ATTACHMENT C

Planning Commission Staff Report, April 27, 2011
(with listed attachments below)

1. Responses to Public Comments (including attached memorandum regarding supplemental grasslands mapping)
2. Clarifying Revisions to Draft SMND/A
3. Revised Conditions of Approval/Mitigation Measures

Project Name: Amendment to Oakland Zoo Master Plan

The Planning Commission meeting of April 20, 2011, was adjourned (due to a lack of a quorum) to April 27, 2011. The staff report for the April 27, 2011, meeting is the same as the staff report for the April 20, 2011, meeting.

Project Name:	Amendment to Oakland Zoo Master Plan
Location:	9777 Golf Links Road (APN 048-5655-003-00 & 048-6162-001-10) (see map on reverse)
Proposal:	Amend the previously approved 1998 Master Plan for the Oakland Zoo to, among other changes, modify and reduce the expansion area for the new California exhibit from approximately 62 acres to approximately 56 acres, replace the previously approved loop road and shuttle bus system with an electric aerial gondola system, replace the existing veterinary hospital with a new Veterinary Medical Hospital, establish a new overnight camping area near the new California exhibit, and establish the specific location of the proposed perimeter fence with modifications from the previously approved general location.
Applicant:	East Bay Zoological Society
Contact Person/Phone Number:	Nik Haas-Dehejia / (510) 632-9525 ext. 138
Owner:	City of Oakland
Planning Permits Required:	Major Conditional Use Permit to allow modifications to an existing Extensive Impact Civic Activity (zoological gardens) in the OS-SU (Open Space – Special Use) Zone; approval of an amendment to a previously approved Master Plan; Creek Protection Permit
General Plan:	Urban Open Space
Zoning:	OS-SU (Open Space – Special Use) Zone
Environmental Determination:	The City adopted a Mitigated Negative Declaration (MND) in 1998 when the previous Master Plan was approved. The 1998 MND concluded that the previous Master Plan would not result in a significant impact on the environment with the incorporation of specified mitigation measures. The City prepared a Draft Subsequent Mitigated Negative Declaration/Addendum (SMND/A) for the proposed amendment to the Master Plan. The Draft SMND/A was released for public review and comment on February 11, 2011; the deadline for submitting comments on the Draft SMND/A was March 14, 2011. The Draft SMND/A finds that the buildout of the amended Master Plan would not result in new significant environmental impacts, or a substantial increase in the severity of impacts previously identified in the 1998 MND, with the incorporation of specified mitigation measures and the City's standard conditions of approval. Therefore, further environmental review is not required.
Service Delivery District:	6
City Council District:	7
Date Filed:	April 20, 2009

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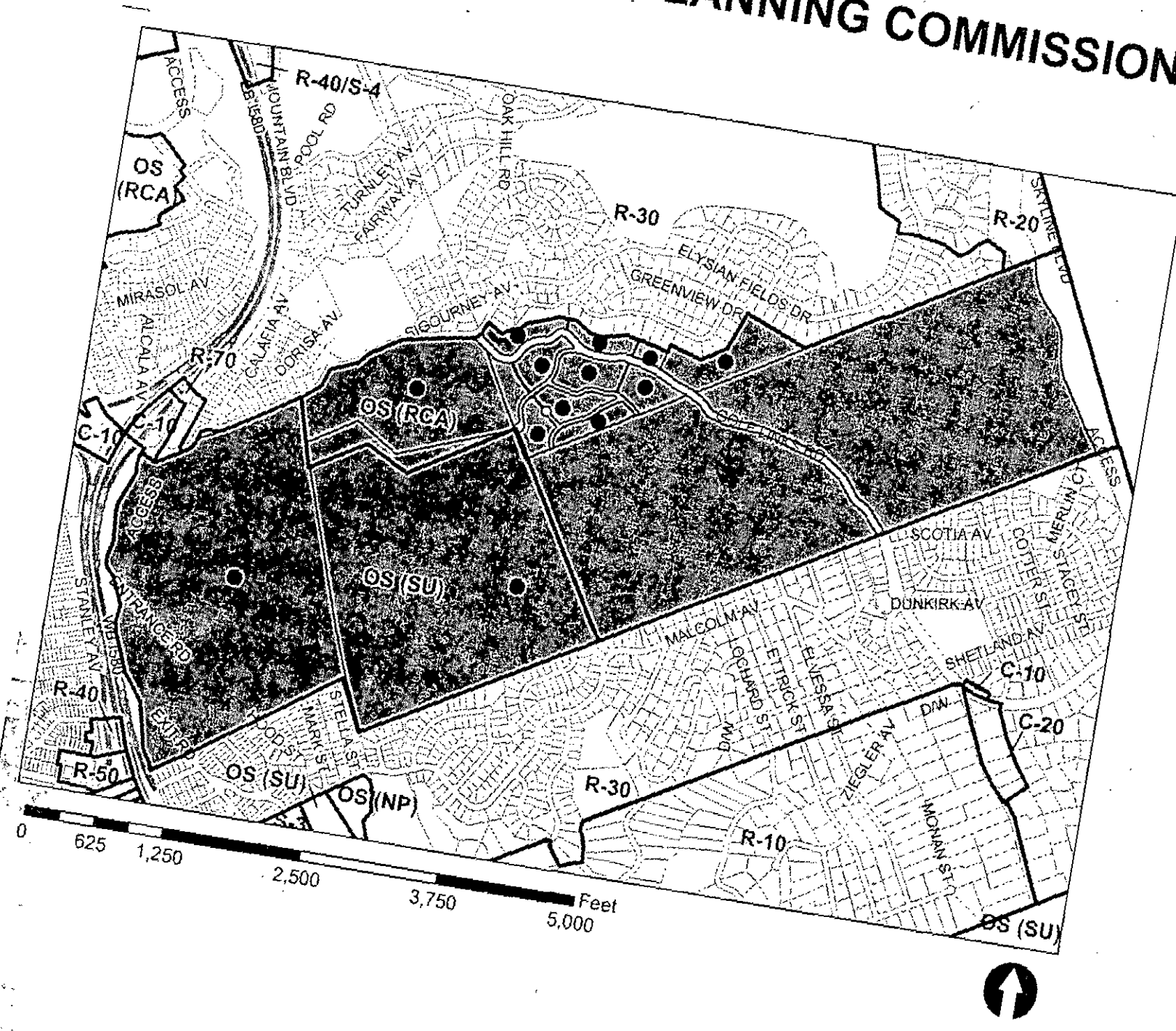
CITY OF OAKLAND PLANNING COMMISSION



Case File: CM09-085; ER09-005
Applicant: East Bay Zoological Society
Address: 9777 Golf Links Rd
Zone: OS-SU

continued from page 1

Status:	The Zoo Master Plan was previously approved by the City in 1998. The current proposal involves amending the approved 1998 Master Plan. The proposed Master Plan amendment is currently before the Planning Commission. The Planning Commission held previous public hearings on the proposed Master Plan amendment on April 21, 2010, and March 16, 2011. On March 16, 2011, the Planning Commission closed the public hearing. Staff has prepared appropriate responses to public comments received through March 16th. These responses are included with the staff report for the April 20th Planning Commission meeting.
Action to be Taken:	The April 20th meeting will not be a public hearing as the Planning Commission closed the public hearing on March 16, 2011, except that the Commission will consider (a) City staff and applicant responses to the public comments received up to and including March 16th; and (b) further public comments on the adequacy of City staff and applicant responses to the previously submitted public comments. It is anticipated that the Commission will not consider any new evidence or issues not previously raised on or before March 16th. Under the Sunshine Ordinance and Brown Act, the public has the right to speak on the item on April 20th. However, the Commission will strongly encourage that public comments be limited to the adequacy of City staff and applicant responses to the previously submitted public comments. It is anticipated that the Planning Commission will issue a decision based upon the staff report.
Finality of Decision:	The Planning Commission's decision is appealable to the City Council within ten (10) calendar days.
For Further Information:	Contact the case planner, Darin Ranelletti, at (510) 238-3663 or by e-mail at dranelletti@oaklandnet.com.

SUMMARY

In 1998 the City approved a Master Plan for the Oakland Zoo. The East Bay Zoological Society (EBZS), which operates the Zoo and manages Knowland Park on behalf of the City in accordance with a management agreement, proposes to amend the approved 1998 Master Plan for the Zoo. The proposed Master Plan amendment requires approval by the City. Staff recommends that the Planning Commission take the necessary actions to approve the proposed amendment.

This item was continued from the March 16, 2011, Planning Commission meeting to allow staff an opportunity to respond to the comments received through March 16th. Staff's responses are included with this report. Please see the March 16, 2011, Planning Commission staff report for additional background information, information concerning the proposal, and staff's analysis of the proposal. The March 16th staff report (without the accompanying attachments) is attached to this report (see Attachment A).

PREVIOUS MEETINGS

The proposed Master Plan amendment was previously presented at informational sessions to the Parks and Recreation Advisory Commission (PRAC) in June 2009 and the Planning Commission in April 2010. Pursuant to the zoning regulations, the proposed amendment requires approval of a Major Conditional

Use Permit by the Planning Commission after the advisory recommendation of the PRAC. At the March 9, 2011, PRAC hearing, the PRAC voted unanimously to recommend approval of the proposal. The proposal was recentiy considered by the Planning Commission on March 16, 2011. At the March 16th meeting, the Planning Commission closed the public hearing and continued the item to April 20th in order to allow staff an opportunity to respond to the comments received through March 16th. Staff's responses are discussed below under "Consideration of Public Comments" and are attached to this report (see Attachment B).

PURPOSE OF APRIL 20TH MEETING

The April 20th Planning Commission meeting will not be a public hearing as the Planning Commission closed the public hearing on March 16th, except that the Commission will consider (a) City staff and applicant responses to the public comments received up to and including March 16th; and (b) further public comments on the adequacy of City staff and applicant responses to the previously submitted public comments. It is anticipated that the Commission will not consider any new evidence or issues not previously raised on or before March 16th. Under the Sunshine Ordinance and Brown Act, the public has the right to speak on the item on April 20th. However, the Commission will strongly encourage that public comments be limited to the adequacy of City staff and applicant responses to the previously submitted public comments.

CONSIDERATION OF PUBLIC COMMENTS

As stated above, the March 16th Planning Commission staff report is attached to this report (see Attachment A) and provides information on the approved Master Plan and proposed Master Plan amendment along with an analysis of the proposal and staff's recommendation. Discussed below is the City's consideration of public comments received through March 16th.

Reponses to Previous Public Comments

Staff has reviewed and considered all public comments (both oral and written) submitted up to and including March 16th. Staff's responses to those comments are attached to this report (see Attachment B) and respond to certain substantive CEQA-related comments and issues raised by the public comments received through March 16th. The responses are grouped by topic and include responses related to the type of environmental document prepared, the project description, aesthetics, biological resources, geology and soils, hydrology and water quality, land use, recreation and planning, noise, and transportation and circulation. If the responses do not address certain specific public comments submitted, that does not mean that such comments were not considered by staff, but rather that there is no need to formally respond to those comments because those comments pertain to the merits of the project and/or do not raise substantive issues about the information/analysis contained in the Draft Subsequent Negative Declaration/Addendum (SMND/A). As necessary and appropriate, staff responses were developed with the assistance of the technical consultants/experts who assisted in the preparation of the Draft SMND/A.

Revisions to Draft SMND/A

In response to public comments received through March 16th, staff has prepared a set of clarifying and amplifying revisions to the February 2011 Draft SMND/A. These revisions are attached to this report (see Attachment C). The revisions involve information concerning biological resource effects of fire fuel management activities in Knowland Park, trees in the area of the proposed overnight camping area, the tree disease Sudden Oak Death, native grasslands, and noise. The Habitat Enhancement Plan (HEP), Appendix G-2 of the Draft SMND/A and required by Mitigation Measure 13a, has been revised to clarify

the implementing measures that guide implementation of the HEP. The HEP calls for an updated assessment of native grasslands in Knowland Park. That updated assessment was performed now in response to public comments and this assessment refines the grassland implementation measures in the HEP. Mitigation Measure 13b requires a Tree Protection and Revegetation Plan to extend the life and health of trees in Knowland Park. Implementing the Tree Protection and Revegetation Plan would involve assessing and monitoring potential diseases, such as Sudden Oak Death, that pose a threat to trees. Implementation measures were clarified in the HEP to make clear the tree health considerations of Mitigation Measure 13b and accelerate the implementation of tree health protection measures to minimize the spread of tree diseases such as Sudden Oak Death.

These minor revisions to the Draft SMND/A and HEP merely clarify and amplify existing information, mitigation measures, and/or standard conditions of approval (or implementation of such) presented in the Draft SMND/A, and/or make insignificant modifications to the Draft SMND/A, and are not considered substantial revisions under CEQA requiring recirculation of the Draft SMND/A. The revisions do not identify any new significant environmental impacts or increases in previously identified significant environmental impacts. Staff continues to believe that the Draft SMND/A, as revised, complies with CEQA for the reasons stated in this report, the March 16th staff report, and the attached findings (see Attachment E).

New Public Comments

Public comments received between March 16, 2011, and the deadline for this report (April 13, 2011) are attached to this report (see Attachment D). These recent comments do not raise any new substantive issues which have not already been considered and addressed. Also attached with the public comments is a letter from the applicant providing information on the Zoo's stewardship of Knowland Park.

Revised Findings

The findings for approval have been revised from the March 16th meeting (see Attachment E).

Revised Conditions of Approval/Mitigation Measures

The conditions of approval and mitigation measures have been revised from the March 16th meeting (see Attachment F). Two new project-specific conditions of approval have been added. Condition 29 implements the PRAC's recommendation that the East Bay Zoological Society report annually to the Parks and Recreation Advisory Commission on the status of the work to protect the habitat of native species in Knowland Park. Condition 30 would require the new gravel surfacing proposed for the Snowdown emergency access road to be dirt-like in color to minimize the visual effect of the roadway improvements on the character of the Park. None of these additional conditions of approval are required under CEQA. Moreover, such conditions would further reduce the potential impacts that are already reduced to less-than-significant levels through standard conditions of approval and/or mitigation measures.

CONCLUSION

Staff recommends that the Planning Commission take the necessary actions to approve the proposed Master Plan amendment subject to the recommended findings and conditions of approval/mitigation measures. The proposed amendment would improve the previously approved Master Plan for the Zoo for the reasons stated in the March 16th staff report. The development of the amended Master Plan would further enhance a City-owned facility by providing a unique and valuable recreational and educational opportunity for visitors. The amended Master Plan is consistent with applicable General Plan policies and zoning regulations, and there have been no new City regulations or policies adopted since the approval of the 1998 Master Plan that would conflict with the amended Master Plan. The development of the amended Master Plan would not result in significant environmental impacts and the public would continue to have access to a substantial amount of open space in Knowland Park and the surrounding area.

RECOMMENDATIONS:

1. Adopt/approve the Subsequent Mitigated Negative Declaration/Addendum, as revised/clarified.

2. Approve the major conditional use permit and creek protection permit subject to the attached revised findings and conditions of approval/mitigation measures, including the Standard Conditions of Approval/Mitigation Monitoring and Reporting Program (SCAMMRP).

Prepared by:

Darin Ranelletti
Planner III

Approved by:

for

SCOTT MILLER
Zoning Manager

Approved for forwarding to the
Planning Commission:

ERIC ANGSTADT
Deputy Director
Community and Economic Development Agency

ATTACHMENTS:

A. Planning Commission Staff Report, March 16, 2011 (without attachments)
B. Responses to Pubhc Comments (received through March 16, 2011)
C. Clarifying Revisions to Draft SMND/A
D. New Public Comments (received between March 16, 2011, and April 13, 2011)
E. Revised Findings For Approval (CEQA, Conditional Use Permit, and Creek Protection Permit)
F. Conditions of Approval/Mitigation Measures
   F-1: Conditions of Approval/Mitigation Measures for Zoo Master Plan Amendment (including SCAMMRP)
   F-2: Conditions of Approval from 1998 Master Plan
   F-3: Analysis of Applicability of 1998 Conditions to Zoo Master Plan Amendment

Amendment to Oakland Zoo Master Plan

Responses to Public Comments

April 20, 2011

Staff has reviewed and considered all public comments (both oral and written) submitted up to and including March 16, 2011. This document contains staff's responses to certain substantive CEQA-related comments and issues raised by the public comments received through March 16, 2011. The responses are grouped by topic. If the responses do not address certain specific public comments submitted, that does not mean that such comments were not considered by staff, but rather that there is no need to formally respond to those comments because those comments pertain to the merits of the project and/or do hot raise substantive issues about the information/analysis contained in the Draft Subsequent Negative Declaration/Addendum (SMND/A). As necessary and appropriate, staff responses were developed with the assistance of the technical consultants/experts who assisted in the preparation of the Draft SMND/A.

TYPE OF ENVIRONMENTAL DOCUMENT

1. Subsequent Mitigated Negative Declaration/Addendum: A Mitigated Negative Declaration (MND) was adopted by the City when the City approved the Master Plan in 1998. In adopting the 1998 MND, the City found that the 1998 Master Plan would not result in a significant impact on the environment with the identified mitigation measures. The City has now prepared a Draft SMND/A for the proposed amendment to the Master Plan. As explained on page 3.1-1 of the Draft SMND/A, the analysis contained in the Draft SMND/A updates the existing site conditions, updates the applicable policies and regulations, provides an environmental assessment of the buildout of the amended Master Plan, and compares the updated analysis to the analysis in the 1998 MND. As stated on page 1-1 of the Draft SMND/A, the proposed Master Plan amendment meets the requirements under the California Environmental Quality Act (CEQA) for an addendum to the previously adopted 1998 MND because only minor technical changes or additions are necessary and/or none of the circumstances described in Section 15162 the CEQA Guidelines are present requiring a Subsequent Environmental Impact Report (EIR) or Subsequent Negative Declaration.

   Specifically, the project would not result in any new significant environmental impacts or a substantial increase in the severity of previously identified significant impacts resulting from substantial changes in the project, substantial changes with respect to the circumstances surrounding the project, or new information of substantial importance which was not known or could not have been known with the exercise of reasonable diligence at the time the 1998 MND was adopted. All potentially significant impacts would be reduced to a less-than-significant level with

the identified mitigation measures and the City's standard conditions of approval. The Draft SMND/A contains only minor technical changes and additions to clarify, refine, revise, or delete mitigation measures from the 1998 MND given the changes to the project, the changes to circumstances, and/or new information. Additional information is provided in the Draft SMND/A, as stated above, to update the existing site conditions and applicable policies and regulations, and to support the finding that no Subsequent EIR or Subsequent Negative Declaration is required. No new impacts that could not be reduced to a less-than-significant level with the application of previous mitigation measures, revised mitigation measures, or the City's standard conditions of approval are identified. No new mitigation measures required under CEQA are identified. One new mitigation measure (regarding potential impacts to wetlands) is identified that provides guidance for implementing one of the City's existing standard conditions of approval and would further reduce the potential impact that is already less than significant due to the City's standard conditions of approval. In sum, the project does not meet any of the criteria in CEQA requiring a Subsequent EIR or Subsequent Negative Declaration and thus an addendum is appropriate.

Although an addendum is the appropriate CEQA document for the Master Plan amendment, in the interest of being conservative and providing additional opportunity for public review, the City is following the requirements under CEQA for a Subsequent MND. Therefore, the document is titled a "Subsequent Mitigation Negative Declaration/Addendum." Under CEQA, an addendum does not require public review. The City has provided a 30-day public review period for the Draft SMND/A, has reviewed and considered all public comments submitted through March 16th, and has responded to certain comments, as appropriate. Thus, no further environmental review is required.

ENVIRONMENTAL BASELINE

2. Existing Conditions: Under CEQA, the environmental analysis must assess the potential impact of the project on the existing physical environmental conditions (which exist at the time of preparation of the CEQA analysis), which constitute the baseline for determining whether a potential impact is significant. As stated above in Response 1, the Draft SMND/A first updates the description of the existing site conditions as required under CEQA, assesses the potential impact of the full development that would be allowed if the proposed Master Plan amendment is approved (referred to as the "buildout of the amended Master Plan" and considered the "project" under CEQA) on the existing environmental conditions. Secondly, the Draft SMND/A then compares the updated analysis to the analysis in the 1998 MND to determine whether there is a new significant impact and/or a substantial increase in the severity of impacts identified in the 1998 MND. Thus, the environmental analysis is a two-step process--a determination as to whether potential impacts are significant based upon the analysis of the project impacts compared to the existing environmental conditions and then a further analysis as to whether there is a new

significant impact and/or a substantial increase in the severity of impacts identified in the 1998 MND. The Draft SMND/A does not, nor is it permitted to under CEQA, determine the potential significance of impacts by solely comparing the project to the potential impacts of the 1998 Master Plan, to the conditions described in the 1998 MND, or to other past environmental conditions. Past activities or conditions at the site do not constitute the environmental baseline for purposes of CEQA review and are not used as the baseline in the Draft SMND/A. Comparisons between the current project and that approved in 1998, however, are provided for informational purposes.

PROJECT DESCRIPTION

3. Amphitheater: Implementation of Mitigation Measure 14c regarding potential impacts to Alameda whipsnake would require removal of the proposed amphitheater in the amended Master Plan, thus, the amphitheater would be completely removed from the amended Master Plan and would not be constructed.

4. Attendance Projections: The Draft SMND/A provides a detailed analysis of projected Zoo attendance prepared by an economic consultant (see Appendix D). The analysis considers attendance trends at the Zoo, the effect of new exhibits on Zoo attendance, experiences of other zoos and visitor attractions, and demographic trends and forecasts to project future Zoo attendance with and without the proposed California exhibit. The analysis shows that attendance at zoos goes up when new exhibits open, then declines and stabilizes over time at a level lower than the peak. Without the California exhibit, the analysis projects that Zoo attendance will decline from the peak of 670,700 visitors in 2009 and stabilize at 600,000 annual visitors through 2035 due to the inability to add major new exhibits (but stabilizing and not further declining due lo ongoing minor improvements and programming to maintain public interest), economic conditions, and demographic changes. With the California exhibit, the analysis projects that Zoo attendance would peak at 750,000 visitors in 2016 following the completion of the California exhibit and then decline and stabilize at 700,000 annual visitors through 2035 for the same reasons as stated above. Contrary to some public comments, the attendance analysis did not "cherry-pick" a lower historic attendance figure and use that to predict/extrapolate future attendance figures. In sum, the attendance figures are reasonable.

5. Lighting: As stated in the Draft SMND/A, the California Interpretive Center may occasionally be used in the evenings for events that currently occur at the Zoo, such as Zoo-related business meetings, fundraisers, lectures, the ZooLights holiday program, and the annual members' night (see page 2-13). Lighting at the California Interpretive Center, as well as at the other proposed buildings and exhibits, would be required to comply with the City's Standard Conditions of Approval (see SCA-AES-2, page 3.1-3 of the Draft SMND/A) which would require that fighting fixtures be adequately shielded so that the light is downward-oriented to prevent lighting from unnecessarily "spilling out" onto other adjacent areas. The aerial gondola may be used in the evenings to transport visitors to evening events at the California

Interpretive Center and to the ovemight camping area. The gondola towers and gondola car exteriors would not be, and are not required to be, illuminated at night. For safety reasons, the interior floor of the gondola cars would be illuminated with downward-oriented under-the-seat lighting for visitors using the gondola in the evening. This interior lighting would not "spill out" of the gondola car.

In sum, the buildout of the amended Master Plan would not result in new significant lighting impacts or a substantial increase in previously identified lighting impacts.

6. Reconfiguration of Animal Exhibits: The proposed Master Plan amendment would reconfigure the animal exhibits within the Califomia exhibit (see see Figures 2-20 and 2-21 of the Draft SMND/A). Under the 1998 Master Plan, both the Canyon exhibit and the River exhibit would be discontiguous from the Grizzly Bear exhibit and Woodland exhibit. The total area to be occupied by the animal exhibits (including the off-site breeding area but not including the California Interpretative Center) would be approximately 16.77 acres under the 1998 Master Plan. Under the proposed Master Plan amendment, the animal exhibits would be consolidated into a contiguous area of approximately 18.07 acres (not including the Califomia Interpretative Center). The reconfiguration of the animal exhibits would locate additional animal exhibit area further to the east in the location of the relatively level area of Knowland Park above and east of the steep slopes located directly east of the existing Zoo. Although additional animal exhibit area of about 1.30 acres (18.07 acres minus 16.77 acres), representing less than an eight percent increase, would be located in this eastem area compared to the 1998 Master Plan, the Draft SMND/A analyzes the impact of the proposed animal exhibits in the Master Plan amendment and finds the potential impact to be less than significant with the identified mitigation measures and standard conditions of approval.

   Information contained in the East Bay Zoological Society's response to the altemative Zoo expansion concept prepared by the Friends of Knowland Park, which would locate the Zoo expansion closer to the existing Zoo on the steep slopes directly to the east of the existing Zoo, shows that locating the Zoo expansion on the steep slopes to the east in the location of the 1998-approved Canyon exhibit and River exhibit, would result in degradation of sensitive environmental features such as stream corridors and oak groves.

   Moreover, the overall footprint of the amended Master Plan has decreased by approximately six acres compared to the 1998 Master Plan through relocation of the perimeter fence. This acreage formerly within the perimeter fence in the 1998 Master Plan would remain undeveloped and continue to be available as open space under the amended Master Plan.

   In sum, reconfiguration of the animal exhibits would not result in new significant impacts or a substantial increase in previously identified impacts.

AESTHETICS

7. Visual Impacts: The Draft SMND/A provides a detailed analysis of the potential view impacts of implementing the amended Master Plan (see Section 3.1, Aesthetics; and Appendix E). The analysis contains a detailed description of the visual effects of the project and includes visual simulations of the proposed project from multiple viewpoints in Knowland Park and the surrounding area, and also provides information on a number of other viewpoints that were considered and rejected from further study. The analysis cannot and need not show a visual simulation from every possible viewpoint in the Park and surrounding area. Rather, the viewpoints selected in the analysis represent a reasonable range of the potential worst-case view impacts. The presented visual simulations show that the project would not obstruct panoramic views of San Francisco Bay, the Marin Headlands, and the Oakland and San Francisco skylines from within Knowland Park such that the project would not have a substantial adverse effect on a scenic vista. The City's thresholds of significance relate to the impact of the project on a scenic vista which, by definition, is a distant view. From outside of Knowland Park, the project would not obstruct scenic views of the ridgeline. The visual simulations show that both the aerial gondola and California Interpretative Center would be small elements on an expansive ridgeline.

   During the March 16, 2011, Planning Commission meeting, the Friends of Knowland Park presented a visual simulation of the California Interpretive Center as seen from Golf Links Road. The visual simulation presented at the meeting did not reflect a viewpoint that would be experienced by anyone. A visual simulation in the Draft SMND/A was manipulated by expanding and cropping the image (see Figures 3.1-6a and 3.1-6b in the Draft SMND/A). The manipulated image presented at the meeting would only be visible to a bird flying near the California Interpretive Center; it would not be seen by the public.

   The project's location in Knowland Park would alter the visual character of the Park but not substantially degrade the character or quality of the Park. The project would be located on the western undeveloped edge of Knowland Park. 278 acres of undeveloped open space would remain in Upper Knowland Park to the east. Due to its location and size, the project would not have a dominant presence in the whole of Knowland Park.

   The proposed Master Plan amendment also involves improvements to the existing emergency access road off Snowdown Avenue. The existing dirt road is approximately 1,450 feet long and ranges in width from ten to 15 feet with an average width of 12.5 feet. The roadway would be widened to 20 feet with turnouts every 300 feet and surfaced with gravel. Although these improvements to the fire road would not result in a significant aesthetic impact under CEQA because the road is not part of a scenic vista and the change in character would have a limited adverse impact on the character of the Park due to the limited nature of the aesthetic change and the roadway's small presence in an otherwise large and expansive park, staff believes the already less-than-significant impact could be further reduced by requiring the new

gravel surfacing to be dirt-like in color to minimize the effect of the roadway improvements on the character of the Park. Therefore, a new project-specific condition of approval has been added (see Condition 30).

In sum, the buildout of the amended Master Plan would not result in new significant visual impacts or a substantial increase in previously identified visual impacts.

BIOLOGICAL RESOURCES

8. Alameda Whipsnake: A detailed discussion of the potential impacts of the project on Alameda whipsnake is provided in Section 3.3, Biological Resources, of the Draft SMND/A. As noted on page 3.3-34 of the Draft SMND/A, the 1998 MND assumed that Alameda whipsnake was present in the area, that impacts would be potentially significant, and recommended broad mitigation measures to address these impacts. The buildout of the amended Master Plan would result in a substantial reduction in the area (approximately 15.7 acres) of affected Alameda whipsnake habitat when compared with the approved Master Plan. Mitigation Measure 14c has been revised in the Draft SMND/A (see pages 3.3-38 and 3.3-39) to clarify implementation requirements for Mitigation Measure 14c based on the 2011 Status Report prepared by Swaim Biological, Inc. (see Appendix G-1). Together with Mitigation Measures 13a, 13c, 14d, 14e, 14g, and 14h, and the City's standard conditions of approval, the revised Mitigation Measure 14c satisfies the requirements under CEQA for adequate mitigation. Mitigation Measure 14c identifies specific performance goals and standards, actions to achieve the identified goals, and implementation and monitoring provisions. Mitigation Measure 14c incorporates specific provisions regarding compensatory mitigation for Alameda whipsnake habitat and modifications to the California exhibit. The compensatory mitigation ratio of 1:1 is identified as a minimum but would be increased as required by the U. S. Fish and Wildlife Service and California Department of Fish and Game during the permit authorization process. The resource agency representatives must be satisfied with the entire mitigation program before they would issue an incidental take authorization that would be required for the California exhibit, therefore, the final mitigation requirements will ultimately be determined by the resource agencies during the permitting process after CEQA review of the project. As discussed on page 3.3-35 of the Draft SMND/A, the Veterinary Medical Hospital could be constructed without significant effect on Alameda whipsnake habitat or taking of an individual snake with implementation of the avoidance and minimization measures required by the City's standard conditions of approval.

   In sum, the Draft SMND/A adequately analyzes and mitigates impacts to the Alameda whipsnake and the buildout of amended Master Plan would not result in new significant impacts or a substantial increase in previously identified impacts to such.

9. Bristly Leptosiphon: A detailed description of the potential impacts of the project on the occurrence of bristly leptosiphon is provided in Section 3.3, Biological Resources, of the Draft SMND/A. Although the discovery of the occurrence of bristly leptosiphon on the site may be considered important botanically to some, any potential impacts on this species would not be considered significant under CEQA. Bristly leptosiphon has no legal protective status under the State and/or federal Endangered Species Acts and is not listed as a rare, threatened, or endangered plant, or as an unusual or significant plant, in the Open Space, Conservation and Recreation (OSCAR) Element of the City's General Plan. As such, bristly leptosiphon does not meet the criteria as a special-status species requiring avoidance or compensatory mitigation. The Califomia Native Plant Society lists bristly leptosiphon as a List 4.2 species recommending that the species simply be monitored.

   Although bristly leptosiphon does not qualify as a special-status species under CEQA, the presence of this species does contribute to the biological diversity of Knowland Park. The occurrence of bristly leptospihon would be located within the proposed wolf enclosure area and it appears that direct disturbance to the occurrence would be avoided. The occurrence could be affected by trampling, den digging, and other activities of wolves within the enclosure area, although discussions with the Zoo's animal curator indicate that wolves tend to establish trails in close proximity to the enclosure's perimeter fence, while the occurrence of bristly leptosiphon is located approximately 50 feet from the enclosure fencing. Moreover, installing permanent fencing around the occurrence within the wolf enclosure or relocating the wolf enclosure to avoid enclosing the occurrence could adversely affect the occurrence given that coyote brush and other shrubs may spread through the area and eventually displace the bristly leptosiphon.

   The Special-Status Species Protection Element of the Habitat Enhancement Plan (see Appendix G-2 of the Draft SMND/A) defines the avoidance and protection measures to be implemented as part of the project, as summarized on page 3.3-32 of the SMND/A, which calls for annual monitoring for a minimum of five years. The reference to annual monitoring is not intended to indicate that only a single field visit would be undertaken as part of the site inspection of the occurrence. Several visits within the first few months after wolves are introduced into the enclosure area would provide important information on their behavior, the effects of newly established trails and movement pattems, tendency for digging, and risks to the occurrence of bristly leptosiphon. If any extreme disturbance in the vicinity of the occurrence of bristly leptosiphon is observed, or the behavior of the wolves indicates that the occurrence could be threatened in the future, the protective exclusionary fencing would be installed. Implementing Action 5-2 on pages 15 and 16 of the Habitat Enhancement Plan has been revised to clarify the monitoring and monthly field inspection requirements (see Revision 11).

10. Burrowing Owl: One of the public comments stated that a burrowing owl was reported to have been seen by a former Zoo employee in Knowland Park. Both Zoo officials and City Planning staff have been unable to verify that reported sighting.

Burrowing owl (*Athene cunicularia)* has no legal protective status under the State and/or federal Endangered Species Acts, but is considered a Species of Special Concem by the Califomia Department of Fish and Game, and is protected under the federal Migratory Bird Treaty Act. It typically occurs in low-growing grasslands and margins of agricultural fields, and nests in underground burrows created by Califomia ground squirrels or in piles of rubble or other man-made debris where owls can retreat. Burrowing owl has not been reported from Knowland Park according to the Califomia Natural Diversity Database (CNDDB) occurrence records, with most historic sightings in Oakland occurring on the flatlands near San Francisco Bay such as near the Oakland Airport. Burrowing owl was one of the 27 special-status animal species referenced on page 3.3-20 of the Draft SMND/A that was considered in the 1996 biotic resources survey (BRS) and the 1998 MND but for which essential habitat was determined to be absent. Recent field visits to the site conducted for the preparation of the Draft SMND/A noted the lack of suitable burrows on the site which would preclude nesting by burrowing owl. In addition, records dating back to 1984 indicate that no burrowing owls have been sighted in Knowland Park during the annual Christmas Bird Count sponsored by the Golden Gate Audubon Socitey. No adverse impacts on this species are anticipated.

11. Califomia Mission Blue Butterfly: Mission blue butterfly (*Icaricia icarioides missionensis*) is federally-listed as endangered and was not identified as a special-status species considered to possibly occur on the site in the Draft SMND/A. Mission blue butterfly was also not included in the comprehensive list of special-status invertebrates considered to possibly occur in the project vicinity as part of the 1996 biotic resources survey (BRS) for the site because this species is not believed to occur in Alameda County. Both the 1984 *Draft Recovery Plan for San Bruno Elfin & Mission Blue Butterfly* and the *5-Year Review: Summary and Evaluation* prepared in 2010 by the U.S. Fish and Wildlife Service (USFWS) indicate that the historic range of Mission blue butterfly was the San Francisco Peninsula and Marin County, with the known occurrences limited to a few localities within the historic range. The USFWS-designated critical habitat for this species is limited to the known occurrences from San Bruno Mountain in San Mateo County and Twin Peaks in San Francisco. There have been no reported occurrences from Knowland Park in the Oakland Hills, and this species is particularly noteworthy for the brilliant coloration of the adult males, making undetected presence in the Oakland Hills highly unlikely.

Regarding the reported presence of "Califomia lupine" in Knowland Park, the presence of larval host plants of a listed invertebrate like Mission blue butterfly does not imply possible presence. Four species of lupine were detected in the vicinity of the site during systematic surveys for special-status plants. These included two of the three species utilized as larval host species by Mission blue butterfly - specifically silver lupine (*Lupinus albifrons*) and summer lupine (*Lupinus formosus* var *formosus*). According to Calflora and U.S. Department of Agriculture (USDA) database records, silver lupine is known from Califomia and Oregon, present in all but 7 counties in Califomia, and summer lupine is found in all but 17 counties of Califomia. As indicated by the broad range of these two lupine species, the

distribution of suitable larval host plants for Mission blue butterfly is not an indication of presence of that species at a specific location, particularly outside of its historic range. Mission blue butterfly is not suspected to possibly occur at the site and would not be affected by the project.

12. Fire Fuel Management: The potential effect of fire fuel management activities in Knowland Park were considered as part of the impact analysis on biological resources in Section 3.3 of the Draft SMND/A and no significant impacts are expected due to fire fuel management activities. The defensible space standards of the City of Oakland Wildfire Prevention Assessment District are listed on page 3.10-7 of the Draft SMND/A. These standards apply to buildings and roads; they would not apply to the proposed fencing or animal enclosures. The tree limbing in the vicinity of buildings/structures required for defensible space would not significantly alter the existing woodland habitat on the site, and most limbs on the oaks already meet this standard. Routine cutting of grass to less than six inches and maintenance of shmbs within the defensible space zone and along roadways may favor low growing species thereby having a beneficial affect on grasslands and habitat. The occurrence of bristly leptosiphon would be located approximately 200 feet from the closet structure and the occurrence of Oakland star tulip on the site would be located over 1,000 feet from the closest structure, both well outside of the required 30- to 100-foot defensible space area.

    As stated above in Response 8, in accordance with Mitigation Measure 14c the Califomia exhibit would require permit approval from the U. S. Fish and Wildlife Service and Califomia Department of Fish and Game conceming Alameda whipsnake. The resource agency representatives must be satisfied with the entire Alameda whipsnake mitigation program before they would issue the necessary permits. Potential impacts of the project, including the effects of fire fuel management, would also be evaluated during the State and federal permitting process. The proposed Califomia Interpretive Center would be located adjacent to chaparral shmbland considered Alameda whipsnake habitat. Fire fuel management activities would not require the removal of shmbland; rather, fuel management activities would require maintenance of shmbs which would not significanfly degrade the whipsnake habitat. Although fire fuel management activities to maintain defensible space around the Center would not significantly impact habitat, in the remote instance that the resource agencies determine that it would be more appropriate to adjust the location of the Center away from nearby chaparral vegetation, the Center could be adjusted to the northeast if required. To fiirther clarify the role of fire fuel management during the permitting process with the resource agencies, Mitigation Measure 14c has been revised to reference fire fuel management considerations (see Revision 1). If the location of the Califomia Interpretive Center is required to be adjusted by the resource agencies, no significant impacts resulting from the adjustment are anticipated. In terms of visual impacts, adjusting the Center to the northeast would increase or maintain the Center's distance from the public viewpoint along Golf Links Road thereby not increasing its public visibility. The adjustment would not alter the proposed aerial gondola system. The Center could be adjusted

without raising the roof height of the building or the need for visible retaining walls (the building would be constructed using a pier support system without visible exterior retaining walls). In terms of biological impacts, the existing protected trees that would be affected by the relocation are already currently proposed for removal so the relocation would not result in additional tree removals.

13. Gondola: A concern has been expressed over the potential impact to birds of the proposed aerial gondola system. Potential impacts of the gondola system related to bird collisions is expected to be less-than-significant. Birds could easily maneuver around the gondola towers, cars, and cables. The towers and cars would be visible to birds and would be painted a non-reflective matte-finish color to reduce potential glare to birds during daytime hours. The cars would move slowly at approximately 6.7 miles per hour at full speed, roughly half the average speed of an adult person running. During nighttime hours, there would be no exterior lighting on the towers, cars, or cables (see Response 5 above) that would attract birds and cause them to collide with the gondola system. There is an existing aerial chairlift system at the Zoo which consists of passenger chairs on cables supported by towers ranging in height from approximately 15 feet to approximately 60 feet. The proposed gondola towers would range in height from approximately 22 feet to approximately 62 feet, similar in height to the existing chairlift towers. The existing chairlift has been in operation since 1965 and according to Zoo officials there have been no documented reports of bird collisions with the existing chairlift system.

14. Grasslands: The analysis in Section 3.3, Biological Resources, of the Draft SMND/A contains a detailed discussion of the project's potential impact on grasslands in Knowland Park. The analysis is based on a grassland survey performed for the 1998 MND. The 1998 MND analysis did not distinguish between native and non-native grasslands. The analysis in the Draft SMND/A (referencing the 1998 MND analysis) identifies a total of 8.6 acres to be impacted by the project and assumes a worst-case scenario that the entire 8.6 acres would be impacted and need to be mitigated. The Habitat Enhancement Plan (HEP) calls for an updated, baseline survey. In response to public comments on the Draft SMND/A, an updated grassland survey was performed now. The results of the updated survey are attached to this document as Exhibit A. The updated survey, using more refined survey techniques, found that the amount of native grassland to be impacted by the project would be 4.44 acres. The potential impact to grasslands would remain mitigated to less-than-significant levels through Mitigation Measure 13a which requires implementation of a Habitat Enhancement Plan (see Response 15 below). Revisions have been made to the Habitat Enhancement Plan to correspond with the updated site survey and analysis (see Revisions 7 through 10).

15. Habitat Enhancement Plan: The proposed Habitat Enhancement Plan (HEP) (Appendix G-2 of the Draft SMND/A) would implement Mitigation Measure 13a which was originally identified in the 1998 MND and remains applicable to the proposed Master Plan amendment. The purpose of Mitigation Measure 13a and the HEP is to protect and enhance habitat in Knowland Park through the control and

eradication of target invasive species and through revegetation with native grassland, riparian, and woodland species. Mitigation Measure 13a and the HEP satisfy the requirements under CEQA for adequate mitigation. The HEP identifies specific performance goals and standards, actions to achieve the identified goals, and implementation and monitoring provisions. An endowment in perpetuity to cover the costs of the mitigation is unnecessary. It is reasonable to believe the mitigation can be adequately implemented by the project sponsor on an ongoing basis. The Zoo is an established institution and the East Bay Zoological Society manages Knowland Park under the City-Zoo management agreement. The East Bay Zoological Society has been actively removing invasive species, such as French broom, from Knowland Park. Ongoing mitigation measures are regularly applied to projects and implemented without the need for an endowment. Moreover, failure to properly implement the mitigation measures is subject to enforcement actions by the City. Therefore, there is substantial evidence that the Society would be able to implement the HEP, absent an endowment fund.

16. Landscape Plan: The project drawings for the proposed Master Plan amendment contain a landscape plan for the California exhibit. The landscape plan specifies that the exhibit would be planted with new native trees, shrubs, and grasses. As the California exhibit is implemented, specific detailed landscape plans would be required to be submitted and approved by the City that are consistent with the approved landscape plan (see Conditions of Approval 12 and 27).

17. Seasonal Wetland: The Draft SMND/A provides a detailed description of the potential impacts of the project on the 950-square-foot potential seasonal wetland located within an existing fire road. This feature most likely formed as a result of grading associated with construction and maintenance of the existing fire road, and is considered to have limited habitat value because its footprint is contained entirely within the existing fire road, it is vegetated by non-native species, and it completely dries out relatively quickly after the spring rains end. As described on page 3.3-26 of the Draft SMND/A, water now ponds on the road during the rainy season because repeated blading as part of routine fire road maintenance has exposed a hardpan, the road surface is fairly level, and soil removed during routine maintenance has been pushed to the edge and has formed a berm along the edge of the road. It is unlikely that a natural seasonal wetland feature existed in this area before the fire road was constructed given the fact that it is contained entirely within the footprint of the roadway and does not extend into the surrounding grasslands that have not been disturbed by roadway grading. The potential seasonal wetland does not hold water long enough to provide suitable breeding habitat for California red-legged frog.

    For the reasons stated above, project impacts to the potential seasonal wetland are considered less than significant. In the remote instance that the Regional Water Quality Control Board determines that the water feature is a regulated water of the State, the City's standard conditions of approval (specifically, SCA-BIO-10, listed on page 3.3-10 of the Draft SMND/A) would apply requiring the project sponsor to obtain the required regulatory permits before conducting activities which could

disturb the water feature. Although the water feature is likely not a regulated water for the reasons stated above, and if it were regulated the City's standard conditions of approval would reduce the potential impact to less than significant, to be conservative the Draft SMND/A nevertheless recommends a mitigation measure (Mitigation Measure BIO-1, listed on pages 3.3-43 and 3.3-44 of the Draft SMND/A) that would clarify and guide implementation of SCA-BIO-10 to further reduce the already less-than-significant impact. Mitigation Measure BIO-1 defines appropriate mitigation that would serve to fully mitigate the loss of this potential seasonal wetland feature if the feature is determined to be a regulated water. The mitigation measure defines performance standards which must be met during implementation, including a minimum 1:1 replacement ratio with higher habitat functions and values located within Knowland Park, provisions for a planting plan utilizing native species, and maintenance, monitoring and reporting requirements.

18. Snowdown Emergency Access Road: As stated above in Response 7, the proposed Master Plan amendment involves improvements to the existing emergency access road off Snowdown Avenue, including widening the existing ten to 15-foot dirt roadway to 20 feet with tumouts every 300 feet and surfacing the roadway with gravel. The potential effect of the roadway improvements on biological resources was considered in the Draft SMND/A. The roadway improvements would reduce the potential for vehicles to spread weed seed in Knowland Park compared to the existing condition and compared to the approved Master Plan because the roadway would be paved with gravel which would reduce the tracking of weed seed on tires and vehicle underbodies.

19. Trees – Bird Nesting: The potential impact of the proposed tree removals on bird nesting would be less than significant with the City's standard conditions of approval (see Standard Condition SCA-BIO-1 on page 3.3-6 of the Draft SMND/A). The standard condition of approval prohibits tree removal during the bird breeding season unless the site is surveyed by a qualified biologist prior to the tree removal to verify the presence or absence of nesting birds. If nesting birds are present, a buffer around the nest would be required and no work would be allowed until the young have successfully fledged.

20. Trees – Board of Forestry and Fire Protection: Contrary to a public comment received, the proposed tree removals would not fall under the jurisdiction of the State Board of Forestry and Fire Protection (BFFP). BFFP licenses Registered Professional Foresters pursuant to the State Professional Foresters Law (PEL). The PFL does not apply to urban landscapes. Knowland Park is located within city limits, is substantially surrounded by urban land uses on three sides, meets the definition of an "urbanized area" under CEQA, and the project area is designated as Urban Open Space in the City's General Plan. As explained in Section 3.3, Biological Resources, of the Draft SMND/A, the proposed tree removals are regulated under the City's Tree Protection Ordinance. With the implementation of the City's standard conditions of approval regarding tree removal and protection, the project would comply with the

City's Tree Protection Ordinance and the potential impact on trees would be reduced to a less-than-significant level.

21. Trees – Overnight Camping Area: No trees are proposed for removal in the vicinity of the proposed overnight camping area. Seven oak trees would be located within ten feet of proposed construction activities associated with the camping area. These trees have been added to Table 3.3-2 of the Draft SMND/A, are shown on a new figure being added in Section 3.3, Biological Resources, and are being added to the inventory of protected trees in Appendix G-4 (see Revisions 2, 3, and 12). The analysis and findings of the Draft SMND/A concerning tree impacts remain applicable. As stated on page 3.3-46 of the Draft SMND/A, impacts to trees would be reduced to less-than-significant levels through implementation of the Tree Protection and Revegetation Plan required in Mitigation Measure 13b and compliance with the City's Tree Protection Ordinance and standard conditions of approval (SCA-BIO-1 through SCA-BIO-4). The City's Tree Protection Ordinance requires that adequate protection be provided during the construction period for any trees that are to remain in the vicinity of proposed development, and SCA-BIO-4 expands upon the avoidance measures to be implemented to prevent damage during construction. The raised tent cabin structures proposed at the overnight camping area would require only limited disturbance in the vicinity of the trees to be retained, and would not result in any severe damage due to the protection measures required under the City's ordinance and relevant standard conditions of approval. Regarding long-term impacts to the tree, the pedestrian activity of children and other visitors around the trees is not expected to result in significant soil compaction or pose a significant threat to the long-term health of the trees. Native oaks regularly occur in pasture lands where grazing and trampling by cattle and other livestock result in much more severe disturbance to the understory of mature trees, with no adverse affect on the long-term health of the trees.

22. Trees – Sudden Oak Death: Some public comments raised concerns about the potential impact of the project on trees related to Sudden Oak Death (SOD) and presented information indicating that SOD is currently believed to be present in Knowland Park. SOD is a tree disease which infects and kills primarily oak trees but also other trees, including California bay laurel, Douglas-fir, and coast redwood. Section 3.3, Biological Resources, of the Draft SMND/A contains a detailed analysis of potential project impacts on trees and finds that potential impacts could be reduced to a less-than-significant level with implementation of the Tree Protection and Revegetation Plan required in Mitigation Measure 13b, compliance with the City's Tree Protection Ordinance and standard conditions of approval (SCA-BIO-1 through SCA-BIO-4), and implementation of the Habitat Enhancement Plan (see Response 15 above). The Tree Protection and Revegetation Plan required by Mitigation Measure 13b would involve ongoing tree surveys to document the condition of trees and recommendations to extend the life and health of the trees. The monitoring and mitigation of SOD in Knowland Park would be accomplished through the Tree Protection and Revegetation Plan and the Habitat Enhancement Plan. The Habitat Enhancement Plan has been revised to clarify specific SOD-related actions (see

Revisions 4, 5, and 6). As a result, no significant impacts related to SOD are anticipated.

In sum, the buildout of the amended Master Plan would not result in new significant biological impacts or a substantial increase in previously identified biological impacts.

GEOLOGY AND SOILS

23. Overview: The Draft SMND/A fully discloses the existing geologic and soils conditions on the sites for the Veterinary Medical Hospital and the California exhibit as well as thoroughly evaluates the project's potential impact on such. The Draft SMND/A reviews the particular characteristics of these sites (see pages 3.4-14 through 3.4-23), including the potential for expansive soils, landsliding and slope instability, and seismic hazards. Contrary to a public comment that the project "lies virtually atop the Hayward Fault," no active earthquake faults are within the amended Master Plan area. It is important to distinguish fault zones, which are regulated under the Alquist-Priolo Fault Zoning Act, from seismic hazards, which are subject to the Seismic Hazards Mapping Act, the California Building Code, and local ordinances related to grading and geology.

The Alquist-Priolo Fault Zoning Act precludes the construction of buildings for human occupancy across the surface trace of active faults. Each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace in order to include potential branches. Neither the Veterinary Medical Hospital nor the California exhibit would be located within an Alquist-Priolo Earthquake Fault Zone. The Draft SMND/A acknowledges that the Veterinary Medical Hospital would be located approximately 200 feet from the boundary of the Hayward Earthquake Fault Zone and the California exhibit and any structures included in the exhibit would be located even farther away from this boundary (see pages 3.4-18 and 3.4-19). Thus, the project is not subject to the provisions of the Alquist-Priolo Fault Zoning Act.

The Seismic Hazards Mapping Act requires site-specific geotechnical investigations to identify potential seismic hazards (other than surface faulting) and formulate corrective measures prior to issuance of building permits within Seismic Hazard Zones. The Draft SMND/A identifies several Seismic Hazard Zones in Knowland Park (see Figure 3.4-5). The Draft SMND/A acknowledges that three elements of the California exhibit (the northern half of the California Interpretive Center site, two gondola support structures, and three segments of the service road) are located in identified Seismic Hazards Zones (SHZ) and potentially subject to seismically induced landslides (see pages 3.4-20 through 3.4-23; Figure 3.4-5). A slope stability screening investigation was performed for the Master Plan amendment area in accordance with the *Guidelines for Evaluating and Mitigation Seismic Hazard in California* (California Geological Survey 2008). The investigation concluded that all slopes evaluated were considered stable (see page 3.4-28). Prior to the issuance of

development permits, design-level geotechnical reports that must identify any necessary corrective measures would be required in accordance with the City's standard conditions of approval, specifically SCA-GEO-2. Additionally, all constmction would be required to comply with the Building Code stmctural and other requirements.

The Draft SMND/A acknowledges that Knowland Park, like all of Oakland and the San Francisco Bay region, would be subject to strong to violent ground shaking during a large magnitude earthquake. The potential for seismically induced ground shaking, liquefaction, and landslides within the Master Plan amendment area is discussed in the Draft SMND/A (see pages 3.4-18 through 3.4-23). A comprehensive regulatory scheme exists that requires compliance with Seismic Hazards Mapping Act requirements for site-specific geotechnical investigations and corrective measures, stringent building code requirements, City standard conditions of approval (SCA-GEO-1 and SCA-GEO-2), the 1998 mitigation measures, and grading ordinance requirements. The application of these requirements to the buildout of the amended Master Plan are explained in the Draft SMND/A on pages 3.4-27 through 3.42 -33. These requirements have been designed by experts to ensure that proper soil and geotechnical investigations are undertaken and all potential areas of concem are addressed through corrective site preparation actions, design specifications for foundations, walls, and stmctures, and implementation of proper constmction techniques. Compliance with these mandatory requirements, which have been designed to reduce the impacts of strong to violent seismic ground shaking to levels that protect stmctures against collapse and safeguard human life, would reduce the potential seismic related impacts to a less-than-significant level.

24. Safety of Gondola: The proposed aerial gondola system would follow strict design, manufacture, constmction, operation, and maintenance standards as required by Title 8 of the Califomia Code of Regulations. All gondola systems, including the proposed system would be required to meet all applicable building codes and each tower and foundation would be designed by a registered engineer to current seismic standards. The gondola construction would also be subject to the City's geology and soils-related standard conditions of approval (SCA-GEO-1 and SCA-GEO-2). In addition, the State of Califomia Department of Industrial Relation's Division of Occupational Safety and Health's Tramway Section regularly inspects and approves the operations of all passenger ropeway systems in the state. Aerial tramways must be inspected twice yearly in accordance with the requirements of Title 8. The above standards would ensure that the proposed gondola system is safe; no significant impacts related to safety are expected.

25. Sementine Soils: Serpentine soils, and other ultramafic rock, may contain naturally-occurring asbestos which can be released into the air during dust-generating constmction activities. Exposure to asbestos can adversely affect human health. The disturbance of naturally-occurring asbestos is regulated in the Bay Area by the Bay Area Air Quality Management District (BAAQMD) through the Asbestos Airbome Toxic Control Measure (ATCM) program. The ATCM program requires

construction activities to employ dust management practices in areas where naturally-occurring asbestos is likely to occur. The Draft SMND/A provides information conceming the geology of the site. Staff consulted with both BAAQMD and the geotechnical consultant who prepared the Geology and Soils section of the Draft SMND/A (Section 3.4) conceming the geologic rock units at the site. According to BAAQMD and the geotechnical consultant, the rock units at the site are not ultramafic rock units and are unlikely to contain naturally-occurring asbestos.

In sum, the buildout of the amended Master Plan would not result in new significant geology/soils impacts or a substantial increase in previously identified geology/soils impacts.

GLOBAL CLIMATE CHANGE

26. Vegetation Change: The Draft SMND/A provides a detailed explanation of the methodology used to calculate the project's potential effect on global climate change, including the methodology used to estimate greenhouse gas emissions related to changes in vegetation at the site (see Section 3.5, Global Climate Change; and Appendix H, Climate Change Technical Report). The analysis uses methodology described in the guidelines of the Intergovemmental Panel on Climate Change (IPCC) to assess greenhouse gas emissions related to changes in vegetation. The IPCC Guidelines are widely recognized by air quality agencies in Califomia, throughout the United States, and in the global climate change community. Vegetation has the potential to take in and store CO_2 from the atmosphere, a process known as sequestration. The IPCC methodology assumes an active growing period of 20 years during which trees have a net intake of CO_2. After 20 years, accumulation of carbon slows significantly and a tree's intake and release of carbon begin to balance out.

The analysis estimates that the project would result in an annual increase of six metric tons of CO_2e due to the removal of existing vegetation at the site. This estimate is based on substantial evidence provided in the Technical Report. First, the analysis estimates that the removal of existing vegetation at the site would result in increased emissions of 390 metric tons of CO_2e. Then the analysis estimates that the proposed new trees to be planted as part of the project would sequester approximately 274 metric tons of CO_2e, resulting in a net *increase* of 116 metric tons of CO_2e emissions (390 metric tons minus 274 metric tons). The analysis then divides 116 metric tons by 20 years to account for the active growing period as explained above. The calculated result is a net *increase* of approximately six metric tons of CO_2e emissions per year. This increase of six metric tons of CO_2e per year is added to the other project-related CO_2e emissions to compare to the per-year threshold of significance. The total project-related annualized CO_2e emissions (855 metric tons) are less than the threshold of 1,100 metric tons. As stated in the Technical Report, the 1,100 metric tons threshold was developed by BAAQMD without consideration for changes in vegetation. Because the project would result in an increase in CO_2e emissions,

including these emissions in the analysis to compare to the threshold represents a conservative analysis.

In sum, the buildout of the amended Master Plan would not result in new significant global climate change impacts or a substantial increase in previously identified global climate change impacts.

HYDROLOGY AND WATER QUALITY

27. Alameda Whipsnake Mitigation: The hydrology analysis in the Draft SMND/A (see Section 3.7, Hydrology and Water Quality; and Appendix I, Drainage Report) is adequate given the mitigation required for the Alameda whipsnake. The Alameda whipsnake mitigation, described in Mitigation Measure 14c, includes modifications to the project contained in the report on the Alameda whipsnake (see Appendix G-1), including removing the amphitheater from the project and relocating the Califomia Interpretive Center approximately ten feet to the east. The elimination of the amphitheater would reduce the total amount of impervious surface within the Califomia exhibit, which would reduce the project's overall stormwater mnoff volume and rate, thus having a beneficial effect on hydrology. The minor relocation of the Califomia Interpretive Center would not alter the hydrology analysis and conclusions because after the relocation the Center would still be the same size and located in the same sub-watershed.

28. Stormwater Runoff & Flooding: The Draft SMND/A contains a detailed drainage analysis (see Appendix I). The analysis acknowledges flooding in the residential neighborhood located to the south of the existing Zoo. As explained above in Response 2, as required by CEQA, the Draft SMND/A evaluates the potential impact of the project on existing conditions. The project sponsor is not required under CEQA to mitigate existing conditions. The project would be required to comply with National Pollutant Discharge Elimination System (NPDES) requirements regarding hydromodification so that post-project stormwater mnoff does not exceed pre-project mnoff Post-project mnoff would be controlled through on-site detention features such as green roofs, permeable paving, a vegetated swale, a detention facility, and rain gardens. The drainage analysis concludes that the proposed drainage system would reduce flooding in the adjacent neighborhood.

29. Watershed Character: The proposed stormwater management system for the project uses ecologically sensitive design techniques. As stated above in Response 28, the project includes features such as green roofs, permeable paving, a vegetated swale, a detention facility, and rain gardens to manage and treat stormwater runoff utilizing vegetation-based design. As shown on the project drawings, the detention facility proposed near the Veterinary Medical Hospital would consist of natural-looking rock formations and vegetation to visually replicate a natural riparian corridor, as opposed to a more visually urban design consisting of an open concrete culvert. No undergrounding of creeks is proposed. Moreover, the project proposes to replace an

existing, failing storm drain outfall located in Arroyo Viejo Creek thereby reducing existing creek bank erosion and improving the riparian habitat and character of the watershed.

In sum, the buildout of the amended Master Plan would not result in new significant hydrology/water quality impacts or a substantial increase in previously identified hydrology/water quality impacts.

LAND USE, RECREATION AND PLANNING

30. Consistency with Open Space, Conservation and Recreation (OSCAR) Element of the General Plan: The Draft SMND/A contains a detailed discussion of the project's consistency with the General Plan, including the OSCAR Element (see Section 3.8, Land Use, Recreation and Planning). Specifically Table 3.8-1 evaluates the consistency of the project with 106 relevant policies of the General Plan. As stated in the Draft SMND/A, the General Plan states that a project that does not meet each and every General Plan policy does not inherently result in a significant impact under CEQA (pages 3.8-35 and 3.8-36). The General Plan contains many policies which may in some cases address different goals and objectives, therefore, some policies may compete with each other. In deciding whether to approve a project, the Planning Commission and City Council need only to determine whether, on balance, the project is consistent (i.e., in general harmony) with the General Plan. The Draft SMND/A provides substantial evidence to conclude that the project would be consistent with the General Plan. Furthermore, there is evidence that the project would be consistent with OSCAR policies, including the specific policies referenced in the public comments as discussed below in Responses 31 through 35.

31. OSCAR Planning Strategies (South Hills): As explained on pages 3.8-7 and 3.8-8 of the Draft SMND/A, Chapter 5 of OSCAR identifies planning strategies for the South Hills Planning Area, which includes Knowland Park. Regarding Knowland Park and the Zoo, OSCAR states the following:

> A Master Plan containing general principles for the park's development, as well as plans for specific capital improvements, was prepared in 1990.
>
> The Knowland Master Plan divides the park into three physical units: (1) the historic park landscape and arboretum; (2) the zoological gardens; and (3) Wild Califomia. Wild Califomia includes a variety of westem landscapes, including grassland, chaparral, oak woodland, and riparian canyons. Wildlife native to these habitat [sic] will be housed in this area.
>
> The Plan calls for many improvements, including additional parking, major traffic circulation changes, improved park entry and picnic areas, a new west gate, an education building, an off-site breeding center, a wild habitat preserve, a variety of "Cahfomia 1820" exhibits and upgrades to

existing exhibits. The total cost for these improvements is estimated at $17 million. A significant share of the funding is being provided through Measure K

The master plan does not address the substantial portion of Knowland Park above the zoo and picnic grounds. This area is to remain in its natural state and be managed for resource conservation and fire hazard reduction. (page 5-46)

The project is consistent with the way Knowland Park is described above. The current proposed Califomia exhibit would generally be located in the area of Knowland Park designated above as "Wild Califomia." The area to the east of the Califomia exhibit would be located in the area designated Resource Conservation in the General Plan and would remain undeveloped as described in OSCAR.

32. OSCAR Policy CO-11.2 (Migratory Corridors): OSCAR Policy CO-11.2 calls for the protection and enhancement of migratory corridors for wildlife. Potential wildlife corridors are shown on OSCAR Figure 14. The wildlife corridors mapped in OSCAR for Knowland Park consist of an east-west corridor along Arroyo Viejo Creek along the northem edge of Knowland Park and a north-south corridor through the central area of Knowland Park. The project does not include any fencing or other features along the Arroyo Viejo Creek corridor that would obstmct wildlife movement in the corridor. As previously stated in Response 29, the project involves the replacement of an existing, failing storm drain outfall located in Arroyo Viejo Creek which would improve the riparian habitat thereby enhancing the Arroyo Viejo Creek corridor. The project would not obstmct the north-south wildlife corridor located in the central portion of Knowland Park. The Califomia exhibit would be located to the west of and outside of the north-south corridor. Section 3.3, Biological Resources, of the Draft SMND/A (see pages 3.3-44 and 3.3-45) contains a discussion of potential impacts of the project on wildlife movement concluding that the project would not have a significant impact on wildlife movement. The perimeter fence would be designed with animal-friendly undercrossings to allow passage of all wildlife, with the exception of deer. Deer would continue to have movement opportunities in the remaining open areas of Knowland Park, including along the wildlife corridors shown in OSCAR and discussed above. Also, the proposed Master Plan amendment would reduce the amount of open space converted to zoo uses compared to the approved Master Plan (from approximately 62 acres to approximately 56 acres).

33. OSCAR Policy OS-10.1 (View Protection): OSCAR Policy OS-10.1 encourages protecting the character of existing scenic views in Oakland. As discussed above in Response 7, the Draft SMND/A provides a detailed analysis of the potential view impacts of implementing the amended Master Plan (see Section 3.1, Aesthetics). The visual simulations in the Draft SMND/A show that the project would not obstruct panoramic views of San Francisco Bay, the Marin Headlands, and the Oakland and San Francisco skylines from Knowland Park. From outside of Knowland Park, the project would not obstruct scenic views of the ridgeline. The visual simulations show

that both the aerial gondola and Califomia Interpretative Center would be small elements on an expansive ridgeline.

34. OSCAR Policy REC-1.3 (Non-Recreational Buildings in City Parks): OSCAR Pohcy REC-1.3 strongly discourages new non-recreational buildings in City parks unless their construction is a matter of public necessity and the use cannot be reasonably accommodated in another location. Exceptions to the policy may be made in cases where there are (a) no feasible altematives to placing buildings in parks, (b) the buildings are being developed in accordance with an overall master plan for the impacted park, and (c) replacement open space will be provided as specified in Policy REC-1.2. The OSCAR Element states that the intent of this policy is to protect heavily utilized parks from overdevelopment with buildings. As discussed on page 3.8-27 of the Draft SMND/A, OSCAR also states that the policy does "not apply to parks which are being developed in accordance with an already adopted master plan, such as the Knowland Park Zoo." (OSCAR, page 4-29) The project does not conflict with the policy because the Califomia Interpretive Center and Veterinary Medical Hospital would (1) be constmcted in accordance with an adopted master plan, (2) are *recreational* buildings, and (3) satisfy all of the above exception criteria even if they are considered *non-recreational* buildings (which they are not). Each of these factors is discussed below:

    - *Adopted Master Plan*: As stated on pages 3.8-7 and 3.8-8 of the Draft SMND/A, OSCAR references the then-current (1990) master plan for the Zoo which calls for various improvements to the Zoo including the Califomia exhibit. In not applying Policy REC-1.3 to master plans, OSCAR recognizes that the process of developing master plans allows the City to comprehensively plan for a park over the long-term and thoughtfully consider the balance of buildings and open space when determining how to achieve the park's goals. Once a master plan for a park is adopted, the policy does not apply to buildings being constmcted in accordance with the master plan. The intent of the policy is not to limit the master plan exception only to master plans that had been adopted at the time OSCAR was adopted. Rather, the intent of the policy is to allow constmction of buildings in accordance with park master plans given the deliberative process surrounding master plans as described above. If and when the amended Master Plan for the Zoo is approved, constmction of buildings in accordance with the amended Master Plan would not be subject to Policy REC-1.3. In addition, under the policy there is no prohibition on amending previously adopted master plans.

    - *California Interpretive Center and Veterinary Medical Hospital are Recreational Buildings:* If Policy REC-1.3 is applied to the project, which it would not be for the reason explained above regarding adopted master plans, the Califomia Interpretive Center and Veterinary Medical Hospital would be considered *recreational* buildings because their primary purpose is to support the recreational activity of the Zoo. The Center and the Hospital are both considered "accessory facilities" as defined in section 17.10.070 of the

Oakland Planning Code because they are "customarily associated with, and are appropriate, incidental, and subordinate to" the primary zoo activity. As described on page 2-13 of the Draft SMND/A, the Center would contain such visitor and employee services as interpretive exhibits, a restaurant, a gift shop, office and employee work areas, classrooms and restrooms. All of these activities support the recreational activity of the Zoo. The existing Zoo also contains similar employee and visitor amenities supporting the existing facility. The primary activity of the Hospital would be providing veterinarian medical care for Zoo animals to support the recreational activity of the Zoo. The existing Zoo also contains a veterinarian care facility used for similar animal care activities supporting the existing Zoo.

- *Exception Criteria for Non-Recreational Buildings:* If the Califomia Interpretive Center and the Veterinary Medical Hospital are considered non-recreational buildings, which they are not for the reasons described above, they would nevertheless satisfy Policy REC-1.3's exception criteria for non-recreational buildings. Regarding criterion (a), it is not feasible to place the Center and Hospital outside of Knowland Park. The Center provides services for visitors and employees at the Zoo; locating these services outside of Knowland Park is not feasible because they are associated with the Califomia exhibit located in the Park. The Hospital provides veterinarian care services for Zoo animals; locating these services outside of Knowland Park is not feasible because the services need to be proximal to the animal exhibits to provide adequate care and comfort for the animals. Transporting the animals to an off-site location for veterinarian care would substantially compromise the ability to provide timely and comfortable care to Zoo animals. Regarding criterion (b), the Center and Hospital would be placed in the park in accordance with an adopted Master Plan as explained above. Regarding criterion (c), as explained on pages 3.8-34 and 3.8-35 of the Draft SMND/A, the project would comply with OSCAR Policy REC-1.2 conceming the loss of open space because the City has added approximately 24 acres of net new parkland since the adoption of the open space zoning regulations and the project would result in approximately one new acre of structure coverage.

35. Open Space: The potential physical environmental impacts of the implementation of the amended Master Plan on open space are analyzed in detail throughout the Draft SMND/A (see Section, 3.1 Aesthetics; Section 3.3, Biological Resources; Section 3.4, Geology and Soils; Section 3.6, Hazards and Hazardous Materials; Section 3.7, Hydrology and Water Quality; Section 3.8, Land Use, Recreation and Planning; and Section 3.10, Public Services and Utilities). Although not required under CEQA, the Draft SMND/A also provides a detailed analysis of the potential social (i.e., human) effect of the project on open space (see Section 3.8.8). The analysis presents information to conclude that the potential social impact could be considered less than significant. The use of the open space in the amended Master Plan area for more intensive recreational uses is consistent with City General Plan policies and zoning regulations, and substantial open space would remain in Knowland Park and nearby

parks. Also, the proposed Master Plan amendment would reduce the amount of open space converted to zoo uses compared to the approved Master Plan (from approximately 62 acres to approximately 56 acres).

In sum, the buildout of the amended Master Plan would not result in hew significant land use, recreation and planning impacts or a substantial increase in previously identified land use, recreation and planning impacts.

NOISE

36. Ambient Noise Increase: Section 3.9, Noise, of the Draft SMND/A provides a detailed analysis of the potential noise effects of the project. The City's CEQA thresholds of significance state that a significant noise impact would occur if the project results in a five dBA permanent increase in ambient noise levels in the project vicinity compared to existing ambient noise levels. The Draft SMND/A analyzes the effect of the project on ambient noise levels and presents this analysis on pages 3.9-26 and 3.9-27 finding that the project would not result in an increase of five dBA or more. In response to a public comment that the Draft SMND/A analysis selects noise measurement locations that may have higher existing ambient noise levels because the locations are closer to the residential neighborhood to the south and Interstate 580 to the west, three new existing ambient noise level measurements were taken to the east in undeveloped areas of Knowland Park that would be located near the proposed Califomia exhibit. The project would not increase ambient noise levels by 5 dBA or more at these locations. Therefore, the project would continue to result in ambient noise levels under the City' thresholds of significance and a less-than-significant impact. Figure 3.9-2 and Table 3.9-10 of the Draft SMND/A have been revised to include this information (see Revisions 13 and 14).

37. Operational Noise: Potential noise impacts associated with daily operations of the completed project were analyzed by modeling project-related noise. The noise model accounted for operational noise associated with the project, including animal noise, human voices, and mechanical equipment under normal typical conditions. Consistent with standard noise analysis practice, the noise model calculations were based on a specified time period where single instantaneous noise events were integrated in time and averaged with the operational noise sources. Assumptions for animal noise were based on information provided by the project sponsor regarding the animals that are expected to generate noise and the duration that the noise would occur. Many of the animals in the proposed Califomia exhibit will have been in captivity for an extended period of their life and do not vocalize, except the wolves and eagles. These animals vocalize and, therefore, generate noise. The noise generated by the wolves and the eagles would occur one to two times a day for a duration of no more than five minutes in any given hour period. This information regarding animal noise and expected event duration was incorporated into the noise model.

In sum, the buildout of the amended Master Plan would not result in new significant noise impacts or a substantial increase in previously identified noise impacts.

TRANSPORTATION AND CIRCULATION

38. Cumulative Traffic Impacts from Other Large Projects: As explained in Section 3.11, Transportation and Circulation, of the Draft SMND/A, the transportation analysis considers the project's contribution to the cumulative impacts of future growth, including large planned development projects such as the redevelopment of the Oak Knoll Naval Hospital site. The future baseline scenario is calculated using the Alameda County Transportation Commission (formerly the Alameda County Congestion Management Agency) Countywide Transportation Demand Model. The Model projects future land use and traffic growth for years 2015 and 2035 based on projections from the Association of Bay Area Governments (ABAG). In order to improve the accuracy of the analysis, projected traffic from the redevelopment of the Oak Knoll site was obtained from traffic forecasts for the Oak Knoll project and added to the Model. Regarding a potential development project at the Holy Redeemer site located on Golf Links Road between I-580 and MacArthur Boulevard, neither a development application or a development pre-application has been submitted to the City for a project on this site, therefore, this project would not be considered a reasonably foreseeable project that would need to be specifically identified in the cumulative analysis for the Zoo project. However, growth assumptions already contained within the Model would reasonably account for growth that could be attributed to this project. By using the Countywide Transportation Demand Model, the City is using a forecast method under CEQA to account for cumulative future conditions. Because a forecast method is being used and the Model accounts for countywide land use growth and transportation demand, relying upon the Model is an acceptable method for projecting cumulative future conditions and it is not required to identify specific development projects. The growth associated with development projects in the vicinity of the project is reasonably accounted for in the Model. However, the City has further refined the Model by using project-specific transportation data for the Oak Knoll project.

39. Golf Links Road/I-580 Intersections: Contrary to some comments received, the transportation analysis does evaluate the potential impact to the Golf Links Road/I-580 Westbound On-Ramp intersection (Intersection #2) and the Golf Links Road/I-580 Eastbound Off-Ramp/98th Avenue intersection (Intersection #3) during the AM peak hour, PM peak hour, and weekend midday peak hour under existing conditions and projected future conditions in 2015 and 2035. The results of the analysis are shown in Tables 3.11-7, 3.11-10, and 3.11-11 of the Draft SMND/A. The analysis finds that the project-related traffic would not exceed any of the thresholds of significance. The statement on page 3.11-45 of the Draft SMND/A that Intersection #3 "was not analyzed during the weekend midday peak hour" refers to the analysis in the 1998 MND; the intersection is evaluated in the Draft SMND/A. Project traffic impacts are not expected to be significantly affected by the student carpool pick-up

area located near Bishop O'Dowd High School on 98th Avenue because the pick-up area is approximately 500 feet from the Intersection #3 (the closet study intersection) and because pick-up and drop-off activity occurs during weekdays and not during the weekend midday peak hour when Zoo-related traffic is at its peak.

40. Golf Links Road – Close Intersections: As shown on Figure 3.11-1 in the Draft SMND/A, the Zoo Drive/Mountain Boulevard/Golf Links Road intersection (Intersection #1) is located within 250 feet of the nearby Golf Links Road/I-580 Westbound On-Ramp intersection (Intersection #2). The interactions between these intersections play a role in intersection operations which are evaluated in the transportation analysis. Eastbound vehicles on Golf Links Road coming from the I-580 Westbound Off-Ramp destined for the Zoo have an unrestricted right-turn movement onto the recently widened Zoo Drive. The kiosk at the entrance to the Zoo parking lot is approximately 500 feet south of the Zoo Drive/Mountain Boulevard/Golf Links Road intersection and provides storage space for approximately 40 vehicles waiting to access the main parking lot. During the study period, queues at the Zoo entrance did not spill back to this intersection based on field observations and data from pneumatic hose counts taken at the Zoo driveways for hourly vehicle arrival and departure.

    Approximately ten westbound vehicles on Golf Links Road can be accommodated on the segment between the Golf Links Road/I-580 Westbound Ramps intersection and the Zoo Drive/Mountain Boulevard/Golf Links Road intersection. A majority of these vehicles are destined for I-580 Westbound and are allowed to make a right turn on red, effectively increasing the number of vehicles accommodated during the light cycle while creating gaps for vehicles approaching the Golf Links Road/I-580 Westbound Ramps intersection from Mountain Boulevard and Golf Links Road, and traffic exiting the Zoo.

    Based on the thresholds of significance it was determined that the project would not resuh in a significant project impact or contribute considerably to a significant cumulative impact at either intersection. Although the Golf Links Road/I-580 Westbound Ramps intersection would be expected to operate at an unacceptable level (LOS F) under Cumulative Year 2035 Conditions, the addition of project-generated traffic would not increase the volume-to-capacity ratio at this intersection by 0.03, therefore, the project's contribution to this condition would be less than significant under CEQA. Additionally, the unsignalized Zoo Drive/Mountain Boulevard/Golf Links Road intersection did not meet the Manual on Uniform Traffic Control Devices (MUTCD) Peak Hour Volume Warrant criteria for determining when signalization is warranted, therefore, this impact is considered less than significant under CEQA.

41. Ovemight Camping Area: As stated on page 2-22 of the Draft SMND/A, visitors to the ovemight camping area would arrive at the campsite via the aerial gondola and most of the camping activity would occur on weekends. The number of vehicle trips associated with the ovemight camping area during the weekend midday peak hours (12:00 p.m. to 2:00 p.m.) is estimated to be four trips. The majority of campers are

expected to arrive later in the day after the weekend midday peak hours closer to when the afternoon and evening camping activities are scheduled to begin. Because the majority of weekend vehicle trips associated with the camping area would not occur during the weekend midday peak hours when baseline traffic volumes would be greatest during the weekend, camping-related traffic impacts are expected to be less than significant.

42. Pandas: The amended Master Plan does not include a panda bear exhibit. The transportation analysis assumes that no panda bear exhibit would be included in the project. In conversations with City staff, Zoo officials have confirmed that there are no current plans for a panda bear exhibit and any previous proposals for a panda bear exhibit have been abandoned and are no longer under consideration. If at some point in the future a panda bear exhibit is proposed, the proposal would be subject to appropriate City planning review, including an amendment to the Master Plan and/or a revised or new conditional use permit.

43. Parking: Although parking is not a CEQA-related consideration, as explained in Section 3.11.5.6 of the Draft SMND/A, the transportation analysis does provide a detailed parking analysis. The existing Zoo parking lot currently operates under capacity. The analysis shows that the parking demand for the project could be accommodated by the existing parking supply without the need for additional on-site parking. Also, as discussed below in Response 44, a Transportation Demand Management (TDM) Plan to reduce on-site parking demand and single-occupancy travel is also required to be prepared and approved by the City.

44. Transportation Demand Management (TDM) Plan: Although as stated on page 3.11-15 of the Draft SMND/A that, on average, each vehicle carrying Zoo visitors carries 3.6 passengers, the City's standard conditions of approval (see Standard Condition SCA-TRANS-2) would require the project sponsor to implement a transportation demand management (TDM) plan to further reduce on-site parking demand and single-occupancy travel. The TDM plan must include strategies to increase bicycle, pedestrian, transit, and carpool/vanpool travel to and from the Zoo. The TDM plan is required to be submitted for City review and approval prior to operation of the project and would be available for public review at that time; the TDM plan is not required to be developed at this time.

In sum, the buildout of the amended Master Plan would not result in new significant transportation/circulation impacts or a substantial increase in previously identified transportation/circulation impacts.

EXHIBIT A

Memorandum: Supplemental Grassland Mapping

ENVIRONMENTAL COLLABORATIVE

Consultation • Documentation • Restoration
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MEMORANDUM

TO: Patricia Jeffery
Placemakers
1500 Park Avenue, Loft 310
Emeryville, CA 94608

DATE: 13 April 2011

FROM: Jim Martin
ENVIRONMENTAL COLLABORATIVE

SUBJECT: Supplemental Grassland Mapping in the
California Exhibit and Veterinary Medical Hospital Vicinities
Oakland Zoo Master Plan in Knowland Park

In response to comments received on the *Draft Subsequent Mitigated Negative Declaration / Addendum* (SMND/A) prepared for the amendment to the Oakland Zoo Master Plan, City staff asked Environmental Collaborative to undertake additional field mapping of grassland habitat in the vicinity of the proposed California Exhibit and Ecological Recovery Zone. The Habitat Enhancement Plan (HEP)[1] calls for updated baseline surveys and this field mapping accelerates the timing of the updated grassland survey. Environmental Collaborative conducted this field mapping this spring (2011) to provide an update of the existing distribution of native and non-native grasslands. This memo provides a summary of background information on grassland resources[2] and previously identified potential impacts and mitigation, describes the methods and results of the additional grassland mapping exercise, updates and refines the quantification of potential impacts on grassland habitat, and recommends some clarifying modifications of certain provisions in the HEP contained in Appendix G-2 of the Draft SMND/A to refine implementation of existing mitigation.

Background of Grassland Mapping, Potential Impacts, and Mitigation

A summary of the sensitivity of native grasslands on the site and acknowledgement of the

1 Environmental Collaborative. 2011. *Habitat Enhancement Plan, Oakland Zoo California Exhibit and Upper Knowland Park*, prepared for East Bay Zoological Society, February.
2 The term "grassland" without the qualifier of native or non-native refers to both native and non-native.

mapping prepared in 1996 as part of the *Biological Resource Survey* (BRS)[3] conducted for the approved Master Plan is provided in Subsection 3.3.4.3 on page 3.3-19 of the Draft SMND/A. The Draft SMND/A estimated that over seven acres of grasslands occur within the limits of the proposed California Exhibit, and noted that large portions of these grasslands were mapped as native grasslands in 1996 as part of the BRS. As described on page 3.3-17 of the Draft SMND/A, although field reconnaissance surveys were conducted to confirm the presence of vegetation and wildlife resources, including the continued presence of grasslands, within the project area, no update on mapping of native grasslands was performed for the Draft SMND/A. The condition of the remaining native grasslands throughout Upper Knowland Park has been degraded by historic grazing activities, more recently by the ongoing intensive grazing by goats for fire fuel load reduction undertaken by the City of Oakland Wildfire Prevention Assessment District, and by the spread of French broom and other invasive species which eventually replace the grassland species.

As discussed under Significance Criterion b regarding sensitive natural communities on pages 3.3-40 and 3.3-41 of the Draft SMND/A, impacts of the project on native grasslands were considered a potentially significant impact, just as it was in the 1998 Mitigated Negative Declaration (MND) for the approved Master Plan. In the Draft SMND/A, an estimated 7.19 acres of grassland habitat were determined to be contained within improvements and exhibit areas that would be adversely affected under the amended Master Plan and an additional 1.39 acres of grasslands would be temporarily affected by grading and other improvements during construction. Of this estimated total of 8.6 acres of affected grassland habitat, no attempt was made to precisely distinguish and quantify the non-native and native components. Non-native grasslands are not considered a sensitive natural community, are dominated by non-native species and are abundant in the area and throughout California, and impacts to non-native grasslands are not considered significant under CEQA and do not require mitigation under Significance Criteria b. The HEP, however, provided for compensatory mitigation using the estimated acreage for all grasslands lost as a conservative approach that would serve to fully mitigate potential impacts on the sensitive native grassland resources.

Mitigation Measure 13a in the 1998 MND on the approved Master Plan calls for implementation of the HEP to "enhance" native grasslands among other habitat types in the Master Plan amendment area and Upper Knowland Park, with the focus of this mitigation on the removal of French broom and other invasive species. The HEP was prepared and included in **Appendix G-2** of the Draft SMND/A to further define implementation of Mitigation Measure 13a, providing details on habitat management activities, specifying replacement ratios and implementation actions, defining performance standards and success criteria to be achieved upon full implementation, and identifying on-going assessment and reporting requirements.

The HEP (1) provides a coordinated approach to protecting and enhancing natural habitat; and (2) implements mitigation requirements for the amended Master Plan, including the California Exhibit. The remaining grasslands in the vicinity of the California Exhibit and Ecological Recovery Zone are under severe threat of loss due to the continued spread and eventual dominance by French broom and the HEP serves to address this threat while providing specific

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3 Cheung Environmental Consulting. 1996. *Biotic Resources Survey at Knowland Park/The Oakland Zoo*, prepared for East Bay Zoological Society, November.

implementation measures for potential impacts of the California Exhibit. Native and non-native grasslands can't survive in the understory of dense stands of French broom, as is evidenced by the almost complete lack of groundcover in these areas. The initial focus of the invasive species control provided under the HEP will be directed towards implementing the measures for the Alameda whipsnake and native grassland habitat lost or modified as a result of constructing the California Exhibit. Treatment areas will be prioritized based on proximity to the California Exhibit site and Ecological Recovery Zone, and the need to meet specific habitat enhancement objectives specified in the 1998 MND and Draft SMND/A.

A preliminary analysis indicates that the compensatory mitigation ratios for Alameda whipsnake and loss of native grassland habitat could be achieved through treatment and management of lands in Upper Knowland Park west of Golf Links Road. Specific treatment areas for invasive species control have not yet been identified because French broom is spreading every year and conditions will likely continue to change considerably before the first phase of the HEP is implemented, which could be in 2015 if construction on the California Exhibit has not been initiated by then. Well established stands of French broom are a primary target for future treatment, but removing seedlings and scattered mature broom plants from high quality stands of native grassland may be an initial priority to prevent further loss of these sensitive resources, based on field conditions during initial implementation. The HEP and Draft SMND/A acknowledge that the precise acreage impacts will likely change by the time the project is implemented as invasive species continue to spread and field conditions change, and provide mechanisms (i.e. updating baseline survey requirement and meeting specific mitigation ratio) that ensure the potential impacts are appropriately mitigated. As described in the Implementation Element of the HEP, once the compensatory mitigation ratios are met and required habitat enhancement is achieved, then the invasive species treatment under the HEP will be expanded into the remaining area of Knowland Park east of Golf Links Road. On-going monitoring and management will be required in perpetuity to control possible re-establishment of the target invasive species due to the continued spread of seed from adjacent private properties and surrounding open space where management is less rigorous.

Definition of Native Grasslands and Updated Grassland Mapping Program

In advance of initiating the updated grassland mapping program, the availability of methods used to define "native grasslands" was investigated. The updated *Manual of California Vegetation*[4] defines vegetation by dominant species, with the "alliance" being the primary vegetation unit used in this classification system. This classification system was developed by the California Native Plant Society and is now recognized by the California Department of Fish and Game (CDFG) as the preferred method in defining vegetative cover in California. The *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* states that "special status natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." The 2007 *List of California Terrestrial Natural Communities* [5]

4 California Native Plant Society. 2009. *A Manual of Terrestrial Vegetation of California*, Sawyer, J.O., T. Keeler-Wolf, J.M. Evans, 2nd Edition.

5 California Department of Fish and Game, Biogeographic Data Branch. 2007. *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database,* October 22.

identifies specific community types and dominant vegetation indicators that are considered to have a "high inventory priority." CDFG ranks natural communities (also referred to by CDFG as alliances) based on rarity rank, using a system derived from NatureServe, an established network of biological inventories. The 2009 *List of California Vegetation Alliances* [6] provides a summary of the most recent ranking used by CDFG in identifying sensitive vegetation alliances. [7] As described on page 3.3-20 of the Draft SMND/A, alliances of both purple needlegrass (*Nassella pulchra*) and California oatgrass (*Danthonia californica* var. *californica*) on the site are ranked G4S3, and therefore considered sensitive natural communities. Note that the references to the alliances of *Nassella pulchra* and *Danthonia californica* were misspelled twice on page 3.3-20 of the Draft SMND/A.

There are no standards established by the CDFG or the City of Oakland for defining what constitutes a "native grassland" or thresholds for distinguishing a native grassland from a non-native grassland that has some native plant species component. The *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*[8] provide a detailed description of what constitutes a special-status plant, but not how to distinguish sensitive natural communities. Based on my past conversations with Todd Keeler-Wolf, Senior Vegetation Ecologist with the Vegetation Mapping Program of the CNDDB, and standard practices for grassland mapping, typically a stand of grassland is considered "native" if the native grass component is 10 percent or more. The importance and sensitivity of the grassland, and its value as a sensitive natural community increases as the number of native species increases and the total amount that the native species contribute to the cover composition increases.

An initial field survey was conducted by Dianne Lake and myself on March 29 to determine plant phenology this spring flowering season, confirm that dominant plant species had developed sufficiently to estimate cover classes, and complete an initial inspection of the grasslands to obtain a preliminary sense of the distribution of conspicuous tufts of the dominant native grassland species in the area and trends in species composition. Native needlegrass was consistently the dominant native grass observed, with smaller stands of California oatgrass in open areas, and creeping wildrye (*Elymus glaucus* ssp. *glaucus*) on the grassland fringes where they intergrade with oak and scrub canopy. The timing of the survey effort in early spring allowed for easier identification and mapping of the dominant native component perennial species because most of the non-native annual grasses and forbs were only beginning to grow to heights above about six inches. As reported previously in the BRS and Draft SMND/A, French broom seedlings and maturing plants are widespread throughout the grasslands and woodland understory, posing a threat to the long-term viability of grassland habitat in the vicinity. Their distribution was too variable to map specific stands during the updated grassland

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6 California Department of Fish and Game, Biogeographic Data Branch. 2009. *List of California Vegetation Alliances*, December 28.

7 As described in the ranking system used in the 2009 *List of California Vegetation Alliances*, an alliance is given both a global ("G") and a state-level ("S") rank of 1 to 5; 1: critically imperiled; 2: imperiled; 3: vulnerable; 4: apparently secure; 5: secure. CDFG considers alliances ranked 1, 2, or 3 at the state level to be sensitive. Those alliances ranked 4 and 5 at the state level are considered common enough to not be of concern.

8 California Department of Fish and Game. 2009. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities.*

mapping program, although future detailed mapping will be provided during baseline data gathering required during implementation of the HEP.

Using cover class composition[9] as a method to distinguish native and non-native grasslands was determined to be feasible based on the initial field survey and plant development this spring. The respective cover class composition in a selected sample location most likely varies somewhat on an annual basis depending on rainfall and other factors, and changes to some degree as the growing season progresses, but performing the mapping early in the season generally favored the appearance and abundance of the perennial native species. Patterns observed during the initial field survey indicated three primary categories of grassland composition which serve to define grassland resources as follows:

- **"Non-native" Grasslands** where the native species component was less than 10 percent absolute cover. These areas were dominated by non-native grasses and forbs, with wild oak (*Avena* sp.) the predominant species, and broadleaf filaree (*Erodium botrys*), subterranean clover (*Trifolium subterraneanum*), and bromes (*Bromus* spp.) also abundant in some locations. Occasionally, individual clumps of native needlegrass or relatively common native perennials such as blue-eyed grass (*Sisyrinchium bellum*), California poppy (*Eschscholzia californica*) or soap root (*Chlorogalum pomeridianum* var. *pomeridianum*) were observed, but they generally didn't comprise more than 10 percent of the absolute cover.

- **"Moderate Quality" Native Grasslands** where the native species component was from 10 to 40 percent absolute cover. Species composition and dominance varied widely, leading to this broad categorization. In some locations, native grassland species were absent, but the prevalence of other native perennial species such as soap plant and blue-eyed grass were considered high enough to warrant mapping the area as native grassland. In other locations, the total native cover component was less than 10 percent, but the area was surrounded by distinct native grasslands and was mapped as such to provide continuity a conservative estimate on the extent of native grasslands.

- **"High Quality" Native Grasslands** where the native species component generally exceeded 40 percent absolute cover. These tended to be dense conspicuous stands of needlegrass and other native species, generally on south-facing slopes. Non-native grasses and forbs were still abundant in these locations, but generally comprised less than 60 percent of the absolute cover.

On March 29 and 30, 2011, stands of grasslands were mapped using a handheld gps unit (GRS-1 Network Rover) and survey grade GPS unit (Hiper Pro Series RTK system) with assistance from surveyors from Aliquot Engineers. A transect was initially established to collect cover data from each of the three cover categories, from four different sampling locations, verifying species composition and plant characteristics to be used in the subsequent mapping.

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9 Cover class is a method of describing vegetative cover based on the percentages of component species over a defined area. "Absolute cover" is the actual proportion of the ground surface covered by a vertical projection of foliage (by single species or defined group of species) as viewed from above. Where bare ground is visible, it becomes one of the cover classification types in a sample location.

Boundaries separating each of the three cover classes were determined through visual inspection and placement of pin flags, followed by walking each polygon with the GPS unit and taking readings either periodically or at turns in the boundaries. Areas of open scrub and the understory of adjacent woodland cover were inspected during the mapping, and native grasslands mapped where they predominated in the understory. Figure 1 shows the location of the four sample data locations in the central portion of the proposed California Exhibit area. The list of species observed at each of the sample data locations and their respective percent cover is contained in Appendix A. Photographs 1 and 2 in Appendix B show a representative stand of high quality native grasslands and the predominance of French broom in the vicinity of part of the bison/tule elk exhibit area of the proposed California Exhibit, respectively.

Results of Updated Mapping Program

The results of the updated mapping program are depicted in Figure 1, showing the extent of grassland cover and the three defining categories: Non-native grasslands, Moderate quality native grasslands and high quality native grasslands. In general, areas mapped as native grasslands in the 1996 BRS have decreased in aerial extent. However, some areas mapped as stands of coyote brush scrub in the 1996 BRS were reclassified as native grasslands in the updated mapping effort. This is presumably due to the effects of goat grazing since 1996. Although intensive grazing by goats has probably contributed to the decrease in the actual extent of native grasslands, by reducing the scrub overstory since the vegetation mapping was completed in 1996, the underlying native grassland cover is now more apparent French broom seedlings and established plants were observed in almost all the stands of native grasslands on the site, although their distribution and abundance was too variable to map as part of this updated grassland mapping program. Detailed mapping of French broom and other invasive species will be performed as part of the updated baseline data gathering called for in the Invasive Species Control Element of the HEP, specifically in Implementing Action 1-3.

As indicated in Figure 1, non-native grasslands still comprise the majority of the grasslands within the limits of the updated survey area. Of the approximately 38.9 acres of grassland within the mapping survey limits in the vicinity of the proposed California Exhibit and Ecological Recovery Zone, about 21.7 acres are non-native grasslands. An estimated 14.7 acres are considered moderate quality native grasslands, and 2.5 acres high quality native grasslands, for a total of approximately 17.2 acres of native grasslands in the study area. As indicated by the distribution of grassland stands in Figure 1, the moderate and high quality native grasslands tend to be contiguous, forming large stands of native grasslands over portions of the study area.

Update of Potential Grassland Acreage Impacts

To further quantify potential impacts on grassland resources, the footprint of proposed improvements associated with the California Exhibit and Veterinary Medical Hospital were overlain on top of the grassland cover types produced as part of the updated grassland mapping program (see Figure 1), and areas of intersect were determined by Aliqout Engineers with polylines drawn in Autocad around the limits of each grass types within anticipated disturbance zones. Disturbance zones were identified based on the assumed levels of disturbance in the Master Plan amendment area indicated in Figure 3.3-1 on page 3.3-18 and

described on page 3.3-34 of the Draft SMND/A. These consist of "Maximum, "Limited", and "Low" disturbance zones according to Figure 3.3-1, and a new "High" disturbance zone established because of the assumed long-term effects of grazing and trampling in the bison/tule elk exhibit. These are described as follows:

- Areas of "Maximum" disturbance would be occupied by structures, roadways, pathways and other features of permanent disturbance and habitat conversion.

- Areas of "Limited" disturbance include visitor use along the borders of pathways and exhibits and in day-time exhibit areas for animals.

- Areas of "Low" disturbance consist of areas with low disturbance such as non-display exhibit areas and larger animal enclosures where vegetation removal is not expected to be as intense as the current denuding that occurs as part of annual goat grazing for fire fuel reduction.

- Areas of "High" disturbance consisting of the enclosure for the bison/tule elk exhibit. Long-term foraging and trampling in this enclosure will presumably eliminate existing groundcovers which includes large stands of native grasslands. Mitigation Measure 14c on page 3.3-39 of the Draft SMND/A calls for establishing controls in the bison/tule elk exhibit to maintain protective groundcover important for Alameda whipsnake dispersal from nearby areas of core chaparral habitat. This includes use of irrigation and limiting the number of animals housed in the exhibit, but the existing native cover will presumably be lost as a result of intensive browsing and trampling.

Table 1 provides a detailed summary of the potential impacts of the proposed California Exhibit and Veterinary Hospital improvements on grassland habitat based on the updated mapping program. Figure 1 shows the footprint of the various disturbance zones in relation to the updated mapping of grassland habitat in the study area. Assuming careful controls are implemented as part of the project construction to minimize disturbance during grading as required, a total of an estimated 13.73 acres of grassland habitat would be affected, consisting of an estimated 9.29 acres of non-native grassland and 4.44 acres of native grasslands. Of the 4.44 acres of native grassland affected by the proposed California Exhibit and Veterinary Hospital improvements, an estimated 3.54 acres were determined to be moderate quality with a native species component of from 10 to 40 percent and 0.90 acre were considered to be high quality with a native species component over 40 percent.

TABLE 1
Summary of Potential impacts on Grassland Habitat
Proposed California Exhibit and Veterinary Hospital Improvements

DISTURBANCE ZONE/GRASSLAND COVER	POTENTIAL IMACT (acres)
Maximum Disturbance Zone	
Non-native Grassland	2.67
Moderate Quality Native Grassland	0.40
High Quality Native Grassland	0.26
Total Affected Native Grasslands in Zone	0.66
High Disturbance Zone	
Non-native Grassland	1.07
Moderate Quality Native Grassland	1.12
High Quality Native Grassland	0.11
Total Affected Native Grasslands in Zone	1.23
Limited Disturbance Zone	
Non-native Grassland	5.05
Moderate Quality Native Grassland	1.05
High Quality Native Grassland	0.52
Total Affected Native Grasslands in Zone	1.57
Low Disturbance Zone	
Non-native Grassland	0.50
Moderate Quality Native Grassland	0.97
High Quality Native Grassland	0.01
Total Affected Native Grasslands in Zone	0.98
Summary of Potential Grassland Impacts	
Non-native Grassland	9.29
Moderate Quality Native Grassland	3.54
High Quality Native Grassland	0.90
Total Affected Native Grasslands in All Zones	4.44

In further evaluating the potential impacts on the estimated 4.44 acres of native grasslands affected by the proposed California Exhibit and Veterinary Medical Hospital improvements, less than half or an estimated 1.89 acres would presumably be completely lost as a result of habitat conversion to structures, roadways (Maximum Disturbance Zone), and long-term foraging and trampling within the bison/tule elk enclosure (High Disturbance Zone). The remaining estimated 2.55 acres of native grassland would be located in areas of Limited or Low Disturbance Zones,

and these areas are required to be managed as grassland habitat as called for under Implementation Action 2-5 in the Grassland Protection and Enhancement Element of the HEP.

Implementation Action 2-5 in the HEP specifies that the remaining grasslands within the developed California Exhibit shall be preserved and enhanced, where feasible. In areas outside of improvements (i.e. structures, pathways, animal enclosures and required landscape plantings), the remaining grasslands are required to be managed as natural habitat with appropriate invasive species control and native species enhancement plantings. Disturbance within most of the large animal enclosures (Low Disturbance Zone) is expected to be less than the complete removal of most ground cover that occurs every year as part of the current goat grazing for fire fuel management. Within animal enclosures where grazing and trampling may prevent long-term establishment and retention of native grasses and forbs (High Disturbance Zone), grassland cover is to be retained through adaptive management practices that may include use of artificial irrigation, reseeding and replanting with non-invasive species, excluding exhibit animals from portion of their enclosures to control disturbance during critical periods of establishment by subdividing areas and rotating access accordingly, and other appropriate techniques.

Although substantial retention of the estimated 2.55 acres of native grasslands is anticipated within the Limited and Low Disturbance Zones of the California Exhibit, the grassland management called for in Implementation Action 2-5 of the February 2011 HEP would not qualify as invasive species treatment areas in meeting the 2:1 mitigation ratio required under Implementing Action 2-1. The intent of the HEP and Implementing Action 2-5 was to provide a worst-case assessment of the potential for long-term loss of native grassland resources within the California Exhibit, while providing for additional preservation and replacement as called for in the Invasive Species Control Element and the Native Revegetation Element of the HEP. Additional recommendations have been made below to modify the approach to addressing impacts on native grasslands that would allow for a reduction in the assumed maximum loss of native grasslands affected by the California Exhibit if long-term monitoring provided during implementation of the HEP demonstrates these areas are successfully preserved as native grasslands.

A primary focus of the HEP is to implement the requirements in Mitigation Measure 13a by providing for the long-term preservation of native grasslands and other sensitive resources in Knowland Park through the control of French broom and other invasive species. French broom poses a threat to not only the grasslands within the proposed California Exhibit but the remaining estimated 12.76 (17.2 total minus 4.44 impacted) acres of native grassland to be preserved in the proposed Ecological Recovery Zone, and other grasslands throughout Knowland Park as well. The HEP provides a coordinated approach to invasive species control, grassland preservation and enhancement, and native revegetation that will address the substantial threat posed by French broom and other invasive species, and will provide for long-term management of grasslands resources in Knowland Park.

Conclusions and Additional Recommendations for Native Grassland HEP Provisions

The HEP provides a coordinated approach to invasive species control, native grassland preservation and enhancement, and native revegetation that would serve to guide

implementation of Mitigation Measure 13a regarding the potential impacts of the amended Master Plan on native grassland resources. Revisions to the implementation measures of the HEP are appropriate given the refined estimates of affected grassland habitat determined during the updated mapping program. The updated mapping also identified opportunities to provide for additional native grassland protection and salvage within the proposed California Exhibit.

Because non-native grasslands are not a sensitive natural community, and do not require mitigation for their loss under CEQA, the approach to meeting compensatory mitigation for native grasslands lost as a result of implementing the proposed California Exhibit can be refined to distinguish between native and non-native grasslands based on the updated mapping program. The mitigation ratios used in the Grassland Protection and Enhancement Element of the February 2011 HEP are based on acreage estimates for general grassland habitat, comprised largely of non-native grassland, and do not specifically address the native grassland component lost as a result of implementing the California Exhibit. The native revegetation efforts provided under the Native Revegetation Element of the HEP remain applicable, providing performance standards and success criteria and are requirements in addition to the required compensatory mitigation. Although the initial requirements under Implementing Action 2-1 were adequate to reduce the impacts associated with the loss of the combined non-native and native grassland, the updated grassland mapping program quantifies the extent of native grasslands potentially lost as a result of implementing the California Exhibit, which allows for a more precise approach to defining compensatory mitigation. Adjustments to the 2:1 compensatory mitigation ratio identified in the February 2011 HEP are appropriate given the more refined information on the extent of native grasslands potentially affected and opportunities for implementing actions that are equivalent to, or more effective than, those included in the February 2011 HEP.

Implementation of the HEP pursuant to Mitigation Measure 13a would adequately mitigate potential impacts on native grasslands. The refinements to the methods for achieving the mitigation below are recommended to reflect the latest information available, including opportunities for further avoidance and salvage. Minor adjustments to building footprints, and adherence to careful construction practices can protect additional areas of native grassland habitat currently assumed to be lost under the worst-case assessment provided in the Draft SMND/A. The dominant species in the native grasslands are perennial grasses and forbs that will survive for many years, and can be successfully transplanted if they are salvaged and replanted with proper care and maintenance. These plants are already well established and would be more successful in competing with non-native grasses and forbs in comparison to use of native seed in enhancement and revegetation efforts. Their salvage and reuse would also reduce the time necessary to achieve performance and success criteria specified in Implementing Action 3-5 of the Native Revegetation Element of the HEP, if used in specific treatment areas.

The following revisions to the HEP are recommended in the Grassland Protection and Enhancement Element to: 1) refine the estimate of native grasslands lost or modified as a result of implementing the California Exhibit based on the updated grassland mapping program; 2) define opportunities for additional on-site avoidance and preservation; 3) incorporate opportunities for salvage and replanting of native grasses and forbs where avoidance is

infeasible; and 4) provide adjustments to the total minimum acreage to be treated for invasive species as compensatory mitigation. Additions are shown in underline and deletions in ~~overstrike~~ from the February 2011 HEP.

1. Revise Goal 2 on page 8 of the HEP as follows:

   Goal 2: *Provide for the protection and enhancement of grassland habitat in ~~Knowland Park~~ through invasive species control and revegetation with native grassland species, and achieve a minimum 3:1 compensatory ~~adequate~~ mitigation for any permanent loss of native grassland habitat as a result of implementing the California Exhibit. The 3:1 compensatory mitigation assumes a worst-case the loss ~~and modification~~ of an estimated 4.44 ~~8.6~~ acres of native grassland habitat as a result of implementing the California Exhibit ~~by protecting and enhancing a minimum of 17.2 acres of grasslands in Knowland Park~~, resulting in a mitigation acreage of 13.32 acres to be protected and enhanced. This worst-case estimate and the corresponding compensatory mitigation acreage may be reduced through further refinement of plans for the California Exhibit to avoid additional stands of native grassland, and through implementation of a successful salvage and replanting program where avoidance is infeasible.*[10]

2. Revise the text in the first full paragraph on page 9 of the HEP as follows:

   A grassland enhancement and replacement program will be implemented as part of the HEP to ensure that adequate mitigation is provided for the worst-case estimated 4.44 ~~8.6~~ acres of native ~~and non-native~~ grassland habitat possibly lost or modified within the footprint of proposed improvements or within animal enclosures of the California Exhibit. Non-native grassland habitat will be preserved and enhanced through the invasive species removal provided under the Invasive Species Control Element of the HEP. The grassland program will identify historic grasslands...

3. Revise Implementing Action 2-1 on page 9 of the HEP as follows:

   Implementing Action 2-1: *Compensation shall be provided for the loss of native grasslands as a result of constructing the California Exhibit. This shall be accomplished through a three-tiered approach which first evaluates the opportunity for avoidance and protection, allows for salvage and replanting where avoidance is not feasible, and provides minimum compensatory mitigation where loss is unavoidable, all subject to City review and approval by the Planning Director, summarized as follows:*

   1) Require a minimum 3:1 compensation for native grasslands lost as a result of implementing the California Exhibit. Based on the 2011 grassland mapping program, a maximum estimate of 4.44 acres of native grasslands would be lost if no refinements to the plans for the California Exhibit and related improvement

10 Under the provisions of the HEP, a requirement shall be considered infeasible if it is not capable of being accomplished in a successful manner within a reasonable time period, considering economic, environmental, legal, social, technological factors and/or if it would preclude implementation of the approved amended Master Plan or require additional amendment(s).

were to occur and all habitat within enclosures and limited disturbance areas were eliminated. Under this worst-case scenario, 13.32 acres of native grasslands shall be created or restored. This estimate of grasslands lost and the required compensation shall be reduced based on efforts to further avoid native grassland and/or on implementation of a successful salvage and replanting program as described in 2) and 3), and defined in Implementation Actions 2-6 and 2-7, respectively:

2) Minimize the actual loss of native grasslands and reduce the required acreage of compensation through further refinement of detailed plans for the California Exhibit, alignment of enclosure fencing and perimeter fence, and roadway improvements. For every acre of native grasslands preserved through refinement the maximum estimate of 4.44 acres lost shall be reduced and the total acreage in the 3:1 compensation ratio shall be reduced proportionally. Details of the native grassland avoidance program are defined in Implementation Action 2-6, including methods to confirm final acreage of habitat lost and success of the avoidance program in exhibit areas considered to be of low disturbance risk to native grasslands; and

3) Establish a salvage and replanting program where avoidance is not feasible through refinements, and provide an incentive for implementing this program by reducing the compensatory mitigation ratio where transplanting is successful. For every acre of native grasslands salvaged and successfully re-established through this program, the 3:1 compensatory mitigation ratio shall be reduced to 1:1. This reduced compensation ratio shall still be required because of the physical loss of intact native grasslands that will occur during transplantation. Details of the salvage and replanting program are defined in Implementation Action 2-7.

Compensation shall be provided In ~~A minimum of 17.2 acres of~~ grassland habitat outside of animal exhibits but in as close proximity to the California Exhibit as possible based on updated grassland mapping and the mapped extent of target invasive species. Areas serving as compensation for native grasslands lost as a result of the California Exhibit shall be treated, protected and managed as part of the Invasive Species Control and Native Revegetation Elements of the HEP, as defined under Implementation Actions 2-2 through 2-4. Compensation areas shall be restored, enhanced and managed to achieve a minimum native grass and forb component consistent with the cover class range of native grasslands lost, defined as either moderate quality native grasslands with a native component of from 10 to 40 percent absolute cover or high quality native grasslands with a native component over 40 percent absolute cover. This shall include treatment areas receiving native plant materials from the salvage and replanting program defined in Implementation Action 2-7. This comprehensive program would fully implement the mitigation requirements of Mitigation Measure 13a ~~thereby providing a 2:1 mitigation ratio for grasslands lost or compromised as a result of~~ improvements in the California Exhibit area.

4. Insert two additional Implementation Actions on page 8 of the HEP as follows:

Implementation Action 2-6: Stands of native grasslands within the California Exhibit area shall be considered for additional avoidance during refinement of future improvement plans to protect native grasslands to the maximum extent feasible, incorporate them into the interpretive experience for future visitors, and reduce the maximum estimate of 4.44 acres of native grasslands adversely affected or lost as a result of Master Plan buildout. This shall include consideration of minor adjustments to building footprints, pathways, and other features which would permanently convert native grassland habitat, as well as minor adjustments to the alignment of exhibit enclosure fencing and the perimeter fence, where substantial avoidance is possible within the context of the approved amended Master Plan and the program for the California Exhibit. Where additional native grasslands are successfully avoided and protected within the California Exhibit area, the maximum estimate of 4.44 acres of grasslands requiring compensatory mitigation shall be reduced in equal amount and the required compensatory mitigation shall be reduced accordingly, as defined in Implementing Action 2-1. Protected stands of native grasslands within the California Exhibit that apply towards any reduction in the compensatory mitigation requirement shall be retained and managed in perpetuity as native grasslands, in addition to the grassland management provisions called for in Implementation Action 2-5. The additional grassland avoidance provisions shall be accomplished according to the following procedures and performance standards:

- *Refine plans for the California Exhibit to avoid direct disturbance to stands of native grasslands to the maximum extent feasible while still meeting the program needs, fire safety and clearance requirements, and other variables related to short-term construction and long-term maintenance requirements. To ensure long-term protection and management of native grasslands within the California Exhibit, these areas shall be designated as "Protected Native Grasslands" on all relevant improvement and management plans. The annual monitoring reports required under the Implementation Element of the HEP shall include a review of the status of these Protected Native Grasslands. Additional compensatory mitigation shall be required if these areas are significantly compromised, as defined below.*

- *Recalculate potential impacts on native grasslands and determine the adjusted total for acreage lost and required compensatory mitigation defined in Implementing Action 2-1. Any reduction in estimated impacts on native grasslands shall be reviewed by a qualified biologist and meet with the review and approval of Planning Director. Following approval by the Planning Director, final grading and site improvement plans shall be revised to show all areas of native grassland to be preserved and shall indicate that construction is restricted from these areas.*

- *Prior to any site grading or grubbing, the limits of areas to be preserved as native grassland within the California Exhibit shall be flagged by engineered survey at a minimum 50-foot intervals in the field. Protective fencing shall be installed under the supervision of a qualified biologist along this boundary to encompass the entire stand of native grassland to be protected in each location. No construction equipment disturbance shall be allowed within these areas, unless conducted under*

the supervision of the qualified biologist and no grading or excavation is allowed. On-going removal of invasive species and other vegetation management activities may continue within these areas during construction. Following the completion of construction within the vicinity of the protected stands of native grassland, the temporary construction fencing shall be removed.

- All workers shall be trained regarding the sensitivity of the native grasslands to be preserved, and the need to remain outside the limits of the protective fencing at all times.

- Annual Monitoring shall be provided as part of HEP implementation to confirm that impact avoidance has been successful and assumptions regarding limited disturbance within animal enclosures have not significantly compromised the native grassland habitat values within these areas. Preserved grasslands shall continue to meet the respective cover class criteria for moderate and high quality native grasslands used to define the compensatory mitigation requirements in Implementation Action 2-1. If these minimum cover class requirements are not met during future annual monitoring performed as part of the HEP, then the adjustment to the required compensatory mitigation shall be voided, and the full 3:1 mitigation requirement shall apply to the acreage of affected grassland within the California Exhibit where avoidance was to be implemented.

Implementation Action 2-7: A Native Plant Salvage and Replanting program, subject to review and approval by the Planning Director, shall be developed and implemented by a qualified biologist or landscape architect with experience in native grassland transplantation to relocate established clumps of native perennial species that would otherwise be lost as a result of constructing the California Exhibit. Where additional native grasslands are successfully salvaged and replanted, the compensation requirement shall be reduced according to the ratios defined in Implementing Action 2-1. The program shall include the following components and performance standards:

- Salvaged material shall be installed in secure locations suitable for native grassland creation and enhancement within the Ecological Recovery Zone or other treatment areas to be revegetated as called for in the Native Revegetation Element of the HEP.

- Prior to any site grading or grubbing, the limits of maximum disturbance associated with implementation of the California Exhibit shall be flagged at a minimum of 50-foot intervals in the field where they intersect stands of native grasslands.

- Suitable native plants that would otherwise be destroyed shall then be harvested in advance of any site grading and grubbing, preferably in the late fall and winter months when plants are dormant. Some salvage in early spring may be necessary given the difficulty in determining health and viability of some species when dormant

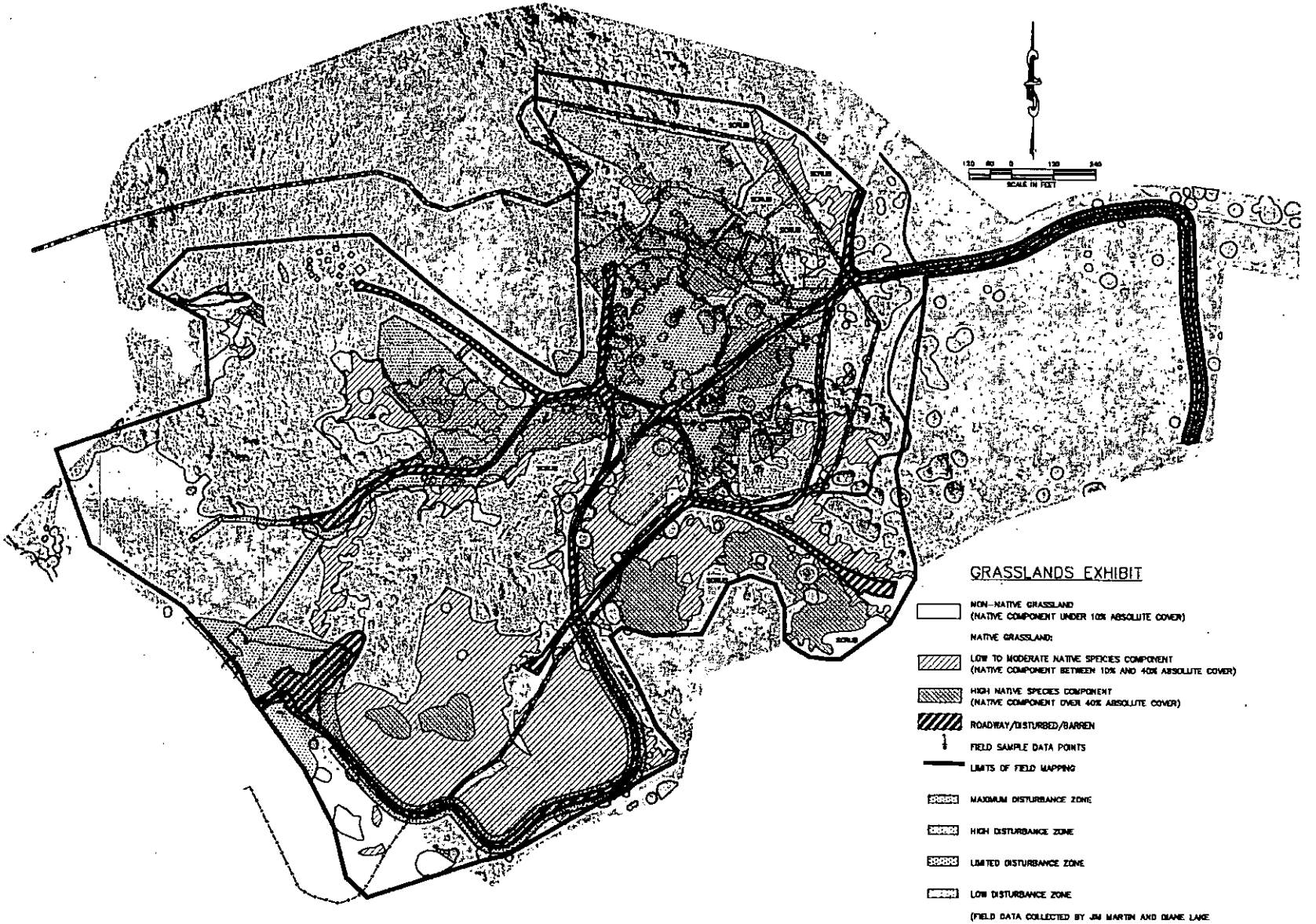
- Salvaged material shall be properly maintained until ready for reinstallation

during the wet period (between November 15 and January 15) consistent with the General Treatment Methods in Table 2, including shori-term irrigation both during temporary storage and during initial replanting to ensure survival.

- *Treatment areas receiving salvaged native plant material shall be maintained and monitored as called for in the Native Revegetation Element of the HEP. Treatment areas shall continue to meet the respective cover class criteria for moderate and high quality native grasslands used to define the compensatory mitigation requirements in Implementation Action 2-1. If these minimum cover class requirements are not met during future annual monitoring performed as part of the HEP, then the 1:1 adiustment to the required compensation shall be voided, and the full 3:1 mitigation requirement shall apply to the acreage of affected grassland within the Califomia Exhibit where the salvage program was implemented.*

Figure 1

Updated Grasslands Mapping



ALIQUOT

GRASSLANDS EXHIBIT
OAKLAND ZOO – CALIFORNIA EXHIBIT
CITY OF OAKLAND ALAMEDA COUNTY CALIFORNIA

1
1 of 1

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Appendix A

Cover Class Sample Data Sheets

OAKLAND ZOO MASTER PLAN – CALIFORNIA EXHIBIT AREA
VEGETATION MAPPING UPDATE – COVER CLASS SAMPLE DATA SHEETS

Date: 3/29/11
Sample Data Point: N1 - over 40 percent native cover
Sampler Name: D. Lake and J. Martin

SPECIES	PERCENT COVER
Anagalis arvensis	<1
Avena sp.	50
Erodium botrys	2
Genista monspessulana	<1
Hypochoeris radicata	1
Foeniculum vulgare	<1
Nassella pulchra	40
Ptantago lanceolate	<1
Trifolium spp.	1
Viola sativa ssp. sativa	2

OAKLAND ZOO MASTER PLAN – CALIFORNIA EXHIBIT AREA
VEGETATION MAPPING UPDATE – COVER CLASS SAMPLE DATA SHEETS

Date: 3/29/11
Sample Data Point: N2 - under 10 percent native cover
Sampler Name: D. Lake and J. Martin

SPECIES	PERCENT COVER
Avena sp.	65
Erodium botrys	30
Eschscholzia califomica	<1
Genista monspessulana	3
Hypochoeris radicata	1
Nassella pulchra	0
Rumex acetosella	<1
Raphanus sativa	<1
Vicia sativa ssp. sativa	1

OAKLAND ZOO MASTER PLAN – CALIFORNIA EXHIBIT AREA
VEGETATION MAPPING UPDATE – COVER CLASS SAMPLE DATA SHEETS

Date: 3/29/11
Sample Data Point: N3 - 10 to 40 percent native cover
Sampler Name: D. Lake and J. Martin

SPECIES	PERCENT COVER
Avena sp.	75
Camissonia ovata	1
Erodium botrys	8
Eschscholzia californica	<1
Genista monspessulana	3
Nassella pulchra	10
Rubus ursinus	1
Rumex acetosella	<1
Toxicodendron diversilobum	<1
Vicia sativa ssp. *sativa*	1

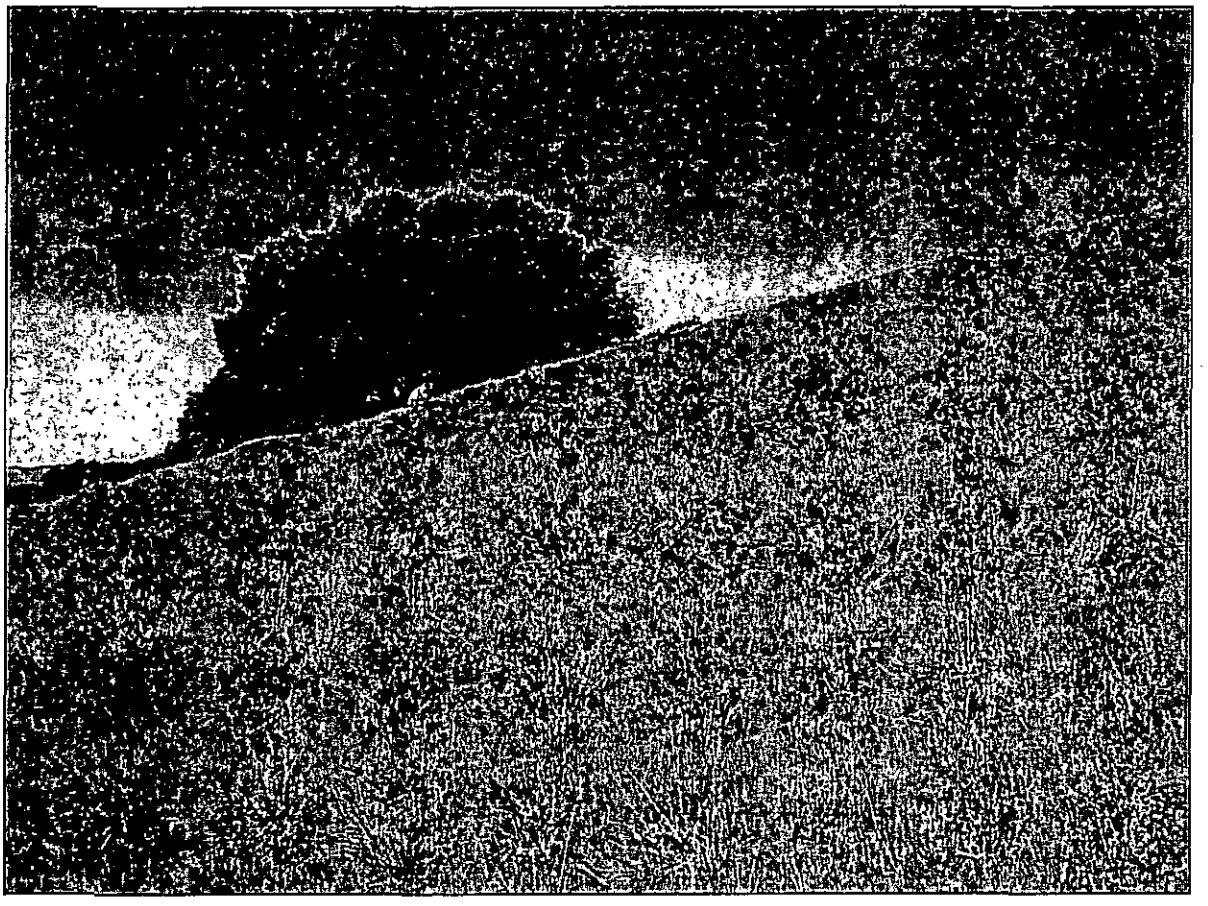
OAKLAND ZOO MASTER PLAN – CALIFORNIA EXHIBIT AREA
VEGETATION MAPPING UPDATE – COVER CLASS SAMPLE DATA SHEETS

Date: 3/29/11
Sample Data Point: N4 – under 10 percent native cover
Sampler Name: D. Lake and J. Martin

SPECIES	PERGENT COVER
Avena sp.	75
Erodium botrys	<1
Geranium dissectum	13
Nassella pulchra	0
Plantago lanceolate	2
Raphanus sativa	<1
Trifolium subterraneanum	10
Vicia sativa ssp. sativa	<1

Appendix B

Representative Photographs of Study Area



Photograph 1. View of a characteristic stand of "High Quality" native grasslands on a south-facing slope of proposed California Exhibit, south of the proposed black bear enclosure.

Photograph 2. View of a stand of "Moderate Quality" native grasslands in the vicinity of the proposed bison/tule elk enclosure that is being overtaken by French broom (shrubs with yellow flowers).

Amendment to Oakland Zoo Master Plan

Clarifying Revisions to Draft Subsequent Mitigated Negative Declaration / Addendum (February 2011)

April 20, 2011

This document contains the proposed revisions to the Draft Subsequent Mitigated Negative Declaration / Addendum (dated February 2011). New language is underlined and deleted language is ~~struck-out~~.

I. BIOLOGICAL RESOURCES

Revision 1 (Fire Fuel Management): The following text is added to Mitigation Measure 14c on page 3.3-39 and in Appendix C:

14c) Obtain appropriate authorizations from resource agencies to address possible incidental take and a Permit for Management of a rare or threatened species pursuant to Fish and Game Code Section 2081 and Section 7 of the Endangered Species Act, as called for under SCA-BIO-10. The project applicant shall provide compensatory mitigation for impacts to Alameda whipsnake habitat. Such mitigation shall be provided at a ratio of no less than 1:1 (at least one acre for every acre of impact), subject to any increase in this ratio that may be required by the resource agencies. There is adequate area within Knowland Park to achieve this mitigation ratio. Subject to the approval of the resources agencies, mitigation shall be achieved through habitat restoration and enhancement within the California Exhibit boundaries, the Ecological Recovery Zone, and other locations within Knowland Park, at another restoration location with an Alameda whipsnake habitat restoration plan area approved by the U.S. Fish and Wildlife Service and the California Department of Fish and Game, through the purchase of mitigation credits at a mitigation bank within the East Bay region, or some combination of these options. The project applicant shall retain a qualified biologist to prepare an Alameda whipsnake Mitigation and Monitoring Plan in connection with the application for an incidental take authorization and Management Permit. The Mitigation and Monitoring Plan will be subject to approval by the California Department of Fish and Game and the U.S. Fish and Wildlife Service. The Mitigation and Monitoring Plan shall include (a) a habitat restoration/creation performance standard of no net loss of habitat functions and

values; (a) location of the mitigation site(s); (c) a detailed habitat restoration/creation plan for the mitigation site(s); (d) provisions for timing and methods for invasive species removal, controls on herbicide application, and worker training programs that, at a minimum and subject to the requirements of the resource agencies, meet the applicable requirements of the Invasive Species Control Element of the HEP; (f) provisions that include cover requirements, methods of installation and maintenance, a tracking system, a record of source and species of plant materials used in revegetation; and (h) success criteria to be used to evaluate whether the restoration/creation efforts have achieved the identified goals of the Mitigation and Monitoring Plan.

The proposed Califomia Exhibit shall be modified to incorporate recommendations from the 2011 Status Report (Swaim Biological, Inc. 2011), which include removing the amphitheater from the stand of chamise-chaparral; restricting the Califomia Interpretive Center ten feet to the east and limiting grading to within ten feet of the edge of the building; modifying and establishing controls to the bison/tule elk extension exhibit, and ensuring that the perimeter fence is permeable to allow for unrestricted movement of Alameda whipsnake through the area. Controls associated with the bison/tule elk exhibit shall include limiting the number of animals housed to 20 bison and 20 tule elk, maintaining protective cover by creating irrigated pasture outside woodland habitat, and placing rock outcrops and logs to serve as refugia for dispersing snakes. The location of the Califomia Interpretitive Center shall be adjusted to the northeast away from the stand of chamise-chaparral, if required by the Califomia Department of Fish and Game and/or the U.S. Fish and Wildlife Service, to provide for appropriate defensible space for fire fuel management as required by the Oakland Fire Department.

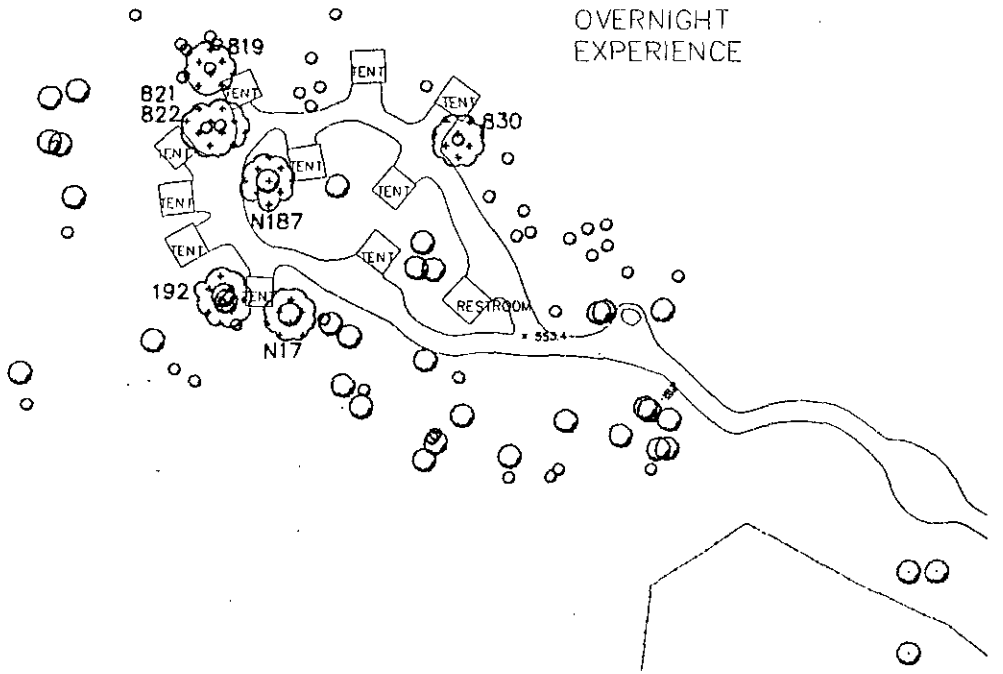
Revision 2 (Trees – Overnight Camping Area): Table 3.3-2 in Section 3.3, Biological Resources, is revised as follows:

TABLE 3.3-2: PROTECTED TREE IMPACTS – APPROVED MASTER PLAN AND PROPOSED MASTER PLAN AMENDMENT

	Approved Master Plan	Proposed Master Plan Amendment
Number of Protected Trees to be Removed		
Native Species	73	51
Non-Native Species	25	0
Total	**98**	**51**
Number of Protected Trees Within 10 Feet of Construction		
Native Species	Not recorded	9299
Non-Native Species	Not recorded	16
Total	**Not recorded**	**~~110~~117**

Source: PJA

Revision 3 (Trees – Overnight Camping Area): The following figure is added to Section 3.3, Biological Resources, and to the California Exhibit Tree Diagram (Appendix G-4), as Figure 3.3-9, Proposed Master Plan Amendment, Trees Within 10 Feet of Proposed Construction Activities of Overnight Camping Area. [Figure is included on following page.]



SCHEMATIC TREE IMPACT DIAGRAM

SCALE: 1" = 20'-0"

1

OAKLAND ZOO
CALIFORNIA!

pja

Knowland Park

SCHEMATIC TREE IMPACT DIAGRAM

1"=20'-0"

2-22E.2

Revision 4 (Trees – Sudden Oak Death): The following text is added to the Invasive Species Control Element of the Habitat Enhancement Plan (Appendix G-2) under Goal 1 on page 7:

> Native coast live oak and other vegetation in Knowland Park is susceptible to Sudden Oak Death (SOD), and construction and vegetation management activities must be conducted in a manner to minimize the further spread of this disease. SOD is caused by the pathogen *Phytophthora ramorum*, a fungus-like organism that thrives in the moist climate found along coastal California. It is the leading cause in widespread mortality of susceptible tree species, including tanoak and to a lesser degree, coast live oak, California black oak and Shreve oak. The pathogen attacks the vascular system of the tree, just below the bark, weakening the tree and making it more vulnerable to infection by other tree pests such as fungi and bark beetles.
>
> *Phytophthora* species are water-loving molds that produce plentiful spores in moist, humid conditions, and are known plant pathogens. While most leaf hosts do not die from the disease, they do play a key role in the spread of *P. ramorum*, acting as breeding ground for spore production, which may then be spread through wind-driven rain, water, plant material, or human activity. Trunk hosts such as oaks are considered terminal hosts, typically becoming infected when exposed to spores produced on the leaves of neighboring plants or through human contamination. The organism is most active during wet periods, and the risk of movement is therefore highest in muddy, wet areas and during rainy weather. *P. ramorum* spores can be found in living, dying, or recently dead plants, as well as in infested waterways and soil, and may be transported to new areas when infected plant material or infested soil is moved.
>
> The California Oak Mortality Task Force (COMTF) is a non-profit group working to manage SOD in California. The COMTF has compiled Best Management Practices (BMPs) that are applicable to construction and vegetation management activities in Knowland Park. These include practices related to tree removal and care, vegetation and other debris disposal, and sanitation measures to use during construction and vegetation management activities to minimize pathogen spread. BMPs shall be implemented to minimize the possible spread of this pathogen and loss of oaks and other vegetation in Knowland Park.

Revision 5 (Trees – Sudden Oak Death): The following text is added to the Invasive Species Control Element of the Habitat Enhancement Plan (Appendix G-2) under Goal 1 on page 8:

Implementation Aetion 1-7: Develop and implement a comprehensive Sudden Oak Death Control Program addressing the possible spread and infection of SOD in Knowland Park associated with implementation of the Master Plan and vegetation management activities of the HEP. The SOD Control Program shall be prepared by a certified arborist or registered professional forester trained in the treatment of SOD and submitted to the City for its review and approval. The SOD Control Program shall be prepared in consultation with the pest control staff of the Alameda County Agricultural Department, and shall be completed prior to initiation of any construction or additional vegetation management activities in Knowland Park associated with the California Exhibit and/or the HEP. Best Management Practices (BMPs) shall be developed as part of the program to address possible spread and infection both during construction of the California Exhibit and vegetation management activities associated with the HEP. Provisions in the SOD Control Program shall include the following major components with related BMPs, as modified to reflect the best available science in treating and avoiding spread of the pathogen.

- *Identify and Monitor Extent of SOD Infection: Map the current extent of observed SOD infection in Knowland Park, designated zones for high and low risk areas, and monitor any spread of the pathogen as part of the annual monitoring program of the HEP. Risk zones and the applicable BMPs listed below shall be adjusted as necessary if the annual monitoring indicates the infection has spread.*

- *Sanitation Measures: Sanitize tools, equipment, vehicles, shoes and clothing upon exiting high risk zones or when used on known or suspected infested trees as a precaution against spreading the pathogen. Use all reasonable methods to sanitize personal gear and crew equipment before leaving a P. ramorum-infested location or high risk area. Contaminated soil, particularly mud, on vehicle tires, workers boots, shovels, stump grinders, trenchers, etc., may result in pathogen spread ifimoved to a new, uninfested location. Products used in sanitizing are corrosive to metal and fabric, and toxic to native plants and other vegetation. Measures taken to prevent possible spread of this pathogen shall be implemented in a coordinated fashion to avoid possible secondary effects of treatment, including establishing designated sanitation stations where materials are available for treatment and runoff is adequately contained.*

- *Worker Training: Inform all construction and vegetation management crew members about the arboricultural implications of P. ramorum and required sanitation practices when working in high risk areas, and potential for spread to other locations. Where work will occur in*

infested areas, sanitation kits must be provided and their use monitored to ensure cleanup.

- *Timing of Tree Removal and Construction: Restrict timing of tree removal, work on infected and susceptible vegetation species, and grading to the dry season (June - October), or during dry spells if adherence to this schedule is not feasible. When working in wet conditions, equipment shall be kept on paved or dry surfaces to the maximum extent feasible. Construction and vegetation maintenance activities shall generally occur in disease-free and low risk areas before proceeding to infested and high risk areas, and appropriate sanitation measures followed.*

- *Restrictions on Movement of Plant and Soil Material: Appropriate restrictions on grading, other soil disturbing activities, and collection or movement of plant material (wood, brush, leaves and litter) shall be developed and implemented where grading, vegetation removal, and heavy equipment operation is to occur in infected and high risk areas. Within the regulated area, potential host material (e.g. wood, bark, brush, chips, leaves, or firewood) from tree removals or pruning of symptomatic or non-symptomatic plants shall preferably remain within the infected area to minimize pathogen spread, or disposed of off-site according to the quarantine Compliance Agreement for green waste disposal in Alameda County.*

Revision 6 (Trees – Sudden Oak Death): The following text is added to the Native Tree Protection and Replacement Element of the Habitat Enhancement Plan (Appendix G-2) under Goal 4 on page 13:

> *Implementing Action 4-3: Best Management Practices developed as part of the Sudden Oak Death Control Program in the Invasive Species Control Element of the HEP shall be implemented to address the possible spread of the pathogen and infection of oaks and other vegetation in Knowland Park*

Revision 7 (Grasslands): The following text is revised in the Grassland Protection and Enhancement Element of the Habitat Enhancement Plan (Appendix G-2) on page 8:

> **Goal 2:** *Provide for the protection and enhancement of grassland habitat in Knowland Park through invasive species control and revegetation with native grassland species, and achieve a minimum 3:1 compensatory ~~adequate mitigation~~ for any permanent loss of native grassland habitat as a result of implementing the California Exhibit. The 3:1 compensatory mitigation assumes a worst-case the loss ~~and modification~~ of an estimated 4.44 ~~8.6~~ acres of native grassland habitat as a result of implementing the California Exhibit ~~by protecting and enhancing a minimum of 17.2 acres~~*

~~of grasslands in Knowland Park~~, resulting in a mitigation acreage of 13.32 acres to be protected and enhanced. This worst-case estimate and the corresponding compensatory mitigation acreage may be reduced through further refinement of plans for the California Exhibit to avoid additional stands of native grassland, and through implementation of a successful salvage and replanting program where avoidance is infeasible.[1]

[1]Under the provisions of the HEP, a requirement shall be considered infeasible if it is not capable of being accomplished in a successful manner within a reasonable time period, considering economic, environmental, legal, social, technological factors and/or if it would preclude implementation of the approved amended Master Plan or require additional amendment(s).

Revision 8 (Grasslands): The following text is revised in the Grassland Protection and Enhancement Element of the Habitat Enhancement Plan (Appendix G-2) under Goal 2 on page 9:

A grassland enhancement and replacement program will be implemented as part of the HEP to ensure that adequate mitigation is provided for the worst-case estimated 4.44 ~~8.6~~ acres of native ~~and non-native~~ grassland habitat possibly lost or modified within the footprint of proposed improvements or within animal enclosures of the California Exhibit. Non-native grassland habitat will be preserved and enhanced through the invasive species removal provided under the Invasive Species Control Element of the HEP. The grassland program will identify historic grasslands...

Revision 9 (Grasslands): The following text is revised in the Grassland Protection and Enhancement Element of the Habitat Enhancement Plan (Appendix G-2) under Goal 2 on page 9:

Implementing Action 2-1: Compensation shall be provided for the loss of native grasslands as a result of constructing the California Exhibit. This shall be accomplished through a three-tiered approach which first evaluates the opportunity for avoidance and protection, allows for salvage and replanting where avoidance is not feasible, and provides minimum compensatory mitigation where loss is unavoidable, all subject to City review and approval by the Planning Director, summarized as follows:

1) Require a minimum 3:1 compensation for native grasslands lost as a result of implementing the California Exhibit. Based on the 2011 grassland mapping program, a maximum estimate of 4.44 acres of native grasslands would be lost if no refinements to the plans for the California Exhibit and related improvement were to occur and all habitat within enclosures and limited disturbance areas were eliminated. Under this worst-case scenario, 13.32 acres of native grasslands shall be created or restored. This

estimate of grasslands lost and the required compensation shall be reduced based on efforts to further avoid native grassland and/or on implementation of a successful salvage and replanting program as described in 2) and 3), and defined in Implementation Actions 2-6 and 2-7, respectively;

2) Minimize the actual loss of native grasslands and reduce the required acreage of compensation through further refinement of detailed plans for the California Exhibit, alignment of enclosure fencing and perimeter fence, and roadway improvements. For every acre of native grasslands preserved through refinement, the maximum estimate of 4.44 acres lost shall be reduced and the total acreage in the 3:1 compensation ratio shall be reduced proportionally. Details of the native grassland avoidance program are defined in Implementation Action 2-6, including methods to confirm final acreage of habitat lost and success of the avoidance program in exhibit areas considered to be of low disturbance risk to native grasslands; and

3) Establish a salvage and replanting program where avoidance is not feasible through refinements, and provide an incentive for implementing this program by reducing the compensatory mitigation ratio where transplanting is successful. For every acre of native grasslands salvaged and successfully re-established through this program, the 3:1 compensatory mitigation ratio shall be reduced to 1:1. This reduced compensation ratio shall still be required because of the physical loss of intact native grasslands that will occur during transplantation. Details of the salvage and replanting program are defined in Implementation Action 2-7.

Compensation shall be provided in ~~A minimum of 17.~~2 acres of grassland habitat outside of animal exhibits but in as close proximity to the California Exhibit as possible based on updated grassland mapping and the mapped extent of target invasive species. Areas serving as compensation for native grasslands lost as a result of the California Exhibit shall be treated, protected and managed as part of the Invasive Species Control and Native Revegetation Elements of the HEP, as defined under Implementation Actions 2-2 through 2-4. Compensation areas shall be restored, enhanced and managed to achieve a minimum native grass and forb component consistent with the cover class range of native grasslands lost, defined as either moderate quality native grasslands with a native component of from 10 to 40 percent absolute cover or high quality native grasslands with a native component over 40 percent absolute cover. This shall include treatment areas receiving native plant materials from the salvage and replanting program defined in Implementation Action 2-7. This comprehensive program would fully

implement the mitigation requirements of Mitigation Measure 13a ~~thereby providing a 2:1 mitigation ratio for~~ grasslands lost or compromised as a result of improvements in the California Exhibit area.

Revision 10 (Grasslands): The following text is added in the Grassland Protection and Enhancement Element of the Habitat Enhancement Plan (Appendix G-2) under Goal 2 on page 10:

Implementation Action 2-6: Stands of native grasslands within the California Exhibit area shall be considered for additional avoidance during refinement of future improvement plans to protect native grasslands to the maximum extent feasible, incorporate them into the interpretive experience for future visitors, and reduce the maximum estimate of 4.44 acres of native grasslands adversely affected or lost as a result of Master Plan buildout. This shall include consideration of minor adjustments to building footprints, pathways, and other features which would permanently convert native grassland habitat, as well as minor adjustments to the alignment of exhibit enclosure fencing and the perimeter fence, where substantial avoidance is possible within the context of the approved amended Master Plan and the program for the California Exhibit. Where additional native grasslands are successfully avoided and protected within the California Exhibit area, the maximum estimate of 4.44 acres of grasslands requiring compensatory mitigation shall be reduced in equal amount and the required compensatory mitigation shall be reduced accordingly, as defined in Implementing Action 2-1. Protected stands of native grasslands within the California Exhibit that apply towards any reduction in the compensatory mitigation requirement shall be retained and managed in perpetuity as native grasslands, in addition to the grassland management provisions called for in Implementation Action 2-5. The additional grassland avoidance provisions shall be accomplished according to the following procedures and performance standards:

- *Refine plans for the California Exhibit to avoid direct disturbance to stands of native grasslands to the maximum extent feasible while still meeting the program needs, fire safety and clearance requirements, and other variables related to short-term construction and long-term maintenance requirements. To ensure long-term protection and management of native grasslands within the California Exhibit, these areas shall be designated as "Protected Native Grasslands" on all relevant improvement and management plans. The annual monitoring reports required under the Implementation Element of the HEP shall include a review of the status of these Protected Native Grasslands. Additional compensatory mitigation shall be required if these areas are significantly compromised, as defined below.*

- *Recalculate potential impacts on native grasslands and determine the adjusted total for acreage lost and required compensatory mitigation defined in Implementing Action 2-1. Any reduction in estimated impacts on native grasslands shall be reviewed by a qualified biologist and meet with the review and approval of Planning Director. Following approval by the Planning Director, final grading and site improvement plans shall be revised to show all areas of native grassland to be preserved and shall indicate that construction is restricted from these areas.*

- *Prior to any site grading or grubbing, the limits of areas to be preserved as native grassland within the California Exhibit shall be flagged by engineered survey at a minimum 50-foot intervals in the field. Protective fencing shall be installed under the supervision of a qualified biologist along this boundary to encompass the entire stand of native grassland to be protected in each location. No construction equipment disturbance shall be allowed within these areas, unless conducted under the supervision of the qualified biologist and no grading or excavation is allowed. On-going removal of invasive species and other vegetation management activities may continue within these areas during construction. Following the completion of construction within the vicinity of the protected stands of native grassland, the temporary construction fencing shall be removed.*

- *All workers shall be trained regarding the sensitivity of the native grasslands to be preserved, and the need to remain outside the limits of the protective fencing at all times.*

- *Annual Monitoring shall be provided as part of HEP implementation to confirm that impact avoidance has been successful and assumptions regarding limited disturbance within animal enclosures have not significantly compromised the native grassland habitat values within these areas. Preserved grasslands shall continue to meet the respective cover class criteria for moderate and high quality native grasslands used to define the compensatory mitigation requirements in Implementation Action 2-1. If these minimum cover class requirements are not met duringifuture annual monitoring performed as part of the HEP, then the adjustment to the required compensatory mitigation shall be voided, and the full 3:1 mitigation requirement shall apply to the acreage of affected grassland within the California Exhibit where avoidance was to be implemented.*

Implementation Action 2-7: A Native Plant Salvage and Replanting program, subject to review and approval by the Planning Director, shall be developed and implemented by a qualified biologist or landscape architect with experience in native grassland transplantation to relocate

established clumps of native perennial species that would otherwise be lost as a result of constructing the California Exhibit. Where additional native grasslands are successfully salvaged and replanted, the compensation requirement shall be reduced according to the ratios defined in Implementing Action 2-1. The program shall include the following components and performance standards:

- *Salvaged material shall be installed in secure locations suitable for native grassland creation and enhancement within the Ecological Recovery Zone or other treatment areas to be revegetated as called for in the Native Revegetation Element of the HEP.*

- *Prior to any site grading or grubbing, the limits of maximum disturbance associated with implementation of the California Exhibit shall be flagged at a minimum of 50-foot intervals in the field where they intersect stands of native grasslands.*

- *Suitable native plants that would otherwise be destroyed shall then be harvested in advance of any site grading and grubbing, preferably in the late fall and winter months when plants are dormant. Some salvage in early spring may be necessary given the difficulty in determining health and viability of some species when dormant.*
- *Salvaged material shall be properly maintained until ready for reinstallation during the wet period (between November 15 and January 15) consistent with the General Treatment Methods in Table 2, including short-term irrigation both during temporary storage and during initial replanting to ensure survival.*

Treatment areas receiving salvaged native plant material shall be maintained and monitored as called for in the Native Revegetation Element of the HEP. Treatment areas shall continue to meet the respective cover class criteria for moderate and high quality native grasslands used to define the compensatory mitigation requirements in Implementation Action 2-1. If these minimum cover class requirements are not met during future annual monitoring performed as part of the HEP, then the 1:1 adjustment to the required compensation shall be voided, and the full 3:1 mitigation requirement shall apply to the acreage of affected grassland within the California Exhibit where the salvage program was implemented.

Revision 11 (Bristly leptosiphon): The following text is revised in the Species Protection Element of the Habitat Enhancement Plan (Appendix G-2) under Goal 5 on pages 15 and 16:

Implementing Action 5-2: Annual monitoring shall be provided for a minimum of five years once wolves begin using the "Wolf Expansion"

area to determine whether trampling, digging, and other possible disturbances could result in the extirpation of this population. Field monitoring inspections shall be conducted at least once a month for the first six months once wolves have been released into the enclosure, and the effects of newly established trails and movement patterns, tendency for digging, and risks to the occurrence of bristly leptosiphon determined. Thereafter, field monitoring inspections shall occur at least once a year when the bristly leptosiphon is in flower and any changes in the size and distribution of the occurrence can be determined. The monitoring shall be conducted by a qualified botanist or biologist, with annual reports on the condition of the occurrence, reproductive success, and need for any changes in access or management. Annual monitoring reports shall be submitted to the City of Oakland by October 15 of each year of monitoring. If it is clear that the occurrence becomes threatened by wolf activities, permanent protective fencing shall be installed providing a 25-foot buffer around the population. Annual monitoring shall be provided a minimum of three years beyond installation of any permanent protective fencing to ensure that the population is adequately protected and monitor changes in population size and distribution within and outside of the protective fence boundary.

Revision 12 (Trees – Overnight Camping Area): The following tabular information is added to the California Exhibit Tree Survey (Appendix G-4). [Table is included on following page.]

Oakland Zoo - California Project - Tree Survey

Protected Trees

Tree Number	Type	Trunk Diameter	Remove	To Remain - 10' of Const.	Construction Phase	Sheet Location
192	OAK	24-12		X	2	2-22E.2
819	OAK	12-12-12		X	2	2-22E.2
821	OAK	10		X	2	2-22E.2
822	OAK	6-6-8-10		X	2	2-22E.2
830	OAK	12-12		X	2	2-22E.2
N17	OAK	12-12-12		X	2	2-22E.2
N187	OAK	24		X	2	2-22E.2

Total Protected Trees Removed	Total Protected Trees within 10' of
0	7

GENERAL NOTES:

1. PLS Surveys Inc., an Oakland-based surveying company, surveyed the trees within the Oakland Zoo's California Exhibit and Veterinary Medical Hospital Master Plan area on several occasions in 2009 and 2010. Provided with a plan of the Zoo's project, PLS Surveys tagged those trees projected for removal and within 10-feet of construction. Some trees already included a unique identifying tag resulting from prior surveys while other trees required new tags and number systems. The latest tree surveys were then reviewed by Seattle-based PJA Architects, the Oakland Zoo's principal architect for the Master Plan. PJA Architects compared and verified the PLS Surveys tree survey against the latest planned project to determine potential impact to trees.

OAKLAND ZOO
CALIFORNIA!

PJA

Knowland Park

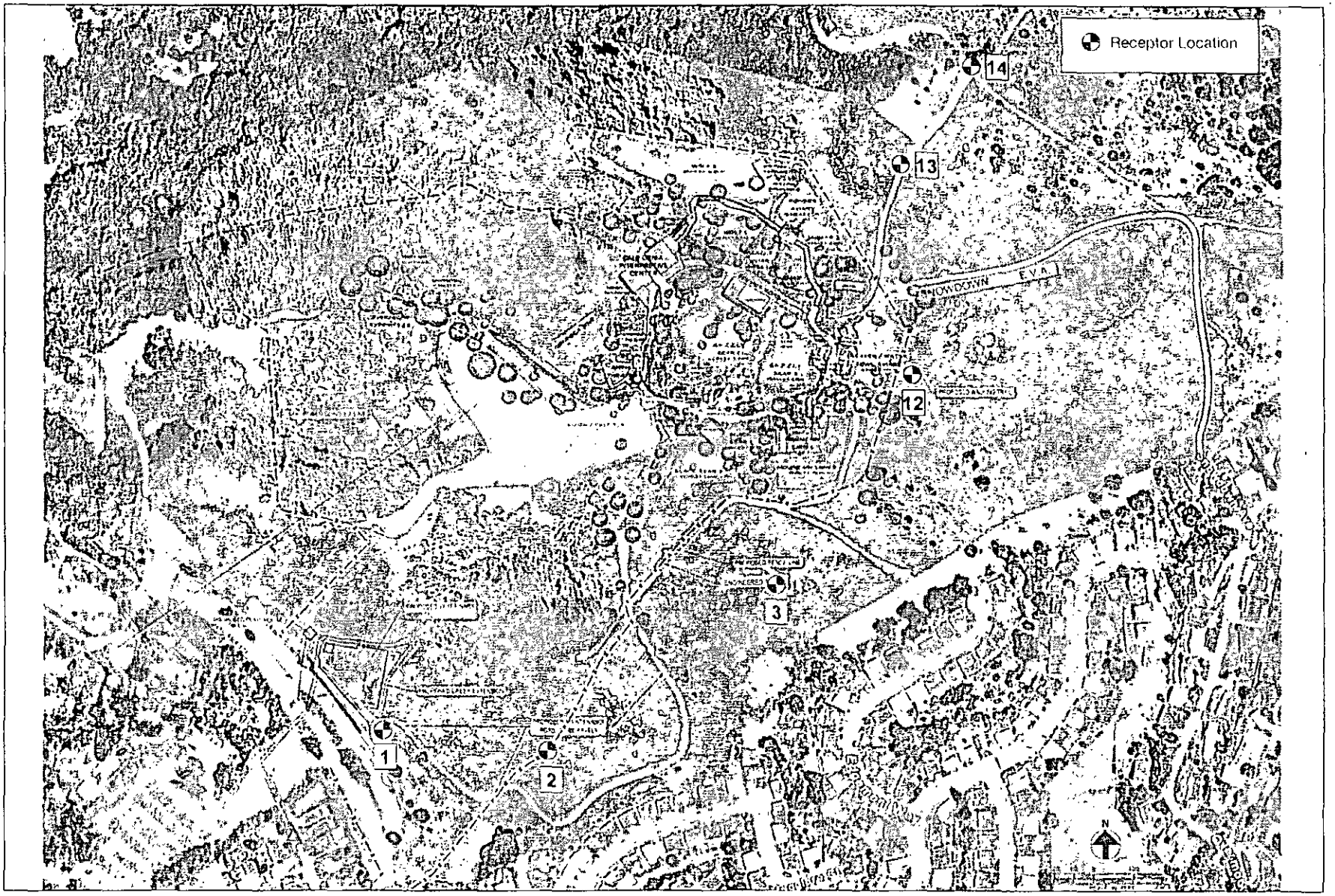
SCHEMATIC TREE IMPACT SCHEDULE

1"=20'-0"

2-22E.3

II. NOISE

Revision 13 (Ambient Noise Increase): Figure 3.9-2 in Section 3.9, Noise, is replaced with the following figure, Figure 3.9-2, Ambient Noise Measurement Locations. [Figure is included on following page.]



SOURCE: Aliquot and PJA; ARCADIS

Figure 3.9-2
Ambient Noise Measurement Locations

Revision 14 (Ambient Noise): Table 3.9-10 in Section 3.9, Noise, is revised as follows:

TABLE 3.9-10: EXISTING AMBIENT NOISE CONDITIONS COMPARED TO FUTURE CONDITIONS WITH OPERATIONAL NOISE FROM PROPOSED MASTER PLAN AMENDMENT

Receptor	Location	Existing Ambient Noise Levels (dBA)	Combined Ambient Noise and Proposed Master Plan Amendment Operational Noise (dBA)	Difference (dB)
1[1]	Proposed Veterinary Medical Hospital (Noise Monitor)	54.2	58.4	4.2
2	Service Road (Noise Monitor)	56.5	56.6	0.1
3	Proposed California Exhibit (Noise Monitor)	54.9	55.0	0.1
12	Knowland Park (proposed public access path)	48.4	49.0	0.6
13	Knowland Park	50.1	50.7	0.6
14	Knowland Park	49.8	50.1	0.3

[1] Receptor 1 is the noise monitor location of the Veterinary Medical Hospital and is located well within the zoo property and does not represent a residential or park boundary.

Source: ARCADIS

AMENDMENT TO OAKLAND ZOO MASTER PLAN

REVISED CONDITIONS OF APPROVAL/MITIGATION MEASURES FOR ZOO MASTER PLAN AMENDMENT

APRIL 20, 2011

Note: Changes made to the conditions of approval/mitigation measures from the March 16, 2011, Planning Commission staff report are indicated below. New language is double-underlined and deleted language is ~~struck-out~~.

Part 1: Standard Conditions of Approval: General Conditions

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1. Approved Use

Ongoing

a) The project shall be constructed and operated in accordance with the authorized use as described in the application materials, project drawings (received March 8, 2011), March 16, 2011, Planning Commission staff report, April 20, 2011, Planning Commission staff report, and the Subsequent Mitigated Negative Declaration/Addendum, as amended by the following conditions of approval and mitigation measures. Any additional uses or facilities other than those approved with this permit will require a separate application and approval. Any deviation from the approved use, drawings, conditions of approval, or mitigation measures shall require prior written approval from the Director of City Planning or designee.

b) This action by the City Planning Commission (this "Approval") includes the approvals set forth below.

i) Major Conditional Use Permit to modify an existing Extensive Impact Civic Activity (zoological gardens); and

ii) Creek Protection Permit (Categories III and IV) to allow development on a creekside property.

2. Effective Date, Expiration, Extensions and Extinguishment

Ongoing

This Approval to modify the zoo shall expire 15 years from the effective date of the Approval. This expiration date shall not apply to modifications to the zoo for which all necessary permits for construction have been issued prior to the expiration date as long as the necessary permits remain valid. In addition, construction of the Veterinary Medical Hospital shall commence within two years, and construction of the California exhibit (specifically animal exhibits, and/or the California Interpretive Center, and/or the aerial gondola system) shall commence within five years, from the effective date of the Approval for the Approval to remain valid. Upon written request and payment of appropriate fees submitted no later than the expiration date of this permit, the Director of City Planning or designee may grant a one-year extension of each of these dates, with additional extensions subject to approval by the Planning Commission. Expiration of any necessary building permit for this project may invalidate this Approval if the said extension period has also expired. See also Condition 23.

3. Scope of This Approval; Major and Minor Changes

Ongoing

The project is approved pursuant to the Oakland Planning Code and Oakland Creek Protection Ordinance only. Minor changes to approved plans may be approved administratively by the Director of City Planning or designee. Major changes to the approved plans shall be reviewed by the Director of City Planning or designee to determine whether such changes require submittal and approval of a revision to the approved project by the approving body or a new, completely independent permit.

4. Conformance with other Requirements

Prior to issuance of a demolition, grading, p-job, building, or other construction-related permit

a) The project applicant shall comply with all other applicable federal, state, regional and/or local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City's Building Services Division, Fire Marshal, and Public Works Agency. Comphance with other applicable requirements may require changes to the approved use and/or plans. These changes shall be processed in accordance with the procedures contained in Condition 3 above.

b) The applicant shall submit approved building plans for project-specific needs related to fire protection to the Fire Services Division for review and approval, including, but not limited to automatic extinguishing systems, water supply improvements and hydrants, fire department access, and vegetation management for preventing fires and soil erosion.

5. Conformance to Approved Plans; Modification of Conditions/Mitigation or Revocation

Ongoing

a) The site shall be kept in a blight/nuisance-free condition. Any existing blight or nuisance shall be abated within 60-90 days of approval, unless an earlier date is specified elsewhere.

b) The City of Oakland reserves the right at any time during construction to require certification by a licensed professional that the as-built project conforms to all applicable zoning requirements, including but not limited to approved maximum heights and minimum setbacks. Failure to construct the project in accordance with approved plans may result in remedial reconstruction, permit revocation, permit modification, stop work, permit suspension or other corrective action.

c) Violation of any term, condition of approval, mitigation measure, or project description relating to the Approval is unlawful, prohibited, and a violation of the Oakland Municipal Code. The City of Oakland reserves the right to initiate civil and/or criminal enforcement and/or abatement proceedings, or after notice and public hearing, to revoke the Approval or alter these conditions of approval and/or mitigation measures if it is found that there is violation of any of the conditions of approval and/or mitigation measures and/or the provisions of the Planning Code or Municipal Code, or the project operates as or causes a public nuisance. This provision is not intended to, nor does it, limit in any manner whatsoever the ability of the City to take appropriate enforcement actions. The project applicant shall be responsible for paying fees in accordance with the City's Master Fee Schedule for inspections conducted by the City or a City-designated third-party to investigate alleged violations of the conditions of approval and/or mitigation measures.

6. Signed Copy of the Conditions of Approval and Mitigation Measures

With submittal of a demolition, grading, p-job, building, or other construction-related permit

A copy of the Approval, including the conditions of approval and mitigation measures shall be signed by the property owner, notarized, and submitted with each set of permit plans to the appropriate City agency for this project.

7. Indemnification

Ongoing

a) To the maximum extent permitted by law, the applicant shall defend (with counsel acceptable to the City), indemnify, and hold harmless the City of Oakland, the Oakland City Council, the City of Oakland Redevelopment Agency, the Oakland City Planning Commission and its respective agents, officers, and employees (hereafter collectively called "City") from any liability, damages, claim, judgment, loss (direct or indirect) action, causes of action, or proceeding (including legal costs, attorneys' fees, expert witness or consultant fees, City Attorney or staff time, expenses or costs) (collectively called "Action") against the City to attack, set aside, void or annul, (1) an approval by the City relating to a development-related application or subdivision or (2) implementation of an approved development-related project. The City may elect, in its sole discretion, to participate in the defense of said Action and the applicant shall reimburse the City for its reasonable legal costs and attorneys' fees.

b) Within ten (10) calendar days of the fihng of any Action as specified in subsection (a) above, the applicant shall execute a Letter of Agreement with the City, acceptable to the Office of the City Attorney, which memorializes the above obligations. These obligations and the Letter of Agreement shall survive termination, extinguishment, or invalidation of the Approval. Failure to timely execute the Letter of Agreement does not relieve the applicant of any of the obligations contained in the Approval, conditions of approval, mitigation measures, or other requirements that may be imposed by the City.

8. Compliance with Conditions of Approval

Ongoing

The project applicant shall be responsible for compliance with the recommendations in any submitted and approved technical report and all the conditions of approval and mitigation measures set forth below at its sole cost and expense, and subject to review and approval of the City of Oakland.

9. Severability

Ongoing

Approval of the project would not have been granted but for the applicability and validity of each and every one of the specified conditions of approval and mitigation measures, and if one or more of such conditions of approval and/or mitigation measures is found to be invalid by a court of competent jurisdiction this Approval would not have been granted without requiring other valid conditions of approval and/or mitigation measures consistent with achieving the same purpose and intent of such Approval.

10. Job Site Plans

Ongoing throughout demolition, grading, and/or construction activities

At least one (1) copy of the stamped approved plans, along with the Approval, including the conditions of approval and mitigation measures, shall be available for review at the project site at all times.

11. Special Inspector/Inspections, Independent Technical Review, Project Coordination and Management

Prior to issuance of a demolition, grading, p-job, building, or other construction-related permit

The project applicant may be required to pay for on-call third-party special inspector(s)/inspections as needed during the times of extensive or specialized plan-check review or construction. The project applicant may also be required to cover the full costs of independent technical review and other types of peer review, monitoring, and inspection, including without limitation, third party plan-check fees, including inspections of violations of the conditions of approval and/or mitigation measures. The project applicant shall establish a deposit with the Building Services Division, as directed by the Building Official, Director of City Planning or designee, to cover these costs.

12. Required Landscape Plan

Prior to issuance of a building permit for each phase

Submittal and approval of a landscape plan for each project phase is required. The landscape plan and the plant materials installed pursuant to the approved plan shall conform with all provisions of Chapter 17.124 of the Oakland Planning Code, including the following:

a) Landscape plan shall include a detailed planting schedule showing the proposed location, sizes, quantities, and specific common botanical names of plant species.
b) Landscape plan shall incorporate pest-resistant and drought-tolerant landscaping practices. Within the portions of Oakland northeast of the line formed by State Highway 13 and continued southerly by Interstate 580, south of its intersection with State Highway 13, all plant materials on submitted landscape plans shall be fire-resistant The City Planning and Zoning Division shall maintain lists of plant materials and landscaping practices considered pest-resistant, fire-resistant, and drought-tolerant.
c) All landscape plans shall show proposed methods of irrigation. The methods shall ensure adequate irrigation of all plant materials for at least one growing season.

13. Assurance of Landscaping Completion

Prior to final inspection of a building permit for each phase

The trees, shrubs, and landscape materials required by the conditions of approval attached to this project shall be planted before the certificate of occupancy will be issued, or a bond, cash, deposit, or letter of credit, acceptable to the City, shall be provided for the planting of the required landscaping. The amount of such bond, cash, deposit, or letter of credit shall equal the greater of two thousand five hundred dollars ($2,500.00) or the estimated cost of the required landscaping, based on a licensed contractor's bid.

14. Underground Utilities

Prior to issuance of a building permit

The project applicant shall submit plans for review and approval by the Building Services Division and the Public Works Agency, and other relevant agencies as appropriate, that show all new electric and telephone facilities, fire alarm conduits, street light wiring, and other wiring, conduits, and similar facilities placed underground. The new facilities shall be placed underground from the project applicant's structures to the point of service. The plans shall show all electric, telephone, water service, fire water service, cable, and fire alarm facilities installed in accordance with standard specifications of the serving utilities.

15. Improvements in the Public Right-of-Way (General)

Prior to issuance of a p-job or building permit

a) The project applicant shall submit Public Improvement Plans to the Building Services Division for adjacent public rights-of-way (ROW) showing all proposed improvements and compliance with the conditions of approval, mitigation measures, and City requirements including but not limited to curbs, gutters, sewer laterals, storm drains, street trees, paving details, locations of transformers and other

above ground utility structures, the design specifications and locations of facilities required by the East Bay Municipal Utility District (EBMUD), street hghting, on-street parking and accessibility improvements compliant with applicable standards and any other improvements or requirements for the project as provided for in this Approval. Encroachment permits shall be obtained as necessary for any applicable improvements located within the public ROW.

b) Review and confirmation of the street trees by the City's Tree Services Division is required.

c) The Planning and Zoning Division and the Public Works Agency will review and approve designs and specifications for the improvements. Improvements shall be completed prior to the final inspection for the final building permit in each phase.

d) The Fire Services Division will review and approve fire crew and apparatus access, water supply availability and distribution to current codes and standards.

16. Payment for Public Improvements
Prior to final inspection for a building permit for each phase.
The project applicant shall pay for and install public improvements made necessary by the project including damage caused by construction activity.

17. Compliance Matrix
Prior to issuance of a demolition, grading, p-job, building, or other construction related permit
The project applicant shall submit to the Planning and Zoning Division and the Building Services Division a conditions of approval and mitigation measure compliance matrix that lists each condition of approval and mitigation measure, the City agency or division responsible for review, and how/when the project applicant has met or intends to meet the condition of approval or mitigation measure. The applicant will sign the condifions of approval attached to the approval letter and submit that with the compliance matrix for review and approval. The compliance matrix shall be organized per step in the plan-check/construction process unless another format is acceptable to the Planning and Zoning Division and the Building Services Division. The project applicant shall update the compliance matrix and provide it with each item submittal.

18. Construction Management Plan
Prior to issuance of a demolition, grading, p-job, building, or other construction related permit
The project applicant shall submit to the Planning and Zoning Division and the Building Services Division for review and approval a construction management plan that identifies the conditions of approval and mitigation measures related to construction impacts of the project and explains how the project applicant will comply with these construction-related conditions of approval and mitigation measures.

19. Standard Conditions of Approval/Mitigation Monitoring and Reporting Program (SCAMMRP)
Ongoing as specified

All mitigation measures and Standard Conditions of Approval identified in the Subsequent Mitigated Negative Declaration/Addendum are included in the Standard Condition of Approval/Mitigation Monitoring Program (SCAMMRP), which are included in these conditions of approval and are incorporated herein by reference as Exhibit A, and therefore are not repeated elsewhere in these conditions of approval. To the extent that there is any inconsistency between the SCAMMRP and these conditions, the more restrictive conditions shall govern; to the extent any Standard Conditions of Approval or mitigation measure identified in the SMND/A were inadvertently omitted, they are automatically incorporated herein by reference. The project sponsor (also referred to as the "developer" or "applicant") shall be responsible for compliance with the recommendation in any submitted and approved technical reports, all applicable mitigation measures adopted and with all conditions of approval set forth herein at its sole cost and expense, unless otherwise expressly provided in a specific mitigation measure or condition of approval, and subject to the review and approval of the City of Oakland. The SCAMMRP identifies the time frame and responsible party for implementation and monitoring for each mitigation measure. Overall monitoring and compliance with the mitigation measures will be the responsibility of the Planning and Zoning Division. Adoption of the SCAMMRP will constitute fulfillment of the CEQA monitoring and/or reporting requirement set forth in Section 21081.6 of CEQA. Prior to the issuance of a demolition, grading, building or other construction-related permit, the project sponsor shall pay the applicable mitigation and monitoring fee to the City in accordance with the City's Master Fee Schedule.

20. Rides Inspections (Condition 10 from 1998 Approval)
Ongoing
The applicant shall retain a consultant/engineer to provide independent inspections of all attraction rides at least annually and shall promptly make such inspection results available to the City upon request.

21. Evacuation Plan (Condition 14 from 1998 Approval)
Ongoing
The Zoo and the neighborhood associations will work with the City's Emergency Services Manager to educate area residents on the existing evacuation plan for the area and to develop additional procedures. The Zoo shall implement such procedures as determined by the City's Emergency Services Manager.

22. Use of Adjacent Streets (Condition 16 from 1998 Approval)
Ongoing
The four emergency accesses located at Stella, Snowdown, Cameron, and Ettrick shall only be used for emergency response and normal zoo maintenance activities. No construction trucks will use those accesses.

23. Effectiveness of Approval; City Council Authority
Required prior to this Approval becoming effective
This Approval shall not become effective unless the amendment to the Zoo Master Plan is approved by the City Council. The City Council has the authority to consider and revise as appropriate (accept, reject, or modify) the adjudicatory land use decisions of the Planning Commission (including the adoption/approval of the Subsequent Mitigated Negative Declaration/Addendum, the approval of the conditional use permit, the approval of the creek protection permit, and the conditions of approval (including the SCAMMRP)), regardless of whether an appeal to the City Council is filed challenging such adjudicatory land use decisions. See also Condition 2.

24. Public Walking Path
Prior to installation of the perimeter fence
The applicant shall submit a plan for the proposed public walking path for review and approval by the Planning and Zoning Division. The plan shall contain the specific proposed location of the path and the design details for the path (e.g., surface material, width) and shall include a section drawing through the path. The City-approved path shall be constructed prior to the installation of the perimeter fence.

25. Perimeter Fence and Exhibit Fencing Setback from Creeks
Prior to issuance of a building permit for each phase and ongoing during installation of fencing
The perimeter fence and exhibit fencing shall be setback at least 100 feet from the centerline of all designated creeks as shown on the approved plans. Plans submitted for construction-related permits shall show the location of the designated creeks and the 100-foot creek protection zones.

26. Colors
Prior to issuance of a building permit for each phase
The applicant shall submit the proposed exterior colors of all buildings and the gondola system for review and approval by the Planning and Zoning Division. The goal of the review of the proposed colors is to

minimize the presence of new structures on the landscape. The gondola support towers and cars shall be painted earth-tone in color with a non-reflective matte finish. The applicant shall utilize the City-approved exterior colors.

27. Landscape Plan

Prior to issuance of a building permit for each phase

The applicant shall submit a landscape plan for review and approval by the Planning and Zoning Division, as required by Condition 12 above, prior to the issuance of a building permit for each phase, and shall implement the approved plan. The landscape plan must comply with the following requirements:

a) Each landscape plan shall be substantially consistent with the approved landscape plans.
b) Each landscape plan shall be consistent with the approved Habitat Enhancement Plan.
c) Each landscape plan shall comply with the requirements from other conditions of approval and/or mitigation measures in this Approval.
d) Consistent with the intent of Condition 12 from the 1998 approved Master Plan, a landscape plan is required for the Califomia service road to shield the view of the road, as seen from the abutting residential properties, to the maximum extent feasible as determined by the Director of City Planning. The landscaping for the service road shall consist primarily of drought-tolerant, non-invasive, fast-growing, native trees and shrubs. The landscaping shall be installed prior to the completion of the improvements to the service road. The process for review and approval of the landscape plan for the service road is as follows: The applicant shall provide the proposed landscape plan to the South Hills Neighborhood Association (SHNA), the Knowland Park Highland Association (KPHA), and the owners and occupants of the residential lots abutting Knowland Park located on Stella Street, Hellman Street, Maggiora Drive, and Edgemont Way, at least 30 calendar days prior to submitting the plan to the Planning and Zoning Division. Prior to or concurrent with the submittal of the plan to the Planning and Zoning Division, the applicant shall submit to the Planning and Zoning Division documentation of the submittal of the plan to the neighborhood associations and abutting property owners/occupants identified above, along with any written comments received. At least ten calendar days prior to the Director of City Planning issuing a decision on the plan, the Planning and Zoning Division shall nofify the identified neighborhood associations and abutting property owners/occupants of the plan submittal and solicit comments within a ten-day comment period.

28. Accessibility to People with Disabilities

Prior to issuance of a building permit for each phase and ongoing

The amended Master Plan shall be designed, constructed, and operated in accordance with the Americans with Disabilities Act (ADA). Prior to issuance of a building permit for the children's playground and exhibits located at the proposed Small Activity Exhibit Zone, the applicant shall submit for review and approval by the Planning and Zoning Division of the design of the children's playground and exhibits. The children's playground and exhibits must be designed, constructed, and operated in accordance with ADA and shall contain a variety of equipment and exhibits that are accessible to people with disabilities.

29. Parks and Recreation Advisory Commission Report

Ongoing

The applicant shall submit to the Parks and Recreation Advisory Commission (PRAC) the Annual Progress Report (including the Annual Assessment) of the Habitat Enhancement Plan required under Mitigation Measure 13a. The PRAC may hold a public hearing on such reports.

30. Snowdown Emergency Access Road

Prior to constructing improvements on the Snowdown Emergency Access Road

The proposed gravel surfacing of the Snowdown Emergency Access Road shall be dirt-like in color to minimize the effect of the roadway improvements on the visual character of Knowland Park. Prior to installing the access road improvements, the applicant shall submit for review and approval by the Planning and Zoning Division the proposed surfacing material.

CONDITIONS OF APPROVAL – EXHIBIT A: STANDARD CONDITIONS OF APPROVAL/MITIGATION MONITORING AND REPORTING PROGRAM (SCAMMRP)

AESTHETICS

Standard Conditions of Approval

SCA-AES-1: Landscape Maintenance

Ongoing

All required planting shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements. All required irrigation systems shall be permanently maintained in good condition and, whenever necessary, repaired or replaced.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

SCA-AES-2: Lighting Plan

Prior to issuance of an electrical or building permit

The proposed lighting fixtures shall be adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties. Plans shall be submitted to the Planning and Zoning Division and the Electrical Services Division of Public Works Agency for review and approval. All lighting shall be architecturally integrated into the site.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; Electrical Services Division
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

CONDITIONS OF APPROVAL – EXHIBIT A: STANDARD CONDITIONS OF APPROVAL/MITIGATION MONITORING AND REPORTING PROGRAM (SCAMMRP)

AIR QUALITY

Standard Conditions of Approval

SCA-AIR-1: Dust Control

Construction-Related Air Pollution Controls (Dust and Equipment Emissions)

Ongoing throughout demolition, grading, and/or construction

During construction, the project applicant shall require the construction contractor to implement all of the following applicable measures recommended by the Bay Area Air Quality Management District (BAAQMD):

a) Water all exposed surfaces of active construction areas at least twice daily (using reclaimed water if possible). Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible.

b) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).

c) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

d) Pave all roadways, driveways, sidewalks, etc. as soon as feasible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

e) Enclose, cover, water twice daily or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).

f) Limit vehicle speeds on unpaved roads to 15 miles per hour.

g) Idling times shall be minimized either by shutting equipment off when not is use or reducing the maximum idling time to five minutes (as required by the Califomia airborne toxics control measure Title 13, Section 2485, of the Califomia Code of Regulafions. Clear signage to this effect shall be provided for construction workers at all access points.

h) All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

Post a publicly visible sign that includes the contractor's name and telephone number to contact regarding dust complaints. When contacted, the contractor shall respond and take corrective action within 48 hours. The telephone numbers of contacts at the City and BAAQMD shall also be visible. This information may be posted on other required on-site signage.

The enhanced measures below apply to construcdon projects involving 1) land uses that exceed the BAAQMD construction screening criteria (e.g., 240 or more multi-family residential units); 2) a demolition permit; 3) simultaneous occurrence of more than two construction phases (e.g., grading and building construction occurring simultaneously); 4) extension site preparation (i.e., over four acres in size); or 5)

extensive soil transport (i.e., 10,000 or more cubic yards of soil import/export).

a) All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be veritied by lab samples or moisture probe.

b) All excavation, grading, and demolition activities shall be suspended when average wind speeds exceed 20 mph.

c) Install sandbags or other erosion control measures to prevent silt runoff to public roadways.

d) Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for one month or more).

e) Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.

f) Install appropriate wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of the construction site to minimize wind blown dust. Wind breaks must have a maximum 50 percent air porosity.

g) Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.

h) The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.

i) All trucks and equipment, including tires, shall be washed off prior to leaving the site.

j) Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.

k) Minimize the idling time of diesel-powered construction equipment to two minutes.

l) The project applicant shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate matter (PM) reduction compared to the most recent Califomia Air Resources Board (CARB) fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, altemative fuels, engine retrotit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as they become available.

m) Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., BAAQMD Regulation 8, Rule 3: Architectural Coatings).

n) All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM.

o) Off-road heavy diesel engines shall meet the CARB's most recent certitication standard.

CONDITIONS OF APPROVAL – EXHIBIT A: STANDARD CONDITIONS OF APPROVAL/MITIGATION MONITORING AND REPORTING PROGRAM (SCAMMRP)

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Zoning Inspecfion
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

BIOLOGICAL RESOURCES

Revised 1998 Mitigation Measures[1]

13a) ***Ongoing as stipulated in the Habitat Enhancement Plan:*** The proposed Master Plan would include implementation of a Habitat Enhancement Plan that would enhance oak woodlands; native grasslands, coastal scmb and riparian woodland, and remove eucalyptus, French broom and other exotic plants from the Califomia 1820 Exhibit area and Upper Knowland Park. The Habitat Enhancement Plan should include the following:

- An annual assessment of the species and distribution of invasive nonnative weeds (examples of invasive species would include artichoke thistle, French broom, giant reed, German ivy, pampas grass, Algerian ivy, acacia and eucalyptus). The assessment would include a map and estimate of abundance of weeds.
- A management element for the control of each weedy species. Methods used for each species should be based on current accepted best available practices, including hand-pulling, cutting followed by topical application of suitable herbicide, use of livestock, removal or burning of cut plant materials, and so on. The justification for the control methods used should be explained, and a tracking system maintained to document areas treated, methods used, and effectiveness of the results.
- A revegetation element for areas where heavy infestations of weeds comprise a significant portion of the existing vegetation. The riparian zone of lower Arroyo Viejo Creek, for example, is so dominated by nonnative species that planting of indigenous tree and shmb species following the removal of weeds is needed to speed up the restoration process. This element would include a tracking system for areas treated, a record of the source and species of plant materials used, methods of installation and maintenance, and an assessment of the success of each effort.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Planning and Zoning Division; Building Services Division, Zoning Inspection

13b) ***Prior to removal of a protected tree and ongoing as specified:*** A Tree Protection and Revegetation Plan shall be prepared to protect, replace, and preserve trees on the project site. The Plan shall include

[1] The 1998 mitigation measures have been revised for the Master Plan amendment. For a discussion of these changes, see Section 3.3 Biological Resources of the Subsequent Mitigated Negative Declaration/Addendum (SMND/A). The revisions are also shown in underline and strike-out in Appendix C of the SMND/A.

the following:

- Native trees lost to development shall be replanted at a minimum ratio of 3:1. Non-native trees lost to development shall be replanted with native trees at a minimum ratio of 1:1.

- Every 10 years, prepare a census of trees qualifying for protection under the Oakland Tree Protection Ordinance within the project area. The census will document the condition of such trees, and recommend actions to extend the life and health of the trees. Recommended actions could include protective devices for reduction of vandalism, excessive treading by pedestrians or rubbing of bark, modification of drainage, erosion or sedimentation to protect trees, and modification of irrigation patterns to reduce pathogens. Recommendations and actions taken would be reported to the City of Oakland and the Department of Fish and Game.

- Protection of oaks in Upper Knowland Park outside of the developed areas of the Zoo will be addressed through the development of a management element for Upper Knowland Park. Management practices needed to achieve and maintain oak woodland and forest are: a minimum of grazing livestock, especially during the dry months; few tires; and slope stability. Maintenance of oak woodland would dovetail with weed control measures discussed under Mitigation Measure 13a and the need to provide adequate mitigation for the loss of grassland habitat as provided in the Habitat Enhancement Plan.

- The perimeter fence alignment and exhibit enclosure fencing shall be field-adjusted during installation to further reduce the need to remove protected trees and minimize disturbance in close proximity to the tree root systems. The final alignment of both the perimeter fencing and enclosure fencing shall be overseen by a certified arborist and adjustments made, where feasible, to minimize removal and damage to protected trees. Where tree removal is unavoidable, replacement plantings shall be provided consistent with the City's Standard Conditions of Approval.

  - Implementation Responsibility: Project Sponsor
  - Initial Approval Responsibility: Planning and Zoning Division; Building Services Division, Zoning Inspection; Tree Services Division
  - Ongoing Monitoring Responsibility: Planning and Zoning Division; Building Services Division, Zoning Inspection; Tree Services Division

13c) ***Concurrent with the submittal of a building permit; ongoing as specified:*** The service road shall be a maximum of 15 feet in width and designed to accommodate crossing by Alameda whipsnake and other wildlife, where necessary, to reduce potential impacts to the Alameda whipsnake.

➢ Implementation Responsibility: Project Sponsor

CONDITIONS OF APPROVAL – EXHIBIT A: STANDARD CONDITIONS OF APPROVAL/MITIGATION MONITORING AND REPORTING PROGRAM (SCAMMRP)

- Initial Approval Responsibility: Planning and Zoning Division
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

14c) ***Prior to issuance of construction-related permits in the affected area:*** Obtain appropriate authorizations from resource agencies to address possible incidental take and a Permit for Management of a rare or threatened species pursuant to Fish and Game Code Section 2081 and Section 7 of the Endangered Species Act, as called for under SCA-BIO-10. The project applicant shall provide compensatory mitigation for impacts to Alameda whipsnake habitat. Such mitigation shall be provided at a ratio of no less than 1:1 (at least one acre for every acre of impact), subject to any increase in this ratio that may be required by the resource agencies. There is adequate area within Knowland Park to achieve this mitigation ratio. Subject to the approval of the resources agencies, mitigation shall be achieved through habitat restoration and enhancement within the California Exhibit boundaries, the Ecological Recovery Zone, and other locations within Knowland Park, at another restoration location with an Alameda whipsnake habitat restoration plan area approved by the U.S. Fish and Wildlife Service and the California Department of Fish and Game, through the purchase of mitigation credits at a mitigation bank within the East Bay region, or some combination of these options. The project applicant shall retain a qualified biologist to prepare an Alameda whipsnake Mitigation and Monitoring Plan in connection with the application for an incidental take authorization and Management Permit. The Mitigation and Monitoring Plan will be subject to approval by the California Department of Fish and Game and the U.S. Fish and Wildlife Service. The Mitigation and Monitoring Plan shall include (a) a habitat restoration/creation performance standard of no net loss of habitat functions and values; (a) location of the mitigation site(s); (c) a detailed habitat restoration/creation plan for the mitigation site(s); (d) provisions for timing and methods for invasive species removal, controls on herbicide application, and worker training programs that, at a minimum and subject to the requirements of the resource agencies, meet the applicable requirements of the Invasive Species Control Element of the HEP; (f) provisions that include cover requirements, methods of installation and maintenance, a tracking system, a record of source and species of plant materials used in revegetation; and (h) success criteria to be used to evaluate whether the restoration/creation efforts have achieved the identified goals of the Mitigation and Monitoring Plan.

The proposed California Exhibit shall be modified to incorporate recommendations from the 2011 Status Report (Swaim Biological, Inc. 2011), which include removing the amphitheater from the stand of chamise-chaparral; restricting the California Interpretive Center ten feet to the east and limiting grading to within ten feet of the edge of the building; modifying and establishing controls to the bison/tule elk extension exhibit, and ensuring that the perimeter fence is permeable to allow for unrestricted movement of Alameda whipsnake through the area. Controls associated with the bison/tule elk exhibit shall include limiting the number of animals housed to 20 bison and 20 tule elk, maintaining protective cover by creating irrigated pasture outside woodland habitat, and placing rock outcrops and logs to serve as refugia for dispersing snakes. The location of the California Interpretitive Center shall be adjusted to the northeast away from the stand of chamise-chaparral, if required by the California Department of Fish and Game and/or the U.S. Fish and Wildlife Service, to provide for appropriate

defensible space for tire fuel management as required by the Oakland Fire Department.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; Califomia Department of Fish and Game; U.S. Fish and Wildlife Service
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

14d) ***Ongoing throughout construction in the dffected area:*** All removal of scrub or chaparral habitat shall be done by hand with axes or machetes. Chain saws could be used for larger shrubs.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

14e) ***Ongoing throughout construction in the dffected area:*** A biologist qualified to handle Alameda whipsnakes shall monitor all scrub or chaparral removal and all construction activities which may impact the Alameda whipsnake.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

14f) ***Prior to issuance of a construction-related permit in the affected area; ongoing:*** Alameda whipsnake habitat shall be preserved in perpetuity on property owned by the East Bay Zoological Society and/or the City of Oakland and contiguous to the east of the Califomia ~~1-820~~ Exhibit area. Numerous large areas of scrub and/or chaparral habitat are present in the proposed mitigation area and these appear to provide an adequate amount of habitat to offset impacts within the project site. The amount of habitat preserved shall be in accordance with current requirements of the Califomia Department of Fish and Game.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division
- Ongoing Monitoring Responsibility: Planning and Zoning Division

14g) ***Included on the plans for improving the service road; ongoing:*** To reduce the potential for mortality on the service road to a level less than significant, a maximum speed of ten miles per hour shall be required and all personnel driving will be instructed to watch for and yield to all wildlife. Specially designed "snake crossings" under the service road may also be required.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division
- Ongoing Monitoring Responsibility: Building Services Division; Zoning Inspection

14h) ***Implemented in conjunction with the Habitat Enhancement Plan:*** Measures will be taken to prevent the spread of French broom on the site and to remove as much French broom from the site as possible in order to keep it from degrading higher quality whipsnake habitat.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Planning and Zoning Division; Building Services Division, Zoning Inspection

15a) ***Implemented in conjunction with the Habitat Enhancement Plan:*** The operations and maintenance plan for the new exhibits shall include a weed management and control element. This should include monitoring the natural portions of Upper Knowland Park for infestations of non-native weeds, and implementation of control measures to prevent the weeds from degrading the natural vegetation.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Planning and Zoning Division; Building Services Division, Zoning Inspection

Standard Conditions of Approval

SCA-BIO-1: Tree Removal During Breeding Season

Prior to issuance of a tree removal permit

To the extent feasible, removal of any tree and/or other vegetation suitable for nesting of raptors shall not occur during the breeding season of March 15 and August 15. If tree removal must occur during the breeding season, all sites shall be surveyed by a qualified biologist to verify the presence or absence of nesting raptors

or other birds.

Pre-removal surveys shall be conducted within 15 days prior to start of work from March 15 through May 31, and within 30 days prior to the start of work from June 1 through August 15. The pre-removal surveys shall be submitted to the Planning and Zoning Division and the Tree Services Division of the Public Works Agency. If the survey indicates the potential presences of nesting raptors or other birds, the biologist shall determine an appropriately sized buffer around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with the CDFG, and will be based to a large extent on the nesting species and its sensitivity to disturbance. In general, buffer sizes of 200 feet for raptors and 50 feet for other birds should suffice to prevent disturbance to birds nesting in the urban environment, but these buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; Tree Services Division
- Ongoing Monitoring Responsibility: Planning and Zoning Division; Tree Services Division

SCA-BIO-2: Tree Removal Permit

Prior to issuance of a demolition, grading, or building permit

Prior to removal of any protected trees, per the Protected Tree Ordinance, located on the project site or in the public right-of-way adjacent to the project, the project applicant must secure a tree removal permit from the Tree Division of the Public Works Agency, and abide by the conditions of that permit.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Tree Services Division
- Ongoing Monitoring Responsibility: Tree Services Division

SCA-BIO-3: Tree Replacement Plantings

Prior to issuance of a final inspection of the building permit

Replacement plantings shall be required for erosion control, groundwater replenishment, visual screening and wildlife habitat, and in order to prevent excessive loss of shade, in accordance with the following criteria:

a) No tree replacement shall be required for the removal of nonnative species, for the removal of trees which is required for the benefit of remaining trees, or where insufficient planting area exists for a mature tree of the species being considered.

b) Replacement tree species shall consist of *Sequoia sempervirens* (Coast Redwood), *Quercus agrifolia* (Coast Live Oak), *Arbutus menziesii* (Madrone), *Aesculus californica* (California Buckeye) or

Umbellularia californica (California Bay Laurel) or other tree species acceptable to the Tree Services Division.

c) Replacement trees shall be at least of twenty-four (24) inch box size, unless a smaller size is recommended by the arborist, except that three fifteen (15) gallon size trees may be substituted for each twenty-four (24) inch box size tree where appropriate.

d) Minimum planting areas must be available on site as follows:

i. For *Sequoia sempervirens*, three hundred fifteen square feet per tree;

ii. For all other species listed in #2 above, seven hundred (700) square feet per tree.

e) In the event that replacement trees are required but cannot be planted due to site constraints, an in lieu fee as determined by the master fee schedule of the city may be substituted for required replacement plantings, with all such revenues applied toward tree planfing in city parks, streets and medians.

f) Plantings shall be installed prior to the issuance of a final inspection of the building permit, subject to seasonal constraints, and shall be maintained by the project applicant until established. The Tree Reviewer of the Tree Division of the Public Works Agency may require a landscape plan showing the replacement planting and the method of irrigation. Any replacement planfing which fails to become established within one year of planting shall be replanted at the project applicant's expense.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Tree Services Division
- Ongoing Monitoring Responsibility: Tree Services Division

SCA-BIO-4: Tree Protection During Construction

Prior to issuance of a demolition, grading, or building permit

Adequate protection shall be provided during the construction period for any trees which are to remain standing, including the following, plus any recommendations of an arborist:

a) Before the start of any clearing, excavation, construction or other work on the site, every protected tree deemed to be potentially endangered by said site work shall be securely fenced off at a distance from the base of the tree to be determined by the Consulting Arborist. Such fences shall remain in place for duration of all such work. All trees to be removed shall be clearly marked. A scheme shall be established for the removal and disposal of logs, brush, earth and other debris which will avoid injury to any protected tree.

b) Where proposed development or other site work is to encroach upon the protected perimeter of any protected tree, special measures shall be incorporated to allow the roots to breathe and obtain water and nutrients. Any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter shall be minimized. No change in existing ground level shall occur within a distance to be determined by the Consulting Arborist from the base of any protected tree at any time. No burning

or use of equipment with an open flame shall occur near or within the protected perimeter of any protected tree.

c) No storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees shall occur within the distance to be determined by the Consulting Arborist from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. No heavy construction equipment or construction materials shall be operated or stored within a distance from the base of any protected trees to be determined by the tree reviewer. Wires, ropes, or other devices shall not be attached to any protected tree, except as needed for support of the tree. No sign, other than a tag showing the botanical classification, shall be attached to any protected tree.

d) Periodically during construction, the leaves of protected trees shall be thoroughly sprayed with water to prevent buildup of dust and other pollution that would inhibit leaf transpiration.

e) If any damage to a protected tree should occur during or as a result of work on the site, the project applicant shall immediately notify the Public Works Agency of such damage. If, in the professional opinion of the Consulting Arborist, such tree cannot be preserved in a healthy state, the Consulting Arborist shall require replacement of any tree removed with another tree or trees on the same site deemed adequate by the Tree Reviewer to compensate for the loss of the tree that is removed.

f) All debris created as a result of any tree removal work shall be removed by the project applicant from the property within two weeks of debris creation, and such debris shall be properly disposed of by the project applicant in accordance with all applicable laws, ordinances, and regulations.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Tree Services Division
- Ongoing Monitoring Responsibility: Tree Services Division

SCA-BIO-5: Whipsnake Habitat, Biological Monitor

Prior to issuance of a demolition, grading, or building permit and ongoing throughout demolition, grading, and/or construction

If the project is located within contirmed Alameda Whipsnake Habitat area, the project applicant shall hire an on-site biological site biological monitor shall instruct the project superintendent and the construction crews (primarily the clearing, demolition and foundation crews) of the potential presence, status and identitication of Alameda Whipsnakes. The biological monitor shall also provide information to the Planning and Zoning Division on the steps to take if a whipsnake is seen on the project site, including who to contact, to ensure that whipsnakes are not harmed or killed, as regulation by the federal Endangered Species Act.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

SCA-BIO-6: Whipsnake Habitat, Placement of Debris

Prior to issuance of a demolition, grading, or building permit and throughout construction

If the project is located within confirmed Alameda Whipsnake Habitat area, the project applicant shall ensure that the placement of construction debris is limited to the area immediate adjacent to the foundation of the proposed buildings or and to the area between the foundation and the street. Install flexible construction fencing at the limit of work line (approximately ten feet beyond the foundation of the proposed building other than in the direction of the street). Such constmction fencing shall limit the placement of construction materials and constmction debris to inside the fencing.

- Implementation Responsibility: Project Sponsor
- Inifial Approval Responsibility: Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

SCA-BIO-7: Whipsnake Habitat, Barrier Fence

Prior to issuance of a demolition, grading, or building permit and throughout construction

If the project is located within confirmed Alameda Whipsnake Habitat area, the project applicant shall install a solid fence to prevent whipsnakes from entering the work site. The snake barrier shall be constructed as follows and shall remain in place throughout the entire constmction period:

a) Plywood sheets at least three feet in height above ground. Heavy duty geotextile fabric approved by U.S. Fish and Wildlife Service and Califomia Department of Fish and Game may also be used for snake exclusion fences;

b) Buried four to six inches into the ground;

c) Soil back-filled against the plywood fence to create a solid barrier at the ground;

d) Plywood sheets maintained in an upright posifion with wooden or masonry stakes;

e) Ends of each plywood sheet overlapped to ensure a continuous barrier; and

f) An exclusion fence shall completely enclose the work site or constmction area or approved traps shall be installed at the ends of exclusion fence segments to allow capture and relocation of Alameda whipsnake away from the constmcfion area by a qualified biologist.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

SCA-BIO-8: Whipsnake Habitat, Downsloping Lots

Prior to issuance of a demolition, grading, or building permit and throughout construction

If the project is located within confirmed Alameda Whipsnake Habitat area, the project applicant shall install erosion control devices, such as hay bales, at the downhill limit of constmction line to prevent rocks and soil from moving downhill. No erosion control materials with plastic or nylon monofilament netting shall be

used.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division
- Ongoing Monitoring Responsibility: Building Services Division, Constmcfion Inspection

SCA-BIO-9: Creek Protection Plan

Prior to and ongoing throughout demolition, grading and/or construction activities

a) The approved creek protection plan shall be included in the project drawings submitted for a building permit (or other construction-related permit). The project applicant shall implement the creek protection plan to minimize potential impacts to the creek during and after construction of the project. The plan shall fully describe in plan and written form all erosion, sediment, stormwater, and construction management measures to be implemented on-site.

b) If the plan includes a stormwater system, all stormwater outfalls shall include energy dissipation that slows the velocity of the water at the point of outflow to maximize infiltration and minimize erosion. The project shall not result in a substantial increase in stormwater runoff volume or velocity to the creek or storm drains.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division
- Ongoing Monitoring Responsibility: Building Services Division, Construcfion Inspection

SCA-BIO-10: Regulatory Permits and Authorization

Prior to issuance of a demolition, grading, or building permit within vicinity of the creek

The project applicant shall obtain all necessary regulatory permits and authorizations from the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (RWQCB), Califomia Department of Fish and Game, and the City of Oakland, and shall comply with all conditions issued by applicable agencies. Required permit approvals and certificafions may include, but not be limited to the following:

a) U.S. Amy Corps of Engineers (Corps): Section 404. Permit approval from the Corps shall be obtained for the placement of dredge or fill material in Waters of the U.S., if any, within the interior of the project site, pursuant to Section 404 of the federal Clean Water Act.

b) Regional Water Quality Control Board (RWQCB): Section 401 Water Quality Certificafion. Certification that the project will not violate state water quality standards is required before the Corps can issue a 404 permit, above.

c) Califomia Department of Fish and Game (CDFG): Section 1602 Lake and Streambed Alteration Agreement. Work that will alter the bed or bank of a stream requires authorization from CDFG.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; RWQCB; Corps; CDFG

- Ongoing Monitoring Responsibility: RWQCB; Corps; CDFG

SCA-BIO-11: Creek Monitoring

Prior to issuance of a demolition, grading, or building permit within vicinity of the creek

A qualified geotechnical engineer and/or environmental consultant shall be retained and paid for by the project applicant to make site visits during all grading activities; and as a follow-up, submit to the Building Services Division a letter certifying that the erosion and sedimentation control measures set forth in the Creek Protection Permit submittal material have been instituted during the grading activities.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Building Services Division, Construction Inspection

SCA-BIO-12: Creek Landscaping Plan

Prior to issuance of a demolition, grading, or building permit within vicinity of the creek

The project applicant shall develop a final detailed landscaping and irrigation plan for review and approval by the Planning and Zoning Division prepared by a licensed landscape architect or other qualified person. Such a plan shall include a planting schedule, detailing plant types and locations, and a system for temporary irrigation of plantings.

a) Plant and maintain only drought-tolerant plants on the site where appropriate as well as native and riparian plants in and adjacent to riparian corridors. Along the riparian corridor, native plants shall not be disturbed to the maximum extent feasible. Any areas disturbed along the riparian corridor shall be replanted with mature native riparian vegetation and be maintained to ensure survival.

b) All landscaping indicated on the approved landscape plan shall be installed prior to the issuance of a Final inspection of the building permit, unless bonded pursuant to the provisions of Section 17.124.50 of the Oakland Planning Code.

c) All landscaping areas shown on the approved plans shall be maintained in neat and safe conditions, and all plants shall be maintained in good growing condition and, whenever necessary replaced with new plant materials to ensure continued compliance with all applicable landscaping requirements. All paving or impervious surfaces shall occur only on approved areas.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

SCA-BIO-13: Creek Dewatering and Aquatic Life

Prior to the start of and ongoing throughout any in-water construction activity

a) If any dam or other artificial obstruction is constructed, maintained, or placed in operation within the stream channel, ensure that sufficient water is allowed to pass down channel at all times to maintain aquatic life (native fish, native amphibians, and western pond turtles) below the dam or other artificial obstruction.

b) The project applicant shall hire a biologist, and obtain all necessary State and federal permits (e.g. CDFG Scientific Collecting Permit), to relocate all native fish/native amphibians/pond turtles within the work site, prior to dewatering. The applicant shall first obtain a project-specific authorization from the CDFG and/or the USFWS, as applicable to relocate these animals. Captured native fish/native amphibians/pond turtles shall be moved to the nearest appropriate site on the stream channel downstream. The biologist/contractor shall check daily for stranded aquatic life as the water level in the dewatering area drops. All reasonable efforts

shall be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include fish landing nets, dip nets, buckets, and by hand. Captured aquatic life shall be released immediately in the nearest appropriate downstream site. This condition does not allow the take or disturbance of any state or federally listed species, nor state-listed species of special concern, unless the applicant obtains a project specific authorization from the CDFG and/or the USFWS, as applicable.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; Building Services Division, Zoning Inspection; Regulatory Agency, as applicable
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection; Regulatory Agency, as applicable

SCA-BIO-14: Creek Dewatering and Diversion

Prior to the start of any in-water construction activities

If installing any dewatering or diversion device(s), the project applicant shall develop and implement a detailed dewatering and diversion plan for review and approval by the Building Services Division. All proposed dewatering and diversion practices shall be consistent with the requirements of the Streambed Alteration Agreement issued by the California Department of Fish and Game.

a) Ensure that construction and operation of the devices meet the standards in the latest edition of the Erosion and Sediment Control Field Manual published by the Regional Water Quality Control Board (RWQCB).

b) Construct coffer dams and/or water diversion system of a non-erodible material which will cause little or no siltation. Maintain coffer dams and the water diversion system in place and functional throughout the construcfion period. If the coffer dams or water diversion system fail, repair immediately based on the

recommendations of a qualified environmental consultant. Remove devices only after construction is complete and the site stabilized.

c) Pass pumped water through a sediment settling device before returning the water to the stream channel. Provide velocity dissipation measures at the outfall to prevent erosion.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; Building Services Division, Zoning Inspection; Regulatory Agency, as applicable
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection; Regulatory Agency, as applicable

SCA-BIO-15: Vegetation Management Plan on Creekside Properties

Prior to issuance of a demolition, grading, and/or construction and ongoing

The project applicant shall submit a vegetation management plan for review and approval by the Planning and Zoning Division, Fire Services Division, and Watershed Program of the Public Works Agency that includes, if deemed appropriate, the following measures:

a) Identify and do not disturb a 20-foot creek buffer from the top of the creek bank. If the top of bank cannot be identified, leave a 50-foot buffer from the centerline of the creek or as wide a buffer as possible between the creek centeriine and the proposed site development.

b) Identify and leave" islands" of vegetation in order to prevent erosion and landslides and protect nesting habitat.

c) Leave at least 6 inches of vegetation on the site.

d) Trim tree branches from the ground up (limbing up) and leave tree canopy intact.

e) Leave stumps and roots from cut down trees to prevent erosion.

f) Plant fire-appropriate, drought-tolerant, preferably native vegetation.

g) Err on the side of caution. If you don't know if a plant, tree or area is sensitive, ask for a second opinion before you cut.

h) Provide erosion and sediment control protection if cutting vegetation on a steep slope.

i) Leave tall shmbbery at least 3-feet high.

j) Fence off sensitive plant habitats and creek areas to protect from goat grazing.

k) Obtain a tree protection permit for a protected tree (includes all mature trees except eucalyptus and Monterey pine).

l) Contact the City Tree Department (615-5850) for dead trees.

m) Do not clear-cut vegetation. This can lead to erosion and severe water quality problems and destroy

important habitat.

n) Do not remove vegetation within 20-feet of the top of bank. If the top of bank cannot be identitied, do not cut within 50-feet of the centerline of the creek or as wide a buffer as possible between the creek centerline and the proposed site development.

o) Do not trim/prune branches that are larger than 4 inches in diameter.

p) Do not remove tree canopy.

q) Do not dump cut vegetation in a creek.

r) Do not cut tall shrubbery to less than 3-feet high.

s) Do not cut of short vegetation (grasses, ground-cover) to less than 6-inches high.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; Fire Services Division; Environmental Watershed Program
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

New 2011 Mitigation Measure

Mitigation Measure BIO-1 (***Prior to construction activities in the California Exhibit area***): The project applicant shall prepare a wetland delineation of the site which shall be verified by the U.S. Army Corps of Engineers to confirm the extent of jurisdictional waters on the site, including the reach of Arroyo Viejo Creek and the entire Califomia Exhibit area. As required under SCA-BIO-10, the project applicant shall obtain all necessary regulatory permits and authorizations and shall comply with all conditions issued by applicable agencies. In the remote instance that the 950-square-foot potential seasonal wetland is considered a jurisdictional waters of the State by the Regional Water Quality Control Board, a mitigation program shall be developed and implemented by the project applicant. If required, the mitigation program shall provide for a minimum 1:1 on-site replacement for this potential seasonal wetland feature, the mitigation program shall be approved by the Regional Water Quality Control Board, and any created habitat shall be monitored for a minimum of three years or until all success criteria have been met.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; Building Services Division, Zoning Inspection; Regulatory Agency, as applicable
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection; Regulatory Agency, as applicable

CONDITIONS OF APPROVAL – EXHIBIT A: STANDARD CONDITIONS OF APPROVAL/MITIGATION MONITORING AND REPORTING PROGRAM (SCAMMRP)

CULTURAL RESOURCES

SCA-CULT-1: Archaeological Resources

Ongoing throughout demolition, grading, and/or construction

a) Pursuant to CEQA Guidelines secfion 15064.5 (f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified archaeologist would meet to determine the appropriate avoidance measures or other appropriate measure, with the ultimate determination to be made by the City of Oakland. All significant cultural materials recovered shall be subject to scienfific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.

b) In considering any suggested measure proposed by the consulting archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, the project applicant shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while measure for historical resources or unique archaeological resources is carried out.

c) Should an archaeological artifact or feature be discovered on-site during project construction, all activities within a 50-foot radius of the find would be halted until the findings can be fully invesfigated by a qualified archaeologist to evaluate the find and assess the significance of the find according to the CEQA definition of a historical or unique archaeological resource. If the deposit is determined to be significant, the project applicant and the qualified archaeologist shall meet to determine the appropriate avoidance measures or other appropriate measure, subject to approval by the City of Oakland, which shall assure implementation of appropriate measure measures recommended by the archaeologist. Should archaeologically-significant materials be recovered, the qualified archaeologist shall recommend appropriate analysis and treatment, and shall prepare a report on the findings for submittal to the Northwest Information Center.

- Implementafion Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

SCA-CULT-2: Human Remains

Ongoing throughout demolition, grading, and/or construction

In the event that human skeletal remains are uncovered at the project site during construction or ground-breaking activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to

evaluate the remains, and following the procedures and protocols pursuant to Secfion 15064.5 (e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, the City shall contact the Califomia Native American Heritage Commission (NAHC), pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities shall cease within a 50-foot radius of the find until appropriate arrangements are made. If the agencies determine that avoidance is not feasible, then an altemative plan shall be prepared with specific steps and timeframe required to resume constmction activities. Monitoring, data recovery, determination of significance and avoidance measures (if applicable) shall be completed expeditiously.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspecfion

SCA-CULT-3: Paleontological Resources

Ongoing throughout demolition, grading, and/or construction

In the event of an unanticipated discovery of a paleontological resource during constmction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (per Society of Vertebrate Paleontology standards (SVP 1995,1996)). The qualified paleontologist shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before constmction is allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important, and such plan shall be implemented. The plan shall be submitted to the City for review and approval.

- Implementation Responsibility: Project Sponsor
- Inifial Approval Responsibility: Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

GEOLOGY AND SOILS

Revised 1998 Mitigation Measures[2]

2a) ***Prior to issuance of a grading permit and installation of drainage improvements:*** Facilities and infrastmcture improvements should be designed to control mnoff so that it is not directed over unprotected slopes. Drainage improvements shall be designed to adequately collect surface water mnoff and convey it to the proper storm drain system. A permanent storm drain shall be designed, installed, and maintained to catch water from the existing natural drainage pattern in Knowland Park above Stella

[2] The 1998 mitigation measures have been revised for the Master Plan amendment. For a discussion of these changes, see Section 3.4 Geology and Soils of the SMND/A. The revisions are also shown in underline and strike-out in Appendix C of the SMND/A.

Street. The water will be redirected to City storm drain system.

2c) Grading and constmction activities shall be restricted to the dry season. Exposed surface areas shall be watered down, especially during constmction, to reduce wind erosion.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Plan-Check
- Ongoing Monitoring Responsibility: Building Services Division, Constmction Inspection

3a) Mitigation Measures 2a and 2c shall be implemented.

5c) ***Prior to issuance of a building permit:*** All proposed stmctures shall be designed and constmcted in accordance with the Uniform Building Code and Califomia Amendments. The interpretation of the applicability of the appropriate UBC standard for each proposed stmcture shall be determined by the Oakland Building and Engineering staff at the time of preliminary plan submittal.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Plan-Check
- Ongoing Monitoring Responsibility: Building Services Division, Building Inspection

5d) ***Prior to issuance of a building permit:*** Proper earthquake-resistant techniques for securing indoor fixtures, machinery and furnishings within proposed stmctures shall be used during constmction to minimize the risk of damage or injury from toppled objects.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Plan-Check
- Ongoing Monitoring Responsibility: Building Services Division, Building Inspection

5e) ***Prior to final inspection of a building permit for each phase:*** The Zoo's Emergency Preparedness and Response Plan and Animal Capture Plan shall be updated as proposed facilities are developed. The Zoo and Neighborhood (KPHA and SHRA) Associations will work together to educate the neighborhood about the Zoo's Emergency Preparedness and Response Plan and how it is implemented. This will be accomplished through written communication and a phone tree. The Zoo will provide a demonstration to the representatives of KPHA and SHRA of the safety of the animal enclosures in case of a natural disaster.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division
- Ongoing Monitoring Responsibility: Planning and Zoning Division

CONDITIONS OF APPROVAL – EXHIBIT A: STANDARD CONDITIONS OF APPROVAL/MITIGATION MONITORING AND REPORTING PROGRAM (SCAMMRP)

Standard Conditions of Approval

SCA-GEO-1: Soils Report

Prior to issuance of a building permit

A preliminary soils report for each construction site within the project area shall be required as part of this project and submitted for review and approval by the Building Services Division. The soils reports shall be based, at least in part, on information obtained from on-site tesfing. Specifically the minimum contents of the report should include:

A. Logs of borings and/or profiles of test pits and trenches:

a) The minimum number of borings acceptable, when not used in combination with test pits or trenches, shall be two (2), when in the opinion of the Soils Engineer such borings shall be sufficient to estabfish a soils profile suitable for the design of all the footings, foundations, and retaining structures.

b) The depth of each boring shall be sufficient to provide adequate design criteria for all proposed structures.

c) All boring logs shall be included in the soils report.

B. Test pits and trenches

a) Test pits and trenches shall be of sufficient length and depth to establish a suitable soils profile for the design of all proposed structures.

b) Soils profiles of all test pits and trenches shall be included in the soils report.

C. A plat shall be included which shows the relationship of all the borings, test pits, and trenches to the exterior boundary of the site. The plat shall also show the location of all proposed site improvements. All proposed improvements shall be labeled.

D. Copies of all data generated by the field and/or laboratory testing to determine allowable soil bearing pressures, sheer strength, active and passive pressures, maximum allowable slopes where applicable and any other information which may be required for the proper design of foundations, retaining walls, and other structures to be erected subsequent to or concurrent with work done under the grading permit.

E. Soils Report. A written report shall be submitted which shall include, but is not limited to, the following:

a) Site description;

b) Local and site geology;

c) Review of previous field and laboratory investigations for the site;

d) Review of information on or in the vicinity of the site on file at the Informafion Counter, City of Oakland, Office of Plaming and Building;

e) Site stability shall be addressed with particular attention to existing conditions and proposed corrective attention to existing conditions and proposed corrective actions at locations where land stability problems exist;

f) Conclusions and recommendations for foundations and retaining structures, resistance to lateral loading, slopes, and specifications, for fills, and pavement design as required;

g) Conclusions and recommendations for temporary and permanent erosion control and drainage. If not provided in a separate report they shall be appended to the required soils report;

h) All other items which a Soils Engineer deems necessary;

i) The signature and registration number of the Civil Engineer preparing the report.

F. The Director of Planning and Building may reject a report that she/he believes is not sufficient. The Director of Planning and Building may refuse to accept a soils report if the certification date of the responsible soils engineer on said document is more than three years old. In this instance, the Director may be require that the old soils report be recertified, that an addendum to the soils report be submitted, or that a new soils report be provided.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Plan-Check
- Ongoing Monitoring Responsibility: Building Services Division, Building Inspecfion

SCA-GEO-2: Geotechnical Report

A site-specific, design level, landslide or liquefaction geotechnical investigation for each construction site within the project area shall be required as part of this project and submitted for review and approval by the Building Services Division. Specifically:

i. Each investigation shall include an analysis of expected ground motions at the site from identified faults. The analyses shall be accordance with applicable City ordinances and polices, and consistent with the most recent version of the Califomia Building Code, which requires structural design that can accommodate ground accelerations expected from identified faults.

ii. The investigations shall determine final design parameters for the walls, foundations, foundation slabs, surrounding related improvements, and infrastructure (utilities, roadways, parking lots, and sidewalks).

iii. The investigations shall be reviewed and approved by a registered geotechnical engineer. All recommendations by the project engineer, geotechnical engineer, shall be included in the final design, as approved by the City of Oakland.

iv. The geotechnical report shall include a map prepared by a land surveyor or civil engineer that shows all field work and location of the "No Build" zone. The map shall include a statement that the locations and limitations of the geologic features are accurate representations of said features as they exist on the ground, were placed on this map by the surveyor, the civil engineer or under their supervision, and are accurate to the best of their knowledge.

v. Recommendations that are applicable to foundation design, earthwork, and site preparation that were prepared prior to or during the projects design phase, shall be incorporated in the project.

vi. Final seismic considerations for the site shall be submitted to and approved by the City of Oakland Building Services Division prior to commencement of the project.

vii. A peer review is required for the geotechnical report. Personnel reviewing the geotechnical report shall approve the report, reject it, or withhold approval pending the submission by the applicant or subdivider of further geologic and engineering studies to more adequately define active fault traces.

Implementation of SCA-GEO-2 shall include the following in the geotechnical investigation prepared for the proposed Califomia Interpretive Center:

- The design-level geotechnical investigation shall identify methods for site preparation and grading to

stabilize existing till areas and prepare the site for foundation and retaining wall constmction. Measures may include reworking of existing till soils, removal of oversized concrete and debris from till, and cmshing of oversized materials.

- The design-level geotechnical investigation shall confirm and revise 2007 Cahfomia Building Code seismic design parameters as presented in this SMND/Addendum.
- The geotechnical design investigation shall include design recommendations for retaining walls, foundations, concrete slabs, pavements, walkways, surface and subsurface drainage measures, and utility trench constmction and backtill. The foundations are anticipated to be spread footings, thickened mat slabs, pier and grade beam and other conventional foundation types.
- The geotechnical investigation shall outline the details of geotechnical plan review. Recommendations of the project geotechnical engineer shall be included in the tinal constmction drawings, as approved by the City of Oakland.
- The geotechnical investigation shall identify the geotechnical observation and testing services recommended during construction. During construction the geotechnical engineer shall perform observations and testing services and shall prepare a tinal report documenting results of his or her work.
- The City of Oakland shall provide peer review of the design-level geotechnical investigation and grading plan. The Oakland Zoo shall be responsible for the cost of the review. Revisions

  to the report and the design of project facilities shall be made to satisfy review comments by the City of Oakland peer reviewer.
- During the constmction phase, cut slopes, keyways, and grading for the building pad that expose bedrock shall be mapped by the project engineering geologist. An as-graded geologic map shall be prepared showing the details of observed features and conditions.
- The geotechnical investigation shall include a map prepared by a land surveyor or civil engineer that shows the locations and elevation of key features (e.g., keyways, subdrains and their cleanouts, cut slopes, and cut pads). The map shall include a statement that the locations and limitations of the features are accurate representations of said features as they exist on the ground; were placed on this map by the surveyor, the civil engineer or under their supervision; and are accurate to the best of their knowledge.
- Final seismic considerations for the site shall be submitted to and approved by the City of Oakland Building Services Division prior to commencement of the project.
  - Implementation Responsibility: Project Sponsor
  - Initial Approval Responsibility: Building Services Division, Plan-Check
  - Ongoing Monitoring Responsibility: Building Services Division, Building Inspection

CONDITIONS OF APPROVAL – EXHIBIT A: STANDARD CONDITIONS OF APPROVAL/MITIGATION MONITORING AND REPORTING PROGRAM (SCAMMRP)

HAZARDS AND HAZARDOUS MATERIALS

Standard Conditions of Approval

SCA-HAZ-1: Hazards Best Management Practices

Prior to commencement of demolition, grading, or construction

The project applicant and construction contractor shall ensure that construction Best Management Practices (BMPs) are implemented as part of construction to minimize the potential negative effects to groundwater and soils. These shall include the following:

a) Follow manufacture's recommendations on use, storage, and disposal of chemical products used in construction;

b) Avoid overtopping construction equipment fuel gas tanks;

c) During routine maintenance of construction equipment, properly contain and remove grease and oils;

d) Properly dispose of discarded containers of fuels and other chemicals.

e) Ensure that construction would not have a significant impact on the environment or pose a substantial health risk to construcfion workers and the occupants of the proposed development. Soil sampling and chemical analyses of samples shall be performed to determine the extent of potential contamination beneath all UST's, elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition, or construction activities would potentially affect a particular development or building.

f) If soil, groundwater or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the applicant shall cease work in the vicinity of the suspect material, the area shall be secured as necessary, and the applicant shall take all appropriate measures to protect human health and the environment. Appropriate measures shall include notification of regulatory agency(ies) and implementafion of the actions described in the City's Standard Conditions of Approval, as necessary, to identify the nature and extent of contamination. Work shall not resume in the area(s) affected until the measures have been implemented under the oversight of the City or regulatory agency, as appropriate.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

SCA-HAZ-2: Hazardous Materials Business Plan

Prior to handling, storage or transporting hazardous materials

The project applicant shall submit a Hazardous Materials Business Plan for review and approval by Fire Prevention Bureau, Hazardous Materials Unit. Once approved this plan shall be kept on file with the City and will be updated as applicable. The purpose of the Hazardous Materials Business Plan is to ensure that employees are adequately trained to handle the materials and provides information to the Fire Services Division should emergency response be required. The Hazardous Materials Business Plan shall include the

following:

a) The types of hazardous materials or chemicals stored and/or used on site, such as petroleum fuel products, lubricants, solvents, and cleaning fluids.

b) The location of such hazardous materials.

c) An emergency response plan including employee training information

d) A plan that describes the manner in which these materials are handled, transported and disposed.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Fire Prevention Bureau
- Ongoing Monitoring Responsibility: Fire Prevention Bureau

HYDROLOGY AND WATER QUALITY

Revised 1998 Mitigation Measures[3]

10a) Mitigation Measures 2a and 2c shall be implemented. (See Geology and Soils)

Standard Conditions of Approval

SCA-HYDRO-1: Stormwater Pollution Prevention Plan (SWPPP)

Prior to and ongoing throughout grading and construction activities

The project applicant must obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit) issued by the State Water Resources Control Board (SWRCB). The project applicant must file a notice of intent (NOI) with the SWRCB. The project applicant will be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) and submit the plan for review and approval by the Building Services Division. At a minimum, the SWPPP shall include a description of construction materials, practices and equipment storage and maintenance; a list of pollutants likely to contact stormwater; site-specific erosion and sedimentation control practices; a list of provisions to eliminate or reduce discharge of materials to stormwater; Best Management Practices (BMPs); and an inspection and monitoring program. Prior to the issuance of any construction-related permits, the project applicant shall submit to the Building Services Division a copy of the SWPPP as evidence of submittal of the NOI to the SWRCB. Implementation of the SWPPP shall start with the commencement of construction and continue through the completion of the project. After construction is completed, the project applicant shall submit a notice of termination to the SWRCB.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: SWRC; Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: SWRC

[3]The 1998 mitigation measures have been revised for the Master Plan amendment. For a discussion of these changes, see Section 3.7 Hydrology and Water Quality of the Subsequent Mitigated Negative Declaration/Addendum (SMND/A). The revisions are also shown in underline and strike-out in Appendix C of the SMND/A.

SCA-HYDRO-2: Drainage Plan for Projects on Slopes Greater Than 20 Percent

Prior to issuance of building (or other construction-related permit)

The project drawings for a building permit (or other construction-related permit) shall contain a drainage plan to be reviewed and approved by the Building Services Division. The drainage plan shall include measures to reduce the post-construction volume and velocity of stormwater runoff to the maximum extent practicable. Stormwater runoff shall not be augmented to adjacent properties or creeks.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Plan-Check
- Ongoing Monitoring Responsibility: Building Services Division, Construction Inspection

SCA-HYDRO-3: Post-Construction Stormwater Management Plan

Prior to issuance of building permit (or other construction-related permit)

The applicant shall comply with the requirements of Provision C.3 of the National Pollutant Discharge Elimination System (NPDES) permit issued to the Alameda Countywide Clean Water Program. The applicant shall submit with the application for a building permit (or other construction-related permit) a completed Stormwater Supplemental Form for the Building Services Division. The project drawings submitted for the building permit (or other construction-related permit) shall contain a stormwater pollution management plan, for review and approval by the City, to limit the discharge of pollutants in stormwater after construction of the project to the maximum extent practicable.

a) The post-construction stormwater pollution management plan shall include and identify the following:
   i. All proposed impervious surface on the site;
   ii. Anticipated directional flows of on-site stormwater runoff; and
   iii. Site design measures to reduce the amount of impervious surface area and directly connected impervious surfaces; and
   iv. Source control measures to limit the potential for stormwater pollution; and
   v. Stormwater treatment measures to remove pollutants from stormwater runoff; and
   vi. Hydromodification management measures so that post-project stormwater runoff does not exceed the flow and duration of pre-project runoff, if required under the NPDES permit.

b) The following additional information shall be submitted with the post-construction stormwater pollution management plan:
   i. Detailed hydraulic sizing calculations for each stormwater treatment measure proposed; and
   ii. Pollutant removal information demonstrating that any proposed manufactured/ mechanical (i.e., non-landscape-based) stormwater treatment measure, when not used in combination with a landscape-based treatment measure, is capable or removing the range of pollutants typically removed by landscape-based treatment measures.

All proposed stormwater treatment measures shall incorporate appropriate planting materials for stormwater

treatment (for landscape-based treatment measures) and shall be designed with considerations for vector/mosquito control. Proposed planting materials for all proposed landscape-based stormwater treatment measures shall be included on the landscape and irrigation plan for the project. The applicant is not required to include on-site stormwater treatment measures in the post-construction stormwater pollution management plan if he or she secures approval from Planning and Zoning of a proposal that demonstrates compliance with the requirements of the City's Altemative Compliance Program.

Prior to final permit inspection, the applicant shall implement the approved stormwater pollution management plan.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; Building Services Division, Plan-Check
- Ongoing Monitoring Responsibility: Building Services Division, Constmction Inspection

SCA-HYDRO-4: Maintenance Agreement for Stormwater Treatment Measures

Prior to final zoning inspection

For projects incorporating stormwater treatment measures, the applicant shall enter into the "Standard City of Oakland Stormwater Treatment Measures Maintenance Agreement," in accordance with Provision C.3.e of the NPDES permit, which provides, in part, for the following:

i. The applicant accepting responsibility for the adequate installation/construction, operation, maintenance, inspection, and reporting of any on-site stormwater treatment measures being incorporated into the project until the responsibility is legally transferred to another entity; and

ii. Legal access to the on-site stormwater treatment measures for representatives of the City, the local vector control district, and staff of the Regional Water Quality Control Board, San Francisco Region, for the purpose of verifying the implementation, operation, and maintenance of the on-site stormwater treatment measures and to take corrective action if necessary. The agreement shall be recorded at the County Recorder's Office at the applicant's expense.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

SCA-HYDRO-5: Erosion, Sedimentation and Debris Control Measures

Prior to issuance of demolition, grading, or construction-related permit

The project applicant shall submit an erosion and sedimentation control plan for review and approval by the Building Services Division. All work shall incorporate all applicable "Best Management Practices" (BMPs) for the construction industry, and as outlined in the Alameda

Countywide Clean Water Program pamphlets, including BMP's for dust, erosion and sedimentation abatement per Chapter Section 15.04 of the Oakland Municipal Code. The measures shall include, but are not limited to, the following:

CONDITIONS OF APPROVAL – EXHIBIT A: STANDARD CONDITIONS OF APPROVAL/MITIGATION MONITORING AND REPORTING PROGRAM (SCAMMRP)

a) On sloped properties, the downhill end of the constmction area must be protected with silt fencing (such as sandbags, filter fabric, silt curtains, etc.) and hay bales oriented parallel to the contours of the slope (at a constant elevation) to prevent erosion into the creek.

b) In accordance with an approved erosion control plan, the project applicant shall implement mechanical and vegetative measures to reduce erosion and sedimentation, including appropriate seasonal maintenance. One hundred (100) percent degradable erosion control fabric shall be installed on all graded slopes to protect and stabilize the slopes during construction and before permanent vegetation gets established. All graded areas shall be temporarily protected from erosion by seeding with fast growing annual species. All bare slopes must be covered with staked tarps when rain is occurring or is expected.

c) Minimize the removal of natural vegetation or ground cover from the site in order to minimize the potential for erosion and sedimentation problems. Maximize the replanfing of the area with native vegetation as soon as possible.

d) All work in or near creek channels must be performed with hand tools and by a minimum number of people. Immediately upon completion of this work, soil must be repacked and native vegetation planted.

e) Install filter materials (such as sandbags, filter fabric, etc.) at the storm drain inlets nearest to the creek side of the project site prior to the start of the wet weather season (October 15); site dewatering activities; street washing activities; saw cutting asphalt or concrete; and in order to retain any debris flowing into the City storm drain system. Filter materials shall be maintained and/or replaced as necessary to ensure effectiveness and prevent street flooding.

f) Ensure that concrete/granite supply trucks or concrete/plaster f nishing operations do not discharge wash water into the creek, street gutters, or storm drains.

g) Direct and locate tool and equipment cleaning so that wash water does not discharge into the creek.

h) Create a contained and covered area on the site for storage of bags of cement, paints, flammables, oils, fertilizers, pesticides, or any other materials used on the project site that have the potential for being discharged to the storm drain system by the wind or in the event of a material spill. No hazardous waste material shall be stored on site.

i) Gather all constmction debris on a regular basis and place them in a dumpster or other container which is emptied or removed on a weekly basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution.

j) Remove all dirt, gravel, refuse, and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site. During wet weather, avoid driving vehicles off paved areas and other outdoor work.

k) Broom sweep the street pavement adjoining the project site on a daily basis. Caked-on mud or dirt shall be scraped from these areas before sweeping. At the end of each workday, the entire site must be cleaned and secured against potential erosion, dumping, or discharge to the creek.

l) All erosion and sedimentation control measures implemented during construction activities, as well as construction site and materials management shall be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the Regional Water Quality Board (RWQB).

m) Temporary fencing is required for sites without existing fencing between the creek and the construction site and shall be placed along the side adjacent to construction (or both sides of the creek if applicable) at the maximum practical distance from the creek centerline. This area shall not be disturbed during

construction without prior approval of Planning and Zoning.

n) All erosion and sedimentation control measures shall be monitored regularly by the project applicant. The City may require erosion and sedimentation control measures to be inspected by a qualified environmental consultant (paid for by the project applicant) during or after rain events. If measures are insufficient to control sedimentation and erosion then the project applicant shall develop and implement additional and more effective measures immediately.

j) Remove all dirt, gravel, refuse, and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site. During wet weather, avoid driving vehicles off paved areas and other outdoor work.

k) Broom sweep the street pavement adjoining the project site on a daily basis. Caked-on mud or dirt shall be scraped from these areas before sweeping. At the end of each workday, the entire site must be cleaned and secured against potential erosion, dumping, or discharge to the creek.

l) All erosion and sedimentation control measures implemented during construction activities, as well as construction site and materials management shall be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the Regional Water Quality Board (RWQB).

m) Temporary fencing is required for sites without existing fencing between the creek and the construction site and shall be placed along the side adjacent to construction (or both sides of the creek if applicable) at the maximum practical distance from the creek centerline. This area shall not be disturbed during construcfion without prior approval of Planning and Zoning.

n) All erosion and sedimentation control measures shall be monitored regularly by the project applicant. The City may require erosion and sedimentation control measures to be inspected by a qualified environmental consultant (paid for by the project applicant) during or after rain events. If measures are insufficient to control sedimentation and erosion then the project applicant shall develop and implement additional and more effective measures immediately.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Plan-Check
- Ongoing Monitoring Responsibility: Building Services Division, Construction Inspection

NOISE

Standard Conditions of Approval

SCA-NOISE-1: Days/Hours of Construction Operation

Ongoing throughout demolition, grading, and/or construction

The project applicant shall require construction contractors to limit standard construction activities as follows:

Construction activities are limited to between 7:00 AM and 7:00 PM Monday through Friday, except that pile driving and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 AM and 4:00 PM Monday through Friday.

Any construction activity proposed to occur outside of the standard hours of 7:00 AM to 7:00 PM Monday

through Friday for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened and such constmction activities shall only be allowed with the prior written authorization of the Building Services Division.

Constmction activity shall not occur on Saturdays, with the following possible exceptions:

i. Prior to the building being enclosed, requests for Saturday constmction for special activities (such as concrete pouring which may require more continuous amounts of time), shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of constmction is shortened. Such constmction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division.

ii. After the building is enclosed, requests for Saturday constmction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division, and only then within the interior of the building with the doors and windows closed.

No extreme noise generating activities (greater than 90 dBA) shall be allowed on Saturdays, with no exceptions.

No constmction activity shall take place on Sundays or Federal holidays.

Constmction activities include but are not limited to: tmck idling, moving equipment (including tmcks, elevators, etc) or materials, deliveries, and constmction meetings held on-site in a non-enclosed area.

Applicant shall use temporary power poles instead of generators where feasible.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

SCA-NOISE-2: Noise Control

Ongoing throughout demolition, grading, and/or construction

To reduce noise impacts due to constmction, the project applicant shall require constmction contractors to implement a site-specific noise reduction program, subject to the Planning and Zoning Division and the Building Services Division review and approval, which includes the following measures:

a) Equipment and tmcks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible).

b) Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with

compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available and this

could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.

c) Stationary noise sources shall be located as far from adjacent sensitive noise receptors as possible and they shall be muffled and enclosed within temporary sheds, or incorporate insulation noise barriers, or use other measures as determined by the City to provide equivalent noise reduction.

d) The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.

To implement SCA-NOISE-2, the project applicant shall have a qualified acoustical consultant prepare a noise reduction implementation plan for City review and approval. The goal of the plan is to reduce noise impacts during Phase 1 at Receptor 4 and Receptor 6. The project applicant shall implement the approved plan.

The approved noise reduction implementation plan shall incorporate one or more of the following sound reduction measures or equivalent sound reduction measures:

Phase 1 Veterinary Medical Hospital. During construction activities, a 15-foot-high temporary sound barrier of 230 feet in length shall be placed between the proposed Veterinary Medical Hospital site and the southern and eastern residences. The sound barrier shall be placed at the edge of the parking lot closest to the Veterinary Medical Hospital location as shown in Figure 3.9-1 of the SMND/A. The sound barrier shall require a ten-foot return on each end and be oriented 45 degrees into the construction activities. Due to edge diffraction, the construction activities shall not approach the end of the wall returns by 50 feet. Table 3.9-8 in Subsection 3.9.5.2 of the SMND/A describes the temporary sound barrier wall height and the duration of the wall placement.

Phase 1 Service Road. A 12-foot-high temporary sound barrier segment of 475 feet in length shall be placed along the edge of the service road segment where the road bends and is oriented

nearest the southern residences as shown in Figure 3.9-2 of the SMND/A while roadway construction occurs. The sound barrier shall require a ten-foot return on each end and be oriented 45 degrees into the construction activities. Due to edge diffraction, the construction activities shall not approach the end of the wall returns by 50 feet. Table 3.9-8 in Subsection 3.9.5.2 of the SMND/A describes the temporary sound barrier wall height and the duration of the wall placement.

The temporary sound barrier shall be constructed of a sound blanket system hung on scaffolding to achieve the required height. This system is very effective in the reduction of construction noise and allows the ability to move or adjust the wall location. An alternative sound barrier design would consist of plywood installed atop a portable concrete K-Rail system. This alternative solution is effective in the reduction of noise and also allows the ability to move or adjust the wall location.

An alternative approach to the sound barrier would be to equip all of the heavy construction equipment used

in the constmction of the Veterinary Medical Hospital and the service road with acoustical silencers installed directly onto the construction equipment's exhaust system. This altemative mitigation solution would reduce the temporary constmction noise impacts to below the City of Oakland's noise threshold limits.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibihty: Building Services Division, Zoning Inspection

SCA-NOISE-3: Noise Complaint Procedures

Ongoing throughout demolition, grading, and/or construction

Prior to the issuance of each building permit, along with the submission of constmction documents, the project applicant shall submit to the Building Services Division a list of measures to respond to and track complaints pertaining to constmction noise. These measures shall include:

a) A procedure and phone numbers for notifying the Building Services Division staff and Oakland Police Department; (during regular constmction hours and off-hours);

b) A sign posted on-site pertaining with permitted constmction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the City and constmction contractor's telephone numbers (during regular constmction hours and off-hours);

c) The designation of an on-site constmction complaint and enforcement manager for the project;

d) Notification of neighbors and occupants within 300 feet of the project constmction area at least 30 days in advance of extreme noise generating activities about the type and estimated duration of the activity; and

e) A preconstmction meeting shall be held with the job inspectors and the general contractor/ on-site project manager to confirm that noise measures and practices (including constmction hours, neighborhood notification, posted signs, etc.) are completed.

- Implementation Responsibihty: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

SCA-NOISE-4: Operational Noise-General

Ongoing

Noise levels from the activity, property, or any mechanical equipment on site shall comply with the performance standards of Section 17.120 of the Oakland Planning Code and Section 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall be abated umtil appropriate noise reduction measures have been installed and compliance verified by the Planning and Zoning Division and Building Services.

- Implementation Responsibihty: Project Sponsor

CONDITIONS OF APPROVAL – EXHIBIT A: STANDARD CONDITIONS OF APPROVAL/MITIGATION MONITORING AND REPORTING PROGRAM (SCAMMRP)

- Initial Approval Responsibility: Building Services Division, Zoning Inspection
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

PUBLIC SERVICES AND UTILITIES

Standard Conditions of Approval

SCA-SERVICES-1: Waste Reduction and Recycling

The project applicant will submit a Construction & Demolition Waste Reduction and Recycling Plan (WRRP) and an Operational Diversion Plan (ODP) for review and approval by the Public Works Agency.

Prior to issuance of demolition, grading, or building permit

Chapter 15.34 of the Oakland Municipal Code outlines requirements for reducing waste and optimizing construction and demolition (C&D) recycling. Affected projects include all new construction, renovations/alterations/modifications with construction values of $50,000 or more (except R-3), and all demolition (including soft demo). The WRRP must specify the methods by which the development will divert C&D debris waste generated by the proposed project from landfill disposal in accordance with current City requirements. Current standards, FAQs, and forms are available at www.oaklandpw.com/Page39.aspx or in the Green Building Resource Center. After approval of the plan, the project applicant shall implement the plan.

Ongoing

The ODP will identify how the project complies with the Recycling Space Allocation Ordinance, (Chapter 17.118 of the Oakland Municipal Code), including capacity calculations, and specify the methods by which the development will meet the current diversion of solid waste generated by operation of the proposed project from landfill disposal in accordance with current City requirements. The proposed program shall be in implemented and maintained for the duration of the proposed activity or facility. Changes to the plan may be re-submitted to the Environmental Services Division of the Public Works Agency for review and approval. Any incentive programs shall remain fully operational as long as residents and businesses exist at the project site.

- Implementation Responsibihty: Project Sponsor
- Initial Approval Responsibility: Enviromental Services Division
- Ongoing Monitoring Responsibility: Environmental Services Division

SCA-SERVICES-2: *Fir*e Safe*ty P*has*ing Plan*

Prior to issuance of a demolition, grading, and/or construction and concurrent with any p-job submittal permit

The project applicant shall submit a separate fire safety phasing plan to the Planning and Zoning Division and Fire Services Division for their review and approval. The fire safety plan shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. Fire

Services Division may require changes to the plan or may reject the plan if it does not adequately address fire hazards associated with the project as a whole or the individual phase.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division; Fire Services Division; Building Services Division, Plan-Check
- Ongoing Monitoring Responsibility: Fire Services Division

SCA-SERVICES-3: Fire Safety

Prior to and ongoing throughout demolition, grading, and/or construction

The project applicant and construction contractor will ensure that during project construction, all construction vehicles and equipment will be fitted with spark arresters to minimize accidental ignition of dry construction debris and surrounding dry vegetation.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Fire Services Division
- Ongoing Monitoring Responsibility: Fire Services Division

SCA-SERVICES-4: Stormwater and Sewer

Prior to completing the final design for the project's sewer service

Confirmation of the capacity of the City's surrounding stormwater and sanitary sewer system and state of repair shall be completed by a qualified civil engineer with funding from the project applicant. The project applicant shall be responsible for the necessary stormwater and sanitary sewer infrastructure improvements to accommodate the proposed project. In addifion, the applicant shall be required to pay additional fees to improve sanitary sewer infrastructure if required by the Sewer and Stormwater Division. Improvements to the existing sanitary sewer collection system shall specifically include, but are not limited to, mechanisms to control or minimize increases in infiltration/inflow to offset sanitary sewer increases associated with the proposed project. To the maximum extent practicable, the applicant will be required to implement Best Management Practices to reduce the peak stormwater runoff from the project site. Additionally, the project applicant shall be responsible for payment of the required installation or hook-up fees to the affected service providers.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Plan-Check; Stormwater Divison
- Ongoing Monitoring Responsibility: Stormwater Division

CONDITIONS OF APPROVAL – EXHIBIT A: STANDARD CONDITIONS OF APPROVAL/MITIGATION MONITORING AND REPORTING PROGRAM (SCAMMRP)

TRANSPORTATION AND CIRCULATION

1998 Mitigation Measures

26a) ***During construction:*** Construction traffic shall only use existing improved public roads.

- Implementafion Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Zoning Inspecfion
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

27a) ***Ongoing:*** To prevent heavy traffic from exiting the Zoo in one direction, traffic will be directed between Golf Links Road and 106th Avenue in order to balance the traffic flow. At no time will the Golf Links exit be closed to heavy traffic.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Building Services Division, Zoning Inspecfion
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

Standard Conditions of Approval

SCA-TRANS-1: Construction Traffic and Parking

Prior to the issuance of a demolition, grading or building permit

The project applicant and construction contractor shall meet with appropriate City of Oakland agencies to determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and the effects of parking demand by construction workers during construction of this project and other nearby projects that could be simultaneously under construction. The project applicant shall develop a construction management plan for review and approval by the Planning and Zoning Division, the Building Services Division, and the Transportation Services Division. The plan shall include at least the following items and requirements:

a) A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes.

b) Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur.

c) Location of construction staging areas for materials, equipment, and vehicles at an approved location.

d) A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager. The manager shall determine the cause of the complaints and shall take prompt action to correct the problem. Planning and Zoning shall be informed who the Manager is prior to the issuance of the first permit issued by Building Services.

e) Provision for accommodation of pedestrian flow.

f) Provision for parking management and spaces for all construction workers to ensure that construction workers do not park in on street spaces.

g) Any damage to the street caused by heavy equipment, or as a result of this construction, shall be repaired, at the applicant's expense, within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to issuance of a final inspection of the building permit. All damage that is a threat to public health or safety shall be repaired immediately. The street shall be restored to its condition prior to the new construction as established by the City Building Inspector and/or photo documentation, at the applicant's expense, before the issuance of a Certificate of Occupancy.

h) Any heavy equipment brought to the construction site shall be transported by truck, where feasible.

i) No materials or equipment shall be stored on the traveled roadway at any time.

j) Prior to construcfion, a portable toilet facility and a debris box shall be installed on the site, and properly maintained through project completion.

k) All equipment shall be equipped with mufflers.

l) Prior to the end of each work day during construction, the contractor or contractors shall pick up and properly dispose of all litter resulting froru or related to the project, whether located on the property, within the public rights-of-way, or properties of adjacent or nearby neighbors.

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division, the Building Services Division, and the Transportation Services Division
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection

SCA-TRANS-2: Parking and Transportation Demand Management

Prior to issuance of a final inspection of the building permit

The applicant shall submit for review and approval by the Planning and Zoning Division a Transportation Demand Management (TDM) plan containing strategies to reduce on-site parking demand and single occupancy vehicle travel. The applicant shall implement the approved TDM plan. The TDM shall include strategies to increase bicycle, pedestrian, transit, and carpools/vanpool use. All four modes of travel shall be considered. Strategies to consider include the following:

a) Inclusion of additional bicycle parking, shower, and locker facilities that exceed the requirement

b) Construction of bike lanes per the Bicycle Master Plan; Priority Bikeway Projects

c) Signage and striping onsite to encourage bike safety

d) Installation of safety elements per the Pedestrian Master Plan (such as cross walk striping, curb ramps,

count down signals, bulb outs, etc.) to encourage convenient crossing at arterials

e) Installation of amenities such as lighting, street trees, trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan.

f) Direct transit sales or subsidized transit passes

g) Guaranteed ride home program

h) Pre-tax commuter benefits (checks)

i) On-site car-sharing program (such as City Car Share, Zip Car, etc.)

j) On-site carpooling program

k) Distribution of information concerning alternative transportation options

l) Parking spaces sold/leased separately

m) Parking management strategies; including attendant/valet parking and shared parking spaces

- Implementation Responsibility: Project Sponsor
- Initial Approval Responsibility: Planning and Zoning Division
- Ongoing Monitoring Responsibility: Building Services Division, Zoning Inspection