TOWN OF LOOMIS
ENVIRONMENTAL CHECKLIST FORM

1. Project Title: #08-12 Del Oro Vistas Subdivision

2. Lead Agency Name and Address: Town of Loomis
6140 Horseshoe Bar Road, Suite K

3. Contact Person and Phone Number: Ryan Wunsch, Assistant Planner
(916) 652-1840

4. Project Location:
APN's: 044-123-013, 044-150-001, 008

5. Project Sponsor's Name and Address: Bob Swift- Swift Engineering

6. General Plan Designation: Single Family Residential-7,000 sq.ft. lot minimum

7. Zoning: RS-7

8. Description of the Project: Swift Engineering the applicant, requests a Subdivision (SUB) approval on a 4.15-acre parcel located on brace Road northwest of the I-80 overpass, APN: 044-0123-013. The request is to subdivide this parcel into twelve (12) lots ranging between 7,000-12,940 sq. ft. in size, with three open space parcels (Open Space "A" 39,400, Open Space "B" 7,300 sq. ft. and Open Space "C" 9,800 sq. ft.) and a possible community park. The property is zoned Single-Family Residential and designated "RS-7" in the General Plan. The proposed project, if granted a subdivision approval could be found to consistent with the General Plan and the Zoning Ordinance.

9. Surrounding Land uses and Setting: (Briefly describe the project's surroundings)

North – Both the Stone Gate and Heritage Park Estates subdivisions are located to the north of this proposed project (Single-Family Residential-5,000 RS-5 & Medium Residential- 5,000 RM-5)
East – Interstate 80 and existing homes located in the Tourist Commercial zoning district (CT)
South - Hunters Oaks subdivision (Single Family Residential-5,000) and land located in the City of Rocklin
West - Single family homes and the future construction of possible commercial and/or multi-family uses in the General Commercial zoning along Sierra College Blvd.

10. Other public agencies whose approval is required (e.g. permits, financing approval, or participation agreement).

South Placer Municipal Utility District (SPMUD) approves all sewer service and grants will serve letters.

Placer County Water Agency (PCWA) grants all public water utility approvals for the project

Placer County Environmental Health (PCEH)

Army Corps of Engineers accepts and approves all wetland delineations and reports.

ENVIRONMENTAL CHECKLIST:

Pursuant to Section 15063, CEQA Guidelines, the Town of Loomis has utilized an Environmental Checklist to evaluate the potential environmental effects of the project. The checklist provides a

determination of these potential impacts and includes the substantiation developed in support of the conclusions checked on the form.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

☐ Aesthetics	☐ Agriculture Resources	☑ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology /Soils
☐ Hazards/Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☑ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utility/Service Systems	☐ Mandatory Findings of Significance	☐ None

DETERMINATION: On the basis of this initial evaluation:

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

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

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

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

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

Signature_____ Date 02/23/2009

Printed Name Ryan Wunsch Town of Loomis

EVALUATION OF ENVIRONMENTAL FACTORS:

I. AESTHETICS – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☑	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☑
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	☑

Comment: (I - a, b, c and d) The proposed subdivision is located northwest of Interstate I-80. There may be removal of protected oak trees as shown on the Tentative Map (within street improvements and building envelopes. Mitigation measures shall be enforced as approved by the Planning Commission at its meeting of March 17, 2009. The project will not have a significant impact on visitors' and residents' perceptions of the town. No street lighting is proposed for approval with this subdivision, all lighting will be residential in nature and consist of landscape and secutity lighting on the residences.The proposed project will not have a significant impact on views.

Mitigation: The removal of any protected oaks or significant trees shall be properly mitigated as required in the LMC Tree Ordinance 13.54 and approved by the Town's consulting arborist and Planning Director.

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 Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☑

Comment: (II. a, b and c) The project site has been developed as a rural residence but has been vacant for some time. No undeveloped land or areas currently used for any agricultural purposes will be developed or taken out of production to accommodate this project.

Mitigation: None Required

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☑
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)?	☐	☐	☐	☑
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☑
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☑

Comment: (III. a. through e.) The project must conform to Placer County Air Pollution Control District's (APCD) rules and regulations. The greatest amount of air impacts will result from the daily vehicle traffic. The project is anticipated to generate a maximum of 80 daily vehicle trips. Although minor, auto emissions from the project traffic will contribute to a determination of the ambient air quality, such impacts were anticipated by the General Plan update and were addressed as part of the environmental impact analysis prepared for that project. Findings of overriding consideration were adopted for the unavoidable significant air quality impacts .The APCD has prepared a plan to mitigate cumulative air quality impacts. This project's impacts are below the significance level addressed by the District. The area is in non-attainment for ozone and PM10 and currently exceeds by 40% the Air Quality Plan.

Mitigation: The project shall conform to requirements of the Placer County Air Pollution Control District (PCAPCD). Prior to commencement of any grading of foundations streets or driveways, the applicant shall submit a dust control plan for approval by the Town Engineer and PCAPCD. The project shall comply with requirements of the Placer County Animal Control Department prior to beginning construction of the expansion.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☑	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☑	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☑	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	☐	☐	☐	☑

Comment: (IV. a through f) The project is a subdivision development on an already developed site and will there will be a potential disturbance to wildlife and riparian habitat. The riparian area adjacent Sucker Ravine to the north is within a flood plain and under the jurisdiction of the United States Army Corp of Engineers. A Wetland delineation has been submitted to the USACOE and accepted. The project will have less than significant impact on federally protected wetlands as defined by section 404 of the Clean Water Act. It will not interfere with the movement of any native resident or migratory fish or wildlife species, migratory corridors, or native wildlife nursery sites. The project does not conflict with any local policies or ordinances protecting biological resources or with the provisions of any approved local, regional, or state conservation plans.

Mitigation: U.S. Army Corp approval of wetland delineation and any pertinent permits, specifically 401 or 404 permits as issued by the Corp.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☑
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☑
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☑
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☑

Comment: (V. a. through d.) The project site is not located within the historic downtown core area, the existing rural residence has been in place for many years. There are no known cultural resources on the site. Therefore, construction of the proposed project will not result in adverse impact to cultural resources.

Mitigation: None Required

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☑
ii) Strong seismic ground shaking?	☐	☐	☐	☑
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☑
iv) Landslides?	☐	☐	☐	☑
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☑
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☑
d) Be located on expansive soil, as defined in Table 18-1-A of the Uniform Building Code (1997), creating substantial risks to life or property?	☐	☐	☐	☑
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑

Comment: (VI. a. through e.) The project site is located in the Great Valley geomorphic province, near the boundary of the Sierra Nevada geomorphic province. The Project site is not within an Alquist Priolo Earthquake Fault zone, and there are no known faults on or adjacent to the site. The Loomis Basin DEIR identifies three inactive faults in the Loomis Basin- all south of the Town of Loomis. Accordingly, the site is situated in an area that is considered to have relatively low seismic activity; California Building Code (2008) Seismic Zone 3. Current Building Code requirements will reduce potential effects of fault rupture to a less-than-significant level. Like most of central California, the site can be expected to be subjected to seismic ground shaking at some future time. However, according to the California Division of Mines and Geology bulletin, South Placer County is classified as a low severity earthquake zone. The maximum probable ground shaking is expected to be no greater than V or VII on the Modified Mercalli Scale. Structural damage from ground shaking of this magnitude will be minimal if structures are constructed in accordance with applicable Uniform Building Code requirements. The potential for liquefaction at the project site is considered small. The potential for landslides and mudflows is negligible at the project site because of the absence of steep slopes. The project will require minimal soil displacement for construction of the equipment cabinets. There are no recorded episodes of subsidence in the area. The site may contain minimal expansive soils. Compliance with Uniform Building Code requirements will reduce any potential impacts associated with expansive soils to a less-than significant level. There are no unique physical features.

Mitigation: As a condition of project approval, a building and grading plan consistent with town requirements and meeting the approval of the Town Engineer, will be submitted and approved prior to any development on site. The grading plan is to specify erosion control measures, which will reduce potential erosion, impacts to less-than-significant level.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☑
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☑
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑
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?	☐	☐	☐	☑
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) 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?	☐	☐	☐	☑
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
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?	☐	☐	☐	☑

Comment: (VII.a - h) The project does not involve the routine transport, use, or disposal of hazardous materials nor is there any reasonably foreseeable circumstance in which upset and accident conditions could result in the release of hazardous materials. Therefore, in this regard, the project will not create a significant hazard to the public or the environment. The proposed use will not release hazardous materials into the environment in the case of accident or upset. The site will not handle hazardous materials, etc. and is not within 1/4 mile of a school. The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, development of the project would not create a significant hazard to the public or the environment. The project is not located within an airport use plan area or, within two miles of a public, private, or public use airport. The project will not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. The site is within a rural residential area. Therefore it will not result in exposure of people or structures to a significant risk or loss, injury or death involving wild land fires.

Mitigation: None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☑
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)?	☐	☐	☐	☑
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?	☐	☐	☐	☑
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 that would result in flooding on- or off-site?	☐	☐	☐	☑
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?	☐	☐	☐	☑
f) Otherwise substantially degrade water quality?	☐	☐	☐	☑
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 food hazard delineation map?	☐	☐	☐	☑
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☑
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?	☐	☐	☐	☑
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑

Comment: (VIII.a - j) The site will be connected to a public water supply, and built on a developed site. The project will not result in the violation of any water quality standards or discharge any waste. Nor will the project have any impacts that could result in a net deficit in aquifer volume or a lowering of the local groundwater table. The project is being built on a developable site that is 4.15± acres in size. The project's proposed subdividing will not substantially alter the existing drainage pattern of the site or the area, will not alter the course of a stream or river, nor result in substantial erosion, siltation, or flooding either on- or off-site. The project will not create, or contribute, runoff water in quantities significant enough to exceed the capacity of existing storm water drainage systems or provide a substantial additional source of runoff, polluted or otherwise. The projects design and construction, as noted above, will not result in a substantial degradation of water quality. The project is located adjacent to a seasonal or perennial stream or waterways. The elevation of the 100-year flood hazard area has been determined and all structures are located out of this area. Therefore, it will not in any significant way impact or effect any 100-year flood hazard areas, nor expose people or structures to a significant risk of loss, injury or death involving flooding, including inundation by seiche, tsunami, or mudflow.

Mitigation: The project developer shall construct the project in a manner so that post – development runoff flows do not exceed pre – development flows through the use of a drainage plan that includes provisions for on – site detention of runoff flows and payment of the Town's drainage impact fee, if required. Other drainage system improvements may be required. The project developer shall also secure necessary permit approvals and construct appropriate barriers to protect the riparian and flood plain areas. This mitigation may be implemented through development of a drainage plan, subject to review and approval of the Town Engineer.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?	☐	☐	☐	☑
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 or mitigating an environmental effect?	☐	☐	☐	☑
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑

Comment: (IX.a, b, and c)
The project site has a General Plan designation of Single Family (RS) and a zoning designation of RS-7. The subdivision as proposed complies with the land use designation. Therefore, if the Town of Loomis approves the project application for a use permit, the processing of which this Initial Study is a part of, the project will not be in conflict with the land use plans, policies, and regulations of the Town of Loomis.

Mitigation: None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☑
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☑

Comment: (X.a and b) There are no known sources of valuable minerals located upon the project site. The site is not designated for mineral resource recovery on the Town of Loomis General Plan or any other land use plans. In addition, the site has already been developed (there is an existing home onsite planned to be removed). This effectively limits the ability to recover mineral resources from the site even if such should exist.

Mitigation: None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. NOISE – Would the project result in:				
a) Exposure of persons of or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☑
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above level existing without the project?	☐	☐	☑	☐
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 to excessive noise levels?	☐	☐	☐	☑
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?	☐	☐	☐	☑

Comment: (XI.a -d) There are known sources of severe noise in the vicinity of the project, most notably Interstate 80. The Town of Loomis General Plan has established 65 Ldn as the normally acceptable outdoor noise level for residential uses in the vicinity of the project site. After construction, the project should generate noise or vibration, as the homes will include air conditioning and other noise or vibration generating equipment. There will be short-term increases in noise levels associated with construction. This impact is considered to be less than significant, provided limited hours during which construction activity may occur, as established by the Town of Loomis, are observed.

(XI.e - f) The project is not located within an airport land use plan area or with in two miles of a public airport or private or public use airport or airstrip.

Mitigation: 1) A 6-foot tall sound wall should be constructed along the south property line of Parcel #1 as indicated on Figure 2. 2) Second floor windows and glass doors should be fitted with Sound Transmission Class (STC) 32 rated window assemblies for all windows with a view of Brace Road or Interstate 80. (Only applicable to Parcel #1). 3) Air conditioning shall be included for each unit, to allow residents to close windows for desired acoustical isolation. 4) No construction work shall begin prior to 7:00 a.m. nor occur after 7:00 p.m. Monday through Friday nor prior to 8:00 a.m. or after 5:00 p.m. on Saturday, with no work to occur on holidays.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	☐	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

Comment: (XII.a, b and c) The project can not reasonably be expected to induce substantial growth in the area over and above that already expected.

Mitigation: None required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governments) 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 public services:				
Fire protection?	☐	☐	☐	☑
Police protection?	☐	☐	☐	☑
Schools?	☐	☐	☐	☑
Parks?	☐	☐	☐	☑
Other public facilities?	☐	☐	☐	☑

Comment: (XIII. A.) The Town presently provides services to the area, including police and fire protection through various contractual agreements. This project is not anticipated to create a substantial increase, or demand, on present levels of service.

Mitigation: The applicant shall be required to pay any drainage, public facility and/or development fees associated with the project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 facility would occur or be accelerated?	☐	☐	☐	☑
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☑

Comment: (XIV.a and b) The project will have no impact on the use of existing neighborhood and regional parks or other recreational facilities.

Mitigation: None Required

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. TRANSPORTATION/TRAFFIC -- Would the project:				
a) Cause an increase in traffic that 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)?	☐	☐	☐	☑
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☑
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☑
e) Result in inadequate emergency access?	☐	☐	☐	☑
f) Result in inadequate parking capacity?	☐	☐	☐	☑
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☑

Comment: (XV.a, b, c, d, e, f and g) Approximately eighty (80) in-out vehicle trips per day maximum is anticipated. The proposed thirteen lots could have as much as 5 vehicle daily trips. A new road is being proposed to provide legal access to the proposed parcels. The project will not result in any appreciable increase in traffic or result in an established level of service standard being exceeded for any roads or highways, nor will the project have impact emergency access to any area, or air traffic. It does not conflict with any adopted policies, plans, or programs supporting alternative transportation.

Mitigation: Traffic circulation fees shall be paid prior to building permit issuance.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS –Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☑
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
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?	☐	☐	☐	☑
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☑
e) Result in a determination by the wastewater treatment provider that 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?	☐	☐	☐	☑
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☑
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☑

Comment: (XVI.a, b, c, d, e, f and g) All utilities already exist in the area and the applicable utilities have indicated that they have the capacity to serve this project. The project will not be connected to the regional wastewater treatment system. It does increase the amount of impervious surface in the area by less than 4,000 square feet on a 4.15± acre site. This will not result in a significant increase in storm water runoff. Therefore the project will not require the construction or new, or expansion of existing, storm water drainage facilities.

Mitigation: The project developer shall construct the project in a manner so that post – development runoff flows do not exceed pre – development flows through the use of a drainage plan that includes provisions for on – site detention of runoff flows and payment of the Town's drainage impact fee. Other drainage system improvements may be required. This mitigation may be implemented through development of a drainage plan, subject to review and approval of the Town Engineer. The applicant is required to subscribe to weekly refuse collection.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE –				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☑
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☑
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☑

Sources for Initial Study/Negative Declaration

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2. Town of Loomis General Plan Update, Crawford, Multari & Clark Associates, May 2001.
3. Town of Loomis General Plan Update Technical Background Report, Crawford, Multari & Clark Associates, et.al., August 1998.
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6. Town Center Master Plan Final EIR, CSW Planning Associates, 1992.
7. Town of Loomis General Plan, SACOG & Westkoert Company, 1987.
8. Town of Loomis General Plan, FEIR, 1987.
9. FEMA Flood Map, Community Panel No. 06061C0418F, June 8, 1998.

10. USGS, Rocklin, CA 15' Quadrangle Topographic Map, Photo revised 1981.
11. Town of Loomis Aerial Map, flown May 31, 1998.
12. CA Department of Conservation Agricultural Land Evaluation and Site Assessment Model (1997) and Farmland Mapping and Monitoring Program, June 2001.
13. Land Use Code As Specified by the Institute of Transportation Engineers Trip Generation Manual (7th Edition)
14. Environmental Noise Assessment, Luke Saxelby of J.C. Brennan & Associates, Oct. 2008, Del Oro Vistas.
15. Wetland Delineation, Ecorp Consulting, Daria Snider, November 2, 2009.
16. Tentative Map, Swift Engineering November 2008

Wetland Delineation

For

Stone Road Loomis

Placer County, California

2 November 2007

Prepared For:
Bill Anson, Dan Petkus, and Kevin Petkus

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Wetland Delineation

Stone Road Loomis

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INTRODUCTION

On behalf of Bill Anson, Dan Petkus, and Kevin Petkus, ECORP Consulting, Inc. (ECORP) conducted a wetland delineation of the 4.25±-acre Stone Road Loomis site, located north of Brace Road and Stone Road in Loomis, Placer County, California (Figure 1. *Project Site and Vicinity*). The site corresponds to a portion of Section 9, Township 11 North, and Range 7 East (MDBM) of the "Rocklin, California" 7.5-minute quadrangle (U.S. Department of the Interior, Geological Survey 1981). The approximate center of the site is located at 38° 48' 40" North and 121° 11' 55" West within the Lower American River Watershed (#18020111, U.S. Department of the Interior, Geological Survey 1978).

This report describes potential waters of the United States, including wetlands, identified within the site that may be regulated by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act. The information presented in this report provides data required by the USACE Sacramento District's *Minimum Standards for Acceptance of Preliminary Wetland Delineations* (U.S. Army Corps of Engineers 2001). The potential waters of the U.S. boundaries depicted in this report represent a calculated estimation of the jurisdictional area within the site, and are subject to modification following the USACE verification process.

APPLICANT:

Attn: Mr. Bill Anson
4444 Sierra View Way
Fair Oaks, California 95628

Phone: (916) 202-0336
Fax: (916) 781-6557

AGENT:

Attn: Mrs. Daria Snider
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, California 95677

Phone: (916) 782-9100
Fax: (916) 782-9134

Existing Site Conditions

The site is composed of leveled to gently rolling terrain and is situated at an elevation of approximately 340 feet above mean sea level. The surrounding properties are primarily rural residences.

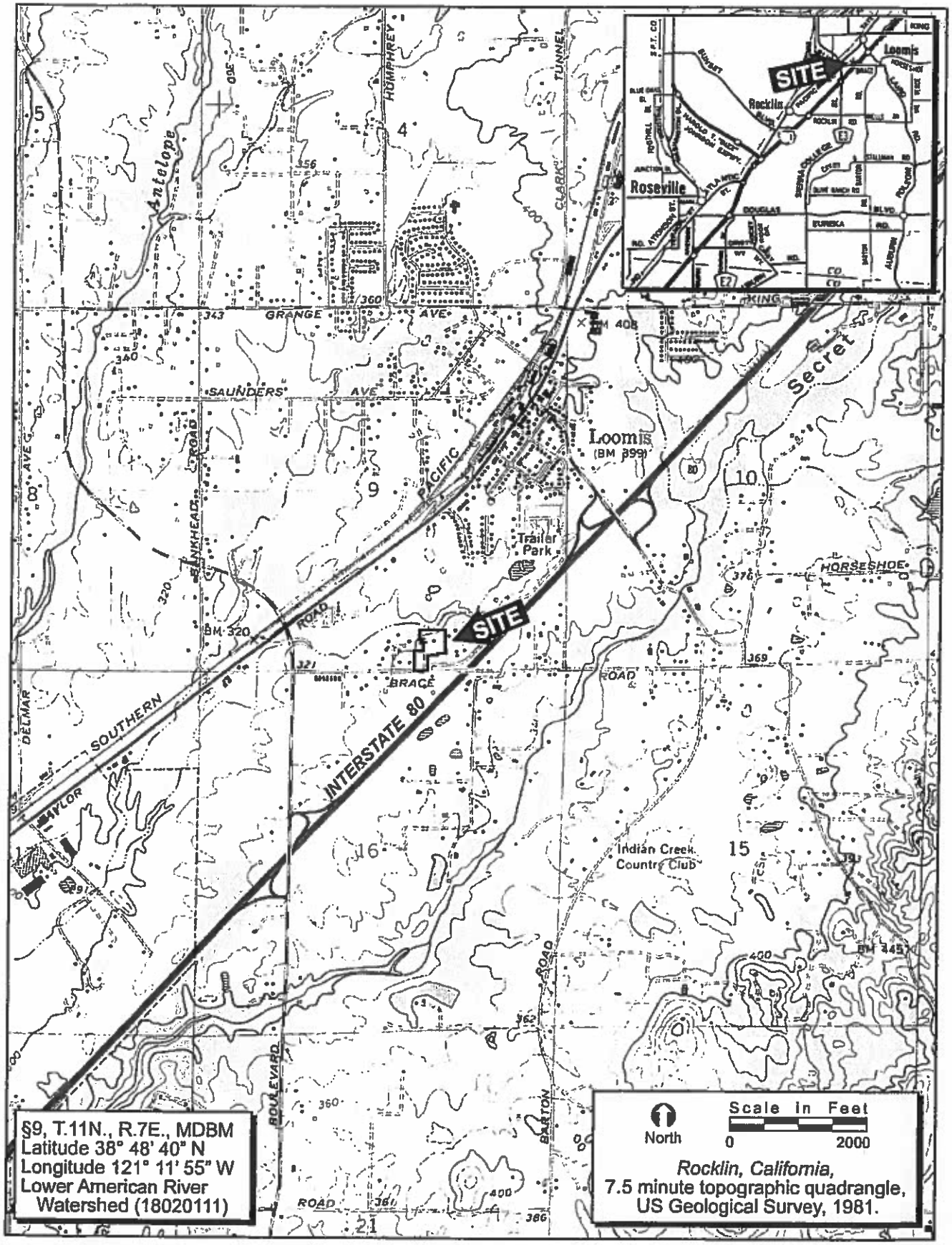

FIGURE 1. Project Site and Vicinity

2007-161 Stone Road Loomis

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The oak woodland community on-site is dominated by interior live oak (*Quercus wislizenii*) and valley oak (*Q. lobata*), although occasional oracle oak (*Q. x morehus*) and blue oak (*Q. douglasii*) are also present. Poison oak (*Toxicodendron diversilobum*) is a common shrub in this community. The understory of this community is dominated by hedgehog dogtail grass. Other herbaceous species are similar to those found in the annual grassland community on-site.

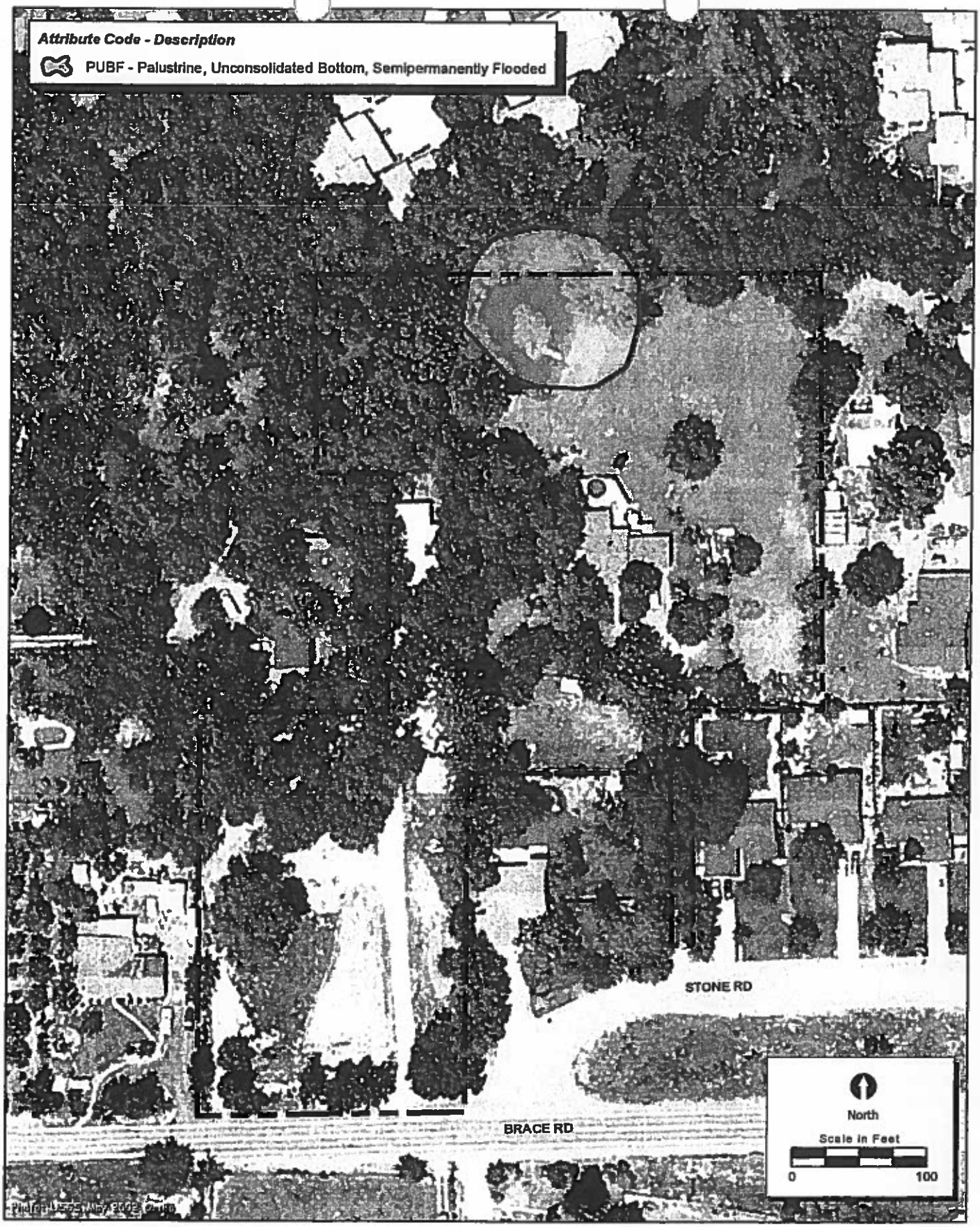
The riparian vegetation community along Sucker Ravine includes Gooding's willow (*Salix gooddingii*), Oregon ash (*Fraxinus latifolia*), Fremont's cottonwood (*Populus fremontii*), Himalaya blackberry (*Rubus discolor*) and giant reed (*Arundo donax*).

The National Wetlands Inventory has mapped one feature on-site, identified as PUBF (Palustrine, Unconsolidated Bottom, Semipermanently Flooded) (Figure 2. National *Wetlands Inventory*). Although this feature was not observed on-site, based on a review of aerial photographs, it appears that a dam constructed across Sucker Ravine formed a pond on-site. Although the weeping willow (*Salix babylonica*) that is visible in the middle of the pond (see Figure 2) is still present, it is currently on a hillside surrounded by annual grassland. No evidence of the pond remains on-site.

According to the *Soil Survey of Placer County, California, Western Part* (U.S. Department of Agriculture, Soil Conservation Service 1980), one soil unit, or type, has been mapped within the site (Figure 3. *Natural Resources Conservation Service Soil Types*): (106) Andregg coarse sandy loam, 2-9% slopes. Although this unit does not contain hydric components, it may contain hydric inclusions of unnamed soils in drainageways (U.S. Department of Agriculture, Soil Conservation Service 1992).

METHODS

This wetland delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Region Supplement) (U.S. Army Corps of Engineers 2006). The boundaries of potential waters of the



Location: N:\2007\2007-161 Stone Road\MAPS\NWI\StoneRd_NWI.mxd

Figure 2. National Wetlands Inventory

2007-161 Stone Road

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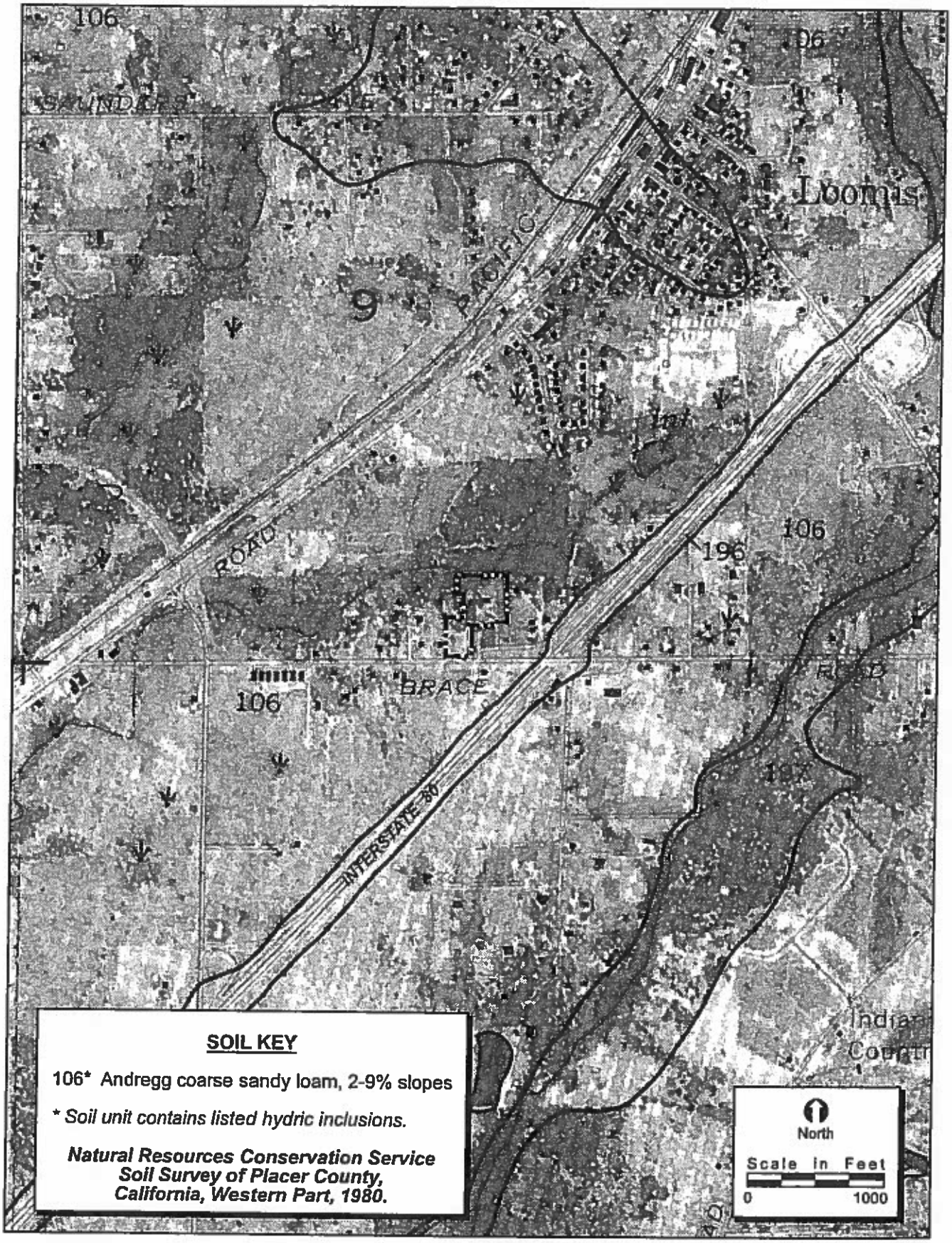

FIGURE 3. Natural Resources Conservation Service Soil Types

2007-161 Stone Road Loomis

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U.S. were delineated through aerial photograph interpretation and standard field methodologies (i.e., paired data set analyses), and all wetland data were recorded on Arid West Region - Wetland Determination Data Forms (Attachment A). A color aerial photograph (1"=50' scale, Airphoto 2006) was used to assist with mapping and ground-truthing (Attachment B). *Munsell Soil Color Charts* (Kollmorgen Instruments Co. 1990) and the *Soil Survey of Placer County, California, Western Part* (U.S. Department of Agriculture, Soil Conservation Service 1980) were used to aid in identifying hydric soils in the field. *The Jepson Manual* (Hickman, *ed.* 1993) was used for plant nomenclature and identification.

Field surveys were conducted on 27 August and 7 September 2007 by ECORP biologist Daria Snider. Mrs. Snider walked the entire 4.25±-acre site to determine the location and extent of potential waters of the U.S. within the property. Two paired data point locations and one single point location were sampled to evaluate whether or not the vegetation, hydrology, and soils data supported a determination of wetland or non-wetland status. At each paired location, one point was located such that it was within the estimated wetland area, and the other point was situated outside the limits of the estimated wetland area. The data collected at the single point location was used to support a non-wetland determination. The total area of the wetlands and other waters within the site was recorded in the field using a post-processing capable global positioning system (GPS) unit with sub-meter accuracy (Trimble GeoXT).

Waters of the United States

This report describes potential waters of the U.S., including wetlands, which may be regulated by the USACE under Section 404 of the Clean Water Act. Wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 CFR 328.3(b), 51 FR 41250, November 13, 1986]. Wetlands can be perennial or intermittent, and isolated or adjacent to other waters.

Other waters are non-tidal, perennial, and intermittent watercourses and tributaries to such watercourses [33 CFR 328.3(a), 51 FR 41250, November 13, 1986]. The limit of USACE jurisdiction for non-tidal watercourses (without adjacent wetlands) is defined in 33 CFR 328.4(c)(1) as the

"ordinary high water mark". The ordinary high water mark is defined as the "*line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas*"[33 CFR 328.3(e), 51 FR 41250, November 13, 1986]. The bank-to-bank extent of the channel that contains the water-flow during a normal rainfall year generally serves as a good first approximation of the lateral limit of USACE jurisdiction. The upstream limits of other waters are defined as the point where the ordinary high water mark is no longer perceptible.

Routine Determinations

To be determined a wetland; the following three criteria should be met:

- A majority of dominant vegetation species are wetland associated species;
- Hydrologic conditions exist that result in periods of flooding, ponding, or saturation during the growing season; and
- Hydric soils are present.

Vegetation

Hydrophytic vegetation is defined as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanent or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present (Environmental Laboratory 1987). The definition of wetlands includes the phrase "a prevalence of vegetation typically adapted for life in saturated soil conditions." Prevalent vegetation is characterized by the dominant plant species comprising the plant community (Environmental Laboratory 1987). The dominance test is the basic hydrophytic vegetation indicator and was applied at each data point location. The "50/20 rule" was used to select the dominant plant species from each stratum of the community. The rule states that for each stratum in the plant community, dominant species are the most abundant plant species (when ranked in descending order of coverage and cumulatively totaled) that immediately

exceed 50 percent of the total coverage for the stratum, plus any additional species that individually comprise 20 percent or more of the total cover in the stratum (HQUSACE 1992, U.S. Army Corps of Engineers 2006).

Dominant plant species observed at each data point were then classified according to their indicator status (probability of occurrence in wetlands) (Table 1), in accordance with the U.S. Fish and Wildlife Service's (USFWS) National List of Vascular Plant Species That Occur in Wetlands: California (Region 0) (Reed 1988). If the majority (greater than 50 percent) of the dominant vegetation on a site are classified as obligate (OBL), facultative wetland (FACW), or facultative (FAC), then the site was considered to by dominated by hydrophytic vegetation. Pursuant to the Arid West Region Supplement, plus (+) and minus (-) modifiers were not used (e.g., FAC-, FAC, and FAC+ plants are all considered to be FAC). Plant species not listed in Reed 1988 were assumed to be upland (UPL) species.

Table 1 – Classification of Wetland-Associated Plant Species[1]

Plant Species Classification	Abbreviation	Probability of Occurring in Wetland
Obligate	OBL	>99%
Facultative Wetland	FACW	66-99%
Facultative	FAC	33-66%
Facultative Upland	FACU	1-33%
Upland	UPL	<1%
No indicator status	NI	Insufficient information to determine status
Plants That Are Not Listed (assumed upland species)	NL	Does not occur in wetlands in any region.

[1] Source: Reed 1988

In instances where indicators of hydric soil and wetland hydrology were present, but the plant community failed the dominance test, the vegetation was re-evaluated using the prevalence index. The prevalence is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric code (OBL=1, FACW=2, FAC=3, FACU=4, and UPL=5) and weighting is by abundance (percent cover). If the plant community failed the prevalence index, the presence/absence of plant morphological adaptations to prolonged inundation or saturation in the root zone was evaluated.

Soils

A hydric soil is defined as a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA-NRCS 2003). Indicators that a hydric soil is present include, but are not limited to, histosols, histic epipedon, hydrogen sulfide, depleted below dark surface, sandy redox, loamy gleyed matrix, depleted matrix, redox dark surface, redox depressions, and vernal pools.

A soil pit was excavated to the depth needed to document an indicator, to confirm the absence of indicators, or until refusal at each data point. The soil was then examined for hydric soil indicators. Soil colors were determined while the soil was moist using the *Munsell Soil Color Charts* (Kollmorgen Instruments Co. 1990).

Hydrology

Wetlands, by definition, are seasonally or perennially inundated or saturated at or near (within 12 inches of) the soil surface. Primary indicators of wetland hydrology include, but are not limited to: visual observation of saturated soils, visual observation of inundation, surface soil cracks, inundation visible on aerial imagery, water-stained leaves, oxidized rhizospheres along living roots, aquatic invertebrates, water marks (secondary indicator in riverine environments), drift lines (secondary indicator in riverine environments), and sediment deposits (secondary indicator in riverine environments). The occurrence of one primary indicator is sufficient to conclude that wetland hydrology is present. If no primary indicators are observed, two or more secondary indicators are required to conclude wetland hydrology is present. Secondary indicators include, but are not limited to: drainage patterns, crayfish burrows, FAC-neutral test, and shallow aquitard. The occurrence of at least one primary indicator or two secondary indicators is required to confirm the presence of wetland hydrology.

RESULTS

A total of 0.146 acre of potential waters of the U.S has been mapped for this site (Table 2). The wetland determination data forms are included in Attachment A, and a list of plant species

observed on-site is included in Attachment C. A discussion of the wetlands and other waters is presented below, and wetland delineation maps are presented in Figure 4 and Attachment D.

Table 2 – Potential Waters of the U.S.

Type	Acreage[1]
Wetlands	
Seasonal Wetland Swale	0.041
Other Waters	
Sucker Ravine	0.105
Total:	**0.146**

[1] Acreages represent a calculated estimation and are subject to modification following the Corps' verification process.

Wetlands

Seasonal Wetland Swale

The seasonal wetland swales mapped on-site are linear wetland features that are ephemerally wet due to accumulation of surface runoff and rainwater. Inundation periods tend to be relatively short and they are commonly dominated by non-native annual and perennial hydrophytic species. Although the swales are drainage features, they do not exhibit an ordinary high water mark (OHWM). Plant species identified within the seasonal wetland swale include Himalaya blackberry, Freemont cottonwood, Valley oak, ripgut brome, curly dock, tall flatsedge (*Cyperus eragrostis*), chicory, and hedge parsley (*Torilis arvensis*). Interior live oak trees are present adjacent to the swales.

The soil matrix color within seasonal wetland swale-1 was 10YR2/2 with 15% distinct redox concentrations, colored 10YR4/4. The soil within this feature was determined to be hydric based on the presence of indicator S5 (Sandy Redox). Although no wetland hydrology indicators were observed on-site, the presence of hydric soil indicators and hydrophytic vegetation indicates that wetland hydrology may be present during the wet season.

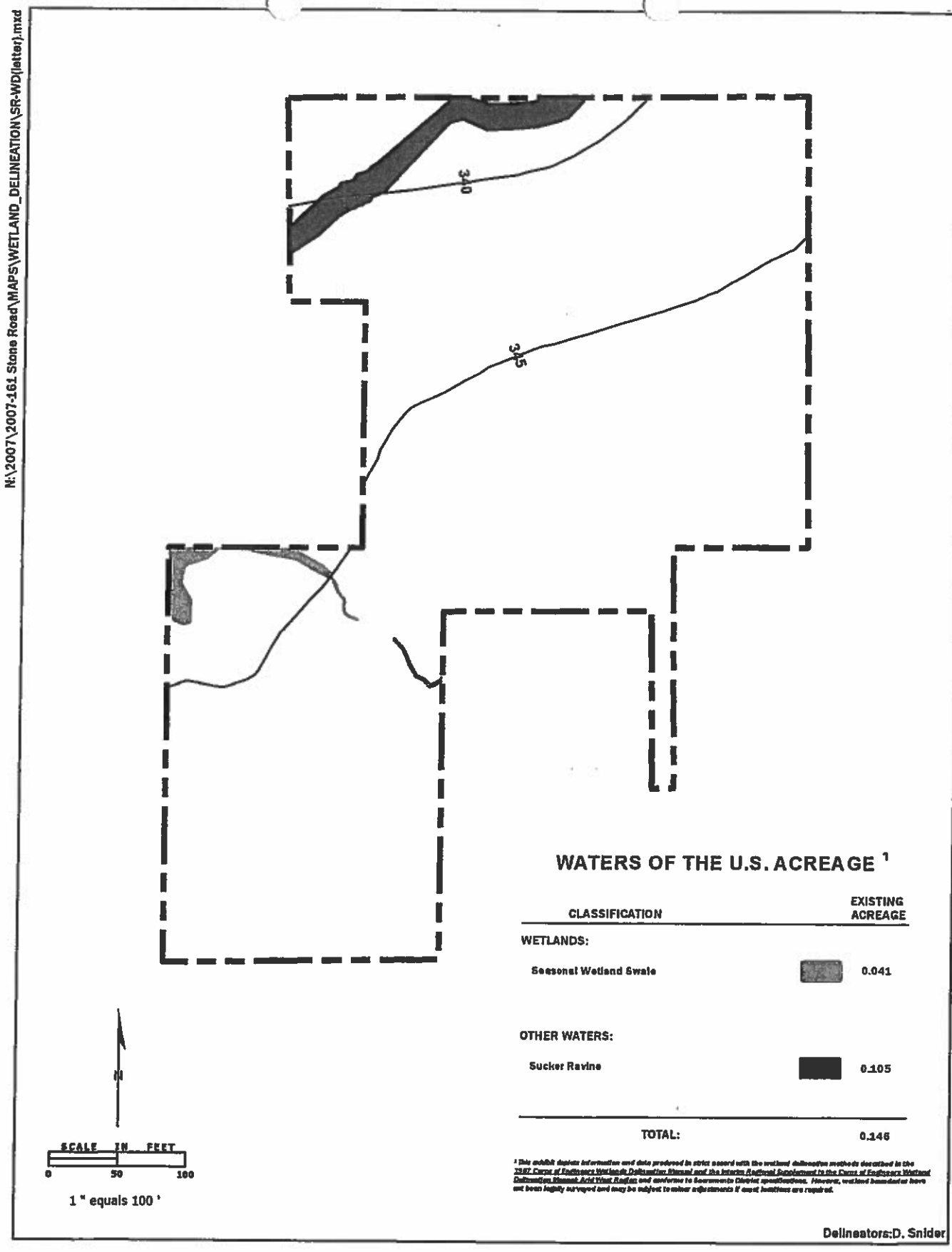

FIGURE 4. Wetland Delineation

2007-161 Stone Road

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Other Waters

Sucker Ravine

Sucker Ravine is a perennial creek that runs from east to west through the northern portion of the property. This feature is depicted as a dashed blue-line feature on the "Rocklin, California" 7.5-minute USGS quadrangle. This drainage is primarily unvegetated due to the scouring effects of water. However, hydrophytic vegetation is present along the banks of the drainage, and in shallower areas where sediment accumulation provides suitable substrate. Vegetation observed in these areas include Gooding's willow, Oregon ash, Fremont's cottonwood, Himalaya blackberry, pokeweed (*Phytolacca americana*), smartweed (*Polygonum* species), giant reed, soft rush (*Juncus effusus*), broad-leaved cattail (*Typha latifolia*), tall flatsedge, water primrose (*Ludwigia peploides*), rice cutgrass (*Leersia oryzoides*), and velvet grass (*Holcus lanatus*).

The limits Sucker Ravine were delineated at the ordinary high water mark, which was identified based on scour and change in vegetation. A soil pit was not dug within the creek due to the steepness of the bank, depth of the water, and the unconsolidated nature of the substrate.

The National Wetlands Inventory map for the "Rocklin, California" 7.5-minute quadrangle (USFWS 2007) indicates the presence of a palustrine, unconsolidated bottom, semipermanently flooded (PUBF) feature in the northern portion of the site. A portion of this feature corresponds to Sucker Ravine. The remainder of the feature appears to correspond to a pond formed by damming this drainage feature. The dam is no longer present, and no evidence of the former pond was detected during the surveys.

INTERSTATE COMMERCE

As Sucker Ravine was observed conveying flow in August, it likely conveys flow for more than 3 months out of the year, and can be considered a Relatively Permanent Water in accordance with the *Rapanos* decision (U.S. Army Corps of Engineers 2007). The seasonal wetland swale abuts Sucker Ravine off-site. Sucker Ravine is tributary to Secret Ravine, which is tributary to Miner's Ravine, a tributary of Dry Creek. Dry Creek is tributary to the American

River/Sacramento River via the Natomas East Main Drainage canal. The Sacramento and lower American River are considered navigable waters. As all relatively permanent tributaries of navigable waters and any wetlands abutting them are considered subject to Corps jurisdiction (U.S. Army Corps of Engineers 2007), Sucker Ravine and the seasonal wetland swale on-site may be subject to Corps jurisdiction.

CONCLUSION

A total of 0.146 acre of potential waters of the U.S. has been mapped on-site. These acreages represent a calculated estimation of the jurisdictional area within the site, and are subject to modification following the USACE verification process. Fill within jurisdictional features would require permitting pursuant to Section 404 and 401 of the federal Clean Water Act.

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LIST OF ATTACHMENTS

Attachment A – Wetland Determination Data Forms - Arid West Region

Attachment B – May 2006 Aerial Photo

Attachment C – Plant Species Observed On-site

Attachment D – Wetland Delineation

Attachment E – Wetland Delineation Shape File (to be included with USACE submittal only)

Attachment F – USACE-Verified Wetland Map and Verification Letter (to be included in ECORP Consulting master copy only)

ATTACHMENT A

Wetland Determination Data Forms - Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Stone Road Loomis City/County: Loomis/Placer Co. Sampling Date: 8/27/07
Applicant/Owner: Bill Anson State: CA Sampling Point: IN
Investigator(s): Daria Snider Section, Township, Range: Section 9/T 11N/R 7E
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Ø Slope (%): 2-9%
Subregion (LRR): C Lat: 38.8105 7 Long: 121.19894 Datum: NAD 83
Soil Map Unit Name: (106) Andregg coarse sandy loam, 2-9% slopes NWI classification: Ø
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	Is the Sampled Area within a Wetland? Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	

Remarks: This area was suspect due to the presence of hydrophytic vegetation, but hydric soils and wetland hydrology are lacking.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Cynodon dactylon	100%	✓	FAC
2. Rumex crispus	10%		FACW-
3. Cichorium intybus	10%		N/L
4. Polygonum arenastrum	5%		FAC
5. Geranium dissectum	5%		N/L
6. Chenopodium species	tr		—
7. Bromus diandrus	tr		N/L
8. Hirschfeldia incana	tr		N/L
Total Cover:	130%		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum Ø % Cover of Biotic Crust Ø

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Stone Road Loomis City/County: Loomis/Placer Co. Sampling Date: 8/27/07
Applicant/Owner: Bill Anson State: CA Sampling Point: 2
Investigator(s): Daria Snider Section, Township, Range: Section 9/T 11N/R 7E
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2-9%
Subregion (LRR): C Lat: 38.81120 Long: 121.19922 Datum: NAD 83
Soil Map Unit Name: (106) Andregg coarse sandy loam, 2-9% slopes NWI classification: Ø
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ____
Hydric Soil Present? Yes ✓ No ____
Wetland Hydrology Present? Yes ____ No ✓
Is the Sampled Area within a Wetland? Yes ✓ No ____ Seasonal wetland swale

Remarks:
Although hydrology indicators are lacking, the presence of hydric soil indicators and hydrophytic vegetation in a topographic depression indicate that wetland hydrology is likely present during the wet season.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus lobata	40%	✓	FAC*
2. Quercus wislizenii	30%	✓	N/L
3. Populus fremontii	20%	✓	FACW
4.			
Total Cover:	90%		
Sapling/Shrub Stratum			
1. Rubus discolor	75%	✓	FACW*
2. Populus fremontii	15%		FACW
3. Quercus lobata	tr		FAC*
4. Quercus wislizenii	tr		N/L
5.			
Total Cover:	90%		
Herb Stratum			
1. Bromus diandrus	50%	✓	N/L
2. Rumex crispus	15%		FACW-
3. Cynodon dactylon	15%		FACW
4. Cichorium intybus	5%		N/L
5. Torilis arvensis	tr		N/L
6.			
7.			
8.			
Total Cover:	85%		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 15% % Cover of Biotic Crust Ø

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Stone Road Loomis City/County: Loomis/Placer Co. Sampling Date: 8/27/07
Applicant/Owner: Bill Anson State: CA Sampling Point: 3N
Investigator(s): Daria Snider Section, Township, Range: Section 9/T 11N/R7E
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Ø Slope (%): 2-9%
Subregion (LRR): C Lat: 38.87118 Long: 121.1991D Datum: NAD 83
Soil Map Unit Name: (106) Andregg coarse sandy loam, 2-9% slopes NWI classification: Ø
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No ✓	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ____ No ✓	

Remarks:
Upland comparison to DP 2

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus wislizeni	20%	✓	N/L
2.			
3.			
4.			
Total Cover: 20%			
Sapling/Shrub Stratum			
1. Populus fremontii	20%	✓	FACW
2. Quercus lobata	5%		FAC*
3. Rubus discolor	5%		FACW*
4. Quercus wislizenii	tr		N/L
5.			
Total Cover: 30%			
Herb Stratum			
1. Bromus diandrus	60%	✓	N/L
2. Medicago polymorpha	20%		N/L
3. Cynosurus echinatus	20%		N/L
4. Cichorium intybus	5%		N/L
5. Cynodon dactylon	5%		FAC
6.			
7.			
8.			
Total Cover: 110%			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum Ø % Cover of Biotic Crust Ø

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Stone Road Loomis City/County: Loomis/Placer Co. Sampling Date: 8/27/07
Applicant/Owner: Bill Anson State: CA Sampling Point: 4N
Investigator(s): Daria Snider Section, Township, Range: Section 9/T 11N/R7E
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Ø Slope (%): 2-9%
Subregion (LRR): C Lat: 38.81199 Long: 121.19860 Datum: NAD 83
Soil Map Unit Name: (106) Andregg coarse sandy loam, 2-9% slopes NWI classification: Ø
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:
Area suspect due to its proximity to the creek. This DP serves as an upland comparison to DP 5.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus lobata	90%	✓	Fac*
2. Quercus wislizenii	10%		N/L
3.			
4.			
Total Cover:	100%		
Sapling/Shrub Stratum			
1. Quercus wislizenii	10%	✓	N/L
2.			
3.			
4.			
5.			
Total Cover:	10%		
Herb Stratum			
1. Vinca major	75%	✓	N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	75%		
Woody Vine Stratum			
1. Vitis californica (1 vine)	tr		FacW
2.			
Total Cover:	0%		

% Bare Ground in Herb Stratum 25% % Cover of Biotic Crust Ø

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Stone Road Loomis City/County: Loomis/Placer Co. Sampling Date: 8/27/07
Applicant/Owner: Bill Anson State: CA Sampling Point: 5
Investigator(s): Daria Snider Section, Township, Range: Section 9/T 11N/R 7E
Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): Ø Slope (%): 2%
Subregion (LRR): C Lat: 38, 81198 Long: 121, 19874 Datum: NAD 83
Soil Map Unit Name: (106) Andregg coarse sandy loam, 2-9% slopes NWI classification: Ø
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No ✓	Is the Sampled Area within a ~~Wetland~~ Waters? Yes ✓ No ____
Hydric Soil Present?	Yes ____ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:
Feature is a perennial creek (Sucker Ravine).

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)
Total Number of Dominant Species Across All Strata: ____ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

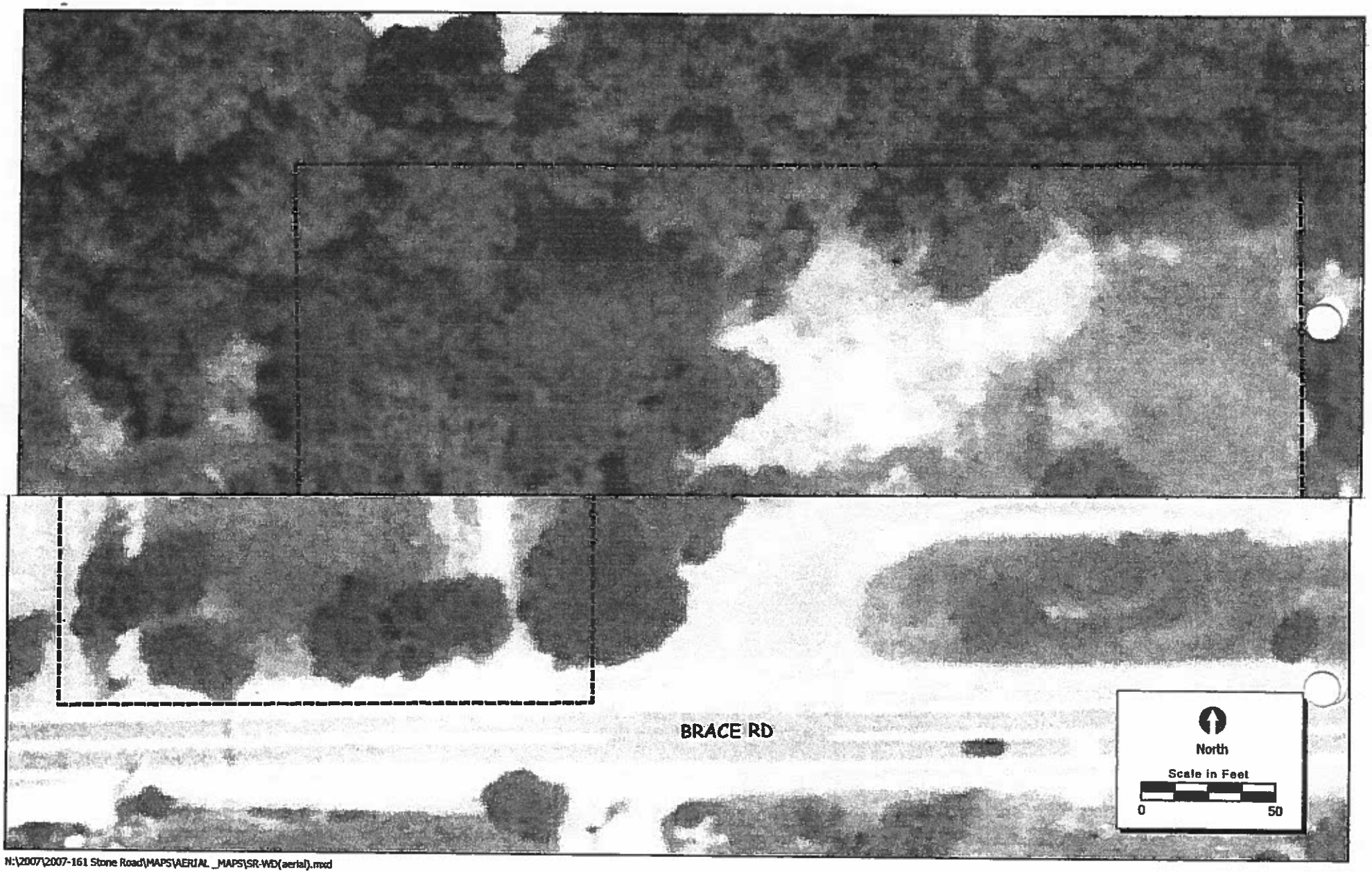
[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:
The creek channel is unvegetated, but a number of hydrophytic species are present on the banks.

ATTACHMENT B

May 2006 Aerial Photo



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May 2006 Aerial Photo

2007-161 Stone Road

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

ATTACHMENT C

Plant Species Observed On-Site

Stone Road Loomis
Wetland Delineation
Plant Species Observed On-Site

Abbr.	Scientific Name	Common Name	Indicator Status
ARU DON	*Arundo donax*	Giant reed	FACW
AVE FAT	*Avena fatua*	Wild oat	N/L
BRO DIA	*Bromus diandrus*	Ripgut brome	N/L
BRO HOR	*Bromus hordeaceus*	Soft brome	FACU-
CEN SOL	*Centaurea solstitialis*	Yellow star-thistle	N/L
CHE AMB	*Chenopodium ambrosioides*	Mexican tea	FAC
CHE spe.	*Chenopodium* species	Goosefoot	- -
CHO JUN	*Chondrilla juncea*	Skeleton weed	N/L
CIC INT	*Cichorium intybus*	Chicory	N/L
CYN DAC	*Cynodon dactylon*	Bermuda grass	FAC
CYN ECH	*Cynosurus echinatus*	Hedgehog dog-tail grass	N/L
CYP ERA	*Cyperus eragrostis*	Tall flatsedge	FACW
FRA LAT	*Fraxinus latifolia*	Oregon ash	FACW
GER DIS	*Geranium dissectum*	Cut-leaved geranium	N/L
HIR INC	*Hirschfeldia incana*	Shortpod mustard	N/L
HOL LAN	*Holcus lanatus*	Velvet grass	FAC
HOR MUR	*Hordeum murinum*	Barley	NI
HYP PER	*Hypericum perforatum*	Klamath weed	N/L
JUN EFF	*Juncus effusus*	Soft rush	OBL
LAC SER	*Lactuca serriola*	Prickly lettuce	FAC
LEE ORY	*Leersia oryzoides*	Rice cutgrass	OBL
LOL MUL	*Lolium multiflorum*	Ryegrass	FAC*
LUD PEP	*Ludwigia peploides* var. *peploides*	Water primrose	OBL
MAL NEG	*Malva neglecta*	Common mallow	N/L
MED POL	*Medicago polymorpha*	Bur clover	N/L
PHY AME	*Phytolacca americana*	Pokeweed	NI
POL ARE	*Polygonum arenastrum*	Prostrate knotweed	FAC
POL spe.	*Polygonum* species	Smartweed	- -
POP FRE	*Populus fremontii*	Fremont's cottonwood	FACW
POP spe.	*Populus* species	Poplar	- -
QUE DOU	*Quercus douglasii*	Blue oak	N/L
QUE LOB	*Quercus lobata*	Valley oak	FAC*
QUE WIS	*Quercus wislizenii*	Interior live oak	N/L
QUE MOR	*Quercus x. morehus*	Oracle oak	N/L
RUB DIS	*Rubus discolor*	Himalayan blackberry	FACW*
RUM CRI	*Rumex crispus*	Curly dock	FACW-
SAL BAB	*Salix babylonica*	Weeping willow	FACW-
SAL GOO	*Salix gooddingii*	Goodding's black willow	OBL
SPE RUB	*Spergularia rubra*	Purple sandspurry	FAC-
TOR ARV	*Torilis arvensis*	Torilis (hedge parsley)	N/L

Stone Road Loomis
Wetland Delineation
Plant Species Observed On-Site

Abbr.	Scientific Name	Common Name	Indicator Status
TOX DIV	*Toxicodendron diversilobum*	Poison oak	N/L
TRI FRA	*Trifolium fragiferum*	Strawberry clover	NI*
TRI GLO	*Trifolium glomeratum*	Clover	N/L
TYP LAT	*Typha latifolia*	Broad-leaf cattail	OBL
VER THA	*Verbascum thapsus*	Common mullein	N/L
VIN MAJ	*Vinca major*	Periwinkle	N/L
VIT CAL	*Vitis californica*	California wild grape	FACW

Indicator Status Codes
OBL = Obligate Wetland; occur almost always (estimated probability >99%) under natural conditions in wetlands.
FACW = Facultative Wetland; usually occur in wetlands (estimated probability 67%-99%) under natural conditions in wetlands.
FAC = Facultative; equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
FACU = Facultative Upland; usually occur in non-wetlands (estimated probability 67%-99%).
UPL = Obligate Upland; occur almost always (estimated probability >99%) in non-wetlands in the region specified.
N/L = Not Listed.
NI = No indicator was recorded for those species for which insufficient information was available to determine a status.
-- = May or may not occur in wetlands depending upon species.
A positive (+) sign indicates a frequency toward the higher (more frequently found in wetlands) end of the facultative categories.
A negative (-) sign indicates a frequency toward the lower (less frequently found in wetlands) end of the facultative categories.
An asterisk (*) indicates a tentative assignment based upon limited information or conflicting review.

Arborist Survey Report

For

Stone Road Loomis

Placer County, California

25 September 2007

Prepared For:
Bill Anson, Dan Petkus, and Kevin Petkus

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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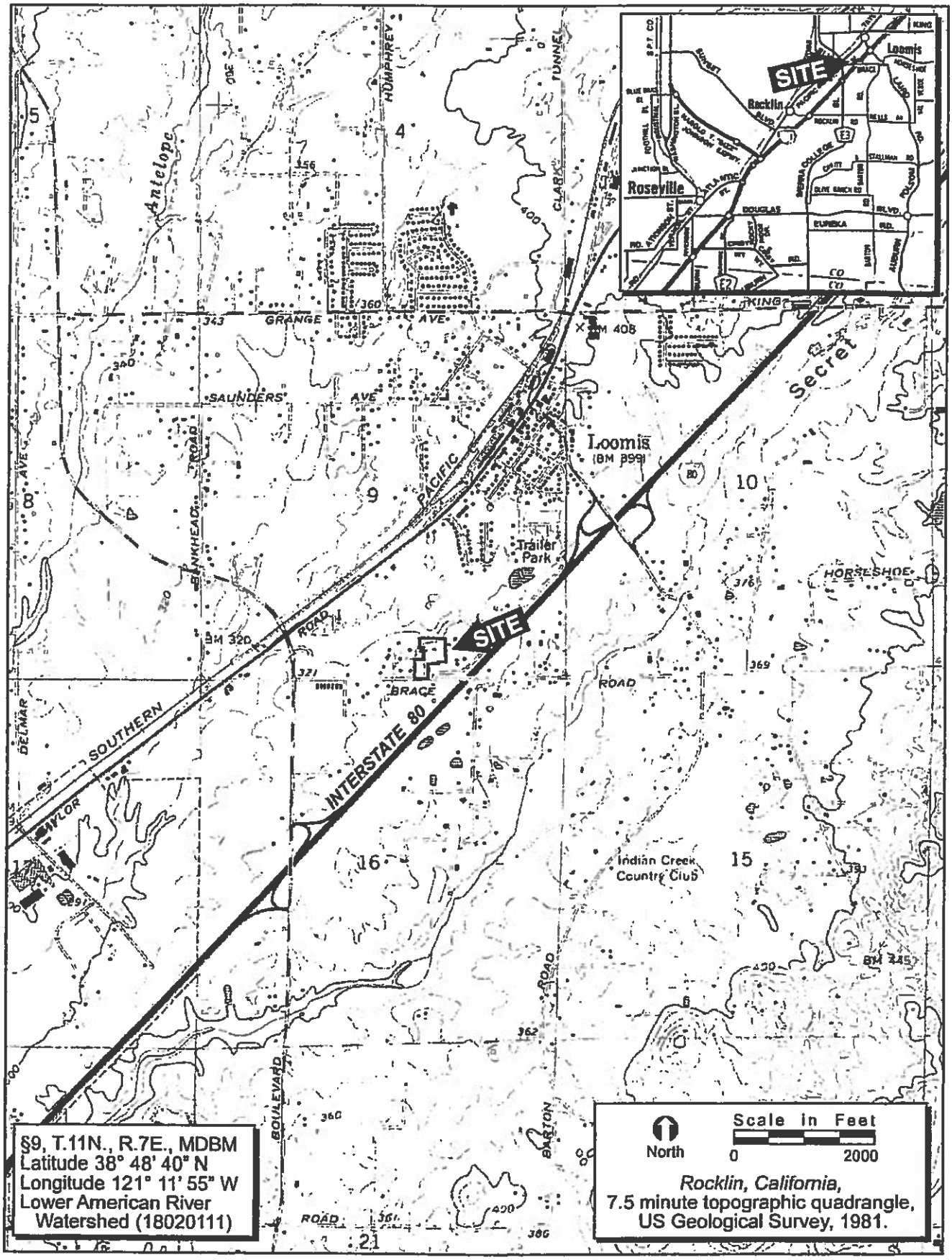

FIGURE 1. Project Site and Vicinity

2007-161 Stone Road Loomis

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The site is composed of leveled to gently rolling terrain and is situated at an elevation of approximately 340 feet above mean sea level. The surrounding properties are primarily rural residences.

One occupied residence is located in the western portion of the site, an abandoned residence and associated outbuildings is present in the eastern portion of the site, and a paved driveway and another abandoned residence are located in the southern portion of the site. The site is dominated by an oak woodland vegetation community, with inclusions of annual grassland in the northeastern and southern portions of the site. In addition, a narrow corridor of riparian vegetation is present along Sucker Ravine, which runs through the northern portion of the site.

The annual grassland community is dominated by ripgut brome (*Bromus diandrus*). Other species commonly observed in this community include Italian ryegrass (*Lolium multiflorum*), soft brome (*Bromus hordeaceus*), wild oat (*Avena fatua*), hedgehog dogtail grass (*Cynosurus echinatus*), yellow star-thistle (*Centaurea solstitialis*), cut-leaved geranium (*Geranium dissectum*), foxtail barley (*Hordeum murinum*), purple sand spurrey (*Spergularia rubra*), clustered clover (*Trifolium glomeratum*), strawberry clover (*T. fragiferum*), shortpod mustard (*Hirschfeldia incana*), chicory (*Cichorium intybus*), skeleton weed (*Chondrilla juncea*), curly dock (*Rumex crispus*), prickly lettuce (*Lactuca serriola*), Bermuda grass (*Cynodon dactylon*), moth mullein (*Verbascum thapsus*), Klamath weed (*Hypericum perforatum*), common mallow (*Malva neglecta*), and Mexican tea (*Chenopodium ambrosioides*).

The oak woodland community on-site is dominated by interior live oak and Valley oak, although occasional oracle oak and blue oak are also present. Poison oak (*Toxicodendron diversilobum*) is a common shrub in this community. The understory of this community is dominated by hedgehog dogtail grass. Other herbaceous species are similar to those found in the annual grassland community on-site.

The riparian vegetation community along Sucker Ravine includes Gooding's willow (*Salix gooddingii*), Oregon ash (*Fraxinus latifolia*), Fremont's cottonwood (*Populus fremontii*), Himalaya blackberry (*Rubus discolor*), pokeweed (*Phytolacca americana*), smartweed (*Polygonum* species), giant reed (*Arundo donax*), soft rush (*Juncus effusus*), broad-leaved

cattail (*Typha latifolia*), tall flatsedge (*Cyperus eragrostis*), water primrose (*Ludwigia peploides*), Canadian horseweed (*Conyza canadensis*), rice cutgrass (*Leersia oryzoides*), and velvet grass (*Holcus lanatus*).

MATERIALS AND METHODS

ECORP botanist Daria Snider and arborist Jeff Swager (ISA Certification #WE-7379A) conducted the field survey on 27 August and 7 September 2007. During the field survey, an aerial photograph of the project area was used as a base map (AirPhoto, May 2006). Using the base map as a guide, the project area was walked, and data collected for the trees onsite. This survey included all native trees with a diameter at breast height (DBH) ≥ 6" and those with aggregate of DBH ≥ 10". A uniquely numbered aluminum tag was nailed into the trunk of each surveyed tree. Approximate tree locations and data were recorded onto the base map.

Diameter: Trunk diameter at 4.5 feet above grade (DBH). Occasional deviations from this height were required for trees with branching at this level, or with unusual structural configurations (e.g., horizontal trunks). On multi-trunked trees (trees with multiple vertical trunks in contact at or near ground level) the report lists total aggregate diameter.

Condition: An estimate of the tree's overall health. This includes evaluation of foliage, evidence of wound healing, evidence of fungal attack, density of insect galls, and the amount and condition of attached deadwood. Rated on a three-point scale (poor, fair, good), with a rating like "fair-good" representing conditions in-between the upper and lower parameters.

RESULTS

Data was collected for a total of 125 Trees on-Site (Attachment A). The number of trees of each species is presented in Table 1. The locations of these trees are presented in (Attachment B).

Table 1 – Trees Surveyed On-Site	
Common Name	**Number of Trees Surveyed**
Interior live oak	56
Valley oak	31
Fremont's cottonwood	14
Grey pine	6
Incense cedar	4
Blue oak	3
California black walnut	2
Oregon ash	2
Poplar	2
English walnut	1
Gooding's willow	1
Mulberry	1
Oracle oak	1
Weeping willow	1
Total:	**125**

RECOMMENDED TREE PRESERVATION MEASURES

The following measures are recommended in order to minimize effects resulting from any proposed construction activities:

- Trees to be preserved within and immediately adjacent to the construction should be protected with high-visibility fencing placed at least one-foot outside the dripline.
- Excavating and/or trenching within the drip line of the preserved trees (or a distance of half the dripline, outside of the drip line) should be avoided whenever practicable. However, if unavoidable, any authorized cut or fill occurring within the dripline of any preserved tree should be supervised by an International Society of Arboriculture Certified Arborist.
- Native tree replacement should be used to mitigate the removal of native trees within the project area, subject to the approval of Sacramento County.
- Procedures and protocols for tree preservation and protection should comply with standards established by Sacramento County.

- Needed pruning, cabling, and other corrective measures for preserved trees should be specified by an International Society of Arboriculture Certified Arborist, and should conform to the pruning standards of the Western Chapter of the International Society of Arboriculture.
- No landscaping requiring permanent irrigation should be installed within the drip line of any preserved tree, and to the extent possible, run-off, particularly from landscape irrigation, should be directed away from the root zone.

CONCLUSION

ECORP conducted an arborist survey for the Stone Road Loomis site in Placer County, California. A total of 125 trees were surveyed. These trees may be subject to regulation under the Town of Loomis Tree Ordinance. Survey results are provided for general project planning purposes and should not be considered a detailed tree analysis.

REFERENCES

AirPhoto USA, May 2006. Aerial photo.

Loomis, Town of. 1984. Tree Preservation Ordinance. Loomis Municipal Code Chapter 13.54, Sections 13.54.010 through 13.54.080.

Placer, County of. 2000. Tree Preservation Generally. Placer County Code Chapter 12.16, Sections 12.16.010 through 12.16.100.

U.S. Department of the Interior, Geological Survey. 1978. Hydrologic Unit Map, State of California. Geological Survey. Reston, Virginia.

U.S Department of the Interior, Geological Survey. 1981. Rocklin, California 7.5-Minute Quadrangle. U.S. Geological Survey.

LIST OF ATTACHMENTS

Attachment A – Stone Road Loops Arborist Survey Data

Attachment B – Stone Road Loops Tree Locations

ATTACHMENT A

Stone Road Loomis Arborist Survey Data

Stone Road Loomis Aborist Survey Data

Surveyor: Daria Snider

Date: 27 August 2007

Tree #	Common Name	Scientific Name	DBH	DBH	DBH	DBH	DBH	DBH	DBH	Health: Good	Fair	Poor	Comments
601	Interior live oak	*Quercus wislizenii*	11.35	15.30	5.60	10.95				X			
602	Interior live oak	*Quercus wislizenii*	8.30	8.90						X			
603	Interior live oak	*Quercus wislizenii*	6.40							X			
604	Interior live oak	*Quercus wislizenii*	11.85							X			
605	Interior live oak	*Quercus wislizenii*	12.55	6.80						X			
606	Interior live oak	*Quercus wislizenii*	12.25							X			
607	Interior live oak	*Quercus wislizenii*	8.00	5.25						X			
608	Fremont's cottonwood	*Populus fremontii*	22.30							X			
609	Fremont's cottonwood	*Populus fremontii*	22.20							X			
610	Fremont's cottonwood	*Populus fremontii*	29.50							X			
611	Fremont's cottonwood	*Populus fremontii*	15.20	15.70						X			
612	Interior live oak	*Quercus wislizenii*	9.30	9.30						X			
613	Interior live oak	*Quercus wislizenii*	7.80							X			
614	Fremont's cottonwood	*Populus fremontii*	28.90	28.10						X			
615	Fremont's cottonwood	*Populus fremontii*	38.20							X			
616	Fremont's cottonwood	*Populus fremontii*	11.00	14.70	10.00						X		
617	Interior live oak	*Quercus wislizenii*	13.40	13.50						X			
618	Interior live oak	*Quercus wislizenii*	11.30	12.10	12.30	8.30					X		
619	Valley oak	*Quercus lobata*	15.00	16.20						X			
620	Interior live oak	*Quercus wislizenii*	11.75	12.90							X		
621	Oracle oak	*Quercus x morehus*	14.00								X		
622	Valley oak	*Quercus lobata*	25.95								X		
623	Interior live oak	*Quercus wislizenii*	17.00								X		
624	Interior live oak	*Quercus wislizenii*	20.05	8.95	8.15	17.00				X			
625	Interior live oak	*Quercus wislizenii*	24.00							X			
626	Interior live oak	*Quercus wislizenii*	15.40							X			
627	Blue oak	*Quercus douglasii*	8.15							X			
628	Blue oak	*Quercus douglasii*	29.80							X			
629	Interior live oak	*Quercus wislizenii*	10.00							X			
630	Gooding's willow	*Salix goodingii*	6.50							X			
631	Valley oak	*Quercus lobata*	20.80							X			
632	Valley oak	*Quercus lobata*	9.30							X			
633	Interior live oak	*Quercus wislizenii*	6.20							X			
634	Valley oak	*Quercus lobata*	9.80							X			
635	Valley oak	*Quercus lobata*	10.30							X			
636	Valley oak	*Quercus lobata*	11.60							X			
637	Valley oak	*Quercus lobata*	6.10							X			
638	Interior live oak	*Quercus wislizenii*	7.80							X			
639	Valley oak	*Quercus lobata*	8.00							X			
640	Valley oak	*Quercus lobata*	11.00	18.40						X			
641	Valley oak	*Quercus lobata*	23.10									X	Almost dead
642	Oregon ash	*Fraxinus latifolia*	6.30							X			
643	Valley oak	*Quercus lobata*	13.30							X			
644	Interior live oak	*Quercus wislizenii*	8.00							X			

Stone Road Loomis Aborist Survey Data

Surveyor: Darla Snider

Date: 27 August 2007

Tree #	Common Name	Scientific Name	DBH	DBH	DBH	DBH	DBH	DBH	DBH	Health			Comments
										Good	Fair	Poor	
645	Interior live oak	*Quercus wislizenii*	10.75	6.00	6.00	6.00				X			
646	Valley oak	*Quercus lobata*	12.10									X	Dying
647	Interior live oak	*Quercus wislizenii*	21.10							X			
648	Interior live oak	*Quercus wislizenii*	6.85							X			This tree has several other trunks on the other side of a fence.
649	Fremont's cottonwood	*Populus fremontii*	10.00							X			
650	Fremont's cottonwood	*Populus fremontii*	7.00							X			
651	Fremont's cottonwood	*Populus fremontii*	15.15							X			
652	Fremont's cottonwood	*Populus fremontii*	10.35							X			
653	Fremont's cottonwood	*Populus fremontii*	13.00							X			
654	Fremont's cottonwood	*Populus fremontii*	15.00							X			
655	Fremont's cottonwood	*Populus fremontii*	17.60							X			
656	Valley oak	*Quercus lobata*	7.25							X			
657	Valley oak	*Quercus lobata*	13.10							X			
658	Valley oak	*Quercus lobata*	9.70	6.40	4.10					X			
659	Valley oak	*Quercus lobata*	10.65							X			
660	Interior live oak	*Quercus wislizenii*	8.30	8.80						X			
661	Valley oak	*Quercus lobata*	13.40							X			
662	Interior live oak	*Quercus wislizenii*	37.20							X			
663	Interior live oak	*Quercus wislizenii*	7.50							X			
664	Incense cedar	*Calocedrus decurrens*	18.10							X			
665	Interior live oak	*Quercus wislizenii*	24.10							X			
666	Oregon ash	*Fraxinus latifolia*	17.45							X			

Stone Road Loomis Arborist Survey Data

Surveyor: Daria Snider

Date: 7 September 2007

Tree #	Common Name	Scientific Name	DBH	DBH	DBH	DBH	DBH	DBH	DBH	DBH	Health			Comments
											Good	Fair	Poor	
667	Interior live oak	*Quercus wislizenii*	7.80	5.40								X		
668	Grey pine	*Pinus sabiniana*	29.00								X			
669	Grey pine	*Pinus sabiniana*	21.35									X		
670	Grey pine	*Pinus sabiniana*	19.25								X			
671	Grey pine	*Pinus sabiniana*	17.00									X		
672	Interior live oak	*Quercus wislizenii*	10.25	14.75	15.30						X			
673	Incense cedar	*Calodedrus decurrens*	19.85								X			
674	Incense cedar	*Calodedrus decurrens*	22.70								X			
675	California black walnut	*Juglans californica*	17.75								X			
676	Incense cedar	*Calodedrus decurrens*	12.70								X			
677	Interior live oak	*Quercus wislizenii*	16.90								X			
678	Mulberry	*Morus* species	7.80	7.80	5.30	7.35	4.10	7.40	5.75	7.60	X			
679	Poplar	*Populus* species	8.30	6.70	5.8						X			
680	Interior live oak	*Quercus wislizenii*	8.70								X			
681	Interior live oak	*Quercus wislizenii*	10.00	8.30							X			
682	Poplar	*Populus* species	12.30								X			
683	Interior live oak	*Quercus wislizenii*	8.40								X			
684	Interior live oak	*Quercus wislizenii*	10.30									X		
685	Interior live oak	*Quercus wislizenii*	10.20									X		
686	Interior live oak	*Quercus wislizenii*	10.50	11.50								X		
687	Valley oak	*Quercus lobata*	24.70									X		
688	Valley oak	*Quercus lobata*	14.00									X		
689	Valley oak	*Quercus lobata*	14.30									X		
690	Grey pine	*Pinus sabiniana*	18.70									X		
691	Valley oak	*Quercus lobata*	12.40									X		
692	Weeping willow	*Salix babylonica*	3.20	7.80	4.10						X			
693	Valley oak	*Quercus lobata*	15.90								X			
694	Valley oak	*Quercus lobata*	9.55								X			
695	Valley oak	*Quercus lobata*	23.70								X			
696	Interior live oak	*Quercus wislizenii*	9.00	5.60								X		
697	Interior live oak	*Quercus wislizenii*	10.80									X		
698	Valley oak	*Quercus lobata*	21.50	13.70							X			
699	Interior live oak	*Quercus wislizenii*	21.90									X		
700	Interior live oak	*Quercus wislizenii*	22.20									X		
474	Interior live oak	*Quercus wislizenii*	20.75	11.65							X			Half of the trunk is rotted out, but the canopy looks healthy.
475	Interior live oak	*Quercus wislizenii*	18.05	20.15							X			
476	Interior live oak	*Quercus wislizenii*	15.75								X			
477	Interior live oak	*Quercus wislizenii*	14.80								X			
478	Interior live oak	*Quercus wislizenii*	11.10								X			
479	Interior live oak	*Quercus wislizenii*	17.00	16.90							X			
480	Interior live oak	*Quercus wislizenii*	19.60								X			
481	Interior live oak	*Quercus wislizenii*	14.40								X			
482	Interior live oak	*Quercus wislizenii*	11.15	6.70							X			
483	Valley oak	*Quercus lobata*	17.50								X			
484	Interior live oak	*Quercus wislizenii*	10.30								X			

Stone Road Loomis Arborist Survey Data

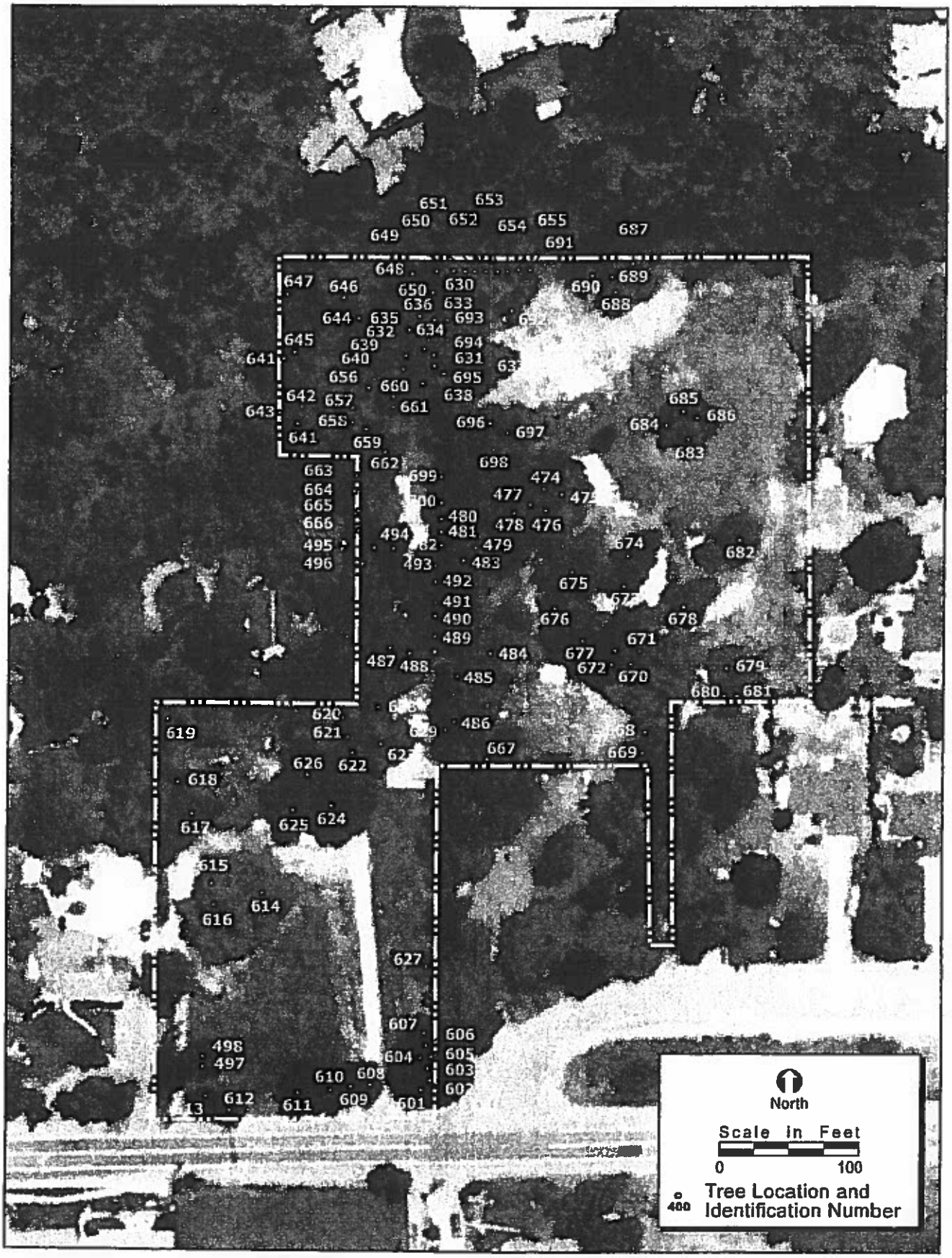
Surveyor: Daria Snider

Date: 7 September 2007

Tree #	Common Name	Scientific Name	DBH	DBH	DBH	DBH	DBH	DBH	DBH	DBH	Health: Good	Health: Fair	Health: Poor	Comments
485	Grey pine	*Pinus sabiniana*	36.15								X			
486	Valley oak	*Quercus lobata*	29.00	14.15	21.55						X			
487	Valley oak	*Quercus lobata*	16.90									X		
488	Valley oak	*Quercus lobata*	12.00								X			
489	Interior live oak	*Quercus wislizenii*	11.35									X		
490	Blue oak	*Quercus douglasii*	12.60									X		
491	Interior live oak	*Quercus wislizenii*	10.80								X			
492	Interior live oak	*Quercus wislizenii*	16.25								X			
493	Interior live oak	*Quercus wislizenii*	8.35								X			
494	English walnut	*Juglans regia*	14.75								X			
495	Interior live oak	*Quercus wislizenii*	14.65								X			
496	Interior live oak	*Quercus wislizenii*	15.00								X			
497	California black walnut	*Juglans californica*	9.30	9.30										
498	Valley oak	*Quercus lobata*	6.85											

ATTACHMENT B

Stone Road Loomis Tree Locations



Stone Road Loomis Tree Locations

2007-161 Stone Road Loomis

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Environmental Noise Assessment

Del Oro Vistas

Town of Loomis, California

Job # 2008-210

Prepared For:

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Luke Saxelby

Luke Saxelby
Senior Consultant
Member, Institute of Noise Control Engineering

October 16, 2008

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INTRODUCTION

The proposed Del Oro Vistas project is located north of Interstate 80 (I-80) and north of Brace Road, in the Town of Loomis, California. The project includes proposed sites for 13 single-family residential lots. Due to the proximity of the project site to I-80 and Brace Road, traffic noise levels at the project site are considered to be a potentially significant source which may affect the project design. See Figure 1 for the location of the project site. Figure 2 shows the Tentative Map for the project.

BACKGROUND INFORMATION ON NOISE

Fundamentals of Acoustics[1]

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

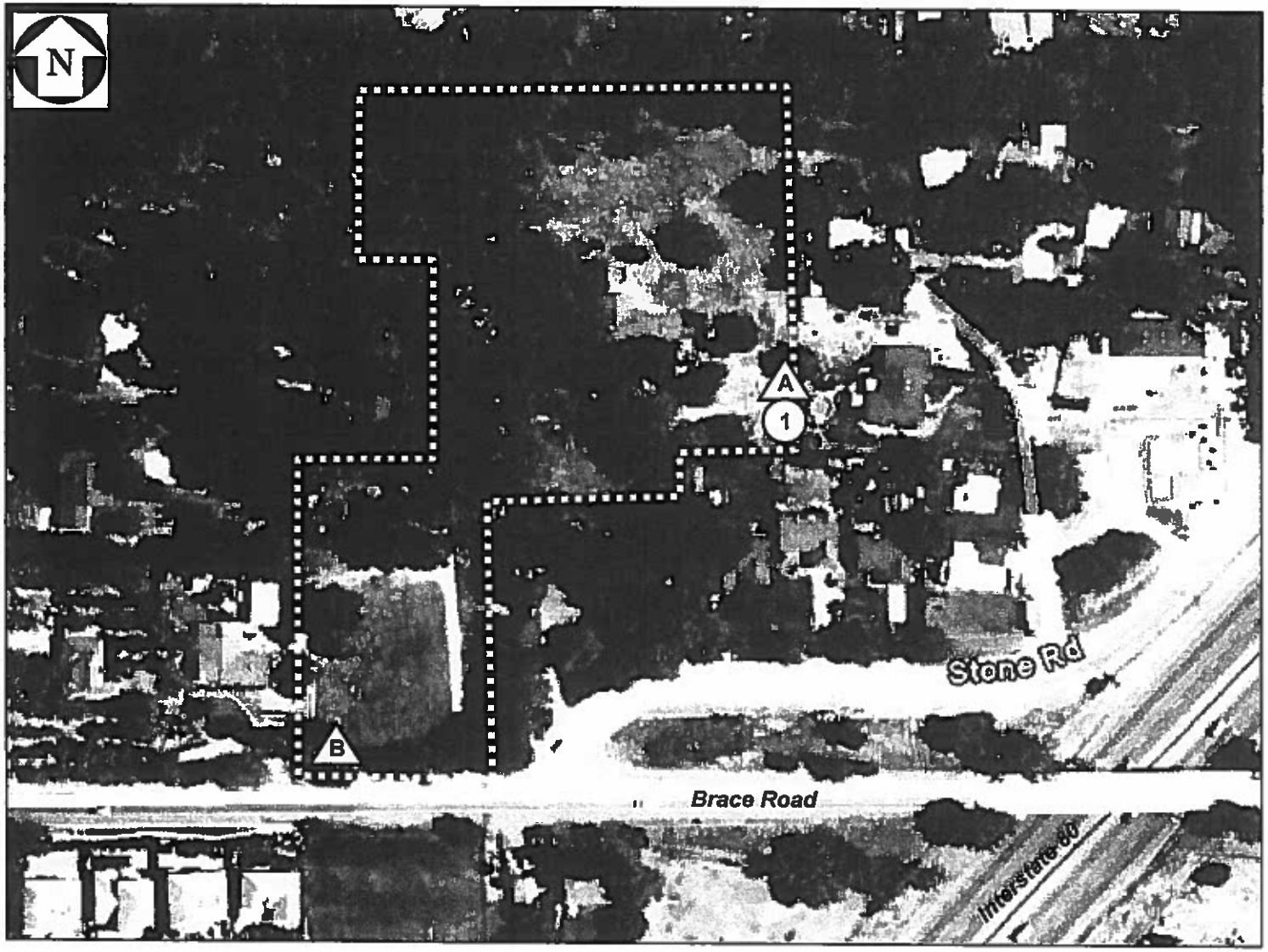
Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective. Often, someone's music is described as noise by another.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness. The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels.

There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

[1] For an explanation of these terms, see Appendix A: "Acoustical Terminology"

Figure 1
Del Oro Vistas – Town of Loomis, California
Project Vicinity and Noise Measurement Locations



△ : Continuous Noise Measurement Site

▪▪▪▪ : Project Area

(1) : Short-Term Noise Measurement Site

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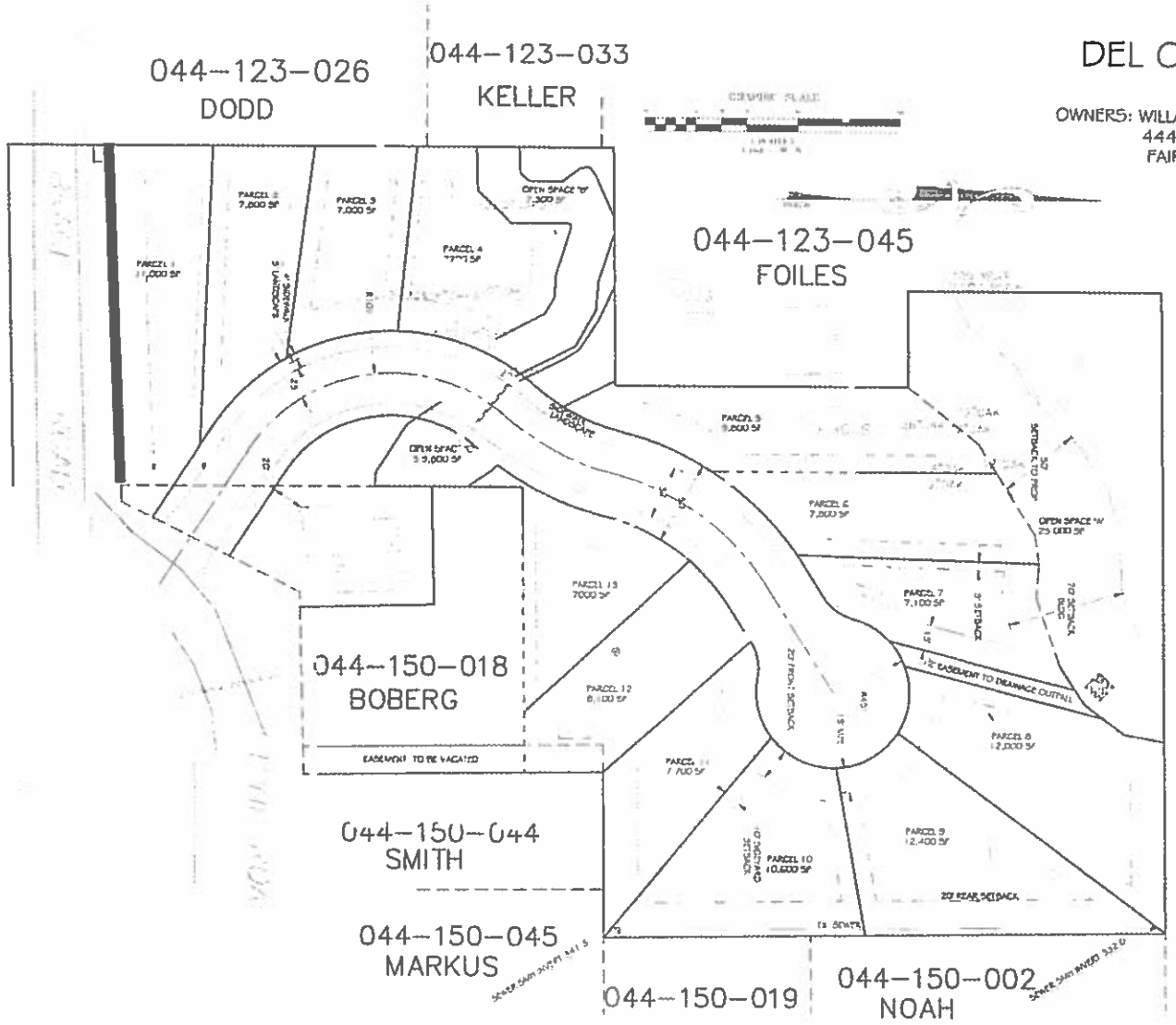
Figure 2
Del Oro Vistas – Town of Loomis, California
Site Plan and Potential Noise Barrier Location



▬▬ : Recommended Noise Barrier Location

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The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. Table 1 lists several examples of the noise levels associated with common noise sources. Appendix A provides a summary of acoustical terms used in this report.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

Table 1 Typical Maximum Noise Levels		
Common Outdoor Activities	**Noise Level (dBA)**	**Common Indoor Activities**
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. October 1998.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

CRITERIA FOR ACCEPTABLE NOISE EXPOSURE

Transportation Noise Source Criteria

The Town of Loomis' noise policies and guidelines are contained in the General Plan's Public Health and Safety Element. This Element establishes noise exposure standards which are shown in Table 2 for varying land uses.

Table 2
Maximum Allowable Noise Exposure
Del Oro Vistas Residential Development – Town of Loomis, California

Noise Sensitive Land Use	Outdoor Activity Areas[1], dB Ldn	Interior Spaces, dB Ldn	
Residential	65	45	--
Transient Lodging	65	45	--
Hospitals, Nursing Homes	65	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	65	--	40
Office Buildings	--	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Neighborhood Parks	70	--	--

[1] Where the location of outdoor activity areas is unknown, the exterior noise levels standard shall be applied to the property line of the receiving land use.

[2] Where it is not possible to reduce noise in outdoor activity areas to 65 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 70 dB/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

Source: Town of Loomis General Plan – Health and Safety Element, 2001

The normally acceptable exterior noise environment, for outdoor activity areas of residential uses affected by transportation noise sources, has been established as 65 dB Ldn. In addition, the City's General Plan establishes 45 dB Ldn as an acceptable interior noise environment for residential uses affected by these sources.

EVALUATION OF FUTURE TRAFFIC NOISE LEVELS

Traffic Noise Prediction Methodology:

j.c. brennan & associates, Inc. employs the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) for the prediction of traffic noise levels. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

Traffic Noise Model Calibration:

The FHWA RD-77-108 traffic noise prediction model provides reasonably accurate traffic noise predictions under "ideal" roadway conditions. Ideal conditions are generally considered to be long straight roadway segments with uniform vehicle speeds, a flat roadway surface, good pavement conditions, a statistically large volume of traffic, and an unimpeded view of the roadway from the receiver location. However, ideal conditions are more often the exception than the rule. As a result, it is often necessary to calibrate the FHWA model through site-specific traffic noise level measurements and concurrent traffic counts.

On October 7-8, 2008 j.c. brennan & associates, Inc. conducted continuous 24-hour noise level measurements at two locations on the project site. The traffic noise measurement locations are shown on Figure 1.

At Site A, an elevated continuous noise level measurement was conducted to isolate I-80 traffic noise levels. In order to determine the difference between the 2nd floor traffic noise levels and ground floor traffic noise levels, a short term noise level measurement was conducted at both 1st floor and 2nd floor elevations. The short term measurements indicated that traffic noise levels at the elevated 2nd floor location were 8 dB louder than the 1st floor location.

The continuous 24-hour noise level measurements at the Site A (Elevated site) measurement location, and Site B (Ground floor) were compared to the predicted existing noise levels using the FHWA traffic noise prediction model, existing traffic ADT volumes for I-80, and truck percentage inputs from Caltrans. Table 3 shows the results of the traffic noise calibrations.

Instrumentation used for the measurements were Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters which were calibrated in the field before and after use with an LDL CAL200 acoustical calibrator. In order to determine the hourly ambient noise levels, the median (L50) measurements were used to determine the ambient noise levels from Interstate 80. Appendix B graphically shows the continuous 24-hour noise level measurement results.

Table 3
Comparison of FHWA Model to Measured Traffic
Del Oro Vistas – Town of Loomis, California

Site #	Elevation	Existing Vehicles ADT	Med. Truck %	Hvy. Truck %	Speed (mph)	Dist. (Feet)[1]	Measured, Ldn [2]	Modeled, Ldn [3]	Difference
Continuous 24-Hour									
A	2nd Floor	144,250	2%	5%	65	470'	66.8 dB	70.9 dB	4.1 dB
B	1st Floor					550'	63.8 dB	68.8 dB	5.0 dB

[1] The distance to noise measurement locations is measured from the roadway centerline.
[2] Measured noise levels include affects from shielding from topography and intervening structures at measurement locations.
[3] Modeled noise levels do not account for shielding affects. Acoustically "soft" site assumed

Based upon the calibration results shown in Table 3, the FHWA Model Calibration was found to over-predict noise levels due to shielding affects from topography and intervening structures in the project vicinity. The differences shown in Table 3 will be applied to the FHWA model as calibration offsets.

Predicted Future Traffic Noise Levels at the Project Site:

j.c. brennan & associates, Inc. utilized the calibrated FHWA traffic noise prediction model and 2025 traffic volume forecasts to predict the future I-80 and Brace Road traffic noise levels on the project site. The predicted traffic noise levels and distances to traffic noise contours for future (2025) conditions are shown in Table 4. Appendix C shows the complete FHWA model inputs and results.

Table 4
Predicted Future (2025) Traffic Noise Levels
Del Oro Vistas – Town of Loomis, California

Parcel #	Description	Distance to Roadway Centerline	Model Adjustments			Predicted Traffic Noise Level, Ldn
			Calibration Offset[1]	Elevated Receiver Offset[2]	Measured Difference Between Elevated and Ground Floor[3]	
Interstate 80						
10,11	1st Floor	470'	-4 dB	NA	-8 dB	61 dB
10,11	2nd Floor	470'	-4 dB	NA	NA	69 dB
1	1st Floor	550'	-5 dB	NA	NA	66 dB
1	2nd Floor	550'	-5 dB	+3 dB	NA	69 dB
Brace Road						
1	1st Floor	50'	NA	NA	NA	64 dB
1	2nd Floor	50'	NA	+3 dB	NA	67 dB
Combined I-80 & Brace Road						
1	1st Floor					68 dB
1	2nd Floor					71 dB

[1]As determined through continuous noise measurements on project site and comparison to FHWA model.
[2]Typically, second floor noise levels are 3 dB louder than ground floor noise levels.
[3]As determined through short-term measurements on project site.

Based upon the Table 4 data, traffic noise levels are predicted to exceed the Town of Loomis 65 dB Ldn exterior noise level standard at the Parcel 1 outdoor area by 3 dB. Therefore, consideration of noise reduction measures would be appropriate.

In order to comply with the 65 dB Ldn exterior standard, j.c. brennan & associates, Inc. employs the FHWA barrier calculation methodology to determine the noise reduction provided by noise barriers of various heights.

Table 5
Predicted Future Noise Levels with Varying Barrier Heights
Del Oro Vistas – Town of Loomis, California

Location	Noise Levels without Barriers, Ldn			Barrier Height	Resulting Noise Levels, Ldn		
	I-80 Traffic	Brace Rd. Traffic	Total		I-80 Traffic	Brace Rd. Traffic	Total
Parcel #1	66 dB	64 dB	68 dB	6'	61 dB	57 dB	63 dB

Note: A complete listing of FHWA Model inputs and results is provided in Appendix D.

Based upon the Table 5 data, a sound wall 6-feet in height would be required along the southern property line of Parcel #1 to achieve compliance with the Town of Loomis 65 dB Ldn exterior noise level standard. Appendix D contains the complete FHWA Barrier Model inputs and results. Figure 2 shows a potential sound wall location.

Interior Traffic Noise Levels:

Standard construction practices, consistent with the uniform building code typically provides an exterior to interior noise level reduction of approximately 25 dB, assuming that air conditioning is included for each unit, which allows residents to close windows for the required acoustical isolation. Therefore, if exterior noise levels do not exceed 70 dB Ldn, no interior noise level mitigation would typically be required.

Based on the data in Table 4, exterior traffic noise levels at the Parcel #1 building façade are predicted to exceed 70 dB Ldn due to combined I-80 and Brace Road traffic noise levels. Therefore, interior noise levels may exceed 45 dB Ldn and interior noise reduction measures would be warranted. Based upon a predicted second floor noise exposure, j.c. brennan & associates, Inc. recommends that second floor windows and glass doors be fitted with Sound Transmission Class (STC) 32 rated window assemblies for all windows with a view of Brace Road or Interstate 80. This requirement would only apply to Parcel 1.

CONCLUSIONS

The proposed project site is predicted to be exposed to exterior and interior noise levels exceeding the Town of Loomis exterior and interior noise level standards. Therefore, the following noise reduction measures should be incorporated into the project design.

- A 6-foot tall sound wall should be constructed along the south property line of Parcel #1, as indicted on Figure 2.

- Second floor windows and glass doors should be fitted with Sound Transmission Class (STC) 32 rated window assemblies for all windows with a view of Brace Road or Interstate 80. This requirement would only apply to Parcel 1.

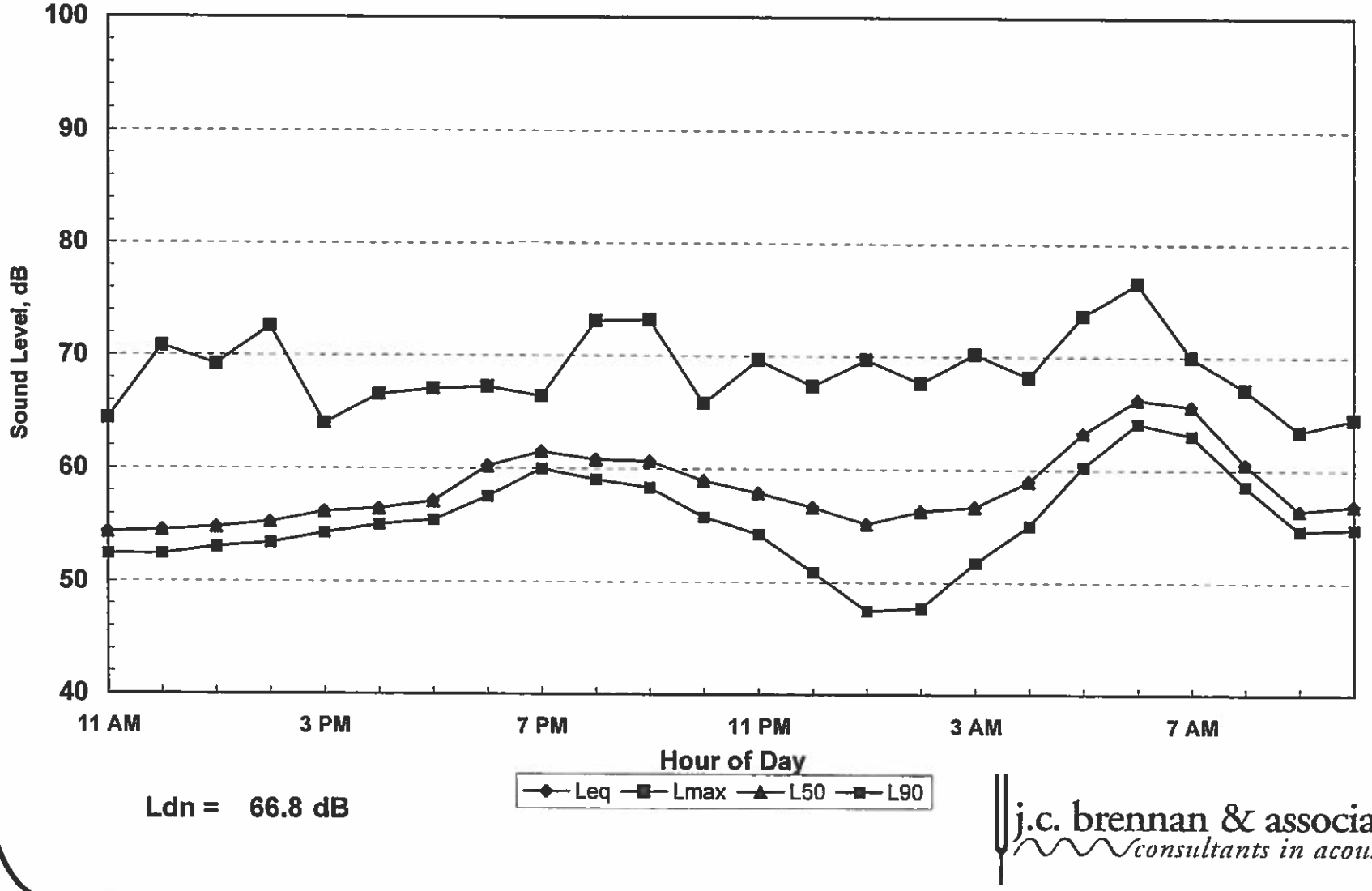
- Air conditioning shall be included for each unit, to allow residents to close windows for desired acoustical isolation.

These conclusions are based on the information cited in this report and on noise reduction data for standard residential dwellings. Deviations from the provided site plan shown in Figure 2 could cause future traffic noise levels to differ from those predicted in this analysis. In addition, j.c. brennan & associates, Inc. is not responsible for degradation in acoustic performance of the residential construction due to poor construction practices, failure to comply with applicable building code requirements, or for failure to adhere to the minimum building practices cited in this report.

Appendix A
Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the "Maximum" level, which is the highest RMS level.
RT_{60}	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.
SEL	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix B
24hr Continuous Noise Monitoring, Site A
Del Oro Estates, Elevated 2nd Floor
October 7-8, 2008



Ldn = 66.8 dB

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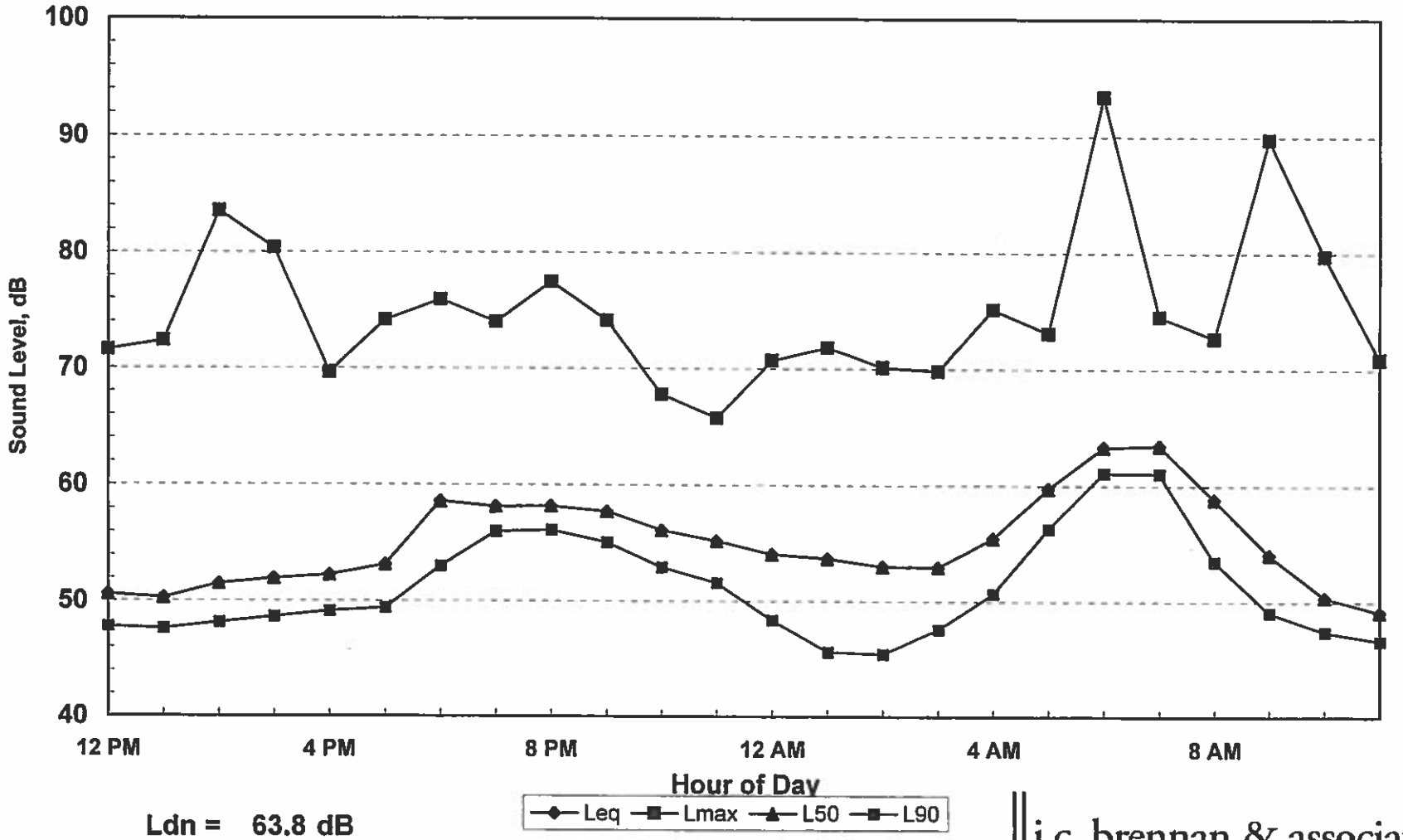
Appendix B
24hr Continuous Noise Monitoring, Site B
Del Oro Estates, Ground Floor
October 7-8, 2008



Ldn = 63.8 dB

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Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2008-210 Del Oro Estates
Description: Existing Caltrans counts for I-80
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	I-80	Ground Floor at Site A	96,000	55		45	2	5	65	470	
2	I-80	Second Floor at Site A	96,000	55		45	2	5	65	470	
3	I-80	Ground Floor at Site B	96,000	68		32	2	5	65	550	
4	I-80	Second Floor at Site B	96,000	68		32	2	5	65	550	

Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Predicted Levels

Project #: 2008-210 Del Oro Estates
Description: Existing Caltrans counts for I-80
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	I-80	Ground Floor at Site A	69.0	58.4	65.9	70.9
2	I-80	Second Floor at Site A	69.0	58.4	65.9	70.9
3	I-80	Ground Floor at Site B	66.8	56.3	63.7	68.8
4	I-80	Second Floor at Site B	66.8	56.3	63.7	68.8

Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2008-210 Del Oro Estates
Description: Future 2025
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	I-80	Ground Floor at Site A	144,250	55		45	2	5	65	470	-12
2	I-80	Second Floor at Site A	144,250	55		45	2	5	65	470	-4
3	I-80	Ground Floor at Site B	144,250	68		32	2	5	65	550	-5
4	I-80	Second Floor at Site B	144,250	68		32	2	5	65	550	-2
5	Brace Road	Ground Floor at Site B	8,000	83		17	2	1	35	50	
6	Brace Road	Second Floor at Site B	8,000	83		17	2	1	35	50	3

Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2008-210 Del Oro Estates
Description: Future 2025
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	I-80	Ground Floor at Site A	59	48	56	61
2	I-80	Second Floor at Site A	67	56	64	69
3	I-80	Ground Floor at Site B	64	53	60	66
4	I-80	Second Floor at Site B	67	56	63	69
5	Brace Road	Ground Floor at Site B	62	55	57	64
6	Brace Road	Second Floor at Site B	65	58	60	67

Appendix D

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Barrier Effectiveness Prediction Worksheet

Project Information:

Job Number: 2008-210 Del Oro Estates
Description Future 2025
Roadway Name: I-80
Location(s): 3

Noise Level Data:

Year: 2025
Auto L_{dn}, dB: 64
Medium Truck L_{dn}, dB: 53
Heavy Truck L_{dn}, dB: 60

Site Geometry:

Receiver Description: Ground Floor at Site B
Centerline to Barrier Distance (C_1): 480
Barrier to Receiver Distance (C_2): 70
Automobile Elevation: 354
Medium Truck Elevation: 356
Heavy Truck Elevation: 362
Pad/Ground Elevation at Receiver: 344
Receiver Elevation[1]: 349
Base of Barrier Elevation: 344
Starting Barrier Height 6

Barrier Effectiveness:

Top of Barrier Elevation (ft)	Barrier Height[2] (ft)	L_{dn}, dB				Barrier Breaks Line of Sight to...		
		Autos	Medium Trucks	Heavy Trucks	Total	Autos?	Medium Trucks?	Heavy Trucks?
350	6	59	48	56	**61**	Yes	Yes	No
351	7	58	48	55	**60**	Yes	Yes	Yes
352	8	58	48	55	**60**	Yes	Yes	Yes
353	9	58	47	55	**60**	Yes	Yes	Yes
354	10	57	47	55	**59**	Yes	Yes	Yes
355	11	57	46	54	**59**	Yes	Yes	Yes
356	12	56	46	54	**58**	Yes	Yes	Yes
357	13	55	45	53	**58**	Yes	Yes	Yes
358	14	55	44	52	**57**	Yes	Yes	Yes

Notes: 1.Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

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Appendix D

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Barrier Effectiveness Prediction Worksheet

Project Information:

Job Number: 2008-210 Del Oro Estates
Description Future 2025
Roadway Name: Brace Road
Location(s): 5

Noise Level Data:

Year: 2025
Auto L_{dn}, dB: 62
Medium Truck L_{dn}, dB: 55
Heavy Truck L_{dn}, dB: 57

Site Geometry:

Receiver Description: Ground Floor at Site B
Centerline to Barrier Distance (C_1): 30
Barrier to Receiver Distance (C_2): 20
Automobile Elevation: 346
Medium Truck Elevation: 348
Heavy Truck Elevation: 354
Pad/Ground Elevation at Receiver: 342
Receiver Elevation[1]: 347
Base of Barrier Elevation: 344
Starting Barrier Height 6

Barrier Effectiveness:

Top of Barrier Elevation (ft)	Barrier Height[2] (ft)	L_{dn}, dB Autos	Medium Trucks	Heavy Trucks	Total	Barrier Breaks Line of Sight to... Autos?	Medium Trucks?	Heavy Trucks?
350	6	54	48	52	**57**	Yes	Yes	Yes
351	7	53	46	52	**56**	Yes	Yes	Yes
352	8	52	45	51	**55**	Yes	Yes	Yes
353	9	51	44	49	**54**	Yes	Yes	Yes
354	10	50	43	48	**53**	Yes	Yes	Yes
355	11	49	42	47	**52**	Yes	Yes	Yes
356	12	48	42	46	**51**	Yes	Yes	Yes
357	13	48	41	45	**50**	Yes	Yes	Yes
358	14	47	40	44	**49**	Yes	Yes	Yes

Notes: 1.Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

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