APPENDIX G-6

WATERSHED AND SUB-BASIN PLANNING PRINCIPLES CONSISTENCY FINDINGS

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Planning Principle	Proposed Project (B-4)
SAN JUAN WATERSHED	
Chiquita Sub-Basin	
1. Consistent with the SAMP Tenets, protect the headwaters of Upper Chiquita Canyon.	**Consistent.** B-4 would be consistent because Upper Chiquita Canyon north of Oso Parkway was conserved as mitigation for the FTC-N segment between Oso Parkway and Antonio Parkway.
2. Avoid creating impervious surfaces in the sandy soils of the canyon floor. To the extent feasible, land uses in the major side canyons should be limited to primarily pervious surfaces in order to maintain infiltration.	**Consistent.** B-4 would be consistent because it would avoid creating impervious surfaces in the valley floor throughout the sub-basin and in the major side canyons above the treatment plant, and it also would avoid the major side canyon below the treatment plant. Uses proposed in the major side canyons above the treatment plant and the major canyon below the treatment plant would be pervious uses, including golf course and habitat protection.
3. Emulate existing terrains/hydrology and sediment transport processes by locating development on the ridges, which under present conditions have higher runoff rates and direct surface runoff flows to the permeable substrate of the major side canyons and along the valley floor.	**Consistent.** B-4 would be consistent because development north of the treatment plant would be located on the ridgelines and development south of the treatment plant would avoid the major side canyon. The Water Quality Management Plan would include provisions for directing surface runoff flows to permeable substrates in the major side canyons and along the valley floor.
4. Promote stormwater surface flow connectivity between the major side canyons and the main stream channel to maintain transient surface channel connections that occur following extreme rainfall events, without significantly changing connections during small storms.	**Consistent.** B-4 would be consistent because it would maintain connectivity between the side canyons and the main channel throughout the sub-basin. Golf course design would include features to maintain connectivity for larger storms and infiltration/connectivity for smaller storms. The Water Quality Management Plan would include provisions for directing surface runoff flows to permeable substrates in the major side canyons and along the valley floor.
5. Identify natural treatment systems for water quality treatment and stormwater detention that would be appropriate in the sandy soils of the major side canyons and the valley floor.	**Consistent.** B-4 would be consistent because the Water Quality Management Plan for this alternative identifies natural treatment systems and stormwater detention appropriate for the sandy soils in the major side canyons and the valley floor. Management of water quality would occur in compliance with the County of Orange MS4 permit issued by the San Diego Regional Water Quality Control Board through implementation of a Water Quality Management Plan. Water quality would be adaptively managed by the development entities as described in Chapter 9.
6. Maintain groundwater recharge to the shallow subsurface water system to sustain flows to Chiquita Creek.	**Consistent.** B-4 would be consistent because stormwater flows would be directed to the major side canyons and detention areas along the valley floor as provided for in the Water Quality Management Plan. Management of water quality would occur in compliance with the County of Orange MS4 permit issued by the San Diego Regional Water Quality Control Board through implementation of a Water Quality Management Plan. Water quality would be adaptively managed by the development entities as described in Chapter 9. Groundwater recharge thus would be maintained to Chiquita Creek under this alternative.
7. Address existing areas of channel incision that result from primarily localized processes/land use practices, as contrasted with terrace-forming valley-deepening areas that are primarily a result of long-term geologic conditions. Site-by-site geomorphic analysis will be undertaken to define these areas.	**Consistent.** B-4 would be consistent because it proposes implementation of an Adaptive Management Program which includes a Habitat Restoration Plan to address localized headcuts.

APPENDIX G-6 (Continued)
WATERSHED AND SUB-BASIN PLANNING PRINCIPLES CONSISTENCY FINDINGS

Planning Principle	Proposed Project (B-4)
8. To the maximum extent practical, avoid direct impacts to the slope wetlands and maintain primary recharge characteristics that support these wetlands	**Not consistent.** B-4 would not be consistent because it would impact two slope wetlands north of the treatment plant and east of the creek. It would not impact slope wetlands below the treatment plant or west of the creek. With regard to maintaining the primary recharge characteristics that support these wetlands, project grading will not intersect the primary groundwater movement formations. Given existing hardpan soils, future landscape irrigation and the protection of a significant portion of Chiquadora Ridge, recharge would be maintained into the deep groundwater system supporting the slope wetlands.
Gobernadora Sub-Basin and Central San Juan North of San Juan Creek	
9. Protect Cañada Gobernadora valley floor above the knickpoint to provide for creek meandering (as occurred historically) and for restoration of riparian processes and habitat.	**Consistent.** B-4 would be consistent because it would protect the valley floor above the knickpoint, allowing for restoration of creek meander and riparian processes and habitat.
10. In order to emulate current hydrologic patterns, development areas should be set back from the valley floor and focus on areas that presently manifest Class D soils runoff characteristics, including those areas with existing hardpan caps.	**Not consistent.** B-4 would not be consistent because although it proposes development generally set back from the valley floor and located primarily on class C and D soils, a portion of the "development bubble" would allow development to the edge of the valley floor in a few locations and would allow for development in the alluvial side canyons.
11. Deep alluvial deposits that function as important infiltration/recharge areas underlie the valley floor and adjacent tributary swales. At the same time, any changes in future stormwater flows to these areas may need to be accompanied by groundwater management due to limited infiltration capacity resulting from high groundwater levels.	**Consistent.** B-4 would be consistent because it would include special groundwater management provisions for Gobernadora as part of the Water Quality Management Plan "conditions of concern" element. Management of water quality would occur in compliance with the County of Orange MS4 permit issued by the San Diego Regional Water Quality Control Board through implementation of a Water Quality Management Plan. Water quality would be adaptively managed by the development entities as described in Chapter 9.
12. Given the size of the valley floor, there are opportunities for creating natural treatment systems to treat potential existing and future urban runoff from the Gobernadora sub-basin, as well as provide opportunities for expanded wetlands habitat areas.	**Consistent.** B-4 would be consistent because it would provide for the use of tributary side canyons for stormwater and water quality management. Opportunities for expanded wetlands habitat areas would be preserved above the knickpoint.
13. Sediment management and creek restoration activities may be necessary in lower Gobernadora Canyon to address the present excessive sediment input from upstream urbanized areas. The increased sediment resulting from upstream construction will likely be moving through the system for a prolonged period. Eventually, sediment loads may decrease due to buildout of the upper watershed. Consequently, floodplain restoration should account for both the existing and potential future sediment regimes.	**Consistent.** B-4 would be consistent because the Sulphur Canyon restoration program, intended in part to reduce the generation of fine sediments in the Sulphur Canyon tributary, would be consistent with the floodplain/meander and surface/subsurface flow restoration provisions of the Gobernadora Creek restoration plan.
14. Existing channel incision that has isolated the creek from the floodplain in some areas should be addressed as part of the restoration effort.	**Consistent.** B-4 would be consistent because the Sulphur Canyon restoration program, intended in part to reduce the generation of fine sediments in the Sulphur Canyon tributary, would be consistent with the floodplain/meander and surface/subsurface flow restoration provisions of the Gobernadora Creek restoration plan.

APPENDIX G-6 (Continued)
WATERSHED AND SUB-BASIN PLANNING PRINCIPLES CONSISTENCY FINDINGS

Planning Principle	Proposed Project (B-4)
15. Protect the GERA and, to the extent feasible, minimize impacts to major riparian areas consistent with the overall restoration and management plan.	**Consistent.** B-4 would be consistent because it would protect GERA, and other major upstream and downstream riparian areas, except in the "fertile crescent" area.
16. In order to help maintain the sediment transport functions of the central reach of San Juan Creek, the timing of peak flows in Cañada Gobernadora at the confluence with San Juan Creek should be managed to emulate existing conditions and avoid coincident peaks flows with San Juan Creek.	**Consistent.** B-4 would be consistent because under the Water Quality Management Plan new development would be required to regulate the timing of peak flows in order to avoid coincident peak flows with San Juan Creek. Management of water quality would occur in compliance with the County of Orange MS4 permit issued by the San Diego Regional Water Quality Control Board through implementation of a Water Quality Management Plan. Water quality would be adaptively managed by the development entities as described in Chapter 9.
Trampas Sub-Basin and Central San Juan South of San Juan Creek	
17. Trampas Canyon is suitable for development	**Consistent.** B-4 would be consistent because it proposes development in Trampas Canyon.
18. Focus development in Trampas Canyon in disturbed and adjacent areas with low to moderate hydrologic, water quality and habitat integrity function and value.	**Consistent.** B-4 would be consistent because it would confine development to Trampas Canyon.
19. The area along Radio Tower Road should be protected because it contains a diversity of wetland types and endangered fairy shrimp in close proximity to one another, thereby increasing the heterogeneity of the landscape from an aquatic resources perspective.	**Consistent.** B-4 would be consistent because it would avoid the area along Radio Tower Road and protect the diversity of wetland types and the fairy shrimp.
20. Stormwater flows from Trampas Creek into San Juan Creek should be managed to provide flows comparable to existing conditions.	**Consistent.** B-4 would be consistent because it would maintain flows comparable to existing conditions in conjunction with its stormwater and dry season flows management system.
Verdugo Sub-Basin	
21. Development with impervious surfaces should be limited in extent in order to protect the generation and transport of sediment to downstream areas, and to protect Verdugo Canyon from excessive erosion.	**Consistent.** B-4 would be consistent because although it proposes estate lots under the O'Neill Ranch concept, it would utilize the current Ranch road system alignment and thus would provide for limited development and allow for protection of sediment processes in Verdugo Canyon.
22. Development should be set back from significant riparian habitat within the relatively narrow and geologically confined floodplain.	**Consistent.** B-4 would be consistent because development would be set back from significant riparian habitat. B-4 proposes to upgrade an existing gravel Ranch road to rural collector road through a portion of the sub-basin to the south of Vedugo Canyon. This road is not anticipated to have substantial impacts on riparian habitat.
23. Infiltration functions should be protected through site design. Cumulative stormwater flows should be managed in such a way as to not change peak flows that under present conditions lag behind those of the mainstem of San Juan Creek. The area adjacent to the mouth of Verdugo Canyon provides opportunities for infiltration and flow attenuation.	**Consistent.** B-4 would be consistent because with very limited development in Verdugo Canyon, infiltration and peak flow functions would be maintained.
SAN MATEO WATERSHED	
Cristianitos Sub-Basin	
24. The headwater area should be protected, with new impervious surfaces limited in extent within the headwater area.	**Consistent.** B-4 would be consistent because development of in the headwater area would be limited to golf course-estate residential in the western portion of the headwaters.

APPENDIX G-6 (Continued)
WATERSHED AND SUB-BASIN PLANNING PRINCIPLES CONSISTENCY FINDINGS

Planning Principle	Proposed Project (B-4)
25. Where feasible, protected headwater areas should be targeted for restoration of native vegetation to reduce the generation of fine sediments from the clayey terrains and to promote infiltration, and to enhance the value of upland habitats adjacent to the streams.	**Not consistent.** B-4 would not be consistent because it proposes a golf course in an area also proposed for VGL enhancement under the Habitat Restoration Plan in the vicinity of the area where the creek forms a west branch. B-4 thus would preclude full implementation of this recommendation.
26. In order to emulate existing hydrologic conditions, development should focus on areas with clayey soils, which presently seal fairly quickly under storm conditions and have relatively high runoff rates. The overall goal should be to reduce the generation of fine sediments compared with existing conditions to reduce turbidity effects and other adverse impacts of fine sediments on downstream aquatic resources. Development in the middle and lower reach areas should be set back from the creek and should be located in higher areas to the east of the creek where existing erosion could be concurrently addressed.	**Consistent.** B-4 would be consistent because the "development bubble" east of the creek would focus on clay soils, would be set back from the creek, and would be located in higher areas where existing erosion could be concurrently addressed with development.
27. Stream stabilization opportunities should be examined in Cristianitos Creek (above the confluence with Gabino Creek) in the context of longer-term geologic processes.	**Consistent.** B-4 would be consistent because the siting of development areas would allow opportunities for future consideration of stream stabilization. B-4 would implement the Habitat Restoration Plan component of the Adaptive Management Program which includes stream stabilization in Crisitianitos Creek.
28. The alkali wetlands within the middle portion of the sub-basin should be protected in conjunction with protection of the overall riparian system.	**Could be consistent.** B-4 could be consistent because project design features would be incorporated into the golf course in upper Cristianitos to avoid wetland/riparian habitat, and particularly the alkali wetlands, to the maximum extent feasible. Impacts to the remainder of Cristianitos downstream would be avoided.
Gabino and Blind Sub-Basin	
29. Limit new impervious surfaces in the headwater area to locations that will not adversely impact runoff patterns.	**Consistent.** B-4 would be consistent because it would focus golf course development in areas that are already severely eroded. All lots would be estate size with limited impervious surface and thus would be able to manage runoff patterns.
30. Protect the headwaters through restoration of existing gullies using a combination of slope stabilization, grazing management, and native grasslands and/or scrub restoration. To the extent feasible, restore native grasses to reduce sediment generation and promote infiltration of stormwater.	**Not consistent.** B-4 would not be consistent because it would preclude restoration of native grasses in the two lower CSS/VGL restoration areas and potentially limited a portion of the upper restoration area.
31. Modify grazing management in the upper portion of the sub-basin to support restoration and vegetation management in the headwater areas.	**Consistent.** B-4 would be consistent because it would implement the Adaptive Management Program, which includes a Grazing Management Plan that would support the portion of the restoration program that could be carried out.
32. Minimize impacts to the steep side canyons in the middle portion of the sub-basin by limiting new impervious surfaces.	**Consistent.** B-4 would be consistent because it would avoid all of the steep side canyons in the middle portion of the sub-basin.

APPENDIX G-6 (Continued)
WATERSHED AND SUB-BASIN PLANNING PRINCIPLES CONSISTENCY FINDINGS

Planning Principle	Proposed Project (B-4)
33. To the extent feasible, focus development in the clayey soils and terrains in the lower portions of the sub-basin, where it could serve to reduce the generation of fine sediments and associated turbidity.	**Consistent.** B-4 would be consistent because it would focus the vast majority of development on the clayey soils in the lower portions of the sub-basin and thus development on clay soils (particularly in eroded or grazed areas) would reduce the generation of fine sediments. The small estates lots would be located in very limited areas on ridgelines with clay soils and would not generate new fine sediments due to siting and limited impervious surface.
34. To the extent feasible, utilize the side canyon currently degraded by past mining activities for natural water quality treatment systems.	**Consistent.** B-4 would be consistent because it would allow for use of the degraded side-canyon for natural water quality treatment systems through implementation of the Water Quality Management Plan. Management of water quality would occur in compliance with the County of Orange MS4 permit issued by the San Diego Regional Water Quality Control Board through implementation of a Water Quality Management Plan. Water quality would be adaptively managed by the development entities as described in Chapter 9.
35. In the lower reach of the creek, protect significant riparian habitats along the south side of the creek and on proximate side canyon slopes. Limit development and other uses in Blind Canyon to the grazed areas on the mesa and away from the major oak woodlands in Blind Canyon. Direct to and treat stormwater runoff in areas that will not contribute to appreciable increases in water delivery/flow to the oak woodlands in the lower portion of the sub-basin.	**Could be consistent.** B-4 could be consistent if construction of a collector road across lower Gabino Creek would avoid significant riparian habitat. In addition a paved fire evacuation road along Gabino Canyon to connect with development in upper Gabino Canyon that could affect riparian habitat and streamcourse geomorphology may be required, and thus these potential significant impacts would have to be avoided for consistency. Otherwise, B-4 would be consistent because no development is proposed along the south side of the Gabino Creek. Development would be focused on the grazed areas on the mesa and away from the major oak woodlands in Blind Canyon. Runoff from the Blind Canyon subunit would be managed through implementation of water quality management. Management of water quality would occur in compliance with the County of Orange MS4 permit issued by the San Diego Regional Water Quality Control Board through implementation of a Water Quality Management Plan. Water quality would be adaptively managed by the development entities as described in Chapter 9.

APPENDIX G-6 (Continued)
WATERSHED AND SUB-BASIN PLANNING PRINCIPLES CONSISTENCY FINDINGS

Planning Principle	Proposed Project (B-4)
36. Protect the integrity of arroyo toad populations in lower Gabino Creek by maintaining hydrologic and sediment delivery processes, including maintaining the flow characteristics of episodic events in the sub-basin. Utilize natural water quality treatment systems to manage and treat runoff from any new land uses in areas adjacent to the lower creek.	**Could be consistent.** B-4 could be consistent if a required two-lane collector road with a substantial bridge span over the creek that would be designed and constructed to avoid arroyo toad breeding habitat and streamcourse morphology. In addition a paved fire evacuation road along Gabino Canyon to connect with development in upper Gabino Canyon that could affect riparian habitat and streamcourse geomorphology may be required, and thus these potential significant impacts to riparian and streamcourse resources would have to be avoided for consistency. Otherwise, B-4 would be consistent because the hydrology program for B-4, as described in the Water Quality Management Plan. Management of water quality would occur in compliance with the County of Orange MS4 permit issued by the San Diego Regional Water Quality Control Board through implementation of a Water Quality Management Plan. Water quality would be adaptively managed by the development entities as described in Chapter 9. B-4 would maintain hydrologic and sediment processes, including the flow characteristics of episodic events, as set forth in the first part of this recommendation. As provided in the second part of the recommendation, water quality treatment systems would manage and treat runoff from any new development in areas adjacent to but separated from the lower creek.
La Paz Sub-Basin	
37. Development should be limited in extent in order to protect the generation and transport of coarse sediment to downstream areas. Note: The avoidance of impacts in this sub-basin is extremely important because: (1) La Paz canyon provides a very important source of cobbles that contribute to downstream arroyo toad breeding habitat (in conjunction with coarse sediments generated within the middle reach of Gabino Canyon) both within the planning area and in the stream system outside the planning area, and (2) episodic storm events occurring within the La Paz Canyon watershed will not be altered in any way, thereby contributing important streamcourse processes for arroyo toad and other aquatic species both within the planning area and downstream of the planning area. Therefore, the protection of the La Paz basin physical processes is an important element in overall consistency of the NCCP/ HCP with the Watershed and Sub-Basin Planning Principles.	**Consistent.** B-4 would be consistent because the four estate lots proposed in the upper portion of the sub-basin would have limited impervious surface and thus would be able to manage runoff patterns such that natural sediment transport processes in La Paz Canyon would not be disrupted.
38. Development should be set back from riparian habitat within the relatively narrow and geologically confined riparian zone.	**Consistent.** B-4 would be consistent because the four proposed estate lots in the upper portion of the sub-basin have a minimum setback of about 500 feet from the riparian habitat.

APPENDIX G-6 (Continued)
WATERSHED AND SUB-BASIN PLANNING PRINCIPLES CONSISTENCY FINDINGS

Planning Principle	Proposed Project (B-4)
Talega Sub-Basin	
39. To the extent feasible, major stormwater flows from development areas should emulate current runoff patterns. Runoff during the dry season and high frequency/low magnitude storms (generally 1-2 year storm events) should be routed through natural water quality treatment systems and, where feasible, encouraged to flow generally away from arroyo toad habitat in Talega Canyon and toward Blind Canyon.	**Consistent.** B-4 would be consistent because under B-4, and like B-9 which has a similar development pattern in the sub-basin, the hydrology section of the Water Quality Management Plan indicates that runoff would be directed to existing drainages in order to emulate current runoff patterns consistent with the first part of the recommendation. The Water Quality Management Plan also provides for routing both dry season flows and 1-2 year storm flows in excess of existing conditions toward Blind Canyon consistent with the second part of the recommendation.
40. Development should focus on the ridge tops to avoid the canyon bottoms and preserve the steeper slopes. To the extent practical, development should generally be in the area of the existing Northrup Gruman facilities and adjacent ridges to the east/northeast.	**Not consistent.** B-4 would not be consistent because although it proposes development for the ridge tops in order to avoid canyon bottoms and to preserve the steeper slopes facing Talega Creek consistent with the first recommendation, a portion of the development bubble would extend into the steeper slopes of Blind Canyon, inconsistent with the recommendation. Although development would generally be located in the area of existing Northrup Gruman facilities and on the ridges to the east/northeast of Northrup Gruman, some development areas would extend to the south of Northrup Gruman; since the second part of the recommendation is qualified by the phrase "to the extent practical," development south of Northrup Gruman will need to be addressed in the EIR/EIS for the NCCP/HCP in terms of practicability considerations.
41. The timing of peak flows should emulate the timing of flows under existing conditions.	**Consistent.** B-4 would be consistent because the Water Quality Management Plan indicates that the timing of peak flows will emulate existing conditions consistent with the recommendation. Management of water quality would occur in compliance with the County of Orange MS4 permit issued by the San Diego Regional Water Quality Control Board through implementation of a Water Quality Management Plan. Water quality would be adaptively managed by the development entities as described in Chapter 9.