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25 September 2006

Tom Figg, Planner Santa Barbara County Planning and Development Department 123 E. Anapamu Street Santa Barbara, CA 93101

Subject: Biological Resources Review for the Santa Barbara Ranch DEIR

Dear Mr. Figg:

David Magney Environmental Consulting (DMEC) has been retained by the Environmental Defense Center on behalf of the Surfrider Foundation to review the biological resources section of the Santa Barbara Ranch (SBR) project Draft Environmental Impact Report (DEIR). DMEC's comments presented below primarily focus on the assessment and classification of grasslands, wetlands, and Environmentally Sensitive Habitat Areas (ESHA).

Wetlands and Riparian Habitats

Wetlands Delineation. Section 5.4.2.1.3/p.5.4-3 of the DEIR states that "…limited field verification was conducted to delimit the boundaries of hydrogeologic features…and associated vegetation types that represent Federal and State jurisdictional waters that occur within the study area. Wetland delineations of the Santa Barbara Ranch (SBR) property and limited portions of the Dos Pueblos Ranch (DPR) property were conducted by SAIC (2004¹, 2005) and their analysis was incorporated into this EIR without additional field characterization other than field verification of their results."

Based on these statements, it is clear that a complete and thorough wetland delineation was <u>not</u> conducted by Science Applications International Corporation (SAIC) at the project site or at the alternative project sites. A wetland delineation in all the DPR areas of the proposed project is essential for the public, responsible agencies, and other agencies to ascertain the actual impacts to delineated existing state and federal wetlands. Normal practice is to identify all areas of existing wetlands in order to conduct an assessment of the amount, location, and expected direct and indirect impacts the proposed project would have on existing wetlands, and how much of those wetlands are avoided. Since the extent of all

existing wetlands was not delineated within the proposed development envelopes, no assessment or quantification of direct or indirect impacts can be made, and any assessment of project alternatives cannot determine if other wetlands would be impacted directly or indirectly. This is a serious shortcoming that should be rectified. All wetland areas within the vicinity of the project site should be delineated, mapped, and assessed for direct and indirect impacts resulting from any proposed development or alternatives.

Some of the methods used for the wetland delineation onsite do not follow currently accepted methods as prescribed by the U.S. Army Corps of Engineers (Corps). Santa Barbara County's Environmental Thresholds and Guidelines Manual requires County EIRs to use the wetland definition adopted by the US Fish and Wildlife Service, the California Coastal Commission and the Department of Fish and Game. These agencies rely on the methods prescribed by the Corps, and employ an identical definition but require only one of three (instead of three of three) wetland parameters to be met for an area to qualify as a wetland. The Corps' 1987 Wetland Delineation Manual² is the only method recognized by the Corps for determining the extent of wetlands under the Corps' jurisdiction, and only the Corps can determine their

¹ Science Applications International Corporation. 2004. 2004 Spring Biological Survey Report of the Santa Barbara Ranch Property, Gaviota Coast, California. December 2004. Prepared for Santa Barbara County Department of Planning and Development.

² Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. (Technical Report Y-87-1.) U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.



limits of jurisdiction. Any delineation performed by others is simply advisory until the Corps formally verifies the extent of their jurisdiction. Failure to adhere to the Corps' method (and by extension the CCC, Fish and Wildlife Service and Department of Fish and Game's wetland definition) renders the DEIR's description of project site wetlands inconsistent with the County's Environmental Thresholds and Guidelines Manual wetland definition. The project site wetland delineation report uses unaccepted methods that invalidate it. The delineation results in incorrect results that would likely not be accepted by the Corps and that do not properly describe the existing wetlands baseline on the project site consistent with the County wetland definition in the County's CEQA Thresholds and Guidelines Manual.

For example, the following flaws were observed during a review of the 17 wetland delineation data sheets filled out by SAIC's for the 485-acre SBR site. (No wetland delineation data sheets were filled out for the 2,769-acre DPR site.)

- Only 17 plots were established for the entire project area (and all were limited to the 485-acre SB Ranch) to characterize and determine the extent and location of jurisdictional wetlands. A sampling of only 17 plots is severely inadequate to represent a project site that is over 3,000 acres in size (i.e., SB Ranch and DP ranch combined). In addition, the Corps Manual requires plots to be sampled along transects; however, no transects were used to define the boundaries of the wetland areas from the upland areas. A total of 17 plots were simply scattered throughout the 3,000-acre project site and were limited to the 485-acre SB Ranch portion of the project site.
- Notes for Plots 1, 2, and 3 indicate that drainage patterns in wetlands were observed. If so, a primary positive indicator for hydrology is present. SAIC states elsewhere that no hydrology was present in the wetland determination. No other notes are provided regarding the topography or if well-defined bed and banks exist. If a well-defined bed and banks exist, then SAIC should have checked "other" under "secondary indicators" on the data forms and provided an explanation, which would have qualified such areas as Corps jurisdictional waters of the U.S.
- Plot 1 lists *Lolium multiflorum* as NI, then it is listed as FAC for Plot 2, 4, and 13, then is listed as FAC* for Plot 8. *L. multiflorum* should be treated as a FAC* species, since it was considered a synonym of *L. perenne* for the 1988³ list. Many botanists have misidentified *L. multiflorum* as *L. perenne* in this region, including the primary author of the Corps' 1987 Manual, leading to the misunderstanding of the distribution and ecological conditions under which *L. multiflorum* typically occurs. Regardless, the data sheets should provide the correct and consistent wetland indicator status for each species throughout the analysis. The failure to consistently identify *L. multiflorum* as a FAC* wetland species illustrates the flawed nature of the wetland delineations. The delineation did not use consistent methodology in this regard and as a result cannot be relied upon to accurately delineate wetlands.
- Plot 2 indicates that significant organic material is present, but SAIC does not check it as an indicator of hydric soils, and then makes the determination that hydric soils are not present. If high levels of organic material exists, then the plot should have been determined to have positive indicators for hydric soils. Further explanation on the datasheet is needed to understand the delineator's decisions, but is lacking. The data forms were not filed out completely further illustrating the flawed nature of the wetland delineation.
- Plot 3 has low chroma with bright mottles, and SAIC's determination is that no indicators of hydric soil exist. A low chroma matrix with bright mottles is a strong indicator of reducing conditions and should have been checked on the datasheet as a positive indicator for hydric soils. If reducing conditions exist, then hydric soils exist. If hydric soils exist, then the area qualifies as wetland under

³ Reed, P.B., Jr. 1988. National List of Plant Species that Occur in Wetlands: California (Region 0). (Biological Report 88[26.10].) U.S. Fish and Wildlife Service, Ft. Collins, Colorado.

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the County's and CCC's one-parameter wetland definition. Plots 4 and 6 indicate that low chroma soil matrices exist, but that no indicators of hydric soils are present in the wetland determination section. SAIC's only comment for saying no positive indicators of hydric soils exist is that the upland soils are also very dark, without supporting evidence. Then in Plot 5 they say hydric soils are present due to low chroma. These inconsistencies are evident throughout the wetland delineation datasheets, and bring into question the validity or accuracy of any of the wetland conclusions made by SAIC. These errors would not likely withstand scrutiny by the Corps, and render the wetland delineation methodology and results flawed.

- Plot 5 datasheet appears as though SAIC forgot to assess hydrology as nothing is entered in the datasheet for hydrology, but SAIC makes the determination that no hydrology indicators are present in the wetland determination section with nothing supporting that determination.
- Plot 8 states that the plot is within a drainage with 15-foot banks, but they still say no indicators of hydrology are present. This plot should qualify as waters of the U.S. since it apparently possesses well-defined bed and banks.
- Plot 9 states that tree frogs are present, and that surface water is present, but no appropriate indicators of hydrology are marked off in the hydrology section. Soils are hydric for this plot, but again SAIC does not mark off (on the datasheets) all the appropriate indicators that are present. Although ultimately hydrology and hydric soils are circled in the determination section, the positive indicators for these criteria should be discussed and presented in their respective sections on the datasheets to understand and explain the delineator's reasoning and conclusions.
- Plot 10 lists only one plant species, then mentions additional plant species in the remarks area, but does not give percent relative cover, wetland indicator status, or stratum for each species. It is unclear if these additional species were used to determine if the plot was dominated by hydrophytic vegetation.
- Plot 11 contains a note that the plot is at bottom of drainage in the hydrology section, then says waters of the U.S. main channel in the notes for the wetland determinations section, but then circles "No" for wetland hydrology in the wetland determination section of the form. This is a contradiction because any plot in a waters of the U.S. main channel possesses wetland hydrology by definition.
- Plot 12 lists three hydrophytic plant species present, but there is no indication of their strata or percent relative cover, and it is not stated that there is 100% dominance by hydrophytic vegetation. This lack of clarity undermines the wetland delineation's accuracy and reliability in defining the existing wetland conditions of the site.
- Plot 15 states that the plot is within a defined bed and banks, but SAIC still says no indicators of hydrology are present, apparent contradictions.
- All data sheets: (1) Under hydrology, recorded data items are not checked off (specifically aerial photography should have been used). (2) Under soils, the drainage class, taxonomy, and map type confirmation are all left blank. (3) SAIC makes no mention of any unmapped inclusions, which is a normal circumstance with mapped soils, due largely to the gross mapping scale used by the Natural Resource Conservation Service (formerly the Soil Conservation Service) when mapping and characterizing soils for a soil survey. (4) Under vegetation, the stratum and percent relative cover are not provided for each plant species, which is a required step in determining the presence of hydrophytic vegetation and the existence of wetlands. (5) All three criteria sections of the data sheets should include all applicable indicators marked off if present (not just presented as notes), and should be followed by a statement of whether positive indicators are present or not for each criterion. (6) FAC-Neutral test is not used consistently to determined in the hydrology section as a secondary indicator.



Wetland Functions. Impact Bio-8 of the DEIR (page 3.4-54) states that "the coastal terrace south of Highway 101 supports a number of small, scattered wetlands that were delineated and mapped by SAIC (2005) as well as seven other seasonal water bodies that were not evaluated or mapped by them. These seasonal water bodies and/or the 100-foot buffer would be eliminated, encroached upon, fragmented and isolated from other such habitats by the proposed equestrian village and associated residential building envelopes." However, the DEIR fails to assess impacts to wetland functions, such as was performed for other development projects (such as the Bridle Ridge project), using a quantitative and objective assessment tool such as the County's Hydrogeomorphic Assessment Model (HGM) developed for the South Coast of Santa Barbara County⁴. The SAIC delineation and the DEIR both fail to include any quantitative assessment of changes in wetland functions as a result of the proposed project.

Since the functions of wetlands can be complex and sometimes difficult to accurately assess, a robust and quantitative method is needed. The HGM rapid assessment method (Smith et al. 1995⁵) provides such a tool. The HGM approach depends on development of local models for each biogeographic region for each general wetland type: riverine, estuarine fringe, lacustrine fringe, depressional, slope, and mineral soil flats. The primary wetland type onsite is riverine, as defined by the HGM model. The assessment in the DEIR and the SAIC delineation report both fail to quantify the level of impact to the fourteen wetland functions (Table 1, Ecosystem Functions of Riverine Wetlands) known to occur in the riverine/riparian wetlands present onsite. DMEC has successfully⁶ used the HGM assessment model on several projects in the region (Fugro West 1996⁷, DMEC 2000⁸, DMEC 2001⁹, DMEC 2004¹⁰), including the project site (for the Bridle Ridge project in 1998).

The HGM Riverine model considers the state of twenty-eight (28) variables that are assessed in various combinations to measure the level of functioning for each of the fourteen wetland functions, to obtain an index score for each function. Each index is scaled based on reference standards that were established for the Santa Barbara South Coast region, located in Santa Barbara County (Lee et al. 2001¹¹). The Santa Barbara South Coast HGM model should be applied to this project for all the Riverine/riparian wetlands onsite. A quantitative assessment of the slope wetlands should also have been conducted. The benefits of using the HGM model are that project comparisons are relative to baseline conditions, and should be valid and stable from that perspective. This model provides a systematic method to measure the relative change in wetland functions the proposed project will have, identifying those specific variables and functions that are expected to change, and providing the permitting agencies a relative numerical measurement of preproject (baseline) and post-project conditions (two projects with variations). Table 2, Riverine HGM Model Variables, lists the 28 variables that were used to scale the index for each wetland function.

⁴ Lee, L.C., Fiedler, P.L., Stewart, S.R., Curry, R.R., Partridge, D.J., Mason, J.A., Inlander, I.M., Almay, R.B., Aston, D.L., Spencer, M.E. 2001. Draft Guidebook for Reference Based Assessment of the Functions of Riverine Waters/Wetlands Ecosystems in the South Coast Region of Santa Barbara County, California. Santa Barbara County Water Agency, Santa Barbara, California.

⁵ Smith, R.D., A. Ammann, C. Bartoldus, and M.M. Brinson. 1995. An Approach for Assessing Wetland Functions Using Hydrogeomorphic Classification, Reference Wetlands, and Functional Indices. (Wetlands Research Program Technical Report WRP DE.) Waterways Experiment Station, U.S. Army Corps of Engineers, Vicksburg, Mississippi.

⁶ Success determined by acceptance of use and results by wetland regulatory agencies such as the U.S. Army Corps of Engineers, CDFG, and Regional Water Quality Control Board.

⁷ Fugro West, Inc. 1996. Draft Environmental Impact Report for the Los Osos Sewer Treatment Facilities. Ventura, CA. Prepared on behalf of County of San Luis Obispo. David Magney performed the assessment while with Fugro West.

⁸ David Magney Environmental Consulting. 2000. Wetland Functional Assessment of the Reinke Development Mitigation Plan, Thousand Oaks, California. November 2000. (PN 00-0131.) Ojai, California. Prepared for Rudy Reinke, Thousand Oaks, California.

⁹ David Magney Environmental Consulting. 2001. Wetland Functional Assessment of the Odyssey Program Middle School Project, Malibu, California. December 2001. (PN 00-0301.) Ojai, California. Prepared for Odyssey Program, Malibu, California.

¹⁰ David Magney Environmental Consulting. 2004. Wetland Functional Assessment of Camarillo Regional Park Wetlands and Golf Course Projects, Ventura County, California. June 2004. (PN 02-0121-2.) Ojai, California. Prepared for California State Coastal Conservancy, Oakland, California.

¹¹ Lee, L.C., Fiedler, P.L., Stewart, S.R., Curry, R.R., Partridge, D.J., Mason, J.A., Inlander, I.M., Almay, R.B., Aston, D.L., Spencer, M.E. 2001. Draft Guidebook for Reference Based Assessment of the Functions of Riverine Waters/Wetlands Ecosystems in the South Coast Region of Santa Barbara County, California. Santa Barbara County Water Agency, Santa Barbara, California.



Table 1.	Ecosystem	Functions	of Riverine	Wetlands
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Function		Definition				
	Hydrology					
1	Energy Dissipation	The transformation and/or reduction of the kinetic energy of water as a function of the roughness of the landscape and channel morphology, and vegetation.				
2	2Surface and Subsurface Water Storage and ExchangeThe presence of soil and/or geologic materials within the creek ecosystem hyporheic zone, that have physical characteristics suitable for detention, re transmission of water.					
3	Landscape Hydrologic Connections	The maintenance of the natural hydraulic connectivity among source areas of surface and subsurface flow to riverine waters/wetlands and other down gradient waters/wetlands.				
4	Sediment Mobilization, Storage, Transport, & Deposition	The mobilization, transport, and deposition of sediment as determined by characteristics (morphology) of the channel as well as the timing, duration and amount of water delivered to the channel.				
		Biogeochemistry				
5	Cycling of Elements and Compounds	Short- and long-term transformation of elements and compounds through abiotic and biotic processes that convert chemical species (e.g. nutrients and metals) from one form, or valence, to another.				
6	Removal of Imported Elements and Compounds	Removal of imported nutrients, contaminants, and other elements and compounds in surface and groundwater.				
7	Particulate Detention	The deposition and retention of inorganic and organic particulates (>0.45µm) from the water column, primarily through physical processes.				
8	Organic Matter Transport	The export of dissolved and particulate organic carbon from a wetland. Mechanisms include leaching, flushing, displacement, and erosion.				
		Plant Community				
9	Plant Community	The physical characteristics and ecological processes that maintain the indigenous living plant biomass.				
10	Detrital Biomass	The process of production, accumulation, and dispersal of dead plant biomass of all sizes.				
Faunal Support / Habitat						
11	Spatial Structure of Habitats	The capacity of waters/wetlands to support animal populations and guilds through the heterogeneity of structure of vegetative communities.				
12	Interspersion and Connectivity of Habitats	The capacity of waters/wetlands to permit aquatic, semi-aquatic, and terrestrial organisms to enter and leave a riverine ecosystem via large, contiguous plant communities to meet life history requirements.				
13	Distribution & Abundance of Vertebrate Taxa	The capacity of waters/wetlands to maintain characteristic density and spatial distribution of vertebrates (aquatic, semi-aquatic and terrestrial).				
14	Distribution & Abundance of Invertebrate Taxa	The capacity of waters/wetlands to maintain the density and spatial distribution of invertebrates (aquatic, semi-aquatic and terrestrial).				



Acronym	Variable	Definition	
1. VASIGN	Observations and/or Indicators of Animal Presence or Utilization of the Assessment Area	The number of direct (e.g., visual observation of animals) or indirect (e.g., tracks, bedding, scat) observations of animal species presence in or utilization of the VAA.	
2. VBUFFCOND	Buffer Condition	Predominant (>50% areal extent) land use or condition within the Ventura County designated stream buffer of 100 feet.	
3. VBUFFCONT	Buffer Contiguity	The linear extent of the vegetated buffer on both sides of the stream channel, parallel to the top of bank.	
4. VBUFFWIDTH	Buffer Width	The average width of the existing vegetated buffer within the Ventura County designated stream buffer of 100 feet.	
5. VCHANROUGH	Channel Roughness	Channel roughness is an indicator of hydraulic resistance produced by natural or anthropogenic immobile features of channel system below ordinary high water (OHW). Channel roughness is expressed as percent of channel cross sectional area occupied by roughness elements that are relatively immobile during flood events.	
6. VDECOMP	Decomposition	A measure of the most frequently occurring decomposition class (mode) and the average number of decomposition classes of coarse woody debris (CWD) below OHW and within active channel.	
7. VEMBED	Embeddedness of Large Channel Materials	The degree to which "large class" channel bed material is buried in "finer" sediment. Embeddedness is percent burial of material the stream system has the capacity to move (D84 or larger bed material) in material that the channel usually moves (D50 material).	
8. VHERBCC	Herbaceous Cover	Percent cover of herbaceous veg, including graminoids, forbs, ferns, & fern allies in VAA.	
9. VINCWD	In Channel Coarse Woody Debris	Volume of down and dead trees and/or limbs (>3" diameter) within the active channel and below OHW.	
10. VLANDUSE	Land Use	Land use within the project site sub-watershed.	
11. VLONGPROF	Longitudinal Profile	The integrity of the natural longitudinal profile of the channel within and/or upstream and downstream from the main channel cross-section.	
12. VOFFCWD	Out of Channel Coarse Woody Debris	Volume of down and dead trees and/or limbs (>3" diameter) above OHW within the VAA.	
13. VPATCHAREA	Area of Patches	Relative area of habitat patches within the 1,000' radius VAA surrounding the project site.	
14. VPATCHCONTIG	Contiguity of Patches	The contiguity of habitat patches within the proposed project site sub-watershed.	
15. VPATCHNUM	Number of Patches	The number of habitat patches within the 1,000' radius VAA surrounding the project site.	
16. VRATIO	Ratio of Native to Non-Native Plant Species	Ratio of the dominant plant taxa within the VAA that are native to those that have been introduced to the region.	
17. VREGEN	Regeneration	Regeneration of plants from seedlings, saplings, and clonal shoots within the VAA.	
18. VRESIDPOOL	Residual Pool	The number and average distance between residual pools >10 ft ² in area and ≥ 0.5 ft deep (at their deepest point) within the active channel at low flow to base flow conditions.	
19. VSED	Sediment Deposition	Sources and amount of sediment delivery and deposition to waters/wetlands from upgradient landscape positions.	
20. VSHADE	Shade Over Channel below OHW	Tree, shrub, and undergrowth vegetation canopy cover overhanging active stream channel.	
21. VSHRUBCC	Shrub Canopy Cover	Percent canopy cover of shrubs (multiple stemmed woody species) within the VAA.	
22. VSNAGS	Snags	Basal area of standing dead trees (snags) (≥3" DBH).	
23. VSOILINT	Soil Profile Integrity	Measure of presence & condition of representative soil profiles (soil horizons) within VAA.	
24. VSTRATA	Strata	The number of distinct vegetation layers present within the riparian zone of the VAA. Vegetation strata were defined as follows: trees (single stem woody species \geq 3" DBH and >10 ft. tall); shrubs (multiple stem woody species); vines or lianas (woody vines); and herbs (forbs, graminoids, ferns, and fern allies).	
25. VSURFIN	Surface Water In	Surface hydrologic connections into the VAA from the adjacent landscape.	
26. VTREEBA	Basal Area of Trees	Basal area of trees (single stem woody species with \geq 3" DBH & >10 ft. tall) within VAA.	
27. VTREECC	Tree Canopy Cover	Percent canopy cover of trees (single stem woody species with \geq 3" DBH and $>$ 10 ft. tall).	
28. VVINECC	Vine Canopy Cover	Percent canopy cover of vines or lianas (woody vines) within the VAA.	

Table 2. Riverine HGM Model Variables¹²

¹² Adapted from Lee et al. 2001.

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Index formulas have been developed by Lee et al. (2001) (Functions 1 through 12) and by DMEC (Functions 13 and 14) to capture the components (variables) of each wetland function, Table 3, Riverine HGM Model Index Formulas¹³. These formulas are then used to scale the level at which the wetland is functioning, independently for each function. It is these index formulas that provide the means to develop a quantitative assessment of existing conditions and how each of the wetland functions would change relative to existing conditions.

Function	Index Formula
1	[(VINCWD)+(VHERBCC+VSHRUBCC+VTREEBA)/3+(VBUFFCONT+VBUFFCOND+VBUFFWIDTH)/3+(VCHANROUGH)]/4
2	(VSED+VSOILINT+VRESIDPOOL)/3
3	[VLONGPROF+VSOILINT+VSURFIN+VLANDUSE+(VBUFFCONT+VVBUFFCOND+VBUFFWIDTH)/3]/5
4	[(VHERBCC+VSHRUBCC+VTREEBA)/3+(VBUFFCONT+VBUFFCOND+VBUFFWIDTH)/3+ (VCHANROUGH) +(VEMBED) +(VSED)]/5
5	[(Vsoilint+Vsed)/2+(Vincwd+Voffcwd)/2+(Vherbcc+Vshrubcc+Vtreeba)/3+ (Vbuffcont+Vbuffcond+Vbuffwidth)/3+(Vdecomp)]/5
6	[(VHERBCC+VSHRUBCC+VTREEBA)/3+(VBUFFCONT+VBUFFCOND+VBUFFWIDTH)/3+ (VSOILINT+VSED)/2+VLONGPROF]/4
7	[(VHERBCC+VSHRUBCC+VTREEBA)/3+(VBUFFCONT+VBUFFCOND+VBUFFWIDTH)/3+ (VCHANROUGH) +(VEMBED) +(VSED)]/5
8	[(VINCWD)+(VDECOMP)+(VHERBCC+VSHRUBCC+VTREEBA)/3+(VBUFFCONT+VBUFFCOND+VBUFFWIDTH)/3+ (VLONGPROF)]/5
9	[(VTREECC+VSHRUBCC+VVINECC+VHERBCC+VREGEN)/5+VRATIO+VSTRATA+VTREEBA]/4
10	[(VSNAGS)+(VOFFCWD+VINCWD)/2+(VDECOMP)]/3
11	[(VASIGN)+(VBUFFCOND+VBUFFCONT+VBUFFWIDTH)/3+(VSHADE+VRESIDPOOL+VSNAGS+VSTRATA)/4]/3
12	[(VPATCHNUM+VPATCHAREA+VPATCHCONTIG)/3+VLANDUSE]/2
13	[(VASIGN+(VBUFFCOND+VBUFFCONT+VBUFFWIDTH)/3+VCHANROUGH+VDECOMP+VHERBCC+ VINCWD+VLANDUSE+VLONGPROF+VOFFCWD+(VPATCHAREA+VPATCHCONTIG+VPATCHNUM)/3+ VREGEN+VRESIDPOOL+VSHRUBCC+VSNAGS+VSOILINT+VSTRATA+VTREECC+VVINECC)]/18
14	[(VASIGN+(VBUFFCOND+VBUFFCONT+VBUFFWIDTH)/3+VHERBCC+VINCWD+VLANDUSE+VOFFCWD+ (VPATCHAREA+VPATCHCONTIG+VPATCHNUM)/3+ VRATIO+VREGEN+VRESIDPOOL+VSHRUBCC+VSNAGS+VSTRATA+VTREECC+VVINECC)]/15

Table 3. HGM Model Index Formulas¹⁴

Impacts to Wetlands. Coastal Act Section 30233 prohibits the filling of wetlands for new residential development and allows for filling of wetlands for only a handful of activities including incidental public services such as laying pipelines, habitat restoration, and boating facilities. For instance, Coastal Act Section 30233(3) says the diking, filling, or dredging of wetlands shall be permitted where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to entrance channels for new or expanded boating facilities. Coastal Act Section 30240 states that "environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas." The County's CLUP Policy 9-9 requires that a 100-foot wide buffer be maintained around wetlands within the County. Since seasonal water bodies and/or the 100-foot buffer would be eliminated, encroached upon, fragmented and isolated from other such habitats by the proposed equestrian village and associated residential building envelopes (e.g. Lots 41 and 42), the filling of wetlands for roads and homes or residential and infrastructure development within 100 feet of wetlands does not comply with Coastal Act Sections 30233 and 30240 and with LCP Policy 9-9.

¹³ From Lee et al. 2001 except formulas for Functions 13 and 14 developed by DMEC.

¹⁴ From Lee et al. 2001 except formulas for Functions 13 and 14 developed by DMEC.

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Mitigation for Impacts to Wetlands. Elimination of wetlands and potential wetlands to accommodate Lots 41 and 42 is described on page 5.4-56 and 57. The DEIR finds this impact can be mitigated to less than significant by avoiding wetlands and 100-foot buffers or by creating new wetlands to replace those that would be lost. This mitigation is not specific enough to ensure wetlands will not be significantly impacted. Mitigation measures should be provided to avoid direct wetland impacts in the coastal zone, and to avoid or mitigate for any potential unavoidable impacts to wetland habitats that may result from the project's inland area.

The mitigation measures for wetland impacts including Measure Bio-1 lack components that are needed to ensure they will be effective at reducing impacts to the maximum extent feasible and to below significance as described in the DEIR. For example, mitigation should include but not be limited to the following:

- 1. Impacts to wetland habitat shall be minimized to the maximum extent possible by implementing the following Best Management Practices (BMPs):
 - Construction equipment shall avoid coastal zone wetlands and shall only be allowed within 100-feet of wetlands in the inland area when absolutely necessary for construction equipment access;
 - All construction activities, within the 100-foot buffer of wetlands, creeks and tributaries, should be conducted during seasons of no, or minimal, channel flows (summer/early fall);
 - Path selection shall minimize impacts to the existing native vegetation and wetlands;
 - A fence shall be placed around any wetlands and ESHA to ensure avoidance;
 - All active wildlife nests existing within the project site shall be protected and avoided by construction equipment; and
 - A biological monitor shall be present during all construction activities within or adjacent to any creeks.
- 2. Existing wetlands, not to be impacted by the proposed project, shall be protected in perpetuity through a prohibition from any development. The wetland preserve area(s) shall be clearly marked with signs, and a public education program shall be developed for future residences of the project site and visitors.
- 3. Enhancement activities shall include: removing all foreign materials from wetland areas; eradicating and controlling invasive exotic plant species; protecting the watersheds of wetlands; and planting ecologically appropriate native plant species in disturbed areas.
- 4. Compensation for direct permanent impacts to wetlands shall be replaced at a 2:1 ratio in area, in-kind, or resulting in an increase in wetland functions onsite by at least ten (10) percent. If after enhancing wetlands does not fully mitigate impacts an offsite mitigation site can be created for any remaining required mitigation after enhancement onsite.
- 5. After efforts to minimize the impacts to the wetlands are implemented, appropriate areas of the project site shall be restored, and lost habitat mitigated. Preparing Disturbed Wetland Areas for Replanting shall be accomplished by implementing the following mitigation measures:
 - Regrading portions of the drainages to accommodate onsite revegetation and regain natural topography if needed;
 - Replacing and planting selected portions of the site with indigenous riparian plant species grown from source plants in nearby watersheds (e.g., Gaviota to Goleta);
 - Maintaining and irrigating the restored area;
 - Removing invasive exotic plants, such as *Centaurea melitensis* (Tocalote), and replacing them with native species to increase species diversity and habitat function; and
 - Monitoring the site for at least five (5) years after restoration plantings have been completed or longer if the specified performance criteria have not been met.
- 6. Prior to FEIR certification, a detailed Wetlands Restoration Plan and monitoring program shall be developed by the project applicant and shall be approved by the County Biologist. The plan shall contain the following items:
 - Responsibilities/qualifications of personnel implementing and supervising the plan shall be included.
 - Site selection. The site for the mitigation shall be determined and identified on maps in coordination with the project applicant, County and resource agencies with jurisdiction over wetland impacts. The site shall be located on the proposed development site in proximity to the impacted wetlands if feasible, in a dedicated open space area or dedicated open space area shall be purchased off-site. Appropriate sites shall have suitable hydrology and soils for establishment of wetland species.
 - Site preparation and planting implementation. The site preparation shall include: protection of existing native species; trash and weed removal; native species salvage and reuse (i.e. duff); soil treatments (i.e. imprinting, decompacting); temporary irrigation installation; erosion control measures (i.e. rice bales and/or willow wattles); local native seed mix collection and application; container plantings.
 - Schedule. A schedule shall be developed that includes planting in late fall and early winter (October to January).

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- Maintenance plan/guidelines. The maintenance plan shall include: weed control, herbivore control, trash removal, irrigation system maintenance, maintenance training, and replacement planting.
- Monitoring plan. The monitoring plan shall include: 1) qualitative monitoring (i.e. photographs and general observations), 2) quantitative monitoring (i.e. randomly placed transects), 3) measurable performance criteria as approved by the County and resource agencies with jurisdiction over wetland impacts, 4) monthly reports for the first year and bimonthly thereafter, and 5) annual reports for five years that shall be submitted to the resource agencies on an annual basis. The site shall be monitored and maintained for five years to ensure successful establishment of riparian habitat within the restored and created areas; however, if there is successful coverage prior to five years, the project applicant may request to be released from the monitoring requirements from USACE and CDFG.
- Long-term preservation. Long-term preservation of the site through an appropriate recordable legal instrument shall also be outlined in the conceptual mitigation plan to ensure the mitigation site is not impacted by future development.
- Earth-moving equipment. Earth-moving equipment shall avoid maneuvering in areas outside the identified limits of grading in order to avoid disturbing open space areas that will remain undeveloped. Prior to grading, the open space limits shall be marked by the construction supervisor and the project biologist. These limits shall be identified on the grading plan. No earth-moving equipment shall be allowed within the open space area. Earth-moving equipment shall be stored a minimum of 200 feet from all wetlands. Earth-moving equipment shall be cleaned prior to entry to project site to remove foreign seeds and shall be cleaned prior to movement to different worksites on the project site to prevent spread of noxious weeds into wetlands.
- If work must be conducted when surface water flows are present, specific actions should be taken to avoid increasing water turbidity onsite and downstream of the work area. In order to minimize impacts to aquatic habitat and aquatic wildlife due to sedimentation, construction shall be conducted during times of no active channel flows and between April 15 and November 1.
- Performance standards to ensure success of mitigation i.e., measurable standards including wetland species diversity, percent cover of land area by native wetland plant species, compensation ratios, and wetland plant survival and growth rates.

The DEIR defers the preparation of a plan for wetland mitigation to after EIR certification "prior to approval of Development Plan" (DEIR 5.4-86). The DEIR also fails to include performance standards to ensure the mitigation will be effective at reducing the impact to less than significant. In fact the DEIR specifically defers identification of performance criteria until after EIR certification. (DEIR 5.4-75) Without measurable standards to ensure success (i.e. performance criteria) in the DEIR, the DEIR and mitigation measures for wetlands cannot be assured to effectively reduce the significant impact to less than significant. Absent these performance criteria and specific BMPs, the impacts to wetlands must be classified as Class I significant and unavoidable.

Stream Buffers. CLUP Policy 9-37 states that "the minimum buffer strip for major streams in rural areas, as defined by the land use plan, shall be presumptively 100 feet, and for streams in urban areas, 50 feet. These minimum buffers may be adjusted upward or downward on a case-by-case basis. The buffer shall be established based on an investigation of the following factors and after consultation with the CDFG and RWQCB in order to protect the biological productivity and water quality of streams: soil type and stability of stream corridors, how surface water filters into the ground, slope of the land on either side of the stream, location of the 100-year flood plain boundary. Riparian vegetation shall be protected and shall be included in the buffer. Where riparian vegetation has previously been removed, except for channelization, the buffer shall allow for the reestablishment of riparian vegetation to its prior extent to the greatest degree possible."

Page 6-75 of the DEIR states that, "with the exception of the Dos Pueblos Creek tributary crossing Lot 57, all of the drainages within the MOU project area are considered minor steams. A minimum buffer of 50 feet from the top of bank of each stream corridor has been incorporated into the project design to protect riparian habitats. In most cases, these designed setbacks provide at least a 100-foot buffer from the streambed to the nearest building or improvement footprint. These stream corridor setbacks would be included in the proposed Open Space Conservation Easement, except in limited cases where development envelopes would result in landscaped areas within the 50-foot buffer (e.g., in the coastal bluff area)."



The setbacks to these creeks south of Highway 101 and Tomate Canada Creek north of Highway 101 do not mitigate biological impacts to less than significant. The DEIR claims that the drainages are considered "minor streams" only requiring a 50-foot setback, but provides no basis for determining 50-foot setbacks will protect the biological resources in these creeks from significant impacts identified in the DEIR. According to Policy 37, the buffers for major streams can be adjusted but only based on consideration of four factors (e.g., slope, vegetation, etc.) and consultation with CDFG and RWQCB. The riparian buffers are not adequate to reduce impacts to Tomate Creek and the coastal bluff drainages to less than significant (i.e., to Class II). The DEIR does not include a discussion of the four factors to justify the adequacy of 50-foot buffers. No discussion exists regarding CDFG's and RWQCB's position with regards to reducing these standard creek buffers. Using the HGM model described above would be an appropriate tool to determine the level of expected change to wetland functions along these streams, but was not used for this analysis.

Grasslands and Associated Special-Status Species

Native Grassland. Page 3.4-5 of the DEIR states that, "in April and May, 2004, SAIC used calibration transects to determine percent cover of "native grassland species" in identified areas, then sampled within native grassland polygons using point-intercept (hit/miss) method to confirm >10% relative cover of "native grassland species" (County of Santa Barbara threshold). Areas of "native grassland species" >0.25 acres were mapped... SAIC sampled and mapped areas containing native grass species, and noted additional native grassland species. SAIC also mapped general areas where native grassland species were present, but did not meet the County thresholds for percent cover or areal extent."

SAIC's 2004 Spring Biological Survey Report of the Santa Barbara Ranch Property, Gaviota Coast, California states in Section 3.2.1, on page 12 that, "...the target species were native grasses (perennial and annual, although annual native grasses were rare on the project site) **and** native herbaceous species, which were recorded by species." Table 3 on pages 14 and 15 lists the native grass species and the percent cover of native grassland species found in the 11 transects. Though the herbaceous species are not listed by transect, they are listed in Table 3. SAIC's discussion of native grass species and native grassland species under "Non-Native Grassland" on page 7 is consistent with Santa Barbara County protocols, though it could be expressed more clearly. DMEC's assessment of the protocols used to map and classify native grassland concludes that the County native grassland mapping protocols were followed in the SAIC survey used in the DEIR for the SBR property.

DMEC suggests that survey methods employed by SAIC and URS are not consistent. Only SAIC's survey methods for SBR followed the County's definition by including non-grass species in the surveys. URS's surveys on DPR did not follow the County's native grassland definition because they did not include quantitative measurements of the percent cover of native grassland species and were limited pedestrian surveys looking for native grasses. Methods and results need to be more clearly described and presented, both in SAIC's report and in the DEIR written by URS.

To aid in identifying native grassland species of the vicinity of the project site, DMEC has compiled Table 4, Native Grassland Species of the Santa Barbara Ranch Area, which provides a partial list of native herbs, forbs, and grasses that support the County Thresholds and Guidelines Manual's definition of native grassland. The plant species listed in Table 4 are either reported onsite or are reported nearby, such as within the San Marcos Foothills project site. The species listed in Table 4 should be considered and measured when determining the extent of native grasslands at the project site. In addition to DMEC's Table 4, Dr. E.L. Painter has also complied a *List of Possible Grassland and Meadow Taxa* that includes native grassland species known in Santa Barbara County, as well as native grassland genera of California.



Table 4. Native Grassland Species of the Santa Barbara Ranch Area

Scientific Name ¹⁵	Common Name	Habit ¹⁶	WIS ¹⁷	Family
Achillea millefolium	White Yarrow	PH	FACU	Asteraceae
Agrostis pallens	Thingrass	PG		Poaceae
Ambrosia psilostachya var. californica	Western Ragweed	BH	FAC	Asteraceae
Amsinckia menziesii var. intermedia	Rancher's Fire	AH		Boraginaceae
Asclepias fascicularis	Narrowleaf Milkweed	PH	FAC	Apocynaceae
Bloomeria crocea ssp. crocea	Goldenstars	PH		Themidaceae
Brodiaea terrestris	Harvest Brodiaea	PH		Themidaceae
Calandrinia ciliata	Redmaids	AH	FACU*	Portulacaceae
Castilleja densiflora ssp. densiflora	Dense-flowered Owl's Clover	AH		Orobanchaceae
Castilleja exserta ssp. exserta	Purple Owl's Clover	AH		Orobanchaceae
Conyza canadensis	Horseweed	AH	FAC	Asteraceae
Cryptantha intermedia	Common Forget-Me-Not	AH		Boraginaceae
Datura wrightii	Jimson Weed	AH		Solanaceae
Deinandra fasciculata	Fasciculed Tarplant	AH		Asteraceae
Dichelostemma capitatum ssp. capitatum	Blue Dicks	PG		Themidaceae
Eremocarpus setigerus	Dove Weed	AH		Euphorbiaceae
Eschscholzia californica ssp. californica	California Poppy	AH		Papaveraceae
Hordeum brachyantherum	Meadow Barley	AG	FACW	Poaceae
Hordeum intercedens	Vernal Barley	AG	FACU	Poaceae
Lessingia filaginifolia var. filaginifolia	California Cudweed-aster	PH		Asteraceae
Leymus triticoides	Creeping Wildrye	PG	FAC+	Poaceae
Lomatium caruifolium	Biscuit Root	PH		Apiaceae
Lotus humistratus	Hill Lotus	AH		Fabaceae
Lotus strigosus	Strigose Lotus	AH	•	Fabaceae
Lupinus bicolor	Miniature Lupine	AH	•	Fabaceae
Lupinus sparsiflorus	Few-flowered Lupine	AH	•	Fabaceae
Lupinus succulentus	Fleshy Lupine	AH	•	Fabaceae
Lupinus truncatus	Truncate-leaved Lupine	AH	•	Fabaceae
Madia gracilis	Slender Tarplant	AH		Asteraceae
Melica imperfecta	Coast Melic Grass	PG		Poaceae
Nassella lepida	Foothill Needlegrass	PG	•	Poaceae
Nassella pulchra	Purple Needlegrass	PG		Poaceae
Plagiobothrys nothofulvus	Rusty Popcornflower	AH	FAC	Boraginaceae
Plantago erecta	California Plantain	AH		Plantaginaceae
Pseudognaphalium californicum	Green Everlasting	A/BH		Asteraceae
Sidalcea malvaeflora ssp. sparsifolia	Few-leaved Globemallow	S		Malvaceae
Sisyrinchium bellum	Blue-eyed Grass	PH	FAC	Iridaceae
Trichostema lanceolatum	Vinegar Plant	AH	•	Lamiaceae
Trifolium albopurpureum var. albopurpureum	Rancheria Clover	AH		Fabaceae
Verbena lasiostachys var. lasiostachys	Western Verbena	AH	FAC-	Verbenaceae
Vulpia microstachys	Fescue	AG		Poaceae

¹⁵ Scientific nomenclature follows the Flora of North America Editorial Committee (1993-2005. Flora of North America. Oxford University Press. New York, New York. Volumes 1 through 26 [incomplete]) and Hickman (1993. The Jepson Manual: Higher Plants of California. University of California Press, Berkeley, California).

- FAC = facultative species, equally likely to occur in wetlands or nonwetlands (34-67% probability).
- FACU = facultative upland species, usually occur in nonwetlands (67-99% probability).

¹⁶ Habit definitions: AG = annual grass or graminoid; AH = annual herb; BH = biennial herb; PG = perennial grass or graminoid; PH = perennial herb.

¹⁷ WIS = Wetland Indicator Status (Reed 1988):

OBL = obligate wetland species, occurs almost always in wetlands (>99% probability)

FACW = facultative wetland species, usually found in wetlands (67-99% probability).

⁺ or - symbols are modifiers that indicate greater or lesser affinity for wetland habitats.

NI = no indicator has been assigned due to a lack of information to determine indicator status.

^{* =} a tentative assignment to that indicator status by Reed (1988).

A period "." indicates that no wetland indicator status has been given in Reed (1988).

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It should be noted that *Deinandra* [*Hemizonia*] *fasciculata* (Fasciculed Tarplant) is a native annual herb that flowers, and is prevalent, during the summer months. Although this species was observed onsite predominantly within annual grassland during SAIC's spring surveys, this species is an important contributor to perennial native grasslands in the summer months as well. This species was not captured as an important native grassland contributor on DPR due to the limited surveys conducted onsite. Seasonal surveys (early spring, late spring, and mid summer) should be conducted on all portions of the project site proposed for development to capture the blooming period of all species inhabiting the project site. Seasonal surveys are important and required in order to capture all native grassland species defining native grassland plant communities and to identify all special-status plant species inhabiting the project site.

Mitigation Measures

All requisite details for mitigating the majority of significant biological impacts are deferred to the eventual creation of a Habitat Management Program (HMP), the preparation of which is required by the Naples Plan District (5.4-70) and which must be submitted for County review and approval prior to approval of a Development Plan (5.4-86). The proposed HMP will include these different plans: Grassland Habitat Protection and Restoration Plan, Scrub Habitat Protection Plan, Oak Woodland Habitat Protection Plan, Seasonal Water Body Protection and Restoration Plan, Jurisdictional Waters Protection Plan, and a Landscaping Plan. In addition, a future, detailed Grading and Drainage Plan will detail Best Management Practices during onsite construction. The HMP, once prepared, is required to "include performance criteria (where applicable), a monitoring schedule, and a reporting procedure for each plan, to be implemented by a qualified local biologist (approved by the County Planning and Development Department [P&D])" (5.4-72).

Because many details of required mitigation measures (implementation guidelines and criteria for measuring success) are deferred to the HMP, which has not yet been made public, standards that will ensure the successful mitigation of this project's significant biological impacts are hypothetical at this point. There is currently no way for any entity reviewing this DEIR to be assured that mitigation measures will be broad enough in scope to be effective or that such mitigation measures, if appropriate in scope, will be successfully implemented since there are currently few performance standards. Deferring details of mitigation measures including performance standards to a later date (i.e. in the HMP) renders them less reliable to effectively reduce impacts and ensure resource protection. While all mitigation plans should be contained in the DEIR to provide the public an opportunity to understand and comment regarding the effectiveness of mitigation plans, inclusion of performance standards in deferred mitigation plans provides a level of assurance that the plans will be implemented successfully and will effectively mitigate significant impacts. Furthermore, when mitigation plans are deferred to a later point in time as this DEIR does, CEQA requires the EIR to include performance standards to ensure successful mitigation; performance standards cannot be deferred to a later date.

Mitigation Bio-1 does not include performance standards for the various habitat management sub-plans. In fact, pages 5.4-72 and 5.4-75 explicitly state that performance criteria are not contained in the DEIR but will be included in the deferred plan.

The DEIR describes in general terms each of the above Plans that will comprise the HMP. The DEIR states that implementing these "shall be the responsibility of the home owner's [sic] association and shall be identified within the Conditions, Covenants and Restrictions for individual lots and/or the entire development, as appropriate" (5.4-72). DMEC has doubt that there is established protocol for the enforcement of such implementation. The hypothetical homeowners' association would lack the required expertise to do the necessary biological work and would most likely hire qualified biologists to ensure



proper implementation. For such a large project, with many diverse mitigation measures to implement, this process will be very expensive. Questions about how the homeowners' association will finance such measures are paramount to understanding the feasibility and effectiveness of Mitigation Measure Bio-1.

Each of the subsections pertaining to each of the above listed Plans also lacks the required detail and performance standards to ensure effective mitigation of significant biological impacts. For example, in section "A. Grassland Habitat Protection and Restoration Plan," the DEIR states that a field biologist will, "survey the proposed parcels in the project area for special-status plants at times of the year appropriate to detect flowering (e.g. southern tarplant, Catalina mariposa lily, etc.)" (5.4-72). There are more rare plants likely present at the project site (see Table 5.4-2) than the two listed in the text, all of which would have differing flowering phenologies. An associated table with the rare plants known onsite or likely to occur onsite with blooming periods and suggested survey times would bolster this statement and help ensure effective mitigation of impacts to rare plants. The DEIR continues that all known locations shall be "flagged in the field and mapped" at a "minimum scale of 1 inch = 300 feet" so that the siting of development "shall be modified to avoid these plants to the maximum extent feasible" (5.4-72). However, if such modifications are not feasible, the DEIR states only that "seeds or bulbs of these special-status plants" should be collected for transplantation to suitable areas outside the proposed building envelopes" (5.4-73); the DEIR does not give any details as to the mitigation ratio of these transplanted/ sown plants (typically 10:1) or the location of any suitable areas outside of the building envelopes. Based on DMEC's experience, a 10:1 ratio is required to mitigate the impact to rare plant species due to low survival rates and to mitigate for temporal impacts to the plant populations. Furthermore, the DEIR does not detail the seed-harvesting or transplanting processes to ensure mitigation success, leaving such details to the deferred HMP.

The DEIR states that the restoration section of this Grassland Habitat Protection and Restoration Plan should include "[i]dentification of suitable locations for native grassland restoration", establishment of "adequate performance criteria and monitoring periods" as well as "[s]hort-term and long-term maintenance and management criteria" (5.4-73). If the above-referenced details were defined in the DEIR instead of deferred to the HMP, it would ensure the successful implementation of such mitigation. As the DEIR is written now, the HMP's future "criteria" for the above requirements could be skeletal and still be considered adequate. Again, deferring "performance criteria" and "maintenance and management criteria" to later dates is not only avoiding issues that should be addressed here to ensure significant impacts are effectively mitigated, but also not permissible under CEQA.

Two other examples of unacceptable deferments follow:

"The applicant shall implement all practicable BMPs during construction to ensure that soil erosion and sedimentation of these habitats does not occur. These practices shall be outlined in the Construction Management Program..." (5.4-75 [Mitigation Bio-1: Habitat Management Program, D. Riparian Woodland Habitat Protection Plan]).

"The Fuel Management Program shall be incorporated into the Open Space and Habitat Management Plan as defined in the proposed NPD district ordinance.... Fuel Management Program requirements for resource protection shall be clearly delineated in the program" (5.4-78 [Mitigation Measure Bio-2: Fuel Management Program]).

Detailed BMP practices and strategies for "resource protection" belong in the DEIR, not in the referenced in the Fuel Management Program and the Riparian Woodland Habitat Protection Plan, neither of which has been written or made public to date.



Conclusions

The DEIR fails to adequately address several biological resource issues as DMEC described above, including: direct and indirect impacts to grasslands (annual and native perennial); impacts to wetland and riparian habitats; and mitigation measures for impacts to biological resources.

The project as proposed would significantly impact botanical and wildlife resources onsite, and the proposed mitigation measures will either fail to mitigate the impacts, or significant residual impacts will remain after mitigation. DMEC recommends that the DEIR be revised to address the inadequacies described in these comments.

Thank you for considering these concerns. DMEC is available to answer any questions the County of Santa Barbara has regarding these comments.

Respectfully,

Cher Batchelor Ecologist

David L. Magney President

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