APPENDIX I

Letter Report from Dudek & Associates, Inc.

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RE: Biological Equivalency Analysis for the Redesign of the University Site

Dear Christina:

The following is an analysis of the latest redesigned university site, hereinafter referred to as the *University Redesign.* A description of the proposed University Redesign is provided below. The current proposal differs from previous proposals, for which similar analyses have been completed. The purpose of this analysis is to provide a biological basis for analyzing the changes to the preserve boundaries, in comparison to the MHPA preserve boundary that was adopted for the MSCP. This letter first describes the process for affecting changes to the preserve boundary, as identified in the MSCP Subregional Plan, and the methodological approach of the analysis. The analysis then compares the University Redesign with the adopted MHPA preserve configuration using the criteria set forth in the MSCP Subregional Plan. The conclusions of the analysis indicate that the University Redesign meets the requirements of the MSCP Subregional Plan for adjustments to the boundary of the MHPA, under the "Like or Equivalent" exchange concept, and in some cases the University Redesign, provides additional benefits to conservation.

University Site Preserve Boundary Adjustment Process

The MSCP Subregional Plan provides for adjustments to the boundaries of the MHPA or subarea plan preserves through a "Like or Equivalent" exchange concept. As per Section 5.4.2 of the MSCP Subregional Plan, since the physical configuration of Preserve in the university site included in this Subarea Plan is different than the Preserve configuration of Policy Option 2, the Preserve biological value of the University Redesign must be analyzed and deemed the same or greater than the Preserve biological value of Policy Option 2. The MSCP Subregional Plan states:

> *"Adjustments to the MHPA and/or preserve boundaries can be made without the need to amend the MSCP Subregional Plan or subarea plan if the adjustment will result in the same or higher biological value of the preserve. The determination of biological value of the proposed change is made by the local jurisdiction and must have concurrence of the wildlife agencies. No amendment of the subarea plan is needed for an approved equivalent*

exchange. The comparison of biological value will be based on the following biological factors:

- *Effects on significantly or sufficiently conserved habitats (i.e., the exchange maintains or improves the conservation, configuration, or status of significantly or sufficiently conserved habitats, at defined in Section 4.2.4 [of the MSCP Subregional Plan]);*

- *Effects to covered species (i.e., the exchange maintains or increases the conservation of covered species);*

- *Effects on habitat linkages and function of preserve areas (i.e., the exchange maintains or improves a habitat linkage or wildlife corridor);*

- *Effects on preserve configuration and management (i.e., the exchange results in similar or improved management efficiency and/or protection for biological resources);*

- *Effects on ecotones or other conditions affecting species diversity (i.e., the exchange maintains topographic and structural diversity and habitat interfaces of the preserve); and/or*

- *Effects to species of concern not on the Covered Species list (i.e., the exchange does not significantly increase the likelihood that an uncovered species will meet the criteria for listing under either the federal or state Endangered Species Acts)."*

Description of the University Redesign

The primary physical differences between the University Redesign and the MHPA Project is the addition of a development area on the east side of Salt Creek and removal of development from areas containing coastal sage scrub and maritime succulent scrub on the western slopes of Salt Creek. It should be noted that, while the University Redesign proposes development in roughly the same location as Policy Option 1, as identified and evaluated in the Final EIR/EIS, the University Redesign differs from that alternative by preserving additional coastal sage scrub and maritime succulent scrub on the western slopes of Salt Creek.

The University Redesign component of the project includes restoration and/or enhancement of 20.6 acres of coastal sage scrub/maritime succulent scrub within the Salt Creek area of the Preserve. Prior to development of this area, a restoration and enhancement plan will be prepared for the restoration/enhancement. The restoration and enhancement plan shall be consistent with the guidelines established in the Otay Ranch Coastal Sage Scrub and Maritime Succulent Scrub Replacement Master Plan (1995),

prepared as part of the Otay Ranch Phase 2 Resource Management Plan. The Master Plan specifies enhancement and restoration goals, techniques and monitoring. Coastal sage scrub restoration and enhancement areas will be interspersed with maritime succulent scrub restoration/enhancement in a pattern that is consistent with the existing mosaic of the two habitats within the study area.

Disturbance of coastal sage scrub within the new university development areas on the east side of Salt Creek will be subject to grading restrictions during the gnatcatcher nesting season. Additionally, individual barrel cactus (*Ferocactus viridescens*) that are within the grading area will be salvaged prior to grading and translocated to suitable sites within the adjacent habitat areas. Translocation sites will have a similar slope aspect as the native location.

Any impacts from grading that encroach into habitat areas will be restored consistent with the guidelines established in the Otay Ranch RMP. All brush management activities will be conducted within the development area boundaries, and shall be consistent with brush management requirements of the Otay Ranch RMP.

Analysis of the Biological Value of the University Redesign

There are differences between the University Redesign and the existing MHPA boundary as described in the MSCP Subregional Plan and its associated Final EIR/EIS. Differences include changes in habitat and species conservation levels, differences in the location and type of edge effects, and differences in wildlife movement and linkage features of the Preserve. However, the University Redesign has been specifically designed to meet or exceed the conservation goals and the biological value for the Preserve in Salt Creek. As a result, there are no new potentially significant impacts arising from the University Redesign that were not previously analyzed in the Final EIR/EIS under the MHPA Project.

The University Redesign results in an overall increase of 78.8 acres in the amount of habitat conserved, including increases of 4.7 acres of disturbed coastal sage scrub, 11.4 acres of maritime succulent scrub and 59.3 acres of grassland (Table 1). The University Redesign would also result in conservation of additional habitat containing point data for sensitive species, including 3 gnatcatchers, 4 cactus wren and 1 Cooper's hawk (Table 2). The University Redesign would, however, result in a net decrease in conservation of coastal sage scrub of 10.3 acres (including the loss of 26.4 acres of coastal sage scrub and the gain of 4.7 acres of disturbed coastal sage scrub and 11.4 acres of maritime succulent scrub.) Also within the area removed from conservation under the University Redesign are areas containing point data for 3 Southern California rufous crowned sparrows and 2 San Diego barrel cactus.

TABLE 1: Vegetation in MHPA Project Preserve[1] Versus University Redesign

CONSERVED VEGETATION TYPE[2]	MHPA Project Preserve (Acres)[2]	University Redesign (Acres)[2]	NET CHANGE
Coastal Sage Scrub	636.7	610.3	-26.4
Disturbed Coastal Sage Scrub	3.6	8.3	+ 4.7
Maritime Succulent Scrub	87.8	99.2	+ 11.4
Grassland	60.4	119.7	+ 59.3
Riparian Scrub	12.5	12.5	- -
Disturbed Riparian Scrub	119.8	119.8	- -
Disturbed Natural Flood channel/Streambed	115.8	117.0	+ 1.2
Eucalyptus Woodland	9.8	12.0	+ 2.2
Field Crops	0.3	26.7	+ 26.4
TOTAL	**1,046.7**	**1,125.5**	**+ 78.8**

1 MHPA Project Preserve is the Modified GDP Alternative – Policy Option 2.

2 Based on 1996 MSCP GIS database; developed lands are not included in Preserve acreage calculations.

TABLE 2: SENSITIVE SPECIES IN MSCP PROJECT PRESERVE[1] VERSUS UNIVERSITY REDESIGN

CONSERVED SPECIES	MHPA Project Preserve (Points)[2]	University Redesign (Points)[2]	NET CHANGE
California Gnatcatcher	89	92	+ 3
Coastal Cactus Wren	60	64	+ 4
Cooper's Hawk	2	3	+ 1
Golden Eagle	1	1	- -
Grasshopper Sparrow	2	2	- -
Least Bell's Vireo	4	4	- -
Orange-throated Whiptail	3	3	- -
Southern California Rufous-crowned Sparrow	28	25	- 3
Otay Tarplant	1	1	- -
San Diego Barrel Cactus	111	109	- 2
Snake Cholla	6	6	- -
Variegated Dudleya	4	4	- -

[1] MHPA Project Preserve is the Modified GDP Alternative – Policy Option 2.
[2] Numbers represent points in the 1996 MSCP GIS database. No species polygons are within the existing, approved Preserve design or Alternative Preserve Design.

The following is a detailed comparison of biological value of the University Redesign to the MHPA Project based on these six biological factors.

1. Effects on Significantly or Sufficiently Conserved Habitats – The physical boundaries of the University Redesign would result in a net decrease of 10.3 acres of coastal sage scrub habitats (including disturbed coastal sage scrub and maritime succulent scrub), as shown in Table 1 (Vegetation in MHPA Project Preserve Versus University Redesign). However, the project proposes to enhance/restore a total of 20.6 acres of coastal sage scrub habitat, in a manner prescribed in the Otay Ranch RMP for such restoration/enhancement. Compensation for the loss of coastal sage scrub habitats by restoration/enhancement would maintain or improve the conservation of coastal sage scrub within the Preserve.

Habitat with the Salt Creek area has been impacted by fire over the last several years. Field observations by biologists (Dudek and Associates, 1994, 1997, 1998, 1999) have revealed that many of the impacted areas are having difficulty recovering from the fires and are showing signs of invasion by exotics. These areas have a high likelihood for success of restoration and enhancement due to the abundance of adjacent high quality habitat and species density and diversity. This provides seed sources for plants and increased potential for repopulation by wildlife. It is anticipated that the 20.6 acres of proposed enhancement/restoration would result in a net increase in viable coastal sage scrub habitats in the Salt Creek area.

2. Effects on Covered Species – Covered Species in the Salt Creek area include California gnatcatcher, Coastal cactus wren, Cooper's Hawk, Golden Eagle, least Bell's vireo, Orange-throated whiptail, Southern California rufous crowned sparrow, Otay tarplant, San Diego barrel cactus, snake cholla and variegated dudleya. There is a quantitative reduction in terms of point data for two species, rufous crowned sparrow and San Diego barrel cactus (Table 2, Sensitive Species in MSCP Project Preserve Versus University Redesign). It is important, however, to examine potential effects to all of the Covered Species, since the point data may not represent all species in all locations in the study area.

   a. California gnatcatcher (*Polioptila californica californica*) – The point data for this species reveals that the University Redesign would conserve an additional 3 point locations. California gnatcatcher relies on coastal sage scrub as its primary habitat. The University Redesign results in conservation of 10.3 net acres less coastal sage scrub habitats, but provides for restoration/enhancement of 20.6 acres of coastal sage scrub habitat, with a high likelihood for success. In addition, the University Redesign provides for additional habitat linkages that would be important to the long term viability of this species. These additional linkages include a connection to an archipelago of coastal sage scrub habitats leading up to Upper Otay Reservoir and habitat areas to the north and east. The second additional connection would be to the south, through the elimination of proposed active recreational use areas in the Otay River Valley. With the restoration/enhancement of habitat and addition of linkages provided for in the University Redesign, this species is anticipated to be conserved at a similar or better level than would be expected with the MHPA Project.

   b. Coastal cactus wren (*Campylorhynchus brunneicapillus*) – The University Redesign would result in additional habitat conservation for this species (an additional 11.4 acres of maritime succulent scrub) and conservation of additional recorded point locations. In addition, the coastal sage scrub enhancement/restoration is proposed to be interdigitated with maritime

succulent scrub, providing additional habitat resources for this species. Additional habitat linkages, as discussed above, will also benefit this species.

c. Cooper's hawk (*Accipiter cooperii*) – The University Redesign will conserve an additional 59.3 acres of grassland, which is important foraging habitat for this species.

d. Golden eagle (*Aquilla chrysaetos*) – As with the Coopers hawk, this species would benefit from additional conservation of grassland habitats.

e. Least bell's vireo (*Vireo bellii pusillus*) – Conservation of wetlands and riparian scrub, the primary habitat for this species would remain the same under the University Redesign.

f. Orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*) – This species is primarily found in coastal sage scrub habitats, which will be conserved, restored or enhanced at an equivalent or better level under the University Redesign. Therefore, this species is expected to not be affected, or potentially benefit from the revised project.

g. Southern California rufous crowned sparrow (*Aimophila ruficeps canescens*) – Primary habitat for this coastal sage scrub. The University Redesign would impact 3 point locations of this species. But as indicated for other coastal sage scrub species, the overall net effect of the University Relocation on this species would be potentially beneficial.

h. Otay tarplant (*Hemizonia conjugens*) – No point locations for this species are impacted by the University Redesign. With the additional conservation of 59.3 acres of grassland under the University Redesign, this species may be provided additional habitat opportunities.

i. San Diego barrel cactus (*Ferocactus viridescens*) – Two point locations of this species would be impacted by the University Redesign, however, the project includes measures to translocate these individuals to suitable sites within the Preserve. There are recent and local examples of successful translocation projects for this species. In addition, the coastal sage scrub restoration/enhancement to be carried out as a part of the University Redesign would include this species in the plant pallette.

j. Snake cholla (*Opuntia parryi* var. *serpentina*) – No point locations would be affected. This species would also be included in the plant pallette for restoration/enhancement activities associated with the University Redesign.

k. Variegated dudleya (*Dudleya variegata*)– No point locations would be affected. This species would also be included in the plant pallette for restoration/enhancement activities associated with the University Redesign.

3. Effects on Habitat Linkages and Function of Preserve Areas – The University Redesign adds a wildlife corridor that provides a link between the lower Otay Reservoir and Salt Creek, connecting to an archipelago of coastal sage scrub habitat that continues to Upper Otay Reservoir an areas to the north and east. An additional linkage feature of the University Redesign is enhancement of the Otay River Valley corridor by preserving additional areas with the Otay River and removing proposed active recreation uses in the eastern portions of the Otay River Valley. Based on these factors, the University Redesign would maintain or, in some cases improve habitat linkages in the Preserve.

4. Effects on Preserve Configuration and Management – The modifications to the Preserve boundaries represented by the University Redesign are not significant in terms of management efficiency or effectiveness. Edge considerations would be related to the new development area proposed on the east side of Salt Creek. Such edge conditions are similar to those being removed as a result of the elimination of active recreation uses in the Otay River Valley. Total edge area for these two areas is similar, and the quality of potential edge effects is similar in nature (controlled recreational uses versus controlled university uses). Tables 3 and 4 provide a summary comparison of total edge area for the MHPA Project and the University Redesign (note that negative numbers on these tables represent a positive impact in terms of conservation, and vice versa). The total area subject to edge effects is reduced overall for the University Redesign, as compared to the MHPA Project.

Overall edge effects are therefore considered to be equivalent in nature, and reduced quantitatively, when comparing the MHPA Project to the University Redesign.

TABLE 3. VEGETATION COMMUNITIES WITHIN 150 FEET OF PRESERVE BOUNDARY

VEGETATION TYPE	MHPA Project Preserve (Acres)[1,2]	University Redesign (Acres)[1,2]	NET CHANGE
Coastal Sage Scrub	75.8	60.0	-15.8
Disturbed Coastal Sage Scrub	--	3.3	+ 3.3
Maritime Succulent Scrub	24.9	17.9	- 7.0
Grassland	21.8	30.8	+ 9.0
Riparian Scrub	0.9	0.9	--
Disturbed Riparian Scrub	12.1	0.6	- 11.5
Disturbed Natural Flood channel/Streambed	8.3	.25	- 8.05
Eucalyptus Woodland	1.8	1.7	- .1
Field Crops	0.3	8.0	+ 7.7
TOTAL	**145.9**	**123.45**	**- 22.45**

[1] Acreage of conserved vegetation within 150 feet of Preserve boundary.
[2] Based on 1996 MSCP GIS database.

TABLE 4. SPECIES POINTS WITHIN 150 FEET OF PRESERVE BOUNDARY

SPECIES	MHPA Project (Points)[1,2]	University Redesign (Points)[1,2]	NET CHANGE
California Gnatcatcher	17	20	+ 3
Coastal Cactus Wren	12	11	- 1
Cooper's Hawk	1	--	- 1
Golden Eagle	--	--	--
Grasshopper Sparrow	--	--	--
Least Bell's Vireo	1	--	- 1
Orange-throated Whiptail	1	1	
Southern California Rufous-crowned Sparrow	6	5	- 1
Otay Tarplant	--	--	--
San Diego Barrel Cactus	9	14	+ 5
Snake Cholla	1	3	+ 2
Variegated Dudleya	--	--	--

[1] Number of conserved species points within 150 feet of Preserve boundary.
[2] Based on 1996 MSCP GIS database. No species polygons are within the MHPA Project or University Redesign.

5. Effects of Ecotones or Other Conditions Affecting Species Diversity – The University Redesign results in a Preserve with similar topographic and structural diversity as the MHPA Project. The general consideration for this issue is that the components of the Preserve reconfiguration are all within a confined geographical area, with significant variation in ecotone elements and habitat diversity throughout. Therefore, minor adjustments in the Preserve boundary would not result in a significant overall difference in ecotone considerations. Areas added include the slopes on the west side of Salt Creek containing an interdigitated mosaic of coastal sage scrub, maritime succulent scrub and grasslands, similar to what is found on the eastern side of Salt Creek, which is being removed from the Preserve. In addition, the University Redesign adds areas in the Otay River Valley which contain favorable ecotone features, including a diverse mix of grassland and scrub habitats.

6. Effects to Species of Concern Not on the Covered Species List – Most of the species of concern found in the areas affected by the Preserve boundary modifications that would result from the University Redesign are included on the Covered Species list. The species of concern that are not covered, but that have the potential to occur in this area are mainly grassland associated species, such as the grasshopper sparrow and certain butterfly species. The University Redesign

includes conservation of an additional 59.3 acres of grassland, providing for additional conservation potential for these species. The boundary modification, therefore, is not anticipated to increase the likelihood that an uncovered species will meet the criteria for listing under either the federal or state Endangered Species Acts.

Conclusion

The biological value for the University Redesign included in the Chula Vista Subarea Plan is the same or higher than the existing proposal under Policy Option 2 included in the MHPA Project. As a result, the University Redesign meets the requirements of the MSCP Subregional Plan for adjustments to the boundary of the MHPA, under the "Like or Equivalent" exchange concept. In some cases the University Redesign, provides additional benefits to conservation, including: conservation of 78.8 acres of additional habitat conservation overall, and the addition of two significant wildlife movement features, one connecting habitat in Salt Creek to habitat and species populations in the northern and northeastern areas, and the other expanding the connection with the Otay River Valley, and facilitating wildlife movement to the south, east and west. The University Redesign meets or exceeds, and is therefore consistent with, all conservation objectives for the Covered Species within the *Chula Vista Subarea* under the MSCP Subregional Plan.

Very Truly Yours,

DUDEK & ASSOCIATES

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