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DOCKET
08-AFC-4
DATE NOV 25 2008
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November 25, 2008

Ms. Felicia Miller
California Energy Commission
1516 9th Street
Sacramento, CA 95814-5512

RE: Proposed Modification to Condition of Certification BIO-7

Dear Ms. Miller:

As we discussed at the Orange Grove Energy Staff Assessment Workshop on November 20, 2008, Orange Grove Energy, L.P. is proposing a modification to Condition of Certification **BIO-7** included in the Staff Assessment dated November 2008. BIO-7 currently requires that no construction activities should occur within 300 feet of riparian habitat from March 1 through September 15 to avoid impacts to sensitive species inhabiting riparian habitat along the San Luis Rey River. This proposed setback is substantially more than the minimum 100-foot setback provided for in the project design drawings submitted to the California Energy Commission (CEC) by the Applicant (e.g., see Exhibit 22-1, *Limited Construction Period Area for Southern Riparian Forest*, in Responses to Data Requests 1-73 (Set No. 1) dated August 2008). While most of the project construction activities will occur much more than 300 feet from riparian habitat, surface work (i.e., the boring pit and receiving pit) for the horizontal boring that is proposed for gas pipeline installation must occur closer than 300 feet from the closest riparian habitat due to the geometry of the riparian area boundaries, as further explained below. The horizontal boring is proposed if the project pipeline construction occurs in this area between March 1 and September 15 (the breeding/active season for the arroyo toad, least bell's vireo and other bird species inhabiting the riparian habitat) and is, in itself, a mitigation measure to avoid direct disturbance to the riparian zone and to minimize indirect disturbance.

As shown on the graphic included in Attachment A, it is not physically possible to locate the boring pit and receiving pit for the horizontal boring 300 feet away from existing riparian habitat. The figure in Attachment A graphically depicts on an aerial photograph the existing southern riparian forest area located between the two former dairy sites within the project area, and the location of the bore pit and exit pit as proposed in the project design drawings. Attachment A also shows the 300 foot distance from the riparian habitat depicted in the attachment as a yellow line. To extend the bore to the southwest would put the exit pit closer to riparian habitat. To extend the bore to the northeast could achieve some additional setback, but there is no way to get the bore pit 300 feet from the riparian habitat. Extending the bore to the northeast would increase

the length of the bore and result in horizontal boring rig use and human presence in the vicinity of the riparian habitat occurring over a longer period of time.

Orange Grove Energy has evaluated the 300 foot setback proposed by CEC staff compared to the 100 foot setback incorporated in the project design and has determined that there additional mitigation can be added to the project proposal that will be more effective than increasing the setback from the current project design of 100 feet. Specifically, Orange Grove Energy is proposing to add a temporary visual screen and sound-curtain to the proposed 100 foot setback if construction will occur in the area between March 15 to September 15 and active nests are present within 300 feet of construction. The visual screen and sound curtain will visually shield the bore pit and exit pit locations from nearby riparian habitat and will effectively attenuate potential construction noise. A temporary sound curtain would be constructed to enclose the bore and exit pits. The enclosure would be designed specifically for the equipment to be used and is expected to be approximately 20 feet tall. It would be built on a temporary frame with sound attenuation curtains fastened to the frame. The side of the sound curtain facing the riparian zone will be finished with a non-reflective earth-tone color or camouflage material to provide for effective visual screening. We have consulted with an acoustics expert who has experience in this noise mitigation technology and their experience has demonstrated that this technology would be more effective at reducing noise impacts to the riparian area than could be achieved by increasing the setback distance. Attachment B provides a technical memo from the noise expert with additional details and photographs depicting a similar sound curtain implemented for another project. As described further in Attachment B, with a properly designed and carefully constructed sound curtain enclosure system, noise reduction of at least 12 to 15 dB and up to 20 dB could be achieved, compared to about 9 to 10 dB that would be achieved by increasing the setback distance from 100 to 300 feet. In addition to this noise mitigation measure, the following are proposed in conjunction with the 100 foot setback included in the project design:

- In contrast to the example sound curtain photographs shown in Attachment B, Orange Grove Energy will commit to surfacing the outside of the enclosure with earth-tone or camouflage material (the sound curtain shown in the photographs was not designed to also provide visual screening as is proposed for this project.)

- Pre-construction nest surveys will be conducted if construction activities will occur within 300 feet of riparian habitat on the San Luis Rey River from March 15 through September 15 (Condition of Certification **BIO-8**).

- Before the start of construction within 300 feet of the riparian habitat on the San Luis Rey River, the Applicant will provide theoretical demonstration (i.e., calculations or modeling) that the proposed setback and sound curtain enclosure will reduce noise levels to 60 dB or less at the location of the closest active least Bell's vireo nest. This demonstration will be based on a final detailed design for the sound curtain and noise levels for the specific equipment to be used. Field monitoring by the Designated Biologist and a qualified acoustics expert will be performed during initial work activities at both the bore pit and the exit pit to demonstrate that noise reduction is achieved to levels of 60 dB or less at the closest active nest. Initial monitoring shall include field measurement of noise

generated by equipment operated up the full work load expected for the duration of activities. A detailed plan for monitoring will be included in the Biological Resources mitigation Implementation and Monitoring Plan (BRMIMP) required by CEC staff's proposed condition BIO-5.

- The Designated Biologist will be present for all work occurring within 300 feet of riparian habitat from March 1 through September 15 to ensure compliance with all Conditions of Certification.

Based on the above information, J-Power is proposing to revise Condition of Certification **BIO-7** in CEC's Staff Assessment. The proposed revision is included as Attachment C. As discussed above, the primary change is to reduce the setback from riparian habitat from 300 feet to 100 feet to match the project design presented in the Application for Certification, with additional measures to mitigate the potential impact to sensitive species that could be located in the riparian habitat using a temporary visual barrier and sound curtain.

Please do not hesitate to contact me if you have any questions regarding this submittal or need any additional information.

Sincerely,

Elisha Back
Principal
Irvine Natural Resources and Permitting

Attachments

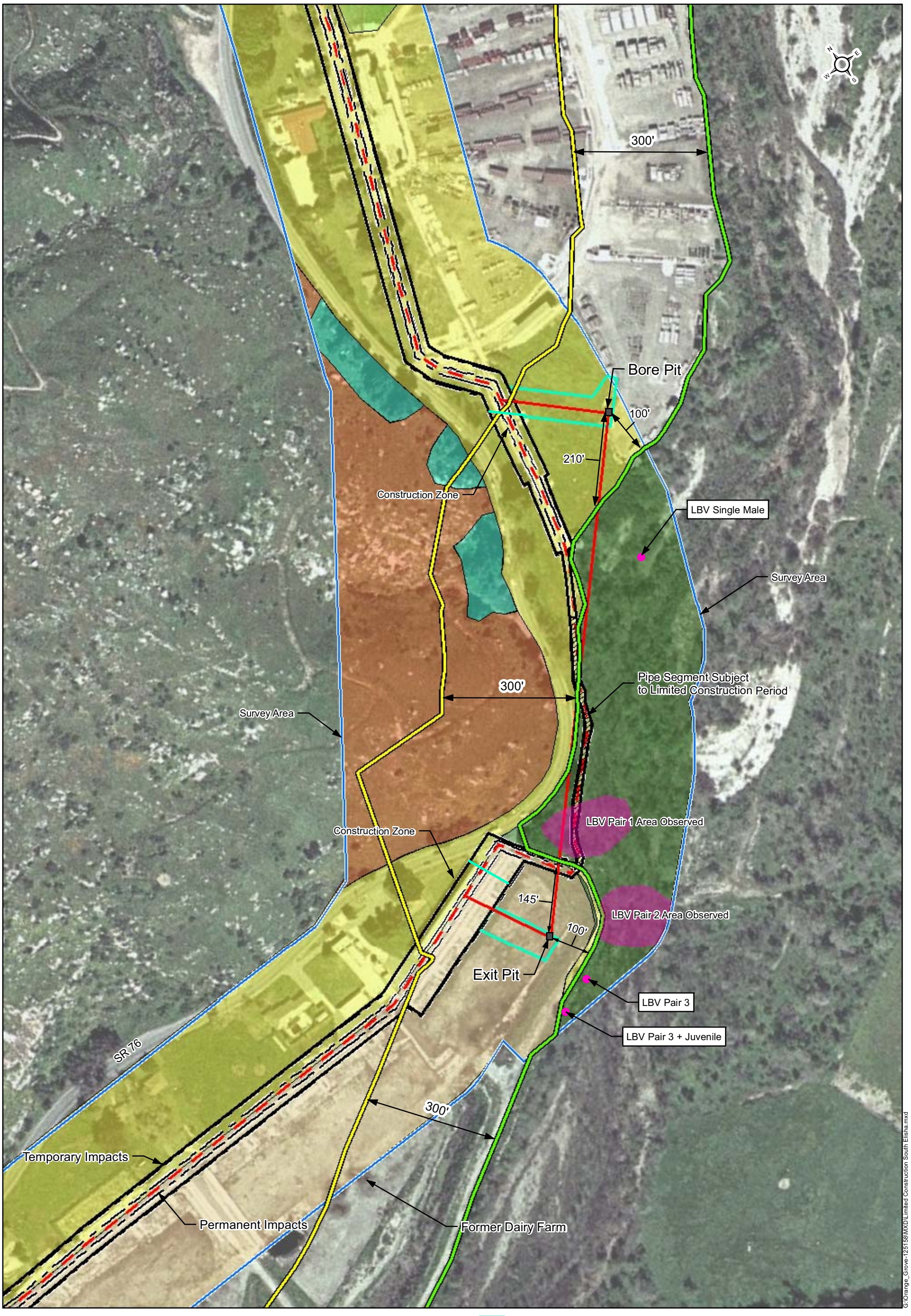
A Figure depicting the design layout for the bore pit and exit pit and 300 foot distance from southern riparian forest

B Memo from Alliance Acoustical Consultants, Inc. re: noise attenuation from proposed sound curtain

C Proposed revisions to Condition of Certification BIO-7

ATTACHMENT A

Figure depicting the design layout for the bore pit and exit pit
and 300 foot distance from southern riparian forest



Diegan Coastal Sage Scrub (32500)
Disturbed (11300)
Open Coast Live Oak Woodland (71161)
Southern Riparian Forest (61300)
Urban Developed (12000)

Construction Zone
Limited Construction Zone
Proposed Gas Line
Survey Boundary
Alternate Boring

Alternate Impact Area
for Horizontal Bore Construction
Southern Riparian Forest Extent
Least Bell's Vireo Individual Sightings
Least Bell's Vireo Pairs

300 Foot Distance From
Southern Riparian Forest

Orange Grove Project

1" = 200'

200 100 0 200 400

Feet

Source:
Aerial Photography from ESRI_Imagery_World_2D

TRC

G:\Orange_Grove-125158\MXD\Limited Construction South Elisha.mxd

ATTACHMENT B

Memo from Alliance Acoustical Consultants, Inc.
re: noise attenuation from proposed sound curtain

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November 25, 2008
AAC Tech Memo 01, ver 2a

TRC Solutions
21 Technology Dr.
Irvine, CA. 92618

Attention: Joe Stenger, Project Manager

Subject: Orange Grove Project – Boring Noise Mitigation

Mr. Stenger:

Per discussions with you and Elisha Back (both of TRC), this Tech Memo provides some technical perspectives on noise mitigation for potential drilling/boring activities on the Orange Grove Project (OGP).

Introduction

The OGP is proposing to conduct horizontal boring work for construction of the gas pipeline under potential biological habitat areas. The boring pit and receiving pit are proposed to be set back away from biological habitat areas so there will be no physical disturbance to the habitat. The set-back zone will also reduce construction noise levels in the habitat areas, as compared to if the boring pit and receiving pit did not have a setback from the habitat. This memo briefly compares the noise reduction benefits of a 300 foot setback to the benefits of a 100 foot setback plus implementation of a noise blanket enclosure.

Buffer Zone Approach

The first and easiest approach to boring rig noise control is to simply provide a buffer distance between the noise source and the pertinent receptor location(s). The fundamental dissipation of sound energy (known as spherical spreading loss) equates to a 6 decibel ("dB") reduction for every doubling of this separation distance[1]. Other sound propagation factors, such as air absorption, ground effects, and scattering, would provide additional, real-world attenuation as sound energy moved away from the noise source(s), but for simplicity and conservatism, only spherical spreading losses will be considered here.

Buffer zone distances from 100 to 300 feet have been suggested as potentially necessary for noise reduction purposes for the horizontal drilling proposed for this project.

Given the spherical spreading loss relationship, increasing the distance between a boring rig and the nearest receptor location from 100 feet to 300 feet would yield a reduction in sound levels at the receptor location from 9 to 10 dB (not considering other attenuation factors).

[1] *Or, conversely, a 6 decibel increase in sound levels for every halving of the separation distance (but only up to the area known as the 'transition zone' and not into the area called the 'near-field' of the sound source).*

Noise Blanket Enclosure Approach

Alliance Acoustical Consultants, Inc. (AAC) has participated in several similar industrial and field equipment noise mitigation efforts over the years. As an example, AAC participated in the noise mitigation of a municipal water district project for by-passing the domestic water supply for a large portion of Orange County. The by-pass project involved the use of large, skid-mounted water pumps that were coupled to portable power generator rigs[2]. The project site was in a residential neighborhood that included apartments, houses of worship, and commercial offices; all were within 150 to 225 feet of the installation center.

The project erected a temporary noise blanket enclosure around the pumping and power generation equipment. The enclosure was approximately 20 feet tall. Attachment A shows pictures of the by-pass pumping equipment, the enclosure structure, and the blanketing. This kind of blanketing is available on a rental or a purchase basis.

Summary

As evidenced with this pumping by-pass project, with a properly designed blanket enclosure system, a reduction in boring rig noise of at least 12-15 dB could be easily obtained. With proper design and careful attention to construction details, a reduction of up to 20 dB may be achievable[3].

A 20 dB reduction from a properly designed and carefully constructed temporary noise control blanketing system would be equivalent to a 10-to-1 reduction in distance between the source and the receiver. That is, accounting only for distance attenuation, 20 dB would be approximately equivalent to moving the noise source from 100 feet to 1,000 feet away from the receptor point. Conversely, if a 300 foot buffer distance is an acceptable buffer on its own merit, then an installation as close as 30 feet could potentially produce the same noise levels with the installation of a properly designed and carefully constructed sound reduction blanketing enclosure (similar to the one used at the by-pass pumping project).

If you would like clarifications about the information in this document, please do not hesitate to contact us.

Thank you,

Bob Mantey
Principal Consultant
bmantey@allianceacoustics.com
Alliance Acoustical Consultants, Inc.

[2] Three pumps were installed with the intent of running two at all times and having a back-up spare unit. Each pump was designed to handle up to 5,700 gpm with up to 390 feet of dynamic head pressure. The pumps were driven with electric motors powered by trailer-mounted, diesel-powered electrical generators.

[3] Expected reductions of 20 to 21 dB were calculated for the water by-pass installation.

Attachment A
By-pass Pumping Project Pictures


aggreko
aggreko

ATTACHMENT C

Proposed revisions to Condition of Certification BIO-7

BIO-7 To prevent direct impacts to sensitive species inhabiting coastal sage scrub and riparian habitat along the San Luis Rey River, the following measures shall be implemented in riparian and coastal sage scrub habitat areas**:**

1. To avoid impacts to arroyo toad no vegetation removal or surface-disturbing activities shall occur within 100 feet of riparian habitat on the San Luis Rey River from March 1 through August 31. This prohibited construction window encompasses the breeding/active season for arroyo toads (March 1 through August 31). A toad exclusion fence shall be installed to prevent arroyo toad access to areas subject to traffic activities within 100 feet of riparian habitat on the San Luis Rey River between March 1 and August 31 (see Condition of Certification **BIO-12**);

~~1.~~2. To avoid impacts to ~~arroyo toad,~~ least Bell's vireo, and other sensitive species inhabiting the riparian habitat on the San Luis Rey River, no construction activities ~~should~~ shall occur within ~~3~~100 feet of riparian habitat from March 1 through September 15. This ~~limited~~ prohibited construction window encompasses the breeding/active season for arroyo toads (March 1 through August 31) and least Bell's vireo and other bird species inhabiting riparian habitat (March 15 through September 15);

3. ~~To avoid impacts to riparian vegetation and reduce the risk of water quality impacts, horizontal directional drilling shall be used rather than trenching to install the gas pipeline in the unpaved road through riparian habitat (the road shown on Figure 3 of the AFC (OGE 2008a) that extends from "East Dairy Farm Area" to "West Dairy Farm Area");~~

~~2.~~4. Pre-construction nest surveys shall be conducted if construction activities will occur within 300 feet of riparian habitat on the San Luis Rey River from March 15 through September 15 (see Condition of certification **BIO-8**). If an active nest is located within 300 feet of a construction area, a temporary noise and visual barrier shall be used during construction. The noise ~~barrier~~ and visual barriers shall be designed and installed in coordination with CDFG, USFWS and the County of San Diego Department of Public Works. The Applicant shall demonstrate through the noise barrier design and calculations or modeling, in conjunction with this coordination, that the noise barrier will attenuate construction noise levels to 60 dB or less at active least Bell's vireo nest sites. Field monitoring by the Designated Biologist and a qualified acoustics expert shall be performed during work to demonstrate that this required noise reduction is achieved. If no active nests are ~~found~~identified within 300 feet of a construction area, th~~eis measure~~noise and visual barrier and related monitoring will not be required.

5. The noise barrier, if required pursuant to item 4, above, shall be constructed with a non-reflective earth-tone color or camouflage pattern on the outer surface.

~~3.~~6. The Designated Biologist shall be present for all work occurring within 300 feet of riparian habitat from March 1 through September 15 to ensure compliance with all Conditions of Certification.

~~4.~~7. To avoid impacts to coastal California gnatcatcher pre-construction nest surveys shall be conducted if construction activities will occur ~~and other sensitive birds nesting in coastal sage scrub, no vegetation removal or surface-disturbing activities shall occur~~ within 500 feet of coastal sage scrub from February 15 through August 31 (see Condition of Certification **BIO-8**). If active nests of coastal California gnatcatcher are identified within 500 feet of a construction area, construction shall not occur until the Designated Biologist determines that the nestlings have fledged and dispersed. The Designated Biologist may work with CDFG, ~~and~~ USFWS and the County of San Diego Department of Public Works to develop alternate impact minimization measures to allow work to occur within the 500 feet if agreed upon by the CPM, the Designated Biologist, CDFG, ~~and~~ USFWS, and the County of San Diego Department of Public Works. ~~The County of San Diego Director of Public Works and CPM may waive this condition, through written concurrence from the Designated Biologist, USFWS, and CDFG, if no nests are present in the vicinity of the brushing, clearing, or grading (see Condition of Certification **BIO-8**);~~

~~5.~~8. The Designated Biologist shall be present for all initial clearing and grubbing activities within coastal sage scrub to ensure compliance with all Conditions of Certification.

Verification: The limited construction periods and methods ~~described above~~to implement the above measures shall be included in the BRMIMP. Implementation of the measures will be described in the Monthly Compliance Reports and provided to the CPM. Within thirty (30) days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how limited construction periods and methods have been completed.