RESOURCES, AND REFERENCES

Los Angeles World Airports, Van Nuys Airport Noise Control Regulation EIR, 1992.

Los Angeles World Airports, Draft Van Nuys Airport Master Plan, 1995.

Division of Aeronautics, Noise Standards, 1990.

FAA, Airport Environmental Handbook, 1985.

See also I.2. OPERATIONAL NOISE.

Selected Legislation

Federal

FAR, Part 36

Establishes noise standards and provisions for issuing certificates for various types of aircraft. Also, the aircraft must meet the airworthiness regulations constituting the type certification basis of the aircraft under the conditions in which compliance with this part is shown.

FAR, Part 150

Describes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. Makes matching funds available for abatement programs.

State

California Airport Noise Standards Act, 1970 (CAC, Title 4)

Implements the FAA airport standards, administered by the State Division of Aeronautics. Requires civilian airports to meet FAA noise standard of 65 dB CNEL at airport boundaries.

CCR, Title 21 (Business Regulations)

Requires airports to monitor noise impacts and report to the County Airport Land Use Commission and State Division of Aeronautics on a quarterly basis.