APPENDIX D-1
BIOLOGICAL RESOURCES TECHNICAL REPORT
REVISED PAGES

APPENDICES

List of Figures

List of Tables

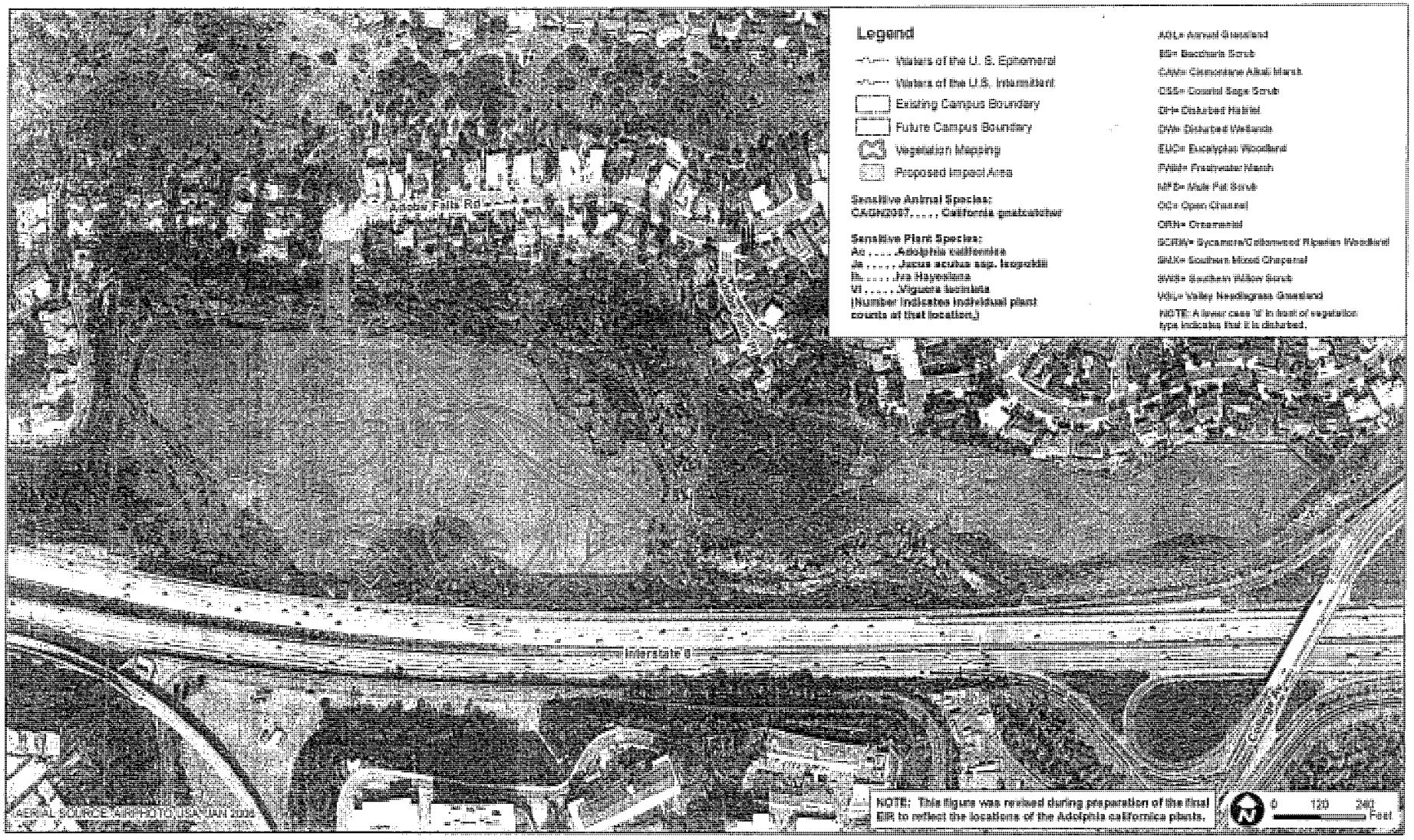

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Figure 4 (Revised)
Adobe Falls Faculty/Staff Housing
Vegetation Map with Proposed Impact Areas

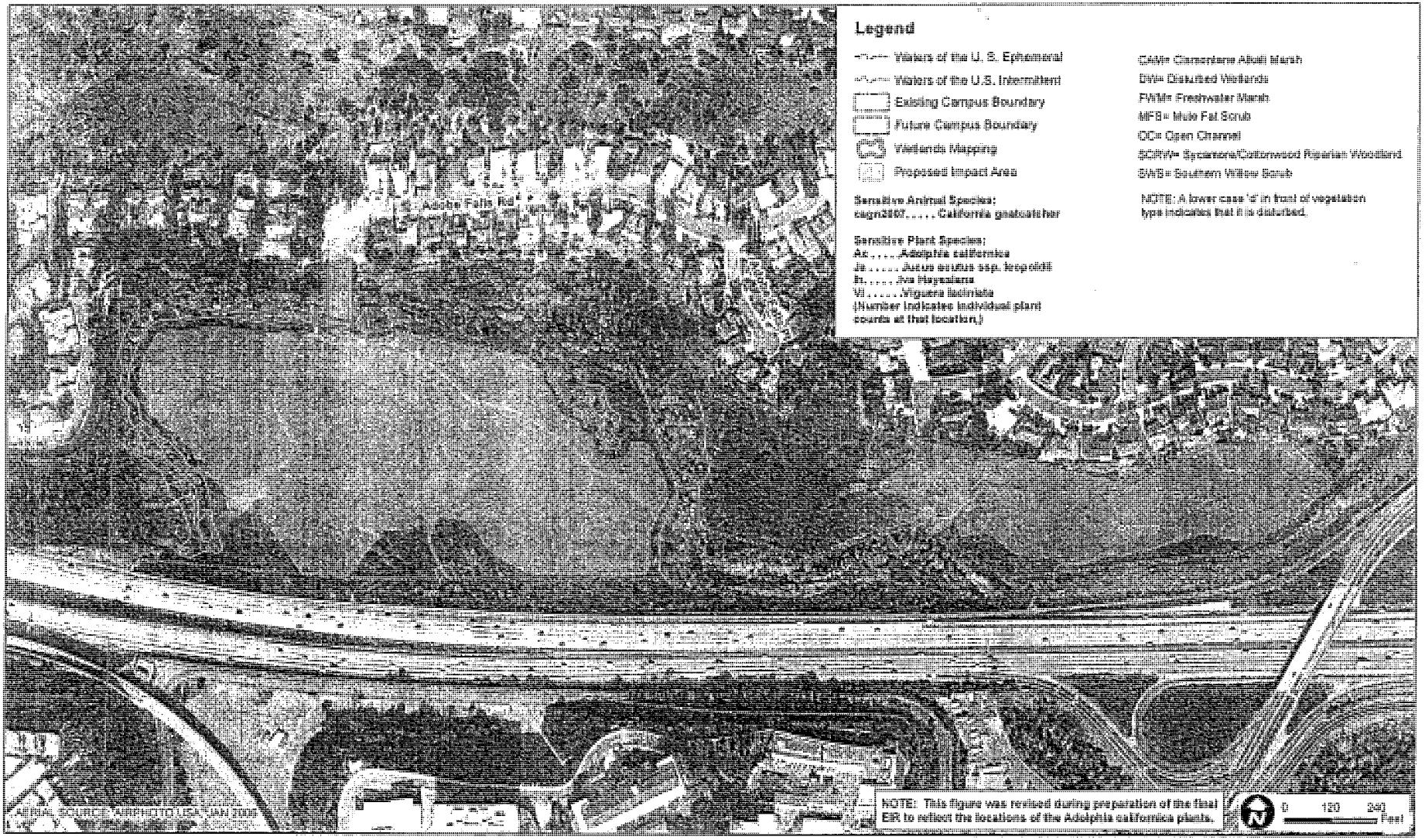

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Figure 9 (Revised)
Adobe Falls Faculty/Staff Housing
Wetlands Delineation with Proposed Impact Areas

village site. This mitigation is for impacts occurring on both the upper and lower village areas of the Adobe Falls Faculty/Staff Housing site. All impacts are displayed in detail in *Table 5* below, along with corresponding on site or off site mitigation.

Any planting stock to be brought onto the project site for landscape or habitat creation/restoration/enhancement shall be first inspected by a qualified pest inspector to ensure it is free of pest species that could invade natural areas, including but not limited to, Argentine ants (*Iridomyrmex humil*), fire ants (*Solenopsis inviela*) and other insect pests. Any planting stock found to be infested with such pests shall not be allowed on the project site or within 300 feet of natural habitats unless documentation is provided to the Resource Agencies that these pests already occur in natural areas around the project site. The stock shall be quarantined, treated or disposed of according to best management principles by qualified experts in a manner that precludes invasions into natural habitats. The applicant shall ensure that all temporary irrigation will be for the shortest duration possible, and that no permanent irrigation will be used, for landscape or habitat creation/restoration/enhancement.

TABLE 5
Proposed Mitigation - All Sites

Impact/Habitat Type Impacted by Proposed Project	Proposed Mitigation Ratio	Proposed On-Site Mitigation/Mitigation Type[1]	Proposed Off-Site Mitigation/Mitigation Type[2]	Total Proposed Mitigation
Upper Village Site – all impacts on site				
0.01 acre ephemeral unvegetated WOUS	2:1	0.01 acre enhancement	0.01 acre creation	0.02 acre
0.06 acre mulefat scrub	3:1	~~0.04~~ 0.12 acre enhancement	~~0.02~~ 0.06 acre creation	~~0.06~~ 0.18 acre
0.08 acre southern willow scrub	3:1	0.16 acre enhancement	0.08 acre creation	0.24 acre
Sub-total - 0.15 acre wetlands/WOUS impacts	**n/a**	**~~0.21~~ 0.29 acre enhancement**	**~~0.11~~ 0.15 acre creation**	**~~0.32~~ 0.44 acre**
0.09 acre baccharis scrub	2:1	none	0.18 acre preservation	0.18 acre
3.30 acres coastal sage scrub	2:1	4.32 acres preservation	2.28 acres preservation	6.60 acres
0.01 acre disturbed coastal sage scrub	2:1	none	0.02 acre preservation	0.02 acre
1.46 acres southern mixed chaparral	1:1	0.50 acre preservation	0.96 acre preservation	1.46 acres

TABLE 5
Proposed Mitigation - All Sites

Impact/Habitat Type Impacted by Proposed Project	Proposed Mitigation Ratio	Proposed On-Site Mitigation/Mitigation Type[1]	Proposed Off-Site Mitigation/Mitigation Type[2]	Total Proposed Mitigation
0.04 acre non-native annual grassland	1:1	0.02 acre preservation	0.02 acre preservation	0.04 acre
0.31 acre ornnamental	n/a	none	none	0.00 acre
Sub-total – 5.21 acres uplands impacts	n/a	**4.84 acres preservation**	**3.46 acres preservation**	**8.30 acres**
Total – 5.36 acres impacts	n/a			~~8.62~~ 8.74 acres
Lower Village Site – includes 0.28 acre off site impacts				
0.07 acre intermittent/ephemeral unvegetated WOUS	2:1	0.07 acre creation 0.07 acre enhancement	none	0.14 acre
0.03 acre disturbed sycamore/cottonwood riparian woodland	3:1	0.03 acre creation 0.06 acre enhancement	none	0.09 acre
0.23 acre disturbed wetland – 0.20 acre off site, 0.03 acre on site	2:1	0.10 acre creation 0.23 acre enhancement	0.13 acre creation	0.46 acre
Sub-total – 0.33 acre wetlands impacts	n/a	**0.20 acre creation** **0.36 acre enhancement**	**0.13 acre creation**	**0.69 acre**
3.66 acres baccharis scrub	2:1	1.39 acres preservation	5.93 acres preservation	7.32 acres
5.47 acres coastal sage scrub	2:1	0.88 acres preservation	10.06 acres preservation	10.94 acres
0.67 acre disturbed coastal sage scrub	2:1	0.04 acre preservation	1.30 acres preservation	1.34 acres
2.41 acres southern mixed chaparral	1:1	1.93 acres preservation	0.48 acre preservation	2.41 acres
0.01 acre valley needlegrass grassland	2:1	0.02 acre preservation	none	0.02 acre
1.49 acres non-native annual grassland	1:1	0.41 acre preservation	1.08 acres preservation	1.49 acres
0.48 acre disturbed habitat – 0.07 acre off site, 0.41 acre on site	n/a	none	none	0.00 acre

TABLE 5
Proposed Mitigation - All Sites

Impact/Habitat Type Impacted by Proposed Project	Proposed Mitigation Ratio	Proposed On-Site Mitigation/Mitigation Type[1]	Proposed Off-Site Mitigation/Mitigation Type[2]	Total Proposed Mitigation
Sub-total – 14.19 acres uplands impacts[3]	n/a	4.67 acres preservation	18.85 acres preservation	23.52 acres
Project Totals – All Sites 0.48 acre wetlands/WOUS impacts 19.40 acres uplands impacts [4]	n/a	~~0.57~~ 0.65 acre on site wetlands enhancement 0.20 acre on site wetlands creation 9.51 acres on site uplands preservation	~~0.26~~ 0.30 acre off site wetlands creation 22.31 acre off site uplands preservation	~~33.94~~ 34.06 acres total mitigation

1 Wetlands impacts resulting from the upper village site will be mitigated, to the extent possible, within open space lands on the lower village site Uplands impacts resulting from the upper and lower village sites will be mitigated, to the extnt possible, on the site where the impacts occur.

2 Off site miligation will be comprised of purchase of wetlands/uplands miligation lands (credits) within agency approved mitigation banks.

3 Total includes approximately 0.23 acre of offsite impacts.

4 Impact total does not include ornamental vegatetion or developed areas. No mitigation is proposed for these impacts, which occur on all SDSU project sites (see Table 4).

Note that the remaining needed mitigation includes ~~0.26~~ 0.30 acre of wetlands creation off site. The proposed mitigation shall include purchase of wetlands mitigation credits at an approved off-site mitigation bank, preferably within the San Diego River watershed. In addition, a total of 22.31 additional acres of uplands habitat mitigation are required. The proposed mitigation shall include purchase and preservation of gnatcatcher-occupied Diegan coastal sage scrub habitat off site within the MHPA. Mitigation may occur on Mt. Fortuna, adjacent to Mission Trails Regional Park. The purchase and preservation of this land shall contribute to the overall assembly of the MHPA preserve system in San Diego County and shall ensure that a sensitive area is preserved in perpetuity. Figures 11 and 12 depict possible mitigation opportunities.

7.1.2 Sensitive Plants

Mitigation is not proposed because impacts to sensitive plant species are not significant. However, prior to grading, in an effort to preserve the genetic diversity of San Diego County vigueira and California adolphia, SDSU shall make every attempt possible to salvage the onsite rare plant individuals that will be impacted. Should a SDSU Field Station be developed within the Adobe Falls canyon, students and faculty associated with the field station may be available to assist with salvage and translocation efforts.

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Figure 11
Adobe Falls/Alvarado Creek
Proposed Onsite & Offsite Uplands and Wetlands Mitigation Areas

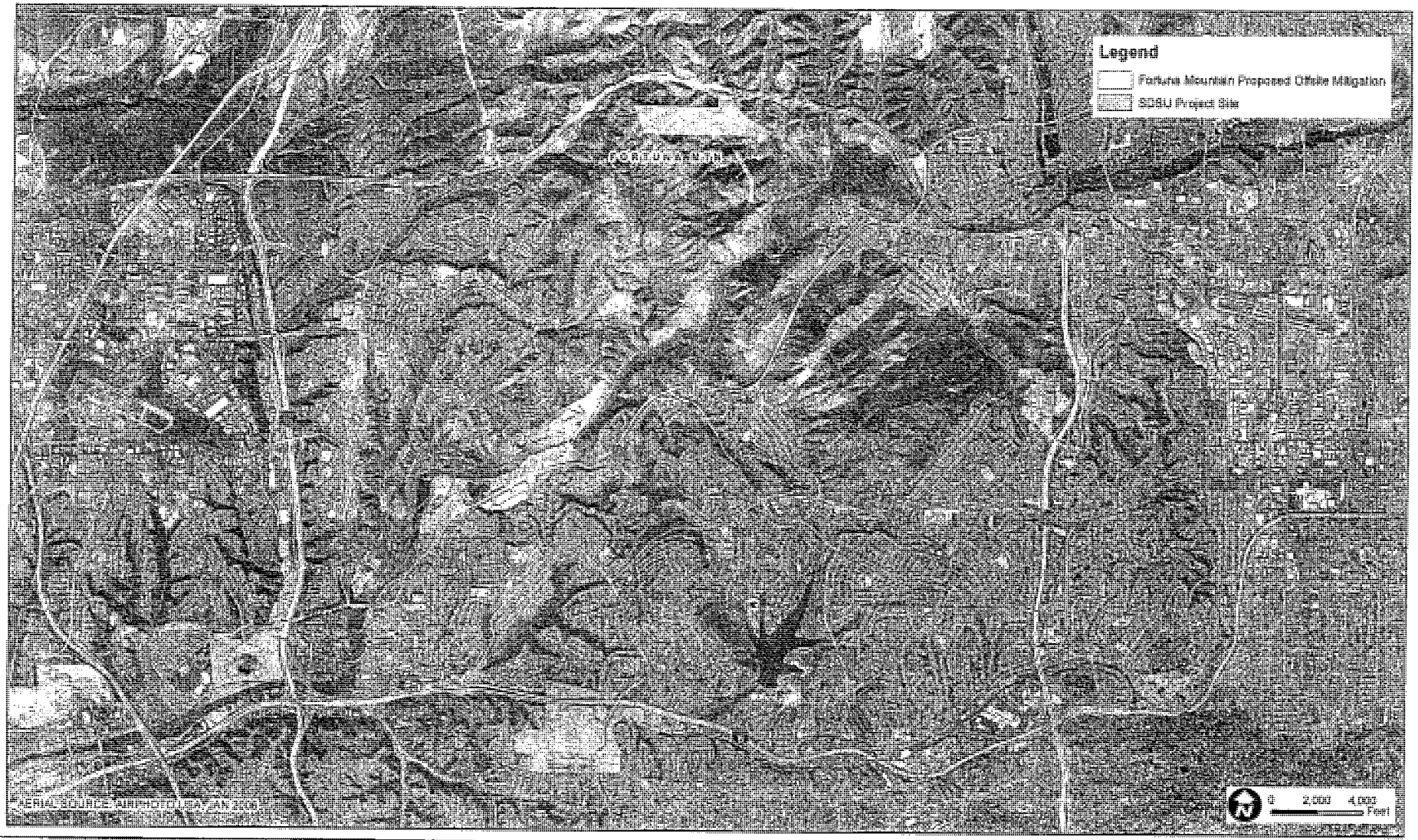

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Figure 12
Fortuna Mountain Proposed Offsite Mitigation Areas

7.1.3 Sensitive Wildlife

If possible, construction on the Adobe Falls Faculty/Staff Housing site component of the proposed project shall occur outside of the migratory bird nesting season (generally March 15 though September 15 annually) to prevent injury or harm to nesting migratory bird species protected under the Migratory Bird Treaty Act. In adidition, clearing of habitat on the site shall be completed prior to the onset of the migratory nesting bird, whenever possible, to discourage and/or prevent nesting onsite during the nesting season. If construction on the Adobe Falls Faculty/Staff Housing site component of the proposed project is to occur during the general breeding bird season for migratory species, prior to commencement of grading activities, SDSU, or its designee shall conduct thorough nesting bird surveys for migratory species protected under the Mirgatory Brid Treaty Act. The surveys shall focus on detection of nests and nesting activity, with a focus on detection of nesting gnatcatchers.

If construction on the Adobe Falls Faculty/Staff Housing site component of the proposed project is to occur during the raptor breeding season (January through October, annually), prior to commencement of grading activities and at a time during the breeding season, SDSU, or its designee, shall conduct a focused survey for nesting raptors to assess the presence/absence of sensitive nesting raptors within and adjacent to the Adobe Falls Faculty/Staff Housing site. If any active raptor nests are detected, the area will be flagged, along with a buffer of 250 to 300 feet (specific width to be determined by the project biologist) and will be avoided until the birds have fledged, or it has been determined that the nest has failed.

Prior to construction on the proposed U Lot Residence Hall site, SDSU, or its designee, shall conduct a focused survey for the coastal California gnatcatcher on coastal sage scrub—covered slopes adjacent to the site. The surveys shall be conducted to determine the presence or absence of any nesting gnatcatchers within 500 feet of the proposed construction site. If nests are located within this distance, noise mitigation measures may be required on site to avoid significant indirect impacts to the gnatcatcher.

7.2 Mitigation for Indirect Impacts

Mitigation measures to reduce potential long-term indirect impacts of the project on sensitive biological resources are presented below. Note that all sensitive biological resources occur on the Adobe Falls Faculty/Staff Housing site and adjacent to the U Lot Residence Hall site.

7.2.1 Vegetation Communities

Potentially significant long-term indirect impacts to vegetation communities and sensitive habitat types include introduction of non-native or invasive species, increased foot traffic, and other disturbance in wetland and upland preserve areas and drainage changes that result in altered

hydrology in wetland and upland habitat areas. Mitigation measures to reduce long-term indirect impacts associated with implementation of the Adobe Falls Faculty/Staff Housing component of the proposed project below a level of significance include the following measures.

- During the design phase of the proposed Adobe Falls Faculty/Staff Housing site, non-native or invasive plant species in landscaping shall not be located adjacent to native habitat areas, on slopes adjacent to Alvarado Creek, or upland habitat next to Interstate 8.

- During the design phase of the proposed Adobe Falls Faculty/Staff Housing site development, a system of trails within open space preserved areas shall be developed that encourages foot traffic within the least sensitive habitat types while providing views of more sensitive areas adjacent to the proposed development.

- During the design phase of the proposed Adobe Falls Faculty/Staff Housing site development, a Storm Water Pollution prevention Plan (SWPPP) shall be developed to address potential impacts to water quality during construction, and a Water Quality Management Plan will be developed to ensure that impacts to water quality on a long-term basis will be avoided and minimized.

- During the design phase of the proposed Adobe Falls Faculty/Staff Housing site development, buffers between the proposed development and preserved on-site wetlands shall be developed. The perennial drainage along the west boundary of the site will include a minimum 25-foot-wide buffer along the edge of the development to maintain wildlife habitat functions, and a general 100-foot buffer will be maintained along the floodplain of Alvarado Creek to avoid the existing FEMA floodplain.

- During the design phase of the proposed Adobe Falls Faculty/Staff Housing site development, outdoor lighting shall be installed so that it faces away from preserved areas on the periphery of the Adobe Falls Faculty/Staff Housing site, and sodium lights used if possible to decrease negative effects associated with artificial night lighting.

7.2.2 Sensitive Plants

Potentially significant long-term indirect impacts to sensitive plants include trampling by humans and invasion by exotic plants. The following mitigation measures will reduce these potential impacts to a level less than significant.

- During the design phase of the proposed Adobe Falls Faculty/Staff Housing site development, native landscaping shall be provided in areas that are adjacent to preserved native habitat.

- During the design phase of the proposed Adobe Falls Faculty/Staff Housing site development, installation of fencing at the interface between the development boundary and any native habitat to preclude human intrusion into preserved areas shall be developed.

The preparation of a Storm Water Pollution Prevention Plan and Water Quality Management Plan will also serve to reduce potentially significant long-term indirect impacts to sensitive plants.

7.2.3 Sensitive Wildlife

Potentially significant long-term indirect impacts to sensitive wildlife include introduction of night lighting on the development that could interfere with the activities of nocturnal wildlife and increased predation by domesticated pets. The following mitigation measures shall reduce these potential impacts to a level below significant.

- During the design phase of the proposed Adobe Falls Faculty/Staff Housing site development, outdoor lighting shall be installed so that it faces away from preserved areas on the periphery of the Adobe Falls Faculty/Staff Housing site, and sodium lights used if possible to decrease negative effects associated with artificial night lighting.

- During the design phase of the proposed Adobe Falls Faculty/Staff Housing site development, policies and design measures that will reduce intrusion of domestic pets into native habitat areas shall be developed. Measures could include sensitive habitat signage, installing well-defined trails along habitat areas so recreationalists/dog walkers understand trail limits, and incorporating leash laws.

- During the design phase/future environmental documentation phase of the U Lot Residence Hall site development, focused surveys for the federally-listed threatened coastal California gnatcatcher shall be conducted to determine (1) if this species is present in the canyon and (2) whether this species is located within 500 feet of the proposed construction site. If this species is within 500 feet of the proposed construction site, mitigation for indirect impacts must be developed (e.g., noise setbacks, breeding season construction limitations). If nests are located within this distance, noise mitigation measures may be required on site to avoid significant indirect impacts to the gnatcatcher.

7.3 Mitigation for Construction Impacts

To avoid potential impacts to sensitive biological resources associated with construction of the Adobe Falls Faculty/Staff Housing Upper and Lower Villages during construction, the following measures shall be implemented:

- Prior to construction, a temporary fence (with silt barriers) shall be installed around the limits of project impacts (which include all construction staging areas and access routes) to prevent additional habitat impacts as well as the spread of silt from the construction zone into the adjacent wetland and upland habitats. Fencing shall be installed in a manner that does not impact habitats that must be avoided. If work occurs beyond the fenced or demarcated limits of impact, all work shall cease until the problem has been remedied. Any riparian/wetland or upland habitat impacts that occur outside of the fenced project limits shall be mitigated at a minimum 5:1 ratio. Temporary construction fencing shall be removed upon project completion;
- The clearing and grubbing of, and construction within 300 feet of, gnatcatcher occupied habitat shall occur outside of the gnatcatcher breeding season (March 15 through August 31, or sooner if a qualified biologist demonstrates to the satisfaction of the USFWS and CDFG that all nesting is complete);
- Construction employee activities, vehicles, equipment, and construction materials shall be strictly limited to the fenced project footprint;
- To avoid attracting potential predators of wildlife on-sire, the project site shall be kept as clean of feed and other organic debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site;
- Pets of project personnel shall not be allowed on the project site;
- Disposal or temporary placement of excess fill, brush or other debris shall not be allowed in waters of the U.S. or along banks;
- If nighttime construction work is necessary, night lighting shall be of the lowest illumination necessary for human safety, selectively placed, shielded and directed away from natural habitats.
- All equipment maintenance, staging, and dispensing of fuel, oil, coolant or any other activities shall occur in designated areas outside of waters of the U.S. and within the fenced project impact areas. These designated areas shall be located in previously compacted and disturbed areas to the maximum extent practicable in such a manner as to prevent any runoff from entering waters of the U.S. and shall be shown on construction plans (ie, "no fueling zones" shall be delineated on construction plans). Fueling of equipment shall take place within existing paved areas at least 100 feet from waters of the U.S. Contractor's equipment shall be checked for leaks prior to operation and repaired as necessary.

A biological resource monitor shall be onsite during construction to do the following:

- Monitor initial clearing and grubbing of habitat to ensure that clearing and grubbing of habitat is done above ground in a way that precludes nesting of birds but does not cause soil and/or root disturbance or vegetation that is to remain onsite
- Participate or oversee salvage and transplant of live plants to the mitigation sites as practicable;
- Perform a minimum of three focused surveys, on separate days, to determine the presence of the gnatcatchers in the project impact footprint. Surveys will begin a maximum of seven days prior to performing vegetation clearing/grubbing and one survey will be conducted the day immediately prior to the initiation of remaining work. If any gnatcatchers are found

within the project impact footprint, the biologist will direct construction personnel to begin vegetation clearing/grubbing in an area away from the gnatcatchers. All construction must be at least 300 feet from any nesting gnatcatchers. In addition, the biologist will walk ahead of clearing/grubbing equipment to flush birds towards areas of coastal sage scrub to be avoided. It will be the responsibility of the biologist to ensure that gnatcatchers will not be injured or killed by vegetation clearing/grubbing. The biologist will also record the number and location of gnatcatchers disturbed by vegetation clearing/grubbing. The applicant will notify the USFWS at least seven days prior to vegetation clearing/grubbing to allow the USFWS to coordinate with the biologist on the bird flushing activities;

- Oversee installation of and inspect the fencing and erosion control measures within or upslope of restoration and/or preservation areas at a minimum of once per week and daily during all rain events to ensure that any breaks in the fences or erosion control measures are repaired immediately;
- Periodically monitor the work area to ensure that work activities do not generate excessive amounts of dust;
- Train all contractors and construction personnel on the biological resources associated with this project and ensure that training is implemented by construction personnel. At a minimum, training will include: 1) the purpose for resource protection; 2) a description of the gnatcatcher and its habitat; 3) the conservation measures that should be implemented during project construction to conserve sensitive biological resources on-site, including strictly limiting activities, vehicles, equipment and construction materials to the fenced project footprint (i.e. avoided areas shall be delineated on maps or on the project site by fencing per Mitigation Measure BR-14); 4) environmentally responsible construction practices; 5) the protocol to resolve environmental resource-based conflicts that may arise at any time during the construction process; 6) the general provisions of the federal Endangered Species Act, the need to adhere to the provisions of the Endangered Species Act, the penalties associated with violating the Endangered Species Act; and
- Halt work, if necessary, to ensure the proper implementation of species and habitat protection.

8.0 ACKNOWLEDGEMENTS

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