

**Response to Comments
on the
Draft Environmental Impact Report
Northshore at Millerton Lake
(North Fork Village-1 Specific Plan)
Madera County, California
State Clearinghouse No. 2006011101**

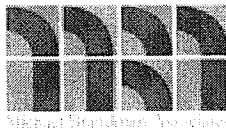
Prepared for:

County of Madera
2037 West Cleveland Avenue
Madera, CA 93637

Contact: Philip Toler, Planner

Prepared by:

Michael Brandman Associates
2444 W. Main Street, Suite 215
Fresno, CA 93721



July 10, 2008

TABLE OF CONTENTS

Section 1: Introduction 1

Section 2: List of Commentors 3

Section 3: Comment Letters and Responses to Comments 5

 3.1 - Federal Agencies 19

 3.2 - State Agencies 37

 3.3 - Regional and Local Agencies..... 107

 3.4 - Districts, Organizations and Individuals 131

Section 4: Summary of Changes and Additions to Draft EIR 247

Section 5: Mitigation Monitoring and Reporting Program 309

SECTION 1: INTRODUCTION

The Draft Environmental Impact Report for the North Fork Village-1 Specific Plan was circulated for public review and comment beginning on April 19, 2007 and ending on June 4, 2007. Prior to close of the statutory 45-day public review period, the County of Madera elected to extend the comment period an additional 10 days until June 14, 2007. As required by the California Environmental Quality Act (CEQA), this document responds to comments received on the Draft EIR.

As required by Section 15132 of the CEQA Guidelines, the final EIR must respond to comments regarding significant environmental points raised in the review and consultation process. This document provides responses to comments on significant environmental points, describing the disposition of the issue, explaining the EIR analysis, supporting EIR conclusions, or providing new information or corrections, as appropriate.

The Response to Comments document is organized as follows:

- **Section 1** - This section provides a discussion of the relationship of this document with the Draft EIR. It also discusses the structure of this document.
- **Section 2** - This section lists the agencies/organizations/individuals that commented on the contents of the Draft EIR.
- **Section 3** - This section includes the comments received, and the responses to the comments that were received on the Draft EIR.
- **Section 4** - This section summarizes changes or additions to the Draft EIR described in Section 3.
- **Section 5** - This section indicates that a Mitigation Monitoring Program will be prepared consistent with CEQA requirements, prior to certification of the Final EIR.

This Response to Comments document is part of the Final EIR, which includes the Draft EIR and the technical appendices. These documents, and other information contained in the environmental record, constitute the Final EIR for the North Fork Village-1 Specific Plan project.

SECTION 2: LIST OF COMMENTORS

Following are the letters received during the public review period on the Draft EIR, followed by responses to the comments in the letters that were received. Where a comment results in a change to the Draft EIR, the response provides specific page and paragraph reference, along with the new EIR text.

Letter	Sender	Letter Date
Federal Agencies:		
1.	U.S. Fish and Wildlife Service	6/12/07
2.	U.S. Department of the Interior, Bureau of Reclamation	6/14/07
State Agencies:		
3.	State Clearinghouse	6/5/07
4.	State Department of Health Services	5/2/07
5.	State Department of Water Resources	4/26/07
6.	Department of California Highway Patrol.....	5/3/07
7.	Native American Heritage Commission.....	4/25/07
8.	Public Utilities Commission	5/31/07
9.	State Department of Fish and Game.....	6/1/07
10.	State Department of Parks and Recreation	6/11/07
11.	San Joaquin River Conservancy	6/14/07
Regional and Local Agencies:		
12.	San Joaquin Valley Air Pollution Control District.....	6/12/07
13.	County of Fresno	6/12/07
14.	Madera County Fire Department.....	6/14/07
15.	Madera County Department of Fire Prevention	6/14/07
Districts, Organizations and Individuals:		
16.	Community Systems Associates on behalf of Chawanakee USD	6/11/07
17.	San Joaquin River Parkway and Conservation Trust	6/13/07
18.	Revive the San Joaquin	6/12/07
19.	Rolling Hills Citizen's Association	(Undated)
20.	Stoel Rives, LLP for Madera Irrigation District.....	6/14/07
21.	James and Coke Hallowell	6/13/07
Letters Received After Close of the Public Comment Period:		
22.	State Clearinghouse (State Department of Transportation).....	6/25/07
23.	Madera County Environmental Health Department	6/20/07
24.	Madera County Road Department.....	6/13/07
25.	Rolling Hills Citizen's Association	7/10/07
26.	Center for Biological Diversity	7/13/07

SECTION 3: COMMENT LETTERS AND RESPONSES TO COMMENTS

Following are the letters received during and following the public review period on the Draft EIR, followed by responses to the comments in the letters that were received. Where a comment results in a change to the Draft EIR, the specific change is documented in Section 4, Summary of Changes and Additions to Draft EIR.



United States Department of the Interior

FISH AND WILDLIFE SERVICE Sacramento Fish and Wildlife Office

2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846



In reply refer to:
1-1-07-TA-1113

JUN 12 2007

Letter 1
Page 1 of 12

Mr. Rayburn Beach
Planning Director, Planning Department
Madera County
2037 West Cleveland Avenue, Mail Stop G
Madera, California 93637

Fax: 559-675-6573

Subject: Comments on DEIR for North Fork Village Specific Plan (Madera County)

Dear Mr. Beach:

This letter is in response to your April 10, 2007, request that the U.S. Fish and Wildlife Service (Service) review the Draft Environmental Impact Report (DEIR) regarding potential biological effects of the proposed residential development and associated construction activities on federally-protected plant and animal species at a site in Madera County. The request was received in our office on April 23, 2007. We have previously commented informally on an earlier version of this proposed project at a meeting hosted by the California Department of Fish and Game on January 10, 2007, at their offices in Fresno (Draft NFV-1; Administrative Draft EIR; December 5, 2006). Our new comments are submitted pursuant to the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), as well as the Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712, as amended) (MBTA) and the Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668-668d, as amended) (BGEPA), and will focus on the biological aspects of the proposed project.

The proposed project site is located in eastern Madera County, approximately 1 mile northwest of Friant, California, and is the northernmost property of the Rio Mesa Area Plan (approximately 15,000 acres). The 2,238 acre (1,437 acres of residential use [up to 2,966 residences], 172 acres mixed use, and 629 acres major open space) site is in the unincorporated portion of Madera County. The property is bounded by the Sierra Nevada foothills to the north, Madera County Road 145 to the west, Road 206 to the south, and Millerton Lake to the east. The current land uses of the proposed project site are cattle ranching, as well as a small sand and gravel operation

TAKE PRIDE
IN AMERICA 

Mr. Rayburn Beach

and domestic well water production. Agricultural zones, residential areas, Millerton State Recreational Area, and native habitat surround the proposed project site.

1-1
CONT.

As indicated during our January 2007 meeting, the Service notes that at least 13 federally-protected species – in addition to numerous state-listed species -- occur in the general area:

State- and Federally-listed species of plants and animals known to occur on or in the vicinity of the proposed North Fork Village Project Site			
Scientific Name	Common Name	Federal Status	State Status
a) Mammals			
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	Endangered	Threatened
b) Birds			
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened MBTA & BGEPA	Endangered
Golden eagle	<i>Aquila chrysaetos</i>	MBTA & BGEPA	
Least Bell's vireo	<i>Vireo bellii pusillus</i>	Endangered	
c) Amphibians			
California tiger salamander	<i>Ambystoma californiense</i>	Threatened (Endangered: Sonoma and Santa Barbara populations)	
d) Invertebrates			
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	Threatened	
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	Endangered	
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	Threatened	
e) Plants			
Fleshy/Succulent owl's clover	<i>Castilleja campestris</i> ssp. <i>succulenta</i>	Threatened	Endangered CNPS 1B2
Hoover's spurge	<i>Chamaesyce hooveri</i>	Threatened	CNPS 1B2
San Joaquin Valley orcutt grass	<i>Orcuttia inaequalis</i>	Threatened	Endangered CNPS 1B1
Hairy orcutt grass	<i>Orcuttia pilosa</i>	Endangered	Endangered CNPS 1B1
Hartweg's golden sunburst	<i>Pseudobahia bahiifolia</i>	Endangered	Endangered CNPS 1B1

1-2

Mr. Rayburn Beach

3

Our present comments are primarily based on a review of the DEIR (State Clearinghouse Number 2006011101; April 18, 2007) and information available through the California Natural Diversity Database (CNDDDB) at <http://www.dfg.ca.gov/whdab/html/cnddb.html>.

The DEIR identifies several environmental impacts and several recommended mitigation measures. According to the document, these measures -- with the exception of the Hartweg's golden sunburst plant (level of significance = "significant") -- will result in a level of significance after mitigation of "less than significant." In general, the Service does not concur with those findings. The proposed residential development and associated infrastructure, based on our preliminary review of the documents mentioned earlier and our general knowledge of the area -- potentially could result in the take of a federally-listed species, and likely would require consultation under the Act.

1-3

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit take (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harass is defined as an intentional or negligent act that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.

Take incidental to an otherwise lawful activity may be authorized by one of two procedures. If a Federal agency is involved with the permitting, funding, or carrying out of this project, then initiation of formal consultation between that agency and the Service pursuant to section 7 of the Act is required if it is determined that the proposed project may affect a federally-listed species. Such consultation would result in a biological opinion that addresses anticipated effects of the project to listed and proposed species and may authorize a limited level of incidental take. If a Federal agency is not involved with the project, and federally-listed species may be taken as part of the project, then an "incidental take" permit pursuant to section 10 of the Act should be obtained. The Service may issue such a permit upon completion by the permit applicant of a satisfactory conservation plan for the listed species that would be affected by the project.

Based on our review of the DEIR, we have the following comments:

Generic DEIR comments:

- The DEIR has 37 figures (exhibits). Not a single figure, however, has a scale to facilitate an appreciation of the distances and parcel sizes involved. 1-4
- According to page 2-4, "there are no areas of controversy regarding the project known to the County at this time." The Service does not agree with that statement. At the January 10, 2007, meeting attended by representatives of the Service, US Army Corps of Engineers, Bureau of Reclamation, and California Department of Fish and Game, as well as Madera County and Michael Brandman Associates (project consultant), several potentially controversial issues were identified, including: potential take of state- and 1-5

Mr. Rayburn Beach

4

- federally-listed species, degradation of wetlands, and deterioration of groundwater resources. Given these discussions, the Service had expected to receive a revised DEIR that incorporated appropriate avoidance and minimization measures, but few were noted in the document that was submitted.
- The Service is not listed in Table 3-5 (Public Agency Approvals). This omission is difficult to understand given the nature and extent of the several issues here involving federally-listed species and their habitat. 1-5 CONT.
 - The information presented about related projects (Section 4.1.7, from pages 4-3 to 4-4) is not correct. The subtotal for the Madera County General Plan, if our calculations are correct, should be 12,345 acres and not 6,943 acres. Also, the grand total for other relevant projects (137,119 acres) is not indicated. These values are important to the Service in order to appreciate more fully the total surface area of the zone in the vicinity of Millerton Lake that is slated to be developed. 1-6 1-7

Specific comments on the Biological Resources Section (Section 5.4; pages 5.4-1 to 5.4-23):

- Page 5.4-1: The DEIR is not adequate to evaluate the geographical distribution of state- and federally-listed species at the proposed project site. While the text includes several references to listed species on or adjacent to the proposed project site, the specific locations are not indicated or readily identifiable. The Service recommends that a map be prepared to indicate CNDDDB occurrence reports for the site itself, as well as within 5 miles of the project boundary. This map should also indicate critical habitat under the Act and recovery areas indicated in the "Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon" (Service, 2005; Recovery Plan). 1-8
- Page 5.4-1: The DEIR is not adequate to evaluate the methods or results of the biological surveys that were conducted. The Service recommends that additional information be provided, including: names and recovery permit numbers of the biologists who conducted the surveys, dates of the surveys, duration of the surveys, survey results, and other relevant information that would facilitate a greater understanding of this information and the biological conclusions that were generated based on these results. It is not clear, for example, that the entire site was surveyed for all protected species or that those surveys were conducted at appropriate times of the year. Selective surveys in time and space are not adequate for a project of this magnitude in an area where numerous, federally-listed species are known to occur. 1-9
- Pages 5.4-3 and 5.4-4: The DEIR is not adequate to evaluate potential environmental impacts to (a) seasonal drainages and swales; (b) stock ponds; or (c) man-made vernal pools because the sites were not mapped or characterized (e.g., size, condition, and surrounding cover). The Service recommends that maps and tables be prepared to show the location, size, condition, and surrounding cover for these features. 1-10
- Page 5.4-5: The DEIR is not adequate to evaluate potential environmental impacts to Hartweg's golden sunburst due to the limited nature of the biological data that was presented. As with the seasonal drainages and swales, above, the Service recommends that maps and tables be prepared to show the location, size, condition, and surrounding vegetative cover of the sites where these plants have been located. Please note that this plant also occurs at a nearby site (Friant Ranch Project) likewise slated for development. 1-11

Mr. Rayburn Beach

5

Might there be other locations on or adjacent to the proposed project site where this species occurs? In addition, the Service recommends that additional information (e.g., location and plot size) be provided about the distribution of the Rocklin soil series at the proposed project site, required by the Hartweg's golden sunburst, as well as information about the nature and extent of the survey effort. As a separate matter, there is no evidence that the proposed open space preserve (28.7 acres) would conserve this species or is based on any biological justification (see pages 5.4-10 and 5.4-14). Finally, given the extremely limited geographic distribution and population size of this plant, its legal status (both state- and federally-listed as endangered), and relatively small footprint with respect to the overall size of the project (ca. 1%), the Service strongly recommends that the project be reconfigured or that additional avoidance and minimization measures be implemented to eliminate all take of this species. In this regard, the project proponent may wish to increase the size of the open space preserve to include all occurrences of this species and an appropriate buffer area.

1-11
CONT.

- Pages 5.4-5 and 5.4-6: The DEIR is not adequate to evaluate potential environmental impacts to the Valley elderberry longhorn beetle. The location and spatial arrangement of elderberry shrubs are not indicated. Likewise, the location of these shrubs with respect to nearby riparian areas – important to ensure the long-term viability of the population -- is not provided. The Service recommends that a map be prepared to show the location, size, and surrounding vegetative cover for the three blue elderberry shrubs (*Sambucus mexicana*). Additional surveys to identify shrubs on adjacent properties may be indicated. (Note: The Service is aware of the fact that adjacent landowners may not allow access to their properties in order to conduct surveys. The biological consultant, however, may be able to acquire sufficient information from other sources, including: satellite images and visual inspection by walking along the property boundary.) In addition, the Service recommends that the recommended mitigation measures include a provision for a 100 foot buffer around elderberry shrubs (see Table 2-1). These measures should also take into account other standard Service guidelines and protocols for this species (see: <http://www.fws.gov/sacramento/es/protocol.htm>).
- Page 5.4-6: The DEIR is not adequate to evaluate potential environmental impacts to the California tiger salamander. The Service recommends that potential breeding and upland sites be clearly mapped and described (see above). This map should include off-site vernal pools and stock ponds, when possible, as salamanders are known to disperse at least 1.24 miles from breeding sites to adjacent upland habitat (see Note, above). Any salamanders moving onto this project site would be subject to avoidance and minimization measures developed during the consultation process for this project, as well as compensation, if indicated. In addition, the Service recommends that the recommended mitigation measures include a provision for a 250 foot buffer around breeding habitat (vernal pools and stock ponds; see Table 2-1). These measures should also take into account other standard Service guidelines and protocols for this species (see: <http://www.fws.gov/sacramento/es/protocol.htm>). Finally, and based on the regional distribution of the salamander as well as the biological conditions of the site, our initial assessment is that the entire site is either potential breeding or upland habitat for the salamander and not just 850 acres, as indicated in the text.

1-12

1-13

Mr. Rayburn Beach

6

- **Pages 5.4-6 and 5.4-7:** The DEIR is not adequate to evaluate potential environmental impacts to vernal pool invertebrates (vernal pool fairy and tadpole shrimp). Based on the regional distribution of these invertebrates, as well as the biological conditions of the site, our initial assessment is that all or most of these vernal pools likely are occupied by these taxa. The Service recommends that the vernal pools be mapped and surveyed according to Service protocols (see Note, above). Among the standard avoidance measures that the Service normally recommends is a 250 foot buffer around vernal pools. This buffer may be increased if sediments and other pollutants from the surrounding area may adversely affect the pools and the listed species that may occur there and may be negatively affected. In this regard, the proposed on-site retention basins for wastewater are especially troubling as they likely will be of only limited conservation value for any vernal pool invertebrates that may occur there. The Service also recommends that the vernal pools and proposed conservation measures be analyzed with respect to core areas and recovery actions indicated in the Recovery Plan (Service, 2005). These measures should also take into account other standard Service guidelines and protocols for this species (see: <http://www.fws.gov/sacramento/es/protocol.htm>). As a separate matter, the Service questions the long-term viability of on-site conservation efforts for vernal pool invertebrates. Many human activities (e.g., lawn care, bike/horse riding, and insect control) can have negative consequences for these invertebrates despite pro-active attempts to conserve them; off-site conservation and compensation may be more appropriate in this circumstance. 1-14
- **Page 5.4-7:** The DEIR is not adequate to evaluate potential environmental impacts to either the Bald Eagle or the Golden Eagle. Both species are known to occur in the immediate vicinity and are subject to the MBTA, as well as the BGEPA. While the Bald Eagle has been proposed for delisting under the Act, it will still be subject to other state and Federal regulations (see: <http://www.fws.gov/migratorybirds/BaldEagle.htm>; Service Announces 3 Management Actions for Eagles; copy enclosed). Specific avoidance and minimization measures should be indicated in the DEIR for both species as these birds likely will be encountered during construction activities. 1-15
- **Page 5.4-8:** The DEIR is not adequate to evaluate potential environmental impacts to the San Joaquin kit fox. While the document claims that kit foxes are not known from the area, the Service has unconfirmed reports that the species occurs approximately 5 miles to the northwest, in the vicinity of the intersection of Roads 209 and 406. Given the uncertainty of these reports, the Service recommends that the recommended mitigation measures be modified to include a provision for an on-site biological monitor to survey construction sites for dens or other evidence of kit fox activity. These measures should also take into account other standard Service guidelines and protocols for this species (see: <http://www.fws.gov/sacramento/es/protocol.htm>). 1-16
- **Page 5.4-8:** The DEIR is not adequate to evaluate potential environmental impacts to any wildlife movement corridors. The document suggests that Cottonwood Creek and its associated riparian habitat are likely to function as a wildlife movement corridor. The document also suggests, however, based on the several exhibits, that the proposed wildlife corridor will have roads, bridges, bike trails, and community facilities immediately adjacent to the creek. Our understanding is that these types of structures do 1-17

Mr. Rayburn Beach

7

not facilitate wildlife movements and may in fact lead to a greater incidence of injury or mortality. In addition, the project extends along approximately 5 miles of shoreline of Millerton Lake. Construction of this project, in our view, will effectively block most wildlife movements along a northwest-southeast axis with respect to Millerton Lake. The Service recommends that this section of the DEIR be re-analyzed taking into account the wildlife species likely to occur in the area and the physical aspects of the proposed wildlife corridors. Are these corridors sufficient to promote wildlife movement? If not, a reconfiguration of the project may be indicated.

1-17
CONT.

- Page 6-1: The DEIR is not adequate to evaluate significant unavoidable adverse impacts. During our January 2007 meeting, the Service noted the Vesting Tentative Tract Map (Exhibit 3-7) and strongly recommended that the project proponent consider ways to avoid and minimize take of federally-listed species. Based on our review of the revised plan, it does not appear that any of our recommendations were incorporated; in fact, the latest Vesting Tentative Tract Map (Exhibit 3-7) appears to be identical to the map in the earlier plan. In addition, the text cites "Loss of Habitat," but completely ignores the "Biological Resources" section itself. Additional information about significant unavoidable adverse impacts and Biological Resources at the proposed project site is indicated.
- Page 7-1: The DEIR is not adequate to evaluate growth-inducing impacts. No temporal or spatial baselines, for example, are indicated. Likewise, the several projects listed in Table 4-1 will add approximately 300,000 residential units to the Millerton Lake area, but are completely ignored in this section about growth-inducing impacts. The Service recommends that this section be modified to include a more-appropriate analysis of the potential impacts of 500,000-1,000,000 new residents to the Millerton Lake area on the biological resources that occur there, as well as the socio-economic changes that likely would occur.
- Throughout: The text includes several generic references to conservation banks and mitigation ratios as a way to compensate for take of federally-listed species. As a matter of standard practice, the Service strongly recommends that preference be given to avoidance and minimization measures in order to be in compliance with the Act. In addition, the Service strongly recommends project configurations with a 75% conservation component and a 25% development component. (For vernal pools, however, alternate proportions may be applied due to different biological considerations.) If those measures are not feasible, compliance with the Act may be obtained through the purchase of conservation credits at a conservation bank. If this option will be used here, the project proponent – prior to initiation of groundbreaking -- needs to identify an appropriate conservation bank and to acquire all of the necessary conservation credits before compliance under the Act can be achieved (please note: there are no banks for Hartweg's golden sunburst, for example).

1-18

1-19

1-20

To summarize and conclude:

- It does not appear that our earlier comments about potential problems or issues with respect to biological resources and this proposed project, as well as the high likelihood for take of federally-listed species given the current project configuration, were

1-21

Mr. Rayburn Beach

8

incorporated into a revised plan to avoid and minimize take of these species. The revised plan, as we interpret it, does not include measures that resolve or effectively mitigate these issues, and should be revised.

- The Service strongly recommends that the proposed project be reconfigured to avoid take of vernal pool invertebrates and salamander breeding habitat (i.e., vernal pools and stock ponds).
- The Service also strongly recommends that all take of Hartweg's golden sunburst be avoided. Given the limited distribution of this species and its precarious conservation status, any losses could lead to significant and unacceptable decreases in the size of the population of this plant. Furthermore, the Service is not aware of any successful efforts to transplant or relocate this species. Given these circumstances, the project proponent may wish to increase the size of the open space preserve to include all occurrences of this plant at the proposed project site.
- The Service recommends that a biological monitor be included in the implementation plan to survey the several construction sites for San Joaquin kit foxes and to make appropriate adjustments to the work schedule, if necessary.
- The Service strongly recommends that the proposed project be reconfigured to improve the effectiveness of wildlife corridors. Long and narrow corridors immediately adjacent to areas where human activities occur generally do not promote wildlife movements.

1-21
CONT.

In closing, the Service is concerned that this project would result in the conversion of several large tracts of native habitat into sites of reduced value for plants and wildlife in an area with high biological diversity and numerous federally-listed species. We especially note that the proposed project site is adjacent to Millerton Lake, and potentially could disrupt natural wildlife movements and migration routes between areas to the northwest (rangeland) and the southeast (Millerton Lake). Under these circumstances, take of federally-listed species is likely. Additional avoidance and minimization measures are indicated for the Hartweg's golden sunburst, California tiger salamander, vernal pool invertebrates, Valley elderberry longhorn beetle, and the San Joaquin kit fox. These issues should be discussed and resolved with the project proponent during the section 7 consultation process under the Act. To conclude, the Service recommends – first – that County of Madera planning officials give full consideration to alternative site configurations that reduce or eliminate take of protected plant and animal species and – second – that representatives of Friant Development Corporation (Mr. John Kesterson, President) be asked to contact the Service regarding this project and potential issues under the Act.

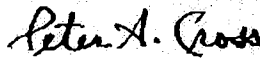
1-22

Mr. Rayburn Beach

9

If you have any questions, please contact Dr. Jeffrey P. Jorgenson or Ms. Susan P. Jones of the Sacramento Fish and Wildlife Office at (916) 414-6600. Please refer to File Number 1-1-07-TA-1113 in any future correspondence.

Sincerely,



Peter A. Cross
Deputy Assistant Field Supervisor

Enclosure:

- Service Announces 3 Management Actions for Eagles (2 pages)

cc (First Class Mail):

California Department of Fish and Game, Fresno, California (Attn. Annee Ferranti)
US Army Corps of Engineers, Sacramento, California (Attn. Ramon Aberasturi)
US Bureau of Reclamation, Fresno, California (Attn. Ned Gruenhagen)

cc (Certified Mail):

Friant Development Company, Fresno, California (Attn. Mr. John Kesterson)
Michael Brandman Associates, Fresno, California (Attn. Jerry C. James)

Mr. Rayburn Beach
10

Addresses for cc (First Class Mail):

Ms. Annee Ferranti, California Department of Fish and Game, 1234 E. Shaw, Fresno, California
93710 (Tel. 559-243-4014 ext. 227; Fax 559-243-4020)

Mr. Ramon Aberasturi, Sacramento District, Regulatory Branch, U.S. Army Corps of Engineers,
1325 J Street, Room 1480, Sacramento, California (Tel 916-557-6865; Fax 916-557-
6877)

Mr. Ned Gruenhagen, Division of Resource Management, US Bureau of Reclamation, 1243 "N"
Street, Fresno, California 93721-1813 (Tel 559-487-5227; Fax 559-487-5397)

Addresses for cc (Certified Mail):

Mr. John Kesterson, President, Friant Development Company, 7740 North Fresno Street, Suite
#104, Fresno, California 93720 (Tel 559-436-1900) (Certified Mail)

Mr. Jerry C. James, Regional Manager, Michael Brandman Associates, 2444 Main Street, Suite
215, Fresno, California 93721 (Tel 6-559-497-0310; Fax 559-497-0319) (Certified Mail)



U.S. Fish & Wildlife Service
Division of Migratory Bird Management
Bald Eagle

Letter 1
Page 11 of 12

Service Announces 3 Management Actions for Eagles



The bald eagle will continue to be strongly protected by federal law under a series of actions designed to govern management of eagles if removed from Endangered Species Act protection.

The U.S. Fish and Wildlife Service finalized modifications to a regulatory definition under the Bald and Golden Eagle Protection Act. The Service also released National Bald Eagle Management Guidelines providing guidance to the public as to how to prevent impacts to bald eagles that could violate the Eagle Act. In addition, the Service is opening a public comment period on a proposal to establish a permit program under the Eagle Act that would allow limited take of bald and golden eagles while ensuring that populations are not significantly affected.

The modifications to implementing regulations for the Eagle Act establish a regulatory definition of "disturb," a term specifically prohibited as "take" by the Eagle Act. The final definition defines "disturb" as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." For more information, see the final rule defining disturb and accompanying environmental assessment. Also available is the Notice of Availability.

The National Bald Eagle Management Guidelines published today provide a roadmap for landowners seeking to protect eagles while conducting activities on their property. The guidelines are intended to help landowners avoid violating the Eagle Act by disturbing bald eagles. For example, the guidelines recommend buffers around nests to screen nesting eagles from noise and visual distractions caused by human activities. Also available is the Notice of Availability.

On June 5, 2007, the Service will open a 90-day public comment period on a proposal to create a permit program to authorize limited "take" of bald and golden eagles where the take is associated with, and not the purpose of, otherwise lawful activities. The proposed rulemaking also contains proposed provisions to extend Eagle Act authorizations to persons authorized to take bald eagles under an ESA permit. In addition, the proposed permit would establish provisions to remove eagle nests in rare cases where their location poses a risk to human safety or to the eagles themselves, for example, in close proximity to an airport runway.

Comments on the proposed managed take permit must be received by September 4, 2007. Comments may be sent by mail to the Division of Migratory Bird Management, Attn: RIN 1018-AV11, U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, MBSP-4107, Arlington, Virginia 22203.

Q&A's for Bald and Golden Eagle Protection Act Actions

More Eagle information and previous actions.

Letter 1
Page 12 of 12

[U.S. Fish and Wildlife Service](#) [Contact Us](#) [Privacy](#)

3.1 - Federal Agencies

Letter 1. U.S. Fish and Wildlife Service (6/12/07)

Response 1-1

This summary of the USFWS's understanding of the proposed project is noted.

Response 1-2

The table summarizes the narrative discussion of special status species in the DEIR, and is added as Table 5.4-1 of the Final EIR, with the exception of the San Joaquin Kit Fox. See Response 1-16 regarding removal of the San Joaquin Kit Fox from Table 5.4-1.

Response 1-3

The USFWS asserts that project impacts will not be mitigated to a less than significant level, contrary to the conclusions of the EIR. In support of this statement, the USFWS notes that the project would potentially result in the take of federally listed species, and likely would require consultation under the federal Endangered Species Act.

The requirement for consultation with the USFWS for a number of endangered species has been noted in the EIR (pages 5.4-11, 5.4-18, and 5.4-19). This requirement does not mean, however, that mitigation measures proposed in the EIR do not mitigate project impacts to a less than significant level. The USFWS has developed mitigation standards for a number of species. These standards often do not take into account the quality of the habitat to be affected by the project, nor do they take into account the quality of habitat proposed for mitigation. Thus, one mitigation standard is applied to all projects. In the professional opinion of the project biologist, implementation of the mitigation measures in the EIR would reduce project impacts to state- and federally-listed species except Hartweg's golden sunburst, to less than significant levels.

Response 1-4

The approximate scale of the exhibits was inadvertently omitted in formatting. An approximate scale of 1"= 1,800 feet (ft.) is identified for the following exhibits: Exhibits 3-3; 3-4; 3-5; 3-6; 3-9; 3-10; 3-11; 3-12; 3-13; 3-14; 3-15; 4-1; 4-2; 5.1-3; 5.4-1; 5.7-1; 5.8-1; 5.9-2. All other exhibits are not to scale.

Response 1-5

Section 2.2, page 2-4 identifies "Biological Resources Impacts" as a significant environmental issue area raised by public agencies. In the Attachment to Table 2-1 Biological Resources Mitigation Measures and in Section 5.4.6, Mitigation Measures-Biological Resources, various avoidance, compensation and/or permit compliance measures are identified for the following special status species: Hartweg's golden sunburst, vernal pool plant species, vernal pool invertebrates, California tiger salamander, western spadefoot toad, bald eagle, Swainson's hawk, special status raptors, and

loggerhead shrike, burrowing owl and short-eared Owl; California horned lark; and Wetlands/Waters of the United States. See Responses 20-1 thru 20-15 regarding groundwater resources.

Response 1-6

The USFWS is hereby added to Table 3-5 Public Agency Approvals. The corresponding “Action/Approval” is identified as “Potential incidental take permit pursuant to Section 10 of the Endangered Species Act.”

Response 1-7

Adopted by the County of Madera. Table 4-1 Other Relevant Projects in the Area, is hereby modified to correct the General Plan acreage subtotal to 12,345 acres (excluding “Other General Plan”). The USFWS’s calculation of the grand total of 137,110 acres for other relevant projects is noted. The scope of the list is based on criteria adopted by the County of Madera, as lead agency, in conformance with the provisions of CEQA.

Response 1-8

The project biologist, Live Oak Associates (LOA), provided a map showing the regional distribution of the special status plant and animal species in the biological evaluation report dated October 3, 2005. This map can be found on Page 21 of Appendix C of the DEIR. Additional surveys for listed species will be required, with mapped results submitted to the USFWS in conformance with permit requirements.

Response 1-9

Appendix C of the DEIR includes a Methodology section explaining biological methods. No surveys were conducted for vernal pool fairy shrimp, tiger salamanders, kit fox, and Swainson’s hawks. The DEIR requires detailed studies for species, such as the California Tiger Salamander (CTS) and vernal pool fairy shrimp. The fact that surveys for the CTS were not conducted in does not alter the conclusions of the DEIR. Potential project impacts to the vernal pool fairy shrimp and CTS were concluded to be significant, and adequate mitigation measures were prescribed. Specifically with regard to CTS, additional information has been added to the EIR Appendix C (see Response 1-13 and Section 4 - Summary of Changes and Additions to Draft EIR, in this Response to Comments document.) This information includes a 1) Species Account of the California Tiger Salamander (*Ambystoma californiense*) from the Sacramento Fish & Wildlife Office, and 2) a scientific journal excerpt from the Ecological Society of America (August 2005), entitled “Amphibian Upland Habitat Use and Its Consequences for Population Viability.”

Response 1-10

The analysis of project impact on seasonal drainages and swales, stock ponds, and manmade vernal pools was based on a delineation of such waters that was field-verified by the staff of the United States Army Corps of Engineers (USACE). A final map of the project was then subsequently overlaid on top of the delineated waters. A small scale map of such delineated waters was provided

on page 11 and page 12 of Appendix C of the DEIR. Detailed maps of jurisdictional waters can be found in the Wetlands Delineation Report previously submitted to the USACE. The actual calculation of impacts to jurisdictional waters required an evaluation through computer assisted design (CAD) which was not included in the DEIR. The jurisdictional waters impact analysis will be independently assessed and verified by the USACE pursuant to the Clean Water Act Section 404 permitting process. The impacts on such waters will be precisely determined by USACE and mitigated pursuant to the permit conditions.

Response 1-11

This comment notes that a map with tables is desirable. With respect to this species' distribution on the site and in the region, it has only been found where Rocklin soils or a pumiceous variant occur. Such soils are confined to a narrow area of the site between Cottonwood Creek, Road 206, and a minor drainage channel. The area of Rocklin soils within the site boundaries was extensively and comprehensively surveyed during the spring of 2000. Further support for the presence of such soils can be found in the geotechnical report conducted by Technicon Engineering as found in Appendix E of the DEIR. Multiple surveys for Hartweg's Golden Sunburst were also conducted during the spring of 2000. In every instance of plant presence, pin flags were placed around the perimeter of each of the sub-populations. The 28.7-acre open space preserve includes the majority of the Rocklin soils pumiceous variant occurring on the site, much of which is occupied by the Hartweg's golden sunburst. Therefore, the open space preserve contains the necessary soils and naturally-occurring presence of the species. In addition, the open space preserve would be managed under the direction and/or guidance of CDFG. As stated in the DEIR, the open space area will be fenced to restrict public access and permit managed grazing. There is no biological justification for concluding that this species would *not* persist at this location. With respect to the USFWS's comment that it may be appropriate to avoid all sub-populations of this species by expanding the open space preserve, this comment is noted. Avoidance is identified as a preferred approach in the EIR.

Response 1-12

Both the DEIR and the project biologist's evaluation report note the presence of three elderberry shrubs on the site, and that these shrubs provide potential habitat for the federally threatened valley elderberry longhorn beetle (VELB). The potential for project impact to these three shrubs and any VELB occurring in them was not directly referenced in the impact section of the EIR. All three shrubs were located in designated open space areas at distances in excess of 100 ft. of proposed development. Live Oak Associates (LOA) biological evaluation report failed to mention that elderberry bushes located on the site would not be affected by site development. Although a focused elderberry survey was not conducted on the site, LOA staff examined the site for elderberry shrubs at the time of the delineation of waters of the U.S.

It is unlikely that additional elderberry shrubs are present, but it is possible that one or more shrubs were missed. Clearly, the site is not characterized by high elderberry densities, in part because the

site is so low in elevation. Much greater elderberry densities have been noted on sites 500 to 2,000 ft. higher in elevation both in Madera and Fresno Counties.

Even if elderberry shrubs not observed during the LOA wetland studies are present in areas of proposed project disturbance, impacts to the VELB may not occur at all and would, in any event, not be substantial. Based on numerous surveys for elderberry shrubs in Madera County, LOA biologists have concluded that it is likely that foothill habitats of Madera County support tens of thousands and possibly hundreds of thousands of elderberry shrubs. The loss of one or two shrubs on the NFV-1 site, should incidental loss occur, would not have a significant adverse impact on regional VELB populations. However, the comment is noted that any “take” of the VELB cannot occur without a take permit issued by the USFWS in compliance with the Endangered Species Act with respect to this species. Compliance would require a survey of all areas to be disturbed by development, the identification of all mature shrubs, and consultation with the USFWS via Section 7 or Section 10(a) of FESA should mature elderberry shrubs exhibiting evidence of VELB occupancy be identified.

The USFWS’s recommendation to provide a 100 foot buffer around this plant species is noted.

Response 1-13

In Response to this comment additional information concerning California Tiger Salamander (CTS) has been added to the EIR Appendix C. This information includes two online/internet articles; 1) US Fish & Wildlife Service, Sacramento Fish & Wildlife Office, Species Account: California Tiger Salamander (*Ambystoma californiense*) and 2) an extract from the Ecological Society of America—ESA Online Journals Access Control: Amphibian Upland and Habitat Use and Its Consequences for Population Viability. Both articles are located in Section 4 of this Response to Comments document.

Information from both articles is summarized below, followed by discussion of the suitability of the NFV-1 project site to support viable populations.

1) US Fish & Wildlife Service, Sacramento Fish & Wildlife Office, Species Account: California Tiger Salamander (*Ambystoma californiense*)

According to the *Species Account*, the final designation of critical habitat for the CTS is 199,109 acres. The species prefers naturally occurring ephemeral vernal pool complexes. A reduction in vernal pool complex habitat is threatening the species. In some instances, the species has migrated to man made water features where bullfrogs and other natural predators are known to thrive. Large vernal pool complexes with little or no predators are required to ensure survival of the species.

A strong negative association exists between California Tiger Salamanders and bullfrogs. Stock ponds, particularly those constructed on natural drainage channels, contain greater volumes of water, and are typically non-ephemeral. Deep storage volumes tend to be great attractors for bullfrogs and other amphibians which prey on CTS. A known parasite may also present risks to the survivability of the species.

Studies have shown that competing salamander species have been introduced around fishing areas and hybridization is occurring. Stock ponds are typically constructed by ranchers within natural drainage channels in the middle and lower foothills of the Sierra Nevada. The species thrives within vernal pool complexes. Stock ponds with precisely mimic vernal pool complexes, can become suitable breeding habitat, provided additional factors are also optimal.

The species is a poor burrower. The sufficient presence of burrowing rodents is essential to the survivability of the species.

Response to CTS Habitat Suitability Factors for the NFV-1 Project Site:

Of the 2,238 acres of the NFV-1 Specific Plan, approximately 75 acres (also know as the “Wagner” property) are within Unit #1a of the Southern San Joaquin Region, Millerton Unit, Madera County for California Tiger Salamander critical habitat. A Recovery Plan for the species is currently under development.

Of the 6 stock ponds found on the NFV-1 site, 4 are filled with water nearly year-round. Such presence of standing water, along with standing water in Cottonwood Creek has resulted in a thriving bullfrog population within the NFV-1 site. The NFV-1 site has a low occurrence of burrowing rodents as such animals are likely prey for local raptors and other predators living around Millerton Lake.

Even in rainy years where seasonal ponds may be established along existing tributaries and salamander may reproduce, significant bullfrogs throughout the property pose a danger to the survivability of the species within the NFV-1 site. As the NFV-1 site contains such large numbers of bullfrogs, roaming behaviors during the rainy season would likely occur and would prey on any potential CTS juveniles. In addition, the minimal presence of burrowing rodents on the site poses concerns that sufficient upland aestivation habitat exists within the NFV-1 project site.

The NFV-1 site borders Millerton Lake and is near the San Joaquin River. Both areas are popular with local fishermen. Thus, the possibility exists that other salamander species have been introduced to the area and that hybridization of the species is presently occurring.

2) Ecological Society of America—ESA Online Journals Access Control: Amphibian Upland Habitat Use and Its Consequences for Population Viability

Research indicates the presence of CTS adults declines with distance from known breeding ponds. The presence of CTS sub adults increases to a distance of 400m (1,200 ft.), but then declines thereafter. No presence of CTS was detected at 800m (2,440 ft.) from know breeding ponds.

90 percent of all CTS adults reside within 490m (~1,500 ft.) while 95 percent reside within 620m (~1,900 ft.) of a known breeding pond. 85 percent of CTS sub adults are concentrated between 200m

and 600m (~610 ft. to ~ 1,830 ft). A minimum of 600m (~1,830 ft.) is recommended as a protection buffer around known breeding ponds.

Response to CTS Habitat Distance Criteria for the NFV-1 Project Site

USFWS (Service) comments including mapping and buffer recommendations for California Tiger Salamander breeding and upland sites are noted. The Service asserts that the DEIR is not adequate to evaluate potential environmental impacts to the CTS, yet, conclusively states that the entire site provides breeding and aestivation habitat for this species. At the time that Live Oak Associates (LOA) prepared its biological evaluation report, LOA biologists queried USFWS biologists as to how much area around known and potential CTS breeding habitat would be considered potential aestivation habitat. This question was under review at that time and no response was provided. Lacking guidance from USFWS, a radius of 0.5 mile around known breeding habitat was used. This value was taken from a letter by the California Department of Fish and Game commenting on the proposed project (June 4, 2003 and signed by Bill Loudermilk). Such a radius was found to be greater than the distance determined through scientific evaluation in the ESA article. The ESA article excerpt states that the vast majority of adult salamanders (95 percent) move and aestivate within 630m (1,900 ft.) of the pond they breed in. Note that the California Department of Fish and Game requested an evaluation of the NFV-1 site for potential aestivation habitat be made at 865m (~2,640 ft. or 0.5 mi.) which extends 245m (~750 ft.) beyond the limits where 95 percent of the species is known to occur. However, LOA used a distance of 0.5 mile around the one pool and stock ponds that provide possible breeding and possible aestivation habitat for CTS. Using that distance, LOA came up with approximately 850 acres of possible onsite aestivation habitat, assuming that every stock pond was potentially suitable habitat. Such an assumption is highly conservative when consideration is given to the fact that a majority of onsite stock ponds are non-ephemeral, are filled with water year-round and contain large populations of bullfrogs, and the site also has a low population of burrowing rodents which are necessary for the survivability of the species. Utilization of known breeding science would suggest that a reduction of the 850 acres calculated as potential upland habitat would be warranted.

A recent study in Monterey County suggests that 95 percent of tiger salamanders aestivate within 600 ft. of the pond they breed in. Given the paucity of potential CTS breeding habitat and that the proposed NFV-1 project site does not contain any naturally occurring vernal pool complexes which represent historical suitable breeding habitat, it was concluded that the majority of the NFV-1 site would not support a population of aestivating tiger salamanders.

Nevertheless, the Service subsequently determined that the radius of possible aestivation habitat around each potential breeding pool was approximately 1.3 miles (no reference was cited) based on maximum distances that salamanders travel. Using a distance of 1.3 miles, nearly the entire site would constitute potential CTS aestivation habitat, assuming that CTS could actually access all areas of the site, which is not a likely occurrence considering the many steep slopes throughout the site, not

to mention the paucity of burrows. Although CTS research seems to indicate that ground disturbance 0.5 miles (2,640 ft.) distant from possible breeding habitat would be increasingly unlikely to result in the take of the CTS, the Service considers take sufficiently likely to require consultation and mitigation for loss of habitat at such significant distances.

The DEIR provides sufficient information for the Service to conclude that the entire site is not suitable aestivation habitat and that ground disturbance beyond 2,640 ft. from potential breeding ponds would not be considered “take” of the species. The DEIR concludes that the site provides a maximum of 850 acres of potential breeding and aestivation habitat. Further evaluation shows this value to be excessive considering known science regarding species breeding and aestivation.

The DEIR meets the CEQA requirement that impacts to salamander be assessed and mitigation measures identified. The applicant must meet the permit requirements of the USFWS and comply with provisions of the federal Endangered Species Act with respect to the CTS. While the Service may not agree with the DEIR that a maximum of 850 acres of potential aestivation habitat would be affected, information in the Ecological Society of America (ESA) article suggests that, potential impacts occurring to CTS more than 800m (2,440 ft.) from breeding habitat would not have a substantial effect on regional CTS populations. The NFV-1 project retains nearly 50 percent of all land in the project in some form of open space. Approximately 777 acres of the 2,238 acres within the specific plan abuts lands that are, and will remain, open space (such as the Millerton Lake). These lands are contiguous to open space lands, functional as habitat and will continue to provide migration, dispersal, and home range for native species.

Of the 850 acres identified in the DEIR as “potential aestivation habitat” which included stock ponds containing large populations of bullfrogs, approximately 493 acres will remain in some form of open space (natural, use area, park, preserve). Of the calculated 493 acres, 315 acres retain a land use designation as open space - natural, free of development. Thus, the total calculated area for impacts to potential CTS aestivation habitat is approximately 535 acres.

Mitigating at a 1:1 ratio for CTS as recommended in a June 4, 2003 letter from CDFG regarding the River Ranch Estates DEIR (also located in the Rio Mesa Area Plan), the NFV-1 project applicant now proposes a development impact fee in the amount of \$450.94 per dwelling unit to be paid at close of escrow as mitigation to impacts to potential CTS aestivation habitat. This mitigation measure has been added to the EIR Mitigation Measure B-5, California Tiger Salamander and Western Spadefoot Toad (see Section 4 that follows).

Response 1-14

The Service’s survey and mapping recommendations for vernal pool invertebrates are noted. The Service asserts that the DEIR is not adequate to evaluate project impacts to vernal pool invertebrates (vernal pool fairy shrimp and vernal pool tadpole shrimp).

Vernal pool tadpole shrimp have been documented in basalt vernal pools on the MacKenzie Table, but not within other vernal pools of the region. It seems unlikely, based on the results of previous vernal pool invertebrate surveys, and that existing ponds are man-made, that vernal tadpole shrimp would be present on the site. The DEIR nonetheless acknowledges the possibility that this species could be present in on-site man-made pools.

The DEIR also acknowledges that the on-site man-made pools provide possible habitat for the vernal pool fairy shrimp. The only pools observed on the site were mapped at the time of the delineation of waters of the U.S. Three small pools were located adjacent to the main road into the property which were created by onsite road grading. A fourth pool was created behind the raised roadbed of Road 206 at the west end of the study area on the Wagner property. The proposed development plan will incorporate the three small pools adjacent to the main road into the property into a storm drainage detention basin. The “take” of listed vernal pool invertebrates at other locations of the site will not occur, since vernal pools do not occur in other locations of the site. The DEIR has concluded that the applicant must initiate consultation with the USFWS before any federally listed invertebrate species can be eliminated by project construction. Thus, it appears that the DEIR has provided all the information necessary to evaluate project impact.

Response 1-15

The occurrence of bald eagles on the site and surrounding Millerton Lake is described in the EIR (page 5.4-7). The EIR includes measures to preserve oak woodlands available for roosting and natural open space areas available for foraging (see Mitigation Measure B-6 for bald eagles and Mitigation Measure B-12 for oak woodlands. Measures to protect special status raptors, including the golden eagle, are included as Mitigation Measure B-8.

Response 1-16

The Service asserts that the EIR is not adequate to evaluate project impacts to the San Joaquin kit fox.

There is no compelling evidence that the San Joaquin kit fox occurs in this part of Madera County. A single kit fox sighting in the Friant/Millerton area has been documented in the California Natural Diversity Data Base (CNDDB). This sighting was made adjacent to Friant Road in Fresno County (approximately 4 miles from the project site) in 1994 (more than 13 years ago). Assuming that this sighting was, in fact, a kit fox (even canid experts can experience difficulty in positively differentiating kit foxes from juveniles of other canid species); it represents a singular historical sighting in the region. A single (isolated) sighting of an individual does not establish a “population” nor does it equate to suitable habitat. Reasonable scientific discovery and evaluation are essential elements for the proper evaluation of all threatened and endangered species.

The Service, in its comment letter, has accurately termed other reports of kit fox sightings in the area as “unconfirmed.” Such unconfirmed reports are not adequate science and are thus, not applicable to the CNDDB, nor should they be for the USFWS. In recent years, consulting biologists and the

Endangered Species Recovery program (located in Fresno, California) have conducted numerous surveys in the area without singular evidence of a kit fox population in the Millerton Lake region.

USFWS' assertion that the kit fox has the potential to occur in the Friant/Millerton area of Fresno and Madera counties is noted in the EIR (page 5.4-8). The EIR concludes that project development would result in a less than significant impact (page 5.4-12).

Response 1-17

The Cottonwood Creek corridor will be maintained as open space, with a variable width buffer zone allowing for wildlife movement with minimal impact from residential and commercial development along either side of the creek. Proposed project plans avoid significant encroachment into Cottonwood Creek and its associated riparian habitat. The creek will continue to function as a viable wildlife movement corridor between the Sierra foothills and the riparian habitats in the portion of the San Joaquin River downstream of Friant Dam. The remainder of the project site facilitates home range and dispersal movements, but does not serve as a wildlife movement corridor. Project development will be set back from the high water mark of the Millerton Lake shoreline (Exhibits 3-7 and 5.1-3), allowing unobstructed wildlife movement around the lake shore. Site development would modify wildlife movements on the site because of habitat losses and the construction of barriers to onsite wildlife movements. However, these project effects will be local, and regional wildlife movements would not be substantially affected by the project.

Response 1-18

The EIR Biological Resources section (page 5.4-23) concludes that, following implementation of RMAP policies, NFV-1 Specific Plan design features and commitments, and additional project mitigation measures, all impacts to biological resources would be less than significant with the exception of 1) the direct and cumulative impacts resulting from partial loss of the Hartweg's golden sunburst population onsite, and 2) cumulative loss of non-native grassland and blue oak woodland habitat in conjunction with other future development projects in the vicinity of the project site.

Response 1-19

The North Fork Village-1 proposed land uses and related infrastructure are part of the overall land use plan envisioned for the entire Rio Mesa Area Plan (RMAP) as described in EIR Sections 1, Introduction, and 5, Environmental Impact Analysis. The RMAP was identified as a New Growth Area in the Madera County General Plan, and the growth-inducing effects of this development in combination with other areawide developments were thoroughly evaluated in the RMAP EIR. Therefore, implementation of the project would not induce growth not already envisioned by the County.

Response 1-20

The Service's preference for avoidance and minimization measures is noted, as is the recommended project conservation/development ratio. Madera County is currently exploring with other agencies

the feasibility of a regional or area-wide conservation bank concept, with potential application to the Rio Mesa Planning Area and the current NFV-1 project. The lack of any current bank for Hartweg's golden sunburst is noted.

Response 1-21

Please see Responses 1-3, 1-11, 1-13, 1-14, 1-16, and 1-17 regarding these summary comments. The project reconfiguration, avoidance, and monitoring recommendations will be considered by the County decision-makers in their deliberations on the project.

Response 1-22

Please see Response 1-17 concerning retention of viable wildlife movement corridors. The need for resolution of potential take issues during a Section 7 consultation process under the Endangered Species Act is noted.



United States Department of the Interior



BUREAU OF RECLAMATION
South-Central California Area Office
1243 N Street
Fresno, California 93721-1813

Letter 2
Page 1 of 4

IN REPLY REFER TO:
SCC-105
ENV-6.00
County of Madera

JUN 14 2007

Mr. Rayburn Beach, Planning Director
County of Madera
Planning Department
2037 West Cleveland Avenue
Madera, CA 93637

Subject: Comments on Draft Environmental Impact Report (EIR) For the North Fork Village Specific Plan (State Clearinghouse Number 2006011101)

Dear Mr. Beach:

The Bureau of Reclamation appreciates the opportunity to comment on the North Fork Village EIR. As you are aware, the project borders Reclamation property for several miles near the north shore of Millerton Lake. The California Department of Parks and Recreation (Parks) operates and maintains Millerton Lake State Recreation Area (MLSRA) on our behalf. Our comments were developed in coordination with the Parks and essentially reiterate the comments submitted separately by that agency.

Reclamation provides the following comments to the North Fork Village Draft EIR:

With the exception of scenic impacts, the impacts to MLSRA are either not addressed or are dismissed as unavoidable, less than significant or mitigated by the fact that MLSRA charges an entrance fee for vehicles and vessels. Specific concerns not addressed are:

1. Important Land Use Planning impacts to MLSRA are not addressed. There are three parcels within MLSRA that are accessible, according to the EIR, only by the current MLSRA entrance road. One of these within PA31, zoned VLR, is located immediately adjacent to the Rocky Point Campground and abuts two campsites. Developing residences on this parcel would certainly have an impact on the camping experience of MLSRA visitors staying in the campground. This parcel is accessible only by the park road after passing through the MLSRA North Shore Entrance Station (Table 3-2, Exhibit 3-9). The impacts of this parcel are not addressed within the EIR. The other two parcels are within PA29 and are zoned MU. PA29 has 14 planned residential units with a maximum of 21. MU designation allows buildings up to 100 feet tall and with a transfer of designation could become either commercial or multi-family residential in an 8-10 story building right on the shore of Millerton Lake. The only access to these parcels is the park entrance road. Any runoff from buildings, parking or accidental spills from facilities on these parcels will go directly into Millerton Lake. The set backs in MU areas

are listed at only 50 feet rather than the 100 feet around other residential areas. None of the proposed mitigation measures would affect these parcels. The EIR does not address any of these impacts or impacts from night lighting or scenic degradation from these particular locations. There is also no mention of the traffic impacts to the MLSRA entrance road from these parcels. Because of their potential impacts on Millerton Lake and MLSRA, these parcels should be zoned open space or construction otherwise precluded on these parcels.

2-1
CONT.

2. Traffic impacts to MLSRA are also not addressed. Exhibit 5.15-1 shows road segment R on the map, but does not list R under the Road Segment list. Nor are impacts to this road section or to the MLSRA entrance road that is the only access to the above parcels, addressed in any of the traffic studies. The proposal also proposes a gated entrance into the NFV-1 development from the MLSRA entrance road approximately 600 feet from the MLSRA Entrance Station. The impact of the traffic generated by this road on the incoming traffic to MLSRA and to the lines of visitors' cars, boats and motor homes waiting to enter MLSRA north shore on any given day could be significant. On holiday weekends these lines can be substantial and with the growth in MLSRA visitation from this and other Rio Mesa developments could become daylong waiting lines. The proposal also does not address the impact on this entrance to the development from these lines of traffic. In the event of an emergency within the development, such as a wildfire, the impact could be significant if this evacuation route was blocked by traffic waiting to enter MLSRA. Additional study and mitigation measures to the north shore entrance road to MLSRA need to be addressed before this EIR is approved.

2-2

3. Recreation impacts to MLSRA North Shore have been understated in the EIR. The EIR does not differentiate between the impacts to the North Shore of MLSRA in Madera County and the entirety of MLSRA. NFV-1 will be developed along the North Shore of MLSRA from the Friant Dam to east of the Dumna Creek/Buzzards Roost area. This area is essentially used for camping and contains the only developed camping at MLSRA. This side of the lake has one launch ramp, one small, developed day use area and a few scattered picnic sites along the park road from the Dumna Creek area to the Meadows Campground. Day use on this side of the lake is very limited. The impact from this development and the cumulative impacts from other nearby developments in Madera County could be significant. Impact 5.14-1 assumes a visitation of 26,697 from the NFV-1 development. That would be a 7.8 percent increase in visitation for all of MLSRA, however this same visitation would have a substantially higher impact on the North Shore of MLSRA facilities as most of the day use at MLSRA is now on the South Shore where most of the day use facilities are located. The EIR states that these impacts to MLSRA are mitigated by the fact that fees are charged to enter MLSRA. In the California Department of Parks and Recreation Statistical Report for fiscal year 2005/2006, it states that the Central Valley District, of which MLSRA is a sector, the revenue as a percent of costs is only 36.7 percent. Fees do not cover the cost of operating MLSRA. In addition, fees are only charged to visitors who arrive by motorized vehicle. Pedestrians and bicycle riders are not charged. As this development proposes trails that connect to MLSRA trails, it is safe to assume that a substantial number of visitors to MLSRA from this development would pay no fees. This development and the increased

2-3

visitation to the North Shore of MLSRA may require MLSRA to institute lifeguard service on the North Shore for the first time; additional restroom facilities and picnic sites to accommodate a substantial increase in day use on the North Shore; increased vehicle safety patrols on shore and boat patrols along the shoreline; increased litter pickup and garbage disposal; an increase in the number of accidents that park staff responds to; an increase in law enforcement activities within the park and increased maintenance of visitor facilities including trails and the road from the park boundary to Launch Ramp #6. The additional fees from increased visitation will only minimally mitigate the cost of these necessary increases in service and maintenance. Additional mitigation is needed, such as budgetary assistance with the added costs created by this development and the cumulative impacts of other nearby developments. You can be assured that the proximity to and use of Millerton Lake will be mentioned as a major benefit and selling point to those considering living within this development.

2-3
CONT.

4. Cultural impacts are not accurately addressed in the EIR. At a location near the MLSRA entrance station, human remains have been found. In 1993/1994 a park visitor was discovered scratching the surface of a midden. He had artifacts from the midden in his possession. One of the artifacts was a skull fragment. This fragment was sent to the Madera County Coroners Office for further identification. The fragment was identified as a human skull fragment, probably, prehistoric Native- American. The park visitor was prosecuted. As no lineage of the remains could be identified, Mr. Ron Goode of the North Fork Mono people was contacted and an appropriate reburial of all the artifacts took place on the site. This site is within 50 feet of the project boundary and may extend into the development. Further research may be required to identify the boundary of this site to protect possible human remains within the site.
5. There is also additional anecdotal information that may be helpful for identifying protected species activity within the project. In the late 1980s to early 1990s, two State Park Rangers who were studying Bald Eagles at MLSRA reported an active Golden Eagle nest along Dumna Creek within the development area. As there are still frequent sightings of Golden Eagles in this area, this may be indicative of nesting still taking place. Mr. Mike Smith, who has done extensive Bald Eagle studies for MLSRA may be a helpful resource.

2-4

2-5

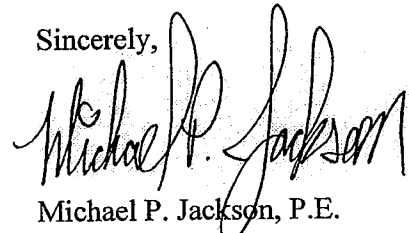
MLSRA is one of the most visited recreation sites in the central valley. Visitors from around the world visit it. It is a regular stop for visitors from Europe who rent recreational vehicles in southern California and travel to San Francisco and Yosemite. It is one of a few facilities to provide camping on a year around basis. It also provides year around day use opportunities, with active recreation during the spring, summer, fall, and more passive recreation such as wildlife viewing in the winter. Visitors to MLSRA contribute significantly to the economies of both Fresno and Madera counties. Because of its significance to the local communities, it is essential that all efforts be made to ensure that nearby developments impact this valuable recreational resource to the minimal extent possible. This EIR has glossed over many of the impacts to MLSRA. Madera County must consider additional mitigation to minimize the significant impacts to MLSRA and not simply call them unavoidable or mitigated by the existing fees charged for vehicle entrance to MLSRA.

2-6

Again, thank you for the opportunity to comment. If you have any questions or concerns regarding Reclamation's comments, please feel free to call Mr. Bob Epperson at 559 487-5408 or at 559-487-5933.

2-6
CONT.

Sincerely,



Michael P. Jackson, P.E.
Area Manager

10/12/11
10/12/11
10/12/11

Letter 2. U.S. Department of the Interior, Bureau of Reclamation (6/14/07)

Response 2-1

Please see Responses 10-2 and 10-3.

Response 2-2

See Response 10-4.

Response 2-3

See Responses 10-5 and 10-6.

Response 2-4

The artifacts referenced in this comment may be associated with recorded site CA-MAD-95, which is near the park entrance and project boundary, and described in EIR Section 5.6 and the project Cultural Resources Survey Report (Appendix F). The project archaeologist will consult with MLSRA park representatives to confirm the location of these recovered remains, and appropriate mitigation will be implemented pursuant to Cultural Resources Mitigation Measures C-1 and C-2 (Avoidance), C-3 (Buried Archaeological Deposits), and/or C-4 (Human Remains).

Response 2-5

This information corroborates information in the EIR indicating that special status raptors including Golden eagle are likely to use blue oak woodland in the site's northern unit and cottonwoods along Cottonwood Creek for nesting habitat (page 5.4-12). EIR Mitigation Measure B-8 specifies pre-construction surveys during the nesting season, avoidance and/or buffer measures to protect special status raptors. Pursuant to this mitigation measure, the project biologist will contact Mr. Mike Smith for information on bald eagle and Golden eagle activity and nesting in the area.

Response 2-6

See Response 10-6.



ARNOLD SCHWARZENEGGER
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE of PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



CYNTHIA BRYANT
DIRECTOR

June 5, 2007

Letter 3
Page 1 of 2

Rayburn Beach
Madera County Planning Department
2037 West Cleveland Avenue
Madera, CA 93637

Subject: North Fork Village Specific Plan
SCH#: 2006011101

Dear Rayburn Beach:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on June 4, 2007, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts
Director, State Clearinghouse

Enclosures
cc: Resources Agency

**Document Details Report
State Clearinghouse Data Base**

Letter 3
Page 2 of 2

SCH# 2006011101
Project Title North Fork Village Specific Plan
Lead Agency Madera County Planning Department

Type EIR Draft EIR
Description The North Fork Village Specific Plan proposes a development of a comprehensive planned conversion of 2,238 acres site to urban uses. The planned community as proposed would consist of 1,437 acres of rural to high density residential units, 172 acres of commercial and mixed use and 629 acres of major open space.

Lead Agency Contact

Name Rayburn Beach
Agency Madera County Planning Department
Phone (559) 675-7821 **Fax**
email
Address 2037 West Cleveland Avenue
City Madera **State** CA **Zip** 93637

Project Location

County Madera
City
Region
Cross Streets Friant Road / Road 206 / Road 145
Parcel No.
Township **Range** **Section** **Base** MBD

Proximity to:

Highways SR 41 and SR 145
Airports
Railways
Waterways Cottonwood Creek, San Joaquin River
Schools
Land Use The present land use is Residential, Industrial, Open Space, and Commercial. The present zoning is Agricultural, and Industrial.

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Drainage/Absorption; Flood Plain/Flooding; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Water Quality; Water Supply; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Conservation; Department of Fish and Game, Region 4; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Services; California Highway Patrol; Caltrans, District 6; Department of Housing and Community Development; Integrated Waste Management Board; Regional Water Quality Control Bd., Region 5 (Fresno); Department of Toxic Substances Control; Native American Heritage Commission; Department of Health Services

Date Received 04/19/2007 **Start of Review** 04/19/2007 **End of Review** 06/04/2007

3.2 - State Agencies

Letter 3. State Clearinghouse (6/5/07)

Response

This letter acknowledging compliance with State Clearinghouse review requirements is noted for the record. It transmits three letters from State agencies that follow as Letter 4 from the State Department of Health Services, Letter 5 from the Department of Water Resources, and Letter 6 from the Department of California Highway Patrol.

State of California—Health and Human Services Agency
Department of Health Services

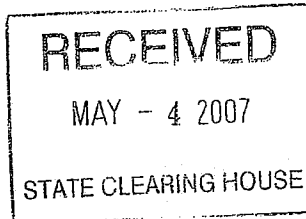


California
Department of
Health Services

SANDRA SHEWRY
Director



ARNOLD SCHWARZENEGGER
Governor



Clear
6/4/07
e

May 2, 2007

LETTER
Letter 4
Page 1 of 2

Rayburn Beach, Planning Director
Madera County Planning Department
2037 W. Cleveland Avenue
Madera, CA 93637

Dear Mr. Beach:

Draft Environmental Impact Report for North Fork Village-1
State Clearinghouse No. 2006011101

I have reviewed the subject draft EIR and have the following comments:

1. The Hydrology and Water Quality Section states that the total potentially recoverable water from the proposed project site is 5,562 acre-feet per year. This section also states that the water demand at buildout is 1,355 acre-feet per year, which is about 24% of the potentially recoverable water. In addition, the estimated sustained yield of the 11 wells is 2,215 acre-feet per year, which is about 40% of the potentially recoverable water. We are concerned that the proportion of potentially recoverable water that will actually recharge the groundwater basin, especially the bedrock fractures that supply water to the 11 wells, will be much less than the above values. 4-1
2. The Hydrology and Water Quality Section states that the proposed project will increase the amount of impervious surfaces which will reduce groundwater recharge. To compensate for the increased amount of impervious surfaces, stormwater basins will be used to percolate stormwater runoff into the existing aquifer. However, the stormwater basins may not be located in areas that will effectively recharge the bedrock fractures that supply water to the 11 wells and provide no benefit or contribution to the groundwater supply for the project. 4-2
3. If the stormwater basins are located too close to the wells, the stormwater may directly recharge the bedrock formations leading to contamination of the water that will require extensive treatment prior to use as a drinking water supply. 4-3



Do your part to help California save energy. To learn more about saving energy, visit the following web site:
www.consumerenergycenter.org/flex/index.html

Southern California Drinking Water Field Operations Branch
1040 E. Herndon Avenue, Suite 205, Fresno, CA 93720
(559) 447-3300; Fax (559) 447-3304
Internet Address: <http://www.dhs.ca.gov/ps/ddwem/>

Rayburn Beach
May 2, 2007
Page 2

Letter 4
Page 2 of 2

If you have any questions regarding this matter, please contact me at (559) 447-3132.

Sincerely,



Carl L. Carlucci, P.E.
Senior Sanitary Engineer
Merced District
SOUTHERN CALIFORNIA BRANCH
DRINKING WATER FIELD OPERATIONS

cc: Madera County Environmental Health Department
Pete Ruggiero, CDHS-ERU
State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044

Letter 4. State Department of Health Services (5/2/07)

Response 4-1

This comment reads: *"We are concerned that the proportion of potentially recoverable water that will actually recharge the groundwater basin, especially the bedrock fractures that supply water to the 11 wells, will be much less than the above values."*

The Hydrogeologic Analysis (Simons Associates) and the Water Supply Assessment (MBA 2006) determined that sufficient supply exists within the groundwater aquifer serving the project. This conclusion was derived from pump tests and analyses by Simons Associates, and includes single and multiple dry water year analyses in compliance with Senate Bill 610.

In addition, neither the Hydrogeologic Analysis nor the Water Supply Assessment account for on-site groundwater recharge mechanisms as provided in the NFV-1 Infrastructure Master Plan. As stated in this report, a total build-out 1,355 acre-feet/year of groundwater demand is offset by approximately 900 acre-feet/year of on-site groundwater recharge. Thus, the total "net" average annual groundwater demand is reduced to less than 450 acre-feet/year, which is less than 10% of the calculated total potentially recoverable water.

Response 4-2

This comment reads: *"All stormwater basins may not be located in areas that will effectively recharge the bedrock fractures that supply water to the 11 wells and provide no benefit or contribution to the groundwater supply for the project."*

Soil conditions found near and around the proposed basins within the project are not of a type and consistency that would prohibit groundwater recharge. In terms of a water balance for the project and for the greater Rio Mesa Area Plan, recharge of accumulated precipitation provides a cumulative groundwater benefit.

Response 4-3

In Section 5.8, the DEIR acknowledges potential long-term water quality impacts from stormwater runoff. Mitigation measures identified in the section include onsite best management practices (BMPs) to be included in a State and County regulatory compliance Storm Water Quality Management Plan (pages 5.8-18 through 5.8-20).

Numerous cities throughout the San Joaquin Valley have wells located adjacent to storm water retention basins which are not contaminated. The project, while utilizing a fractured bedrock aquifer, does not propose direct injection of storm water into said aquifer. Thus, the possibility of contamination of the well system, particularly from a tributary system consisting of residential housing with redundant engineering mechanisms of desiltation, BMPs, and percolation through soil media does not pose a significant risk.

DEPARTMENT OF WATER RESOURCES

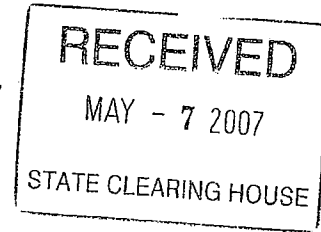
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 942360001
(916) 653-5791

Letter 5
Page 1 of 5



April 26, 2007

clear
6/4/07
e



Rayburn Beach
Madera County Planning Department
2037 West Cleveland Avenue
Madera, California 93637

North Fork Village Specific Plan
State Clearinghouse (SCH) Number: 2006011101

The project corresponding to the subject SCH identification number has come to our attention. The limited project description suggests your project may be an encroachment on the State Adopted Plan of Flood Control. You may refer to the California Code of Regulations, Title 23 and Designated Floodway maps at <http://recbd.ca.gov/>. Please be advised that your county office also has copies of the Board's designated floodways for your review. If indeed your project encroaches on an adopted food control plan, you will need to obtain an encroachment permit from the Reclamation Board prior to initiating any activities. The attached Fact Sheet explains the permitting process. Please note that the permitting process may take as much as 45 to 60 days to process. Also note that a condition of the permit requires the securing all of the appropriate additional permits before initiating work. This information is provided so that you may plan accordingly.

5-1

If after careful evaluation, it is your assessment that your project is not within the authority of the Reclamation Board, you may disregard this notice. For further information, please contact me at (916) 574-1249.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Huitt".

Christopher Huitt
Staff Environmental Scientist
Floodway Protection Section

cc: Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, CA 95814

DEPARTMENT OF WATER RESOURCES

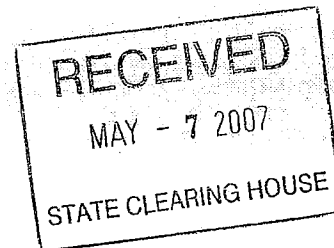
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 942360001
(916) 653-5791

Letter 5
Page 2 of 5



September 20, 2006

Olivia Dias
Madera County Planning Department
2037 West Cleveland Avenue
Madera, California 93637



North Fork Village – 1 Specific Plan
State Clearinghouse (SCH) Number: 2006011101

The project corresponding to the subject SCH identification number has come to our attention. The limited project description suggests a potential encroachment on an Adopted Plan of Flood Control. If indeed your project encroaches on an adopted flood control plan, you will need to obtain an encroachment permit from the Reclamation Board prior to initiating any activities. The attached Fact Sheet explains the permitting process. Please note that the permitting process may take as much as 45 to 60 days to process. Also note that a condition of the permit requires the securing all of the appropriate additional permits before initiating work. This information is provided so that you may plan accordingly.

If after careful evaluation, it is your assessment that your project is not within the authority of the Reclamation Board, you may disregard this notice. For further information, please contact Sam Brandon of my staff at (916) 574-0651.

Sincerely,

Mike Mirmazaheri, Chief
Floodway Protection Section

cc: Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, CA 95814

Encroachment Permits Fact Sheet

Basis for Authority

State law (Water Code Sections 8534, 8608, 8609, and 8710 – 8723) tasks the Reclamation Board with enforcing appropriate standards for the construction, maintenance, and protection of adopted flood control plans. Regulations implementing these directives are found in California Code of Regulations (CCR) Title 23, Division 1.

Area of Reclamation Board Jurisdiction

The adopted plan of flood control under the jurisdiction and authority of the Reclamation Board includes the Sacramento and San Joaquin Rivers and their tributaries and distributaries and the designated floodways.

Streams regulated by the Reclamation Board can be found in Title 23 Section 112. Information on designated floodways can be found on the Reclamation Board's website at http://recbd.ca.gov/designated_floodway/ and CCR Title 23 Sections 101 - 107.

Regulatory Process

The Reclamation Board ensures the integrity of the flood control system through a permit process (Water Code Section 8710). A permit must be obtained prior to initiating any activity, including excavation and construction, removal or planting of landscaping within floodways, levees, and 10 feet landward of the landside levee toes. Additionally, activities located outside of the adopted plan of flood control but which may foreseeable interfere with the functioning or operation of the plan of flood control is also subject to a permit of the Reclamation Board.

Details regarding the permitting process and the regulations can be found on the Reclamation Board's website at <http://recbd.ca.gov/> under "Frequently Asked Questions" and "Regulations," respectively. The application form and the accompanying environmental questionnaire can be found on the Reclamation Board's website at <http://recbd.ca.gov/forms.cfm>.

Application Review Process

Applications when deemed complete will undergo technical and environmental review by Reclamation Board and/or Department of Water Resources staff.

Technical Review

A technical review is conducted of the application to ensure consistency with the regulatory standards designed to ensure the function and structural integrity of the adopted plan of flood control for the protection of public welfare and safety. Standards and permitted uses of designated floodways are found in CCR Title 23 Sections 107 and Article 8 (Sections 111 to 137). The permit contains 12 standard conditions and additional special conditions may be placed on the permit as the situation warrants. Special conditions, for example, may include mitigation for the hydraulic impacts of the project by reducing or eliminating the additional flood risk to third parties that may caused by the project.

Additional information may be requested in support of the technical review of

your application pursuant to CCR Title 23 Section 8(b)(4). This information may include but not limited to geotechnical exploration, soil testing, hydraulic or sediment transport studies, and other analyses may be required at any time prior to a determination on the application.

Environmental Review

A determination on an encroachment application is a discretionary action by the Reclamation Board and its staff and subject to the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code 21000 et seq.). Additional environmental considerations are placed on the issuance of the encroachment permit by Water Code Section 8608 and the corresponding implementing regulations (California Code of Regulations – CCR Title 23 Sections 10 and 16).

In most cases, the Reclamation Board will be assuming the role of a “responsible agency” within the meaning of CEQA. In these situations, the application must include a certified CEQA document by the “lead agency” [CCR Title 23 Section 8(b)(2)]. We emphasize that such a document must include within its project description and environmental assessment of the activities for which are being considered under the permit.

Encroachment applications will also undergo a review by an interagency Environmental Review Committee (ERC) pursuant to CCR Title 23 Section 10. Review of your application will be facilitated by providing as much additional environmental information as pertinent and available to the applicant at the time of submission of the encroachment application.

These additional documentations may include the following documentation:

- California Department of Fish and Game Streambed Alteration Notification (<http://www.dfg.ca.gov/1600/>),
- Clean Water Act Section 404 applications, and Rivers and Harbors Section 10 application (US Army Corp of Engineers),
- Clean Water Act Section 401 Water Quality Certification, and
- corresponding determinations by the respective regulatory agencies to the aforementioned applications, including Biological Opinions, if available at the time of submission of your application.

The submission of this information, if pertinent to your application, will expedite review and prevent overlapping requirements. This information should be made available as a supplement to your application as it becomes available. Transmittal information should reference the application number provided by the Reclamation Board.

In some limited situations, such as for minor projects, there may be no other agency with approval authority over the project, other than the encroachment permit by Reclamation Board. In these limited instances, the Reclamation Board

may choose to serve as the "lead agency" within the meaning of CEQA and in most cases the projects are of such a nature that a categorical or statutory exemption will apply. The Reclamation Board cannot invest staff resources to prepare complex environmental documentation.

Additional information may be requested in support of the environmental review of your application pursuant to CCR Title 23 Section 8(b)(4). This information may include biological surveys or other environmental surveys and may be required at anytime prior to a determination on the application.

Letter 5. State Department of Water Resources (4/26/07)

Response 5-1

Previous reviews of CCR Title 23 and Designated Floodway maps indicate the project does not encroach within an area subject to a State Adopted Plan of Flood Control. An encroachment permit from the Reclamation Board will not be necessary. Upon review of the subject maps as listed at <http://recbd.ca.gov> (San Joaquin River, Sheet 57 - Gravelly Ford to Friant Dam), the conclusion is that an encroachment permit is not required.

Response 5-2

This letter attached to the Department's current letter was prepared as a response to the EIR Notice of Preparation. See Response 5-1.

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL

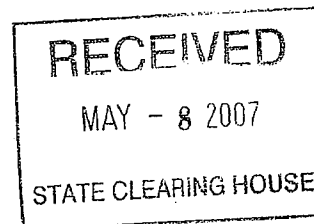
Madera Area
3051 Airport Drive
Madera, CA 93637-8709
(559) 675-1025
(800) 735-2929 (TT/TDD)
(800) 735-2922 (Voice)



Letter 6
Page 1 of 2

May 3, 2007:

File No.: 450.11396.exec.word.sch.2006011101.doc



clear
6/4/07
e

State Clearing House
1400 Tenth Street, Room 121
Sacramento, CA 95814

RE: SCH #2006011101

State Clearing House:

Staff at the Madera office of the California Highway Patrol (CHP) has reviewed the Environmental Impact Report (EIR) regarding the proposed North Fork Village Development Project, (SCH #2006011101). The CHP is the primary agency providing traffic law enforcement, traffic safety, and traffic management of the unincorporated areas within Madera County. After a thorough review of this document, we offer the following comments:

The proposed development is located within the jurisdictional responsibility of the Madera CHP Command. The CHP strongly believes there will be a significant increase in vehicular traffic as a result of this project. Mostly, there will be an increase of traffic patterns during ingress and egress, resulting in daily trips from single family dwellings to places of employment. The EIR identified the development project as a two phase project. The first being a 750 residential unit development and phase two consisting of a 2,966 residential and commercial uses at build-out. The EIR estimates approximately 7,178 daily vehicle trips will be generated directly from this project.

6-1

The three major intersections in this vicinity will definitely be impacted:

- State Route (SR) 41 at Road 145
- Road 206 at Rio Mesa Boulevard
- Road 206 at Friant Road (this intersection is within the County of Fresno)

6-2

The recommended mitigation for these intersections is the installation of electronic traffic controlled equipment. The EIR reflects roadway improvements for Road 145 at Cottonwood Drive, prior to the first certificate of occupancy. The remaining roadways also reflect improvements.

State Clearing House
May 3, 2007
Page 2

Letter 6
Page 2 of 2

The three major intersections indicate full electronic traffic controlled equipment improvements, when warranted by traffic conditions. The CHP strongly believes these intersections should receive electronic traffic control upgrades at the first certificate of occupancy.

6-2
CONT.

According to the United States Census Bureau, the average U.S. Household population consists of 3.86 members. This increase may have an impact upon the School District busing. The CHP regulates all school buses and drivers in Madera County.

6-3

Staff will consider the North Fork Village Development Project and the additional responsibilities related directly to this increase of responsibility during future Strategic Planning.

Should there be questions regarding these comments, please contact me at (559) 675-1025.

Sincerely,



D. PARIS, Lieutenant
Commander
Madera Area

cc: Special Projects Section – CHP
Central Division – CHP

Letter 6. Department of California Highway Patrol (5/3/07)

Response 6-1

The significant increase in vehicular traffic referenced in this comment is documented in EIR Section 5.15 Traffic and Circulation. The description of the 2-phase project in this comment is not accurate, however. The first phase of development is approximately 750 residential units, represented by the Vesting Tentative Tract Map (Exhibit 3-7). Weekday traffic volumes from the Phase 1 residential development are estimated at 7,178 trips (Table 5.15-6). The second phase is comprised of the *remainder* of the total 2,966 residential units (approximately 2,216 units) plus planned commercial uses.

Response 6-2

A traffic signal exists at SR-41 and Road 145. Mitigation measure 5.15.TC-1 calls for the installation of a traffic signal at the intersection of Road 206 and Rio Mesa Blvd. prior to the 1st certificate of occupancy. Mitigation measure 5.15.TC-3 calls for a traffic signal at Friant Road and Road 206 when warrants are met. The project traffic study shows the project contributes 31.8 percent of the total traffic at the intersection. Thus, the applicant proposes contributing 35 percent of the total construction costs of a new traffic signal at Friant Road and Road 206. Assuming total engineering design and construction of a new signal to be \$400,000 dollars, the project will contribute a total mitigation amount of \$140,000 to the County of Fresno. This will be paid as \$186.67 per dwelling unit at close of escrow at each of the first 750 dwelling units in the NFV-1 Specific Plan. The mitigation measures for these impacted intersections are detailed in the EIR, including installation of traffic signals when warranted. The installation of signals when warrants are met is consistent with County policy and State highways standards.

Response 6-3

Consistent with the County of Madera average, approximately 3.0 persons per household are projected for the NFV-1 project. The project includes a school site that, when operational, will reduce the need for school busing. CHP regulatory authority over school buses and drivers is noted.

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
 SACRAMENTO, CA 95814
 (916) 653-4082
 (916) 657-5390 - Fax



April 25, 2007

Letter 7
 Page 1 of 4

Mr. Rayburn Beach
 Madera County Planning Department
 2037 West Cleveland Avenue
 Madera, CA 93637

RE: SCH#2006011101- North Fork Village Specific Plan: Madera County.

Dear Mr. Beach:

The Native American Heritage Commission (NAHC) has reviewed the Notice of Preparation (NOP) referenced above. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA Guidelines 15064(b)). To comply with this provision the lead agency is required to assess whether the project will have an adverse impact on historical resources within the area of project effect (APE), and if so to mitigate that effect. To adequately assess and mitigate project-related impacts to archaeological resources, the NAHC recommends the following actions:

- ✓ Contact the appropriate Information Center for a record search to determine:
 - If all or a part of the APE has been previously surveyed for cultural resources.
 - If any known cultural resources have already been recorded on or adjacent to the APE.
 - If the probability is low, moderate, or high that cultural resources are located in the APE.
 - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
 - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
 - A Sacred Lands File Check.
 - Please describe the project's location in terms of USGS quadrangle name, township, range, and section.
 - A list of appropriate Native American Contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contact List Attached**
 The NAHC makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend other with specific knowledge. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received. If you receive notification of change of addresses and phone numbers from any these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information.

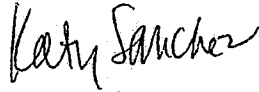
7-1

Lack of surface evidence of archeological resources does not preclude their subsurface existence. Lead agencies should include in their mitigation plan:

- Provisions for the identification and evaluation of accidentally discovered archeological resources, per CEQA Guidelines §15064.5(f).
- Provisions for monitoring all ground-disturbing activities in areas of identified archaeological sensitivity by a archaeologist meeting the professional qualifications as defined in the in the *Secretary of the Interior's Standards and Guidelines* for archaeology and a culturally affiliated Native American monitor.
- Provisions for the curation of recovered artifacts, per CEQA Guidelines 15126.4(5)(b)(3)(C), in consultation with culturally affiliated Native Americans.

- Provisions for discovery of Native American human remains. Health and Safety Code §7050.5, CEQA Guidelines §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,



Katy Sanchez
Program Analyst
(916) 653-4040

CC: State Clearinghouse

Native American Contacts
Madera County
April 25, 2007

Picayune Rancheria of Chuckchansi
Durtta Graham, Chairperson
46575 Road 417
Coarsegold, CA 93614
dgraham@chukchansi.com
(559) 683-6633
(559) 683-0599 - Fax

Chuckchansi / Yokut

Sierra Nevada Native American Coalition
Lawrence Bill, Interim Chairperson
P.O. 125
Dunlap, CA 93621
lb2354@yahoo.com
(559) 338-2354
Mono
Foothill Yokuts

Southern Sierra Miwuk Nation
Jay Johnson, Spiritual Leader
5235 Allred Road
Mariposa, CA 95338-9357
209-966-6038

Miwok
Pauite
Northern Valley Yokut

Southern Sierra Miwuk Nation
Anthony Brochini, Chairperson
P.O. Box 1200
Mariposa, CA 95338
tony_brochini@nps.gov
209-379-1120
209-628-0085 cell
Miwok
Pauite
Northern Valley Yokut

Katherine Erolinda Perez
PO Box 717
Linden, CA 95236
canutes@verzion.net
(209) 474-2602

Ohlone/Costanoan
Northern Valley Yokuts
Bay Miwok

Picayune Rancheria of Chuckchansi
Sammuel Elizondo, Environmental Director
46575 Road 417
Coarsegold, CA 96314
selizondo@chukchansi.com
559-683-6633
Chuckchansi / Yokut

North Valley Yokuts Tribe
Katherine Erolinda Perez
PO Box 717
Linden, CA 95236
canutes@verizon.net
(209) 474-2602

Ohlone/Costanoan
Northern Valley Yokuts
Bay Miwok

Picayune Rancheria of Chuckchansi
Mary Motola, Cultural Specialist
46575 Road 417
Coarsegold, CA 93641
mmotola@chukchansi.com
559-683-6633
Chuckchansi / Yokut

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2005011101, North Fork Village Specific Plan; Madera County.

Native American Contacts
Madera County
April 25, 2007

Kenneth Woodrow
1179 Rock Haven Ct. Foothill Yokuts
Salinas , CA 93906 Mono
831-443-9702

Southern Sierra Miwuk Nation
Les James, Spiritual Leader
PO Box 1200 Miwok
Mariposa , CA 95338 Pauite
209-966-3690 Northern Valley Yokut

Chaushiha Tribe
Jerry Brown
10553 N. Rice Road North Valley Yokuts
Fresno , CA 93720
559-434-3160

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2006011101, North Fork Village Specific Plan; Madera County.

Letter 7. Native American Heritage Commission (4/25/07)

Response 7-1

This letter repeats the comments sent by the Native American Heritage Commission (NAHC) in response to the Notice of Preparation (Appendix A). The letter outlines recommendations for adequate assessment of impacts to cultural resources in compliance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines, contacts for Native American consultation, and the treatment of discovered Native American human remains in compliance with the Health and Safety Code and related provisions of the Public Resources Code. These recommendations have been followed in the preparation of the Cultural Resources Survey Report for the NFV-1 project (Appendix D), and are reflected in EIR Section 5.5, Cultural Resources.

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



May 31, 2007

Letter 8
Page 1 of 2

Rayburn Beach
Madera County Planning Department
2037 West Cleveland Avenue
Madera, CA 93637

RE: North Fork Specific Plan, SCH# 2006011101

Dear Mr. Beach:

As the state agency responsible for rail safety within California, we recommend that any development projects planned adjacent to or near the rail corridor in the County be planned with the safety of the rail corridor in mind. New developments may increase traffic volumes not only on streets and at intersections, but also at at-grade highway-rail crossings. This includes considering pedestrian circulation patterns/destinations with respect to railroad right-of-way.

8-1

Safety factors to consider include, but are not limited to, the planning for grade separations for major thoroughfares, improvements to existing at-grade highway-rail crossings due to increase in traffic volumes and appropriate fencing to limit the access of trespassers onto the railroad right-of-way.

Of specific concern is the cumulative impact from increased traffic from this project along with River Ranch Estates (SCH#1996072055), Tesoro Viejo development (SCH# 200611123) and the Gateway Village project (SCH# 2005091071) on the existing at-grade highway-rail crossings in the vicinity. Although the projects mentioned are not in the immediate vicinity of rail corridors, most of the traffic accessing the projects will cross over one or both railroad mainline to get to or from SR 99. Each project should pay its fair-share toward improving the impacted crossings.

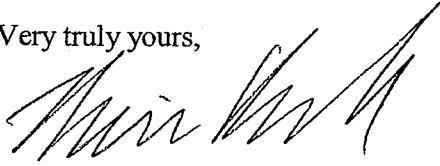
8-2

The above-mentioned safety improvements should be considered when approval is sought for the new development. Working with Commission staff early in the conceptual design phase will help improve the safety to motorists and pedestrians in the County.

If you have any questions in this matter, please call me at (415) 703-2795.

Letter 8
Page 2 of 2

Very truly yours,



Kevin Boles
Environmental Specialist
Rail Crossings Engineering Section
Consumer Protection and Safety Division

cc: Jim Smith, Union Pacific Railroad
John Stilley, BNSF

1001 8 1996

Letter 8. Public Utilities Commission (5/31/07)

Response 8-1

The safety factors for rail crossings are noted. The proposed project is not located adjacent to or near any rail corridor in Madera County and no significant impact on rail crossings is anticipated.

Response 8-2

The County is prepared to work with the Commission to assure the continued safety of motorists and pedestrians at existing rail mainline crossings.



DEPARTMENT OF FISH AND GAME

<http://www.dfg.ca.gov>

Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4014



LEI Letter 9
Page 1 of 15

June 1, 2007

Rayburn Beach
County of Madera
Planning Department
2037 West Cleveland Avenue
Madera, California 93637

Dear Mr. Beach:

**Draft Environmental Impact Report (DEIR)
Friant Development Corporation
North Fork Village 1 Specific Plan**

The Department of Fish and Game (Department) has reviewed the DEIR submitted by the County of Madera Planning Department (County) for the above North Fork Village 1 community development project (Project). Approval of the Project would allow for the development of 2,238 acres into a planned community within the Rio Mesa Area Plan (RMAP). The RMAP was adopted by the Madera County Board of Supervisors in 1995 and is designed around a village layout in which three village cores provide the focus for mixed density residential, commercial, and public uses on approximately 15,000 acres located between State Route 41, State Route 145, and the San Joaquin River in Madera County.

The Project is the first of the planned village developments within the RMAP and is situated 1 mile northwest of the town of Friant on approximately 2,238 acres bounded by the Sierra Nevada foothills to the north, Road 206 to the west and to the south, and Lake Millerton to the east. The Project includes 1,437 acres of residential (rural to high density), 172 acres of mixed use and non-residential (commercial/office), and 629 acres in open space including open space natural (589 acres), open space preserve (28 acres), and open space use (12 acres). Based on the proposed densities, up to 2,966 dwelling units would be built. Currently, the property is utilized as open grassland pasture and leased for cattle grazing.

9-1

On March 2, 2006, the Department commented on a Notice of Preparation (NOP) for the DEIR and on November 6, 2006, the Department commented on two consultation requests for parcel map subdivision reviews for projects that are located within the area defined in the Project DEIR. As the Project is now proposed, approximately 72 percent of the Project site will be disturbed or otherwise impacted. The remaining 28 percent of the Project area considered in the DEIR to be classified as "open space" is planned to be developed into community recreational or

9-2

Rayburn Beach
June 1, 2007
Page 2

managed park space, re-vegetated area, or left as undisturbed grassland/riparian habitat. All of the acreage defined in the DEIR as open space is not contiguous and therefore, no longer viable as functioning habitat for use as species migration corridors, dispersal, or home range.

9-2
CONT.

In the above referenced comment letters to the Madera County Planning Department, we identified the following resource impacts and issues of concern with regard to the Project and subject to the Department's jurisdictional authority:

- "Take" ("take" as defined in Fish and Game Code Section 86) of State-listed species, and State species of special concern.
- "Take" ("take" as defined in Section 3 of the Federal Endangered Species Act of 1973) of Federally-listed species and Federal species of concern.
- Substantial loss or degradation of vernal pool, wetland, and surrounding upland habitat, and the species dependent upon such habitat.
- Substantial loss or degradation of riparian habitat.
- Substantial loss or degradation of non-native grassland.
- Removal of mature oak trees and degradation of blue-oak habitat.
- Disturbance and/or removal of elderberry shrubs, which is the required host plant for the Federally-listed threatened Valley elderberry longhorn beetle.
- Potential loss of nesting and foraging habitat ("take") for the State and/or Federally-listed Swainson's hawk, bald eagle, and white-tailed kite.
- Potential disturbance of other nesting raptors or non-game migratory birds.
- The loss of habitat ("take") for State and/or Federally-listed plant species such as Hartweg's golden sunburst and succulent owl's clover.
- Impacts to other special status plants that may occur on the Project site.
- Interference with daily and season animal movement, foraging, and migration patterns.
- Impacts to wildlife population from increased vehicle-related mortalities associated with increased traffic volumes.
- Conflicts between humans and wildlife in the residential areas including garden and landscape depredation from deer and other wildlife, property destruction, and predation on domestic pets from predators including mountain lion, bobcat, and coyote.

9-3

Rayburn Beach
June 1, 2007
Page 3

- Potential impacts to the water quality of the San Joaquin River, Cottonwood Creek, and other blue-lined streams from construction activities, polluted runoff from equipment usage, residential and commercial development, increased road traffic, parking, and erosion.
- Depletion and degradation of the local groundwater table and subsequent impacts to the downstream water supply.

9-3
CONT.

The Department continues to have substantial concerns regarding the potential Project-related impacts to special status biological resources known to occur within the Project area. The Executive Summary of the DEIR suggests that through the implementation of the mitigation measures outlined under Section 5.4 (Biological Resources) that all of the impacts to riparian, vernal pool, oak woodland, and grassland habitat as well as the impacts to the special status species that utilize these habitat types, will be reduced to a level of described as "less than significant". The Department does not concur and in most cases, the proposed mitigation measures for some species as outlined in the DEIR cannot prevent or reduce the Project's significant impacts as outlined above.

9-4

To be considered adequate, mitigation measures should be specific, feasible actions that will actually improve adverse environmental conditions, and should be measurable to allow monitoring and enforcement of their implementation (California Environmental Quality Act (CEQA) Guidelines, Section 15370). In general, the mitigation measures under Section 5.4 do not fully avoid, minimize, rectify, reduce or eliminate impacts to biological resources; but rather propose to compensate off-site for the significant environmental effect of the proposed Project, or defer mitigation to the undetermined requirements of potential permits pursuant to the California and Federal Endangered Species Acts. Moreover, based on the sizable number of proposed projects for the San Joaquin River corridor/Friant area, despite the mitigation proposed for the North Fork Village Project, the level of significance for impacting biological resources in the execution of this and other planned projects is expected to be cumulatively significant. These issues should be evaluated and addressed more fully in DEIR.

9-5

Botanical surveys of the Project site for Hartweg's golden sunburst were conducted in the Spring of 2000; later, a preliminary biological survey was conducted by Live Oak Associates, Inc. during the Spring of 2004; and Live Oak Associates also conducted surveys of the Project site for wetlands and drainages in December 2004 and January 2005. In order to adequately assess any potential impacts to biological resources, additional focused biological surveys may need to be conducted by a qualified wildlife biologist/botanist during the appropriate survey period(s) in order to

9-6

Rayburn Beach
June 1, 2007
Page 4

determine whether or not any special status species may be present within the Project area. This information is necessary to identify any mitigation, minimization, and avoidance measures. Properly conducted biological surveys, and the information assembled from them, are essential to adequately identify any Project-related impacts under CEQA and the California Endangered Species Act (CESA).

9-6
CONT.

Our more detailed comments, primarily focused on compliance with CESA and Section 1600 (Streambed Alteration) of the Fish and Game Code, follow.

Department Jurisdiction

Trustee Agency Authority: The Department is a Trustee Agency with responsibility CEQA for commenting on projects that could impact plant and wildlife resources. Pursuant to Fish and Game Code Section 1802, the Department has jurisdiction over the conservation, protection and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of those species. As a Trustee Agency for fish and wildlife resources, the Department is responsible for providing, as available, biological expertise to review and comment upon environmental documents and impacts arising from project activities, as those terms are used under CEQA (Division 13 (commencing with Section 21000) of the Public Resources Code).

9-7

California Endangered Species Act (CESA): The Department has regulatory authority over projects that could result in the "take" of any species listed by the State as threatened or endangered pursuant to Fish and Game Code Section 2081. If the Project could result in the "take" of any species listed as threatened or endangered under CESA, the Department may need to issue an Incidental Take Permit for the Project. CEQA requires a Mandatory Finding of Significance if a project is likely to substantially impact threatened or endangered species (Sections 21001(c), 21083, Guidelines Sections 15380, 15064, 15065). Impacts must be avoided or mitigated to less than significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code Section 2080.

Several State and Federally-listed endangered and/or threatened species and species of concern are known to occur within the Project area and in the vicinity. Therefore, the Project has the potential to reduce the number or restrict the range of the following endangered, rare, or threatened species (as defined in Section 15380 of CEQA):

9-8

Rayburn Beach
June 1, 2007
Page 5

<u>Species</u>	<u>Listing</u>
Hartweg's golden sunburst <i>Pseudobahia bahifolia</i>	State-listed - Endangered Federally-listed - Endangered
Succulent owl's clover <i>Castilleja campestris ssp. succulenta</i>	State-listed - Endangered Federally-listed - Threatened
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	Federally-listed - Threatened
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	Federally-listed - Endangered
California tiger salamander <i>Ambystoma californiense</i>	Federally-listed - Threatened
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	Federally-listed - Threatened
Golden eagle <i>Aquila chrysaetos</i>	State-listed - Fully protected
Bald eagle <i>Haliaeetus leucocophalus</i>	State-listed - Fully protected Federally-listed - Threatened
White tailed kite <i>Elanus caeruleus</i>	State listed - Fully protected
Least Bell's vireo <i>Vireo bellii pusillus</i>	State listed - Endangered Federally listed - Endangered
Swainson's Hawk <i>Buteo swainsonii</i>	State listed - Threatened

The following special status species may also be present: spiny sepaled button celery (*Eryngium spinosepalum*), Madera leptosiphon (*Leptosiphon serrulatus*), western pond turtle (*Clemys marmorata*), western spadefoot toad (*Spea hammondi*), midvalley fairy shrimp (*Branchinecta mesovallensis*), and burrowing owl (*Athene cunicularia*).

9-8
CONT.

Rayburn Beach
June 1, 2007
Page 6

Although burrowing owls are not listed under CESA, impacts to burrowing owl and their nest burrows must be avoided in order to comply with the Federal Migratory Bird Treaty Act (MBTA) and Fish and Game Code Sections 3503, 3503.5, and 3513, which are explained in more detail below.

9-9

Additional biological survey results should be submitted to Department and to the United States Fish and Wildlife Service (USFWS), which regulates activities that may result in take of species listed under the Federal Endangered Species Act (FESA).

9-10

Stream Alteration Notification and Responsible Agency Authority: The Department also has regulatory authority with regard to activities occurring in streams (which includes ephemeral streams, washes, etc.). The aerial photographs, topographic maps, and the formal wetland delineation conducted by Live Oak Associates, Inc. identify numerous surface water channels (Cottonwood Creek and other blue-lined streams) and wetlands within the Project site. For any activity that will divert or obstruct the natural flow, or change the bed, channel, or bank of a river or stream, remove riparian vegetation, or use material from a streambed, the Department may require a Stream Alteration Agreement (SAA) pursuant to Fish and Game Code Section 1600 et seq. We recommend contacting Brian Erlandsen, at (559) 243-4014, extension 231 for further information regarding SAA notification requirements.

9-11

The issuance of both an Incidental Take Permit and a SAA is subject to CEQA review. The CEQA document prepared for this Project should identify the Department as a Responsible Agency and should describe and address the potential impacts to listed species, as well as riparian and stream resources. The CEQA document should also provide adequate avoidance, mitigation, monitoring, and reporting commitments.

9-12

Fully Protected Species: The Department has jurisdiction over fully protected species of birds, mammals, amphibians, reptiles, and fish pursuant to Fish and Game Code Sections 3511, 4700, 5050, and 5515. Take of any fully protected species is prohibited and the Department cannot authorize their "take" for development. The golden eagle, bald eagle, and the white-tailed kite are fully protected species that are known to nest and forage in the Project area vicinity, and could use the Project site for foraging, nesting, and roosting purposes. Further, during the preliminary biological survey, a golden eagle was observed foraging within the Project site. The DEIR does address the need for pre-construction surveys for nesting raptors (mitigation measure B-6 and B-8) and states that for the bald eagle, "a minimum distance of 500 feet between occupied nests and proposed construction activities may be required." However, the DEIR does not include the

9-13

Rayburn Beach
June 1, 2007
Page 7

potential impacts to the other fully protected species known to occur in the Project area and vicinity. Therefore, the DEIR needs to be revised to include appropriate *species specific* avoidance and minimization measures for all fully protected species that includes definitive measures which will be employed to prevent the potential for "take".

9-13
CONT.

Bird Protection: The Department has jurisdiction over actions which may result in the disturbance or destruction of active nest sites or the unauthorized "take" of birds. Fish and Game Code Sections that protect birds, their eggs and nests include, Section 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory non-game bird). Since many mature trees and other vegetation is present on the Project site and presumably will need to be removed for implementation of the proposed Project, appropriate avoidance and minimization measures for raptors and other nesting birds potentially present in the Project area should be included in the CEQA document prepared for this Project. Consistent with this recommendation, mitigation measure B-8 discusses the need for pre-construction surveys if ground disturbance is to occur during the nesting season and a minimum 250 foot buffer will be established if an occupied nest is discovered.

9-14

Water Pollution: Pursuant to Fish and Game Code Section 5650, it is unlawful to deposit in, permit to pass into, or place where it can pass into the "Waters of the State" any substance or material deleterious to fish, plant life, or bird life, including non-native species. The Regional Water Quality Control Board also has jurisdiction regarding discharge and pollution to "Waters of the State".

It is likely that without mitigation measures this Project could result in pollution of "Waters of the State" from increased road, parking, stormwater runoff, or construction-related erosion. This could impact the fish and wildlife resources associated with the San Joaquin River, Cottonwood Creek, Millerton Lake, and other surface waters by causing: increased sediment input from structure and road runoff; toxic runoff from household, landscape, and other chemicals; and impairment of wildlife movement along riparian corridors.

9-15

Potential Project Impacts and Recommendations

Listed Plant Species: There are State and Federally-listed plant species (Hartweg's golden sunburst and succulent owl's clover) known to occur in the Project area and/or vicinity and could occur within a portion or throughout the Project area.

9-16

Rayburn Beach
June 1, 2007
Page 8

During a 2000 survey for Hartweg's golden sunburst, thousands of plants were observed in an approximately 11.5 acre area south of Cottonwood Creek. Focused, repeated surveys should be conducted multiple times during the appropriate floristic period(s) in order to adequately assess the potential Project-related impacts to listed plant species. The survey completed in 2000 appears to have been conducted only once during the flowering period and it is uncertain if the entire 2,000 + acre Project site was surveyed and if surveys were conducted for more than one plant species.

The DEIR states a 28.7 acre open space preserve will be designated as a "permanent sanctuary" for Hartweg's golden sunburst; 7.4 acres of this proposed preserve is known to support this species. However, in the build-out of the Project as planned, 4.1 acres of the site known to sustain this plant would be eliminated and this constitutes a net loss of approximately 36 percent of the known extant population of the Project site located south of Cottonwood Creek. The DEIR does suggest (mitigation measure B-1) that compensation for the loss of the 4.1 acres could occur in the form of plant relocation and/or alternate site restoration. However, the success of this type of mitigation is questionable, and attempts at this with other species of sensitive plants that do not have the specific soil requirements of the Hartweg's golden sunburst (and hence should respond better to relocation) have met with limited success. Further, the DEIR does not discuss the need for a formal mitigation plan both for the preserve area and any potential relocation/restoration sites including parameters for alternate site selection, monitoring, invasive species (weed) control, or the establishment of test plots prior to habitat destruction.

9-16
CONT.

The DEIR also suggests a succeeding form of compensation as an alternative to avoidance; that is the acquisition of habitat off-site at a ratio of 2:1 or 3:1, or the purchase of credits from a conservation bank. Based on the known rarity of occurrences for this plant, the Department does not believe the acquisition of appropriate off-site habitat acreage is a viable compensation option as opportunities to purchase suitable mitigation lands will probably not be feasible. Moreover, there is not an approved mitigation bank in the Madera County service area that is permitted to sell Hartweg's golden sunburst credits. Therefore, the Department recommends these mitigation and compensation options be removed from the DEIR.

The Department deems the loss of any acreage supporting this plant as highly significant and avoidable. Authorizing the high level of take which is proposed in the DEIR is unacceptable for a species as rare and as limited in distribution as Hartweg's golden sunburst. As with all Incidental Take Permit applications, an analysis of the potential for jeopardy associated with the proposed actions would be

9-17

Rayburn Beach
June 1, 2007
Page 9

made. It is important to note that it would be difficult, if not impossible, for the Department to authorize the proposed take and make a "no jeopardy" finding. A jeopardy finding would preclude the Department from authorizing take. The USFWS would have to make a similar analysis under the FESA, since this species is also listed as Endangered by the Federal government. Thus, we recommend that additional avoidance measures be incorporated into the DEIR. Of the 20 Hartweg's golden sunburst occurrences documented historically, only 13 are presumed extant (John Stebbins, pers comm.). The main areas of concentration for this species are near Friant on either side of the San Joaquin River, which includes the Project area, and in and near Cooperstown in Stanislaus County. These two areas incorporate 99 percent of the individual plants that have been counted in the last decade (DFG California Natural Diversity Database). In the correspondence by the Department dated March 2, 2006; the Department stated it considers the population of Hartweg's golden sunburst located on the Project site as significant both in terms of the considerable proportion it represents of the known statewide population, as well as to the value of the potential recovery of the species as a whole. Therefore, the Department believes the entire population of the Federally and State-listed endangered plant on the Project site should be preserved.

9-17
CONT.

Also, additional focused surveys of the Project site should be conducted by a qualified botanist with previous experience in conducting surveys for Hartweg's golden sunburst, succulent owl's clover, spiny-sepaled button celery, and Madera leptosiphon during the appropriate floristic period. Surveys should be conducted according to the Department and USFWS approved methodologies for special status plant species. Mitigation measure B-3 does state that focused botanical survey(s) for vernal pool plant species (i.e.: succulent owl's clover, spiny-sepaled button celery, San Joaquin orcutt grass) will be conducted following the above-referenced guidelines to determine presence/absence. However, the DEIR also states no further surveys for Hartweg's golden sunburst need to be done; the Department does not concur that the current level of completed surveys, as described in the DEIR, provides adequate information. The initial survey conducted for this species in the Spring of 2000 does not appear to have been conducted throughout the entire 2,238 acre Project site, and the additional recommended surveys for this species could be incorporated into the planned surveys for other special status plant species. Results of these surveys should be provided to the Department and the USFWS for review.

9-18

Plants listed as threatened or endangered under CESA cannot be addressed by methods described in the Native Plant Protection Act without incidental "take" authority secured under Sections 2080.1 or 2081 of the Fish and Game Code. Moreover, depending upon the status of the statewide population (including size, vigor, and potential and cumulative threats), and the adequacy of the recommended

9-19

Rayburn Beach
June 1, 2007
Page 10

additional specific Project-related avoidance measures, the Department may need to consider issuing a jeopardy opinion for this species as part of the State Incidental Take Permit process.

9-19
CONT.

Valley elderberry longhorn beetle: According to the preliminary biological survey, the Project site also contains elderberry shrubs, removal and trimming of which is regulated by the USFWS pursuant to their implementation of the FESA. Preceding elderberry removal, appropriate mitigation should be determined, and prior to any subsequent project approvals, we recommend early consultation with the USFWS.

9-20

Riparian Habitat and Wetlands: Riparian habitat is of extreme importance to a wide variety of plant and wildlife species. Riparian habitat, vernal pools, and swales are known to exist within the proposed Project area and four distinct vernal pools, multiple swale complexes, seeps, and wetlands were mapped during a wetland delineation conducted in December 2004 and January 2005. Further, the southern portion of the Project site is located in an area designated under the USFWS vernal pool recovery plan as a "core" habitat area where the natural ecosystem processes and functions should be protected.¹ By identifying this area for protection under the recovery plan, the objective is to maintain viable populations of listed species and species of concern associated with the vernal pool ecosystem, and to prevent additional threats from emerging over time. Moreover, the area is also identified by the USFWS as critical habitat (Unit 15L) for the recovery of the Federally-listed vernal pool species including the Federally-listed threatened vernal pool fairy shrimp (*Branchinecta lynchi*).²

9-21

The Department considers projects that impact these resources as significant if they result in a net loss of acreage or habitat value. The Department has a no-net-loss policy regarding impacts to wetlands. Potential impacts to special status resources posed by wetland creation should also be considered. Wetlands that have been inadvertently created by leaks, dams or other structures, or failures in man-made water systems are not exempt from this policy.

¹ U.S. Fish and Wildlife Service, December 15, 2005, *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon*.

² U.S. Fish and Wildlife Service, Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon (Final Rule as Published in the Federal Register, 50 CFR, Part 17, Vol. 70, No. 154, Thursday August 11, 2005 and Species by Unit Designation Vol. 71, No. 28, Friday February 10, 2006); and U.S. Fish and Wildlife Service, Evaluation of Economic Exclusions From August 2003 Final Designation, Final Rule (Final Rule as Published in the Federal Register, 50 CFR, Part 17, Vol. 70, No. 154, Thursday August 11, 2005 and Species by Unit Designation Vol. 71, No. 28, Friday February 10, 2006).

Rayburn Beach
June 1, 2007
Page 11

In addition, the Department recommends delineating all surface waters and wetlands with the following minimum no disturbance buffers. Depending upon what Project-related activities are proposed in these areas, larger buffers may be warranted to avoid impacts.

- A 250-foot no-disturbance buffer from the high water outside edge around all vernal pools and swales.
- The riparian vegetation along waterways should be protected with a 200-foot no-disturbance buffer delineated from the high water mark of each surface water body.
- A 100-foot no-disturbance buffer around the high water mark of each surface water channel that has no riparian vegetation.

9-22

Wetlands should be designated on a site map and included in the final environmental documents and the size of the buffers should be clearly delineated both on the map and in the text of the mitigation measures.

California tiger salamander (CTS): Protocol biological surveys should be conducted in areas with seasonal wetlands and associated uplands by qualified biologists at the appropriate time of year to determine the existence and extent of wildlife resources and special status species on-site, such as the CTS. It is important to note that protocol surveys for the CTS include both wetland and upland habitat surveys, and may require more than one survey season. Mitigation measure B-5 suggests that focused surveys for CTS will be conducted according to USFWS guidelines. The results of these surveys should be submitted to the Department and USFWS.

9-23

Take under the FESA is more stringently defined than the CESA; take under FESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting.

The Department recommends consultation with the USFWS in order to comply with FESA well in advance of Project implementation.

Swainson's hawk: This State-threatened species is known to nest within 1 mile of the general Project area and it is highly probable that this species nests within or closer to the area than the observations currently reported in the California Natural Diversity Database (CNDDDB). Impacts to known nest trees should be avoided at all times of year. To avoid such impacts, prior to development of the Project, surveys for nesting raptors should be conducted following the survey methodology

9-24

Rayburn Beach
June 1, 2007
Page 12

developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC, 2000) prior to any disturbance within 5 miles of a potential nest tree (DFG, 1994). These surveys, the parameters of which were designed to optimize detectability, must be conducted to reasonably assure the Department that take of this species will not occur as a result of disturbance associated with Project implementation. In the event that this species is detected during protocol-level surveys, consultation with the Department is warranted to discuss how to implement the Project and avoid take. Mitigation measure B-7 of the DEIR discusses the need for pre-construction surveys and establishes buffer distances consistent with the recommendations of the SWHA TAC. If avoidance of a known nest tree is not feasible, consultation with the Department is warranted prior to taking any action and a determination of take potential under CESA or under Fish and Game Code Sections 3503.5 and 3513 will be made.

9-24
CONT.

Removal of mature trees is a potentially significant impact to nesting raptors that should be mitigated. The Department considers removal of known raptor nest trees, even outside of the nesting season, to be a significant impact under CEQA, and in the case of Swainson's hawk could also result in take under CESA. This is especially true with species such as Swainson's hawk that exhibit high site fidelity to their nest and nest trees year after year. Regardless of nesting status, trees that must be removed should be replaced with an appropriate native tree species planting at a ratio of 3:1 in an area that will be protected in perpetuity. This mitigation is needed to offset potential impacts to the loss of potential nesting habitat.

The mitigation for the approximate loss/disturbance of greater than 1,500 acres of foraging habitat expected to occur in the execution of the Project is only minimally discussed in the DEIR. Impacts to potential Swainson's hawk foraging habitat should be mitigated regardless of whether or not "take" will occur. Consistent with the Department's Staff Report regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California (November 1, 1994), impacts to foraging habitat should be mitigated by the purchase of conservation easements and/or fee title acquisition of suitable foraging habitat on a 1:1 (acre for acre) ratio, as well as establishment of an associated management endowment to fund management of these lands in perpetuity. If agricultural easements are proposed, provisions need to be included in the easements to maintain the parcel(s) in such suitable foraging habitat as alfalfa; fallow fields; beet, tomato, and other low growing row crops; dry-land and irrigated pasture; and cereal grain crops. Vineyards, orchards, cotton fields, and other dense vegetation do not provide adequate foraging habitat. Prior to Project implementation (e.g. ground breaking) acquisition of these mitigation lands and the establishment of the funding mechanism should be secured and evidence of these transactions provided to the Department.

9-25

Rayburn Beach
June 1, 2007
Page 13

Burrowing Owl: Burrowing owls are known to occur within and near the Project area. If any ground disturbing activities will occur during the burrowing owl nesting season (approximately February 1 through August 31) implementation of avoidance measures is required. The Department's Staff Report on Burrowing Owl Mitigation (CDFG 1995) recommends that impacts to occupied burrows be avoided by implementation of a no-construction buffer zone of a minimum distance of 250 feet, unless a qualified biologist approved by the Department verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Failure to implement this buffer zone could cause adult burrowing owls to abandon the nest, cause eggs or young to be directly impacted (crushed), and/or result in reproductive failure.

9-26

Mitigation measure B-9 of the DEIR states that a pre-construction site survey will be conducted no more than 30 days before the onset of ground disturbing activities. Further, if pre-construction surveys determine that burrowing owls occupy the site, mitigation measure B-9 states that during the non-breeding season, a passive relocation effort may be instituted. This is consistent with the Department's Staff Report.

The Department's Staff Report on Burrowing Owl Mitigation also recommends that a minimum of 6.4 acres of foraging habitat per pair or unpaired resident burrowing owl should be acquired and permanently protected to offset the loss of foraging and burrowing habitat. Mitigation measure B-9 briefly addresses this provision.

Oak Woodlands: CEQA was amended to include Public Resources Code (PRC) Section 21083.4, which states that a county shall determine whether a project within its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment. If a county determines that there may be a significant effect to oak woodlands, the county shall require appropriate oak woodlands mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands. Given the extent and amount of mature blue and live oaks known to occur on the Project site, the Department considers the removal of oaks and residential development in the Project area as a significant conversion of oak woodlands, and as a result that the county should develop oak mitigation measures as **required** by CEQA Section 21083.4 and ensure one of the following, or a combination of the four alternatives to mitigate impacts to this habitat, will occur:

9-27

- 1) Conserve oak woodlands through the use of conservation easements;

Rayburn Beach
June 1, 2007
Page 14

- 2) Plant an appropriate number of trees, including maintaining plantings and replacing dead or diseased trees, consistent with the planting guidelines and recommendation of the University of California (this cannot constitute more than 50 percent of the required mitigation and must always be accompanied by another mitigation alternative);
- 3) Contribute funds to the Oak Woodlands Conservation Fund; and/or
- 4) Other mitigation measures developed by the county.

9-27
CONT.

The final CEQA document should detail the number of trees/acres that will be impacted and the oak mitigation measures that will be employed to offset the impacts. Mitigation measures need to be explicit, resolved in time for inclusion in the CEQA process, and the implementation of the mitigation measures should permit straight forward measurable monitoring to demonstrate their effectiveness over time.

The proposed Project, if approved, would result in significant relative growth in the Friant area. The CEQA document should consider the growth-inducing impacts, as well as the associated impacts to ground water levels, riparian habitat, wildlife movement corridors, the San Joaquin River, and Cottonwood Creek.

The CEQA document prepared for this Project should also evaluate the potential recreational impacts, since the proposed Project is adjacent to Millerton Lake and near the San Joaquin River, both of which have important recreational values.

9-28

All survey results should be submitted to the Department. Depending upon the results of the previously mentioned biological surveys, we may have additional comments and recommendations regarding avoidance, minimization, and mitigation of Project impacts to habitat and special status species. If you have any questions regarding these issues, please contact Annee Ferranti, Staff Environmental Scientist, at the address or telephone number (extension 227) provided on this letterhead.

Sincerely,



W. E. Loudermilk
Regional Manager

cc: See Page Fifteen

Rayburn Beach
June 1, 2007
Page 15

cc: Susan Jones
United States Fish and
Wildlife Service
2800 Cottage Way, W-2605
Sacramento, California 95825

San Joaquin Valley Office
United States Corps of Engineers
Kathy Norton
1325 J Street
Sacramento, California 95814-2922

Jess C. Cooper
Department of Parks and Recreation
Central Valley District, San Joaquin Sector
Millerton Lake State Recreation Area
Post Office Box 205
Friant, California 93626

Wayne Harrison
Department of Parks and Recreation
Central Valley District
22708 Broadway
Columbia, California 95310

Ned Gruenhagen
United States Bureau of Reclamation
1243 N Street
Fresno, California 93721

California Regional Water Quality Control Board
Central Valley Region
1685 E Street
Fresno, California 93706-2020

ec: Gail Presley, Maryann Showers, Ellen Cypher

Letter 9. State Department of Fish and Game (6/1/07)

Response 9-1

This summary of the Department's understanding of the proposed project is noted.

Response 9-2

These figures describing the percentages of the site to be disturbed/impacted versus retained in some form of open space are consistent with the Land Use Plan Statistical Summary (Table 3-1), but do not factor in additional private open space potentially available for wildlife migration and habitat within Rural and Very Low Residential designations. Review of the Land Use Plan (Exhibit 3-4) indicates a high degree of connectivity within and between designated Open Space-Natural areas, including the Cottonwood Creek corridor, a principal wildlife movement corridor on the site. See Response 1-17 concerning wildlife movement and migration.

Response 9-3

The biological resource impacts and concerns are noted. In the EIR Section 5.4.6, Mitigation Measures-Biological Resources, various avoidance, compensation and/or permit compliance measures to reduce identified significant effects are identified, including but not limited to the following special status species: Hartweg's golden sunburst, vernal pool plant species, vernal pool invertebrates, California tiger salamander, western spadefoot toad, bald eagle, Swainson's hawk, special status raptors and loggerhead shrike, burrowing owl and short-eared owl; California horned lark; and the following sensitive habitats: Oak Woodlands and Wetlands/Waters of the United States. The EIR Biological Resources section (page 5.4-23) concludes that, following implementation of RMAP policies, NFV-1 Specific Plan design features and commitments, and additional project mitigation measures, impacts to biological resources would be less than significant with the exception of 1) the direct and cumulative impacts resulting from partial loss of the Hartweg's golden sunburst population onsite, and 2) cumulative loss of non-native grassland and blue oak woodland habitat in conjunction with other future development projects in the vicinity of the project site.

Impacts to wildlife from increased vehicle-related mortalities, conflicts between humans and wildlife in residential areas, and wildlife predation on domestic pets are impacts that are largely an unavoidable consequence of urban development in or near natural areas. These impacts were identified in the RMAP EIR. Please see EIR Section 5.8, Hydrology and Water Resources, for discussion of project design features and mitigation measures to assure groundwater recharge and protect water quality in receiving waters.

Response 9-4

See Responses 1-18 and 9-3. The EIR identifies avoidance, compensation and permit compliance measures for identified special status species. Significant cumulative impacts to non-native grassland habitat and blue oak woodland habitat are identified.

Response 9-5

Specific actions will be required to implement the avoidance, compensation and permit compliance mitigation measures stipulated in Section 5.4. These actions will include additional seasonal surveys, mapping, and avoidance or off-site compensation in conformance with permit requirements. These measures will be implemented through the Mitigation Monitoring and Reporting Program (MMRP) to be adopted when considering project approvals. The County and applicant will coordinate the implementation of these measures with CDFG. In addition, see Response 1-18. As described in the EIR, project impacts related to the Hartweg's golden sunburst and the cumulative loss of non-native grassland and blue oak woodland habitat remain significant after mitigation. The County of Madera will adopt a finding of overriding considerations for these two impacts.

Response 9-6

See Response 9-5. Additional surveys will be conducted in conformance with the mitigation measures in Section 5.4.

Response 9-7

The Department's Trustee Agency authority and regulatory authority under CESA are noted.

Response 9-8

The EIR identifies the following listed species from the list in this comment as "known to occur," or "potentially occurring" within the project site: Hartweg's golden sunburst (known); vernal pool tadpole shrimp (potential); vernal pool fairy shrimp (potential); California tiger salamander (potential); valley elderberry longhorn beetle (potential); golden eagle (potential); bald eagle (known); white tailed kite (potential); Swainson's hawk (potential). Focused botanical surveys for vernal pool plant species will be required; this will include succulent owl's clover, spiny-sepaled button celery, and other species identified in Mitigation Measure B-3. Focused surveys for western spadefoot toad, burrowing owl, and short-eared owl will also occur, pursuant to Mitigation Measures B-5 and B-9.

Response 9-9

This information is presented on page 5.4-12 "Burrowing Owl and Short-eared Owl" of the EIR.

Response 9-10

Additional surveys will occur, with results submitted to the Department and Service. See Responses 1-8 and 9-5.

Response 9-11

The Department's regulatory authority with regard to activities in streams is noted and discussed on page 5.4-8 of the EIR.

Response 9-12

The Department's regulatory authority with regard to issuance of take permits under CESA and streambed alteration agreements is noted. The Department is identified as a Responsible Agency on Table 3-5 Public Agency Approvals. Potential impacts to listed species, and riparian and stream resources are described in Section 5.4.4, (Impact 5.4-1 and Impact 5.4-2, respectively). See Response 9-5 concerning mitigation monitoring and reporting commitments.

Response 9-13

See Response 9-8 concerning these fully protected species and their known or potential occurrence on the site. See Response 9-5 concerning specific actions to implement the avoidance and minimization measures identified in the EIR.

Response 9-14

The Department's jurisdiction with regard to active nest sites or unauthorized take of birds is noted. Mitigation Measure B-8, cited in this comment, is designed to protect nesting birds.

Response 9-15

Please see EIR Section 5.8.4 Project Impacts—Hydrology and Water Quality, which describes measures to be implemented to assure that no substantial degradation of water quality associated either with construction or long-term operations will occur. In particular, compliance with the Stormwater Pollution Prevention Plan (SWPPP) that conforms to the State Water Resources Control Board NPDES permit, and implementation of BMPs, pursuant to a County- and State-approved Storm Water Quality Management Plan (SWQMP) will substantially reduce pollution impacts to the "waters" referenced in this comment.

Response 9-16

See Response 1-11. Multiple surveys were conducted during the blooming period which followed an above average rainfall year. A robust population of Hartweg's golden sunburst was present at the time of the surveys. Although avoidance is identified as a preferred form of mitigation, Mitigation Measure B-1 includes compensation measures to reduce impacts to the extent feasible short of complete avoidance. The direct and cumulative impacts resulting from partial loss of Hartweg's golden sunburst population onsite are therefore significant following mitigation.

Response 9-17

See Response 9-16. The Department's comments concerning the preservation of this listed plant species are noted.

Response 9-18

The Department asserts that additional surveys should be conducted for a variety of special status plant species, including the Hartweg's golden sunburst, succulent owl's clover, spiny-sepaled button celery, and Madera linanthus (now Madera leptosiphon).

All areas of the site having the soils suitable for Hartweg's golden sunburst have been surveyed during a year very favorable for conducting such surveys. Multiple surveys were conducted that year at 4-5 day intervals from the time this species first began flowering to the time it began setting seed. The main populations were mapped and outliers were identified and included in the nearest main population. Additional surveys for this species would not likely change the mapped locations or the size of the polygons encompassing the main populations. (See additionally Response 1-11).

For reasons listed in Response 1-14, surveys for succulent owl's-clover and spiny-sepaled button celery are not warranted. Three shallow man-made vernal pools created by on-site road grading are to be incorporated into storm water detention basins. These pools were examined during the wet spring of 2005. They supported some vernal pool plants (primarily slender popcorn flower and woolly marbles), but being man-made, would not likely support any population of succulent owl's-clover for the same reasons they would not support fairy shrimp, et al. The eryngium species identified in these pools was "vaseyi," not "spino-sepalum."

The DEIR requires additional site surveys for *Madera leptosiphon*, as recommended by the DFG.

Response 9-19

The Department's need to consider a jeopardy opinion for Hartweg's golden sunburst is noted.

Response 9-20

See Response 1-12. As noted on EIR page 5.4-5, three elderberry bushes were identified on the project site; one in the south unit and two in the north unit. Documentation associated with these shrubs will be provided to USFWS.

Response 9-21

See Response 1-14. The site is actually outside of critical habitat for the vernal pool fairy shrimp, but has been included within critical habitat designated for the succulent owl's-clover, the absence of suitable natural vernal pool habitat notwithstanding. It is important to note that the flora of the man-made pools has been identified and succulent owl's-clover was not observed in those pools at a time of year (and during a year) when it would have been observable if present. As for the significance thresholds established by the Department, the DEIR has established the same thresholds and has determined that impacts to vernal pools, wetlands, and endangered species habitat would in fact be significant before mitigation.

Response 9-22

The Department's minimum buffer recommendations are noted. The preferred mitigation measure for impacts to jurisdictional waters is avoidance. The proposed project is not expected to result in any loss of riparian habitat on the project site. The NFV-1 Specific Plan identifies a clear-span bridge for Rio Mesa Boulevard over Cottonwood to avoid any encroachment upon the riparian habitat along the creek, and a riparian buffer zone that consists of a minimum of 150 horizontal ft. as measured from

the top of bank of the creek. The project has been designed to avoid all direct impact to Cottonwood Creek and most direct impacts to tributaries of Cottonwood Creek. Less than 10 percent of the total area of Waters of the United States on the project site will be unavoidably impacted by site development.

The County will assure implementation of the riparian protection zones around natural watercourses identified in the NFV-1 Specific Plan. Riparian protection zones will include the bed and bank of both low and high flow channels and associated riparian vegetation, the band of riparian vegetation outside the high flow channel, and buffers of 100 ft. in width as measured from the top of bank of unvegetated channels and 50 ft. in width as measured from the outer edge for the canopy of riparian vegetation.

Response 9-23

See Response 1-13 concerning the California Tiger Salamander. Focused surveys will be required to determine the presence/absence of this species in pools and stock ponds within the project area.

Response 9-24

The Department notes that the Swainson's hawk is known to nest within one mile of the site. Impacts to known nest sites should be avoided at all times of the year. Prior to project development, surveys should be conducted following guidelines established by the Swainson's Hawk Technical Advisory Committee. Surveys should occur prior to any disturbance within 5 miles of a known nest tree.

According to the August 2007 version of the CNDDDB, the only record of Swainson's hawks occurring near the project site concerns individuals observed in 1979 near the intersection of Highways 41 and 145. No nest was found. Records of Swainson's hawk nesting activity in the Friant/Millerton area are otherwise absent from the CNDDDB.

The Swainson's hawk is a raptor more commonly encountered in the trough of the Central Valley, which has been shown to be its preferred habitat. It does not historically occur in the foothills, and its presence is very uncommon in foothill woodlands. The species has been observed in grasslands below the foothills, and individuals have occasionally been observed foraging over grasslands between Friant Road and the Friant-Kern Canal and along Highway 41 west of Little Table Mountain. However, such sightings are abnormal. The nearest known nest to the project site was one observed in a London plane tree along a residential driveway off Road 400 near the Fresno River (approximately 15 to 20 miles to the west of the project site). This nest was observed by both John Stebbins, local consulting botanist, and Dave Hartesveldt of Live Oak Associates. Other known nest sites in Fresno and Madera Counties are near Mendota and Firebaugh. It is not uncommon to see multiple individuals while driving through these areas.

Based on the available evidence, Swainson's hawks probably do not nest in blue oak woodlands of the Madera and Fresno County foothills. Contrary to the assertion that "it is highly probable that this

species nests within or closer to the area than the observations currently reported in the California Natural Diversity Data Base (CNDDDB),” it appears that this species would be most unlikely to nest on the project site given the limited number of documented sightings of this species in the area.

DEIR Mitigation Measure B-7 is designed to protect the Swainson’s hawk and is consistent with DFG protocols.

Response 9-25

The Department asserts that the loss of greater than 1,500 acres of Swainson’s hawk foraging habitat should be mitigated at a 1:1 ratio.

As noted in Response 9-24, there have been only a limited number of documented sightings of Swainson’s hawks in the project vicinity. The project area is certainly used by various other raptor species (red-tailed hawks, red shouldered hawks, Cooper’s hawks, golden eagles, bald eagles) which likely keep burrowing rodents on the site to a minimum. Unlike the Swainson’s hawk, these species have been commonly observed on the site or in the site vicinity.

Mature trees within the Cottonwood Creek corridor will be preserved. Other woodlands on the project site are located almost entirely within the northern unit. Consistent with Mitigation Measure B-12 Oak Woodlands, prior to recordation of any Final Map for development in these areas, the project shall prepare an Oak Woodland Conservation and Monitoring Plan to ensure the preservation of the significant oak woodlands onsite. Where oak tree removal is unavoidable, oaks impacted by construction will be replaced at a 4:1 ratio. The Plan will be submitted to the County and made available for review and comment by the California Department of Fish & Game. These measures will complement other EIR Mitigation Measures designed to protect nesting raptors.

Response 9-26

EIR Mitigation Measure B-9 is designed to protect Burrowing owls and is consistent with the Department’s protocols.

Response 9-27

The project has been designed to conserve nearly all blue oak woodland, which are largely confined to the northern half of the northern parcel. The planting of replacement oaks is mitigated by a 4:1 ratio on-site. Current project plans require the removal of approximately six (6) oak trees within the 2,238 acre project site, which contains approximately 1,000 oak trees.

Significant time and expense has been invested in project design to ensure that oak trees are preserved and additional trees are planted, regardless of project impacts. It must also be noted that cattle on the project site have damaged many mature oaks and that new saplings are unable to grow due to trampling and grazing activities. DEIR Mitigation Measure B-12 provides appropriate oak woodland mitigation consistent with PRC Section 21083.4.

Response 9-28

See Response 1-19 and Section 7.1 concerning growth inducement. See Section 5.8.4 Hydrology and Water Quality Impacts for a discussion of groundwater depletion and recharge (Impact 5.8-2). Impacts on riparian habitat, wildlife movement corridors, Cottonwood Creek and the San Joaquin River are discussed on pages 5.4-12 through 5.4-16 as follows—Impact 5.4-2, Riparian Habitat; Impact 5.4-4, Wildlife Movement; NFV-1 Specific Plan Design Features—Wildlife Corridors and Habitat; and Cumulative Impacts—San Joaquin River Corridor.

Recreational impacts to Millerton Lake and the San Joaquin River are discussed in Section 5.14.4 Project Impacts—Parks and Recreation; and in Section 5.9.4 Project Impacts—Land Use (Impact 5.9-1, Consistency with San Joaquin River Parkway Master Plan and Consistency with Millerton Lake State Recreation Area). Mitigation measures are identified to reduce impacts associated with increased access to these recreational resources.

Survey results from implementation of the identified Biological Resources Mitigation Measures will be provided to the Department.



DEPARTMENT OF PARKS AND RECREATION
Central Valley District, San Joaquin Sector
Millerton Lake State Recreation Area
5290 Millerton Road
P.O. Box 205
Friant, CA 93626
(559) 822-2332
(559) 822-2319 (fax)

Ruth G. Coleman, Director

Letter 10
Page 1 of 5

LET

June 11, 2007

Mr. Rayburn Beach
Planning Director
Madera County Planning Department
2037 W. Cleveland Ave.
Madera, CA 93637

Subject: RESPONSE TO THE NORTH FORK VILLAGE DRAFT EIR

Dear Mr. Beach:

On behalf of the California Department of Parks and Recreation (DPR), I would like to offer our concerns on the subject draft EIR.

The proposed North Fork Village is contiguous with Millerton Lake State Recreation Area (MLSRA), which is operated by DPR and is a prime recreational facility in the Southern Sierra Nevada foothills and San Joaquin Valley. As stated in the Notice of Preparation response (February 24, 2006) the park also possesses a rich heritage of natural and cultural values, whose protection is an important part of DPR's mission. Therefore, activities on lands surrounding MLSRA are of great importance to us – particularly activities that could have a negative effect on our responsibilities to the people we serve. We believe the project, as currently designed and zoned, presents a significant negative affect to the park and its ability to meet the needs of the North Fork Village residents, as well and residents from the remaining developments within the Rio Mesa Plan Area.

10-1

We would like to acknowledge our appreciation for Mr. Kesterson making himself accessible for discussion and his willingness to meet on site to discuss various points of view and concerns. We are thankful that he is willing to save oak trees, leave boulder features in place and use neutral earth tones to reduce some of the visual impacts.

In addition to the concerns expressed in the February 24, 2006 Notice of Preparation response, we have the following comments/concerns on the draft Environmental Impact Report (EIR):

10-2

With the exception of scenic impacts, the impacts to Millerton Lake State Recreation Area (MLSRA) are either not addressed or are stated as unavoidable, less than significant or claimed to be mitigated by the fact that MLSRA charges an entrance fee for vehicles and vessels.

Specific concerns not addressed are:

1. Important Land Use Planning impacts to MLSRA are not addressed. There are three parcels within MLSRA that are accessible, according to the EIR, only by the current MLSRA entrance road. One of these within PA31, zoned VLR, is located immediately adjacent to the Rocky Point Campground and abuts two campsites. Developing residences on this parcel would certainly have an impact on the camping experience of MLSRA visitors staying in the campground. This parcel is accessible only by the park road after passing through the MLSRA North Shore Entrance Station. (Table 3-2, Exhibit 3-9) The impacts of this parcel are not addressed within the EIR. The other two parcels are within PA29 and are zoned MU. PA29 has 14 planned residential units with a maximum of 21. MU designation allows buildings up to 100 feet tall and with a transfer of designation could become either commercial or multi-family residential in an 8-10 story building right on the shore of Millerton Lake. The only access to these parcels is the park entrance road. Any runoff from buildings, parking or accidental spills from facilities on these parcels will go directly into Millerton Lake. The set backs in MU areas are listed at only 50 feet rather than the 100 feet around other residential areas. None of the proposed mitigation measures would affect these parcels. The EIR does not address any of these impacts or impacts from night lighting or scenic degradation from these particular locations. There is also no mention of the traffic impacts to the MLSRA entrance road from these parcels. Because of their potential impacts on Millerton Lake and MLSRA, these parcels should be zoned open space or negotiations should begin to transfer ownership to the U. S. Bureau of Reclamation for inclusion in MLSRA.

10-3

By zoning these areas MUR, a shift in the stated intent for a given area can occur, resulting in a scenario where actual construction can change after the comment period for the EIR making review of this document meaningless. The after math could be commercial where you see residential or a mix of the two.

2. Traffic impacts to MLSRA are also not addressed. Exhibit 5.15-1 shows road segment R on the map, but does not list R under the Road Segment list. Nor are impacts to this road section or to the MLSRA entrance road that is the only access to the above parcels, addressed in any of the traffic studies. The plan also proposes a gated entrance into the NFV-1 development from the MLSRA entrance road approximately 600 feet from the MLSRA Entrance Station. The impact of the traffic generated by this road on the incoming traffic to MLSRA and to the lines of visitor cars, boats and motor homes waiting to enter MLSRA north shore on any given day will be significant. On holiday weekends these lines can be substantial, and with the growth in MLSRA visitation from this and other Rio Mesa developments (cumulative impacts), could become daylong waiting lines. The proposal also does not address the impact on this entrance to the development from these lines of traffic. In the event of an emergency within the development, such as a wildfire (which we had in this area in 2006), the impact could be significant if this evacuation route was blocked by traffic waiting to enter MLSRA. Additional study and mitigation measures to the north shore entrance road to MLSRA need to be addressed before this EIR is approved.

10-4

3. Recreation impacts to MLSRA North Shore have been understated in the EIR. The EIR does not differentiate between the impacts to the North Shore of MLSRA in Madera County and the entirety of MLSRA. NFV-1 will be developed along the North Shore of MLSRA from Friant Dam to east of the Dumna Creek/Buzzards Roost area. This area is essentially used for camping and contains the only developed camping at MLSRA. This side of the lake has one launch ramp, small, developed day use along the road and a few scattered picnic sites along the park road from the Dumna Creek area to the

10-5

Meadows Campground. Day use on this side of the lake is very limited. The impact from this development and the cumulative impacts from other nearby developments in Madera County could be significant if proper mitigation is not implemented. Impact 5.14-1 assumes a visitation of 26,697 from the NFV-1 development. That would be a 7.8 % increase in visitation for all of MLSRA; however this same visitation would have a substantially higher impact on the North Shore of MLSRA facilities as most of the day use at MLSRA is now on the South Shore where most of the day use facilities are located. The EIR states that these impacts to MLSRA are mitigated by the fact that fees are charged to enter MLSRA. In the California Department of Parks and Recreation Statistical Report for fiscal year 2005/06 it states that the Central Valley District, of which MLSRA is a sector, the revenue as a percent of costs is only 36.7 %. Fees do not cover the cost of operating MLSRA. In addition, fees are only charged visitors who arrive by motorized vehicle. Pedestrians and bicycle riders are not charged. As this development proposes trails that connect to MLSRA trails, it is safe to assume that a substantial number of visitors to MLSRA from this development would pay no fees. This development and the increased visitation to the North Shore of MLSRA may require MLSRA to institute lifeguard service on the North Shore for the first time; additional restroom facilities and picnic sites to accommodate a substantial increase in day use on the North Shore; increased vehicle safety patrols on shore and boat patrols along the shoreline; increased litter pickup and garbage disposal; an increase in the number of accidents that park staff responds to; an increase in law enforcement activities within the park and increased maintenance of visitor serving facilities including trails and the road from the park boundary to Launch Ramp #6. The additional fees from increased visitation will not mitigate the cost of these necessary increases in service and maintenance as illustrated above. Additional mitigation is needed, such as budgetary assistance with the added costs created by this development and the cumulative impacts of other nearby developments. You can be assured that the proximity to and use of Millerton Lake will be mentioned as a major benefit and selling point to those considering living within this development.

10-5
CONT.

Millerton Lake State Recreation Area is one of the most visited recreation sites in the central valley, with visitors from around the world coming to experience the recreational opportunities at the lake. It is a regular stop for visitors from Europe who rent RVs in southern California and travel to San Francisco and Yosemite. It is one of a few facilities to provide camping on a year around basis. It also provides year around day use opportunities, with active recreation during the spring, summer and fall and more passive recreation such as wildlife viewing in the winter. Visitors to MLSRA contribute significantly to the economies of both Fresno and Madera counties. Because of its significance to the local communities, it is essential that all efforts be made to ensure that nearby developments impact this valuable recreational resource to the minimal extent possible, and provide for obvious increase in recreational demand as the MLSRA water feature will be a major draw as evidenced by the findings located within the California Department of Parks and Recreation's Central Valley Report. In order to effectively address the impacts to MLSRA, Madera County must consider additional mitigation to minimize the significant impacts to MLSRA and not allow them to be characterized as unavoidable or mitigated by the existing fees charged for vehicle entrance to MLSRA.

10-6

Appropriate mitigation to minimize the significant impacts to MLSRA would include but not be limited to:

10-7

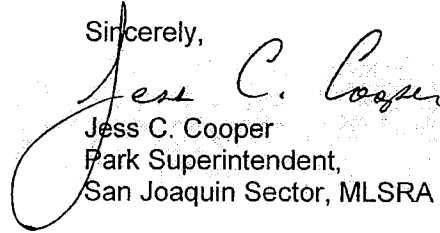
1. An appropriate set back in the area of the Group Campground, more than the insufficient 100' currently listed in the EIR.

2. Transfer of ownership of PA 29, all of this parcel found within the lake side of the paved road, and/or a written assurance that no commercial, residential or other construction will take place in this area of concern. 10-8
3. Road 145 from road 211 to the park entrance is simply not addressed. There will be additional impacts on this road from North Fork Village and the greater Rio Mesa Area and needs to be addressed in the EIR. With the key card access by residents of North Fork Village 600' from the entrance station of the park, impacts are eminent. No additional Road 145 access should be considered or allowed. 10-9
4. Transfer of ownership of PA 31 adjacent to the Rocky Point Campground on the lake side of the road, and/or a written assurance that no commercial, residential or other construction will take place in this area of concern. 10-10
5. Adequate buffer for the park relating to PA 32 and 35. This area should be considered as a transfer of ownership to be developed as a day use area. If sized and placed appropriately, this area would assist the park in meeting the increase demand for recreational opportunity and would double as the needed buffer for the Group Campground, as the day use area would not be populated at night.

At the present time, the park considers closure daily on weekends at the North Shore due to high volume visitation, as boat launch and day use parking is limited. Adding newly established North Fork Village residents arriving early to the park due to their living so close, will cause current park visitors to be displaced. Arriving later in the day will cause the new residents to be displaced. Implementing an additional day use and parking area would provide some relief to this situation as well. 10-11
6. The emergency exit for the development will place residents onto Road 145, is approximately 600' from the North Shore Entrance Station, and will have impacts on park traffic circulation on weekends and summer operations. The roads at the entrance are not capable of meeting increased demand while allowing for emergency ingress and egress for fire and public safety access. In addition to an obvious "bottleneck" scenario at the park, a fire at the Oak Ranch or Sierra Crest area of the proposed North Fork Village development would result in stranded or endangered residents. While the entire road impact needs to be addressed, a second lane to the entrance at least 450' on approach should be added for efficiency and public safety. 10-12
7. We are concerned with the height of homes proximate to the park boundary. Homes which are proximate to the leading edge (or interface area from the park to the housing development) should be restricted to single story. Commercial development should be restricted to 35' and clearly identified and circulated for public review and comment to avoid unexpected impacts. 10-13
8. There should be one time facility development impact fees and ongoing operational fees collected annually to assist the State Park in meeting the needs of the North Fork Village and greater Rio Mesa Area residents. This includes county wide consideration with subsequent developments in the Rio Mesa Plan Area and others, and should be negotiated in good faith by the County with the California Department of Parks and Recreation. These fees should be allocated to the California Department of Parks and Recreation for use in facility development and ongoing costs associated with public safety and operational support necessary to overcome the impacts of this development on Millerton Lake State Recreation Area. 10-14

If at any time you feel the need to contact me directly, I may be reached by phone at (559) 822-2332. My email address is: jcoop@parks.ca.gov . We look forward to continued conversations with planners working on the draft EIR.

Sincerely,



Jess C. Cooper
Park Superintendent,
San Joaquin Sector, MLSRA

C: Scott Wassmund
Wayne Harrison
File copy

Letter 10. State Department of Parks and Recreation (6/11/07)

Response 10-1

The project is designed in conformance with the Specific Plan and land uses in the approved Rio Mesa Area Plan. Project impacts on the Millerton Lake State Recreation Area (MLSRA) are discussed in Section 5.14.4 Project Impacts—Parks and Recreation; and in Section 5.9.4 Project Impacts—Land Use (Impact 5.9-1, Consistency with Millerton Lake State Recreation Area). The applicant's interest in preserving oak trees and significant natural features is reflected in the design features, guidelines, and development standards of the Specific Plan.

Response 10-2

Impacts to Millerton Lake SRA are discussed in Section 5.1 Aesthetics, Section 5.9 Land Use, and Section 5.14 Parks and Recreation. Land use impacts are discussed on pages 5.9-13, -14. Where proposed single-family residences abut Millerton Lake SRA campground sites, a minimum one-hundred fifty (150) foot building setback will be required and a minimum sixty (60) inch high chain link fence with fourteen (14) inch opening at the bottom shall be constructed at the boundary (Exhibit 3-8). The fence will be integrated with landscaping in order to shield and integrate the fence with surrounding vegetation. The purpose of the fence is to discourage cross access between the adjoining properties, while allowing native fauna an opportunity to cross the perimeter.

Where the project site abuts other Millerton Lake SRA open space, building setbacks and landscape buffers (50' wide) shall be provided within the project to provide a transition between residential uses and natural areas. Walls and boundary fencing will be minimized. Landscaping within the buffer shall include a mix of drought tolerant native plant materials, developed in consultation with California Department of Fish and Game, and with California Department of Parks and Recreation (DPR), with limited ornamental species in developed areas. At locations where fences may be desirable to further control or limit access between project roads, trails and the Millerton Lake SRA, boundary and fencing plans will be reviewed with DPR at the tentative tract map level. Mitigation for project land use impacts on MLSRA is included with the requirement for preparation of a Boundary Zone Plan and consultation with DPR and MLSRA, prior to recordation of any Final Map (Mitigation Measure LU-4). Public awareness of the resource values associated with MLSRA will be promoted with distribution of pamphlets within the project, with content of such materials to be coordinated with DPR and MLSRA (Mitigation Measure LU-5). Please see Response 10-3 with regard to scenic impacts.

Response 10-3

With respect to the planned "VLDR" land use designation behind the MLSRA entrance gate, comment noted. The applicant will work with the State of California regarding sale of this small triangular parcel which is approximately 1.74 acres, more or less, and is a portion of PA-31.

It should be noted that MLSRA viewshed already includes some residential homesites visible above the South Shore. Commercial high-rise buildings of the type described in this comment are not planned for Planning 29, and would not be allowed. With respect to MU land use within PA-27, PA-28, and PA-29, the applicant agrees to limit the height of all structures to 35 ft. A mitigation measure has been added to the EIR to implement this limitation (see Section 4 of this Response to Comments document). The scenic impacts of NFV-1 development within the lake viewshed and the Oak Ranch Neighborhood, of which Planning Areas 29 and 31 are a part, are addressed in the EIR under Impact 5.1-2 (page 5.1-17). Impacts of night lighting within the lake viewshed are addressed in the discussion of project Impact 5.1-4 (page 5.1-17).

With respect to parcels within PA-29, access will be restricted via a small, 2-lane bridge crossing the "Park Access Road." No access will be allowed to PA-29 via the "Park Access Road." As such, trip generation and traffic loading will not occur to Road 145 from PA-29. All drainage within PA-29 will be captured and pumped into storm drain basin B-15, located uphill from PA-29. A 50' building setback from the 600' contour line is more than adequate.

The applicant additionally will work with the State of California regarding sale of planning areas PA-27, PA-28, PA-29, and PA-31 as shown in the NFV-1 Specific Plan.

Response 10-4

As described in the DEIR, gate access restrictions between Road 145 and the project limit traffic movement. Trips generated within the project are routed to Rio Mesa Blvd. and do not require any access to Road 145; thus, Segment R has a modeled daily volume of zero.

Per the previous agreement between the California Department of Parks and Recreation and the applicant, the applicant agrees to construct one additional traffic lane, 450 ft. in length starting at the Entrance Gate and heading west. The lane will be constructed as an auxiliary lane for vehicles queuing for access to MLSRA. This lane will be constructed and in place prior to certificate of occupancy of any project home north of Road 145. A mitigation measure has been added to the EIR to implement this measure (see Section 4).

Response 10-5

The applicant will construct a barbed wire, locking gate between the MLSRA and the trail system being constructed by the project to prohibit unpaid access and to avoid potential impacts to the operations and maintenance of the MLSRA, such as the need for lifeguards, restrooms, picnic sites, patrols, garbage disposal, etc.

Comment noted that the MLSRA is a state funded park that collects insufficient funds from paying customers.

Response 10-6

The current visitation, broad appeal, and value of MLSRA as a recreational visitor destination referenced in this comment are noted. The RMAP EIR found that cumulative impacts to existing recreational resources would be significant due to the increased number of people using recreational resources and open spaces. The added population and close proximity will increase the usage of Millerton Lake SRA. The NFV-1 EIR includes feasible mitigation measures for reducing the significant land use, aesthetic and recreational effects of the project on MLSRA. The mitigation measures are intended to assure that adequate recreational space is provided for project residents and that existing recreational facilities are well maintained. However, cumulative impacts to recreational facilities including Millerton Lake SRA will remain significant after mitigation (EIR page 5.14-5).

Response 10-7

Numerous meetings have occurred between the applicant and representatives of MLSRA. An initial setback of 30 ft. was requested and granted. A revised setback of 100 ft. was requested by representatives of the State and granted. In response to this comment, however, Figure 2-11 of the NFV-1 Specific Plan is hereby modified to provide for a building setback of 150 ft.

Response 10-8

See Response 10-3.

Response 10-9

See Response 10-4.

Response 10-10

See Response 10-3.

Response 10-11

See Responses 10-3, 10-5 and 10-7.

Response 10-12

Please see Responses to Letter 14 and Letter 15 for fire concerns. With regard to circulation and emergency access, see Response 10-4.

Response 10-13

See Response 10-3.

Response 10-14

See Response 10-5.



350.25

Letter 11
Page 1 of 3

June 14, 2007

5489 E. Olive Avenue
Fresno, California 93727
Telephone (559) 253-7324
Fax (559) 456-3194
www.sjrc.ca.gov

Mr. Rayburn Beach, Planning Director
County of Madera, Planning Department
2037 W. Cleveland Ave.
Madera, CA 93637

GOVERNING BOARD

The Honorable
Frank Bigelow, Chair
Madera County Board of Supervisors

The Honorable
Mike Dages, Vice-Chair
Council Member, City of Fresno

The Honorable
Susan Anderson
Fresno County Board of Supervisors

The Honorable
Gary Svanda
Council Member, City of Madera

Frank Franco, Board Member
Fresno Metropolitan
Flood Control District

Ron Pistoresi, Chairman
Madera Irrigation District

William Loudermilk
Regional Manager
Department of Fish and Game

Jess Cooper
Sector Superintendent
Department of Parks & Recreation

John Donnelly
Interim Executive Director
Wildlife Conservation Board

Patrick Kemp
Assistant Secretary
Resources Agency

Paul Thayer
Executive Officer
State Lands Commission

Michael C. Genest, Director
Department of Finance

Bryn Forhan
Duane Fuman
Alice Saviez
Citizen Representatives

Melinda S. Marks
Executive Officer

Arnold Schwarzenegger, Governor
STATE OF CALIFORNIA

Dear Mr. Beach:

North Fork Village Draft Environmental Impact Report

The Conservancy has reviewed the North Fork Village DEIR with respect to the Conservancy's area-wide public interests in protecting, enhancing, and enjoying San Joaquin River resources, and its ownership and management of public lands adjacent southeast of the proposed project for San Joaquin River Parkway purposes.

The following impacts directly relevant to the Parkway, natural and cultural resources, and recreational opportunities in the area are recognized in the DEIR as significant and unavoidable:

- Substantially degrade the existing visual character or quality of the site and its surroundings;
- Have a substantial adverse effect on a scenic vista—in particular, scenic natural vistas from Millerton Lake and the lake's south shore will be altered;
- Create a new source of substantial light and glare which would adversely affect day or nighttime views in the area;
- Significant cumulative impacts of development include impacts on:
 - Hartwig's golden sunburst (listed as state and federal endangered), non-native grassland, and blue oak woodland;
 - Floodwater conveyance and flooding within the San Joaquin River floodplain;
 - The Madera groundwater basin; and
 - The proposed project will increase human activity and recreational access to both the Millerton Lake State Recreation Area and the San Joaquin River corridor.

Many of the cumulative impacts were recognized in the County's environmental impact report for the Rio Mesa Area Plan and therefore have already been considered by the County in adopting a plan for development of the area.

11-1

Mr. Rayburn Beach

June 14, 2007

2

Letter 11

Page 2 of 3

Given the scope and magnitude of projected impacts it is particularly important the County of Madera conscientiously consider all aspects of the project before deciding whether to require additional mitigation, make findings of overriding consideration, approve the project, or require an environmentally superior alternative.

11-2

The project proposes a riparian protection zone on Cottonwood Creek, habitat enhancement, and a trail system to provide public pedestrian access through the development, connecting to future San Joaquin River Parkway trails on Conservancy property and to regional trails through adjacent Bureau of Reclamation Lands as follows:

The riparian protection buffer provided around Cottonwood Creek shall be a minimum of 150 horizontal feet as measured from the seasonal top of the creek bank. Project restoration of Cottonwood Creek shall include planting and repopulation of native trees and plants to offset the impact of decades of cattle ranching and enhance the value of this tributary to the San Joaquin River as a wildlife corridor. The riparian protection zone is surrounded by additional natural open space with the Cottonwood Creek corridor that will be available to support a local use pedestrian trail connection to the regional trail system planned within the San Joaquin River corridor. The design and timing of this trail connection will be coordinated with the Conservancy. A trail connection from the Cottonwood Creek trail will be provided through the proposed project to link with the Millerton Lake SRA trail, which proceeds for another 3.5 miles along the lake to Hidden Lake Estates. This link will promote regional trail connectivity and ultimately may provide an opportunity to link the Parkway Master Plan trail system to the San Joaquin River upper watershed trail. [p. 5.9-13]

11-3

These measures and others are designed into the project for consistency with the San Joaquin River Parkway Master Plan (1997) and are supported by the Conservancy.

However, specific alignments and wildlife and recreation buffers for the on-site trail system, including in particular the trails and buffers along Cottonwood Creek, should be determined early in the process and should be included in the community infrastructure plan. The County should consult not only the Conservancy and other Parkway interests as proposed in mitigation measure LU-2, but also with resources agencies and other adjacent public land owners and managers, e.g., the California Department of Fish and Game, the federal Fish and Wildlife Service, the federal Bureau of Reclamation, and the California Department of Parks and Recreation. Early, approved alignments for trails and buffers are necessary to ensure the developer will implement a trail system and that it will be compatible with resource protection.

11-4

Primary trailheads should be open to the general public, and not be located beyond private community gates.

The Conservancy's land includes the downstream section of Cottonwood Creek. The project proposes to dedicate open space along the creek corridor to ensure its function as a wildlife movement corridor from the foothills to the San Joaquin River, and to protect the habitat of the seasonal stream. However, other proposed elements may compromise the stream and its habitat values.

Measures should be required to ensure that the proposed community's well fields do not affect Cottonwood Creek's water sources. Community water and stormwater infrastructure should not be placed or operated in a manner that interferes with the creek's habitat values. And, as stated above, the location of specific trails and buffers along the creek should be established early in design in consultation with resources management agencies to ensure that these features protect the creek's habitat values.

11-5

Mr. Rayburn Beach
June 14, 2007
3

Surveys for the presence or absence of many sensitive plant and wildlife species likely to inhabit the project site are deferred in the DEIR, and are instead required in the future per a mitigation measure. Since some regulated species are presumed by the County's consulting biologist to be on the site, it would be efficient and responsible to require the surveys, determine avoidance and/or compensatory mitigation, and redesign the project as necessary prior to certifying the EIR. For example, although Figure 5.4-1 of the DEIR implies finite (and unrealistic boundaries) for the presence of California Tiger Salamander, it "must be considered potentially present" and possible mortality, or "take," is a significant project impact per the DEIR Biological Assessment, Appendix C. Without comprehensive investigation of biological impacts and identification of mitigation in the DEIR, public and agency review cannot be thorough or balanced.

11-6

The DEIR states (p. 2-19), "The NFV-1 Specific Plan specifies formation of a Community Services District to operate and maintain all open space areas...The CSD will operate and maintain all parks, open spaces, trails, stormwater basins, reclaimed water basins, irrigation systems, plant and tree upkeep, as well as any other open space designation not currently referenced." For the nearby River Ranch Estates project, the County of Madera required any community services district formed to maintain parks within the project to also include maintenance of Parkway river access areas. Due to the magnitude of impact on the Parkway and Millerton Lake State Recreation Area from use by the large projected population of North Fork Village, the County should require a fair share contribution toward maintenance and operation of adjacent public recreation lands. The Conservancy can provide initial and projected operations and management cost estimates for adjacent Parkway facilities that will serve the project community, an assessment of the various potential revenue sources, and facilitate analyses required to develop equitable support mechanisms. The incremental cost to the rate payers would be minimal.

11-7

The potential for unwanted human access and trespass at the project boundary with Millerton Lake SRA is proposed to be mitigated by a future Boundary Zone Plan identifying specific access control measures (fences, signs, etc.), landscape treatments, and fire hazard reduction measures. Although smaller in scale, similar impacts will occur at the Parkway/North Fork Village boundary. It is requested the County include the Conservancy in the development of the plan.

11-8

The Conservancy supports the proposed mitigation measures promoting public awareness of and education about the natural resources, recreational resources, and wildfire danger in the area. These types of future collaborative projects among the Conservancy, its member agencies and partners, and the communities could provide a foundation for cooperatively addressing the parties' common goals and varied interests over time.

11-9

Please contact me at (559) 253-7324 or Melinda.Marks@srjc.ca.gov if you have any questions or need additional information about the Conservancy or San Joaquin River Parkway.

Respectfully,



Melinda S. Marks
Executive Officer

TOPIC

Letter 11. San Joaquin River Conservancy (6/14/07)

Response 11-1

These comments accurately summarize impact information presented in the current EIR and prior Rio Mesa Area Plan EIR.

Response 11-2

This comment concerning the need for the County's full consideration of all aspects of the project is noted.

Response 11-3

The Conservancy's support for these measures designed into the project is noted.

Response 11-4

Early consultation with the Conservancy, resource agencies, and DPR in the definition of specific trail alignments and location of primary trailheads will take place pursuant to Mitigation Measures LU-2, LU-4, PR-2, and B-11. Primary trailheads shall be open to the general public.

Response 11-5

All wells are existing and will not be operated in a manner that interferes with the habitat value of Cottonwood Creek. Storm drain detention basins are located outside the habitat protection corridor of Cottonwood Creek, ensuring that the corridor continues as a riparian habitat for native species. Trails shall be established via consultation prescribed in Response 11-4.

Response 11-6

The EIR provides for a thorough and balanced public and agency review. The Biological Resources mitigation measures include further surveys, compensation, or avoidance where required pursuant to resource agency permit requirements. Timely implementation of these measures will be assured through a Mitigation Monitoring and Reporting Program (MMRP).

Response 11-7

The project CSD will maintain trail facilities along with all park and open spaces within the boundaries of the project. The project does not request cost recovery from any outside agency for operations and maintenance of project parks, trails and open space, specifically as the project will be constructing a vital link between two regional trail systems which will incur high volumes of usage by non-residents. For reasons of reciprocity, fees will not be paid to outside agencies for maintenance of off-site trails. Per the DEIR, the State of California has an existing fee system for operations and maintenance of State facilities.

Response 11-8

The project boundary zone with the Parkway is defined by the Madera Canal, which separates the planned South Creek Neighborhood (EIR Exhibit 3-7) from acquired Conservancy land. EIR Exhibit

5.1-3 presents an Illustrative Development Concept for this area. The County will review project development plans with the Conservancy at the common boundary, and will consult the Conservancy in the definition of a precise trail alignment along Cottonwood Creek at its connection to the Parkway regional trail system.

Response 11-9

The Conservancy's comment of support is noted.



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

LETTER #

Letter 12
Page 1 of 1

June 12, 2007

Olivia Dias
County of Madera
Planning Department
2037 W. Cleveland Ave.
Madera, CA 93637

Project: North Fork Village Specific Plan Draft Environmental Impact Report

Subject: CEQA comments regarding the Draft EIR for the North Fork Village project

District Reference No: 200700776

Dear Ms. Dias:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the project referenced above and offers the following comments:

Upon review of the project and its alternatives, the District concurs with the Draft EIR that even with the incorporated mitigation, the project will still have a significant and unavoidable impact on air quality.

12-1

District staff is available to meet with you and/or the applicant to further discuss the regulatory requirements that are associated with this project. If you have any questions or require further information, please call Jon Klassen at (559) 230-5843 and provide the reference number at the top of this letter.

Sincerely,

David Warner
Director of Permits Services

for

Arnaud Marjollet
Permit Services Manager

DW: jk

[Faint, illegible text]

Seyed Sadretin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061
www.valleyair.org

Southern Region
2700 M Street, Suite 275
Bakersfield, CA 93301-2373
Tel: (661) 326-6900 FAX: (661) 326-6985

3.3 - Regional and Local Agencies

Letter 12. San Joaquin Valley Air Pollution Control District (6/12/07)

Response 12-1

The District's concurrence with EIR air quality impact findings is noted.



County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING
ALAN WEAVER
DIRECTOR

LETTER

Letter 13
Page 1 of 3

June 12, 2007

Madera County Resource Management Agency
Planning Department, Attn: Rayburn Beach
2037 West Cleveland
Madera, CA 93638

Dear Mr. Beach:

Subject: Draft Environmental Impact Report for the North Fork Village Specific Plan

The Draft Environmental Impact Report (DEIR) was circulated for review within the County of Fresno Department of Public Works and Planning and the only comments we have are on the Traffic Impact Study.

Traffic Impact Study

The Traffic Impact Study (TIS) does not fully address or disclose significant impacts to roads and intersections in Fresno County due to the following:

- A. Section 5.15-1 of DEIR states in parts that, "The PEIR traffic and circulation section included findings that all project specific impacts will be mitigated to a level of less than significant with the implementation of a series of 11 specific plan policies." Since it is Madera County's policy not to require development projects to pay for improvements in other counties, significant impacts to roads and intersections in Fresno County will not be reduced to a less than significant level. 13-1
- B. Background traffic used to determine existing and cumulative conditions are not consistent with other traffic studies in the Rio Mesa Plan. 13-2
- C. The North Fork Village TIS understates cumulative impacts from traffic to Fresno County roads and intersections, as compared to the findings in the River Ranch Estates DEIR, despite the two projects being located within the Rio Mesa Area.

DEVELOPMENT SERVICES DIVISION

2220 Tulare Street, Sixth Floor / Fresno, California 93721 / Phone (559) 262-4055 / 262-4029 / 262-4302 / 262-4022 FAX 262-4893
Equal Employment Opportunity • Affirmative Action • Disabled Employer

- D. Level of Service (LOS) calculations for the intersection of Friant Road/Road 206 and for the Friant Road segment appears to be incorrect. 13-3
- E. The document does not address significant impacts to Millerton Road from Road 206 to Sky Harbor. The addition of 100 or more daily project trips to this road segment would significantly impact this road segment. 13-4
- F. The document discusses the required improvements to Road 206 to the bridge that crosses into Fresno County, but does not indicate whether the subject bridge is adequate to accommodate the impact of traffic coming to and from Fresno County. The County of Fresno requires that the EIR addresses the traffic circulation and impacts to the bridge, and roads leading to bridge from Fresno County. 13-5
- G. Both the TIS report and Addendum No.I have not addressed the impacts of the project on the transportation facilities within the 20-year planning period. To determine significant impacts and mitigation measures to Fresno County roads and intersections in accordance with provisions in the California Environmental Quality Act (CEQA), the County of Fresno requests an additional analysis of roads and intersections within County of Fresno jurisdiction for the following scenarios: 13-6
- Year 2027 without Project Traffic Conditions
 - Year 2027 with Project Traffic Conditions
 - Year 2027 with Project Traffic Conditions with mitigations
- H. On page 4, of Addendum No.I, Section 5.3 (Cumulative Traffic Volume Forecasts) it is stated in part that, "future traffic volume projections are based on the traffic modeling performed by others ". It is not clear from this statement, who performed the traffic modeling for future traffic volumes. The report has not clearly stated the "cumulative development year" and "future year" used in the model. Furthermore, it's not clear if the Cumulative Traffic volumes include the River Ranch/Central Green Project and other upcoming projects, north of Millerton? 13-7
- I. The TIS should provide Traffic Generation information for all Project Land Uses provided in Table 1. 13-8
- J. Addendum No. I has not addressed the opening year for Phase 1 and Phase 2. The County of Fresno requires the report to clearly provide this information. 13-9
- K. The document does not address significant impacts from the project's traffic to the following intersections and road segments: 13-10
- Intersections:
- Friant Road and Willow Ave;
 - Copper Ave and Willow Ave;
- Road segments:
- Friant Road from Willow Ave to Fresno City Limits;
 - Willow Ave from Friant road to Copper Ave.

L. The County of Fresno requires a Mitigation Plan and Final Conditions of Approval, indicating how the project intends to mitigate any significant impacts on Fresno County roads and intersections. The TIS should indicate the pro-rata percentages of the impacts of this project to roads and intersections within Fresno County's jurisdiction and the mitigation measures required to reduce the impacts to a less than significant level.

13-11

Based on the above information, it is apparent that this project may significantly impact road segments and intersections within the Fresno County's jurisdiction. In general, the Fresno County's thresholds are Level of Service C (LOS C) for rural roadways outside the City's Sphere of Influence (SOI) and Level of Service D (LOS D) for areas inside the City's SOI. An impact is considered significant if the project generates more than 10 peak hour project trips at an intersection or 100 daily project trips on any road segment that falls below the acceptable threshold within a 20-year planning period.

13-12

The County of Fresno therefore requires an additional Traffic Impact Study to cover these intersections and road segments.

13-13

Programmatic Environmental Impact Report

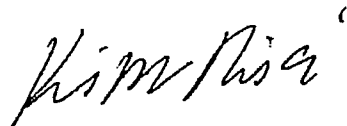
The DEIR has made several references to the Programmatic Environmental Impact Report (PEIR). The County of Fresno requests a copy of the PEIR for reference and verification of findings.

13-14

We appreciate the opportunity to comment on the DEIR. Fresno County requires either a meeting between representatives from Madera County and Fresno County to discuss the discrepancies, or more time to fully determine the project impacts to Fresno County roads and intersections. We look forward to your response on this requirement. Should you have any questions regarding these comments, please contact me at (559) 443-5344 or Email me at hkinuthia@co.fresno.ca.us

13-15

Sincerely,



Henry Kinuthia, Planner
Development Services Division

HK:dl
G:\4360Devs&Plan\EnvPlan\OAR\Madera County\North Fork Village Specific Plan\NOA-EIR\Comments-North-Fork Village EIR.doc

- c: Theresa Acosta-Mena, Development Services Division
- Stan Nakagawa, Transportation Division
- Marina Popov, Design Division
- Wendy Nakagawa, Development Engineering

Letter 13. County of Fresno (6/12/07)

Response 13-1

This comment refers to findings in the certified Rio Mesa Area Plan EIR. The impacts of the NFV-1 project are addressed in the current EIR. Mitigation measures are included to reduce impacts to less than significant levels, including improvements to the Road 206/Friant Road intersection in Fresno County. The applicant will contribute \$187.67/dwelling unit at close of escrow for each of the first 750 dwelling units constructed within the NFV-1 Specific Plan for the construction of a traffic signal at Road 206 and Friant Road. See Response 6-2.

Response 13-2

The NFV-1 Specific Plan exceeded typical traffic impact assessment requirements by analyzing a Cumulative Rio Mesa Area Plan traffic scenario, in addition to the MCTC 2025 Travel Demand Model which included the County of Fresno. This revised model has now been adopted by MCTC as the de-facto model for all of southeast Madera County. The MCTC model differs from the Fresno COG model in that travel demands are modeled in neighboring counties. All future Rio Mesa Area Plan models will utilize the newly adopted cumulative Rio Mesa Area Plan model developed for the NFV-1 Specific Plan. Previous project traffic analyses did not conduct a Cumulative Rio Mesa analysis.

Response 13-3

All LOS calculations for each modeling scenario have been checked and verified. The nature of the alleged calculation error is not provided with this comment.

Response 13-4

Upon review of the Highway Capacity Manual, the LOS for this road segment would not be significantly impacted by 100 daily trips along this road segment.

Response 13-5

The project EIR studied the project impacts to the subject bridge crossing on Road 206, both in terms of Phase I build-out and in an ultimate, cumulative condition. The cumulative model developed prior to the EIR shows that Road 206 is to ultimately be a divided 4-lane road (likely the future alignment of State Route 65). In addition to mitigating its near term impacts through Madera County Road Impact Fees, the project applicant has agreed to a fair share contribution to the San Joaquin River Corridor Traffic Study (SJRCTS) which is evaluating cross county traffic circulation patterns and their respective inter-county impacts. The project applicant has further agreed to pay any fair share impact fees that may result from the SJRCTS. A mitigation measure has been added to the EIR to implement this traffic study fair share contribution (see Section 4).

Response 13-6

See Response 13-2.

Response 13-7

The “traffic performed by others” is referencing the “Documentation of Rio Mesa Cumulative Land Use and Travel Forecasts” found in Appendix B of the TIS. This study was conducted by Korve Engineering with assistance provided by Ennis Consulting.

This report analyzes all of the Cumulative Rio Mesa Area Plan which additionally included Gunner Ranch West and Gateway Village. See Response to Comment 13-2.

Response 13-8

Figure 2 of the “Documentation of Rio Mesa Cumulative Land Use and Travel Forecasts” by Korve Engineering contains all Traffic Analysis Zones (TAZ) evaluated in the Cumulative Traffic Model. All NFV-1 TAZ zones are evaluated as TAZ series 4100-4150. Land use summaries for each TAZ can be found in Appendix A of the subject report which is found in Appendix B of the TIS.

Response 13-9

Project phasing is identified in EIR Section 3.3.6 to occur in phases over a 20 year period. As stated on Page 5 of Addendum No. 1, “It should be noted that complete build-out of the NFV-1 Specific Plan is likely a 20-year project.” The determination of a precise year for opening of Phase 1 is unknown. Determination of an opening year for Phase 2 is speculative, considering market conditions and other unknown variables associated in the development buildout of 2,966 dwelling units.

Response 13-10

The intersections and road segments were analyzed in the “Documentation of Rio Mesa Cumulative Land Use and Travel Forecasts” by Korve Engineering which can be found in Appendix B. The TIS project scope was determined by the County of Madera in conjunction with Caltrans. In addition to mitigating its near term impacts through Madera County Road Impact Fees, the project applicant has agreed to a fair share contribution to the San Joaquin River Corridor Traffic Study (SJRCTS) which is evaluating cross county traffic circulation patterns and their respective intra-county impacts. The project applicant further agrees to pay any fair share impact fees that may result from the SJRCTS.

Response 13-11

Comment noted. See Response 13-1 and Response 13-6. Table 5 and Table 6 of the project TIS and Table 2 and Table 3 of Traffic Study Addendum No. 1 illustrate Level of Service analysis of all respective intersections and road segments required in the analysis.

Response 13-12

Implementation of identified traffic circulation mitigation measures, including project contributions to road improvements and regional traffic studies, will reduce project impacts to less than significant levels. The TIS project scope was determined by the County of Madera in conjunction with Caltrans. The applicant will contribute \$187.67/dwelling unit at close of escrow for each of the first 750 dwelling units constructed within the NFV-1 Specific Plan for the construction of a traffic signal at

Road 206 and Friant Road. The project applicant has agreed to a fair share contribution to the San Joaquin River Corridor Traffic Study (SJRCTS) which is evaluating cross county traffic circulation patterns and their respective inter-county impacts. The project applicant further agrees to pay any fair share impact fees that may result from the SJRCTS.

Response 13-13

See Response 13-12.

Response 13-14

The Program EIR (PEIR) referenced is the Rio Mesa Area Plan EIR which has been incorporated by reference in EIR Section 1.4 and is cited throughout the NFV-1 EIR. As noted on page 1-7, this PEIR is available for inspection at the lead agency, the County of Madera Planning Department, 2037 W. Cleveland Avenue, Madera, CA, 93637

Response 13-15

This comment is noted.

MADERA COUNTY FIRE DEPARTMENT

IN COOPERATION WITH
CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

14225 ROAD 28
MADERA, CALIFORNIA 93638-5715
(559) 675-7799
FAX: (559) 673-2085

MIKEL L. MARTIN
MADERA COUNTY FIRE CHIEF

June 14, 2007

Letter 14
Page 1 of 2

TO: Madera County Planning Department
Attention: Philip Toler

FROM: Mikel Martin, Fire Chief
By: Roscoe Rowney, Division Chief

SUBJECT: North Fork Village-1 Draft EIR

The Fire Department has received the above report and has the following comments\:

- 1) Section 5.13.3 is incomplete and not entirely factual. Station 9 is staffed by a single Cal Fire captain or engineer; there is one type 2 fire engine stationed there. Station 19 is also staffed 24/7 by a single Cal Fire captain or engineer and has an active PCF (paid-call firefighter) company. It has two type 2 fire engines, a water tender, and a squad. County Station 17 (O'Neals), which is an entirely PCF station, presently runs a single type 3 fire engine.
- 2) Mitigation measure PSF-FS-1 commits the developer to construct and dedicate to the County "a fire station and minimum equipment" and stipulates that the developer will be repaid that expense via mitigation funds from subsequent construction. It should be clearly understood that, before entry into a burning building for an interior attack, there must be five firefighters on scene as well as the commanding officer. It is the Department's position that "minimal equipment" should be at least two type 1 custom cab/chassis pumpers. Depending on the type of commercial construction, one of those pumpers may instead have to be a ladder truck. Staffing for this equipment should be assured by the developer until the the proposed alternative, a CSD, is effectual. The question is also left open as to the station site – is it to be dedicated to the County or does the developer intend to include the site's value in the mitigation payback? This now brings up the issue of whether this is a legitimate use of such mitigation funds. The Department believes that "station and minimal equipment" should be a condition of the development and should be in place prior to any other building construction. The normal building construction fees realized by the County should not be

14-1

14-2

given to the developer but rather be used to offset impacts from the inevitable further expansion of the development as well as those impacts this development will have on the established fire service to the adjacent rural areas.

14-2
CONT.

- 3) The provision for fire service hinges on the General Plan's provision that urban areas should have maximum ten-minute response times for emergency incidents. This provision is, at best, liberal. The NFPA (National Fire Protection Association) standard for urban settings is four minutes. Considering this standard, two fire stations would be warranted. I noted above that five firefighters must be on scene to make an entry into a burning building. Time trials show that the nearest fire stations, 17 and 19, are more than ten minutes from a large portion of the proposed development, so an effective first response would still, under this proposal of one fire station, be over the ten minutes it tries to achieve.
- 4) This project will mean an increase in personnel and equipment maintained by the County. Fire Department support functions – mechanics, clerical, etc., are affected by increases in personnel and equipment.
- 5) The project, as proposed, requires mitigations of additional equipment and an additional fire station. The type of equipment and precisely where it is to be located is quite rightly left open, as nearby development will certainly have a bearing on that decision. The Department's major concern, however, is that there must be an ongoing and reliable source of funding for staffing that facility(ies). The community services district is, in the Department's opinion, the correct route. Such a district should be in placed prior to any construction and should be a condition of approval of the plan.
- 6) One additional point – On page 5.7-7 reference is made to "California Division of Forestry"; the correct name is California Department of Forestry and Fire Protection.

14-3

14-4

14-5

14-6

Thank you for the opportunity to comment on this project. If you have questions or need further clarification of Fire Department issues, I may be contacted at the above address and telephone number.

Letter 14. Madera County Fire Department (6/14/07)

Response 14-1

This additional information updating the RMAP EIR is noted. The first paragraph of page 5.13-6 in the current EIR is deleted, and replaced with the following text:

Station 9 is staffed by single Cal Fire captain or engineer; there is one type 2 fire engine stationed there. Station 19 is also staffed 24 per day, 7 days a week by a single Cal Fire captain or engineer, and has an active PCF (paid-call firefighter) company. It has two type 2 fire engines, a water tender, and a squad. County Station 17 (O'Neals), which is an entirely PCF station, presently runs a single type 3 fire engine.

Response 14-2

The Fire Department's position on what constitutes "minimal equipment," adequate staffing, and use of mitigation funds are noted. The terms of conveyance of a dedicated station site will be addressed in the Development Agreement.

Response 14-3

Fire response Mitigation Measures PSF-FS-1 and PSF-FS-2 are consistent with County policy as reflected in the General Plan, and described on page 5.13-7 of the EIR. The dedicated and improved fire station at the project site will allow response times to meet or exceed the County standard.

Response 14-4

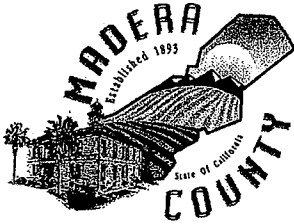
The need for fire personnel, equipment, and support functions to increase with areawide growth is noted. As discussed on EIR page 5.13-8, cumulative development within the County of Madera and the RMAP area (including the NFV-1 project area) will ultimately affect fire protection services and result in the need for expansion of fire service capability as the area is developed. Additional fire personnel and equipment for the proposed project will be provided through development impact fees, countywide tax revenues generated by future projects, in conjunction with a Community Services District financed by a special tax assessment on residents living within the specific plan area.

Response 14-5

See Responses 14-3 and 14-4.

Response 14-6

EIR page 5.7-7, fourth paragraph, is corrected to read California Department of Forestry and Fire Protection (CDFFP).



RESOURCE MANAGEMENT AGENCY

DEPARTMENT OF FIRE PREVENTION FOR DEVELOPMENT

Rodger Maggio, Fire Marshal

2037 W. Cleveland Avenue
Madera, CA 93637-8720
(559) 661-5190
FAX (559) 675-7639
TDD (559) 675-8970
Rodger.Maggio@madera-county.com

Madera County
Fire Prevention – Environmental Impact Report Review
Rodger Maggio, Fire Marshal
(559) 661-5191

Letter 15
Page 1 of 1

Date: June 14, 2007

Project: North Fork Village #1, Administrative Draft EIR

Status: Exceeds the Threshold of Operational Significance (unless mitigated)

1. Response Time: Bona fide studies indicate that fire apparatus traveling on flat terrain cover approximately 1.5 miles in 5 minutes, making the travel time to this development well over 10 minutes under ideal conditions. As this project approaches “build-out” and other proposed retail developments in this general area are completed, traffic volumes will increase resulting in a net increase in fire department response times. Furthermore, the indicated response times does not include “turn-out” time or “alarm” or “dispatch” time. This is commonly referred as “reflex” time resulting in 2 minutes additional total response time. Reliable data used in the fire service indicates that fires go from first flame to “flash over” (the point where the entire area of a building is fully involved with flame) in 7 minutes, and for cardiac arrest, brain death occurs in 4-6 minutes without emergency medical intervention. While response time goals stated in the Administrative draft EIR are consistent with the County’s General Plan and RMAP they are way off the mark of a 4 minute travel time standard set by NFPA 1710. 15-1
2. Staffing: The Administrative Draft is vague on the issue of fire department staffing. This document does not discuss “critical tasking”, which is the number of fire fighters necessary to accomplish fire ground functions in order to mitigate a fire incident. A typical single family residential structure fire requires 12-15 fire fighters on scene within the first 8 minutes of the alarm in order to successfully mitigate a structure fire. Please discuss how this development will specifically mitigate the need for increased staffing, including the number of fire fighters required. 15-2
3. Fire Protection Report: A detailed fire protection report prepared by a fire protection engineer is required. The report shall include mitigation measures resulting from location, topography, geology, flammable vegetation, and climate of the proposed site, as well as fire department capabilities, staffing and critical task. The report shall address water supplies, access, building ignition resistance, fire protection systems and equipment, defensible space and vegetation management. 15-3
4. Fire Flow: Water supplies to achieve required fire flows for structures in this development have not been addressed. Fire flow for residential projects shall be at least 1000 gallons per minute at a minimum 20 psi residual pressure. Fore commercial developments the fire flow shall be at least 1500 gallons per minute. The minimum duration of fire flow shall be 120 minutes. 15-4

Letter 15. Madera County Department of Fire Prevention (6/14/07)

Response 15-1

See Responses to Letter 14. The project will provide a dedicated, improved fire station to meet or exceed the County fire response standard.

Response 15-2

See Response 14-4.

Response 15-3

The project will comply with County standard conditions of approval for fire protection and the fire services mitigation measures identified in the EIR on pages 5.13-8, -9.

Response 15-4

See Response 15-3. The project will comply with the fire flow requirements of the County Department of Fire Prevention. Fire flow requirements have been considered in the Infrastructure Master Plan and were included in determining the flow required to meet peak demands.



Community Systems Associates, Inc.

"the leader in facilitating community facilities consensus"

3367 Corte Levanto, Costa Mesa, California 92626

(714) 838-9900 (714) 838-9998 fax

ecomunitysys@earthlink.net

June 11, 2007

Mr. Ray Beach, Planning Director
Madera County Planning Department
County of Madera
2037 W. Cleveland Avenue MS-G
Madera, California 93637

Letter 16
Page 1 of 6

Subject: Comments of the Chawanakee Unified School District

Notice of Availability of Draft Environmental Impact Report
North Fork Village Specific Plan
Friant Development Corporation – John Kesterson

Dear Mr. Beach;

This letter is submitted by Community Systems Associates, Inc. on behalf of the Chawanakee Unified School District ("CUSD" or "District"), and is presented as the formal position of the District on the proposal as described herein. Community Systems Associates, Inc. is the retained consultant of the Chawanakee Unified School District and this letter has been authorized to be presented to the County of Madera.

The District is in receipt of the County of Madera ("City") Notice of Availability ("Notice") of a Draft Environmental Impact Report ("Draft EIR") dated April 10, 2007 with regards to the proposed North Fork Specific Plan and subsequent development ("Proposal" or "Project"). The Proposal includes the following applications which have been filed with the County and are being considered in the Draft EIR:

1. Specific Plan
2. Environmental Impact Report

The Draft EIR indicates that the County actions or approvals to implement the Project and develop the Project include approval of the: 1) Environmental Impact Report; 2) Specific Plan; 3) Vesting Tentative Tract Map(s); and 4) Development Agreement between Friant Development Corporation and the County of Madera.

The proposed Project site or area ("Project Site" or "Project Area") contains approximately 2,238-acres located within Madera County ("County") in southern Madera County, approximately 1 mile northwest of Friant Road ("Property"). The Project proposes a development of a comprehensive planned conversion of the 2,238-acre site to

Mr. Ray Beach
Planning Director
Madera County Planning Department
County of Madera
June 11, 2007
Page 2 of 6

Letter 16
Page 2 of 6

urban uses. The planned community as proposed would consist of 1,437 acres of rural to high density residential units, 172 acres of commercial and mixed use and 629 acres of major open space. The Project proposes as a part of the various land uses to be developed in the Project, 2,966 residential dwelling uses. Much of the residential land uses are within a gated community. The Draft EIR indicates that a 14.8-acre school site has been designated to be located in the South Mesa Neighborhood which has been selected and approved by the District representatives. The District also notes that the Land Use Plan for the Project sets forth a Land Use Overlay of "Elementary School" on 230-acres of Very Low Density Land Uses.

The Notice provides that the County of Madera is the Lead Agency and has prepared the Draft EIR on the Proposal. The Notice provides that there is a 45-day review period, beginning April 10, 2007 and ending on June 14, 2007.

The County seeks the comments of the District as to adequacy of the content of the Draft EIR in connection with the Proposal. The Notice provides that the responses are to be sent to the County no later than June 14, 2007.

16-1
CONT.

The District provided responses to the Notice of Preparation of the Draft EIR of June 26, 2006 and forwarded to the County a letter on September 19, 2006 incorporated herein by reference. That letter set forth the comments of the District further indicating what the District judged to be areas that the Draft EIR should address in order to provide a complete environmental analysis in accordance with the CEQA Guidelines. The CEQA Guidelines require the Draft EIR to include the information responding to the areas requested in the September 19, 2006 letter to be addressed.

The District is a local and public agency that will be affected by the impacts of the adoption and implementation of the Project. This letter is intended to be entered into the public record of the County on the Project, and is further intended to present the District's comments with regards to the contents of the Draft EIR, in order to protect the District's administrative and legal remedies. It further provides the District's comments as to the adequacies of the Draft EIR.

The District is pleased that the representatives of Friant Development Corporation has been regularly meeting with the District over the past year in an attempt to address the impacts of the development of the Project on the District, including adequately funding required interim and permanent schools facilities and District-wide support facilities. These meetings have been very constructive. In addition, the discussions have fruitfully led to understandings with regards to the designation of appropriate sites within the Project to locate required school facilities that will serve the students generated by the Project consistent with the mitigation measures set forth in the Rio Mesa Area Plan. The District is very pleased with the direction that these negotiations and discussion have

16-2

Mr. Ray Beach
Planning Director
Madera County Planning Department
County of Madera
June 11, 2007
Page 3 of 6

Letter 16
Page 3 of 6

taken. Although a final agreement has not as of yet been executed between the District and the Developer, the District is confident that an agreement will be entered into prior to the consideration of the Project by the Planning Commission of the County, in order for the County to find that the Project is in conformance with the Rio Mesa Area Plan with regards to school facilities to accommodate students generated by the Project.

In light of the fact that the District and Developer are cooperating towards the preparation and entering into a school facilities mitigation agreement, it does not appear to be necessary at this time to offer any comment on the Draft EIR, as is has been presented. In addition, we believe that the mitigation measures set forth in the Draft EIR provides reasonable protection to the District to insure that the school impact issues of the Project are addressed by the Developer. The Draft EIR states:

“The applicant, developer, and/or successor-in-interest shall be responsible for the following:

PSF-S-1 Prior to the approval of the first Tentative Tract Map in the NFV-1 Specific Plan area, the Developer shall dedicate a school site located in the South Mesa Neighborhood approved by the Chawanakee Unified School District and the State Architect.

PSF-S-2 Prior to the issuance of building permits, the project applicant shall pay Developer (school) impact fees to the Chawanakee Unified School District in accordance with Section 65995 of the Government Code for the proposed residences.

PSF-S-3 The project applicant shall provide Madera County with certification from the Chawanakee Unified School District that school mitigation has been accepted by the District prior to the approval of the Final Tract Map pursuant to the District’s request.”

Specifically, we believe that the requirements that the Developer (project applicant) shall provide the Madera County with certification from the Chawanakee Unified School District that school mitigation has been accepted by the District prior to the approval of the Final Tract Map pursuant to the District’s request, is an effective mitigation measure that when adopted by the County and included in the Mitigation Monitoring Program of the Project, would provide the District with the protection that the District sought through its prior letter of September 19, 2007.

These mitigation measures are consistent with the Rio Mesa Area Plan mitigation measures. The Draft EIR states that:

16-2
CONT.

16-3

“According to the RMAP (Rio Mesa Area Plan”, a mitigation measure required that “residential rezone, general plan amendment, tentative parcel/final map requests shall not be approved unless accompanied by a finding that school facilities to accommodate projected students consistent with service level standards will be available in a timely manner to serve the project or that the project includes phasing conditions to ensure coordination of residential construction and school construction consistent with policy (Mitigation Measure 4.15.5.6).”

16-3
CONT.

The District wants to acknowledge the cooperative and collaborative position that the Developer has taken towards addressing the school issues. The Developer should be commended for his commitment and intention to address the school issues in ways that exceed State requirements. The financial commitment to providing funding for schools facilities, the designation of property for the development of schools within the Project, and the long-term relationship that is being formed between the Developer and the District, will provide a quality of education and facilities that will enhance the development and provide for the residents of the Project.

16-4

This should be noted in light of the processing of other similar developments in the Rio Mesa area and the District. The District intends to seek from other development applicants the same level of cooperation and collaboration as has been offered by the Developer of the Project. With the incorporation of Mitigation Measure PSF-S-3 and the execution of a School Mitigation Agreement prior to the final approvals on the Project and the certification of the Final EIR on the Project, the District can support the Project, subject to the terms and conditions of a proposed School Mitigation Agreement.

We hereby request that a copy of any revised Draft EIR or Final EIR, along with the response to comments received on the Draft EIR be forwarded to the following for further review:

Dr. Stephen Foster
Chawanakee Unified School District
P.O. Box 400
33030 Road 228
North Fork, California 93643

16-5

Mr. Marshall B. Krupp
Community Systems Associates, Inc.
3367 Corte Levanto
Costa Mesa, California 92626

In addition we hereby request that all further public hearings and public meeting notices also be issued to the above addresses.

In conclusion, the District wants the County to understand the formal position of the District with regards to this Project and other development proposals with the District. First, the District is fully committed to the collaboration and negotiation of school facilities implementation and financing agreements with developers to address the school facilities, interim facilities, District-wide support facilities, and student transportation requirements that are and will be required by new development. To this end, the District is open to all creative financing and implementation tools that developers or their consultants may offer. The District will not place itself or its general fund at risk, or compromise its financial, operational, or school facility design requirements or policies at an unnecessary risk, nor will it allow the financing of facilities for projects or the impacts of those projects on the Chawanakee Unified School District's operations or facilities to be placed on the backs of existing constituents of the District.

Second, although the District wants to work expeditiously towards agreements with developers, the District must also protect the District's interest in the legal entitlement processes, and as such, will be responding to all notices issued by the County of Madera and will be participating in all public hearings so that the District does not jeopardize or compromise any remedy options should the District not reach agreements with developers.

16-6

These two processes may appear to be conflicting. However, the District is committed to doing everything possible to work in good faith towards a solution to the issues that the District and the development community face with regards to development impacts.

This letter is intended to insure that the District exhausts all of its administrative remedies that it has available at this point in the processing of the Draft EIR in order to transparently disclose and offer its comments with regards to the Project.

The District reserves the right to provide further comments on the Draft EIR and the Specific Plan in conjunction with the processing of such approvals by the County of Madera, including comments, testimony, or evidence referring to any of the entitlement documents and reports, findings, and resolutions and ordinances that may be considered and adopted by the County of Madera. We do not currently foresee that this will be necessary based on the current negotiations and following the entering in to a school facilities mitigation agreement with the Developer.

Mr. Ray Beach
Planning Director
Madera County Planning Department
County of Madera
June 11, 2007
Page 6 of 6

Letter 16
Page 6 of 6

Thank you for your assistance and consideration.

Sincerely,

Community Systems Associates, Inc.
on behalf of the
Chawanakee Unified School District



Mr. Marshall B. Krupp
President

MBK:mbk
County of Madera – North Fork EIR Notice of Availability 07-12-07 CUSD

Cc: Dr. Stephen Foster
Chawanakee Unified School District
P.O. Box 400
33030 Road 228
North Fork, California 93643

Mr. John Kesterson
Friant Development Corporation
7740 N. Fresno St., Suite 104
Fresno, CA 93704-2409

3.4 - Districts, Organizations and Individuals

Letter 16. Community Systems Associates on behalf of Chawanakee USD (6/11/07)

Response 16-1

These comments recite the District's understanding of the proposed project, County actions and approvals, and the District's prior comments on the project, but do not raise any substantive environmental issues with regard to the adequacy of the EIR.

Response 16-2

These comments concerning cooperation between the District and developer and concurrence with the mitigation measures in the EIR are noted.

Response 16-3

This comment indicates the school mitigation measures in the current EIR are consistent with prior RMAP school mitigation policy.

Response 16-4

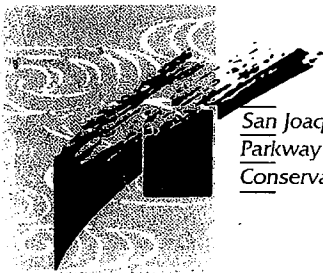
See Response 16-2.

Response 16-5

The copy and notice requests are noted by the County.

Response 16-6

The District's comments do not raise any substantive issues with regard to the adequacy of the EIR.



San Joaquin River
Parkway and
Conservation Trust, Inc.

June 13, 2007

Rayburn Beach, Planning Director
Madera County
2037 West Cleveland Ave.
Madera, CA 93637

Letter 17
Page 1 of 7

Subject: DEIR for North Fork Village

Dear Mr. Beach:

Thank you for this opportunity to provide comments on the Draft Environmental Impact Report for North Fork Village (NFV), which is dated April 18, 2007. The DEIR defines NFV as a series of actions that will develop 2,238 acres in the Rio Mesa Plan Area.

Our Interest in the Project

The San Joaquin River Parkway and Conservation Trust's interest in the project stems from its mission to preserve and restore San Joaquin River lands having ecological, scenic, or historic significance, to educate the public on the need for stewardship, to research issues affecting the river, and to promote educational, recreational, and agricultural uses consistent with the protection of the river's resources.

Additionally, the Trust holds a Deed of Conservation Easement, protecting a 700-acre cattle ranch immediately to the north of the Project. The Ranch provides an important public resource to the community as a working landscape, preservation of scenic and ecological values, and an important wildlife corridor for Millerton State Park and the San Joaquin River.

The DEIR indicates that NFV will bring approximately 9,000 residents to the project area. The conversion of the working landscape and the demand that future residents will have on the San Joaquin River Parkway and Millerton State Park are significant. For these reasons, we have reviewed the DEIR and submit the following comments.

The San Joaquin River Parkway and Millerton State Park

The development of NFV proposes to add about 9,000 new residents that will place an increased demand for use and access of the San Joaquin

BOARD OF DIRECTORS:

Coke Hallowell
President

David Grubbs
Vice President

Ed Grootendorst
Treasurer

Margaret Thorburn
Secretary

Candy Barnes
Sheri Bohigian
Bart Bohn

Valencia Burch
Jane Campbell
Brad Castillo

Bryan Corcoran
George Folsom
Jim Ganulin

Lynn Hemink
Patrick Kelly
Jim Marshall

Jim Meyers
Georgia Murach
Carolyn Nolan

Kristina Ortiz
Thomas Richardson
Cecelia Sheeter

Kevin Statham
Anna Wattenbarger
Jennifer Williamson

17-1 Dowling, Aaron & Kee
Christopher A. Brown
General Counsel

Dave Koehler
Executive Director

HONORARY DIRECTORS

Donn Furman

DIRECTORS EMERITI:

Jim Costa
Clary Creager
Rebecca Gomes

Karen Humphrey
Ed Kashian
Richard Lehman

Michael Paoli
Joseph Penbera
Ron Rempel

17-2 Gene Rose
Mary Savala
Ralph Waterhouse

IN MEMORIAM:

Paul Chaffee
Lewis S. Eaton
Garland Johnson

Tom McMichael, Sr.
Leonard Meyers
John Wissler

River Parkway. However, the project offers no offset to provide financial resources for related impacts on the Parkway's use and operation. A mitigation measure should be added that would provide a fair share contribution to the on-going use and operation of the adjacent Parkway.

17-2
CONT.

We recognize and appreciate the project proponent's inclusion of a recreational trail along Cottonwood Creak and the other trail connections to the Parkway and Millerton State Park. The CEQA and project documents for NFV should make it clear that the trail alignments and construction of the trails as depicted on Exhibit 3-10 are part of the proposed project. As the DEIR identifies, there are numerous sensitive resources in the area and that DEIR should be modified to provide for the specific alignments to be determined early in the process in order for the County, San Joaquin River Conservancy, and responsible agencies to agree on an acceptable location. Deferral of locating a specific alignment at this time could place future trails in conflict with an adopted project's policies for resource protection.

17-3

The Trust recognizes the importance of Millerton State Park as the upstream anchor of the San Joaquin River Parkway. The State Park is also referenced as an important resource in the San Joaquin River Parkway Master Plan. The DEIR identifies that the project will have a significant impact on the Park's natural and scenic resources. The project also creates a significant increase on the use of the Park but relies on the State Park day use fees to offset the impact. This type of offset as mitigation is unreasonable as the State Park struggles now to provide sufficient maintenance resources for its existing services. The project should include a fair share contribution to increase the Park's capacity as well as maintenance. Therefore, we share the concerns expressed by the California Department of State Parks and incorporate their comments into this letter.

17-4

The DEIR identifies that a Development Agreement with Madera County for NFV is contemplated. Such a Development Agreement should include a provision for the parks and open space maintenance funding mechanism to create the fair share contribution to the San Joaquin River Parkway and Millerton State Park.

17-5

Concern for the Protection of Cottonwood Creek and its Watershed

Cottonwood Creek is an important resource to our organization as a water source to the San Joaquin River, important habitat supporting sensitive species, and a wildlife corridor to the foothills.

17-6

The DEIR does not adequately address the potential impacts to Cottonwood Creek that may result from pumping ground water from underneath it. Seven wells are proposed to be placed along the Creek. This creek sustains critical riparian habitat for fish and wildlife. The DEIR identifies that pumping water from fractured bedrock such as this produces asymmetric drawdown configurations and that there is a linkage between bedrock fractures, surface water, and interbasin ground water flows. We are concerned that the pumping of ground water could create a disturbance and/or drawdown of the creek's surface water flows and thereby create a detrimental impact to habitat and wildlife. Additional analysis should be provided to determine the inter-relationship between ground water pumping and surface water flows as well. Safeguards to protect these resources should be put in place.

17-6

For the benefit of all concerned, it would be best if a water supply and infrastructure plan for the Rio Mesa Area Plan were developed and approved prior to consideration of the North Fork Village project.

17-7

The DEIR identifies Cottonwood Creek as the only wildlife corridor through the NFV development project. The DEIR states that the project proposes a setback of 150 feet from the creek as a protection zone and that there will be an additional recreation zone. Because of the significance of Cottonwood Creek as a public resource, we recommend the project be modified to provide a wildlife and resource protection zone of 200-feet with an adjacent 150-foot passive natural area recreation buffer for a trail and similar activities. This recommendation is the same corridor protection policy recommended for the river in the San Joaquin River Parkway Master Plan. It is recommended for Cottonwood Creek due to its critical role as a corridor for wildlife movement and its importance as a natural filter for maintaining water quality. The project document should be modified to be clear that the Cottonwood Creek wildlife corridor and recreation buffer zones will be maintained in a natural state and an on-going monitoring program implemented to sustain the creek's riparian habitat and good water quality.

17-8

We are concerned that the DEIR states that weirs, water detention basin, and other flood and groundwater structures will be constructed in existing water drainages. The project document should be modified to be clear that all of the development's infrastructure would be located outside of the creek's wildlife corridor protection zone. Storm water and recharge facilities should avoid using concrete and hardscape structures whenever feasible and instead utilize non-structural techniques such as native vegetation swales, willow-waddles, and creation of seasonal wetland areas.

17-9

Biological Resources

The DEIR identifies several sensitive plants and wildlife species may occur on the projects site. Since some of these are very likely to occur and related habitat protection regulations will require portions of the development plan to be redesigned, it would be prudent to conduct the recommended biological surveys prior to the County taking action on the proposal.

17-10

For example, the California tiger salamander is known to exist on the Hallowell Ranch, adjacent to the proposal. The most recent sighting of this animal took place there on May 30, 2007, near the Hallowell home site. Since there are similar habitat values over much of the project site, it is very likely that a conservation zone of such areas will be required by federal and state agencies. We believe it would benefit all concerned to conduct surveys for sensitive species now in order to design the project knowing what the mitigation requirements for sensitive species will be. In this way, the public will better understand what the real impacts of the project are and the project proponent will have the opportunity to shape conservation zones on the project site with the greatest benefit for public resources as well as the development.

17-11

In our letter to Madera County dated December 14, 2006, providing our comments on EIR Scoping for NFV, we requested that the EIR contain an analysis of the project's impact on the San Joaquin River Restoration Settlement, *NRDC v Rodgers*. We note that the DEIR does not provide such an analysis and we again request that the potential impacts resulting from NFV be evaluated. The Settlement sets dates for restoration of a fall and spring Chinook salmon run. Cottonwood Creek in an undamed tributary to the San Joaquin River, its mouth entering just below Friant Dam. Historically, salmon used the creek significantly until their demise in the 1940's and it will likely be an important resource for the river's restoration effort and future salmon populations. The DEIR should evaluate the project's impact on Cottonwood Creek as a resource for the multi-agency San Joaquin River Restoration Program effort led by the Bureau of Reclamation Mid-Pacific Region.

17-12

Significant and Cumulatively Significant Impacts

There DEIR identifies numerous public resources that will be impacted significantly and remain so even after mitigation measures are applied. The affected resources such as natural and scenic beauty define the character of southeastern Madera County. These levels of impacts appropriately raise concerns about pursuing the project and suggest an environmentally superior alternative be considered.

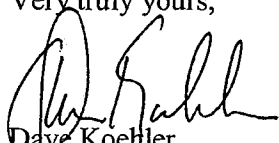
17-13

Assistance and Future Notices

Thank you again for this opportunity to comment. We will welcome the opportunity to meet and discuss our comments with the County, project proponents, and responsible agencies. The Trust requests to receive a copy of all reports and notices regarding NFV. I can be contacted at 559-248-8480 ext. 112.

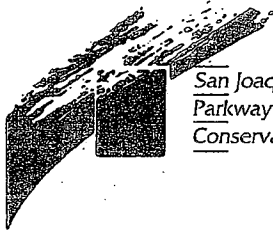
17-14

Very truly yours,



Dave Koehler
Executive Director

Attachment: Trust's December 14, 2006 comments on EIR Scoping



San Joaquin River
Parkway and
Conservation Trust, Inc.

December 14, 2006 (Sent Via Fax, 559-675-6573)

Ray Beach, Planning Director
Madera County
2037 Cleveland Avenue
Madera, California 93637

Letter 17
Page 6 of 7

Subject: Kesterson Project, North Fork Village
Input for EIR Scoping

Dear Mr. Beach:

Introduction

The San Joaquin River Parkway and Conservation Trust (River Parkway Trust) hereby submits this letter to the Madera County Planning Department in response for input on the scoping of an Environmental Impact Report for the Kesterson Project, North Fork Village. We understand the Kesterson Project to be the division of approximately 1,161 acres into residential and commercial development.

The River Parkway Trust requests that this letter be included in the public record for scoping meeting to be held on Friday, December 15, 2006.

Our Interest in the Project

The River Parkway Trust' interest in the project stems from it's mission to preserve and restore San Joaquin River lands having ecological, scenic, or historic significance, to educate the public on the need for stewardship, to research issues affecting the river, and to promote educational, recreational, and agricultural uses consistent with the protection of the river's resources.

Additionally, the River Parkway Trust holds a Deed of Conservation Easement, protecting a working cattle ranch immediately to the north of the Project. The Ranch provides in important public resource to the community as a working landscape, preservation of scenic and ecological values, and an important wildlife corridor for Millerton State Park and the San Joaquin River.

BOARD OF DIRECTORS:

Coke Hallowell
President

David Grubbs
Vice President

Ed Grootendorst
Treasurer

Margaret Thorburn
Secretary

Candy Barnes
Sheri Bohigian

Bart Bohn
Valencia Burch

Jane Campbell
Brad Castillo

Sryan Corcoran
George Folsom

Jim Ganulin
Lynn Hemink

Patrick Kelly
Jim Marshall

Jim Meyers
Georgia Murach

Carolyn Nolan
Kristina Ortez

Thomas Richardson
Cecelia Sheeter

Kevin Statham
Anna Wattenbarger
Jennifer Williamson

Dowling, Aaron & K
Christopher A. Brow
General Counsel

Dave Koehler
Executive Director

HONORARY DIRECT

Donn Furman

17-15 DIRECTORS EMERIT

Jim Costa
Clary Creager
Rebecca Gomes
Karen Humphrey
Ed Kashian
Richard Lehman
Michael Paoli
Joseph Penbera
Ron Rempel
Gene Rose
Mary Savala
Ralph Waterhouse

IN MEMORIAM:

Paul Chaffee
Lewis S. Eaton
Garland Johnson
Tom McMichael, Sr
Leonard Meyers
John Wissler

Comments for Scoping the Environmental Impact Report and Project

The River Parkway Trust requests the following be considered in the EIR and Project Design:

1. Protection of the Hallowell Ranch, approximately 700 acres immediately to the north of the project, as a working landscape for cattle ranching, and for the other open space and wildlife values protected in perpetuity by a recorded Deed of Conservation Easement. The River Parkway Trust holds the Conservation Easement. The River Parkway Trust requests that nothing in the Project impacts the continued cattle operation and preservation of the Ranch.
2. Preservation of Cottonwood Creek and a buffer area in order to protect this important tributary to the San Joaquin River; including its water quality, habitat, and wildlife corridor.
3. Incorporation of hiking, biking, and equestrian trails, linking trails within the Project to the San Joaquin River and Millerton State Park.
4. Mitigation of wildlife impacts to be on site or immediately adjacent to the Project, in order that the natural heritage enjoyed by users of the San Joaquin River Parkway and Millerton State Park is not displaced and remains for future generations.
5. Protection of the San Joaquin River water supply and no negative impacts to the San Joaquin River Restoration Settlement, *NRDC v. Rodgers*.

17-15
CONT.

The River Parkway Trust requests to receive a copy of all reports and notices regarding the Project. If I can provide any further information to you, please contact me at 559-248-8480.

Thank you for this opportunity to provide these comments.

Very truly yours,



Dave Koehler

Executive Director

Letter 17. San Joaquin River Parkway and Conservation Trust (6/13/07)

Response 17-1

These comments concerning the Parkway and Conservation Trust's interests in the project are noted.

Response 17-2

See Response 11-7. Mitigation Measures LU-2 through LU-5 have been identified to reduce the impact of the project on Millerton Lakes SRA and the San Joaquin River Parkway to the extent feasible. As a regional resource, it is appropriate that the parkway should look to state and regional funding sources to support on-going use and operations.

Response 17-3

The project proposes to work with the County and San Joaquin River Conservancy early in the process to define a specific trail alignment. See Response 11-4.

Response 17-4

Please see Responses to Letter 10.

Response 17-5

This comment will be considered by County decision-makers in their deliberations on the project. Also, see Response 11-7, 17-2).

Response 17-6

See Response 11-5 and Responses to Letters 22 and 22A, regarding wells, creek flows, and groundwater concerns,

Response 17-7

The Rio Mesa Area Plan required preparation of Infrastructure Plans for logical subareas of the RMAP. The proposed project includes such a plan, as well as a water master plan component of the Specific Plan, and a water supply assessment to assure the availability and delivery of water to serve the project.

The NFV-1 Infrastructure Master Plan report and subsequent master plan sheets are available at the County of Madera. Regional mapping for water supply and infrastructure for the Rio Mesa Area Plan can be found at the County of Madera Planning Department.

Response 17-8

See Responses 1-17 and 9-22.

Response 17-9

These types of facilities will be sensitively located and designed to avoid any impacts upon the riparian habitat along the creek. The project has been designed to avoid all direct impact to Cottonwood Creek and most direct impacts to tributaries of Cottonwood Creek. See Response 9-22.

Response 17-10

See Response 1-21.

Response 17-11

See Response 1-21.

Response 17-12

See Responses 1-17, 9-22 and 11-5. The project has been designed to avoid encroachments within the creek and riparian buffer zone.

Response 17-13

It should be noted that significant and unavoidable aesthetic and scenic impacts were identified in the RMAP EIR. Mitigation measures for these aesthetic impacts are identified in the current project EIR. An environmentally superior alternative capable of reducing aesthetic impacts is identified in EIR Section 8.5

Response 17-14

This comment is noted.

Response 17-15

See Response to Letter 21 regarding Hallowell Ranch; Response 9-22 concerning preservation of Cottonwood Creek; Comments 11-3 and 11-4 from the San Joaquin River Conservancy and responses thereto, concerning provision of trails and linkages to the San Joaquin River Parkway and Millerton Lake SRA; EIR Section 5.4.6, Biological Resources—Mitigation Measures, for mitigation of impacts to wildlife; and EIR Section 5.8, Hydrology and Water Quality, as well as Response 17-12 concerning protection of river water supplies.



County of Madera
Planning Department
Attn: Olivia Dias
2037 W. Cleveland Avenue
Madera, CA 93637

Board of Directors

George Folsom
Chairman

Walt Shubin
Vice Chairman

Jeanette Jurkovich
Treasurer

Lloyd Carter
Secretary

18-1
Gloria Floyd

Coke Hollowell

Steve Haze

Paul Martzen

Gene Rose

Sean Walker
18-2

Executive Director

Chris Acree

RE: North Fork Village Draft EIR Comments

Dear Ms. Dias,

I am writing in response to the draft EIR for the North Fork Village Development adjacent to Millerton Lake State Recreation Area and the San Joaquin River. Reading the impact report it is very clear that there are many potential significant environmental impacts and unavoidable cumulative impacts that will have serious consequences to the San Joaquin River and Millerton State Recreation Area. My organization, Revive the San Joaquin, is involved in restoration of flows to the river below Friant Dam, and the restoration of ecosystems and fisheries that depend on a clean water supply from Millerton Lake. The river stretch immediately below the dam is the critical spawning grounds for the salmon species that are targeted for reintroduction as a part of this restoration effort. It is expected that water from Millerton Lake will be adequate in quality to sustain these spawning grounds, and that a multi-agency effort will be needed to sustain the fishery. The draft EIR does not adequately assess the impacts to the Millerton State Recreation Area and the San Joaquin River Restoration Program goals including a revived salmon fishery. The following sections further discuss concerns with the Draft EIR.

Water quality

The Draft EIR does not properly quantify the potential impacts of development to fisheries in the San Joaquin River from stormwater and wastewater effluent through the Cottonwood Creek drainage basin. Currently, the Cottonwood Creek is relatively undeveloped and flows from the creek follow natural hydrologic patterns as they connect with the San Joaquin at a point below shortly below the dam. The connection is directly upon the most critical spawning areas for the salmon species we

Mission

Promote a collective stewardship that sustains the economic, environmental and recreational benefits of a healthy San Joaquin River, including adequate flows, habitat and native fisheries.

are hoping to see revived during restoration. These expected salmon species would be managed through the Department of the Interior's San Joaquin River Restoration Program Fishery Management Plan and the Fishery Management Workgroup. The scope of work for this restoration management plan will require extensive data collection on a variety of factors that will determine the feasibility of sustaining the fishery in this area. Impacts from the proposed development may pose significant threats to reintroduced salmon species as well as other aquatic species. Because of the proximity of the development and its wastewater discharge plan into the Cottonwood Creek Basin, the development could jeopardize a healthy spawning ground.

18-2
CONT.

Impeding the flow of natural tributary channels through retention basins will impact downstream biological ecosystems by altering the natural flows and reducing flows to Cottonwood Creek during smaller weather events. Construction in these tributaries as well as on adjacent lots will create a significant amount of sedimentation during 25-year storms and more significant weather events. Silt from construction activities, unknown chemicals and pollution from urban runoff may potentially be built up and then flushed during these storm events. It is unclear how much sediment and pollution will be released during these events. Competing objectives of urbanization and salmonid species reintroduction may not be possible on this sensitive stretch of river. Mitigation of these water quality issues could prove difficult if it is found that runoff from a developed Cottonwood Creek area is not compatible with fishery restoration.

18-3

Water Quantity

The Draft EIR does not properly establish a sustainable supply of groundwater to support the development. This region surrounding Millerton Lake is a water short area as exhibited by the necessity of the existing Millerton developments requiring surface water reclassification for municipal use to mitigate deficits in available groundwater, developments including Hidden Lakes Estates, Sky Harbour, Brighton Crest, and Millerton New Town. The smaller lot sizes of this development create a greater groundwater demand in the area and have a higher potential to deplete available water supplies. Demonstrated water supply shows less than 5gpm per residential unit and a reduction in well yields through updated pump tests. The question of sustainable yield can be substantiated by reduced yields in pump retests, the relatively short pump test durations, and the lack of test results conducted during summer and fall months when water supply is limited. Speculation of reduced yields in pump tests for Well B-1 should be mitigated before an EIR is approved.

18-4

No study of the long-term maximum renewable groundwater supply has been conducted for developments on the Madera County side of the lake. The County does not currently have a set of consistent and comprehensive groundwater standards for this area as identified in AB 3030 requirements. Analysis of the regional groundwater overdraft conditions and basin-wide water balance should be considered in the analysis rather than

18-5

a local water balance on a subdivision basis. Reductions in water supply from basin evaporation and evapotranspiration will be significant as wastewater is reclaimed through surface irrigation. Reductions in groundwater flow to the San Joaquin River could potentially affect the regional water balance.

18-5
CONT.

Biological Resources

The Draft EIR does not take into consideration the San Joaquin River Restoration Program and the impacts of development to the goals of a restored salmon fishery. Cottonwood Creek and its tributaries are classified as Waters of the United States and therefore subject to regulation by the California Department of Fish and Game and the California Regional Water Quality Control Board. The CDFG is a participant in the regional habitat conservation plan known as the San Joaquin River Restoration Plan developed by the Department of the Interior. The RWQCB has not established water quality thresholds that would ensure discharge into the San Joaquin River would impact a restored salmon fishery. An extensive set of policies and research documents are being initiated to establish guidelines for maintaining a sustainable fishery. It is not certain that existing Best Management Practices or regulations are significant to protect water quality or quantity for a restored salmon fishery. Impacts to migratory fish species are therefore not adequately addressed or mitigated in this report.

18-6

The Draft EIR identifies a loss of migratory habitat corridors which could have a significant impact to wildlife in the Millerton State Recreation Area. The loss of migratory habitat corridors represents a significant impact to the wildlife of Millerton State Recreation Area and may prove unmitigable. The park, which borders Millerton Lake, provides protection of areas that migratory species rely on for water and feeding. The surrounding properties including land intended for North Fork Village are essential habitat for these migratory species, and destruction of essential corridors for access by wildlife to the lakefront could result in reductions in populations due to cutoff corridors. The biodiversity of the park would be significantly impacted.

18-7

Land Use

The land use section of the Draft EIR does not account for impacts to the San Joaquin River Restoration Program goals. The SJRRP is a habitat restoration effort on the San Joaquin River immediately below the Cottonwood Creek basin. Cumulative project impacts including degraded water quality, reduced water quantity, increased traffic and vehicle pollution across the San Joaquin River, and a reduction in biological diversity are not compatible with river restoration goals.

18-8

The Draft EIR demonstrates land use that is not compatible with the Millerton State Recreation Area goals of habitat preservation and natural resource preservation. The visual, noise, and environmental impacts of the new development adjacent to the Millerton SRA are not compatible with park goals of habitat preservation and natural

18-9

Ms. Olivia Dias
North Fork Village Draft EIR Comments
June 12, 2007
Page 4

Letter 18
Page 4 of 4

resource protection. Land use on surrounding property is an important resource for the Millerton SRA as migratory animal species and endangered plant populations rely on the surrounding properties for habitat corridors and a healthy ecosystem. Urban encroachment will create unavoidable impacts that may decrease the amount of native flora and fauna, while increase invasive species and urban pollution. The visual impacts of commercial and residential developments adjacent to the State Park will also decrease the quality of the visitor experience.

18
17
18-9
CONT.

Thank you for your time in reviewing these comments to the proposed development project. Please feel free to contact me for further explanation of these comments.

Sincerely,



Chris Acree
Executive Director
Revive the San Joaquin

Letter 18. Revive the San Joaquin (6/12/07)

Response 18-1

Impacts to Millerton Lake are adequately addressed in DEIR Section 5.1, Aesthetics; Section 5.9, Land Use; and Section 5.14, Parks and Recreation. As discussed in DEIR Section 5.8, Hydrology and Water Quality, the project has been designed to protect water quality in downstream receiving waters, including Millerton Lake, Cottonwood Creek and the San Joaquin River.

Response 18-2

A thorough evaluation of storm drainage and reclaimed water is provided in the DEIR in Section 5.8, Hydrology and Water Quality. The project does not significantly impact any portion of the existing riparian habitat of Cottonwood Creek and sufficient buffers are also provided. Multiple, onsite detention basins will lie on existing tributaries leading to Cottonwood Creek, ensuring downstream water quality. As also stated in the DEIR, the project will treat wastewater to a tertiary level and will fully reclaim water for on-site landscaping and use area irrigation.

Response 18-3

The comment represents a misunderstanding. The project utilizes 21 “detention” basins and 2 “retention” basins. Construction of the project will increase imperviousness ratios within storm water tributaries. Impervious surfaces include roofs, streets, and sidewalks. Such construction subsequently reduces soil saturation, sub-surface percolation, and areawide evapotranspiration of native plants. These hard surfaces increase the amount of peak flows entering storm water drainages. Such increases in peak flow also contain sediments that must be removed. Detention basins are necessary to reduce peak flows, and time releases said flows at a rate commensurate with historical flow patterns. Detention basins also work to de-silt flows from both high and low frequency storm events and to re-institute percolated waters lost through the construction of hard surfaces.

Response 18-4

EIR Section 5.13.6, Water Supply and Delivery, indicates the pump tests and project water supply assessment demonstrate a sustainable yield from groundwater supplies. See Responses to Letters 22 and 22A.

Response 18-5

The proposed project does not lie within the Madera Sub-basin that is subject to overdraft conditions. Rather, the project will draw upon groundwater within the fractured bedrock aquifer underlying the Cottonwood Creek basin. The Hydrogeologic Analysis by Simons Associates indicates a sustainable yield can be derived from this source. Pursuant to Mitigation Measure 5.8-2, the project will be required to participate in an areawide groundwater recharge program as may be implemented by Madera County or multiple jurisdictions. Additionally, use of reclaimed water for irrigation reduces potable water demands, thus benefiting these supplies.

The comment is in error. The commenter is encouraged to read, “Madera County AB3030 Groundwater Management Plan” written by Todd Engineers, which can be found on the Madera County website (www.madera-county.com). Also, see Responses to Letters 22 and 22A.

Response 18-6

See Response 18-2. BMPs are dictated by the Clean Water Act of 1972. It is unlikely that any Rogers vs. NRDC Settlement would require thresholds of storm water flows to be more stringent than those specified by the Clean Water Act, as salmon currently flourish in other rivers of the United States with existing BMPs established under the Clean Water Act. The project will comply with permit requirements of the RWQCB, USACE, and CDFG to protect streams and jurisdictional waters.

Response 18-7

See Response 18-2, Response 11-5 and Response 1-17.

Response 18-8

The project is not in conflict with these goals. The EIR indicates that substantial project and cumulative impacts to water quality, water availability, and traffic and vehicle pollution would not occur. However, impacts to Hartweg’s golden sunburst population onsite will remain significant. Loss of habitat remains cumulatively significant, as identified in the previous RMAP EIR.

Response 18-9

See Response 18-1 and Responses to Letter 10. Project land use consistency with Millerton Lake State Recreation Area is evaluated in EIR Section 5.9.4 (Impact 5.9-1).

ROLLING HILLS CITIZEN'S ASSOCIATION

10340 Rolling Hills Dr. Madera, California

559 435 5740

LETTER

Letter 19
Page 1 of 6

Madera County Resource Management Agency
Planning Department
2037 West Cleveland Ave.
Madera, CA 93637

Dear Sirs,

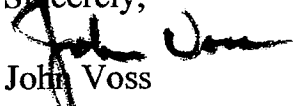
Subject: North Fork Village #1 Environmental Impact Report

We are very concerned with the inadequate and casual nature of the North Fork Village #1 Draft Environmental Impact Report as written. We believe that the draft EIR should be rejected and returned to North Fork Village 1 developers for extensive review and revision. Special attention to potential disruptive impacts their project may have on the underground water supplies and geologic structures of neighboring communities and Madera County.

As illustrated in the enclosed brief, hydrologists, agriculturist, geologists forest service, fish and game, parks and recreation experts, municipal water providers, and many casual observers from all walks of life have long known or seen the many acute problems associated with the over pumping of underground water supplies. Yet the planners, engineers, and developers and others involved in this project and the Rio Mesa Master Plan remain silent. That silence abridges the intent and purpose of an EIR and requirements of CEQE and Madera County.

19-1

Sincerely,


John Voss

GROUND WATER DEPLETION

It's Impacts and It's Touch

“As the nation’s most populous state, California faces many compelling and complicated water problem. Although polls have consistently shown the public’s top concerns are education, job security, crime, and immigration -- water fuels the economy. Proper management of the quality and quantity of the state’s liquid gold is critical to California’s well being.” (USGS, Water Sciences, Ground-Water Depletion.)

No other issue, no other essential, no other element of change, nor no other item of universal concern has the intrinsic ability to set man against man than does the need for water. Will Rogers said it best, when he is said to have coined the phrase, “Whisky is for drinking; water is for fighting over.”

In the United States, ground water is the source of drinking water for nearly half of the total population and nearly all of the rural population, and it provides over 50 billion gallons per day of agriculture. Ground-water depletion, a term often defined as long-term water level declines caused by unsustained ground water pumping, is a key issue associated with our insensitive disregard of water use.

19-2

Many areas of the United States are experiencing ground water depletion. Some of the more noticeable effects of ground water depletion are clearly recognizable, drying up of wells, reducing water flows into streams and lakes, and deterioration of water quality. Others may be less obvious. Pumping costs may be increasing, aquifers may be deteriorating, porous water conductive formations may be drying solidifying and forcing smaller and smaller amounts of water into contaminated pools where it may evaporate or make its way into open exposed streams or drain into the sea.

National: Evidence of ground water over pumping can be seen in most states, ie. more ground water is being pumped than is placed in the ground as recharge. For example, “in Long Island New York, about half of the area’s precipitation becomes recharge to the ground water system, the rest flows as runoff into streams or is lost through evapotranspiration. What little remains

sinks down into streams or laterally and discharges to streams and seawater "(Cohen and others, 1968).

High Plains Aquifer: The Ogallah aquifer underlies a 225,000-square-mile of the great planes and includes parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas and Wyoming. Irrigation pumped from the Ogallah has made this region one of the most important agriculture areas in the country. However beginning in about 1940, area farming and pumping from the Ogallah began to expand. In 1949, about 480 million cubic feet per day was used for irrigation (US Geologic Survey). By 1980 the use had quadrupled to about 2,150 million cubic feet per day and later declined to about 1,870 million cubic feet per day (McGuire and Sharp). However, some places overlying the in the aquifer have exhausted their underground supply as a source of irrigation.

Pacific Northwest: Pumping from the Columbia River Basalt Aquifer in Washington and Oregon for irrigation, public supply and industrial uses has cause water-level declines of more than 100 feet in several years (USGS Water Science for Schools).

Gulf Coast: Ground-water pumping by Baton Rouge, Louisiana increased more than tenfold between the 1930's and 1970, has resulted in ground-water-levels of decline of about 200 feet.

The Memphis Tennessee area is one of the largest metropolitan areas in the world that relies exclusively on ground water for municipal supply. Large withdrawals have caused regional water levels declines of up to 70 feet.

In the Tampa-St. Petersburg area ground water pumping has led to the intrusion salt water and subsidence in the form of the form of sinkhole development and concern about surface-water depletion from lakes in the area. To reduce its dependence on ground water, Tampa has built a desalination plant to treat seawater for municipal supply.

Continued pumping since the 1920s by many industrial and municipal users from the underlying Sparta aquifer have caused significant water-level declines in Arkansas, Louisiana, Mississippi, and Tennessee.

In the Houston Texas area, extensive ground water pumping to support economic and population growth has caused water declines of approximately

400 feet, resulted in extensive land subsidence of up to 10 feet. (USGS Ground-water depletion).

Chicago-Milwaukee area: Chicago has been using ground water since at least 1864 and ground water has been its only source of drinking water for about 8.2 million people in the Great Lakes watershed. This long term pumping has lowered groundwater levels by as much as 900 feet.

Desert Southwest: Increased ground-water pumping to support population growth in "Central Arizona (including Tucson and Phoenix) areas, has resulted in water-level declines of 300 and 500 feet in much of the area. Land subsidence was first noticed in the 1940s and land subsidence of as much as of 12.5 feet has been measured. Additional lowering of the water table has resulted in the loss streamside vegetation. (Ground Water Depletion USGS water science)

Western: The Mojave Water Agency linked land subsidence and water level declines of more than 100 feet between the 1950's and 1990's (USGS, Ground-Water Depletion).

Ground Water Supply: California's ground water storage is about 850 maf, roughly 100 times the State's annual net groundwater use, stored in some 450 ground water basins statewide. Probably less than half of this total is usable because of quality considerations and cost of extraction. However, the large quantity of quality ground water makes it a crucial component of California's total water resource.

In a year of average precipitation and runoff, an estimated 15 maf of ground water is extracted and applied for agricultural, municipal, and industrial use. This is over 20 percent of the total applied water supply statewide, and ranges from 20 to 90 percent locally, depending on the area. However, because of deep percolation and end extensive reuse of applied water, the 1990 level average net groundwater was about 8.4 maf, including about 1.3 maf of ground water overdraft. Overdraft estimates include 0.2 maf due to possible degradation of ground water quality in the trough of the San Joaquin Valley ground basins. In drought years, the net use of ground water increases significantly to 13.1 maf (also includes 1.3 maf of overdraft), which indicates the importance of ground water increases significantly to 13.1 maf (also includes 1.3 maf of overdraft), which indicates the importance of the State's ground water basin and storage facilities to meet

drought year water needs (see Chapter 4). Table 1-2 [not available here] shows the regional ground water use.

Between 1980 and 1990, annual ground water overdraft had been reduced by about 0.7 maf from the 1980 level of 2.0 maf. The reduction is mainly in the San Joaquin Valley and is due primarily to the benefit of imported supplies to the Tulare Lake Region, construction and operation of new reservoirs in the San Joaquin River Region during the 1960 and 1979, and is prudent management of surface and ground water resources, including conjunctive use of those supplies. Table 1-3 level [not available here] shows 1990 level regional overdraft. However, until key Delta issues are resolved and additional water management programs are implemented, the reduction in overdraft seen in the last decade in the San Joaquin Valley will reverse as more ground water pumped to make up for reductions in surface water supplies from the Delta. In the long term continued overdraft is not sustainable and must be addressed in local and State water management plans. As such, overdraft is not included as a future supply. (California Water Plan, 1994..

San Joaquin Valley: “The compaction of unconsolidated aquifer system that can, and frequently do accompany excessive ground-water pumping is by far the single largest cause of subsidence. The overdraft of such aquifer systems has resulted in permanent subsidence and related ground water failures. The “water of compaction” cannot be restored (USGS, Land Subsidence in the United States).

19-2
CONT.

Evidence of such non-restorable aquifers is very apparent in the San Joaquin Valley southwest of Mendota where water levels have dropped precipitously. As a reminder of earlier day a large power pole has been marked subsidence levels in 1925, 1955, and 1977. Today, that “sink hole” is more than 36 feet deep (USGA Fact Sheet 165-00).

AQUIFER DETERIORATION: Human activities such as (1) ground water withdrawals and irrigation, (2) changes in the natural flow patterns, for agriculture and consumptive uses, (2) changing in natural and storm water run-off patterns, (3) expected impacts on neighboring and down stream communities and (4) storm and drainage patterns must be accounted for in judging environmental impacts on local neighborhoods and down stream aquifer the calculation of a water budget. Because any water that is used must come from somewhere, human activities affect the amount of water

and the rate of movement of water in the system, entering the system and leaving the system. (USGS, Ground-Water Resources-Circular 1186).

Eastern Madera County: Since 1978, water levels just north of Rolling Hills (Ranchos) have declined an average 7 1/2 feet while the wells along the south edge of Rolling Hills have declined more than 2 feet per year. In the Ranchos area water levels continue to recede on average, about 7 1/2 feet per year. In the Rolling Hills/Root Creek area, "there have been greater losses in the water level in wells farther from the San Joaquin River which is the major source of recharge to the ground-water in the area." (Kenneth D. Schmidt and Associates, 2003).

Underground water contamination, in the form of blue-green deposits, brown deposits, slime producing organisms, manganese, arsenic, and chloride, all at manageable levels --- so far have all been found in Rolling Hills wells. (Kenneth D. Schmidt and Associates, 2003)

19
19
19-2
CONT.

Letter 19. Rolling Hills Citizen's Association (Undated)

Response 19-1

The project's impacts on groundwater supplies are adequately addressed in EIR Sections 5.8, Hydrology and Water Quality; Section 5.13.6, Water Supply and Delivery; and the water supply assessment (Appendix F). The Hydrogeologic Analysis prepared by Simons Associates indicates a sustainable yield available to serve the project.

Response 19-2

This attached brief citing examples of documented groundwater depletion is noted. Also, see Response 18-5, and Responses to Letters 20 and 20A.



770 L Street, Suite 800
Sacramento, California 95814
main 916.447.0700
fax 916.447.4781
www.stoel.com

STACY E. GILLESPIE
Direct (916) 319-4649
segillespie@stoel.com

June 14, 2007

Letter 20
Page 1 of 15

**VIA FACSIMILE (559/675-6573) AND
FEDERAL EXPRESS**

Rayburn Beach, Director
Madera County Planning Department
Mail Stop G
2037 W. Cleveland Avenue
Madera, CA 93637

**Re: Madera Irrigation District's Comments to Madera County's Draft Environmental
Impact Report, North Fork Village-1 Project
State Clearinghouse #2006011101**

Dear Mr. Beach:

The Madera Irrigation District ("District") has reviewed the Draft Environmental Impact Report ("DEIR") and the Water Supply Assessment for the project identified above. To evaluate the DEIR and the Water Supply Assessment, the District retained Kenneth D. Schmidt, an expert hydrogeologic engineer, to review and provide comments. Enclosed as "Attachment 1" are Mr. Schmidt's comments, which the District incorporates herein and adopts as its comments, in addition to the following:

1) The water supply for the North Fork Village-1 Project ("Project") purportedly comes solely from groundwater sources. However, a portion of the water supply actually relied upon is defined as "potentially recoverable water." The water identified as potentially recoverable water is surface runoff throughout the Cottonwood Creek watershed. This supply is not groundwater but surface water that drains into the Creek then to Millerton Lake and the San Joaquin River, a fully appropriated surface system. The Project relies on the surface supply of the watershed through a series of catchment areas and detention ponds. Surface supply may not be captured without obtaining a water rights permit from the State Water Resources Control Board ("SWRCB").

20-1a

20-1b

Oregon
Washington
California
Utah
Idaho



Mr. Rayburn Beach
June 14, 2007
Page 2

The DEIR and Appendix F assert, without substantial support, that the potentially recoverable water is the difference between precipitation and evapotranspiration as if drainage in the Project site is directly piped underground rather than draining to connected surface water. As a result, the DEIR fails to adequately demonstrate a reliable amount of recoverable water or address the reasonably foreseeable Project impacts resulting from the use of surface water. As a result, the DEIR fails to discuss how the potentially significant impacts to Cottonwood Creek and the San Joaquin rivers and water users thereof will be mitigated.

20-1c

2) At DEIR page 5.8-11, recoverable basin yield is defined as the difference between precipitation and evapotranspiration in the two catchment areas within Cottonwood Creek and Millerton Lake. The annual precipitation and estimated evapotranspiration is then determined to derive potentially recoverable water from the Project site of 5,562 acre-feet per year. This assumes all rainfall in the Cottonwood Creek and San Joaquin Watershed at the Project site becomes groundwater. This assumption is blatantly false and directly countered by the extensive stormwater detention basins proposed by the Project. (See also Appendix F at pp. 20-21.) This theoretical water supply is not supported by any technical or factual analysis.

20-2a

The stormwater detention basins are specifically located in the drainage channels. (DEIR p. 5.8-20.) Surface water flowing within a defined bed and banks is water of the State subject to State SWRCB jurisdiction. The Project is not only installing wells within the bed and banks of Cottonwood Creek and the San Joaquin River, but also proposing detention basins within these areas. This is tantamount to appropriating a surface water, which requires an appropriative permit from the SWRCB. In addition, the "drainage system" is projected to "store 250 acre-feet of stormwater" and that water will be "allowed to percolate to the groundwater basin." (DEIR, p. 5.8-20.) Such activities are subject to SWRCB jurisdiction and require an appropriate right.

20-2b

Further evidence of this Project's actual reliance on surface water is the fact that the "groundwater is assumed to be derived primarily . . . from influent seepage along stream and drainage courses." (DEIR, p. 5.8-10.) Consequently, this may be characterized as water flowing underground in a known and defined channel subject to SWRCB jurisdiction. (See also Appendix F, pp. 9-10.)

20-2c

As proposed, the Project is actually relying on surface water from a system that is fully appropriated. Groundwater and surface water use downstream of the Project site will be impacted as well as impacts to the environment. None of these patently significant impacts have been analyzed, mitigated or considered in the Water Supply Assessment

20-2d



Mr. Rayburn Beach
June 14, 2007
Page 3

Section 5.8.3 outlines the thresholds of significance as provided by the State CEQA Guidelines. As provided, a project would normally have a significant effect on the environment if it would substantially alter the existing drainage pattern of the site or area. (DEIR, p. 5.8-17.) The Project anticipates 23 basins, including 21 detention and 2 retention basins to capture stormwater flows). (DEIR, p. 5.8-19.)

20-2e

The system will occupy nearly 28 acres and store 250 acre-feet of water. This system would retain the majority of the stormwater. During “high frequency storm events,” the water would be allowed to percolate to the groundwater basin. (DEIR, p. 5.8-20.) During the frequency storms, stormwater would also be stored and allowed to percolate. (DEIR, p. 5.8-21.) The basins are intended to follow the “natural path” and drainage patterns. There is no information as to the natural drainage patterns with regard to flow amounts, and how capturing and storing 250 acre-feet will be mitigated to allow natural drainage patterns. There is no information regarding storage times release patterns, flow amounts, impact surface supply, and evapotranspiration.

20-2f

The DEIR fails to analyze the significant environmental impacts and cumulative impacts associated with this extensive drainage alteration. The DEIR concludes the impacts to water quality caused by the inability of the basins to contain peak flows will be diluted by the large flows in Cottonwood Creek and the San Joaquin River. (DEIR, p. 5.8-21.) There is no information or analysis to support this conclusion. The DEIR fails to properly analyze the impacts of the alteration of drainage on water quality.

20-2g

3) The DEIR concedes that due to the continued depletion of the groundwater supplies the cumulative impacts to San Joaquin River would remain significant. These surface supplies are fully-appropriated. The DEIR fails to adequately address the reasonably foreseeable impacts of supplying water to the Project.

20-3a

The assertion that recharge supplies come from groundwater, rather than originating from Cottonwood Creek (along which the shallowest wells are located) and Millerton Lake watersheds is not meaningfully substantiated and assumes a likelihood that bedrock fractures cross these divides. Appendix F asserts that the boundaries of the aquifer or fractures are difficult to assess and remain unknown. No water-level maps were presented that would indicate which way the water flows. Characterizing the well interference as “apparently random” is another indication that the they type or location of bedrock fractures are unknown. Consequently, the conclusions regarding the existence of a sufficient water supply to meet the Project’s demands are unsubstantiated, as are the related impacts caused by groundwater depletion. In addition, the DEIR fails to discuss how the impacts will be mitigated.

20-3b



Mr. Rayburn Beach
June 14, 2007
Page 4

The impacts on water availability to downstream legal users will be significant. If the surface flows of Cottonwood Creek and the San Joaquin River are impaired due to the Project, there will be additional impacts to groundwater levels, with the resultant subsidence in some areas. The DEIR must consider the cumulative and long-term impacts to agriculture and associated communities that will result from reduced availability of currently available water supplies and discuss how the impacts will be mitigated.

20-3c

The DEIR stated the agricultural lands have been irrigated with surface water from the San Joaquin River based on historical riparian rights. (DEIR, p. 5.8-24.) Future projects downstream plan to use "San Joaquin River Holding Contracts" to supply water to their developments and this will help conserve groundwater supplies. (DEIR, p. 5.8-25.) No analysis supports this conclusion. Moreover, this conclusion fails to consider the current challenges made to holding contractors' claims, especially those attempting to rely on these contracts and increase San Joaquin River water use. Nor does this conclusion consider the impacts associated with the San Joaquin River settlement that will directly impact water supply from the river. Finally, the Project will directly affect the amount of water entering San Joaquin River and none of the associated impacts resulting from less water in the river have been identified, analyzed and mitigated. The DEIR fails to analyze direct impacts of reasonably foreseeable impacts and cumulative impacts of the Project.

20-3d

4) The data supporting the well-pumping tests at Appendix F fails to indicate whether Cottonwood Creek was flowing during the tests, the duration of the pumping, the length of time the pumping ceased before being resumed, and, therefore, does not sufficiently demonstrate a consistent supply to meet a sustained and constant demand. The DEIR fails to adequately address the reasonably foreseeable significant impacts of supplying water to the Project.

20-4

5) The well tests failed to evaluate supply while all interconnected wells were pumped simultaneously. The test results do not approximate the realities of the projected demands for water. Appendix F at page 22 concludes, without explanation, that performing tests on the interconnected wells simultaneously is infeasible. To the extent the projected water supply relies on recharge, the DEIR fails to identify or discuss where the recharge comes from insofar as the Project's demand requires constant pumping.

20-5

6) The DEIR states that the Rio Mesa development projects which rely on groundwater are expected to have significant adverse cumulative impacts on the Madera groundwater basin. The DEIR provides that since no countywide groundwater recharge program exists, this cumulative

20-6



Mr. Rayburn Beach
June 14, 2007
Page 5

impact is unavoidable. It fails to provide any discussion of whether a feasible mitigation measure exists or whether a feasible mitigation measure cannot mitigate the impact. The DEIR fails to provide what the ramifications are regarding the unavoidable impacts. The DEIR may not be adopted without the inclusion of a meaningful discussion of the irreversible impacts, a discussion of potential mitigation measures, including an analysis of alternative water supplies.

20-6
CONT.

7) The DEIR provides that to partially mitigate groundwater impacts, the Rio Mesa Area Plan ("RMAP") proposes to form a Community Services District ("CSD") or some equivalent district to manage supply, storage and distribution, among other responsibilities. No commitment is established and no requirement exists that a CSD or similar entity will in fact be created. A majority of landowners may protest its formation which would preclude the formation of any such entity, including LAFCO approval. The identified impacts are not satisfied or reduced by a theoretical solution; mitigation measures must be fully enforceable.

20-7

8) The DEIR identifies potentially significant impacts associated with depleted groundwater sources. As a mitigation measure, the Area Plan project is required to participate in any areawide groundwater program "as may be implemented by Madera County" or other jurisdictions. The identified impacts to groundwater resources are not satisfied or reduced by a theoretical solution; mitigation measures must be fully enforceable.

20-8

9) The NFV-1 Specific Plan calls for the creation of a CSD to maintain the stormwater basins and the associated facilities. No requirement exists that a CSD will in fact be created. The identified water quality impacts are not satisfied or reduced by a theoretical solution; mitigation measures must be fully enforceable.

20-9

10) The DEIR's water supply analysis and discussion in the Water Supply Assessment ("Assessment") fail to identify or provide any contingency plan for failed or collapsed wells. Failure to provide any redundancy in the system is an inadequate protocol given the demand by a planned residential community. The documents also fail to account for fire emergencies or other catastrophic interruption of water supplies. At a minimum, a surface supply entitlement should be obtained and approved as a back-up measure. The documents simply do not include any contingencies in the event the *anticipated* long-term water supply (which is all that it is) fails to materialize. As a result, the Project's ability to meet the long-term demands are unsubstantiated and the related impacts are not identified, analyzed, or mitigated.

20-10

11) The Assessment does not satisfy the criteria set by Senate Bill 610 (Chapter 643, Statutes of 2001, amending Water Code section 10910 et seq.) to determine whether the Project's water

20-11a



Mr. Rayburn Beach
June 14, 2007
Page 6

demand is supported by a reliable and sufficient water supply. For example, the Assessment asserts: "According to Ennis Consulting, given the fact that the previously conducted well test data were generated during an unprecedented drought, and that no development using groundwater has occurred around the Project vicinity, it is anticipated that the existing groundwater aquifer will prove adequate for the next 20 years." (Assessment, p.47.) An assumed probability of well yields is insufficient to demonstrate available water, particularly given the well test's deficiencies. Absent is any discussion as to whether the project demand will be met by the projected water supply. (Water Code § 10910(c)(4).)

20-11a
CONT.

The Assessment merely adopts the conclusions rendered in Appendix F, which are the result of relatively infrequent and incomplete well tests which did not test the interconnected wells simultaneously and did not occur over a sustained period of time. The well tests do not accurately reflect the realities of the Project's consistent level of demand. The pumping tests fail to sufficiently demonstrate an adequate supply for the demand during a normal year because so few tests were conducted. The performance of isolated well tests as conducted here, during limited occasions and repeated over several years does not sufficiently demonstrate the likelihood of an adequate supply to meet the consistent level of demand during an entire year.

20-11b

Given the inadequate discussion regarding the water supply to meet the Project's demands in a normal year, the Assessment for a drought year and multiple drought years assessment is also deficit. The Assessment identifies the same acre-feet supply (2,215) for normal, single dry and multiple dry years. The supply for drought conditions merely assumed that because the well tests were conducted after a drought period, the test results approximate dry-year and multiple dry-year conditions. This assumption is flawed. It does not account for the depletion of groundwater pursuant to the consistent levels of the Project's reductions to full build out and does not consider other foreseeable demands. (Water Code § 10910(c)(3), (4).) The DEIR provides that the Rio Mesa development projects which rely on groundwater are expected to have significant adverse cumulative impacts on the Madera groundwater basin. Nevertheless, the Assessment improvidently assumes that in the year 2030, after the onset of new and significant groundwater demands, the groundwater supply will be the same as it is today without any reductions as contemplated by the Project. As a result, the reliability and quantity of long-term water supply necessary to meet the Project's demands at full build out are not adequately discussed or demonstrated as reliable with sufficient specificity. (Water Code § 10910(c)(3), (c)(4), (f)(5).)

20-11c

20-11d

Appendix F, the report by Melvin C. Simons, is the basis for the Assessment's summary conclusion that an adequate and reliable supply exists for the Project's long-term demands, and



Mr. Rayburn Beach
June 14, 2007
Page 7

largely reproduces the Simons report. The following excerpts from Appendix F demonstrate that Assessment's adoption of the projected well production and recharge supplies is premature and unsupported, as is the Assessment's conclusion that a long-term water supply exists to meet the Project's demand:

We recommend that this study be reevaluated at no more than the 1000 unit and 2000 unit development milestones in order to contrast our assumptions versus actual production and demand data that have been acquired to these points. **In a sense this study will continue to be considered preliminary until the final development phase has been implemented.** (DEIR, Appendix F, Melvin C. Simons report, p.30 (emphasis added).)

It is important to make a distinction between the *potential water available* to wells in the Project area, i.e., recoverable water as discussed above, and the *actual water developed* to this point. Apart from sustainability of the catchment areas, the most challenging part of this study is to determine the yield of a given well when it is affected by pumping of other nearby wells. For example, pumping at Well 2 induces drawdowns at Wells 3, 14, 15, and 17. These wells are all interconnected. Pumping of any one will affect the yield at the others. **The only way to conclusively demonstrate the result of well interconnectivity of well yields would be to pump all five wells together. This is clearly infeasible and leaves only estimate solutions with multiple assumptions to address the problem.** (DEIR, Appendix F, Melvin C. Simons report, p.22 (emphasis in bold added).)

20-11e

The true pumping capacity of Well 14 will only be determined when Well 14 is outfitted with a line shaft turbine pump. [T]he production from Well 14 is unprecedented in the experience of Melvin C. Simons Associates. (DEIR, p. 5.8-9.)

This unprecedented production is not explained nor substantiated nor the conclusion drawn regarding Well 14's capacity.

The retest of Well B-1 showed significantly lower production and caused substantial drawdown in observation wells during the retest. These results were inexplicable, since the static water level in the well was significantly greater in September 2006 than it was in February and March 1991. (DEIR, p. 5.8-9.)



Mr. Rayburn Beach
June 14, 2007
Page 8

12) Because the source of water for the Project is groundwater:

The Assessment fails to include detailed information about the groundwater basin from which the Project's water is supplied and fails to identify whether the basin is overdrafted or projected to become overdrafted, and fails to include any discussion of how the long-term overdraft condition will be eliminated. (Water Code § 10910(f)(2).)

20-12a

The Assessment fails to discuss the detailed hydrologic studies that have been conducted in Madera County since 2004 through several Department Water Resources grant programs. (See enclosed letter from Mr. Schmidt, comment no. 6.) (Water Code § 10910(f)(4).)

20-12b

Because the water source for the Project has never before been received by the public water system the Assessment is required to identify any other public water systems or contract holders that receive a water supply from the same source. (Water Code § 10910(e).)

20-12c

13) The Assessment fails to identify all the water entitlements, water rights, or water service contracts relevant to the Project. (Water Code § 10910(d)(1).) As previously discussed, said entitlements, rights, or contracts include those pertaining to the Cottonwood Creek and San Joaquin River surface flows.

20-13

14) The purported capital outlay program for the construction of the Project's water system is inadequate. The financing of the program has not been adopted by the public water system because presently there is no public water system. (Water Code. § 10910(d)(2)(B).) The capital outlay program only identifies the costs and the phasing of the construction but fails to sufficiently identify any financing. The creation of the CSD is not guaranteed. Unknown is who or what entity will ensure the implementation of the program, whether new developments will pay their "fair share," how the fair share is determined, or whether the voters will vote in accordance with the existing plan.

20-14

In summary, based on the above comments and those in the enclosed letter, the DEIR and Assessment fail to explain clearly and coherently how long-term demand is likely to be met with the identified water source and fails to explain or identify the environmental impacts of exploiting the identified groundwater sources. Based on the DEIR's failure to identify and discuss these impacts, the DEIR fails to discuss how those impacts will be mitigated. The DEIR

20-15




Mr. Rayburn Beach
June 14, 2007
Page 9

and Assessment should be revised accordingly. The necessary revisions will be of such significance that the document must be released again for public review and comment as a draft.

20-15
CONT.

Very truly yours,


Stacy E. Gillespie
Stoel Rives LLP
Counsel to
Madera Irrigation District

SEG/mws

Encl.

cc: (w/encl.)
Alan Turner
Barbara A. Brenner

VALLEY OAK EXECUTIVE SUITES



COPY

Date: 6-13-2007

Number of pages including cover sheet: 6

COPY

516 W. Shaw Avenue, Suite 200, Fresno, CA: 93704 Phone (559) 221-2600

FAX

Letter 20
Page 10 of 15

To: Barbara Brenn

North Fork Village Project

Phone: _____

Fax phone: 916-447-4781

CC: _____

From: Ken Schmidt & Assoc.

Phone: (559) 224-4412

Fax phone: _____

REMARKS: Urgent For your review Reply ASAP Please comment

KENNETH D. SCHMIDT AND ASSOCIATES
GROUNDWATER QUALITY CONSULTANTS
600 WEST SHAW, SUITE 250
FRESNO, CALIFORNIA 93704
TELEPHONE (559) 224-4412

Letter 20
Attachment A
Page 11 of 15

June 7, 2007

Ms. Barbara A. Brenner
Stoel Rives
770 L Street, Suite 800
Sacramento, CA 95814

RE: North Fork Village 1
Draft EIR

Dear Barbara:

I have reviewed the hydrology parts of the EIR, except for the missing January 2007 document. Following are my comments.

1. Supporting data in the hydrogeologic report (Appendix F) was lacking, for example, the actual measurements for the pump tests, which are normally appended in such reports. Also, the discussion of each specific test in the text was minimal. A very important issue is where the pumped water was discharged (i.e., near the pumped wells or not).

20A-1

2. While the short-term yields were relatively high when the wells were pumped alone (usually during winter months), very large draw-downs were observed for some tests. This indicates substantial well interference. A proper evaluation of well interference would include boundary conditions, which was not done. The report (Appendix F) concludes that it was infeasible to jointly pump test interfering wells, but this is the only way to help determine the sustainability of the well pumpage for the proposed project.

20A-2

3. The amount of "potentially recoverable water" was largely used in Appendix F as the basis for trying to demonstrate a sustainable water supply. In considering the water budget for the Cottonwood Creek watershed (where the South Well Field is located), the difference between precipitation and evapotranspiration is runoff. The evapotranspiration estimates weren't supported by any backup information. The report essentially equated "potentially recoverable groundwater" to potentially recoverable surface water and groundwater. This approach is not applicable, unless a dam is built along Cottonwood Creek, and surface water rights are addressed. Also, streamflow records for Cottonwood Creek indicate

20A-3

KENNETH D. SCHMIDT AND ASSOCIATES
GROUNDWATER QUALITY CONSULTANTS

Letter 20
Attachment A
Page 12 of 15

that most of the flow occurs during relatively short time periods. Most of this water would run off and not be "recoverable" by well pumping. Recoverable groundwater alone wasn't addressed in Appendix F.

20A-3
CONT.

4. In Appendix F (Recharge Sustainability), potentially recoverable water was evaluated based on average conditions. The evaluation should be done for drought conditions, during which for several consecutive years the precipitation would not exceed the evapotranspiration. Under those conditions, little potentially recoverable water would be present, unless enough groundwater was in storage. This is confirmed by streamflow records for Cottonwood Creek during drought periods.

20A-4

5. Groundwater pumpage in such a setting must come from water that would otherwise have been consumed by evapotranspiration on the watershed or have run off. Since the project site covers only a small part of the entire Cottonwood Creek watershed and a localized watershed north of Millerton Lake, most of the pumpage would have to come from decreased surface water runoff. This important impact wasn't discussed in the DEIR or associated documents.

20A-5

6. Detailed hydrogeologic studies have been conducted in Madera County since 2004 through several DWR grant programs. The areas evaluated include the Oakhurst Basin, North Fork area, Coarsegold-Yosemite Lakes area, Raymond, and Hensley Lake-Daulton Ranch areas. In all of these areas, groundwater has been shown to be moving towards topographically low areas, normally drainages or streams, as expected. This is because these low points are locations of groundwater discharge. The same conditions should be present along the lower part of Cottonwood Creek, near the confluence with the San Joaquin River, and just above Millerton Lake.

20A-6

Water-level elevation contours for the project site weren't provided or discussed in Appendix F. However, approximate water-level elevations can be estimated from the data provided. These elevations indicate that the direction of groundwater flow along Cottonwood Creek has been in the downstream direction, toward the San Joaquin River. There is no evidence of groundwater flowing beneath the river to the area south of the river. Rather, the San Joaquin River is a topographically low area and a point of groundwater discharge. For the North Well Field, groundwater level elevations should be compared to Millerton Lake water surface elevations, to see if there is a connection.

KENNETH D. SCHMIDT AND ASSOCIATES
GROUNDWATER QUALITY CONSULTANTS

7. There was no discussion in Appendix F or other parts of the DEIR of the relation between pumpage of shallow groundwater (above a depth of about 100 feet) in the South Well Field and streamflow in Cottonwood Creek. Much of the production from most of the wells along Cottonwood Creek that were pump tested was from fractures less than 100 feet deep. No evidence was presented that shallow groundwater in these fractures and streamflow are not hydraulically connected. Available data indicate that seepage of streamflow from Cottonwood Creek is the major source of recharge to the groundwater in shallow fractures beneath Cottonwood Creek. No separating layer of other material in the subsurface was demonstrated.

20A-7

8. The streamflow records presented for Cottonwood Creek (page 17 of Appendix F) were for 1995-2004. However, streamflow records are available for the Cottonwood Creek streamgage for 1950-2006. These longer records are most useful in evaluating drought conditions. For example, during 1987-1990, there was a total of only about 200 acre-feet of streamflow in Cottonwood Creek at the streamgage in a four-year period. These records clearly indicate that seepage from Cottonwood Creek streamflow can't annually recharge the groundwater proposed to be pumped for the project from the South Well Field. Also, the amounts of "recoverable water" provided in the draft EIR aren't correct for drought periods, even if one or more dams were built at the site and surface water could be directly accessed.

20A-8

9. Recharge from on-site precipitation was acknowledged to be small in Appendix F. Together with streamflow seepage, the recharge would likely be less than 200 acre-feet per year during drought periods. Thus the project pumpage in drought periods would have to come primarily from groundwater in storage.

20A-9

10. The foregoing information means that during a severe drought period, there would have to be enough groundwater in storage and accessible to the supply wells to provide most of the required pumpage. However, the amount of storage was not determined in Appendix F or any of the other documents that were provided.

20A-10

11. I estimate that only about 60 to 70 acre-feet of water were actually pumped from the tested wells during the tests. This is too small an amount to verify a sustainable amount of groundwater in storage (i.e., several thousands of acre feet) during a drought period. Also, the disposition of the pumped water for the tests wasn't discussed, and some of the water may have been recycled from the surface to shallow fractures during the pumping periods.

20A-11

KENNETH D. SCHMIDT AND ASSOCIATES
GROUNDWATER QUALITY CONSULTANTS

4

12. The declining well yields shown in Appendix F were projected out to only 120 days of pumpage. However, based on records of precipitation and Cottonwood Creek streamflow during drought periods, the pumping duration without significant recharge (excluding from Millerton Lake) could be four years or longer. The projection for Well No. 1 (1990 test), when pumped alone, indicates a zero well yield after about 70 days of pumping. Well No. 2 wasn't pumped in a manner that the long-term yield could be determined. The projection for Well No. 13 (1989 test), when pumped alone, indicates a zero well yield after about two to three weeks of pumping. If a pumping time of four years was used for the drought periods, and the supply wells were pumped simultaneously, much lower well yields would be indicated. Longer duration tests for simultaneously pumped wells are necessary to determine the sustainable groundwater supply for the proposed project.

20A-12

13. Drawdowns during the pump tests were provided in Table 5 of Appendix F, and these ranged from about 3 to 168 feet. Drawdowns in other supply wells commonly ranged from about 20 to more than 80 feet. For the South Well Field, these are very large drawdowns when considering the distance between supply wells (most about 300 to 1,200 feet apart), the relatively short duration of the tests, and other factors. If the wells in the South Well Field were pumped simultaneously for longer periods (i.e. 30 to 60 days), one or more boundary conditions would likely be encountered. This is due to the cones of depression intersecting less fractured rock on either side of the highly fractured zone along Cottonwood Creek. These conditions would result in greater drawdowns and much lower well yields than projected.

20A-13

14. Table 3 of Appendix F provides information on the water-level recoveries following pumping of the tested wells. Even though most of the wells were pumped alone for durations of about 10 to 16 days, full recovery wasn't demonstrated, except for Wells No 2, 17, and 19. It is important to document the time required for full recovery. This is because the longer it takes to recover, the more hours the pump must be left off during actual operation. Consideration of this factor also significantly reduces the projected obtainable yields from hardrock wells. For example, if a well is pumped for 10 days and takes 20 days to recover, then the yield is only about one-third of that projected if water-level recovery is neglected.

20A-14

15. The sustainability of the groundwater supply was assumed in

20A-15

KENNETH D. SCHMIDT AND ASSOCIATES
GROUNDWATER QUALITY CONSULTANTS

5

the water supply assessment (March 12, 2007). However, the last paragraph of Appendix F indicates that "this study will continue to be considered preliminary until the final development phase has been implemented". Also, on page 22, "The only way to conclusively demonstrate the result of well interference on well yields would be to pump all five wells (No. 2, 3, 14, 15, and 17) together. This is clearly infeasible and leaves only estimated solutions with multiple assumptions to address the problem". The SB 610 evaluation requires that a sustainable water supply be demonstrated up front, not many years later. I conclude that a sustainable groundwater supply for the proposed project was not demonstrated by Appendix F or the other associated documents. In addition, the impact of development of groundwater on the site on streamflow was not adequately evaluated.

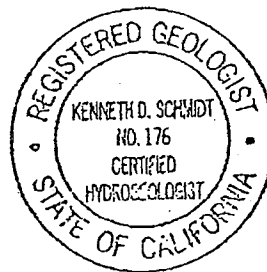
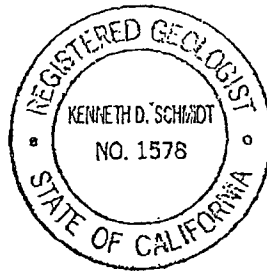
20A-15
CONT.

Sincerely Yours,



Kenneth D. Schmidt

KDS/pe



Letter 20. Steel Rives, LLP for Madera Irrigation District (6/14/07)

Response 20-1a

This comment reads: "A portion of the water supply actually relied upon is defined as "potentially recoverable water". The water identified as "potentially recoverable" is surface runoff throughout the Cottonwood Creek watershed. This supply is not groundwater but surface water that drains into the Creek then to Millerton Lake and the San Joaquin River, a fully appropriated system."

The comment implies that potentially recoverable water can only be surface water. As stated in Appendix F of the DEIR [pg. 21]

"The difference between precipitation and evapotranspiration [...] represents potentially recoverable water."

Potentially recoverable water is a combination of surface water runoff and percolated groundwater.

Calculations used in the Hydrogeologic Report (DEIR, Appendix F) of "potentially recoverable water" becoming groundwater are additionally supported in the report Groundwater Conditions Eastern Madera County (March 2002) prepared by Todd Engineers. This report evaluated recharge as a percentage of precipitation:

"Estimating groundwater recharge is key in determining the perennial water yield from a drainage basin." "Based on modeling analyses and DWR estimates, a representative and conservative value for net groundwater recharge is approximately 10 percent of precipitation."

See Response 20-2a for further evaluation of precipitation and groundwater recharge.

Water chemistry analyses conducted on the eleven (11) wells serving the project are provided in Appendix C of Appendix F of the DEIR. Each well was tested for general mineral, organic and inorganic constituents, general physical and radioactivity analyses. The results from each of the 11 wells clearly demonstrate that the water contained within the project wells is groundwater, not a surface water of either Cottonwood Creek or the San Joaquin River. Specifically, test results on alkalinity, hardness, pH, chloride, bicarbonates and total dissolved solids all showed concentrations that clearly differentiate the sampled well water as groundwater, not a surface water.

With regard to appropriation, Cottonwood Creek drains into the San Joaquin River below Friant Dam, not into Millerton Lake, which is behind Friant Dam. Pursuant to State Water Resources Control Board Orders WR 89-25 and WR 98-08, the waters of the San Joaquin River have been declared to be fully appropriated by virtue of the water rights granted by State Water Resources Control Board Decision 935, which provides for diversions at Friant Dam, not downstream or below the dam.

Response 20-1b

This comment reads: *"The Project relies on surface supply of the watershed through a series of catchment areas and detention ponds. Surface supply may not be captured without obtaining a water rights permit from the State Water Resources Control Board."*

As stated in Response 20-1a, the water supply for the project comes from groundwater, not surface water. The federal Clean Water Act of 1972 mandates a storm drainage system be incorporated into the project design that cleans and de-silts surface run-off given changes in project imperviousness (see Response 20-2f). No permit or license from the State Water Resources Control Board is required for flood control, as permits and licenses are required when water is specifically diverted for beneficial use. That is not the case when water is detained in compliance with the Clean Water Act of 1972 (see Division 2 of the California Water Code). No basin will be of such a size and scope as to fall under the jurisdiction of state or federal Division of Dams and Safety guidelines. Additional comments regarding the project's storm drainage system can be found in Response 20-2f.

Response 20-1c

This comment reads: *"As a result, the DEIR fails to adequately demonstrate a reliable amount of recoverable water or address the reasonably foreseeable Project impacts resulting from the use of surface water. As a result, the DEIR fails to discuss how the potentially significant impacts to Cottonwood Creek and the San Joaquin River and water users thereof will be mitigated."*

As stated in Response 20-1a, the water supply for the project comes from groundwater, not surface water. Both the Hydrogeologic Report [pg. 21] and the Water Supply Assessment [pg. 21] of the DEIR clearly identify a reliable recoverable basin yield of 5,333 ac-ft./year available to the project.

See Response 20-6 for mitigation of cumulative impacts.

Response 20-2a

This comment reads: *"The potentially recoverable yield of 5,562 ac-ft. assumes all rainfall in the Cottonwood Creek watershed becomes groundwater. This assumption is blatantly false and directly countered by the extensive stormwater detention basins proposed by the project. This theoretical water supply is not supported by any technical or factual analysis."*

As stated in Response 20-1c, the Hydrogeologic Report [pg. 28] states a recoverable yield of 5,333 ac-ft. for the southern well field (5,562 ac-ft. total). The calculation does not assume that all rainfall becomes groundwater. Were such an assumption made, the total recharge value would exceed 42,000 ac-ft. annually (40 sq. mi. tributary x 640 acres x 20" average annual watershed precipitation). Page 21 of the Hydrogeologic Report states:

"For an estimated average annual precipitation in the Cottonwood Creek watershed (Southern Well Field catchment area) of 15.0 inches and an estimated average annual

evapotranspiration of 12.5 inches, potentially recoverable water is 2.50 inches or 5,333 acre feet per year.

It is important to note that the Hydrogeologic Report was prepared utilizing consistently conservative data. For example, the actual average annual precipitation within the watershed is on the order of 18” to 24” (see below Figure 1 – Accumulated Precipitation by Month) while potential recoverable water was calculated at only 2.5” (or approximately 16.7% of an average 15” precipitation figure). The calculation of recoverable yield correlates with groundwater recharge estimates via precipitation as determined by other sources (see Response 20-1a: Groundwater Conditions Eastern Madera County (March 2002) prepared by Todd Engineers.). See Response 20A-3 for further discussion of groundwater recharge.

As stated in Response 20-1b, the storm drainage system design complies with the federal Clean Water Act of 1972 as further discussed in Response 20-2f.

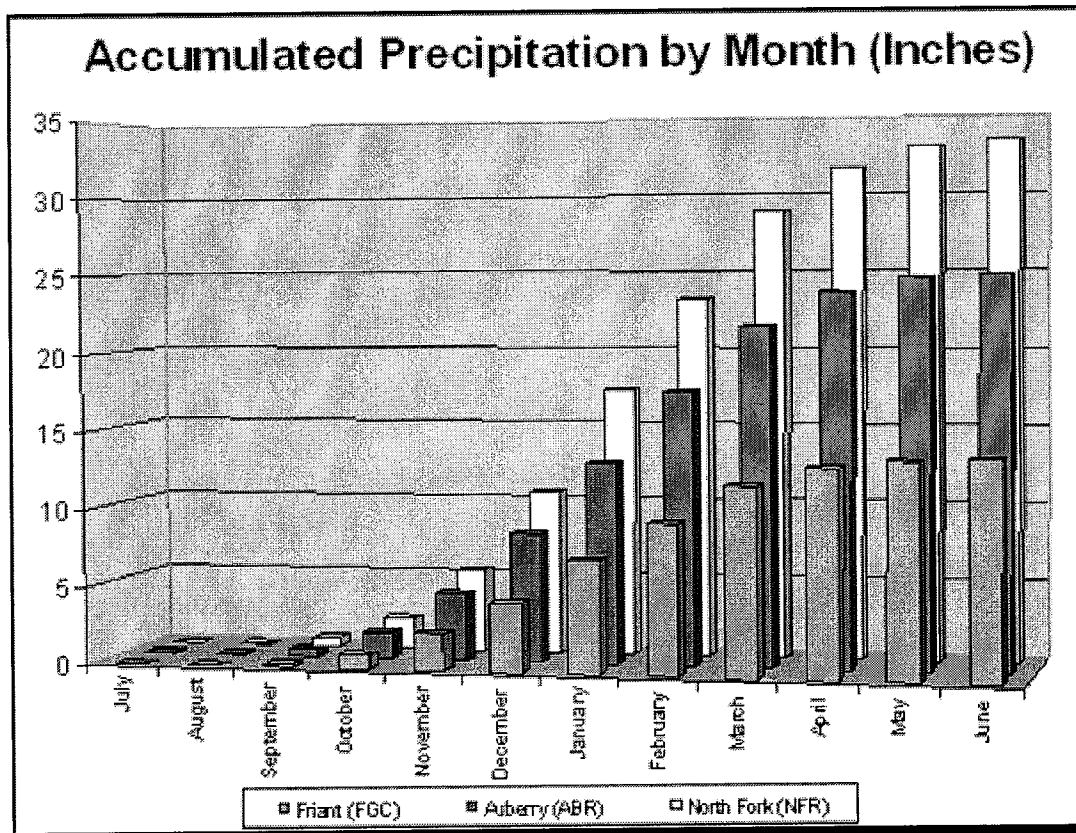


Figure 1 - Accumulated Precipitation by Month

Response 20-2b

This comment reads: *"Surface water flowing within a defined bed and bank is water of the State subject SWRCB jurisdiction. The Project is not only installing wells within the bed and banks of Cottonwood Creek and the San Joaquin River, but also proposing detention basins within these areas. This is tantamount to appropriating a surface water which requires a SWRCB permit. In addition, the "drainage system" is projected to "store 250 ac-ft. of stormwater" and that water will be "allowed to percolate to the groundwater basin". Such activities are subject to SWRCB jurisdiction and require an appropriate right."*

This comment is in error, per the Wetlands Delineation Report, all eleven (11) of the existing wells lie outside the defined bed and bank of Cottonwood Creek. No wells are near the San Joaquin River as the property does not border the San Joaquin River. In addition, the future storm drainage system does not propose construction of any basin within the defined bed and bank of either Cottonwood Creek or the San Joaquin River.

As stated in Response 20-1a, appropriative rights on the San Joaquin River are held behind Friant Dam, not below Friant Dam. As stated in Response 20-1b, the storm drainage system is being constructed in compliance with the federal Clean Water Act of 1972; hence, no permit from the SWRCB is required for flood control. Storm drainage design and changes to project imperviousness can be found in Response 20-2f. Per state law (Construction General Permit, 99-08-DWQ), a Notice of Intent will be filed prior to any excavation or grading on any final map or site plan greater than 1 acre in size.

In clarification, the term "store" represents those waters that must be retained as part of a functional storm drainage system as mandated by the federal Clean Water Act of 1972, given changes in project imperviousness as discussed in Response 20-2f.

Response 20-2c

This comment reads: *"Further evidence of this Project's actual reliance on surface water is the fact that the "groundwater is assumed to be derived primarily... from influent seepage along stream and drainage courses." Consequently, this may be characterized as water flowing underground in a known and defined channel subject to SWRCB jurisdiction."*

The language cited by the comment omits a significant portion of the original statement from the DEIR, Appendix F [pg. 16] states:

"Water available for recharge originates as precipitation on the catchment areas. In other words, groundwater is assumed to be derived primarily from deep percolation of direct precipitation and from influent seepage along stream and drainage courses. Recharge in fractured-bedrock aquifers begins when precipitation falls on the land surface."

As provided in the DEIR, the water chemistry analyses, static water levels and depth to productive bedrock fractures within each well demonstrate that groundwater within the project is a legally separate source of water.

Groundwater frequently has its origin as seepage from streams or drainage courses. However, once that water is no longer associated with or flowing in a defined water course with an identifiable bed, bank and channel, that water ceases to be surface water and becomes percolating groundwater. The comment seems to assume that surface water cannot become percolating groundwater, which is inaccurate as a matter of both fact and law [per Gary W. Sawyers, Esq.].

Response 20-2d

This comment reads: *"As proposed, the Project is actually relying on surface water from a stream that is fully appropriated. Groundwater and surface water use downstream of the Project site will be impacted as well as impacts to the environment which have not been adequately analyzed in the Water Supply Assessment."*

As stated in Response 20-1a, Cottonwood Creek drains into the San Joaquin River below Friant Dam, not into Millerton Lake, which is behind Friant Dam. The waters of the San Joaquin River are fully appropriated behind Friant Dam. As stated in Response 20-2c, the water chemistry analyses, static water levels and depth to productive bedrock fractures within each well demonstrate that groundwater within the project is a legally separate source of water; thus, downstream surface water users will not be impacted.

The DEIR states in Mitigation Measure HWQ 5.8-2 that:

"The Area Plan project shall be required to participate in an areawide groundwater recharge program as may be implemented by Madera County, or any regional recharge program as may be implemented jointly by multiple jurisdictions."

See Response 20-6 for mitigation of cumulative groundwater impacts.

Response 20-2e

This comment reads: *"As provided, a project would normally have a significant effect on the environment if it would substantially alter the existing drainage pattern of the site or area. The Project anticipates 23 basins, including 21 detention basins and 2 retention basins to capture stormwater flows."*

The comment is repeated and more defined in Comment 20-2g. See Response 20-2g.

Response 20-2f

This comment reads: *"The system will occupy 28 acres and retain 250 ac-ft. which would retain the majority of stormwater. During "high frequency storm events" the water would be allowed to*

percolate to the groundwater basin. There is no information as to the natural drainage patterns with regard to flow amounts, and how capturing and storing 250 ac-ft. will be mitigated to allow natural drainage patterns. There is no information regarding storage times, release patterns, flow amounts, impacts to surface supply, and evapotranspiration.”

Regarding retention of a “majority” of storm water flows, the NFV-1 Specific Plan is approximately 2,238 acres. With an average annual rainfall of 13.80” (National Climate Data Center, Friant, CA.) that falls within the boundaries of the NFV-1 Specific Plan, total annual rainfall volume is calculated at 2,574 ac-ft. Thus, with 250 ac-ft. of storm drainage basins, the project is not retaining a “majority” of storm water flows.

Per the DEIR [pg. 5.8-25]:

“Development of the proposed site will not significantly affect groundwater recharge or contributions to the San Joaquin River. Under existing conditions, precipitation falls onto the ground surface where it is absorbed by the soil, percolated to the groundwater aquifer, and eventually discharged into the watershed. With construction of the proposed project, water that would normally be absorbed into the aquifer is now being relocated to stormwater basins where the same absorption and recharge characteristics are being employed. There will not be any more or less water flowing to the San Joaquin River than what currently occurs from stormwater except during years when the 25-year storm event is exceeded.”

The 25-year threshold is in reference to the design capacity of the storm drain system. Without a storm drainage system, the overall net change in project imperviousness would significantly harm the San Joaquin River system with increase surface run-off, high in sediments affecting fish and wildlife. According to federal clean water mandates, the project must clean and de-silt any storm waters released to the San Joaquin River system. Absent a functional and effective storm drainage system, the potential for significant degradation of water quality to the San Joaquin River could not be avoided.

Response 20-2g

This comment reads: *“The DEIR fails to analyze the significant environmental impacts and cumulative impacts associated with the extensive drainage alteration. There is no information or analysis to support the conclusion that possible contamination from peak flows will be diluted in Cottonwood Creek and the San Joaquin River. There is no information or analysis to support this conclusion. The DEIR fails to properly analyze the impacts of the alteration of drainage on water quality.”*

As provided in the DEIR [pg. 2-21]

“The NFV-1 Stormwater Drainage Plan has been designed to minimize the impact of on-site storm flows to the natural drainage condition. Measures include weirs, riprap overflow channels, small dams, de-silting beds and botanical plantings, which are capable of cleansing drainage water prior to entering Cottonwood Creek or Millerton Lake. Depending on the location of stormwater basins and the amount of tributary area, overflow structures shall be designed to accommodate the worst-case storm condition.”

The result of Impact 5.8-3 [Drainage Alteration] of the DEIR concludes that,

“Therefore, implementation of the proposed project will not result in significant alteration of the natural drainage patterns in such a way as to result in substantial erosion, siltation, or flooding on or offsite.”

With regard to peak flows in Cottonwood Creek and the San Joaquin River, the DEIR states:

“The impacts to water quality caused by the inability of detention basins to contain peak flow events would be less than significant, as they would be diluted by associated large flows in Cottonwood Creek and the San Joaquin River.”

The overall statement assumes a flood or catastrophic storm event in which all creeks and rivers are flooded and contain contaminants. As stated in the Infrastructure Master Plan, basins shall be designed for a 25-year storm event.

Per the DEIR [pg. 5.8-20], all basins shall be designed to capture potential sediment, floating debris and/or pollutants and shall utilize BMP's to help assure a high quality of storm runoff. All stormwater management procedures will follow state guidelines for SWPPP's and BMP's.

The NFV-1 Project does not propose any exception to any regional, state or federal mandate regarding storm water quality.

Response 20-3a

This comment reads: *“The DEIR concedes that due to the continued depletion of the groundwater supplies the cumulative impact to San Joaquin River would remain significant. These surface supplies are fully appropriated. The DEIR fails to adequately address the reasonably foreseeable impacts of supplying water to the Project.”*

The DEIR makes no such concession. The comment confuses the San Joaquin River Hydrologic Basin (Madera Subbasin) with the aquifer underlying the project. Per the Water Supply Assessment for the project:

“The NFV-1 project overlies a non-adjudicated fractured bedrock groundwater aquifer, just east of the Madera Subbasin (DWR basin 5-22.06) of the San Joaquin River Hydrologic Region, as defined by the California Department of Water Resources.”

The DEIR is referring to the Madera Basin, not the subject aquifer underlying the project. See Response 20-6 for mitigation of cumulative groundwater impacts.

As stated in Response 20-1a, Cottonwood Creek drains into the San Joaquin River below Friant Dam, not into Millerton Lake, which is behind Friant Dam. The waters of the San Joaquin River are fully appropriated behind Friant Dam.

Response 20-3b

This comment reads: *“The assertion that recharge supplies comes from groundwater, rather than originating from Cottonwood Creek (along which the shallowest wells are located) and Millerton Lake watersheds is not meaningfully substantiated and assumes a likelihood that bedrock fractures cross these divides. Appendix F asserts that the boundaries of the aquifer or fractures are difficult to assess and remain unknown. No water-level maps were presented that would indicate which way the water flows. Characterizing the well interferences as “apparently random” is another indication that the type or location of bedrock fractures are unknown. Consequently, the conclusions regarding the existence of a sufficient water supply to meet the Project’s demands are unsubstantiated, as are the related impacts caused by groundwater depletion. In addition, the DEIR fails to discuss how the impacts will be mitigated.”*

As stated in the DEIR, Appendix F [pg. 16] and provided in Response 20-2c:

“Water available for recharge originates as precipitation on the catchment areas. In other words, groundwater is assumed to be derived primarily from deep percolation of direct precipitation and from influent seepage along stream and drainage courses. Recharge in fractured-bedrock aquifers begins when precipitation falls on the land surface.”

Recharge originates as precipitation, not groundwater. The project has no shallow wells (see well logs, Appendix A of Appendix F of the DEIR). All productive wells are deep with bedrock fractures crossing well borings (see well logs, Appendix A of Appendix F of the DEIR). As described in the DEIR, existing production wells cross deep bedrock fractures while abandoned wells did not contain water producing bedrock fractures. A deep groundwater bedrock fracture network is recharged through percolating water from precipitation. Per Appendix F [pg. 20] of the DEIR:

“The major production zones for many wells on this project are often thicker than 300 feet. For example, Wells 2, 13, 14, 17, 20, B-1 and B-2, and others all intersected large producing fractures at depths ranging from 322 to 830 feet.”

As stated in Response 20-2c, the water chemistry analyses, static water levels and depth to productive bedrock fractures within each well demonstrate that groundwater within the project is a legally separate source of water.

With regard to water level maps, water levels for both test wells and observation wells are provided in Appendix B of Appendix F of the DEIR from which groundwater flows can be derived. The type and location of bedrock fractures are thoroughly documented in Appendix F [pg 8-14] of the DEIR.

The well tests were performed per specifications provided by the State of California Department of Health Services (DHS) and the County of Madera Department of Health. Well production tests for the project employed all relevant and industry accepted scientific analyses which were used in the determination of the overall sustainability of the aquifer. The DEIR states in Mitigation Measure HWQ 5.8-2 that:

“The Area Plan project shall be required to participate in an areawide groundwater recharge program as may be implemented by Madera County, or any regional recharge program as may be implemented jointly by multiple jurisdictions.”

See Response 20-6 for mitigation of cumulative groundwater impacts.

Response 20-3c

This comment reads: *“The impacts on water availability to downstream legal users will be significant. If the surface flows of Cottonwood Creek and the San Joaquin River are impaired due to the Project, there will be additional impacts to groundwater levels, with the resultant subsidence in some areas. The DEIR must discuss how such impacts will be mitigated.”*

As provided in Response 20-1a, the project is using groundwater, not surface water; thus, there are no impacts to downstream surface water users. The subject aquifer is a non-adjudicated fractured bedrock groundwater aquifer outside the Madera Subbasin (DWR basin 5-22.06) of the San Joaquin River Hydrologic Region, as defined by the California Department of Water Resources [per the Water Supply Assessment, pg. 13].

See Response 20-6 for mitigation of cumulative groundwater impacts.

Response 20-3d

This comment reads: *“Future projects downstream plan to use “San Joaquin River Holding Contracts” to supply water to their developments and this will help conserve groundwater supplies. No analysis supports this conclusion. Moreover, this conclusion fails to consider the current challenges made to holding contractors’ claims, especially those attempting to rely on these contracts and increase San Joaquin River water use. Nor does this conclusion consider river settlement that is expected to impact water supply from the river. Finally, the Project will directly affect the amount of water entering San Joaquin River and none of the associated impacts resulting from less water in the*

river have been identified, analyzed and mitigated. The DEIR fails to analyze direct impacts of reasonable foreseeable impacts and cumulative impacts of the Project.”

With respect to the comment concerning on-going litigation of holding contract rights, comment noted. As stated in Response 20-1a, there will be no impacts to downstream users as the project is using groundwater, not surface water. With respect to project mitigation, see Response 20-6. As the project is using deep, percolated groundwater from the eleven (11) existing wells as its water source, legal settlement with respect to Rogers vs. NRDC will not be impacted by the projects use of groundwater. Historical surface flows will not be impacted as stated in Response 20-2f and per the DEIR [pg. 5.8-25]:

“Development of the proposed site will not significantly affect groundwater recharge or contributions to the San Joaquin River. Under existing conditions, precipitation falls onto the ground surface where it is absorbed by the soil, percolated to the groundwater aquifer, and eventually discharged into the watershed. With construction of the proposed project, water that would normally be absorbed into the aquifer is now being relocated to stormwater basins where the same absorption and recharge characteristics are being employed. There will not be any more or less water flowing to the San Joaquin River than what currently occurs from stormwater except during years when the 25-year storm event is exceeded.”

The 25-year threshold represents the design capacity of storm drainage basins and represents a typical threshold in storm drainage basin design.

Response 20-4

This comment reads: *“The data supporting the well-pumping tests at Appendix F fails [sic] to indicate whether Cottonwood Creek was flowing during the tests, the duration of the pumping, the length of time the pumping ceased before being resumed, and therefore does not sufficiently demonstrate a consistent supply to meet a sustained and constant demand. The DEIR fails to adequately address the reasonably foreseeable significant impacts of supplying water to the Project.”*

In reference to well testing and surface flows, Cottonwood Creek was not flowing during any of the pump tests and discharge water from the pump tests, as a normal practice in well testing, was conveyed a minimum of 200’ to 300’ down-gradient of each well tested (per Melvin C. Simons & Associates).

Data concerning well tests and methodologies can be found in the Hydrogeologic Report [Appendix F, pg. 5-7, pg. 11-14], specifically Table 3 and Appendix B of this report which provide pumping duration and time-yield tests. The cover letter prefacing Appendix F concludes:

“In brief summary, we conclude that the water resource is adequate to support the project.”

The comment does not define “reasonably foreseeable impacts”.

Response 20-5

This comment reads: *“The well tests failed to evaluate supply while all interconnected wells were pumped simultaneously. The test results do not approximate the realities of the projected demands for water. Appendix F concludes, without explanation, that performing tests on the interconnected wells simultaneously is infeasible. To the extent the projected water supply relies on recharge, the DEIR fails to identify or discuss where the recharge comes from insofar as the Project’s demand requires constant pumping.”*

With respect to adequacy of pump tests, see Response 20-4. Table 6 of Appendix F accounts for interconnectivity and simultaneous pumping via “sustainable yield with interference”. Per footnote (4) of this table, “These values are simply a product of the original specific capacity multiplied by the reduced available drawdown due to actual and extrapolated interference effects.” This methodology is a generally accepted practice in hydrogeology whereby pumped values are reduced accounting for well interference.

In community water systems, demand continuously fluctuates, both daily and seasonally. The effect of changing demands are such that groundwater pumping is not constant. In a typical day, demand is at its highest in the morning hours and greatly diminishes in the nighttime hours. Seasonally, water demands increase in the summer months and decrease in the winter months. The project water system contains several large storage tanks which enable daily well cycling and subsequent recovery. The stringent testing and evaluation conducted on each project well greatly exceeds the normal, cyclical operational characteristics within a community water system which, for the project, consists of eleven (11) networked wells.

Regarding recharge, as stated in the DEIR, Appendix F [pg. 16] and provided in Response 20-2c:

“Water available for recharge originates as precipitation on the catchment areas. In other words, groundwater is assumed to be derived primarily from deep percolation of direct precipitation and from influent seepage along stream and drainage courses. Recharge in fractured-bedrock aquifers begins when precipitation falls on the lands surface.”

Response 20-6

This comment reads: *“The DEIR states that the Rio Mesa development projects which rely on groundwater are expected to have significant adverse cumulative impacts on the Madera Basin. The DEIR provides that since no county-wide groundwater recharge exists, this cumulative impact is unavoidable. It fails to provide any discussion of whether a feasible mitigation measure exists or whether a feasible mitigation measure cannot mitigate this impact. The DEIR fails to provide what the ramifications are regarding the unavoidable impacts. The DEIR may not be adopted without the*

inclusion of a meaningful discussion of the irreversible impacts, a discussion of potential mitigation measures, including an analysis of alternative water supplies.”

The DEIR recognizes that the aquifer serving the project is not part of the Madera Basin. The level of significance following mitigation for the project is cumulatively significant, not unavoidable. The DEIR follows Mitigation Measure 4.10.15 of the Rio Mesa Area Plan which states:

“The Area Plan project shall be required to participate in area wide groundwater recharge program as may be implemented by Madera County to alleviate overdraft conditions in the Madera basin, or any regional recharge program as may be implemented jointly by Madera and Fresno Counties for multiple basins.”

The DEIR recognizes that, from a cumulative impact stand-point and per the Rio Mesa Area Plan, the County of Madera has not implemented a groundwater recharge program that mitigates overdraft conditions in Madera County, particularly southeast Madera County. To reduce cumulative impacts and to comply with mitigation measures of the Rio Mesa Area Plan, the project applicant has initiated activation of latent powers of County Service Area - 22 (Table Mountain) [i.e. CSA-22] previously authorized by Madera County LAFCO, in order to assist the County of Madera to create and implement a regional groundwater recharge program. Although water banking projects are planned in parts of Madera County; water banks do not remedy severe overdraft conditions unless water banks are sited in areas of severe overdraft or surface water deliveries are ensured for groundwater users in areas of severe overdraft. Only groundwater recharge of accumulated precipitation in areas of severe overdraft can mitigate groundwater declines across Madera County. See Response 20-10 regarding alternate water supplies.

As stated in Response 20-4 and in Appendix F of the DEIR.

“In brief summary, we conclude that the water resource is adequate to support the project.”

Response 20-7

This comment reads: *“The DEIR provides that to partially mitigate groundwater impacts, the RMAP proposes to form a CSD or some equivalent district to manage supply, storage and distribution, among other responsibilities. No commitment is established and no requirement exists that a CSD or similar entity will in fact be created. A majority of landowners may protest its formation which would preclude the formation of any such entity, including LAFCO approval. The identified impacts are not satisfied or reduced by a theoretical solution; mitigation measures must be fully enforceable.”*

A commitment is established in the DEIR that a CSD or other oversight agency, such as the existing CSA-22, will be responsible for the operations and maintenance of utilities, such as the water, sewer and storm drain systems for the project. As stated in Response 20-6, the project applicant is working

with the lead agency to activate the latent powers of the existing County Service Area – 22 (Table Mountain) to provide services.

Response 20-8

This comment reads: *"The DEIR identifies potentially significant impacts associated with depleted groundwater sources. As a mitigation measure, the Area Plan project is required to participate in any areawide groundwater program "as may be implemented by Madera County" or other jurisdictions. The identified impacts to groundwater resources are not satisfied or reduced by a theoretical solution; mitigation measures must be fully enforceable."*

The comment is repeated and more defined in Comment 20-6. See Response 20-6.

Response 20-9

This comment reads: *"The NFV-1 Specific Plan calls for the creation of a CSD to maintain the stormwater basins and the associated facilities. No requirement exists that a CSD will in fact be created."*

The comment is repeated and more defined in Comment 20-7. See Response 20-7.

Response 20-10

This comment reads: *"The DEIR's water supply analysis and discussion in the WSA fail to identify or provide any contingency plan for failed or collapsed wells. Failure to provide any redundancy in the system is an inadequate protocol given the demand by a planned residential community. The documents also fail to account for fire emergencies or other catastrophic interruption of water supplies. At a minimum, a surface supply entitlement should be obtained and approved as a back-up measure. The documents simply do not include any contingencies in the event that the anticipated long-term water supply (which is all that it is) fails to materialize. As a result, the Project's ability to meet the long-term demands are unsubstantiated and the related impacts are not identified, analyzed or mitigated."*

Potential collapsing of hard rock wells is quite uncommon and is highly speculative. However, should a catastrophic event occur, the responsible agency would, as any other responsible agency overseeing groundwater pumping, repair or construct a replacement well. Further, the project uses a system of eleven (11) existing wells, which provide internal redundancy in the event of an individual well failure. The NFV-1 Infrastructure Master Plan (IMP) evaluated the water system and provided tank sizing to include fire storage and emergency storage as is required of all water systems.

The comment postulates that surface water supply is both necessary and is superior to the water saving and recharge features of the project. In fact, recent court rulings demonstrate surface supply to be ever more precarious and unreliable. Such decisions are requiring water agencies throughout California to further evaluate groundwater recharge of storm water runoff, tertiary treated reclaimed water and desalination as new sources of water.

The project has effectively and thoroughly demonstrated that the subject water supply is not only reliable, but that the additional measures being taken, such as the application of advanced tertiary treated water on open spaces, mandates for hardscaped surfaces, a dual water meter system and groundwater recharge of storm run-off, all ensure a sufficient water supply is made available to the project.

Response 20-11a

This comment reads: *"The Assessment does not satisfy the criteria set by SB610 to determine the Project's water demand is supported by a reliable and sufficient water supply. An assumed probability of well yields is insufficient to demonstrate available water, particularly given the well test's deficiencies. Absent is any discussion as to whether the project demand will be met by the projected water supply."*

As stated in the Water Supply Assessment [pg. 47]

"Proven wells at this point have the combined ability to produce at least 1,373 gallons per minute, or 2,215 acre-feet annually, on a sustained yield basis, accounting for interference. Comparing total combined sustained yield with the water demand for the ultimate project demand of 1,355 acre-feet annually indicates production capability more than sufficient to meet anticipated project demand."

Well yields and well testing was conducted per State of California standards. The evaluation of the well system and creation of the Hydrogeologic Report (DEIR, Appendix F) allowed Melvin C. Simons and Associates to conclude:

"In brief summary, we conclude that the water resource is adequate to support the project."

The Water Supply Assessment further evaluated the supply for normal, dry and multiple dry years as required by Water Code § 10910(c)(3), (4).

Response 20-11b

This comment reads: *"The assessment merely adopts the conclusions rendered in Appendix F, which are the result of relatively infrequent and incomplete well tests which did not test the interconnected well simultaneously and did not occur over a sustained period of time. The well tests do not accurately reflect the realities of the Project's consistent level of demand. The pumping tests fail to sufficiently demonstrate an adequate supply for the demand during a normal year because so few tests were conducted. The performance of isolated well test as conducted here, during limited occasions and repeated over several years does not sufficiently demonstrate the likelihood of an adequate supply to meet the consistent level of demand during an entire year."*

All tests were performed to County of Madera requirements with additional guidance provided by staff of the California Department of Health Services (DHS). As stated in Response 20-5, water demand is neither constant nor are wells in a functioning water distribution system run continuously or stressed to the extent evaluated in the Hydrogeologic Report (DEIR, Appendix F). The project additionally reduced results at the end of a minimum 10-day continuous pump test by accounting for interconnectivity and interference as also described in Response 20-5.

Response 20-11c

This comment reads: *"Given the inadequate discussion regarding water supply to meet the Project's demands in a normal year, the Assessment for a drought year and multiple drought years assessment is also deficit. The assessment identifies the same acre-feet supply for normal, single dry and multiple dry years. The supply for drought conditions merely assumed that because the well tests were conducted after a drought period, the test results approximate dry-year and multiple dry-year conditions. This assumption is flawed. It does not account for the depletion of groundwater pursuant to the consistent levels of the Project's reductions to full build out and does not consider other foreseeable demands "*

As stated in the Water Supply Assessment located in Appendix F of the DEIR:

"It is important to note that the 2,215 acre-feet annually represents a pumping value taken directly from well tests at a conservative "sustainable with interference" pumping evaluation. In reality, pumps will not be operated continuously and will be cycled to allow for recovery and higher pumping rates."

"The project's pump test data (Table 4) gathered during the third, fourth and fifth years of a six-year drought should result in conservatively estimated sustainable well yields. Design of the project's water supply system is based on these conservative values. Therefore, single and multiple dry year comparisons do not use reduced supply values."

The Water Supply Assessment correctly asserts that source groundwater would not fall below the potential annual "sustainable yield with interference" pump yield for normal, single or multiple dry years as provided in the NFV-1 IMP.

"Foreseeable demands" are the demands for the project which were evaluated at 1,355 acre-feet per year as provided in the NFV-1 IMP. Relevant and requisite tests have taken place in ensuring a safe and reliable water supply for the Project.

Response 20-11d

This comment reads: *"The DEIR provides that RMAP projects which rely on groundwater are expected to have significant adverse cumulative impacts on the Madera groundwater basin. Nevertheless, the WSA improvidently assumes that in the year 2030, after the onset of new and*

significant groundwater demands, the groundwater supply will be the same as it is today without any reductions as contemplated by the Project. As a result, the reliability and quantity of long term water supply necessary to meet the Project's demands at full build out are not adequately discussed or demonstrated as reliable with sufficient specificity."

The project is the northern-most project within the RMAP and overlays an aquifer outside the Madera Basin. Lands up-gradient of the project within the specific aquifer are within the Madera County "O'Neals Plan" which has a 40 acre minimum lot requirement. Additional up-gradient lands are also in Conservation Easement and within the confines of the Williamson Act. As the County has no plans to allow development within the tributary, such minimal zoning and general plan land uses will have minimal impact on the overall supply of groundwater within the watershed.

Potentially cumulative impacts to the Madera Basin resulting from development within the Rio Mesa Area Plan are addressed in Response 20-6.

Response 20-11e

This comment reads: *"The following excerpts demonstrate that the WSA adoption of the projected well production and recharge supplies is premature and unsupported, as is the Assessment's conclusion that a long-term water supply exists to meet the Project's demand.*

"We recommend that this study be re-evaluated at no more than the 1000 unit and 2000 unit development milestones in order to contrast our assumptions versus actual production and demand data that have been acquired to these points. In a sense, this study will continue to be considered preliminary until the final development phase has been implemented."

"The only way to conclusively demonstrate the result of well interconnectivity of well yields would be to pump all five wells together. This is clearly infeasible and leaves only estimate solutions with multiple assumptions to address the problem."

"The true pumping capacity of Well 14 will only be determined when Well 14 is outfitted with a line shaft turbine pump. The production from Well 14 is unprecedented in the experience of Melvin C. Simons Associates."

"The retest of Well B-1 showed significantly lower production and caused substantial drawdown in observation wells during the retest. These results were inexplicable, since the static water level in the well was significantly greater in September 2006 than it was in February and March 1991."

As found in the DEIR, Appendix F [pg. 30], the sentence preceding the first quotation states,

"Conditioned on the statements below, this study is considered final for the Southern Well Field and preliminary for the Northern Well Field."

In an over-abundance of caution and on the recommendation of the consultant, the project applicant retained the consultant to perform additional well tests to verify previous analyses. Following the retests of Well B-1 and Well 14, it was demonstrated that adequate well supply is available to the project. The analysis allowed Melvin C. Simons to conclude in the Addenda to Appendix F of the DEIR,

“Our principal conclusion is that the proven total well production has changed from 1,293 gpm in the 2005 report to a current value of 1,373 gpm, or 2,215 acre feet/year on a sustained yield basis, accounting for interference from nearby wells.”

Response 20-12a

This comment reads: *“The Assessment fails to include detailed information about the groundwater basin from which the Project’s water is supplied and fails to identify whether the basin is overdrafted or projected to become overdrafted, and fails to include any discussion of how the long-term overdraft condition will be eliminated.”*

Per Water Code § 10910 (f)(2) and as provided in the DEIR, Water Supply Assessment [pg. 13]:

“The NFV-1 project overlies a non-adjudicated fractured bedrock groundwater aquifer, just east of the Madera Subbasin (DWR basin 5-22.06) of the San Joaquin River Hydrologic Region, as defined by the California Department of Water Resources.”

As stated in Response 20-11d, the project is the most down-gradient of a non-adjudicated aquifer. Overdraft does not currently exist as stated in the DEIR, Water Supply Assessment [pg. 13]:

“Large-scale development or farming operation demands do not currently exist within the watershed. Scattered rural residences with minor demands exist in the upper reaches of the watershed, up-gradient of the subject site.”

Potentially cumulative impacts to the Madera Basin resulting from development within the Rio Mesa Area Plan are addressed in Response 20-6, specifically Water Code § 10910 (f)(2).

Response 20-12b

This comment reads: *“The Assessment fails to discuss the detailed hydrologic studies that have been conducted in Madera County since 2004 through several DWR grant programs.”*

Referenced studies have been written relative to either the Madera Basin or areas high in the Sierra Nevada foothills, e.g. Oakhurst, North Fork, et. al. Such areas contain differing aquifer conditions and, even though such studies may be detailed, do not directly relate to the underlying aquifer for the project. The March 2005 Hydrogeologic Report contained within Appendix F can now be considered a detailed hydrologic study that covers the subject aquifer. However, cited studies such as the

Groundwater Conditions Eastern Madera County (March 2002) prepared by Todd Engineers further support the conclusions of the DEIR, specifically groundwater recharge as a percentage of precipitation.

Response 20-12c

This comment reads: *"Because the water source for the Project has never before been received by the public water system the Assessment is required to identify any other public water systems or contract holders that receive a water supply from the same source."*

As stated in Response 20-1a, the project is using groundwater, not surface water. The Water Supply Assessment [pg. 13] discusses "other source users":

"Large-scale development or farming operation demands do not currently exist within the watershed. Scattered rural residences with minor demands exist in the upper reaches of the watershed, up-gradient of the subject site."

As stated in Response 20-11d, the project is the northern-most project within the RMAP and overlays an aquifer outside the Madera Basin. Lands up-gradient of the project within the specific aquifer are within the Madera County "O'Neals Plan" which has a 40 acre minimum lot requirement. Additional up-gradient lands are also in Conservation Easement and within the confines of the Williamson Act. As the County has no plans to allow development within the tributary, such minimal zoning and general plan land uses will have minimal impact on the overall supply of groundwater within the watershed.

Potentially cumulative impacts to the Madera Basin resulting from development within the Rio Mesa Area Plan are addressed in Response 20-6.

Response 20-13

This comment reads: *"The Assessment fails to identify all the water entitlements, water rights, or water service contracts relevant to the Project. As previously discussed, said entitlements, rights, or contracts include those pertaining to the Cottonwood Creek and San Joaquin River surface flows."*

As stated in Response 20-1a, the project is using groundwater, not surface water. The project relies on overlying and appropriative rights to the non-adjudicated groundwater basin underlying the project site. Since groundwater is the sole source for water supplying the project and as identified in the Water Supply Assessment the fractured bedrock is a non-adjudicated source there are no existing water supply entitlements, water rights, or water service contracts (Water Code § 10910(d), (e)).

Response 20-14

This comment reads: *"The purported capital outlay program for the construction of the Project's water system is inadequate. The financing of the program has not been adopted by the public water system because presently, there is no public water system. The capital outlay program only identifies*

costs and the phasing of the construction but fails to sufficiently identify any financing. The creation of the CSD is not guaranteed. Unknown is who or what entity will ensure the implementation of the program, whether new developments will pay their "fair share", how the fair share is determined, or whether the voters will vote in accordance with the existing plan."

The capital outlay program for the project has been conducted in compliance with SB610. The project presently resides within the existing County of Madera Service Area 22 (CSA 22 – Table Mountain). The County assumes the responsibility for providing services and operations and maintenance of facilities. "Fair share" concerns are addressed by the County of Madera in the form of a Master Development Agreement, Conditions of Approval at each Tentative Map and existing development impact fees. "Fair share" is also a requirement of the County of Madera General Plan.

Response 20-15

This comment reads: "In summary, based on the above comments and those in the enclosed letter, the DEIR and Assessment fail to explain clearly and coherently how long-term demand is likely to be met with the identified water source and fails to explain or identify the environmental impacts of exploiting the identified groundwater sources. Based on the DEIR's failure to identify and discuss these impacts, the DEIR fails to discuss how those impacts will be mitigated. The DEIR and Assessment should be revised accordingly. The necessary revisions will be of such significance that the document must be released again for public review and comment as a draft."

Appendix F of the DEIR is a report prepared by Melvin C. Simons that provides extensive testing and evaluation of the eleven (11) existing wells within the boundaries of the project. The wells were initially tested between 1989 and 1991 and were retested between 2004 and 2005 to further verify and validate well production. In an over-abundance of caution and on the recommendation of the consultant, the project applicant retained the consultant to perform additional well tests to verify the analyses conducted in Appendix F. The retests of Well B-1 and Well 14 are included in the Addenda to Appendix F which further validate the groundwater supply to the project. The additional analyses allowed Melvin C. Simons to conclude in the Addenda to Appendix F of the DEIR,

"Our principal conclusion is that the proven total well production has changed from 1,293 gpm in the 2005 report to a current value of 1,373 gpm, or 2,215 acre feet/year on a sustained yield basis, accounting for interference from nearby wells."

The report provided extensive evidence that the long term demands of the project will be sufficiently met by the eleven (11) existing wells and that the proven groundwater supply safely exceeds project demand. Melvin C. Simons is a California Licensed Geologist with 45 years of hydrologic experience, specializing in fractured rock well testing. The evaluation of the well system and creation of the Hydrogeologic Report (DEIR, Appendix F) allowed Melvin C. Simons and Associates to conclude:

“In brief summary, we conclude that the water resource is adequate to support the project.”

The DEIR cites evidence that the subject aquifer is not a part of the Madera Basin and that the Madera Basin, not the subject aquifer, is in overdraft. As stated in Response 20-6, the project provides mitigation for the cumulatively significant impacts of groundwater use within the Rio Mesa Area Plan by establishing County Service Area 22 (CSA-22) as the lead agency responsible for designing and implementing a groundwater recharge program to particularly address groundwater overdraft in southeast Madera County. Response 20-6 is clear and coherent that the creation and participation in water banking does not mitigate cumulative groundwater overdraft, unless water banks are sited in areas of severe overdraft or surface water deliveries are ensured for groundwater users in areas of severe overdraft.

The DEIR and the technical studies along with Responses to Letter 20 and 20A contained herein, further validate the careful and measured approach taken by the project applicant in verifying the underlying aquifer groundwater source serving the project as proposed. No significant new information has been provided by the commenter or other party to contradict or challenge the data, information and analysis provided by Melvin C. Simons and Associates. Therefore, the DEIR and Assessment do not require revision or recirculation [Public Resources Code Section 21166 and CEQA Guidelines Section 15162].

As stated in Response 20-10, the project has sufficiently demonstrated that the groundwater supply is not only reliable, but that the additional measures being taken, such as the application of advanced tertiary treated water on open spaces, mandates for hardscaped surfaces, a dual water meter system and groundwater recharge of storm run-off, all ensure a sufficient water supply is made available to the project.

Responses to Letter 20-Attachment A (20A)

Response 20A-1

This comment reads: *“[Data is lacking] ...the actual measurements for the pump tests. A very important issue is where the pumped water was discharged.”*

The “actual measurements” data is presented in graphical format and can be found in Appendix B of Appendix F of the DEIR.

As stated in Response 20-4, with regard to comments regarding well testing and surface flows, Cottonwood Creek was not flowing during any of the pump tests and discharge water from the pump tests was conveyed a minimum of 200’ to 300’ down-gradient of each tested well to ensure that the deep aquifer would not be affected (per Melvin C. Simons & Associates).

Response 20A-2

This comment reads: *"A proper evaluation of well interference would include boundary conditions, which was not done. The report concludes that it was infeasible to jointly pump test interfering wells, but this is the only way to help determine the sustainability of the well pumpage for the proposed project."*

Pumping effects on nearby wells were evaluated (see Appendix B of Appendix F of the DEIR). In the 12 pumping tests conducted for the study, only one showed a barrier boundary effect, two were inconclusive and nine showed no boundary effects. Excellent aquifer property data acquired in this study enabled the calculation of various combinations of yields, draw-downs, distances etc.

As described in Response 20-5, Table 6 of Appendix F accounts for interconnectivity and simultaneous pumping via "sustainable yield with interference". Per footnote (4) of this table, "These values are simply a product of the original specific capacity multiplied by the reduced available drawdown due to actual and extrapolated interference effects." This methodology is a generally accepted practice in hydrogeology whereby pump test results are reduced accounting for well interference.

Response 20A-3

This comment reads: *"The amount of "potentially recoverable water" was largely used in Appendix F [to] approximate a sustainable water supply. The difference between precipitation and evapotranspiration is runoff. The evapotranspiration estimates weren't supported by any backup information. The report essentially equated "potentially recoverable groundwater" to potentially recoverable surface water and groundwater. This approach is not applicable, unless a dam is build along Cottonwood Creek and surface water rights were addressed. Also, stream flow records indicate that most of the flow occurs during relatively short time periods. Most of this water would run-off and not be "recoverable" by well pumping. Recoverable groundwater alone wasn't addressed in Appendix F."*

Regarding runoff, the difference between precipitation and evapotranspiration is surface runoff minus groundwater recharge. The comment does not consider infiltration and groundwater recharge as an integral part of the water cycle. As stated in Response 20-1a, potentially recoverable water is precipitation minus evapotranspiration. Potentially recoverable water is a combination of surface water runoff and percolated groundwater.

The calculation of recoverable yield used in Appendix F of the DEIR correlates with groundwater recharge estimates via precipitation as determined by other sources (see Response 20-1a: Groundwater Conditions Eastern Madera County (March 2002) prepared by Todd Engineers.) which states:

“Estimating groundwater recharge is key in determining the perennial water yield from a drainage basin.” “Based on modeling analyses and DWR estimates, a representative and conservative value for net groundwater recharge is approximately 10 percent of precipitation.”

Utilizing the Todd Engineers approach, annual groundwater recharge is 4,266 acre-feet/year. This value equates to 10% of a total watershed precipitation of 42,667 ac-ft./year (40 sq. mi. tributary x 640 acres x 20” average annual precipitation). Groundwater recharge of 4,266 ac-ft./year is 314% higher than the project demand of 1,355 ac-ft./year.

Evapotranspiration estimates were taken from USGS Professional Paper 417-E, *Natural Water Loss and Recoverable Water in Mountain Basins of Southern California*, by John Crippen (1965).

As stated in Response 20-10, the project has effectively and thoroughly demonstrated that the subject water supply is not only reliable, but that the additional measures being taken, such as the application of advanced tertiary treated water on open spaces, mandates for hardscaped surfaces, a dual water meter system and groundwater recharge of storm run-off, all ensure a sufficient water supply is made available to the project.

Response 20A-4

This comment reads: *“In Appendix F, potentially recoverable water was evaluated based on average conditions, during which for several consecutive years, the precipitation would not exceed the evapotranspiration. Under those conditions, little potentially recoverable water would be present, unless enough groundwater was in storage. This is confirmed by streamflow records for Cottonwood Creek during drought periods.”*

The comment assumes that recharge only occurs during years of average or above average precipitation. The comment is in error. Even during drought years, there are periods of time when precipitation exceeds evapotranspiration. During such times, groundwater recharge will occur before surface run-off sufficiently accumulates and flows. In other words, groundwater recharge is not an annual, monthly or weekly event. During periods of rainfall, following adequate soil saturation, groundwater recharge occurs via percolating infiltration. Only when precipitation exceeds the rate at which groundwater infiltration occurs does surface run-off ensue.

As provided in the Infrastructure Master Plan, drought reductions do not exceed the total maximum pumping capacity of project wells. Surface flows in Cottonwood Creek only begin once soil saturation and aquifer recharge capacity flow rates are achieved.

Response 20A-5

This comment reads: *“Groundwater pumpage in such a setting must come from water that would otherwise have been consumed by evapotranspiration on the watershed or have run off. Since the*

Project site covers only a small part of the entire Cottonwood Creek watershed and a localized watershed north of Millerton Lake, most of the pumpage would have to come from decreased surface water runoff. This important impact wasn't discussed in the DEIR or associated documents."

The comment asserts that such groundwater recharge only occurs at the expense of decreased evapotranspiration and decreased surface run-off. The comment is in error in that it does not consider groundwater and groundwater recharge as an integral part of the hydrologic cycle. Ground elevations within the watershed range from 350 feet amsl to 1,650 feet amsl. Given such topographic variation, infiltration and recharge will occur in the watershed, regardless of down-gradient groundwater consumption.

As stated in Response 20-2c, groundwater frequently has its origin as seepage from streams or drainage courses. However, once that water is no longer associated with or flowing in a defined water course with an identifiable bed, bank and channel, that water ceases to be surface water and becomes percolating groundwater. The comment seems to assume that surface water cannot become percolating groundwater, which is inaccurate as a matter of both fact and law [per Gary W. Sawyers, Esq.].

Response 20A-6

This comment reads: *"Detailed hydrologic studies have been conducted in Madera County since 2004. In all such areas, groundwater has been shown to be moving towards topographically low areas, normally drainages or streams as expected. This is because these low points are locations of groundwater discharge. The same conditions should be present along the lower part of Cottonwood Creek, near the confluence with the San Joaquin River, and just above Millerton Lake. [Well tests] indicate that the direction of groundwater flow along Cottonwood Creek has been in the downstream direction, toward the San Joaquin River. There is no evidence of groundwater flowing beneath the river to the area south of the river. Rather, the San Joaquin River is a topographically low area and a point of groundwater discharge. For the North Well Field, groundwater level elevations should be compared to Millerton Lake water surface elevations to see if there is a connection."*

Water flows along the path of least resistance. Typically, such activity follows topographic conditions; however, science has shown that the path of least resistance to not consistently be topographic. Referenced studies must also evaluate the nature of the media, seasonal conditions, fracture planes, hydraulic gradient, etc. in order to ascertain the probability of groundwater infiltrating a surface water. Per Appendix F [pg. 20] of the DEIR:

"The major production zones for many wells on this project are often thicker than 300 feet. For example, Wells 2, 13, 14, 17, 20, B-1 and B-2, and others all intersected large producing fractures at depths ranging from 322 to 830 feet."

The evidentiary data, specifically subsurface geology and well testing, does not support the hypothesis that deep, percolated groundwater found within the project becomes surface water, particularly when consideration is given to the deep productive bedrock zones found within each well.

Response 20A-7

This comment reads: *"There was no discussion in Appendix F or other parts of the DEIR of the relation between pumpage of shallow groundwater (above a depth of 100 feet) in the South Well Field and streamflow in Cottonwood Creek. Much of the production from most of the wells along Cottonwood Creek that were pump tested was from fractures less than 100 feet deep. No evidence was presented that shallow groundwater in these fractures and streamflow are not hydraulically connected. Available data indicate that seepage of streamflow from Cottonwood Creek is the major source of recharge to the groundwater in shallow fractures beneath Cottonwood Creek. No separating layer or other material in the subsurface was demonstrated."*

The comment is in error. No such discussion was provided due to the fact that all wells are sanitary sealed to a depth of 50 feet and that all production wells have water producing bedrock fractures below a depth of 100' as provided in Response 20A-6.

In Well 14, for example, most of the water comes from a bedrock fractures at a depth below 460 feet. As stated in Response 20-1a, water chemistry analyses conducted on the eleven (11) wells serving the project are provided in Appendix C of Appendix F of the DEIR. Each well was tested for general mineral, organic and inorganic constituents, general physical and radioactivity analyses. The results from each of the 11 wells clearly demonstrate that the water contained within the project wells is groundwater, not a surface water of either Cottonwood Creek or the San Joaquin River. Specifically, test results on alkalinity, hardness, pH, chloride, bicarbonates and total dissolved solids all showed concentrations that clearly differentiate the sampled well water as groundwater, not a surface water.

Response 20A-8

This comment reads: *"Streamflow records for Cottonwood Creek are available from 1950 – 2004 which are most useful in evaluating drought conditions. For example, during 1987-1990, there was a total of only about 200 acre-feet of streamflow in Cottonwood Creek at the stream gauge in a four-year period. These records clearly indicate that seepage from Cottonwood Creek streamflow can't annually recharge the groundwater proposed to be pumped for the Project from the South Well Field."*

The comment assumes that groundwater infiltration only occurs in the 40 square mile watershed when Cottonwood Creek is flowing. The comment is in error. In any watershed, surface run-off follows sufficient soil saturation and groundwater infiltration. As stated in Response 20A-4, even during drought years, there are periods of time when precipitation exceeds evapotranspiration. During such times, groundwater recharge will occur before surface run-off sufficiently accumulates and flows.

Response 20A-9

This comment reads: *"Recharge from on-site precipitation was acknowledged to be small in Appendix F. Together with streamflow seepage, the recharge would likely be less than the 200 acre-feet per year during drought periods. Thus, the project pumpage in drought periods would have to come from groundwater in storage."*

The comment asserts that groundwater recharge only occurs from "streamflow seepage" and that recharge is not a natural part of the hydrologic cycle. As stated in Response 20A-8, in any watershed, surface run-off follows sufficient soil saturation and groundwater infiltration. As stated in Response 20A-4, even during drought years, there are periods of time when precipitation exceeds evapotranspiration. During such times, groundwater recharge will occur before surface run-off sufficiently accumulates and flows.

Response 20A-10

This comment reads: *"The foregoing information means that during a severe drought period, there would have to be enough groundwater in storage and accessible to the supply wells to provide most of the required pumpage. However, the amount of storage was not determined in Appendix F or any of the other documents that were provided."*

As stated in Response 20A-4, even during drought years, there are periods of time when precipitation exceeds evapotranspiration. During such times, groundwater recharge will occur before surface run-off sufficiently accumulates and flows.

Storativity of the aquifer for specific wells are provided in Table 4 of Appendix F of the DEIR. See Response 20A-3 which discusses groundwater recharge and Response 20-11c which discusses a multi-year drought supply reduction.

Response 20A-11

This comment reads: *"It is estimated that only about 60-70 acre-feet of water were actually pumped from the tested wells during the tests. This is too small an amount to verify a sustainable amount of groundwater in storage (i.e., several thousands of acre feet) during a drought period. Also, the disposition of the pumped water for the tests wasn't discussed, and some of the water may have been recycled from the surface to shallow fracture during the pumping periods."*

The comment is repeated and more defined in Comment 20A-10. See Response 20A-10. See Response 20A-1 regarding the disposition of pumped water.

Response 20A-12

This comment reads: *"The declining well yields shown in Appendix F were projected to only 120 days of pumpage. However, based on record of precipitation and Cottonwood Creek streamflow during drought periods, the pumping duration without significant recharge (excluding from Millerton Lake) could be four years or longer. The projection for Well No. 1 (1990 test), when pumped alone,*

indicates a zero well yield after about 70 days of pumping. Well No. 2 wasn't pumped in a manner that the long-term yield could be determined. The projection for Well 13 (1989 test), when pumped alone, indicates a zero well yield after about two to three weeks of pumping. If a pumping time of four years was used for the drought periods, and the supply wells were pumped simultaneously, much lower well yields would be indicated. Longer duration tests for simultaneously pumped wells are necessary to determine the sustainable groundwater supply for the proposed project."

The overall comment does not consider water systems operability as provided in Response 20-5, assumes that recharge is solely a function of surface flows in Cottonwood Creek as provided in Response 20A-8 and does not consider reductions already applied to well yields via "sustainable yield with interference" as provided in Response 20-5.

All wells were tested per County of Madera requirements. There is no data accumulated in the pump tests that would indicate a sudden or rapid depletion of groundwater in storage. A semi-log projection to 120 days is a highly utilized practice in hydrogeology that continues to be validated by groundwater pumping.

In response to Well 1 comment, as provided in Appendix B of Appendix F of the DEIR, the projection is more than 180 days of continuous pumping, not 70 days.

In response to Well 2 comment, as provided in Appendix B of Appendix F of the DEIR, the time-yield curve on Well 2 was flat out to a time of 12 days (DEIR, Appendix B of Appendix F). The projection of a flat line is a flat line.

In response to Well 13, Table 6 of Appendix F of the DEIR shows a projection to 40 days, not two to three weeks.

In response to drought conditions, see Response 20-11c and Response 20A-4.

In response to longer pump tests, see Response 20A-13.

Response 20A-13

This comment reads: "Drawdowns [in the South Well Field] are very large when considering the distance between supply wells, the relatively short duration of the tests, and other factors. If the wells in the South Well Field were pumped simultaneously for longer periods, (i.e. 30 to 60 days), one or more boundary conditions would likely be encountered. This is due to the cones of depression intersecting less fractured rock on either side of the highly fracture zone along Cottonwood Creek. These conditions would result in greater drawdowns and much lower well yields than projected."

There is no scientific data provided in the comment nor in the testing of the eleven (11) project wells that validates the assertion that 60 days of simultaneous pumping would establish sufficient boundary conditions. It is the experience of Melvin C. Simons and Associates, that in fractured bedrock

aquifers, time-yield trendlines are typically established within the first 10 to 20 days of pumping. Appendix F of the DEIR utilized industry accepted methodologies to ensure a safe and reliable water supply for the project. In addition, drawdown in hard rock aquifers can be characterized as asymmetric troughs, not as uniform “cones”.

Response 20A-14

This comment reads: *“Table 3 of Appendix F provides information on the water-level recoveries following pumping of the tested wells. Even though most of the wells were pumped alone for durations of about 10 to 16 days, full recovery wasn’t demonstrated, except for Wells 2, 17 and 19. It is important to document the time required for full recovery. This is because the longer it takes to recover, the more hours the pump must be left off during actual operation. Consideration of this factor also significantly reduces the projected obtainable yields for hardrock wells.”*

As is generally known, hard rock wells do not fully recover given the general inflow and infiltration through minor, undetectable fractures which do not exhibit the general flow parameters and transmissivity as exhibited in the deeper, quantifiable bedrock fracture planes illustrated in the well bore logs (Appendix B of Appendix F of the DEIR). Thus, full recovery takes longer to establish given the existence of such minor fractures.

It is noted that a networked, water distribution system does not operate continuously and that well recovery and cycling occur as provided in Response 20-5.

Response 20A-15

This comment reads: *“The sustainability of the groundwater supply was assumed in the water supply assessment. However, the last paragraph of Appendix F indicates that “this study will continue to be considered preliminary until the final development phase has been implemented” Also, “the only way to conclusively demonstrate the result of well interference on well yields would be to pump all five wells (2, 3, 14, 15, and 17) together. This is clearly infeasible and leaves only estimated solutions with multiple assumptions to address the problem.” The SB610 evaluation requires that a sustainable water supply be demonstrated up front, not many years later. I conclude that a sustainable groundwater supply for the proposed project was not demonstrated by Appendix F or the other associated documents. In addition, the impact of development of groundwater on the site on streamflow was not adequately evaluated.”*

As stated in Response 20-11e and as found in the DEIR, Appendix F [pg. 30], the sentence preceding the first quotation states,

“Conditioned on the statements below, this study is considered final for the Southern Well Field and preliminary for the Northern Well Field.”

In an over-abundance of caution and on the recommendation of the consultant, the project applicant retained the consultant to perform additional well tests to verify previous analyses. Following the retests of Well B-1 and Well 14, it was demonstrated that adequate well supply is available to the project. The analysis allowed Melvin C. Simons to conclude in the Addenda to Appendix F of the DEIR,

“Our principal conclusion is that the proven total well production has changed from 1,293 gpm in the 2005 report to a current value of 1,373 gpm, or 2,215 acre feet/year on a sustained yield basis, accounting for interference from nearby wells.

Appendix F of the DEIR complies with SB610 requirements. As stated in Response 20-15, the DEIR cites evidence that the subject aquifer is not a part of the Madera Basin and that the Madera Basin, not the subject aquifer, is in overdraft. As stated in Response 20-6, the project provides mitigation for the cumulatively significant impacts of groundwater use within the Rio Mesa Area Plan by establishing County Service Area 22 (CSA-22) as the lead agency responsible for designing and implementing a groundwater recharge program to particularly address groundwater overdraft in southeast Madera County. Response 20-6 is clear and coherent that the creation and participation in water banking does not mitigate cumulative groundwater overdraft, unless water banks are sited in areas of severe overdraft or surface water deliveries are ensured for groundwater users in areas of severe overdraft.

The DEIR and the technical studies along with Responses to Letter 20 and 20A contained herein, further validate the careful and measured approach taken by the project applicant in verifying the underlying aquifer groundwater source serving the project as proposed. No significant new information has been provided by the commenter or other party to contradict or challenge the data, information and analysis provided by Melvin C. Simons and Associates. Therefore, the DEIR and Assessment do not require revision or recirculation [Public Resources Code Section 21166 and CEQA Guidelines Section 15162].

As stated in Response 20-10, the project has sufficiently demonstrated that the groundwater supply is not only reliable, but that the additional measures being taken, such as the application of advanced tertiary treated water on open spaces, mandates for hardscaped surfaces, a dual water meter system and groundwater recharge of storm run-off, all ensure a sufficient water supply is made available to the project.

June 13, 2007

Letter 21
Page 1 of 4

County of Madera Planning Department
Rayburn Beach, Planning Director
2037 West Cleveland Avenue
Madera, CA 93637

Re: Draft EIR for North Fork Village

Dear Mr. Beach:

We live on a working cattle ranch in southeastern Madera County that is near the northwest boundary of the proposed development; a map of our property location is attached. It's a ranch where we've lived for about 20 years and our hearts are with the land. As the Valley's population grows, we know that change will come to our area and we have but one chance to preserve parts of it for future generations. For these reasons, we are voicing concerns that affect our property as well as concerns we believe affect everyone. We submit these comments with the hope that the project is redesigned.

North Fork Village, threatens Millerton State Park. If the Project is left unchanged, it will cripple the Park's ability to provide even basic services and will place vital public resources at risk. Today, the project area is a working landscape of cattle ranches over a mosaic of oaks and grassland, creating the western border to Millerton Lake, Madera County's only State Park. In its place, North Fork Village would bring 9,000 residents that undoubtedly will take advantage of the Park's campground, boat launch, and other facilities. However, the project does not propose to increase the size of the State Park, add campgrounds, or build facilities such as parking and restrooms.

There is already a well-documented gap in park and recreational services in Madera and the Central Valley as a whole. If the project is redesigned it could provide its fair share of facilities that the Park will need to meet the new demand brought by the development. Also, a significant resource protection zone could be provided, one that would protect the Park's natural and scenic beauty. A development of this size should have the capacity to assist rather than detract from providing expanded services

21-1

available at the State Park such as camping, day-use, fishing, boating, group facilities, and interpretive programs.

21-1
CONT.

The natural and scenic values of our property are very important to us and we have made a substantial financial investment to protect and enhance them. In 1999, we placed our property in a conservation easement, preventing any future subdivision of the land and protecting its natural resources. Also, we have undertaken a significant project to restore riparian habitat and native grasses along Cottonwood Creek, which runs through our ranch. We believe the project will impact resources that we have made investments to protect.

A project redesign could also result in improved stream protection and preservation of important wildlife species. Cottonwood Creek, an important tributary to the San Joaquin River, flows through the development and the project plans to receive its water source from seven wells placed along it. These wells will draw from an aquifer that is trapped in bedrock fissures below the creek. Water flows in Cottonwood Creek may be affected and thereby affect the associated resources on our ranch. A major opportunity exists to improve the project by developing a regional plan for water supply and natural resource protection prior to project consideration. A plan for reliable clean water and preserving Madera's natural heritage will result in a more livable and sustainable community.

21-2

The land surrounding Millerton Lake has some fascinating characteristics. Tick-Tack-Toe Hill runs through the project area and our ranch as well. It is a unique ridge of rock outcrops that form a clear and intriguing criss-cross pattern. The blue oak woodland that dominates the landscape is vital forage ground for wintering bald eagles, which roost in the State Park and along the river. The rare California tiger salamander, a wonderful and iconic animal, can be found on our ranch and undoubtedly occurs in the project area. Together with Cottonwood Creek, this area provides a critical corridor for wildlife populations to move back and forth between the river and the foothills.

21-3

We are concerned that populations of sensitive species that occur on our ranch will be affected by the loss of habitat in the project area. For example, on several occasions, we have found California tiger salamanders on the ranch very near our home site. The most recent sighting was on May 30 of this year. Another example are bald eagles that utilize the ranch for foraging and are enjoyed by the public at Millerton State Park and along the Parkway.

The working landscape of southeastern Madera County foothills is a beautiful yet fragile resource. As the Valley continues to grow and the pressure to develop mounts, we encourage Madera County and project proponents to find an alternative to the Project that is more sensitive to the landscape. A redesigned project could provide opportunities for a reliable clean water supply, preserved natural resources, recreational open space, and protect clean air. These qualities are as essential to the fabric of a livable community as are roads and utilities.

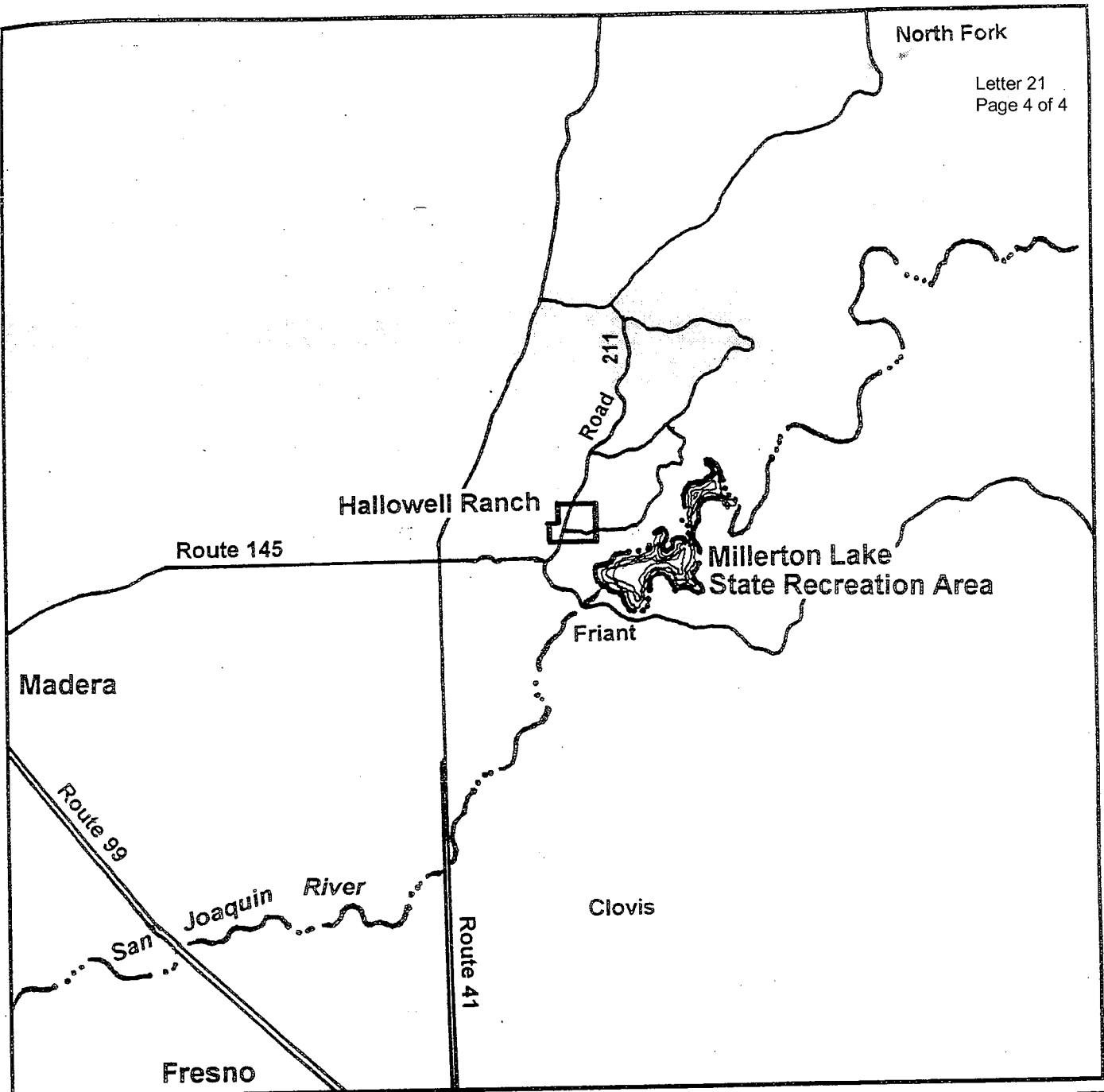
21-4

We have only this one chance to get it right. Let's take the opportunity to step back and redesign North Fork Village.

Sincerely,

James and Coke Hallowell
19623 Road 211
Friant, CA 93626



Hallowell Ranch Location Map

Exhibit 1

Approximate Scale: 1" = 6 miles

Prepared by:
Scharffenberger Land Planning & Design
San Francisco, CA

Note: this map is for illustrative purposes only.
It is not intended to be a definitive property
description.

Letter 21. James and Coke Hallowell (6/13/07)

Response 21-1

These comments address impacts to Millerton Lake SRA that are discussed in EIR Sections 5.1 Aesthetics, 5.9 Land Use, and 5.14 Parks and Recreation; however, the specifics of the suggested redesign for the proposed project are not identified in this comment. A Reduced Density Alternative is evaluated in EIR Section 8.4 that would retain the northern unit of the NFV-1 project site in its current agricultural open space condition.

Response 21-2

See Response 9-22 and 11-5. The proposed project has been designed to protect Cottonwood Creek.

Response 21-3

The natural features associated with Tic-Tac-Toe Hill will not be substantially altered with the proposed project design. Mitigation measures to provide further protection for blue oak woodlands have been included in the EIR. Additional surveys for California tiger salamander will be required, and avoidance or compensation for loss of habitat or possible "take" of this species will be required to comply with resource agency permit requirements. See Response 1-17 concerning wildlife movement corridors.

Response 21-4

See Response 21-1.



ARNOLD SCHWARZENEGGER
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



CYNTHIA BRYANT
DIRECTOR

June 25, 2007

Letter 22
Page 1 of 1

Rayburn Beach
Madera County Planning Department
2037 West Cleveland Avenue
Madera, CA 93637

Subject: North Fork Village Specific Plan
SCH#: 2006011101

Dear Rayburn Beach:

The enclosed comment (s) on your Draft EIR was (were) received by the State Clearinghouse after the end of the state review period, which closed on June 4, 2007. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project.

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2006011101) when contacting this office.

Sincerely,

Terry Roberts
Senior Planner, State Clearinghouse

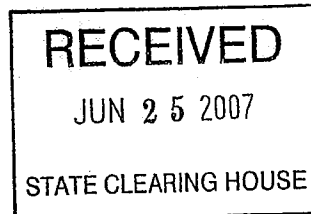
Enclosures
cc: Resources Agency

~~STATE OF CALIFORNIA - BUSINESS, TRANSPORTATION AND HOUSING AGENCY~~**DEPARTMENT OF TRANSPORTATION**

1352 WEST OLIVE AVENUE
 P.O. BOX 12616
 FRESNO, CA 93778-2616
 PHONE (559) 445-5868
 FAX (559) 488-4088
 TTY (559) 488-4066

*Flex your power!
 Be energy efficient!*

June 25, 2007



clear
 6/4/07
 late
 e

Letter 22A
 Page 1 of 3

2134-IGR/CEQA
 6-MAD-41-9.25+/-
 DRAFT EIR
 NORTH FORK VILLAGE
 SCH 2006011101

Mr. Rayburn Beach
 County of Madera
 Planning Department
 2037 W. Cleveland Avenue
 Madera, CA 93637

Dear Mr. Beach:

We have completed our review of the Draft Environmental Impact Report (DEIR) for what is referred to as North Fork Village-1 (NFV1). The project is proposing to develop 2,966 residential dwelling units, and approximately 15,000-sqft commercial/mixed use space on a 2,238-acre site. Project Phase I would include 750 single-family residential units. Project Phase II would develop residential community (multi-family residential and single-family residential), commercial, and mixed used development. The project site is bounded by Road 211, Millerton Lake, and Road 211/Road 145, and east of State Route (SR) 41 in Madera County. The NFV1 is part of the Rio Mesa Area Plan that consists of the planned development of 30,000 residential units, commercial uses, light industrial/business park uses, and recreational uses on a 15,000-acre site. Caltrans has the following comments:

The study should calculate the project's fair share (Phase I and Phase II) for the SR 41 ultimate intersection improvements at SR 145 and Avenue 15, the future SR 41 interchange at Avenue 12 and at the SR 41 interchange at Friant Road. The project should also contribute their fair share for the SR 41 widening between Children's Blvd and SR 145 or contribute their fair share to the Madera County Traffic Impact Fee Program once updated. The fair share estimate should be consistent with other projects along the SR 41 corridor.

The project trip distribution in Figures 1 (Phase I) and 2 (Phase II) of the TIS Addendum dated 3/2/2007 shows 60% of the project trips would travel to Friant Road and 40% of the project trips would travel to the SR 41 intersection at SR 145. Therefore, the project would

Mr. Rayburn Beach
June 25, 2007
Page 2

significantly impact the SR 41/Friant interchange that is currently at capacity. The trip distribution pattern may change when Road 145 and SR 41 are widened, and the interchange at Avenue 12 is constructed.

Project Phase II should be reevaluated when the project plan is available.

The Phase II mitigation stated in the DEIR and the traffic study indicated the need for eastbound and westbound left-turn lanes with protected left-turn phasing. A project to reconstruct the intersection at SR 41 and 145 is in final design. The project includes adding eastbound and westbound left-turn lanes with protected left-turn phasing, adding 2 northbound and southbound through lanes, and reconstructing the traffic signal. The project is expected to be under construction in 2008.

The intersection of Business 41 and Avenue 12 should be analyzed. The Business 41 extension should be included in the Cumulative Project scenario and be analyzed as part of the interchange.

Will Rio Mesa Blvd be extended from Children's Blvd to north of Avenue 12?

The segment analysis (Table 5.15-5) shows that SR 41 at cumulative scenario would be an 8-lane freeway between Children's Blvd. and Avenue 12 and a 6-lane freeway between Avenue 12 and Avenue 15. The segment north of Children's Blvd. should not be widened to 6-8 lanes before the freeway south of Friant Road is widened to 6-8 lanes. The Freeway Agreement for the future SR 41 Alignment Report (EIR for SR 41 Improvement) should be consulted to verify that an 8-lane freeway plus light rail is planned for this section of SR 41. The Rio Mesa Master Plan should be consistent with the future SR 41 alignment.

The segment analysis shows the need for 14 lanes at Children's Blvd. from Lane Bridge to SR 41. The existing structure may not allow for 14-lane widening to meet the vertical clearance for future light rail. An advance planning study, interchange modification study, and weaving analysis should be conducted.

The SR 41 interchanges at Children's Blvd. and Friant Road should be included in the analysis.

To alleviate the congestion at the Children's Blvd. interchange, an additional interchange at Avenue 11 may need to be considered.

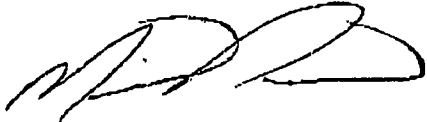
There are significant differences in the traffic projections from the traffic study that was prepared for the Village of Gateway project done by TPG Consulting.

On page 5 of the traffic study, CA MUTCD 9/2006 should be used for analyzing all-way stop and traffic signal warrants.

Mr. Rayburn Beach
June 25, 2007
Page 3

Please send a response to our comments prior to staff's recommendations to the Planning Commission and the Board of Supervisors. If you have any questions, please call me at (559) 445-5868.

Sincerely,



MICHAEL NAVARRO
Office of Transportation Planning
District 06

C: SCH

Letter 22. State Clearinghouse (State Department of Transportation) (6/25/07)

This letter transmits an attached letter from the State Department of Transportation (Letter 22A) that was received after the close of the public comment period on the Draft EIR.

Response to Letter 22A

The Department of Transportation's comments will be considered by the County Planning Commission and Board of Supervisors in their deliberations on the proposed project. Pursuant to EIR Mitigation Measure TC-5, the project will contribute a fair share amount to areawide transportation improvements identified in the NFV-1 Traffic Impact Study. Fair share amounts will be determined by the County of Madera, taking into account existing development impact fees, Madera County Road Impact Fees collected from the project, and intersection and/or road improvements provided by the project that qualify for reimbursement. As noted on page 5.15-7 of the EIR, a trip trace analysis was conducted for the SR 41/Friant interchange and the SR-41/Children's Boulevard interchange. The various studies and committed, planned, and recommended improvements to SR-41 interchanges and road segments referenced in Caltrans' comments are noted.

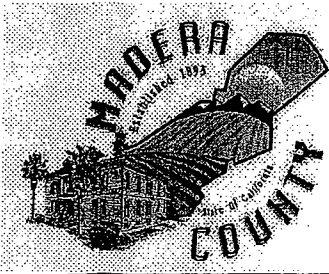
The project is contributing to Madera County Traffic Impact Fees per County Ordinance 367-O. Fair share determinations are made County-wide by the Madera County Road Department. See also Response 13-11.

A review of Figure 8 within the "Documentation of Rio Mesa Cumulative Land Use and Travel Forecasts" report written by Korve Engineering illustrates that the project does not significantly impact the Friant Road and SR-41 interchange. In addition, recent construction improvements and current construction projects at the Friant Road and SR-41 interchange have significantly increased the capacity of the interchange.

Madera County Traffic Impact Fees from the project will be available for the next highest priority project on SR-41.

The Business 41 segment north and south of Avenue 12 were studied in the Cumulative Analysis report prepared by Korve Engineering. The north segment has a daily volume of 4,907 trips/day while the south had a volume of 3,467 trips/day. The intersection was not identified during the project scoping meeting as being required for analysis. Recommend that Caltrans request from either MCTC an analysis or from future developments now utilizing the Cumulative Rio Mesa model for inclusion in future project scoping meetings.

Both Children's Boulevard and Friant Road interchanges at SR-41 were analyzed in the project TIS (Intersections 2 and 3). Perhaps this comment is referring to the future Lanes Bridge analysis. If so, then the comment noted. The existing SR-41 bridge span constructed over Avenue 11 and intersection modifications to Business 41 would require extensive rework.



RESOURCE MANAGEMENT AGENCY

ENVIRONMENTAL HEALTH

Jill Yaeger, Director

2037 W. Cleveland Avenue
Madera, CA 93637-3593
(559) 675-7823
FAX (559) 675-7919
TDD (559) 675-8970
envhealth@madera-county.com

Letter 23
Page 1 of 2

June 20, 2007

TO: Philip Toler, Planner
FROM: Joseph Diebert, REHS
SUBJ: North Fork Village Draft Environmental Impact Report

The subject document has been reviewed and our comments are as follows:

1. Section 3.3.2 – Proposed Land uses and Overlays, page 3-9, Rural Residential (RR) – states that “One Second Unit per Rural Residential dwelling unit is eligible for construction with the approval of a Conditional Use Permit (CUP)”. A second dwelling unit should only be considered eligible for construction with the approval of a CUP in the event that the parcel is served by community water and wastewater systems or the lot is 5 acres or greater and can support individual onsite sewage disposal systems and reserve areas for each dwelling.
2. Section 3.3.3 – Proposed Development Characteristics, page 3-24, Table 3.2 Sierra Crest shows 36.8 gross acres designated as RR (Residential Rural) with 14 planned units and 21 maximum units. This results in an average of 2.62 acres and 1.75 acres respectively; lots sizes too small for individual onsite sewage disposal systems with reserve areas even for one dwelling. See Comment No. 1 above. Lot sizes should be a minimum of 5 acres or serviced by a community wastewater system. A small package plant community system could be utilized to serve this last phase of development.

Section 5.6 – Geology and Soils, page 5.6-9, Impact 5.6-5 states that “septic tanks will be used in the Sierra Crest Neighborhood in the last phase of development”. See comment above.

3. Section 5.6 – Geology and Soils, page 5.6-3, Groundwater – states “Groundwater was encountered at 10 and 14 feet bgs near Cottonwood Creek and near the site of the proposed sewer treatment facility at the western boundary of the southern portion of the property.” The DEIR does not address the concern or potential impact the location/proximity of the sewer treatment facility will have on the presence of shallow groundwater and corresponding mitigation measures. The DEIR also not indicate the approximate distance between the proposed location of the sewer treatment facility to the nearest well to be used as part of the water supply system.

4. Section 5.7 Hazards and Hazardous Materials, page 5.7-12, 5.7.6 – Mitigation Measures. An emergency response and evacuation plan should be considered as an additional mitigation measure.

Letter 23. Madera County Environmental Health Department (6/20/07)

Response to Letter 23

This letter was received after the close of the public comment period on the Draft EIR. The comments address 1) minimum lot sizes and standards for potential onsite sewage disposal systems with the last phase of development, and 2) concern with the location of the planned tertiary wastewater treatment plant in proximity to shallow groundwater, and 3) a recommendation for an emergency response and evacuation plan.

The project will comply with requirements of the County Environmental Health Department for wastewater systems and service to all phases of development. EIR Mitigation Measure PSF-WW-1 stipulates prior to issuance of any building permits for lots proposing individual on-site sewage treatment, the County will be provided with an on-site sewage system design with soil engineering reports or studies demonstrating that the system design is adequate to prevent all water quality and health impacts. A Report of Waste Discharge (ROWD) has been prepared for the project, and all wastewater treatment and disposal operations will operate under permitting authority of the Regional Water Quality Control Board (RWQCB) and State Department of Health Services (DHS). The location of the tertiary treatment plant and reclaimed water distribution ponds will be subject to further environmental review prior to construction (EIR page 5.13-26). The treatment facilities will be constructed and operated in compliance with applicable regulations to ensure that significant impacts to ground and surface water resources do not occur. With regard to emergency response and evacuation, the project provides roadway improvements and extensions to ensure adequate emergency access and evacuation, and no significant impacts would occur (EIR page 5.7-11).



RESOURCE MANAGEMENT AGENCY Road Department

Johannes J. Hoevertsz, Road Commissioner

• 2037 W. Cleveland Ave., MS#D
• Madera, CA 93637-8720
• (559) 675-7811
• FAX (559) 675-7631
• TDD (559) 675-8970

MEMORANDUM

TO: Philip Toler, Planning Department

FROM: H. Mitch Hemaidan, Development Services Engineer, Road Department
H. Mitch Hemaidan

DATE: June 13, 2007

RE: North Fork Village-1 - Review of Draft EIR

We have completed our review of the Draft EIR as presented. The proposed development is requesting approval of a residential and mixed use development within the 2,238 acre project site. The applicant proposes to develop approximately 2,966 residential dwelling units and approximately 1,500,000 square feet of commercial / mixed use space among other improvements. The Road Department has the following comments:

There are a number of concerns relating to the Traffic and Circulation element of the Draft EIR. One of which is the secondary access improvement of the upper half of the proposed development (east of Road 145 - Millerton Rd). The County's General Plan is specific in stating that any major subdivision shall have 2 points of access. All access points shall meet minimum design and construction standards adopted by the County. There is no mention of providing such improvements to satisfy the County's concerns. Nonetheless, the access requirement will be a condition of all subdivision maps. Moreover, any and all tract maps shall meet the requirements stated in the County Ordinance specifically County Ordinance stated in ST-8.

The following are comments specific to the Draft EIR:

- As mentioned above, the EIR falls silent in stating specific access points to eliminate any dead end road issues throughout the project limits. Please clarify.
- As a mitigation measure, improvements to meet minimum safety requirements, on the below-mentioned roadways, shall be a part of the EIR. The County's standing policy is not to approve new development where existing facilities are inadequate. These improvements are required to safely move people and goods to and from the development. There are existing curves, sight distance hazards, substandard pavement etc, all of which do not meet current roadway design standards and thus shall be improved accordingly. The timing of the improvements shall be made a part of the EIR.

1. Road 206 from Road 145 to County Line
2. Road 145 SR 41 to Millerton Rd
3. Millerton Road which is designated as a secondary access point where dead end roads exceed maximum length requirements. If Millerton Rd will not be utilized as a secondary access to meet dead end road length requirements, then a suitable secondary access shall be stated in the EIR. Any secondary access point deemed necessary to comply with over-length dead end roads within the proposed project shall be brought up to current design and construction standards.

Letter 24. Madera County Road Department (6/13/07)

This memorandum was received at or near the close of the comment period. It expresses concerns with the adequate provision of secondary access to the project site at several locations, and with the need for all access points to meet minimum design and construction standards adopted by the County. It is noted that County Road Department access requirements shall be a condition of approval of all subdivision maps. Any and all tract maps shall meet requirements in the County Ordinance. A mitigation measure has been added to the EIR to address Road Department concerns with potential dead end road and design safety issues associated with the three referenced roads/road segments in this comment (see Section 4). Also, see Responses 10-3 and 10-4 concerning road improvements to avoid conflicts with State Parks traffic and improve emergency access.

ROLLING HILLS CITIZEN'S ASSOCIATION

10340 Rolling Hills Dr. Madera, CA 93636

559-435-5740

July 10, 2007

Mr Rayburn Beach, Directpr
Madera County Planning Department
2037 Cleveland Ave.
Madera, CA 93637

Attn: Mr. Philip Toler

Dear Mr. Beach

The Rolling Hills Citizen's Association recommends rejection of North Fork Village No.1 "Environmental Impact Report (EIR). We submit that Sections 5.8 Hydrology and Water Quality and Section 5.11 Traffic and Transportation are inadequate.

Section 5.8 "Hydrology and Water Quality analysis fails to recognize, consider, or report on the consequence of aquifer degradation, depletion, "desertification," societal and economic instability caused by aquifer overdraft. In the Central Valley alone (as in much of California, the nation, and the world) those impacts are prevalent. They are real. They can be and frequently are devastating to the communities and, they are often irreversible.

Attachment 1 also documents ground water loss at 22,000 af/yr in the Rolling Hills, Ranchos and Root Creek Water District. The author goes on to state in the Root Creek Water District portion of that loss approximates 3,400 af/yr. As that report points out, Root Creek area, water levels are presently dropping at 3.3 feet per year.

Since 1978 Rolling Hills the water level at pump #1 has decline about seven feet per year. During the same period, the second well has averaged about 2 feet per year decline In the Ranchos, water levels continue to recede at about 7 ½ feet per year.

In addition to declining underground water levels, Rolling Hills primary well has been closed due to contamination. Blue green slime and heavy sand deposits, are found at depths between 350 and 550 feet. In addition to the blue green slime deposits, low levels of diachlormethane, gross alpha, and "total trihalomehanes caused the closing of this well. Blue green slime has not as yet, been found in the remaining two wells. Attachment 1 also documents and identifies the causes and extent and of aquifer degradation, and the "foot print" of ground water over draft in the nation, California, and Madera County.

NFV-1 DRAFT EIR, Impact # 5.8-2. suggest that at project buildout, on site recovery systems, residential and commercial usage, and low transpoevaporation rates, and unfettered return of water to the aquifer, only 27 percent of the project water pumped will not be available for recharge. Unfortunately, that 27%, represents about 377 ac/ft annually. That water will be taken from a deteriorating underfed aquifer that helps supply Rolling Hills, Root Creek Water District, Ranchos, Cottonwood Creek, parts of Madera and western Madera County.

RECOMMENDATION # 2: Rio Mesa, North Fork Village – 1 and future developers seeking development in eastern Madera County be required to replace at least three fourths all ground water taken from the aquifers in east and south east Madera County. Such replace shall not be taken from San Joaquin River directly or through riparian or other similar legal devices.

Section 5.11: NFV-1 Like Section 8, Section 5.11 offers the County and neighboring communities an puffed but hard to understand view of the impacts vehicular traffic will have State Routes 145, and 41 (and probably Friant Road in Fresno County). Section 5.11 redemption offers? Add left and right turn lanes at the Route 145/41 intersection.

Clearly, the planned addition of “1437 acres of residential (rural to high density), 172 acres of mixed-use and non-residential (community/office, and 629 acres in major open space, including open space-natural (589 acres) open space preserve (28 acres) and open-space-use (12) areas” and a proposed density of up to 2966 dwelling units”, traffic volumes, traffic accidents and other economic and environmental losses will increase significantly on State Routes 41 and 145.

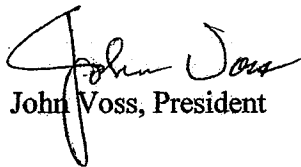
Currently, morning commuter traffic southbound past traffic signals at Avenue 12 often back up ½ mile and more.

Likewise, after noon commuter northbound traffic commonly backs up to about Avenue 11, but often to Avenue 9. Yet the Highway 41 and Avenue 12 problems are not consider by the proponents to be significant.

We believe that approval of the NFV-1 Draft EIR will set a dangerous precedent and may prove to be irreversible error for the County. Additional removal of ground water by other Rio Mesa developments will ultimately cut much deeper into southeastern Madera County water users needs, thus violating the purpose and intent of CEQA.

RECCOMENDATION 3: The draft EIR should be reject and sent back to the proponents for further investigation and revision as needed to comply with the requirements of CEQA and other federal state and local enactments.

Sincerely,


John Voss, President

GROUND WATER DEPLETION

It's Impacts - It's Foot Print

A SUMMARY

“As the nation’s most populous state, California faces many compelling and complicated water problem. Although polls have consistently shown the public’s top concerns are education, job security, crime, and immigration -- water fuels the economy. Proper management of the quality and quantity of the state’s liquid gold is critical to California’s well being.” (USGS, Water Sciences, Ground-Water Depletion.)

No other issue, no other essential, no other element of change, nor no other item of universal concern has the intrinsic ability to set man against man than does the need for water. Will Rogers said it best, when he is said to have coined the phrase, “Whisky is for drinking; water is for fighting over.”

In the United States, ground water is the source of drinking water for nearly half of the total population and nearly all of the rural population. Groundwater provides over 50 billion gallons per day of agriculture. Ground-water depletion, a term often defined as long-term water level declines caused by unsustained ground water pumping, is a key issue associated with our insensitive disregard of water use.

Many areas of the United States are experiencing ground water depletion. Some of the more noticeable effects of ground water depletion are clearly recognizable, drying up of wells, reducing water flows into streams and lakes, and deterioration of water quality. Others may be less obvious. Pumping costs may be increasing, aquifers may be deteriorating, porous water conductive formations may be drying, solidifying, and forcing smaller and smaller amounts of runoff into contaminated pools where it may evaporate or make its way into open exposed streams or drain into the sea. .

National: Evidence of ground water over pumping can be seen in most states, ie. more ground water is being pumped than is placed in the ground as recharge. For example, “in Long Island New York, about half of the area’s precipitation becomes recharge to the ground water system, the rest flows as

runoff into streams or is lost through evapotranspiration. What little remains sinks down into streams or laterally and discharges into streams and seawater "(Cohen and others, 1968).

High Plains Aquifer: The Ogallah aquifer underlies a 225,000-square-mile of the great plains and includes parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas and Wyoming. Irrigation pumped from the Ogallah has made this region one of the most important agriculture areas in the country. However beginning in about 1940, area farming and pumping from the Ogallah began to expand. In 1949, about 480 million cubic feet per day was used for irrigation (US Geologic Survey). By 1980 the use had quadrupled to about 2,150 million cubic feet per day and later declined to about 1,870 million cubic feet per day (McGuire and Sharp). However, some places overlying the aquifer have exhausted their underground supply as a source of irrigation.

Pacific Northwest: Pumping from the Columbia River Basalt Aquifer in Washington and Oregon for irrigation, public supply and industrial uses has cause water-level declines of more than 100 feet in several years (USGS Water Science for Schools).

Gulf Coast: Ground-water pumping by Baton Rouge, Louisiana increased more than tenfold between the 1930's and 1970, has resulted in ground-water-levels of decline of about 200 feet.

The Memphis Tennessee area is one of the largest metropolitan areas in the world that relies exclusively on ground water for municipal supply. Large withdrawals have caused regional water levels declines of up to 70 feet.

In the Tampa-St. Petersburg area ground water pumping has led to the intrusion of salt water and subsidence in the form of the form of sinkhole development and concern about surface-water depletion from lakes in the area. To reduce its dependence on ground water, Tampa has built a desalination plant to treat seawater for municipal supply.

Continued pumping since the 1920s by many industrial and municipal users from the underlying Sparta aquifer have caused significant water-level declines in Arkansas, Louisiana, Mississippi, and Tennessee.

In the Houston Texas area, extensive ground water pumping to support economic and population growth has caused water declines of approximately 400 feet, resulted in extensive land subsidence of up to 10 feet. (USGS Ground-water depletion).

Chicago-Milwaukee area: Chicago has been using ground water since at least 1864 and ground water has been its only source of drinking water for about 8.2 million people in the Great Lakes watershed. This long term pumping has lowered groundwater levels by as much as 900 feet.

Desert Southwest: Increased ground-water pumping to support population growth in "Central Arizona (including Tucson and Phoenix) areas, has resulted in water-level declines of 300 and 500 feet in much of the area. Land subsidence was first noticed in the 1940s and land subsidence of as much as of 12.5 feet has been measured. Additional lowering of the water table has resulted in the loss streamside vegetation. (Ground Water Depletion USGS water science)

Western: The Mojave Water Agency linked land subsidence and water level declines of more than 100 feet between the 1950's and 1990's (USGS, Ground-Water Depletion).

Ground Water Supply: California's ground water storage is about 850 million acre feet (maf), roughly 100 times the State's annual net groundwater use, stored in some 450 ground water basins statewide. Probably less than half of this total is usable because of quality considerations and cost of extraction. However, the large quantity of quality ground water makes it a crucial component of California's total water resource.

In a year of average precipitation and runoff, an estimated 15 maf of ground water is extracted and applied for agricultural, municipal, and industrial use. This is over 20 percent of the total applied water supply statewide, and ranges from 20 to 90 percent locally, depending on the area. However, because of deep percolation and end extensive reuse of applied water, the 1990 level average net groundwater was about 8.4 maf, including about 1.3 maf of ground water overdraft. Overdraft estimates include 0.2 maf due to possible degradation of ground water quality in the trough of the San Joaquin Valley ground basins. In drought years, the net use of ground water increases significantly to 13.1 maf (also includes 1.3 maf of overdraft),

which indicates the importance of ground water increases significantly to 13.1 maf (also includes 1.3 maf of overdraft), which indicates the importance of the State's ground water basin and storage facilities to meet drought year water needs (see Chapter 4). Table 1-2 [not available here] shows the regional ground water use.

Between 1980 and 1990, annual ground water overdraft had been reduced by about 0.7 maf from the 1980 level of 2.0 maf. The reduction is mainly in the San Joaquin Valley and is due primarily to the benefit of imported supplies to the Tulare Lake Region, construction and operation of new reservoirs in the San Joaquin River Region during the 1960 and 1979, and prudent management of surface and ground water resources, including conjunctive use of those supplies. Table 1-3 level [not available here] shows 1990 level regional overdraft. However, until key Delta issues are resolved and additional water management programs are implemented, the reduction in overdraft seen in the last decade in the San Joaquin Valley will reverse as more ground water pumped to make up for reductions in surface water supplies from the Delta. In the long term continued overdraft is not sustainable and must be addressed in local and State water management plans. As such, overdraft is not included as a future supply. (California Water Plan, 1994..

San Joaquin Valley: "The compaction of unconsolidated aquifer system that can, and frequently do accompany excessive ground-water pumping is by far the single largest cause of subsidence. The overdraft of such aquifer systems has resulted in permanent subsidence and related ground water failures. The "water of compaction" cannot be restored (USGS, Land Subsidence in the United States).

Evidence of such non-restorable aquifers is very apparent in the San Joaquin Valley southwest of Mendota where water levels have dropped precipitously. As a reminder of earlier day a large power pole has been marked subsidence levels in 1925, 1955, and 1977. Today, that "sink hole" is more than 36 feet deep (USGA Fact Sheet 165-00).

AQUIFER DETERIORATION: Human activities such as (1) ground water withdrawals and irrigation, (2) changes in the natural flow patterns, for agriculture and consumptive uses, (2) changing in natural and storm water run-off patterns, (3) expected impacts on neighboring and down stream communities and (4) storm and drainage patterns must be accounted for in

judging environmental impacts on local neighborhoods and down stream aquifer the calculation of a water budget. Because any water that is used must come from somewhere, human activities affect the amount of water and the rate of movement of water in the system, entering the system and leaving the system. (USGS, Ground-Water Resources-Circular 1186).

Eastern Madera County: Since 1978, water levels just north of Rolling Hills (Ranchos) have declined an average 7 1/2 feet while the wells along the south edge of Rolling Hills have declined more than 2 feet per year. In the Ranchos area water levels continue to recede on average, about 7 1/2 feet per year. In the Rolling Hills/Root Creek area, "there have been greater losses in the water level in wells farther from the San Joaquin River which is the major source of recharge to the ground-water in the area." (Kenneth D. Schmidt and Associates, 2003).

Underground water contamination, in the form of blue-green deposits, brown deposits, slime producing organisms, manganese, arsenic, and chloride, all at manageable levels --- so far, have all been found in Rolling Hills wells. (Kenneth D. Schmidt and Associates, 2003)

Letter 25. Rolling Hills Citizen's Association (7/10/07)

This letter was received after the close of the public comment period, and is similar to Letter 19 also submitted by the Rolling Hills Citizen's Association. With respect to groundwater depletion and overdraft issues, see Responses to Letters 19, 20 and 20A. The project's impacts on groundwater supplies are adequately addressed in EIR Section 5.8, Hydrology and Water Quality; Section 5.13.6, Water Supply and Delivery, and the water supply assessment (Appendix F). With respect to traffic impacts, see Responses to Letters 6, 13 and 24. The EIR includes mitigation measures to assure that project impacts on the areawide road system will be reduced to less than significant levels.



CENTER for BIOLOGICAL DIVERSITY

Because Life is Good™

Letter 26

July 13, 2007

County of Madera
Planning Department
Attn: Olivia Dias, Rayburn Beach
2037 W. Cleveland Avenue
Madera, CA 93637
Phone: 559.675.7821
E-mail: olivia.dias@madera-county.com

Re: Comments on the Draft Environmental Impact Report for North Fork Village-1, State Clearinghouse No. 2006011101

Dear Ms. Dias and Mr. Beach:

These comments are submitted on behalf of the Center for Biological Diversity ("Center") on the Draft Environmental Impact Report ("DEIR") for North Fork Village-1 ("NFV-1") Specific Plan, State Clearinghouse No. 2006011101 ("Project"). The Project would create a "self-contained" community of 3,000 new residences and 1,500,000 square feet of commercial space on more than 2,200 acres of agricultural lands in Madera County. As stated in the DEIR at 6-1-2, The Project would have significant unavoidable impacts in the areas of air quality, loss of agricultural land, water supply, and loss of habitat. The Center is concerned that the Project may have additional significant impacts stemming from the greenhouse gas emissions associated with the Project.

The Center for Biological Diversity is a non-profit conservation organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center's Climate, Air, and Energy Program works to reduce U.S. greenhouse gas emissions to protect biological diversity, our environment, and public health. We work to educate the public about the impacts of climate change on our world and the animals and plants that live in it and to build the political will to enact solutions. The Center has over 35,000 members throughout California, including in Madera County. Center members in California will be directly, indirectly, and cumulatively affected by the impacts of global warming caused by pollution sources inside and outside of Madera County, including the Project.

The Center is very concerned about the impacts the Project would have on local, regional and global biodiversity, local and regional air quality, global warming, and the health and safety of the residents of Madera County, as well as other impacts enumerated below. It is essential that the Madera County Planning Department ("County"), as lead agency under CEQA, ensure that the public and decision makers are fully informed of these environmental impacts and potential mitigation measures. Similarly, the Corps has the affirmative duty to "provide full and fair discussion of significant environmental impacts and shall inform decision makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the

quality of the human environment.” CEQA Guidelines § 1502.1. However, the DEIR fails to satisfy these fundamental precepts of the California Environmental Quality Act (“CEQA”), Cal. Pub. Res. Code §§ 21000 et seq., leaving the public and decisionmakers uninformed of the environmental effects of the proposed Project.

These comments will provide additional updated information about the climate change impacts of greenhouse gases, and how the Project will affect and will be affected by those impacts. These comments will then describe how the DEIR is inadequate under CEQA because it insufficiently discusses greenhouse gas emissions and their significant impacts, energy conservation, reasonable Project alternatives, and mitigation measures to reduce significant adverse effects on the environment from global warming and other project impacts.

I. The Harms of Global Climate Change Require Immediate Reductions in Greenhouse Gas Emissions

A DEIR must include a discussion of climate change and greenhouse gas emissions in California in order to provide context for the discussion of impacts and the significance determination. No such discussion is found in the DEIR for the Project, and this renders the document inadequate, as it does not describe all of the potential adverse effects resulting from the Project. A voluminous literature exists on the global climate change impacts of greenhouse gases like carbon dioxide. *See, e.g., IPCC (2007).*

There are many reports by California state agencies and others detailing current and projected environmental, economic, and health impacts on the state from global warming. Many of these reports, from the California Environmental Protection Agency, the Department of Water Resources, the California Energy Commission, and the Union of Concerned Scientists, among others, are available at <http://www.climatechange.ca.gov/documents/index.html>. These reports paint a dire portrait of the future consequences of global warming in California unless significant steps are taken now to arrest the emission of greenhouse gases and their accumulation in the atmosphere. *See CalEPA, 2006; Union of Concerned Scientists, 2006; DWR, 2006.*

There are many predicted and potential statewide environmental impacts. Some of the types of impacts and estimated ranges of severity are summarized as follows:

- A 30-90% reduction of the Sierra snowpack during the next 100 years, including earlier melting and runoff.
 1. greater difficulty with water storage, and an accompanying greater risk of drought;
 2. increased risk of flooding, especially in areas such as the Sacramento-San Joaquin Delta (“Delta”);
 3. lower stream levels for much of the year including the summer, resulting in increased stream temperatures and deleterious effects on many fish, including species of salmon and steelhead trout listed as threatened or endangered by the

- State and federal endangered species acts, and other aquatic organisms;
4. decreased albedo effect, with a resultant increase in global warming.
- An increase in water temperatures at least commensurate with the increase in air temperatures.
 1. deleterious effects on aquatic organisms, including the Delta smelt and species of salmon and steelhead trout currently listed as threatened or endangered by the State and federal endangered species acts. California already constitutes the southern end of many of these species' ranges, and further water warming could result in their extirpation.
 - A 6-30 inch rise in sea level, before increased melt rates from the dynamical properties of ice-sheet melting are taken into account.
 1. increased salt water intrusion into fresh groundwater supplies, which could lead to decreased water supplies in coastal areas and an increased reliance on water from snowmelt;
 2. inundation of coastal marshes and estuaries;
 3. increased risk of flooding near river mouths due to backwater effects;
 4. increased chance of levee failure in the Delta and resultant flooding;
 5. increased salinity intrusion into the Delta with impacts on both estuarine species and California water supply from the State Water Project, Central Valley Project, and Contra Costa Water District.
 - An increase in the intensity of storms, the amount of precipitation and the proportion of precipitation as rain versus snow.
 1. increased risk of flooding generally;
 2. increased difficulty of water storage.
 - Profound impacts to ecosystem and species, including changes in the timing of life events, shifts in range, and community abundance shifts. Depending on the timing and interaction of these impacts, they can be catastrophic.
 1. Approximately 59% of species in one survey of over 1600 species are already experiencing impacts in one of the three categories described above, and 85% of those changes are in the direction predicted (Parmesan and Galbraith 2004);
 2. One leading study of over 1,100 species occurring over 20% of the Earth's surface predicts that 18%, 24%, and 35% of species will be committed to extinction by the years 2040 under low, medium, and high warming scenarios, respectively (Thomas et al. 2004).
 - A 200-400% increase in the number of heat wave days in major urban centers.
 1. increased risk of death and illness for the elderly, children and other at-risk populations, including persons with low-income.
 - An increase in the number of days meteorologically conducive to ozone (O₃)

formation.

1. increased risk to persons with asthma;
2. reduction in crop and forest yields, increased plant susceptibility to disease and pest infection and foliar damage to plants.

- At least a 10% increase in the potential for large wildfires (partially due to increase concentrations of O₃ and its resultant effects on vegetation).

This list of environmental, economic, and health impacts from global warming is not exhaustive, but only illustrative of the types of impacts that the EIR should describe and analyze since the Project would exacerbate or help precipitate them. See Cal. Pub. Res. Code § 21060.5. Major sources that should be reviewed and considered are attached to these comments below, and include: California Department of Water Resources, (2006); California EPA (2006); Kim (2005); Murray and Weiss (2002); Parmesan and Galbraith (2004); Union of Concerned Scientists (2006); Thomas et al. (2004); Zavaleta et al. (2003).

There is also a robust, peer-reviewed literature on estimating the social costs of climate change and quantifying the cost of carbon dioxide emissions (Stern, 2006). We now know that the cost of continued greenhouse gas emission trajectories would be astronomical (Stern 2006). Economic and Social Costs may be used to determine the significance of physical changes to the environment. See CEQA Guidelines 15046(e).

The Stern Review of the Economics of Climate Change, a comprehensive report commissioned by the British government, recently concluded that allowing current emissions trajectories to continue unabated would eventually cost the global economy between 5 to 20 percent of GDP each year within a decade, or up to \$7 trillion, and warned that these figures should be considered conservative estimates (Stern, 2006). By contrast, measures to mitigate global warming by reducing emissions were estimated to cost about one percent of global GDP each year, and could save the world up to \$2.5 trillion per year (Stern, 2006). If we take no action to control emissions, each ton of CO₂ that we emit now is causing damage worth at least \$85 (Stern, 2006).

Overall, the World Health Organization estimates that as of the year 2000, 154,000 deaths and the loss of 5.5 million daily adjusted life years per year worldwide are attributable to global warming (World Health Organization 2002). This toll is due to the combined impacts of higher temperatures, increasing weather variability such as more frequent and intense droughts and floods, a pattern of more violent tropical storms, as well as more subtle, gradual changes that can also profoundly damage public health. Epstein, P.R. and E. Mills (2005)

California is extremely vulnerable to the impacts of global warming and is also responsible for a significant portion of the U.S. and global emissions of greenhouse gases. The significant risks climate change poses to California as well as the considerable benefits the state could realize if it addresses these risks prompted Governor Schwarznegger to issue Executive Order S-3-05 on June 1, 2005. Executive Order S-3-05 called for specific emissions reductions and a periodic

update on the state of climate change science and its potential impacts on sensitive sectors, including water supply, public health, coastal areas, agriculture and forestry. The Executive Order established the following greenhouse gas (GHG) emissions targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

Global warming will have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry. It will also increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the state. AB 32 § 38501(b) 2006. In order to address the threats and impacts of global warming the California Global Warming Solutions Act requires the state to reduce the levels of greenhouse gas emissions to 1990 levels by the year 2020. AB 32 § 38550.

In summary, the urgency of the climate crisis and the need to reduce emissions cannot be overstated. This is the critical environmental and regulatory context in which the DEIR should consider the Project's greenhouse gas emissions. The DEIR's treatment of the impacts to and resulting from the Project must be commensurate with the considerable scale of the problem.

II. The DEIR Must Analyze the Project's Greenhouse Gas Emissions and Significant Environmental Impacts

A. The DEIR Must Include an Inventory of Total Projected Greenhouse Gas Emissions

The DEIR is inadequate because it neglects to analyze global warming and the project's greenhouse gas emissions. The CEQA Guidelines provide that, in discussing the environmental effects of a project, an EIR must include "a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences." 14 Cal. Code Regs. § 15151. The Project will allow foreseeable and quantifiable emissions of carbon dioxide and other greenhouse gases during its lifetime. These emissions will contribute directly and cumulatively to the increase in atmospheric greenhouse gases and their attendant global warming impacts.

Under CEQA, it is irrelevant that the emissions associated with the project are small in comparison to total emissions. On the contrary, CEQA's cumulative impact analysis requirement exists to capture precisely this type of impact that may be individually small but cumulatively significant. *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d 692, 721. ("The EIR improperly focused upon the individual project's relative effects and omitted facts relevant to an analysis of the collective effect this and other sources will have upon air quality.") Here, the EIR completely omits any quantification of the project's cumulative contribution to the emissions of criteria pollutants, hazardous air pollutants, or greenhouse gases. A revised DEIR must calculate the project's greenhouse gas emissions, and then avoid, minimize, and mitigate them to the maximum extent feasible. In fact, many of the actions to

avoid, minimize, and mitigate greenhouse gas emissions will benefit the Project in the future in the areas of air quality, energy conservation, and .

The first step in determining a project's greenhouse gas emissions is to complete a full inventory of all emissions sources. In conducting such an inventory, all phases of the proposed project must be considered. *See* 14 Cal. Code Regs. § 15126 ("All phases of a project must be considered when evaluating its impact on the environment: planning, acquisition, development, and operation."). A basic requirement of CEQA is that "[a]n EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences." 14 Cal. Code Regs. § 15151. The greenhouse gas inventory for a project must include a complete analysis of all of a project's substantial sources of greenhouse gas emissions, from building materials and construction emissions to operational energy use, vehicle trips, water supply and waste disposal.

A greenhouse gas inventory for the project must include the project's direct and indirect greenhouse gas emissions. *See* 14 Cal. Code Regs § 15358(a)(1) (the effects considered under CEQA must include "[d]irect or primary effects which are caused by the project and occur at the same time and place"); *id.* at § 15358(a)(2) (CEQA also requires a disclosure of the project's "[i]ndirect or secondary effects which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems."). Consequently, a complete inventory of a project's emissions should include, at minimum, an estimate of emissions from the following:

- Construction vehicles and machinery;
- Manufacturing and transport of building materials;
- Electricity generation and transmission for the heating, cooling, lighting, and other energy demands of commercial, industrial, residential and other structures and units;
- Water supply and transportation to the project;
- Residential and industrial propane and natural gas use;
- Vehicle trips and transportation emissions generated by the project, used for moving raw materials, finished products, supplies, or people;
- Process emissions, such as from the production of cement, adipic acid, and ammonia, as well as emissions from agricultural processes;
- Fugitive emissions, such as methane leaks from pipeline systems and leaks of HFCs from air conditioning systems;
- Wastewater and solid waste storage or disposal, including transport where applicable; and
- Outsourced activities and contracting.

Without a complete inventory, the DEIR cannot adequately inform the public and decisionmakers about the Project's impacts. Without a complete inventory, there is simply no way that the DEIR can then adequately discuss alternatives, avoidance, and mitigation measures

to reduce those impacts. The DEIR must be revised to include a full and adequate inventory of the Project's greenhouse gas emissions. Because the incomplete inventory precludes adequate analysis of environmental impacts in all sections of the DEIR, the DEIR must be revised and recirculated once this critical information is included.

B. The Project's Greenhouse Gas Emissions Would Clearly Be Significant

CEQA defines "significant effect on the environment" as "a substantial, or potentially substantial, adverse change in the environment." Cal. Pub. Res. Code § 21068; *see also* 14 Cal. Code Regs. § Section 15002(g); § 15382. In evaluating the significance of a project's environmental impacts, the lead agency must consider direct and reasonably foreseeable indirect physical changes in the environment which may be caused by the project. 14 Cal. Code Regs. § 15064(d).

Under CEQA, certain circumstances trigger a mandatory finding of significance. They are:

- (1) "A proposed project has the potential to degrade the quality of the environment, curtail the range of the environment, or to achieve short-term, to the disadvantage of long-term, environmental goals;"
- (2) "The possible effects of a project are individually limited but cumulatively considerable. As used in this paragraph, 'cumulatively considerable' means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects;" and
- (3) "The environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly."

Cal. Pub. Res. Code § 21083(b); *see also* 14 Cal. Code Regs. § 15065 (repeating and expanding on these three triggers). The greenhouse gases emitted from the combustion of fossil fuels during the construction and operation of the project have the potential to degrade the quality of the environment directly and cumulatively, resulting in substantial adverse effects to human beings, as described in Section I above.

The burning of fossil fuels for transportation and electricity use are the two principle sources of carbon dioxide and other greenhouse gas emissions in California. California Energy Commission (2006). North Fork Village, as a new community connected to regional commercial and industrial centers only by road, will lead to substantially increased fossil fuel consumption during all phases of the Project. The DEIR already discusses the significant air quality impacts of transportation-related emissions at 5.3; Greenhouse gas emissions resulting from transportation in North Fork Village will have additional significant environmental impacts, and must be mitigated.

The construction of 3,000 homes and 1,500,000 square feet of commercial space will have significant energy impacts and associated greenhouse gas emissions as well. The DEIR's estimate at 5.13-30 that the Project will increase electricity demand by 16.4 million kilowatt hours-per-year is itself substantial, but represents an inaccurate underestimation for two reasons. First, the estimated average residential energy use of 5,256 KWH/DU/Yr. is based on the South Coast Air Board's 1993 *Air Quality Handbook*, the age of which brings into question the calculations based upon it. Second, the calculation did not include electricity consumption for the planned commercial space, school, or public infrastructure such as streetlights or water pumps. These omissions suggest an even higher demand for electricity than calculated in the DEIR.

The NFV-1 Specific Plan as written will lead to significant greenhouse gas emissions. The use of agricultural land to create a new residential community with an insufficient housing-to-jobs balance violates the Madera County General Plan Goal 1.F, North Fork Village-1 Specific Plan Land Use Objective No. 6, and represents a commitment by Madera County to continue to pollute the atmosphere with greenhouse gases well into the coming decades. Building a new urban community without measures to decrease energy use and fossil fuel-based transportation is economically and environmentally irresponsible, and prohibited by the stringent controls of CEQA, as described in these comments.

III. The DEIR Must Consider Project Alternatives and Take Measures to Mitigate Greenhouse Gas Emissions From the Project.

Having failed to discuss global warming or make a significance determination with regard to the Project's greenhouse gas emissions, the DEIR then fails to undertake the next step of analyzing alternatives and avoidance and mitigation measures to reduce these impacts. This analysis is the heart of CEQA, and must be undertaken once the DEIR has been revised to include a complete and adequate inventory of the Project's greenhouse gas emissions and their impacts.

A. The DEIR's Consideration of Alternatives to the Project is Inadequate.

A Project EIR must discuss a range of reasonable alternatives to the project which would meet most project objectives but may have less significant adverse environmental effects. 14 Cal. Code Regs. § 1126.6. The DEIR's discussion of alternatives to the proposed Project is inadequate for several reasons. First, the County failed to properly consider the "Different Site" alternative; Second, development of alternative locations in the vicinity of the project site would result in physical environmental impacts (i.e. biological, geology and soils, cultural, hydrology/water quality, aesthetic, etc.) that are similar to those associated with the project site, and no significant environmental benefit would be derived.

There are many feasible options and measures to limit each of the Project's greenhouse gas emission sources. All of these measures must be discussed explicitly with regard to greenhouse gas emissions. The amount that each measure will reduce emissions must be quantified

wherever possible. All feasible measures must be adopted, 14 Cal. Code Regs. § 15065(c)(3), and must be mandatory and enforceable, not aspirational or voluntary. 14 Cal. Code Regs. § 15126.4(a)(2). Measures to reduce impacts may not be deferred until some future time. 14 Cal. Code Regs. § 15126.4(a)(1)(B).

Available measures include, but are not limited to the following:

Measures Relating to Project Design and Transportation

- Analyze and incorporate alternative project locations and design to achieve urban in-fill, minimize commute distances and times, and locate buildings near existing transportation hubs;
- Analyze and incorporate public transportation improvements as integral Project components to minimize individual vehicle trips as follows:
 - analyze the use of or availability of transportation impact or other fees to provide public transportation improvements;
 - analyze new infrastructure and service to serve the Project such as light rail, bus, and shuttle service, which will utilize alternative fuels and energy sources wherever possible;
 - analyze improvements to overcome barriers to public transportation use, including more frequent service, better coordination of transfers and connecting services, enhancements to safety, comfort, and cleanliness of conveyances, stations, and common areas, the provision of shuttle services, and other services and incentives;
- Analyze and incorporate bicycle and pedestrian access pathways and access, including both the routes and availability of bicycle parking/storage, as well as access for bicycles to office buildings, etc.
- Analyze and incorporate measures to promote ride-sharing and car-sharing to reduce single-occupancy vehicle trips, including:
 - Utilizing fee structures for access and parking to encourage ride and car-sharing and discourage individual vehicle trips;
 - Provide convenient, accessible, and affordable, centrally-located car-share resources, including prioritizing parking spaces for such vehicles;
 - Encourage ride-sharing, van-pooling, and other measures with prioritized parking spaces, adequate and safe loading and unloading zones, etc.;
 - Develop the necessary infrastructure for alternative fuel vehicles, including plug-in hybrid and electric vehicles, such as solar-powered plug-in hybrid and electric vehicle charging stations

Measures Related to Project Construction:

- Utilize recycled, low-carbon, and otherwise climate-friendly building materials such as salvaged and recycled-content materials for building, hard surfaces, and non-plant landscaping

materials;

- Minimize, reuse, and recycle construction-related waste;
- Minimize grading, earth-moving, and other energy-intensive construction practices;
- Landscape to preserve natural vegetation and maintain watershed integrity;
- Utilize alternative fuels in construction equipment and require construction equipment to utilize the best available technology to reduce emissions.

Measures Relating to Building Design and Project Operation:

- Analyzing and incorporating the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) or comparable standards for energy- and resource-efficient building during pre-design, design, construction, operations and management. *See* <http://www.usgbc.org> and links; Alameda County 2005. Though the DEIR suggests at 4.12 using the LEED rating system, no mandatory standards are suggested;
- Designing buildings for passive heating and cooling, and natural light, including building orientation, proper orientation and placement of windows, overhangs, skylights, etc.;
- Designing buildings for maximum energy efficiency including the maximum possible insulation, use of compact florescent or other low-energy lighting, use of energy efficient appliances, etc.
- Using electric appliances in solar powered buildings in lieu of household and commercial natural-gas appliances, which cannot use energy from renewable sources;
- Reducing the use of pavement and impermeable surfaces;
- Requiring water re-use systems;
- Maximizing water conservation measures in homes and landscaping, using drought-tolerant plants in lieu of turf, planting shade trees;
- Ensure that the Project is fully served by full recycling and composting services;
- Ensure that the Project's wastewater and solid waste will be treated in facilities where greenhouse gas emissions are minimized and captured.

Measures Relating to Renewable Energy Generation

- Installing the maximum possible photovoltaic array on the building roofss and/or on the project site to generate all of the electricity required by the Project, and utilizing wind energy to the extent necessary and feasible;
 - Installing solar water heating systems to generate all of the Project's hot water requirements;
 - Installing solar or wind powered electric vehicle and plug-in hybrid vehicle charging stations to reduce emissions from vehicle trips.
- **Offsetting Emissions**
- After all measures have been implemented to reduce emissions in the first instance, remaining emissions that cannot be eliminated may be mitigated through offsets. Care should be taken to ensure that offsets purchased are real (additional), permanent, and verified, and all aspects of the offsets should be discussed in the DEIR.

The DEIR's deficiencies as discussed throughout not only render it legally defective but also represent an enormous missed opportunity to improve land use planning and decision-making and greatly slash the proposed project's greenhouse gas emissions. All of the measures listed above must be incorporated unless it is shown, with substantial evidence on the record, that they would be infeasible. Fortunately, these measures are eminently feasible and will result in a vastly improved Project that saves consumers energy costs, promotes local jobs and innovation, and complies with the mandates and aspirations of CEQA.

IV. The DEIR's Discussion of Energy Conservation is Inadequate under CEQA

The County's consideration of greenhouse gas emissions resulting from the Project is hampered by the DIER's lack of adequate mention of measures to reduce energy consumption. As CEQA Guidelines Appendix F, entitled "Energy Conservation," clarifies: "In order to assure that energy implications are considered in project decisions, the California Environmental Quality Act requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy." *See also* Cal. Pub. Res. Code § 21000(b)(3) (EIR must include section discussing "[m]itigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy.")

The DEIR contains no discussion of reducing energy impacts of the proposed Project. Though the DEIR at 5.13-30 estimates that residential use alone from the Project will exceed 16.4 million Kwh/yr, the analysis concludes that "[n]o mitigation measures are required." This conclusion is controvertible and irrelevant.

The failure to mitigate electrical consumption from the project precedes the DEIR's contention at 5.3-14 that "cumulative impacts on electricity service associated with the RMAP in conjunction with other past, present and reasonably foreseeable future projects are considered a cumulatively significant impact at a growth inducing level." The DEIR does not explain how PG & E will meet projected electrical demand despite this cumulatively "significant" impact, which is by definition consumption for which planned future supply is inadequate. DEIR at 5.3-13. The DEIR must first mitigate the direct, indirect, and cumulative impacts of the Project, 14 Cal. Code Regs. § 15126.4, and must also reduce energy consumption, 14 Cal. Code Regs. § 15126.4(a)(1)(C). Energy impacts are the only impacts specifically enumerated in CEQA as requiring mitigation, and do not require an independent finding of significant impact relating to electrical services. *See Id.* Unless the DEIR is revised to include a complete discussion of the Project's energy use and ways to reduce unnecessary energy consumption, the DEIR is insufficient under CEQA.

V. The DEIR Must be Revised and Recirculated Before it Can Be Certified.

In summary, the current DEIR has not adequately disclosed, analyzed, minimized, or mitigated the environmental impacts of the proposed project, and therefore approval in its current form would violate CEQA. Because of the document's shortcomings, the public and decision makers cannot make informed decisions about the proposed project's costs in areas including greenhouse gas pollution and climate change. The Center urges that the City revise and recirculate the DEIR for public review.

Please do not hesitate to contact Brian Nowicki at (520) 623-5252 x311 or bnowicki@biologicaldiversity.org if you have any questions regarding these comments. The Center for Biological Diversity wishes to be placed on the mailing/notification list for all future environmental decisions regarding this Project. We look forward to working with the City of Medera County now and in the future to reach our shared goals of reducing greenhouse gas emissions and protecting biological diversity, public health, and our environment. Thank you for your time and consideration of our concerns.

Sincerely,



Brian Nowicki

LITERATURE CITED

- California Air Resources Board (CARB). 2007. Proposed early actions to mitigate climate change in California. April 20, 2007. Available at <http://www.arb.ca.gov/cc/cc.htm>.
- CARB. 2006. Conversion of 1 mmt CO₂ to Familiar Equivalents (Fact Sheet).
- California Environmental Protection Agency. 2006. "Climate Action Team Report to Governor Schwarzenegger and the Legislature."
- California Department of Water Resources. 2006. "Progress on Incorporating Climate Change into Management of California's Water Resources: Technical Memorandum Report." Available at: http://www.climatechange.ca.gov/biennial_reports/2006report/index.html.
- California Environmental Protection Agency. 2006. "Climate Action Team Report to Governor Schwarzenegger and the Legislature." Available at http://www.climatechange.ca.gov/biennial_reports/2006report/index.html.
- Cayan, et al. 2007. Our Changing Climate: Assessing the Risks to California. California Climate Change Center. Available at: http://www.climatechange.ca.gov/biennial_reports/2006report/index.html.
- Cayan, D., A.L. Luers, M. Hanemann, G. Franco, and B. Croes. 2006. Scenarios of Climate Change in California: An Overview, California Climate Change Center, CEC-500-2005-186-SF.
- California Energy Commission (CEC). 2006. California Greenhouse Gases Emissions and Sinks: 1990 to 2004. (Report and Appendix A). Available at:
- Epstein, P.R. and E. Mills (eds.). 2005. Climate change futures health, ecological, and economic dimensions. The Center for Health and the Global Environment, Harvard Medical School. Cambridge, Massachusetts, USA.
- Hayhoe, K., D. Cayan, C.B. Field, P.C. Frumhoff, E.P. Maurer, N.L. Miller, S.C. Moser, S.H. Schneider, K.N. Cahill, E.E. Cleland, L.Dale, R. Drapek, R.M. Hanemann, L.S. Kalksetin, J. Lenihan, C.K. Lunch, R.P. Neilson, S.C. Sheridan, and J.H. Verville. 2004. Emissions pathways, climate change, and impacts on California. *PNAS* 101 no. 34:12422-12427.
- Intergovernmental Panel on Climate Change. 2007a. "Climate Change 2007: The Physical Science Basis: Summary for Policymakers." Working Group I.
- Intergovernmental Panel on Climate Change. 2007b. "Climate Change 2007: Climate Change Impacts, Adaptation and Vulnerability: Summary for Policymakers." Working Group II.
- Kim, Jinwon. 2005. "A Projection of the Effects on Climate Change Induced by Increased CO₂

on "Extreme Hydrologic Events in the Western U.S." *Climatic Change*, 68, pp. 153-168.

R. Murphy, D. D., and S. B. Weiss. 1992. "Effects of climate change on biological diversity in Western North America: Species losses and mechanisms." Chapter 26 in R. L. Peters and T. E. Lovejoy (Eds), *Global Warming and Biological Diversity*. Castleton, New York: Hamilton Printing. Available at <http://www.ciesin.org/docs/002-262/002-262.html>

National Commission on Energy Policy (NCEC). 2004. The car and fuel of the future: a technology and policy overview. Available at <http://www.energyandclimate.org/ewebeditpro/items/O79F7833.pdf>.

Parmesan, Camille and Hector Galbraith. 2004. "Observed Impacts of Global Climate Change in the U.S." Report prepared for the Pew Center on Global Climate Change. Available at: http://www.pewclimate.org/docUploads/final_ObsImpact.pdf.

Stern, Sir Nicholas, *Stern Review: The Economics of Climate Change* (October 30, 2006) (Executive Summary).

Thomas, C.D., et al. 2004. Extinction risk from climate change. *Nature* 427:145-148.

Union of Concerned Scientists. 2006. "California Global Warming Impacts and Solutions." Available at: http://www.ucsusa.org/clean_california/ca-global-warming-impacts.html.

Letter 26. Center for Biological Diversity (7/13/07)

This letter was received after the close of the public comment period. It expresses concerns with potential project impacts from greenhouse gas emissions and potential global climate change. A Global Climate Change Analysis for North Fork Village-1 has been added to EIR Appendix B. The report in its entirety is also included in Section 4 of this Response to Comments document. Although the NFV-1 Specific Plan identifies land use and design features that contribute to reductions in greenhouse gas emissions, several mitigation measures have been added to the EIR to further reduce the project's contribution to such emissions.

SECTION 4: SUMMARY OF CHANGES AND ADDITIONS TO DRAFT EIR

Changes or additions to the Draft EIR in response to comments received during the public comment period are presented below.

Exhibit 3-8, Typical Edge and Boundary Cross-Sections, has been modified to illustrate a 150 foot setback where proposed single family residences about Millerton Lake SRA campground sites.

Table 3-5, Public Agency Approvals, has been modified to add the U.S. Fish and Wildlife Service and its action on a potential incidental take permit pursuant to Section 10 of the Endangered Species Act, as follows:

Table 3-5: Public Agency Approvals

Agency	Action/Approval
San Joaquin Valley Regional Water Quality Control Board	National Pollutant Discharge Elimination System (NPDES) permit Waste Discharge requirements
San Joaquin Valley Air Pollution Control District	Permit authority for new emission source construction
California Department of Fish and Game	Streambed Alteration Agreement - Section 1602 of the State Fish and Game Code
California Department of Parks and Recreation	Potential easements or temporary encroachment permit
California Department of Health Services (DHS)	Permitting for public water system
United States Army Corps of Engineers	Permitting authority for waters of the U.S. and/or wetlands, pursuant Clean Water Act.
<i>United States Fish and Wildlife Service</i>	<i>Potential incidental take permit pursuant to Section 10 of the Endangered Species Act.</i>
California Department of Transportation	Encroachment permit and/or approval of projects that effect the State Highway system.
Madera County Local Agency Formation Commission (LAFCO)	Formation of Community Services District (CSD) or other implementing entity

New Table 5.4-1, State- and Federally-listed Species of Plants and Animals Known to Occur in the Vicinity of the Proposed North Fork Village Project Site, has been added following page 5.4-5 of EIR Section 5.4 Biological Resources. This table is presented below.

Table 5.4-1 State- and Federally-listed Species of Plants and Animals Known to Occur in the Vicinity of the Proposed North Fork Village Project Site

Scientific Name	Common Name	Federal Status	State Status
a) Mammals			
None			
b) Birds			
Bald eagle	<i>Haliaeetus Leucocephalus</i>	Threatened MBTA & BGEPA	Endangered
Golden eagle	<i>Aquila chrysaetos</i>	MBTA & BGEPA	
Least Bell's vireo	<i>Viero bellii pusillus</i>	Endangered	
c) Amphibians			
California tiger salamander	<i>Ambystoma californiense</i>	Threatened (Endangered: Sonoma and Santa Barbara populations)	
d) Invertebrates			
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	Threatened	
Vernal pool tadpole shrimp	<i>Lepidurus packardi</i>	Endangered	
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	Threatened	
e) Plants			
Fleshy/Succulent owl's clover	<i>Castilleja campestris</i> ssp. <i>succulenta</i>	Threatened	Endangered CNPS 1B2
Hoover's spurge	<i>Chamaesyce hooveri</i>	Threatened	CNPS 1B2
San Joaquin Valley orcutt grass	<i>Orcuttia inaequalis</i>	Threatened	Endangered CNPS 1B1
Hairy orcutt grass	<i>Orcuttia pilosa</i>	Endangered	Endangered CNPS 1B1
Hartweg's golden sunburst	<i>Pseudobahia bahiifolia</i>	Endangered	Endangered CNPS 1B1

Mitigation Measure B-5, California Tiger Salamander and Western Spadefoot Toad, has been modified with regard to the Compensation provisions (italicized text), as follows:

B-5. California Tiger Salamander and Western Spadefoot Toad

Surveys: Focused surveys for California Tiger Salamander (CTS) will be required to determine the presence/absence of this species in pools and stock ponds within the project area. Surveys need to be conducted according to USFWS guidelines. Surveys would concurrently establish the presence/absence of western spadefoot in these habitats. These surveys require two consecutive wet season surveys in which pit traps are arrayed around potential breeding pools. Pit traps must then be checked at the time of every storm event throughout the monitoring period. If CTS and western

spadefoot are not detected during surveys, the mitigation measures discussed below would not be warranted.

Avoidance: Under the CEQA guidelines, the preferred mitigation for impacts to listed species' habitat is avoidance. The project plans provide for complete avoidance of one vernal pool, six stock ponds, and up to 450 acres of potential aestivation habitat.

Compensation: If it is not possible to avoid impacts to federally protected amphibian species habitat, mitigation onsite may require a substantial buffer around suitable habitat (e.g. up to 1.2 mile). Typical offsite mitigations include compensation at a 1:1 ratio at an approved mitigation bank. Storm water retentions basins are not considered suitable compensation. *To support offsite mitigation for project impacts to sub-marginal CTS aestivation habitat, the applicant will pay at close of escrow a development impact fee in the amount of \$450.94 per dwelling unit.* Mitigation measures will follow the requirements set by California Department of Fish and Game, U S Fish and Wildlife Service and Madera County.

Permit Compliance: Prior to any elimination of federally listed amphibian species, the applicant must comply with provisions of the federal Endangered Species Act.

Additional information concerning California Tiger Salamander (CTS) has been added to the EIR Appendix C. This information includes two online/internet articles; 1) US Fish & Wildlife Service, Sacramento Fish & Wildlife Office, Species Account: California Tiger Salamander (*Ambystoma californiense*) and 2) an extract from the Ecological Society of America—ESA Online Journals Access Control: Amphibian Upland and Habitat Use and Its Consequences for Population Viability. Both articles are presented on the following pages.



Sacramento Fish & Wildlife Office
Species Account

CALIFORNIA TIGER SALAMANDER
(*Ambystoma californiense*)



[Photo Info](#)

[Home](#) | [Endangered Species](#) | [Species Info](#)

[Site Map](#) | [Search](#) | [About us](#)

CLASSIFICATION: Federal Threatened/Endangered Species (*Federal Register* 69:47211-47248 [pdf](#); August 4, 2004)

On 8/4/04, we listed the CA tiger salamander as threatened throughout its range. In doing so, we changed the status of the Santa Barbara and Sonoma county populations from endangered to threatened.

On 8/19/05 U.S. District Judge William Alsup vacated the Service's downlisting of the Sonoma and Santa Barbara populations from endangered to threatened. **The Sonoma and Santa Barbara populations are once again listed as endangered.**

CRITICAL HABITAT:

In Federal Register Notice 70:49379 ([pdf](#)), August 23, 2005, we designated 199,109 acres of critical habitat in 19 counties for the central population. See [index to unit maps](#).

In Federal Register Notice 70: 74137 ([pdf](#)), we concluded that the designation of critical habitat for the Sonoma County distinct population segment of the California tiger salamander would have negative impacts on the finalization and implementation of the [Santa Rosa Plain Conservation Strategy](#). Avoiding these negative impacts is a benefit of excluding these lands from the final critical habitat designation.

RECOVERY PLAN: Under development

See the [Santa Rosa Conservation Strategy](#) for recovery planning for the Sonoma population.

DESCRIPTION:

The California tiger salamander (*Ambystoma californiense*) is an amphibian in the family Ambystomatidae. It is a large, stocky, terrestrial salamander with a broad, rounded snout. Adults males are about 8 inches long, females a little less than 7.

Coloration consists of white or pale yellow spots or bars on a black background on the back and sides. The belly varies from almost uniform white or pale yellow to a variegated pattern of white or pale yellow and black. The salamander's small eyes protrude from their heads. They have black irises.

Males can be distinguished from females, especially during the breeding season, by their swollen *cloacae*, a common chamber into which the intestinal, urinary, and reproductive canals discharge. They also have more developed tail fins and, as mentioned above, larger overall size.

The species is restricted to grasslands and low (under 1500 foot) foothill regions where lowland aquatic sites are available for breeding. They prefer natural ephemeral pools or ponds that mimic them (stock ponds that are allowed to go dry).

Larvae require significantly more time to transform into juvenile adults than other amphibians such as the [western spadefoot toad](#) (*Scaphiopus hammondi*), a Species of Concern, and Pacific tree frog (*Pseudacris regilla*).

Compared to the western toad (*Bufo boreas*) or western spadefoot toad, California tiger salamanders are poor burrowers. They require refuges provided by ground squirrels and other burrowing mammals in which to enter a dormant state called *estivation* during the dry months.

DISTRIBUTION:

This species is restricted to California and does not overlap with any other species of tiger salamander. California tiger salamanders are restricted to vernal pools and seasonal ponds, including many constructed stockponds, in grassland and oak savannah plant communities from sea level to about 1,500 feet in central California. In the Coastal region, populations are scattered from Sonoma County in the northern San Francisco Bay Area to Santa Barbara County, and in the Central Valley and Sierra Nevada foothills from Yolo to Kern counties.

The Sonoma population appears to have been geographically isolated from the remainder of the

California tiger salamander population by distance, mountains and major waterway barriers for more than 700,000 years.

THREATS:

The primary cause of the decline of California tiger salamander populations is the loss and fragmentation of habitat from human activities and the encroachment of nonnative predators. Federal, State and local laws have not prevented past and ongoing losses of habitat. All of the estimated seven genetic populations of this species have been significantly reduced because of urban and agricultural development, land conversion, and other human-caused factors.

A typical salamander breeding population in a pond can drop to less than twenty breeding adults and/or recruiting juveniles in some years, making these local populations prone to extinction. California tiger salamanders therefore require large contiguous areas of vernal pools (vernal pool complexes or comparable aquatic breeding habitat) containing multiple breeding ponds to ensure recolonization of individual ponds.

A strong negative association between bullfrogs and California tiger salamanders has been documented. Although bullfrogs are unable to establish permanent breeding populations in vernal pools, dispersing immature frogs from permanent water bodies within two miles take up residence and prey on adult or larval salamanders in these areas during the rainy season. Louisiana swamp crayfish, mosquito fish, green sunfish and other introduced fishes also prey on adult or larval salamanders.

A deformity-causing infection, possibly caused by a parasite in the presence of other factors, has affected pond-breeding amphibians at known California tiger salamander breeding sites. This same infection has become widespread among amphibian populations in Minnesota and poses the threat of becoming widespread here.

Reduction of ground squirrel populations to low levels through widespread rodent control programs may reduce availability of burrows and adversely affect the California tiger salamander. Poison typically used on ground squirrels is likely to have a disproportionately adverse effect on California tiger salamanders, which are smaller than the target species and have permeable skins. Use of pesticides, such as methoprene, in mosquito abatement may have an indirect adverse effect on the California tiger salamander by reducing the availability of prey.

Various nonnative subspecies of the tiger salamander within the *Ambystoma tigrinum* complex have been imported into California for use as fish bait. The introduced salamanders may out-compete the California tiger salamanders, or interbreed with them to create hybrids that may be less adapted to the California climate or are not reproductively viable past the first or second generations.

Automobiles and off-road vehicles kill a significant number of migrating California tiger salamanders, and contaminated runoff from roads, highways and agriculture may adversely affect them.

REFERENCES FOR ADDITIONAL INFORMATION:

Anderson, J.D., D.D. Hassinger and G.H. Dalrymple. 1971. Natural Mortality of Eggs and Larvae of *Ambystoma t. tigrinum*. *Ecology* 52(6):1108-1112.

Anderson, P.R. 1968. The reproductive and developmental history of the California Tiger Salamander. Masters thesis, Dept. Of Biology, Fresno State College, Fresno, California.

Barry, S.J., and HOB. Shaffer. 1994. The status of the California tiger salamander (*Ambystoma californiense*) at Lagunita: a 50 year update. *Journal of Herpetology* 28:246-255.

Feaver, Paul E. 1971. Breeding pool selection and larval mortality of three California *amphibians*: *Ambystoma tigrinum californiense* Gray, *Hyla regilla* Baird and Girard and *Scaphiopus hammondi hammondi* Girard. Master's thesis, Dept. Of Biology, Fresno State College, Fresno, California.

Fisher, R., and H. Bradley Shaffer. 1996. The decline of amphibians in California's Great Central Valley. *Conservation Biology*, 10:1387-1397.

Holland, R.F. and S. Jain. 1977. Vernal pools. Pages 515-533. In: M.E. Barbour and J. Major, eds. Supplement to terrestrial vegetation of California (new expanded edition). California Native Plant Society Special Publication 9.

Holland, D.C., M.P. Hayes and E. McMillan. 1990. Late summer movement and mass mortality in the California tiger salamander (*Ambystoma californiense*). *The Southwestern Naturalist*

35(2):217-220.

Hurt, R. 2000. The elusive California tiger salamander. Tidelines. U.S. Fish & Wildlife Service. Don Edwards San Francisco Bay National Wildlife Refuge. Newark, California.

Morey, S.R., and D.A. Guinn. 1992. Activity patterns, food habits, and changing abundance in a community of vernal pool amphibians. In: D.F. Williams, S. Byrne, and T.A. Rado (editors), *Endangered and sensitive species of the San Joaquin Valley, California: Their biology, management, and conservation*. The California Energy Commission, Sacramento, California, and the Western Section of the Wildlife Society. 149-158

Photo Credit: Gerald and Buff Corsi, ©California Academy of Sciences, CalPhoto ID: 8030 3192 4155 0002

Contact us: Sacramento Fish and Wildlife Office, 2800 Cottage Way, Room W-2605, Sacramento, California 95825

Phone (916) 414-6600 ~ FAX (916) 414-6713

The U.S. Fish and Wildlife Service is a part of the United States Government Department of Interior

Many documents on our web site are published using Adobe's® Portable Document Format (PDF). To display or print these documents, you must use the Acrobat® reader, which you can download free at Acrobat® Reader.

Privacy and Security, Disclaimer, Copyright and Technology Requirements

Webmaster fw1sacweb@fws.gov (To comment on specific issues see our comment page.)



is the U.S. Government Search Engine

Regulations.gov - Federal web site that makes it easier for you to participate in Federal rulemaking. On this site, you can find, review, and submit comments on Federal documents that are open for comment and published in the *Federal Register*, the Government's legal newspaper. {Last Updated}

Ecological Society of America

ESA Online Journals Access Control

Volume 15, Issue 4 (August 2005)



The article you have requested is available via Journal Subscription, Single Article Purchase, or Bloc of Does Subscription:

[[Free Abstract](#)] [[Subscriber Login](#)] [[Purchase Article](#)]

Ecological Applications

Article: pp. 1158–1168 | [Abstract](#) | [PDF \(444K\)](#)

AMPHIBIAN UPLAND HABITAT USE AND ITS CONSEQUENCES FOR POPULATION VIABILITY

Peter C. Trenham and H. Bradley Shaffer

Section of Evolution and Ecology and Center for Population Biology, 1 Shields Avenue, University of California, Davis, California 95616 USA

To predict the effects of habitat alteration on population size and viability, data describing the landscape-scale distribution of individuals are needed. Many amphibians breed in wetland habitats and spend the vast majority of their lives in nearby upland habitats. However, for most species, the spatial distribution of individuals in upland habitats is poorly understood. To estimate the upland distribution of subadult and adult California tiger salamanders (*Ambystoma californiense*), we used a novel trapping approach that allowed us to model the spatial variation in capture rates in the landscape surrounding an isolated breeding pond. As expected, we found that captures of adults declined with distance from the breeding pond. However, captures of subadults increased steadily from 10 to 400 m from the breeding site, but there were no captures at 800 m. A negative exponential function fit to the adult capture data suggested that 50%, 90%, and 95% were within 150, 490, and 620 m of the pond, respectively. For subadults, the quadratic function fit to the data similarly suggested that 95% were within 630 m of the pond, but that 85% of this life stage was concentrated between 200 and 600 m from the pond. To investigate the population-level consequences of reducing the amount of suitable upland habitat around breeding ponds, we used a stage-based stochastic population model with subadult and adult survival parameters modified according to our empirical observations of upland distribution. Model simulations suggested that substantial reductions in population size are less likely if upland habitats extending at least 600 m from the pond edge are maintained. Model elasticities indicated that quasi-extinction probabilities are more sensitive to reductions in subadult and adult survivorship than reproductive parameters. These results indicate that understanding the upland ecology of pond-breeding amphibians, especially the distribution and survivorship of subadults, may be critical for designing protective reserves and land use plans.

Key words: *Ambystoma californiense*, California tiger salamander, declining amphibian, drift fence, matrix simulation model, pitfall trap, population viability analysis, reserve design, terrestrial, upland spatial distribution

Received: July 19, 2004; Revised: December 2, 2004; Accepted: December 15, 2004

DOI: 10.1890/04-1150

Journal Subscription

To further reduce potential impacts on scenic vistas within the Millerton Lake SRA, the following mitigation measure is added as new Mitigation Measure A-3 in EIR Section 5.1, Aesthetics:

- A-3** The height of all structures within Mixed Use (MU) Planning Areas 27, 28 and 29 (PA-27, PA-28, and PA-29) shall be limited to 35 feet.

To further reduce potential impacts of uncontrolled access from the project site to Millerton Lake SRA, the following mitigation measure is added as new Mitigation Measure LU-6 in EIR Section 5.9, Land Use:

- LU-6** The project shall construct a barbed wire, locking gate between the Millerton Lake SRA and the trail system being constructed by the project, to prohibit unpaid access and to avoid potential impacts to the operations and maintenance of the MLSRA.

Several mitigation measures have been added to EIR Section 5.15, Traffic and Circulation, to address access, roadway design and traffic and circulation concerns addressed in comments on the Draft EIR. These measures are presented below.

Mitigation Measure TC-3 regarding Phase 1 improvements to Road 206 and Friant Road has been modified as follows:

- TC-3** **Road 206 and Friant Road** - A traffic signal should be installed when warrants are met at this intersection. *The project shall contribute \$187.67 per dwelling unit at close of escrow for each of the first 750 dwelling units constructed within the NFV-1 Specific Plan, for the construction of a traffic signal at Road 206 and Friant Road.* Intersection signalization should include left-turn lanes and protected left-turn phasing on Friant Road. Permissive left-turns are expected to result in acceptable levels of service on Road 206. A turn pocket with adequate queue length in the northbound left-turn lane on Friant Road (northbound Friant Road to westbound Road 206) should be provided.

New mitigation measure TC-6 has been added concerning additional contributions to areawide traffic studies:

- TC-6** The project shall contribute a fair share amount to the San Joaquin River Corridor Traffic Study (SJRCTS), which is evaluating cross-county traffic circulation patterns and inter-county impacts. The project shall also pay fair share impact fees that result from an approved SJRCTS.

New mitigation measure TC-7 has been added concerning project access and traffic flow impacts at the Millerton Lake SRA north shore entrance road:

TC-9 The project shall construct one additional traffic lane, 450 feet in length, starting at the Millerton Lake SRA Entrance Gate and heading west. The lane will be constructed as an auxiliary lane for vehicles queing for access to MLSRA. This lane will be constructed and in place prior to certificate of occupancy of any project home north of Road 145.

New Mitigation Measure TC-10 has been added to address County Road Department concerns with project dead end road and design safety issues:

TC-10 Roadway improvements to meet County safety requirements shall be made by the project to the following road segments:

1. Road 206 from Road 145 to County Line;
2. Road 145 SR to Millerton Road;
3. Millerton Road which is designated as a secondary access point, where dead end roads exceed maximum length requirements. If Millerton Road will not be utilized as a secondary access to meet dead end road length requirements, then a secondary access suitable to the Road Department shall be provided. Any secondary access point deemed necessary to comply with over-length dead end roads within the project shall be brought up to current design and construction standards.

The Global Climate Change Analysis for North Fork Village-1 (11/30/07) that follows has been included in EIR Appendix B, Mitigation Measures GCC-1, -2, -3, and -4 from this report have been added to EIR Section 5.3 Air Quality, as 'Additional Project Mitigation Measures' at page 5.3-32, to further reduce greenhouse gas emissions associated with the project

**Global Climate Change Analysis
North Fork Village-1
Madera County, California**

Prepared for:

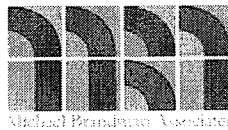
Madera County
Resource Management Agency - Planning Department
2037 W. Cleveland Avenue
Madera, CA 93637
559.675.7821

Contact: Rayburn Beach, Planning Director

Prepared by:

Michael Brandman Associates
2000 "O" Street, Suite 200
Sacramento, CA 95811
916.447.1100

Contact: Joe O'Bannon, Senior Air Quality Scientist



November 30, 2007
Revised: June 4, 2008

TABLE OF CONTENTS

Section 1: Introduction	1
1.1 - Executive Summary	1
1.1.1 - Mitigation Measures	1
1.2 - Project Description.....	2
1.2.1 - Project Description and Location.....	2
1.2.2 - Project Design Features to Reduce Greenhouse Gases	2
Section 2: Global Climate Change	8
2.1 - Greenhouse Gases	8
2.1.1 - Federal Inventory	14
2.1.2 - State Inventory	14
2.1.3 - Local Inventory	15
2.2 - Regulatory Environment.....	15
2.2.1 - International and Federal	15
2.2.2 - California	16
2.2.3 - Local Public Agencies	19
Section 3: Impact Analysis	20
3.1 - Thresholds of Significance and Analysis Approach	20
3.1.1 - Thresholds of Significance	20
3.1.2 - Analysis Approach.....	20
3.2 - Project Inventory of Greenhouse Gases	21
3.2.1 - Project Inventory before Mitigation.....	21
3.2.2 - Project Inventory after Mitigation.....	24
3.3 - Compliance with State Strategies	25
3.4 - General Plan Compliance	29
3.5 - Climate Change Impacts on the Project.....	29
3.6 - Attorney General Mitigation Analysis	30
3.7 - Conclusion	31
Section 4: References	32

LIST OF APPENDICES

Appendix A: Greenhouse Gas Emission Spreadsheets and URBEMIS 2007 Model
Output

LIST OF TABLES

Table 1: Global Warming Potentials and Atmospheric Lifetimes of Select Greenhouse Gases	9
Table 2: Construction Exhaust Greenhouse Gas Emissions	22
Table 3: Project Greenhouse Gas Emissions (Operation, at Buildout, Unmitigated).....	22
Table 4: Project Greenhouse Gas Emissions (Operation, at Buildout, Mitigated)	24
Table 5: California Greenhouse Gas Emission Reduction Strategies.....	25

LIST OF EXHIBITS

Exhibit 1: California's Gross Greenhouse Gas Emission Trends.....	15
Exhibit 2: California Greenhouse Gas Emissions	18

ACRONYMS AND ABBREVIATIONS

CARB	California Air Resources Control Board
CAT	Climate Action Team (Report)
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CFC	Chlorofluorocarbons
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
EPA	Environmental Protection Agency
GCC	Global Climate Change
GWP	Global Warming Potential
HFC	Hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
MMTCO _{2e}	Million Metric tonnes of Carbon Dioxide Equivalent
NO _x	Nitrogen Oxides
N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
PAH	Polycyclic Aromatic Hydrocarbons
ppm	Parts per Million
ppt	Parts per Trillion
PVC	Polyvinyl Chloride
SF ₆	Sulfur Hexafluoride
VMT	Vehicle Miles Traveled

SECTION 1: INTRODUCTION

This document assesses the impact of the North Fork Village-1 area of the Rio Mesa Area Plan (Project) on global climate change. This document accompanies the Environmental Impact Report (EIR) prepared for the Project (State Clearinghouse No. 2006011101) and incorporates it by reference.

In 2006, the State Legislature signed AB 32, which charged the California Air Resources Board (CARB) to develop regulations on how the state would address global climate change (also known as “global warming”). The CARB, the California Environmental Protection Agency (Cal EPA), the United States Environmental Protection Agency (EPA), or other appropriate governmental organizations have not yet developed guidelines on how to prepare a California Environmental Quality Act (CEQA) assessments for global climate change. Nevertheless, this analysis develops thresholds and determines project significance with regard to its contribution to greenhouse gases. Note that this analysis is specific to the project and may not apply to other projects in Madera County.

1.1 - Executive Summary

The proposed project is anticipated to result in a net increase of approximately 0.137 million metric tonnes of carbon dioxide equivalent (MMTCO₂e) per year after application of mitigation measures. It is anticipated that the project would not be significantly impacted from rising sea levels or other secondary effects of global climate change. It is shown that the project is consistent with California strategies to reduce greenhouse gas emissions to 1990 levels; complies with the CARB’s early action measures; and would satisfy the Attorney General’s suggested mitigation measures. It is anticipated that the project would result in a less than significant impact on global warming.

1.1.1 - Mitigation Measures

The following additional mitigation measures would reduce direct and indirect greenhouse gas emissions from the project.

- GCC-1** To reduce waste generated by the project, the following measures shall be implemented:
- a) Any construction waste shall be reused or recycled to the extent feasible.
 - b) The County shall ensure that the project will have recycling available for the residents during project occupancy.
- GCC-2** To increase energy efficiency, the following measures shall be implemented:
- a) The project shall incorporate light-colored roofs, paints, and driveway materials.
 - b) Solar powered water heaters shall be offered to the homebuyer as an option.

- c) Each appliance (i.e., washer/dryer, refrigerators, stoves, etc.) provided by the builder shall be Energy Star qualified if an Energy Star appliance is available.
- d) The maximum possible photovoltaic array (solar panels) shall be installed on the building roofs to generate electricity required by the project.

GCC-3 To reduce water usage, the following measures shall be implemented:

- a) Low flow, water saving appliances (i.e., toilets, dishwashers, shower heads, washing machines) shall be installed if provided by the builder.

GCC-4 To reduce excessive diesel emissions, the following measures shall be implemented:

- a) All commercial dock and delivery areas that accept diesel trucks shall include:
 - Signage advising truck drivers to turn off engines when not in use
 - Signage advising truck drivers of State law prohibiting diesel idling of more than five minutes
 - Auxiliary 110 v and 220 volt power units so trucks can power refrigeration units or other equipment without idling

1.2 - Project Description

1.2.1 - Project Description and Location

The proposed project is situated in southern Madera County, approximately 1 mile northwest of Friant, California and is the northernmost property of the Rio Mesa Area Plan (RMAP). The site is in unincorporated Madera County and lies adjacent to Millerton Lake. The property is bounded by the Sierra Nevada foothills to the north, Madera County Road 145 to the west, Road 206 to the south, and Millerton Lake to the east.

The proposed project is a mixed-use development called North Fork Village-1 (NFV-1) and includes associated actions for the entitlements necessary to develop the 2,238-acre project site. The NFV-1 project was designed consistent with the land use allocations in the RMAP. The applicant proposes to develop approximately 2,966 residential dwelling units, approximately 1,500,000 square feet (sq ft) of commercial/mixed use space, a 14.9-acre elementary school, and supporting infrastructure improvements. Additionally, a total of 629 acres of open space and additional revegetation areas are planned as part of the project.

1.2.2 - Project Design Features to Reduce Greenhouse Gases

The RMAP (Madera Co 1995b) has incorporated the following measures and design features that would reduce greenhouse emissions.

- Non-residential projects should establish maximum bicycle access to and within the project, and provide secure bicycle facilities such as bicycle parking, bicycle racks, and storage lockers, as well as shower/locker rooms.
- Commercial and/or industrial development should provide sufficient service establishments within the office areas, such as restaurants, copy centers, etc. to minimize the number and length of trips to obtain these common services and provide other transit readily accessible to the site. It should also establish delivery services in retail facilities, and those deliveries should be scheduled outside peak commute hours.
- Provide traffic signal synchronization where feasible to improve traffic flow.
- Each future development proposal/project should be reviewed in terms of the Rio Mesa Area Plan jobs/housing balance ratio. A balanced ratio will help to reduce vehicle trips between work and home.
- Provide energy conserving street lighting.
- Project should provide incentives for working and living within the local area by providing a mixture of land uses, services, and entertainment such as residential, commercial offices, restaurants, retail stores, shopping areas, banks, movie theaters, neighborhood parks, etc.
- Peak period traffic congestion is primarily due to high single occupant vehicles (SOV). In order to relieve congestion during peak periods, encourage flexible work hours, carpooling/vanpooling, and use of transit and passenger rail services and other mass transportation services.
- Project should provide trees around the area. Tree planting provides several air quality benefits such as reducing carbon monoxide, anchoring soil and providing windbreaks, and conserving energy by providing shade. Trees should be drought tolerant.
- Provide mass transit accommodations such as bus turnout lanes, park and ride lots, and bus shelters. The project should provide mini buses and shuttles for individuals working in the same buildings. The project should provide incentives for living and working in the local area. These incentives shall be determined on a project-by-project basis.
- Design parking supply limits by reducing the number of parking spaces, and set aside spaces to accommodate carpool/vanpool vehicles. Also, impose a parking fee to control the parking demand through a parking management program. Consideration for parking supply limits should include all parking facilities for large commercial centers with a high number of employees.
- Provide park and ride lots near heavily traveled vehicle and rail corridors, as well as the periphery of the commercial/office area. The lots near the heavily traveled corridors should also provide convenient meeting spots for shoppers and recreational users. Park and ride lots

outside the commercial/office area must be conveniently and comfortably linked to the commercial/office area and shopping sites via regularly scheduled shuttles.

- As part of the Rio Mesa Area Plan, implementation of commercial and industrial areas development should establish a Transportation Management Association (TMA) program that creates incentives for employees to rideshare. Rideshare programs consist of rideshare coordinators, public awareness/relations programs, employer programs and parking programs. (Services to the rideshare programs include the formation of vanpools with company vehicles or subsidy and encourage public transit, when available, with free transit passes. Jobs onsite should subsidize transit passes and accommodate “unusual” work schedules to allow for transit schedules. Provide validation of transit ticket to provide free return trip). Evaluate the potential for subscription bus or shuttle service for areas where there are large concentrations of employees.
- Reduce travel by use of alternative modes of communications. Telecommunications include the use of telephones, computer video cameras, and satellite work centers. This form of telecommunications includes full or part time, and can involve working at home.
- Use of low emission alternatively fueled vehicles to replace gasoline or diesel.
- In order to reduce the total project vehicle miles traveled (VMT) and vehicle trips, a Transportation Control Measure (TCM) plan should be implemented. A contractor-sponsored program should be made a condition on any permits. The TCM includes public transit, rideshare program, passenger rail services, carpooling/vanpooling, transit and traffic flow improvements, and trip reduction programs. Studies have suggested that a comprehensive area wide program for ride sharing can reduce work trips and VMT by up to 10 percent.
- The commercial office areas should establish maximum bicycle access to and within the project, and provide secure bicycle facilities such as bicycle parking, bicycle racks and storage lockers, as well as shower/locker rooms.
- Commercial developments should include parking supply limits to reduce the number of parking spaces, and set aside spaces to accommodate car pool/van pool vehicles. Provide priority parking for employees who rideshare. Also, impose a parking fee to control the parking demand through the parking management program. Consideration for parking supply limits should include all parking facilities for large commercial centers with high numbers of employees.
- Where transit services exist, in residential as well as commercial areas, construct bus turnouts and loading areas with shelters. Where transit does not exist, provide future easement for bus turnouts and shelters.
- The buildings in the project should be oriented to maximize passive solar cooling and heating when practicable. In addition, overall building design should include as many energy-conserving features as possible. One example is adequate insulation in the roof and walls.

- Provide residents with natural gas lines or electrical outlets to the backyard to encourage use of natural gas or electrical barbecues. Also, provide low nitrogen oxide emitting and/or high efficiency water heaters.
- In residential areas, provide park and ride lots or commuter lots with easy access to residents. Also, provide bicycle paths and ensure residents easy access to these paths.

In addition, the North Fork Specific Plan (Madera Co 2006) contains policies and design features that would reduce greenhouse gas emissions.

Policies

- POLICY 4.4: Allow for clustering of dwellings and other innovative housing design that will increase open space preservation.
- POLICY 5.2: Encourage the planting of indigenous or drought-tolerant materials on existing under-vegetated areas and large manufactured slopes adjacent to natural vegetation areas.
- POLICY 6.2: Require the incorporation of water and energy conservation features in the design of all new construction and site development as required by State law and the County of Madera.
- POLICY 6.3: Require the use of passive design concepts in accordance with State and County laws and ordinances which make use of the natural climate to increase energy efficiency.
- POLICY 6.4: Encourage and plan for the use of reclaimed water for landscape irrigation and other non-contact uses for parkways, open space areas, and commercial, office, and mixed-use areas, where available.
- POLICY 7.2: Accommodate alternative modes of transportation through the incorporation of bicycle and pedestrian trails and walkways into the project.
- POLICY 9.1: Promote the use of carpools and vanpools by providing safe, convenient park-and-ride facilities.
- POLICY 10.1: Accommodate the needs of bicyclists by developing a plan for safe bicycle facilities including on-street painted bike lanes and off-street bike paths.
- POLICY 10.2: Encourage businesses and public agencies to provide bicycle storage areas for their employees and customers.
- POLICY 12.1: Develop and promote interconnected pedestrian facilities and alternate modes of transportation.

- POLICY 16.1: Allow for the provision of multi-family residential uses in conjunction with office and commercial uses within the Specific Plan.
- POLICY 16.2: Explore the possibility of permitting lot sizes and development standards which are less than existing standards for single-family residential uses in order to provide for clustering around shopping and transportation areas and to allow for associated open space.
- POLICY 21.1: Encourage commercial uses that provide goods or services that will benefit the project and the surrounding community to locate within the Specific Plan Area.
- POLICY 22.1: Encourage the provision of neighborhood-serving commercial centers which include grocery stores, shoe repairs, cleaning establishments, pharmacies, florists, and other similar uses to meet the needs of local residents.
- POLICY 22.2: Provide for the development of a low-intensity, low-rise commercial center on-site which offers retail and personal service uses for local residents, is integrated and linked to adjacent planned or existing residences, and designed as a "village-like" complex of small stores.
- POLICY 24.1: Provide an activity center and/or corridor which include an integrated mix of residential, commercial, and office uses.
- POLICY 24.2: Provide for the development of multi-family residential areas near job centers to maximize opportunities for people to live and work in close proximity to one another.
- POLICY 25.1: Encourage commercial and office buildings to be designed to be architecturally distinctive and enhance pedestrian activity at their ground elevation.

Design Features

- Circulation Plan requires an 8-foot bike lane on each side of all primary arterial roads, a 4-foot bike lane on all secondary arterials, two 6-foot bike lanes (4-foot paved with 2-foot curb) on all secondary collectors, two 4-foot bike lanes on all rural collectors, and traffic calming roundabouts.

Design Guidelines

- Passive solar heating techniques will be employed wherever possible within the project. Passive solar systems do not utilize sophisticated hardware. Passive systems involve orienting buildings properly, planting trees to take advantage of the sun, seeing that roof overhangs are adequate, making sure that walls are properly insulated, and installing simple heat storage systems.

- The Master Landscape Plan Goal #4: To encourage selection of plant materials and implement irrigation techniques that will maximize aesthetic quality while minimizing resource consumption.
- The Rio Mesa Boulevard streetscape will consist of a Landscape Development Zone that will include a pedestrian/bicycle path. On-street bicycle lanes will be provided on both sides of Rio Mesa Boulevard.

Additionally, the EIR incorporated the following mitigation that would reduce greenhouse emissions.

- AQ-2** Wood burning fireplaces and wood stoves shall be prohibited within the development. The use of natural gas fireplaces shall be allowed if desired.

SECTION 2: GLOBAL CLIMATE CHANGE

Briefly stated, global climate change (GCC) is a change in the average weather of the earth that may be measured by changes in wind patterns, storms, precipitation, and temperature. The baseline by which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. Many of the recent concerns over GCC use this data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of greenhouse gases needed to stabilize global temperatures and climate change impacts. The IPCC predicted that the range of global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1 degrees Celsius (°C) to 6.4 °C (IPCC 2007). Regardless of analytical methodology, global average temperature and sea level are expected to rise under all scenarios (IPCC 2007).

2.1 - Greenhouse Gases

Gases that trap heat in the atmosphere are called greenhouse gases, analogous to the way a greenhouse retains heat. Common greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit greenhouse gas. The accumulation of greenhouse gas in the atmosphere regulates the earth's temperature. Without the natural heat-trapping effect of greenhouse gas, the earth's surface would be about 34 °C cooler (CAT 2006). However, it is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Climate change is driven by forcings and feedbacks. Forcings in the climate sense are external boundary conditions or inputs to a climate model. Obviously, changes to the sun's radiation are external, and so that is always a forcing. The same is true for changes to the Earth's orbit. In climate science, radiative forcing is (loosely) defined as the difference between the incoming radiation energy and the outgoing radiation energy in a given climate system.

An interaction mechanism between processes in the climate system is called a climate feedback, when the result of an initial process triggers changes in a second process that in turn influences the initial one. As far as is known, the climate system is generally stable with respect to these feedbacks: positive feedbacks do not "run away". Part of the reason for this is the existence of a powerful negative feedback between temperature and emitted radiation: radiation increases as the fourth power of absolute temperature.

The global warming potential (GWP) is the potential of a gas or aerosol to trap heat in the atmosphere; it is an “index, describing the radiative characteristics of well mixed greenhouse gases, that represents the combined effect of the differing times these gases remain in the atmosphere and their relative effectiveness in absorbing outgoing infrared radiation. This index approximates the time-integrated warming effect of a unit mass of a given greenhouse gas in today’s atmosphere, relative to that of carbon dioxide.” (IPCC 2001)

Individual greenhouse gas species have varying GWPs and atmospheric lifetimes. The reference gas for GWP is carbon dioxide; as shown in Table 1, carbon dioxide has a GWP of one. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing greenhouse gas emissions since it normalizes various greenhouse gas emissions to a consistent metric. Methane’s GWP of 21 indicates that methane has a 21 times greater global warming effect than carbon dioxide on a molecule per molecule basis (EPA 2006b). One million metric tonnes of carbon dioxide equivalent (MMTCO₂e) is the mass emissions of an individual greenhouse gas multiplied by its GWP.

The atmospheric lifetime and GWP of selected greenhouse gases are summarized in Table 1. As shown in the table, GWP ranges from 1 (carbon dioxide) to 23,900 (sulfur hexafluoride).

Table 1: Global Warming Potentials and Atmospheric Lifetimes of Select Greenhouse Gases

Greenhouse Gas	Atmospheric Lifetime (years)	Global Warming Potential (100 year time horizon)
Carbon Dioxide (CO ₂)	50 - 200	1
Methane (CH ₄)	12 ± 3	21
Nitrous Oxide (N ₂ O)	120	310
HFC-23	264	11700
HFC-134a	14.6	1300
HFC-152a	1.5	140
PFC: Tetrafluoromethane (CF ₄)	50000	6500
PFC: Hexafluoroethane (C ₂ F ₆)	10000	9200
Sulfur Hexafluoride (SF ₆)	3200	23900
Source: EPA 2006b		

Water Vapor

Description: Of all greenhouse gases in the atmosphere, water vapor is the most abundant, important, and variable. It is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life. Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from ice and snow, and transpiration from plant leaves.

Health Effects: There are no health effects from water vapor. When some pollutants are exposed to water vapor, they can dissolve and then the water vapor can be a transport mechanism to enter the human body.

Sources: The main source of water vapor is evaporation from the oceans (JAC 2002). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.

Ozone

Description: Ozone is a tri-atomic molecule, consisting of three oxygen atoms and is known as a photochemical pollutant. Ozone is a greenhouse gas; however, unlike other greenhouse gases, ozone in the troposphere is relatively short-lived and therefore is not global in nature. It is difficult to make an accurate determination of the contribution of ozone precursors (nitrogen oxides [NO_x] and reactive organic gases [ROG]) to GCC (CARB 2004b). Ozone is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between ROG, NO_x, and sunlight. ROG and NO_x are emitted from automobiles, solvents and fuel combustion, the sources of which are widespread throughout the air basin. In order to reduce ozone, it is necessary to control emissions of these ozone precursors such as NO_x. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. A reduction of ozone precursors reduces ozone. The conditions conducive to the formation of ozone include extended periods of daylight (solar radiation) and hot temperatures. These conditions are prevalent during the summer when thermal inversions are most likely to occur. As a result, summertime conditions of long periods of daylight and hot temperatures form ozone in the greatest quantities. During the summer, thermal inversions trap ozone from dispersing vertically, and high concentrations of this pollutant are prevalent.

Health Effects: Ozone is a pale-blue poisonous gas with a sharp, irritating odor. Most people can detect about 0.01 ppm in air. Exposure to 0.1 to 1 ppm produces headaches, burning eyes, and irritation to the respiratory passages (Brown, *et al* 2003). Health effects of ozone can include the following: respiratory system irritation, reduction of lung capacity, asthma aggravation, inflammation of, and damage to, lung cells, aggravated cardiovascular disease, and permanent lung damage (SJVAPCD 2004). The greatest health risk is to those who are more active outdoors during smoggy periods, such as children, athletes, and outdoor workers. Ozone also damages natural ecosystems such as forests and foothill communities, and damages agricultural crops (EPA 2003a).

Sources: Ozone is a secondary pollutant, thus it is not emitted directly into the lower level of the atmosphere. The sources of ozone precursors (ROG and NO_x) are discussed above in the description of ozone.

Aerosols

Description: Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel containing sulfur is burned. Black carbon (or soot) is emitted during biomass burning and incomplete combustion of fossil fuels.

Health Effects: Particulate matter can be inhaled directly into the lungs where it can be absorbed into the bloodstream. It is a respiratory irritant and can cause direct pulmonary effects such as coughing, bronchitis, lung disease, respiratory illnesses, increased airway reactivity, and exacerbation of asthma (EPA 2003b). Particulate matter is also thought to have direct effects on the health, capacity, and productivity of the heart (EPA 2003b). Relatively recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air (EPA 2003b). Non-health effects include reduced visibility and soiling of property.

Sources: Sulfate aerosols are emitted when fuel with sulfur in it is burned. Black carbon (or soot) is emitted during biomass burning and incomplete combustion of fossil fuels. The regulation of particulate matter has been lowering aerosol concentrations in the United States; however, global concentrations are likely increasing.

Carbon Dioxide

Description: Carbon dioxide (CO₂) is an odorless, colorless natural greenhouse gas. CO₂ in earth's atmosphere is considered a trace gas and is measured in parts per million (ppm). Current concentration levels average approximately 385 ppm by volume (Keeling & Whorf 2005). Its concentration can vary considerably on a regional basis: in urban areas, it is generally higher and indoors can reach 10 times the atmospheric concentration.

Health Effects: When inhaled at concentrations higher than usual atmospheric levels, it can produce a sour taste in the mouth and a stinging sensation in the nose and throat. These effects result from the gas dissolving in the mucous membranes and saliva, forming a weak solution of carbonic acid (similar to the sensation when stifling a belch after drinking a carbonated beverage). Outdoor levels of carbon dioxide are not high enough to result in negative health effects. The National Institute for Occupational Safety and Health (NIOSH) reference exposure level is 5,000 ppm, averaged over 10 hours in a 40-hour workweek. The short-term reference exposure level is 30,000 ppm, averaged over 15 minutes. At those levels, potential health problems are as follows: headache, dizziness, restlessness, paresthesia (skin tingling, prickling, or numbness); dyspnea (breathing difficulty); sweating, malaise (vague feeling of discomfort); increased heart rate, cardiac output, blood pressure; coma; asphyxia; and/or convulsions (NIOSH 2005).

Sources: In general, CO₂ is exhaled by animals and utilized by plants during photosynthesis. Additional carbon dioxide is created by the combustion of fossil fuels or vegetable matter, among

other chemical processes. CO₂ is emitted from natural and anthropogenic (man-made) sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood. The concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by the year 2100 as a direct result of anthropogenic sources (IPCC 2001).

Sinks: A CO₂ sink is a carbon reservoir that is increasing in size, and is the opposite of a carbon dioxide “source”. The main natural sinks are (1) the oceans and (2) plants and other organisms that use photosynthesis to remove carbon from the atmosphere by incorporating it into biomass and release oxygen into the atmosphere. This concept of CO₂ sinks has become more widely known because the Kyoto Protocol allows the use of CO₂ sinks as a form of carbon offset. (The Kyoto Protocol is discussed further in Section 2.2 - Regulatory Environment, below).

Methane

Description: Methane (CH₄) is a flammable gas and is the main component of natural gas. Methane is a colorless, odorless gas; the smell characteristic of natural gas is an artificial safety measure caused by the addition of an odorant. When one molecule of methane is burned in the presence of oxygen, one molecule of carbon dioxide and two molecules of water are released.

Health Effects: There are no ill health effects from methane. The immediate health hazard is that it may cause burns if it ignites. It is highly flammable and may form explosive mixtures with air. Methane is violently reactive with oxidizers, halogens, and some halogen-containing compounds. Methane is also an asphyxiant and may displace oxygen in an enclosed space (OSHA 2003).

Sources: The major source of methane is extraction from geological deposits known as natural gas fields. It is associated with other hydrocarbon fuels. The gas at shallow levels (low pressure) is formed by anaerobic decay of organic matter and reworked methane from deep under the Earth's surface. In general, sediments buried deeper and at higher temperatures than those that yield oil generate natural gas. Methane is also produced in considerable quantities from the decaying organic wastes of solid waste landfills.

Nitrous Oxide

Description: Nitrous oxide (N₂O) is a colorless greenhouse gas. Under room conditions, it is a colorless non-flammable gas, with a pleasant, slightly sweet odor and taste. It is used in surgery and dentistry for its anesthetic and analgesic effects, where it is commonly known as “laughing gas” due to the euphoric effects of inhaling it; its oxidative effects also make it popular in motorsports, where it is known commonly as “nitrous”, “nitro boost”, or “NOS”.

Health Effects: N₂O is a dissociative drug that can cause analgesia, depersonalization, derealization, dizziness, euphoria, flanging of sound, slight hallucinations, and neurotoxicity.

Sources: Nitrous oxide is emitted by bacteria in soils and oceans, and thus has been a part of Earth's atmosphere for eons. Agriculture is the main source of human-produced nitrous oxide: cultivating soil, the use of nitrogen fertilizers, and animal waste handling can all stimulate naturally occurring bacteria to produce more nitrous oxide. The livestock sector (primarily cows, chickens, and pigs) produces 65 percent of human-related nitrous oxide (Steinfeld 2006). Industrial sources make up only about 20 percent of all anthropogenic sources, and include the production of nylon and nitric acid, and the burning of fossil fuel in internal combustion engines. It is used in rocket engines, racecars, and as an aerosol spray propellant.

Chlorofluorocarbons

Description: Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface).

Health Effects: CFCs are no longer being used; therefore, it is not likely that health effects would be experienced. Nonetheless, in confined indoor locations, working with CFC-113 or other CFCs are thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation (NIOSH 1989).

Sources: CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol in 1987.

Hydrofluorocarbons

Description: Hydrofluorocarbons (HFCs) are synthetic man-made chemicals that are used as a substitute for CFCs. Of all the greenhouse gases, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF₃), HFC-134a (CF₃CH₂F), and HFC-152a (CH₃CHF₂) (EPA 2006c). Prior to 1990, the only significant emissions were from HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 HFC-134a are now about 10 parts per trillion (ppt) each (EPA 2006c). Concentrations of HFC-152a are about 1 ppt.

Health Effects: Most HFCs do not have health effects associated with them. For example, 1, 1-difluoroethane (HCFC-152A) does not have any adverse health effects (EPA 1995). However, HFC-134a has a chronic inhalation exposure of 80 milligrams per cubic meter (mg/m³); the critical effect is Leydig cell hyperplasia (EPA 1995).

Sources: HFCs are man made for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons

Description: Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about

60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF₄) and hexafluoroethane (C₂F₆). Concentrations of CF₄ in the atmosphere are over 70 ppt (EPA 2006c).

Health Effects: High concentrations of CF₄ can cause confusion, dizziness, or headache and may cause effects on the cardiovascular system, resulting in cardiac disorders (NIOSH 1997).

Sources: The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur Hexafluoride

Description: Sulfur hexafluoride (SF₆) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated, 23,900. Concentrations in the 1990s were about 4 ppt (EPA 2006c).

Health Effects: In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

Sources: SF₆ is used by the electrical industry as a gaseous dielectric medium for high-voltage (1 kV and above) circuit breakers, switchgear, and other electrical equipment, often replacing harmful PCBs. The electrical industry also uses it for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

2.1.1 - Federal Inventory

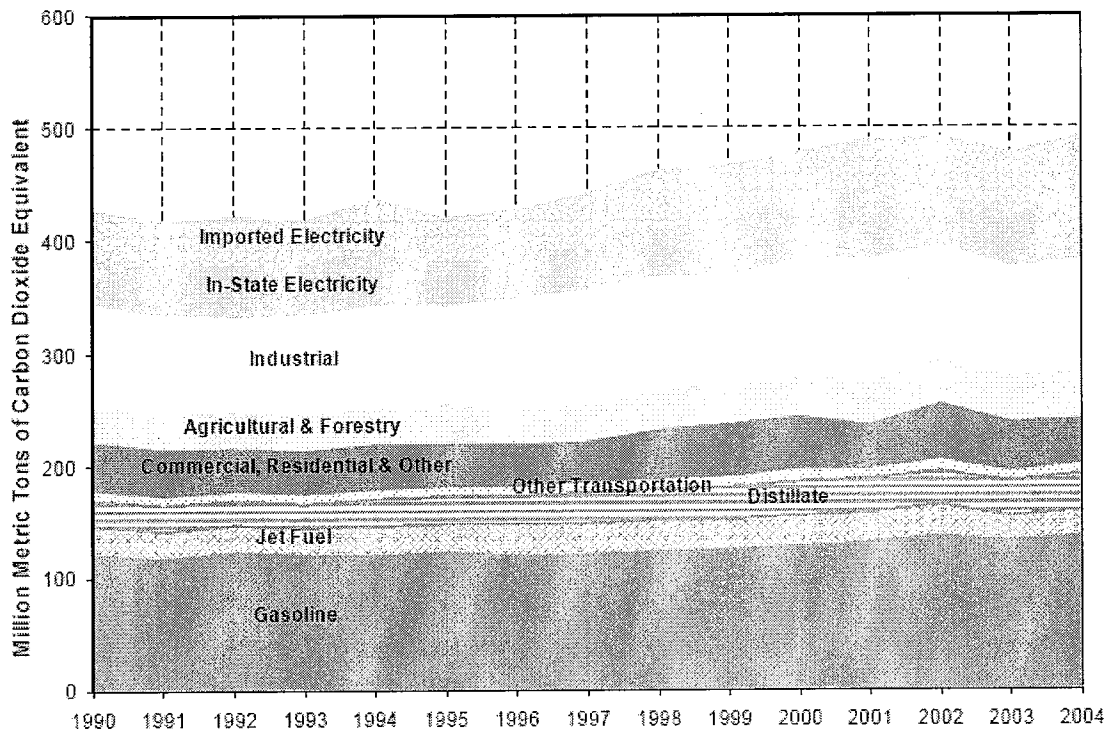
In 2004, total worldwide greenhouse gas emissions was estimated to be 20,135 MMTCO₂e, excluding emissions/removals from land use, land use change, and forestry (UNFCCC 2006). (Note that sinks, or greenhouse gas removal processes, play an important role in the greenhouse gas inventory as forest and other land uses absorb carbon.) In 2004, greenhouse gas emissions in the U.S. were 7,074.4 MMTCO₂e (EPA 2006a). In 2005, total U.S. greenhouse gas emissions were 7,260.4 MMTCO₂e, a 16.3 percent increase from 1990 emissions, while U.S. gross domestic product has increased by 55 percent over the same period (EPA 2007a). Emissions rose from 2004 to 2005, increasing by 0.8 percent. The main causes of the increase are believed to be: (1) strong economic growth in 2005, leading to increased demand for electricity, and (2) an increase in the demand for electricity due to warmer summer conditions (EPA 2007a). However, a decrease in demand for fuels due to warmer winter conditions and higher fuel prices moderated the increase in emissions (EPA 2007a).

2.1.2 - State Inventory

California is a substantial contributor of greenhouse gases as it is the second largest contributor in the U.S. and the sixteenth largest in the world (CEC 2006). In 2004, California produced 480 MMTCO₂e

(CARB 2007b), including imported electricity and excluding combustion of international fuels and carbon sinks or storage, which is approximately 7 percent of U.S. emissions. The major source of greenhouse gases in California is transportation, contributing 38 percent of the State's total greenhouse gas emissions in 2004 (CARB 2007b). Electricity generation is the second largest source, contributing 25 percent of the State's 2004 greenhouse gas emissions (CARB 2007b). Exhibit 1 shows that emissions for the major energy sectors vary over time.

Exhibit 1: California's Gross Greenhouse Gas Emission Trends



Source: California Energy Commission. December 2006. Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004. Staff Final Report. (CEC 2006)

2.1.3 - Local Inventory

The local agencies for this project (i.e., the San Joaquin Valley Air Pollution Control District or the County of Madera) have not developed a local inventory of greenhouse gases.

2.2 - Regulatory Environment

2.2.1 - International and Federal

International and Federal legislation has been enacted to address GCC issues. The Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol governs compounds that deplete ozone in the stratosphere—chlorofluorocarbons (CFCs), halons,

carbon tetrachloride, and methyl chloroform. The Protocol provided that these compounds were to be phased out by 2000 (2005 for methyl chloroform).

In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess “the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation” (IPCC 2004).

On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change. Under the Convention, governments do the following: gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change (UNFCCC 2007).

A particularly notable result of the United Nations Framework Convention on Climate Change efforts was a treaty known as the Kyoto Protocol. When countries sign the treaty, they demonstrate their commitment to reduce their emissions of greenhouse gases or engage in emissions trading. More than 160 countries—representing 55 percent of global emissions—are currently participating in the protocol. In 1998, United States Vice President Al Gore symbolically signed the Protocol; however, in order for the Protocol to be formally ratified, it must be ratified by the United States Congress. This was not done by the Congress during the Clinton Administration, and the current US President, George W. Bush, has indicated that he does not intend to submit the treaty for ratification.

In October 1993, President Clinton announced his Climate Change Action Plan, which had a goal to return greenhouse gas emissions to 1990 levels by the year 2000. This was to be accomplished through 50 initiatives that relied on innovative voluntary partnerships between the private sector and government aimed at producing cost-effective reductions in greenhouse gas emissions.

The United States EPA currently does not regulate greenhouse gas emissions from motor vehicles. *Massachusetts v. EPA* (Supreme Court Case 05-1120) was argued before the United States Supreme Court on November 29, 2006, in which it was petitioned that EPA regulate four greenhouse gases, including carbon dioxide, under Section 202(a)(1) of the Clean Air Act. A decision was made April 2, 2007, in which the Court held that petitioners have a standing to challenge the EPA and that the EPA has statutory authority to regulate emission of greenhouse gases from new motor vehicles.

2.2.2 - California

There has been significant legislative activity regarding global climate change and greenhouse gases in California. Although it was not originally intended to reduce greenhouse gases, California Code of Regulations Title 24 Part 6: California’s Energy Efficiency Standards for Residential and

Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The latest amendments were made in October 2005 and currently require new homes to use half the energy they used only a decade ago. Energy efficient buildings require less electricity, and electricity production by fossil fuels results in greenhouse gas emissions. Therefore, increased energy efficiency results in decreased greenhouse gas emissions.

California Assembly Bill 1493 (Pavley), enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. Regulations adopted by the CARB will apply to 2009 and later model year vehicles. The CARB estimates that the regulation will reduce climate change emissions from the light duty passenger vehicle fleet by an estimated 18 percent in 2020 and by 27 percent in 2030 (CARB 2004a).

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following greenhouse gas emission reduction targets:

- by 2010, reduce greenhouse gas emissions to 2000 levels;
- by 2020, reduce greenhouse gas emissions to 1990 levels;
- by 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels (CA 2005).

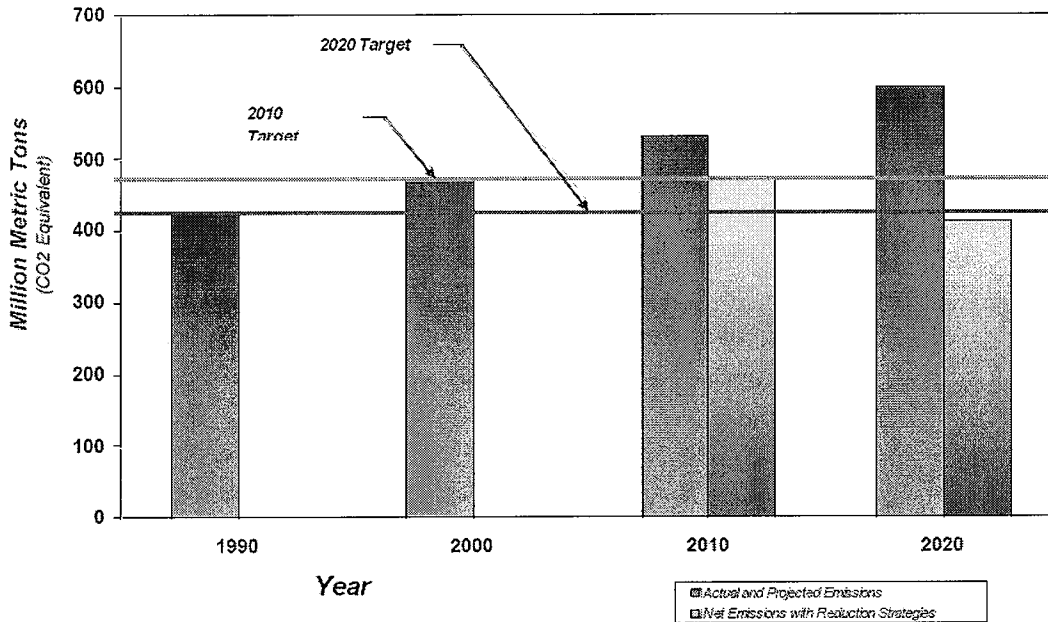
To meet these targets, the Governor directed the Secretary of the Cal EPA to lead a Climate Action Team (CAT) made up of representatives from the Business, Transportation and Housing Agency; the Department of Food and Agriculture; the Resources Agency; the Air Resources Board; the Energy Commission; and the Public Utilities Commission. The CAT's Report to the Governor in 2006 contains recommendations and strategies to help ensure the targets in Executive Order S-3-05 are met (CAT 2006).

The CAT report (2006) contains baseline emissions as estimated by the CARB and the California Energy Commission, as shown in Exhibit 2 below. As shown in the exhibit, the emission reduction strategies reduce greenhouse gas emissions to the targets contained in AB 32 (see below).

Also in 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing greenhouse gas emissions in California. Greenhouse gases, as defined under AB 32, include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. AB 32 requires the CARB to adopt rules and regulations that would achieve greenhouse gas emissions equivalent to statewide levels in 1990 by 2020. On or before June 30, 2007, the CARB was required to publish a list of discrete early action greenhouse gas emission reduction measures that can be implemented by 2010. AB 32 also requires that by January 1, 2008, the CARB must determine what the statewide greenhouse gas

emissions level was in 1990, and approve a statewide greenhouse gas emissions limit that is equivalent to that level, to be achieved by 2020.

Exhibit 2: California Greenhouse Gas Emissions



Source: State of California, Environmental Protection Agency, Climate Action Team. March 2006. Climate Action Team Report to Governor Schwarzenegger and the California Legislature. (CAT 2006).

Under AB 32, the CARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California (CARB 2007a). Discrete early action measures are currently underway or are enforceable by January 1, 2010. Early action measures are regulatory or non-regulatory and are currently underway or to be initiated by the CARB in the 2007 to 2012 timeframe. CARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of those early action measures, nine are considered discrete early action measures, as they are regulatory and enforceable by January 1, 2010. The CARB estimates that the 44 recommendations are expected to result in reductions of at least 42 MMTCO₂e by 2020, representing approximately 25 percent of the 2020 target. Note that the CARB currently defers measures involving General Plans and CEQA; early action is not recommended.

Under AB 32, the CARB has the primary responsibility for reducing greenhouse gas emissions. However, the CAT Report contains strategies that many other California agencies can take. The CAT published a public review draft of Proposed Early Actions to Mitigate Climate Change in California

(CAT 2007). Most of the strategies were in the 2006 CAT Report or are similar to the 2006 CAT strategies.

Executive Order S-01-07 was enacted by the Governor on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. It also requires that a Low Carbon Fuel Standard for transportation fuels be established for California.

The Western Climate Initiative was signed on February 26, 2007 by five states: Washington, Oregon, Arizona, New Mexico, and California. British Columbia, Canada joined on April 20, 2007. Members of the Initiative plan on collaborating to identify, evaluate, and implement ways to reduce greenhouse gas emissions in the states collectively and to achieve related co-benefits. Members also plan to design a regional market-based multi-sector mechanism, such as a load-based cap and trade program, by August 2008. In addition, a multi-state registry will track, manage, and credit entities that reduce greenhouse gas emissions. The Initiative published its regional greenhouse gas reduction goals on August 22, 2007, which include a reduction of 15 percent below 2005 levels by 2020 (WCI 2007).

California is also exploring the possibility of cap and trade systems for greenhouse gases. The Market Advisory Committee to the CARB published draft recommendations for designing a greenhouse gas cap and trade system for California (MAC 2007).

Senate Bill 97 (SB 97) was passed in August 2007. SB 97 indicates that Section 21083.05 will be added to the Public Resources Code, "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)." Section 21097 is also added to the Public Resources Code and indicates that the failure to analyze adequately the effects of greenhouse gases in a document related to the environmental review of a transportation project funded under the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 does not create a cause of action for a violation. However, SB 97 does not safeguard non-transportation funded projects from being challenged in court for omitting a global climate change analysis.

2.2.3 - Local Public Agencies

The local agencies such as the San Joaquin Valley Air Pollution Control District or the County of Madera do not currently have formal reduction plans or legislation regarding greenhouse gases.

SECTION 3: IMPACT ANALYSIS

3.1 - Thresholds of Significance and Analysis Approach

A fundamental difficulty in analysis of GHG emissions is the global nature of the existing and cumulative future conditions. Changes in GHG emissions can be difficult to attribute to a particular project because the project may cause a shift in the locale for some types of GHG emissions, rather than causing “new” GHG emissions. Whether this represents a net global increase, reduction, or no change depends on the GHG emissions that would exist if the project were not implemented.

3.1.1 - Thresholds of Significance

CEQA requires that Lead Agencies inform decision makers and the public regarding potential significant environmental effects of proposed projects; feasible ways that environmental damage can be avoided or reduced through the use of feasible mitigation measures and/or project alternatives; and disclose the reasons why the Lead Agency approved a project if significant environmental effects are involved (CEQA Guidelines Section 15002). CEQA also requires Lead Agencies to evaluate potential environmental effects based on the fullest extent possible on scientific and factual data (CEQA Guidelines Section 15064[b]). Significance conclusions must be based on substantial evidence, which includes facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts (CEQA Guidelines Section 15064[5]).

There are currently no published thresholds of significance established by any state or regional regulatory agency for measuring the cumulative impact of global climate change on or from a project. CEQA Guidelines Section 15064.7 indicates, “each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects.”

Although it is unknown if AB 32 alone is enough to reduce California’s fair-share contribution to global greenhouse gas inventory, it is currently the only well-defined and widely accepted benchmark for greenhouse gas emissions in California. The threshold that is to be used for this project is as follows:

Would the project be consistent with California's strategies to reduce greenhouse gas emissions to the levels in AB 32?

3.1.2 - Analysis Approach

The threshold proposed above is qualitative in nature, and will be addressed as such in this document. Note that the thresholds and the analysis contained in this report may not be relevant to other projects. Therefore, this analysis does not establish thresholds in Madera County. The following approach is used to address the threshold and assess the significance of the project’s cumulative contribution to global climate change:

1. **Inventory:** An inventory of greenhouse gas emissions generated by the project will be presented for informational purposes. The inventory will be compared to the inventory for California and the United States and a local inventory, if available.
2. **Compliance with Strategies:** Project compliance with the current California emission reduction strategies to reduce greenhouse gases will be assessed.
3. **Compliance with General Plan Policies:** Project compliance with applicable policies and goals in the General Plan will be assessed.
4. **Climate Change Impacts on Project:** The potential impacts of climate change on the proposed project will be assessed.
5. **Attorney General Mitigation Analysis:** The California Attorney General has compiled a list of Mitigation Measures and Global Warming Resources (AG 2007). The feasibility of the mitigation measures will be determined for the project. Feasible and applicable mitigation measures will be applied to the proposed project.

3.2 - Project Inventory of Greenhouse Gases

An inventory of greenhouse gas emissions generated by the project is presented below. The emissions are estimated and are converted to million metric tonnes of carbon dioxide equivalents (MMTCO₂e) using the formula:

$$MMTCO_2e = (\text{tons of gas}) \times (GWP) \times (0.902 \text{ metric tonnes per ton}) \div (1,000,000).$$

3.2.1 - Project Inventory before Mitigation

Emissions generated during construction and operation would result in greenhouse gas emissions, as described below.

Construction

The project would emit greenhouse gases during construction of the project from combustion of fuels in worker vehicles accessing the site as well as the construction equipment. The project would also emit greenhouse gases during the manufacture and transportation of the building materials. In particular, manufacturing cement has the potential to result in a high amount of greenhouse gas emissions. However, at this time, it is unknown how much cement would be used in construction of the project and from where that cement will be transported.

Exhaust emissions during construction were estimated using URBEMIS2007 using the methodology as described in the project EIR. The project would be constructed in four phases. The EIR estimated emissions from mass grading and the phase of development with the greatest quantity of emissions. For worst-case purposes, it is assumed in this analysis that the emissions during all the phases would be comparable to each other. The project emissions of carbon dioxide are shown in Table 2 below.

Emissions of nitrous oxide and methane are negligible. As shown in the table, construction would result in 0.00046 MMTCO₂e.

Table 2: Construction Exhaust Greenhouse Gas Emissions

Phase	Carbon Dioxide Emissions	
	(tons per year)	(MMTCO ₂ e)
Mass Grading	32.90	0.000030
Building	463.81	0.000418
Coating	3.16	0.000003
Paving	10.01	0.000009
Total	509.88	0.000460
Source: URBEMIS2007 Output (Appendix A)		

Operation

Greenhouse gas emissions from the project during operation would result from natural gas consumption, fireplaces, motor vehicles, indirect emissions from electricity generation, and emissions from air conditioning units. A summary of the anticipated greenhouse gas emissions from operation of the proposed project is presented in Table 3.

Table 3: Project Greenhouse Gas Emissions (Operation, at Buildout, Unmitigated)

Source (units)	Carbon Dioxide	Nitrous Oxide	Methane	Hydro-fluorocarbons
Motor vehicles (tons per year)	74,617	11.50	21.88	–
Natural gas (tons per year)	7,462	0.03	1.42	–
Indirect electricity (tons per year)	6,597	0.03	0.05	–
Fireplaces (tons per year)	6,055	NG	NG	–
Water Transport (tons per year)	22,557	0.10	0.19	–
Landscape (tons per year)	2	NG	NG	–
Refrigerants (tons per year)	–	–	–	33.01
Total (tons per year)	117,290	11.66	23.55	33.01
Total (metric tonnes per year)	105,796	10.52	21.24	29.77
Global Warming Potential	1	310	21	1,300
Total (metric tonnes per year CO₂e)	105,796	3,260	446	38,705
Total (MMTCO₂e per year)	0.1058	0.0033	0.0004	0.0387
NG = negligible				
Source: URBEMIS2007 output and spreadsheets located in Appendix A.				

As shown in Table 3, the primary greenhouse gas generated by the project would be carbon dioxide. At buildout, total unmitigated carbon dioxide equivalents would be 0.148 MMTCO₂e per year, which is 0.031 percent of California’s 2004 emissions; 0.0020 percent of 2005 U.S. emissions; and 0.00074 percent of reported 2004 global emissions.

Operational Emission Estimation Assumptions

Carbon dioxide emissions from natural gas consumption, fireplaces, and motor vehicles were generated using URBEMIS2007. Nitrous oxide and methane emissions from natural gas consumption were estimated using emission factors as described in the attached spreadsheets.

The project would consume approximately 16.4 megawatt-hours (MWh) per year (from Public Services and Utilities section in the project EIR). The emission factors for electricity use were obtained from the California Climate Action Registry (CCAR 2007) and are 804.54 pounds of CO₂ per MWh, 0.0067 pounds of NH₄ per MWh, and 0.0037 pounds of N₂O per MWh.

Refrigerant emissions would be emitted from refrigerators and air conditioning units. The EPA is phasing out the old refrigerant, HCFC-22, with non-ozone depleting substances. It was assumed for this analysis that HFC-134a would be used. The emissions associated with this source were estimated using a reference document published by the EPA (EPA 2004b), and are shown in a spreadsheet in Appendix A.

The project is estimated to use approximately 1,355 acre-feet of water per year at buildout (from Public Services and Utilities section in the project EIR). The consumption of energy necessary to transport water was obtained from the California Energy Commission (CEC 2005), which estimated energy usage from water supply and conveyance, water treatment, water distribution, and wastewater treatment. The document also separated energy usage estimates between northern and southern California. The CEC estimated that it took approximately 3,950 kWh of electricity for every million gallons of water in Northern California. The emission factors for electricity use was obtained from the California Climate Action Registry (CCAR 2007) and is 804.54 pounds of CO₂ per MWh, 0.0067 pounds of NH₄ per MWh, and 0.0037 pounds of N₂O per MWh.

The project does not contribute substantially to water vapor because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities.

Ozone is a greenhouse gas; however, unlike the other greenhouse gases, ozone in the troposphere is relatively short-lived and therefore is not global in nature. According to the CARB, it is difficult to make an accurate determination of the contribution of ozone precursors (NO_x and ROG) to global warming (CARB 2004b). Therefore, it is assumed that project emissions of ozone precursors would not significantly contribute to global climate change.

As mentioned previously, there is a ban on chlorofluorocarbons; therefore, the project would not generate emissions of these greenhouse gases and they are not considered any further in this analysis.

Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the project. Therefore, it is not anticipated that the project would emit any of these greenhouse gases.

3.2.2 - Project Inventory after Mitigation

Construction

The project EIR concluded that construction measures did not require mitigation.

Operation

Project site design and mitigation included in the project EIR would reduce greenhouse gas emissions. Additionally Mitigation Measures GCC-1, GCC-2, GCC-3, and GCC-4, listed in Section 1.1.1 - Mitigation Measures, would also help reduce greenhouse gas emissions. These reductions were used as mitigation in URBEMIS2007.

Greenhouse gases after implementation of quantifiable mitigations are displayed in Table 4. At buildout, total mitigated carbon dioxide equivalents would be reduced to 0.124 MMTCO₂e, which is a reduction of 0.024 MMTCO₂e, or approximately 16 percent.

Table 4: Project Greenhouse Gas Emissions (Operation, at Buildout, Mitigated)

Source (units)	Carbon Dioxide	Nitrous Oxide	Methane	Hydro-fluorocarbons
Motor vehicles (tons per year)	65,326	11.50	21.88	–
Natural gas (tons per year)	5,970	0.03	1.42	–
Indirect electricity (tons per year)	5,278	0.03	0.05	–
Fireplaces (tons per year)	8	NG	NG	–
Water Transport (tons per year)	22,557	0.10	0.19	–
Landscape (tons per year)	2	NG	NG	–
Refrigerants (tons per year)	–	–	–	26.41
Total (tons per year)	99,140	11.66	23.55	26.41
Total (metric tonnes per year)	89,424	10.52	21.24	23.82
Global Warming Potential	1	310	21	1,300
Total (metric tonnes per year CO ₂ e)	89,424	3,260	446	30,964
Total (MMTCO ₂ e per year)	0.0894	0.0033	0.0004	0.0310

NG = negligible
Source: URBEMIS2007 output and spreadsheets located in Appendix A

Emissions models such as URBEMIS evaluate aggregate emissions and do not demonstrate, with respect to a global impact, how much of these emissions are “new” emissions specifically attributable to the proposed project in question. For most projects, the main contribution of greenhouse gas emissions is from motor vehicles, but how much of those emissions are “new” is uncertain. New projects do not create new drivers.

In 2020, AB 32 requires California’s emissions to be equal to 1990 emissions; therefore, emissions are projected to be 427 MMTCO₂e (CARB 2007b). Hence, the net increase in emissions at project build-out (in relation to California’s projected emissions) is 0.032 percent.

3.3 - Compliance with State Strategies

To assess compliance with California strategies to reduce greenhouse gas emissions, two main documents will be used. The first is the 2006 Climate Action Team Report to Governor Schwarzenegger (2006 CAT Report) and the second is the CARB’s early action measures.

2006 CAT Report

As discussed above in Section 2.2.2, California Governor Arnold Schwarzenegger announced on June 1, 2005 through Executive Order S-3-05, greenhouse gas emission reduction targets as follows: by 2010, reduce greenhouse gas emissions to 2000 levels; by 2020, reduce greenhouse gas emissions to 1990 levels; by 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels (CA 2005). Similar to Executive Order S-3-05, AB 32 requires that by January 1, 2008, the CARB shall determine what the statewide greenhouse gas emissions level was in 1990, and approve a statewide greenhouse gas emissions limit that is equivalent to that level, to be achieved by 2020.

The 2006 CAT Report to Governor Schwarzenegger and the Legislature introduces strategies that can be implemented by the CARB and other California agencies to reduce California’s emissions in 2020 to 1990 levels. This project can contribute to early implementation of applicable 2006 CAT Report strategies by incorporating as design features or mitigation measures that help achieve the goals of the reduction strategies. An assessment of project’s consistency with early implementation of those 2006 CAT Report strategies is contained in Table 5. As shown in the table, the project is consistent with early implementation of all applicable strategies.

Table 5: California Greenhouse Gas Emission Reduction Strategies

Strategy	Project Design/Mitigation to Implement with Strategy
<p>Vehicle Climate Change Standards: AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the ARB in September 2004.</p>	<p>These are CARB enforced standards; vehicles that access the project that are required to comply with the standards would comply with these strategies.</p>
<p>Other Light-Duty Vehicle Technology: New standards would be adopted to phase in beginning in the 2017 model.</p>	
<p>Heavy-Duty Vehicle Emission Reduction Measures: Increased efficiency in the design of heavy-duty vehicles and an education program for the heavy-duty vehicle sector.</p>	
<p>Diesel Anti-Idling: In July 2004, the CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.</p>	<p>Implemented through mitigation.</p>

Table 5: California Greenhouse Gas Emission Reduction Strategies (Cont.)

Strategy	Project Design/Mitigation to Implement with Strategy
<p>Hydrofluorocarbon Reduction: 1) Ban retail sale of HFC in small cans; 2) Require that only low GWP refrigerants be used in new vehicular systems; 3) Adopt specifications for new commercial refrigeration; 4) Add refrigerant leak-tightness to the pass criteria for vehicular Inspection and Maintenance programs; 5) Enforce federal ban on releasing HFCs.</p>	<p>This measure applies to consumer products. When the CARB adopts regulations for these reduction measures, any products that the regulations apply to would comply with the measures.</p>
<p>Transportation Refrigeration Units (TRU), Off-Road Electrification, Port Electrification: Strategies to reduce emissions from TRUs, increase off-road electrification, and increase use of shore-side/port electrification.</p>	<p>Implemented through mitigation.</p>
<p>Manure Management: The proposed San Joaquin Valley Rule 4570 will reduce volatile organic compounds from confined animal facilities through implementation of control options.</p>	<p>Not applicable.</p>
<p>Alternative Fuels - Biodiesel Blends: CARB would develop regulations to require the use of 1 to 4 percent biodiesel displacement of California diesel fuel.</p>	<p>Not applicable.</p>
<p>Alternative Fuels - Ethanol: Increased use of ethanol fuel.</p>	<p>Not applicable.</p>
<p>Achieve 50 percent Statewide Recycling Goal: Achieving the State’s 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a statewide basis. Therefore, a 2 percent additional reduction is needed.</p>	<p>Implemented through mitigation. Mitigation encourages recycling within the project.</p>
<p>Zero Waste - High Recycling: Additional recycling beyond the State’s 50 percent recycling goal.</p>	
<p>Landfill Methane Capture: Install direct gas use or electricity projects at landfills to capture and use emitted methane.</p>	<p>Not applicable.</p>
<p>Urban Forestry: A new statewide goal of planting 5 million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.</p>	<p>Implemented through project design. Project design features include the incorporation of trees.</p>
<p>Afforestation/Reforestation Projects: Reforestation projects focus on restoring native tree cover on lands that were previously forested and are now covered with other vegetative types.</p>	<p>Implemented through project design. Project design features include a minimum of 30 percent of the site would be retained in major open space designations, including natural areas, preserves and use areas and use of native plants and drought-tolerant landscaping materials would be maximized in landscape plans.</p>

Table 5: California Greenhouse Gas Emission Reduction Strategies (Cont.)

Strategy	Project Design/Mitigation to Implement with Strategy
<p>Water Use Efficiency: Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions.</p>	<p>Implemented through project design and mitigation.</p>
<p>Building Energy Efficiency Standards in Place and in Progress: Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).</p>	<p>Implemented through project design and mitigation.</p>
<p>Appliance Energy Efficiency Standards in Place and in Progress: Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).</p>	<p>Implemented through project design and mitigation.</p>
<p>Smart Land Use and Intelligent Transportation Systems (ITS): Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services. Governor Schwarzenegger is finalizing a comprehensive 10-year strategic growth plan with the intent of developing ways to promote, through state investments, incentives and technical assistance, land use, and technology strategies that provide for a prosperous economy, social equity, and a quality environment. Smart land use, demand management, ITS, and value pricing are critical elements for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.</p>	<p>Implemented through project design. The project has many design features that are incorporated to encourage smart land use including non-residential projects establishing maximum bicycle access to and within the project, and providing secure bicycle facilities such as bicycle parking, bicycle racks, and storage lockers, as well as shower/locker rooms; providing traffic signal synchronization where feasible to improve traffic flow; providing incentives for working and living within the local area by providing a mixture of land uses, services, and entertainment such as residential, commercial offices, restaurants, retail stores, shopping areas, banks, movie theaters, neighborhood parks, etc.; encouraging flexible work hours, carpooling/vanpooling, and use of transit and use of passenger rail services and other mass transportation services; providing mass transit accommodations such as bus turnout lanes, park and ride lots, and bus shelters; providing mini buses and shuttles for individuals working in the same buildings; and providing telecommunications alternates to vehicular travel that include the use of telephones, computer video cameras, and satellite work centers</p>

Table 5: California Greenhouse Gas Emission Reduction Strategies (Cont.)

Strategy	Project Design/Mitigation to Implement with Strategy
Cement Manufacturing: Cost-effective reductions to reduce energy consumption and to lower carbon dioxide emissions in the cement industry.	Not applicable.
Enteric Fermentation: Cattle emit methane from digestion processes. Changes in diet could result in a reduction in emissions.	Not applicable.
Green Buildings Initiative: Green Building Executive Order, S-20-04 (CA 2004), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels.	Implemented through project design and mitigation. Project buildings to be oriented to maximize passive solar cooling and heating when practicable. In addition, overall building design would include as many energy-conserving features as possible
California Solar Initiative: Installation of 1 million solar roofs or an equivalent 3,000 MW by 2017 on homes and businesses; increased use of solar thermal systems to offset the increasing demand for natural gas; use of advanced metering in solar applications; and creation of a funding source that can provide rebates over 10 years through a declining incentive schedule.	Implemented through mitigation.
Source: CAT 2006.	

CARB Early Action Measures

Under AB 32, the CARB has the primary responsibility to reduce greenhouse gas emissions in California. The CARB published a list of early action measures that it will take to reduce greenhouse gases in California (CARB 2007a). The CARB anticipates that these early action measures will reduce emissions by 25 percent of the 2020 target. Other measures will follow in the coming years.

A review of the CARB’s reduction measures underway or to be initiated by the CARB in the 2007 to 2012 timeframe indicates that only one measure would be applicable to the project. This measure is the “Cool Communities Program,” which is anticipated to have a CARB hearing date in the third quarter of 2008. This program is recommended to be a non-regulatory voluntary program with guidelines to foster the establishment or transition to cool communities in California. The following is a brief description of the strategies to be adopted in the Cool Communities Program guidelines:

- **Cool Roofs.** Cool roof programs as part of the Building Energy Efficiency standards (Title 24) can save as much as 15 percent of cooling energy use during hot months of the year. The per-house cost premium is estimated at about \$500 (CARB 2007a)
- **Cool Pavements.** Cool pavements can reduce the ambient air temperature by 1 degree Fahrenheit, thereby reducing energy cooling demand.

- **Shade Trees and Urban Forest.** The Tree Benefit Estimator reports that a mature tree system would save about 700 kWh of energy (1,100 kg of CO₂ per household).

The project includes use of shade trees and mitigation measures require light-colored roofs, paints, and driveway materials. As the project is designed currently, it complies with the Cool Communities Program.

Level of Significance before Mitigation

Potentially significant impact.

Mitigation

Mitigation measures GCC-1 through GCC-3, as contained in Section 1.1.1, Mitigation Measures, are required.

Level of Significance after Mitigation

Less than significant. With mitigation and project design, the project is compliant with all applicable state strategies to reduce greenhouse gases to levels proposed under Executive Order S-3-05. With mitigation, the project would comply with all applicable CARB early reduction strategies to reduce greenhouse gas emissions in California.

3.4 - General Plan Compliance

The Madera County General Plan (Madera 1995) does not contain greenhouse gas or global climate change policies or goals. However, the air quality policies as discussed in the project EIR reduce indirect emissions from vehicle miles traveled and energy use. Therefore, compliance with the applicable policies would reduce greenhouse gas emissions from the project.

3.5 - Climate Change Impacts on the Project

As discussed in Section 3.2, the project would result in the emissions of greenhouse gases. However, how would the cumulative effect of the project's greenhouse gases and the greenhouse gases from all sources around the globe impact the project?

AB 32 indicates that “the potential effects of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snow pack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidence of infections, disease, asthma, and other health-related problems” (AB 32, section 38501(a)).

According to the California Climate Change Center (CCCC 2006), climate change impacts will affect all of the sectors considered in this report: sea level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply. Additionally, climate change

could produce compounding impacts—for instance, in the San Francisco Bay Delta, heightened sea levels and high river inflows from warmer storms would place levee systems in greater jeopardy of flooding. The CCCC says that some of the most dramatic climate change impacts will be experienced as increased frequency and severity of extreme events, such as heat waves, wildfires, flooding, and conditions conducive to air pollution formation.

Air quality problems could increase due to increased use of electricity to cool, which may result in increased indirect emissions. The project would not significantly contribute to this effect as mitigation increases energy efficiency of the project. The project attempts to incorporate all feasible water efficiency measures thereby reducing the use of water. The project is located at approximately 580 feet above sea level, which is not a height to pose a threat from rising seawaters. However, the increase in the potential for wildfires would be exacerbated by the project's location in the foothills. The project EIR concludes that Mitigation Measures PSF-FS-1 and PSF-FS-2 would reduce the impacts to fire services to less than significant levels.

In summary, global climate change impacts to the proposed project are anticipated to be less than significant.

3.6 - Attorney General Mitigation Analysis

The Office of the California Attorney General (AG) distributed Mitigation Measures and Global Warming Resources (AG 2007). The AG has listed some examples of types of mitigations that local agencies may consider to offset or reduce global warming impacts from a project. The AG assures that the presented list was “by no means exhaustive or obligatory” but instead provides measures and policies that could be undertaken. The AG encourages the proponents of individual private projects to “take an active role in developing and presenting to lead agencies new and innovative ways to address the impacts on global warming” (AG 2007).

The AG presents suggested measures related to transportation, energy efficiency and renewable energy, land use, solid waste, and carbon offsets. Transportation measures range from transit-bicycle-pedestrian friendly measures to transportation fees and ride-share programs. Energy efficiency measures range from energy efficient buildings and appliances to on-site renewable energy production. Land use measures range from encouraging mixed-use, infill projects to imposing measures to address the “heat island” effect. Solid waste measures range from reuse and recycle construction waste to methane recovery in local landfills. Detailed information on suggestions is included as Appendix B.

As presented in Section 1.2.2 - Project Design Features to Reduce Greenhouse Gases, this project incorporates a large mix of design features that match most of the suggestions by the Attorney General including bicycle/pedestrian emphasis; traffic control; transit; a jobs/housing balance; trees; parking restrictions, park-and-ride lots and shuttles; a Transportation Management Association;

telecommunications; and alternatively-fueled vehicles. In addition, the project EIR requires the project to prohibit wood burning fireplaces and wood stoves. Moreover, additional measures are suggested in Section 1.1.1 - Mitigation Measures.

In conclusion, the project by its design and mitigation measures would satisfy most of the suggested measures proposed by the Attorney General. Some of the suggested measures are designed for public agencies and are policy oriented, therefore determined not to be applicable for this project.

3.7 - Conclusion

The proposed project is anticipated to result in a net increase of approximately 0.124 MMTCO₂e per year after application of mitigation measures. It is anticipated that the project would not be significantly impacted from rising sea levels or other secondary effects of global climate change. It is shown that the project is consistent with California strategies to reduce greenhouse gas emissions to 1990 levels; complies with the CARB's early action measures; and would satisfy the Attorney General's suggested mitigation measures. It is anticipated that the project would result in a less than significant impact on global warming.

SECTION 4: REFERENCES

The following references were used in the preparation of this analysis and are referenced in the text and/or were used to provide the author with background information necessary for the preparation of thresholds and content.

- AG 2007 California Attorney General's Office. September 25, 2007. Mitigation Measures and Global Warming Resources.
- Brown, et al 2003 Brown, Theodore L.; H. Eugene LeMay Jr., Bruce E. Bursten, Julia R. Burdge (2003). Chemistry: The Central Science, 9th Edition, Pearson Education, pp. 882-883. ISBN 0-13-066997-0
- CA 2005 State of California, Executive Order S-3-05. June 1, 2005.
- CARB 2004a California Air Resources Board. December 10, 2004. Fact Sheet, Climate Change Emission Control Regulations.
- CARB 2004b California Environmental Protection Agency, Air Resources Board. July 21, 2004. Technical Support Document for Staff Proposal Regarding Reduction of Greenhouse Gas Emissions from Motor Vehicles Climate Change Overview.
- CARB 2007a California Air Resources Board. Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration. October 2007.
- CARB 2007b California Air Resources Board. California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit, Staff Report. November 16, 2007.
- CAT 2006 State of California, Environmental Protection Agency, Climate Action Team. March 2006. Climate Action Team Report to Governor Schwarzenegger and the California Legislature.
- CAT 2007 State of California, Environmental Protection Agency, Climate Action Team. Climate Action Team Proposed Early Actions to Mitigate Climate Change in California. Draft for Public Review. April 20, 2007.
- CCAR 2007 California Climate Action Registry. General Reporting Protocol. Reporting Entity-Wide Greenhouse Gas Emissions. Version 2.2, March 2007.
- CCCC 2006 Scenarios Of Climate Change In California: An Overview. White Paper. February 2006. CEC-500-2005-186-SF.
- CEC 2005 California Energy Commission. California's Energy-Water Relationship. Final Staff Report. November 2005. CEC-700-2005-011-SF
- CEC 2006 California Energy Commission. December 2006. Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004. Staff Final Report. CEC-600-2006-013-SF.
- EPA 1995 U.S. Environmental Protection Agency. Integrated Risk Information System. 1,1,1,2-Tetrafluoroethane (CASRN 811-97-2).

- EPA 2003a U.S. Environmental Protection Agency, Office of Air and Radiation. June 2003. Ozone: Good up high bad nearby. EPA-451-K-03-001.
- EPA 2003b U.S. Environmental Protection Agency, Office of Air and Radiation. September 2003. Particulate Pollution and Your Health. EPA-452/F-03-001
- EPA 2004a U.S. Environmental Protection Agency. Climate Leaders Greenhouse Gas Inventory Protocol. October 2004. Direct Emissions from Mobile Combustion Sources.
- EPA 2004b U.S. Environmental Protection Agency, Climate Leaders. October 2004. Direct HFC and PFC Emissions from Use of Refrigeration and Air Conditioning Equipment. EPA430-K-03-004.
- EPA 2006a U.S. Environmental Protection Agency, Office of Atmospheric Programs. April 2006. The U.S. Inventory of Greenhouse Gas Emissions and Sinks: Fast Facts.
- EPA 2006b U.S. Environmental Protection Agency. 2006. Non CO₂ Gases Economic Analysis and Inventory. Global Warming Potentials and Atmospheric Lifetimes. Website <http://www.epa.gov/nonco2/econ-inv/table.html>. Accessed December 20, 2006.
- EPA 2006c U.S. Environmental Protection Agency. 2006. High Global Warming Potential (GWP) Gases. Science. <http://www.epa.gov/highgwp/scientific.html>, Accessed December 2006.
- EPA 2007a U.S. Environmental Protection Agency. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005. Executive Summary. April 2007. USEPA #430-R-07-002
- IPCC 2001 Intergovernmental Panel on Climate Change, 2001: Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change [Houghton, J.T., Y. Ding, D.J. Griggs, M. Noguer, P.J. van der Linden, X. Dai, K. Maskell, and C.A. Johnson (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 881pp.
- IPCC 2004 Intergovernmental Panel on Climate Change. 2004. 16 Years of Scientific Assessment in Support of the Climate Convention. December 2004.
- IPCC 2007 Intergovernmental Panel on Climate Change. 2007. R.B. Alley, et al. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Summary for Policymakers.
- JAC 2002 Jacobson, Mark Z. Atmospheric Pollution, History, Science, and Regulation. Cambridge University Press, New York. 2002.
- Keeling & Whorf 2005 Keeling, C.D. and T.P. Whorf. 2005. Atmospheric CO₂ records from sites in the SIO air sampling network. In Trends: A Compendium of Data on Global Change. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tenn., U.S.A.
- MAC 2007 Market Advisory Committee for the California Air Resources Board. Recommendations for Designing a Greenhouse Gas Cap-and-Trade System for California. www.climatechange.ca.gov/events/2007-06-12_mac_meeting/2007-06-01_MAC_DRAFT_REPORT.PDF, Accessed June 11, 2007.

- Madera 1995 Madera County. Madera County General Plan Policy Document. October 24, 1995
- Madera 1995b The Keith Companies. Final Rio Mesa Area Plan, County of Madera. March 21, 1995
- Madera 2006 Madera County. North Fork Specific Plan. February 2006
- NIOSH 1989 Department of Health and Human Services, Centers for Disease Control & Prevention, the National Institute for Occupational Safety and Health. Preventing Death from Excessive Exposure to Chlorofluorocarbon 113 (CFC-113). NIOSH ALERT: May 1989. DHHS (NIOSH) Publication No. 89-109.
- NIOSH 1997 Department of Health and Human Services, Centers for Disease Control & Prevention, the National Institute for Occupational Safety and Health. International Safety Cards. Tetrafluoromethane.
- NIOSH 2005 Department of Health and Human Services, Centers for Disease Control & Prevention, the National Institute for Occupational Safety and Health. Carbon Dioxide. September 2005.
- OSHA 2003 United States Department of Labor, Occupational Safety and Health Administration. Safety and Health Topics: Methane.
- Steinfeld 2006 Steinfeld, H.; Gerber, P.; Wassenaar, T.; Castel, V.; Rosales, M. AND de Haan, C. Livestock's long shadow - Environmental issues and options. 2006.
- SJVAPCD 2004 San Joaquin Valley Air Pollution Control District. Extreme Ozone Attainment Demonstration Plan (Extreme OADP). October 8, 2004.
- UNFCCC 2006 United Nations Framework Convention on Climate Change. 2006. Greenhouse Gas Emissions Data, Predefined Queries, Annex I Parties - greenhouse gas total without LULUCF (land use, land-use change, and forestry).
- UNFCCC 2007 United Nations Framework Convention on Climate Change. Essential Background. http://unfccc.int/essential_background/convention/items/2627.php, Accessed February 2007.
- WCI 2007 Western Climate Initiative. August 22, 2007. Statement of Regional Goal.

Appendix A: Greenhouse Gas Emission Spreadsheets and URBEMIS 2007 Model Output

Summary of Operational Greenhouse Gases

Mitigated

North Fork Village-1

Prepared by Michael Brandman Associates

Buildout Year 2025

Prepared on: 11/17/07

Revised on: 6/4/08

Source	Carbon Dioxide	Nitrous Oxide	Methane	Hydro-fluorocarbons	Units
Motor vehicles	65,326	11.50	21.88		tons per year
Natural gas	5,970	0.03	1.42		tons per year
Indirect Electricity	5,278	0.03	0.05		tons per year
Hearth	8				tons per year
Water transport	22,557	0.10	0.19		
Landscape	2				tons per year
Refrigerants				26.41	tons per year
Total	99,140	11.66	23.55	26.41	tons per year
Total	89,424	10.52	21.24		23.82 metric tonnes per year
GWP	1	310	21		1300
Total	89,424	3,260	446		30,964 tonnes CO ₂ e per year
Total	0.0894	0.0033	0.0004		0.0310 MMTCO ₂ e per year

Total - all gases	124,094 tonnes CO ₂ e per year	Reduction
	0.1241 MMTCO ₂ e per year	0.0241
		16.3%

California emissions in 2004	480 MMTCO ₂ e per year
Project percent of emissions	0.025853%

California emissions in 1990	427 MMTCO ₂ e per year
Project percent of emissions	0.029062%

U.S. emissions in 2005	7,260.4
Project percent of emissions	0.001709%

Global emissions in 2004	20135
Project percent of emissions	0.000616%

Summary of Operational Greenhouse Gases

Unmitigated

North Fork Village-1

Prepared by Michael Brandman Associates

Buildout Year 2025

Prepared on: 11/17/07

Revised on: 6/4/08

Source	Carbon Dioxide	Nitrous Oxide	Methane	Hydro- fluorocarbons	Units
Motor vehicles	74,617	11.50	21.88		tons per year
Natural gas	7,462	0.03	1.42		tons per year
Indirect Electricity	6,597	0.03	0.05		tons per year
Hearth	6,055				tons per year
Water transport	22,557	0.10	0.19		
Landscape	2				tons per year
Refrigerants				33.01	tons per year
Total	117,290	11.66	23.55	33.01	tons per year
Total	105,796	10.52	21.24	29.77	metric tonnes per year
GWP	1	310	21	1300	
Total	105,796	3,260	446	38,705	tonnes CO ₂ e per year
Total	0.1058	0.0033	0.0004	0.0387	MMTCO ₂ e per year

Total - all gases 148,206 tonnes CO₂e per year
0.1482 MMTCO₂e per year

California emissions in 2004 480 MMTCO₂e per year
Project percent of emissions 0.030876%

U.S. emissions in 2005 7,260.4
Project percent of emissions 0.002041%

Global emissions in 2004 20135
Project percent of emissions 0.000736%

Mobile Emissions - Methane**Unmitigated**

Page 1

North Fork Village-1

17-Nov-07

Prepared by Michael Brandman Associates

Buildout Year 2025

Vehicle Miles Traveled

396,965

Starting Emissions	7.78 lbs/day	0.0039 tons/day	1.42 tons/year
Running Emissions	112.10 lbs/day	0.0561 tons/day	20.46 tons/year
Total	119.89 lbs/day	0.0599 tons/day	21.88 tons/year

Vehicle Percentages

Vehicle Type	Percent	Non-Catalyst	Catalyst	Diesel
Light Auto	50.3%	0.0%	100.0%	0.0%
Light Truck < 3,750 lbs	23.0%	0.0%	99.4%	0.6%
Light Truck 3,751- 5,750	16.5%	0.0%	100.0%	0.0%
Med Truck 5,751- 8,500	6.6%	0.0%	98.7%	1.3%
Lite-Heavy 8,501-10,000	0.1%	0.0%	80.0%	20.0%
Lite-Heavy 10,001-14,000	0.0%	0.0%	66.7%	33.3%
Med-Heavy 14,001-33,000	0.6%	0.0%	22.2%	77.8%
Heavy-Heavy 33,001-60,000	0.5%	0.0%	0.0%	100.0%
Line Haul > 60,000 lbs	0.0%	0.0%	0.0%	100.0%
Urban Bus	0.1%	0.0%	50.0%	50.0%
Motorcycle	1.2%	40.0%	60.0%	0.0%
School Bus	0.0%	0.0%	0.0%	100.0%
Motor Home	1.0%	0.0%	90.0%	10.0%

Running Emission Factors (g/mile)

Vehicle Type	Type	Non-Catalyst	Catalyst	Diesel
Light Auto	LDA	0.1931	0.1127	0.0161
Light Truck < 3,750 lbs	LDT1	0.2253	0.1448	0.0161
Light Truck 3,751- 5,750	LDT2	0.2253	0.1448	0.0161
Med Truck 5,751- 8,500	MDV	0.2253	0.1448	0.0161
Lite-Heavy 8,501-10,000	LHDT1	0.2012	0.1448	0.0805
Lite-Heavy 10,001-14,000	LHDT2	0.2012	0.1448	0.0805
Med-Heavy 14,001-33,000	MHDT	0.2012	0.1448	0.0805
Heavy-Heavy 33,001-60,000	HHDT	0.2012	0.1448	0.0805
Line Haul > 60,000 lbs	LHV	0.2012	0.1448	0.0805
Urban Bus	UB	0.2012	0.1448	0.0805
Motorcycle	MCY	0.2092	0.2092	0.2092
School Bus	SBUS	0.2012	0.1448	0.0805
Motor Home	MH	0.2012	0.1448	0.0805

Running Emissions (pounds per day)

Vehicle Type	Non-Catalyst	Catalyst	Diesel
Light Auto	0.00	49.49	0.00
Light Truck < 3,750 lbs	0.00	28.96	0.02
Light Truck 3,751- 5,750	0.00	20.90	0.00
Med Truck 5,751- 8,500	0.00	8.23	0.01
Lite-Heavy 8,501-10,000	0.00	0.14	0.02
Lite-Heavy 10,001-14,000	0.00	0.02	0.00
Med-Heavy 14,001-33,000	0.00	0.18	0.35
Heavy-Heavy 33,001-60,000	0.00	0.00	0.36
Line Haul > 60,000 lbs	0.00	0.00	0.00
Urban Bus	0.00	0.06	0.03
Motorcycle	0.86	1.28	0.00
School Bus	0.00	0.00	0.00
Motor Home	0.00	1.13	0.07
Total	0.86	110.38	0.87

Mobile Emissions - Methane

North Fork Village-1
Prepared by Michael Brandman Associates
Buildout Year 2025

Total Trips 66993

Starting Emission Factors (g/start)

Vehicle Type	Type	Non-Catalyst	Catalyst	Diesel
Light Auto	LDA	0.059	0.009	-0.003
Light Truck < 3,750 lbs	LDT1	0.067	0.099	-0.004
Light Truck 3,751- 5,750	LDT2	0.067	0.099	-0.004
Med Truck 5,751- 8,500	MDV	0.067	0.099	-0.004
Lite-Heavy 8,501-10,000	LHDT1	0.147	0.215	-0.004
Lite-Heavy 10,001-14,000	LHDT2	0.147	0.215	-0.004
Med-Heavy 14,001-33,000	MHDT	0.147	0.215	-0.004
Heavy-Heavy 33,001-60,000	HHDT	0.147	0.215	-0.004
Line Haul > 60,000 lbs	LHV	0.147	0.215	-0.004
Urban Bus	UB	0.147	0.215	-0.004
Motorcycle	MCY	0.024	0.024	0.033
School Bus	SBUS	0.147	0.215	-0.004
Motor Home	MH	0.147	0.215	-0.004

Trip Distribution

Vehicle Type	Type	Non-Catalyst	Catalyst	Diesel
Light Auto	LDA	0.0	33684.1	0.0
Light Truck < 3,750 lbs	LDT1	0.0	15342.6	92.6
Light Truck 3,751- 5,750	LDT2	0.0	11074.0	0.0
Med Truck 5,751- 8,500	MDV	0.0	4357.5	57.4
Lite-Heavy 8,501-10,000	LHDT1	0.0	75.0	18.8
Lite-Heavy 10,001-14,000	LHDT2	0.0	8.9	4.5
Med-Heavy 14,001-33,000	MHDT	0.0	95.2	333.6
Heavy-Heavy 33,001-60,000	HHDT	0.0	0.0	341.7
Line Haul > 60,000 lbs	LHV	0.0	0.0	0.0
Urban Bus	UB	0.0	30.1	30.1
Motorcycle	MCY	313.5	470.3	0.0
School Bus	SBUS	0.0	0.0	0.0
Motor Home	MH	0.0	596.9	66.3
Total		313.5	65734.7	944.9

Starting Emissions (pounds per day)

Vehicle Type	Type	Non-Catalyst	Catalyst	Diesel
Light Auto	LDA	0.0000	0.6669	0.0000
Light Truck < 3,750 lbs	LDT1	0.0000	3.3416	-0.0008
Light Truck 3,751- 5,750	LDT2	0.0000	2.4119	0.0000
Med Truck 5,751- 8,500	MDV	0.0000	0.9491	-0.0005
Lite-Heavy 8,501-10,000	LHDT1	0.0000	0.0355	-0.0002
Lite-Heavy 10,001-14,000	LHDT2	0.0000	0.0042	0.0000
Med-Heavy 14,001-33,000	MHDT	0.0000	0.0450	-0.0029
Heavy-Heavy 33,001-60,000	HHDT	0.0000	0.0000	-0.0030
Line Haul > 60,000 lbs	LHV	0.0000	0.0000	0.0000
Urban Bus	UB	0.0000	0.0143	-0.0003
Motorcycle	MCY	0.0166	0.0248	0.0000
School Bus	SBUS	0.0000	0.0000	0.0000
Motor Home	MH	0.0000	0.2823	-0.0006
Total		0.0166	7.7757	-0.0083

- Source of running emission factors: U.S. Environmental Protection Agency. Climate Leaders Greenhouse Gas Inventory Protocol, Core Module Guidance. Direct Emissions from Mobile Combustion Sources. October 2004.
- Source of vehicle percentages: URBEMIS2002 default values.
- Source of starting emissions: U.S. Environmental Protection Agency. Prepared by ICF Consulting. EPA420-P-04-016. Update of Methane and Nitrous Oxide Emission Factors for On-Highway Vehicles. November 2004.

Vehicle Miles Traveled 396,965

Starting Emissions	11.99 lbs/day	0.0060 tons/day	2.19 tons/year
Running Emissions	51.00 lbs/day	0.0255 tons/day	9.31 tons/year
Total	62.99 lbs/day	0.0315 tons/day	11.50 tons/year

Vehicle Percentages

Vehicle Type	Percent	Non-Catalyst	Catalyst	Diesel
Light Auto	50.3%	0.0%	100.0%	0.0%
Light Truck < 3,750 lbs	23.0%	0.0%	99.4%	0.6%
Light Truck 3,751- 5,750	16.5%	0.0%	100.0%	0.0%
Med Truck 5,751- 8,500	6.6%	0.0%	98.7%	1.3%
Lite-Heavy 8,501-10,000	0.1%	0.0%	80.0%	20.0%
Lite-Heavy 10,001-14,000	0.0%	0.0%	66.7%	33.3%
Med-Heavy 14,001-33,000	0.6%	0.0%	22.2%	77.8%
Heavy-Heavy 33,001-60,000	0.5%	0.0%	0.0%	100.0%
Line Haul > 60,000 lbs	0.0%	0.0%	0.0%	100.0%
Urban Bus	0.1%	0.0%	50.0%	50.0%
Motorcycle	1.2%	40.0%	60.0%	0.0%
School Bus	0.0%	0.0%	0.0%	100.0%
Motor Home	1.0%	0.0%	90.0%	10.0%

Running Emission Factors (g/mile)

Vehicle Type	Type	Non-Catalyst	Catalyst	Diesel
Light Auto	LDA	0.0166	0.0518	0.0161
Light Truck < 3,750 lbs	LDT1	0.0208	0.0649	0.0322
Light Truck 3,751- 5,750	LDT2	0.0208	0.0649	0.0322
Med Truck 5,751- 8,500	MDV	0.0208	0.0649	0.0322
Lite-Heavy 8,501-10,000	LHDT1	0.0480	0.1499	0.0483
Lite-Heavy 10,001-14,000	LHDT2	0.0480	0.1499	0.0483
Med-Heavy 14,001-33,000	MHDT	0.0480	0.1499	0.0483
Heavy-Heavy 33,001-60,000	HHDT	0.0480	0.1499	0.0483
Line Haul > 60,000 lbs	LHV	0.0480	0.1499	0.0483
Urban Bus	UB	0.0480	0.1499	0.0483
Motorcycle	MCY	0.0073	0.0073	0.0073
School Bus	SBUS	0.0480	0.1499	0.0483
Motor Home	MH	0.0480	0.1499	0.0483

Running Emissions (pounds per day)

Vehicle Type	Non-Catalyst	Catalyst	Diesel
Light Auto	0.00	22.75	0.00
Light Truck < 3,750 lbs	0.00	12.98	0.04
Light Truck 3,751- 5,750	0.00	9.37	0.00
Med Truck 5,751- 8,500	0.00	3.69	0.02
Lite-Heavy 8,501-10,000	0.00	0.15	0.01
Lite-Heavy 10,001-14,000	0.00	0.02	0.00
Med-Heavy 14,001-33,000	0.00	0.19	0.21
Heavy-Heavy 33,001-60,000	0.00	0.00	0.22
Line Haul > 60,000 lbs	0.00	0.00	0.00
Urban Bus	0.00	0.06	0.02
Motorcycle	0.03	0.04	0.00
School Bus	0.00	0.00	0.00
Motor Home	0.00	1.17	0.04
Total	0.03	50.40	0.56

Mobile Emissions - Nitrous Oxide

North Fork Village-1

Prepared by Michael Brandman Associates

Buildout Year 2025

Total Trips 66993

Starting Emission Factors (g/start)

Vehicle Type	Type	Non-Catalyst	Catalyst	Diesel
Light Auto	LDA	0.028	0.072	0.000
Light Truck < 3,750 lbs	LDT1	0.032	0.093	-0.001
Light Truck 3,751- 5,750	LDT2	0.032	0.093	-0.001
Med Truck 5,751- 8,500	MDV	0.032	0.093	-0.001
Lite-Heavy 8,501-10,000	LHDT1	0.070	0.194	-0.002
Lite-Heavy 10,001-14,000	LHDT2	0.070	0.194	-0.002
Med-Heavy 14,001-33,000	MHDT	0.070	0.194	-0.002
Heavy-Heavy 33,001-60,000	HHDT	0.070	0.194	-0.002
Line Haul > 60,000 lbs	LHV	0.070	0.194	-0.002
Urban Bus	UB	0.070	0.194	-0.002
Motorcycle	MCY	0.012	0.012	0.012
School Bus	SBUS	0.070	0.194	-0.002
Motor Home	MH	0.070	0.194	-0.002

Trip Distribution

Vehicle Type	Type	Non-Catalyst	Catalyst	Diesel
Light Auto	LDA	0.0	33684.1	0.0
Light Truck < 3,750 lbs	LDT1	0.0	15342.6	92.6
Light Truck 3,751- 5,750	LDT2	0.0	11074.0	0.0
Med Truck 5,751- 8,500	MDV	0.0	4357.5	57.4
Lite-Heavy 8,501-10,000	LHDT1	0.0	75.0	18.8
Lite-Heavy 10,001-14,000	LHDT2	0.0	8.9	4.5
Med-Heavy 14,001-33,000	MHDT	0.0	95.2	333.6
Heavy-Heavy 33,001-60,000	HHDT	0.0	0.0	341.7
Line Haul > 60,000 lbs	LHV	0.0	0.0	0.0
Urban Bus	UB	0.0	30.1	30.1
Motorcycle	MCY	313.5	470.3	0.0
School Bus	SBUS	0.0	0.0	0.0
Motor Home	MH	0.0	596.9	66.3
Total		313.5	65734.7	944.9

Starting Emissions (pounds per day)

Vehicle Type	Type	Non-Catalyst	Catalyst	Diesel
Light Auto	LDA	0.0000	5.3356	0.0000
Light Truck < 3,750 lbs	LDT1	0.0000	3.1391	-0.0002
Light Truck 3,751- 5,750	LDT2	0.0000	2.2657	0.0000
Med Truck 5,751- 8,500	MDV	0.0000	0.8915	-0.0001
Lite-Heavy 8,501-10,000	LHDT1	0.0000	0.0320	-0.0001
Lite-Heavy 10,001-14,000	LHDT2	0.0000	0.0038	0.0000
Med-Heavy 14,001-33,000	MHDT	0.0000	0.0406	-0.0015
Heavy-Heavy 33,001-60,000	HHDT	0.0000	0.0000	-0.0015
Line Haul > 60,000 lbs	LHV	0.0000	0.0000	0.0000
Urban Bus	UB	0.0000	0.0129	-0.0001
Motorcycle	MCY	0.0083	0.0124	0.0000
School Bus	SBUS	0.0000	0.0000	0.0000
Motor Home	MH	0.0000	0.2548	-0.0003
Total		0.0083	11.9884	-0.0038

- Source of running emission factors: U.S. Environmental Protection Agency. Climate Leaders Greenhouse Gas Inventory Protocol, Core Module Guidance. Direct Emissions from Mobile Combustion Sources. October 2004.
 - Source of vehicle percentages: URBEMIS2002 default values.
 - Source of starting emissions: U.S. Environmental Protection Agency. Prepared by ICF Consulting. EPA420-P-04-016. Update of Methane and Nitrous Oxide Emission Factors for On-Highway Vehicles. November 2004.

Electricity - Indirect Emissions

Project: North Fork Village-1
 Prepared by: Michael Brandman Associates
 Prepared on: 11/17/2007

Electricity Use 16,400,000 KWh/year
 Electricity Use 16400 MWh/year

Greenhouse Gas	Emission Factor (pounds per MWh/year)	Emissions (pounds/year)	Emissions (tons/year)
Carbon dioxide	804.54	13,194,456	6,597
Methane	0.0067	110	0.055
Nitrous oxide	0.0037	61	0.030

Emission factor source:

California Climate Action Registry. General Reporting Protocol. Reporting Entity-Wide Greenhouse Gas Emissions. Version 2.2, March 2007. www.climateregistry.org

Residential electricity usage rate: 5626.50 kwh/unit/year, from South Coast Air Quality Management 1993 CEQA Handbook, Table 9-11-A

Table E-1 from California Energy Commission. California Commercial End-Use Survey. Consultant Report. March 2006. CEC-400-2006-005

Table E-1: Overview of Energy Usage in the Statewide Service Area

Building Type	Floor Stock (kft ²)	Annual Energy Intensities			Total Annual Usage	
		Electricity (kWh/ft ²)	Natural Gas (therms/ft ²)	Natural Gas (kBtu/ft ²)	Electricity (GWh)	Natural Gas (Mtherms)
All Commercial	4,920,114	13.53	0.26	25.99	67077	1276.60
Small Office (<=30k ft ²)	351,584	13.10	0.11	10.54	4738	38.10
Large Office (>=30k ft ²)	650,429	17.70	0.22	21.93	11691	144.50
Restaurant	146,892	45.20	2.10	259.96	5966	312.50
Retail	702,653	14.06	0.05	4.62	9871	32.50
Food Store	144,209	40.99	0.26	27.60	5911	39.80
Refrigerated Warehouse	95,549	20.02	0.06	5.60	1913	5.30
Unrefrigerated Warehouse	554,166	4.45	0.03	3.07	2457	17.00
School	445,106	7.46	0.16	15.67	3322	71.10
College	205,942	12.26	0.34	34.24	2524	70.50
Health	232,606	19.51	0.76	75.53	4561	175.70
Lodging	270,544	12.13	0.42	42.40	3275	114.50
Miscellaneous	1,099,544	9.34	0.23	23.34	10617	256.50
All Offices	1,022,012	15.08	0.18	17.90	16430	182.50
All Warehouses	649,705	6.74	0.03	3.44	4380	22.40

Electricity Use in Typical Urban Water Systems

Project: North Fork Village-1
 Prepared by: Michael Brandman Associates
 Prepared on: 11/17/2007
 Revised on: 6/4/2008

	kWh/MG	
	Northern California	Southern California
Water Supply and Conveyance	150	8,900
Water Treatment	100	100
Water Distribution	1,200	1,200
Wastewater Treatment	2,500	2,500
Totals	3,950	12,700

From California's Water Energy Relationship, CEC 2005

	acre-feet	MG per year
Water Usage	1,355	4,415.29

	kWh	MWh
Energy Usage	56,074,138	56,074

Greenhouse Gas	Indirect Electricity Emission Factor		
	(pounds per MWh/year)	Emissions (pounds/year)	Emissions (tons/year)
Carbon dioxide	804.54	45,113,887	22,557
Methane	0.0067	375.70	0.188
Nitrous oxide	0.0037	207.47	0.104

Emission factor for electricity source:
 California Climate Action Registry. General Reporting Protocol. Reporting Entity-Wide Greenhouse Gas Emissions. Version 2.2, March 2007. www.climateregistry.org

CEC 2005: California Energy Commission. California's Energy-Water Relationship. Final Staff Report. November 2005. CEC-700-2005-011-SF

Natural Gas Combustion

North Fork Village-1

Prepared by Michael Brandman Associates

11/17/2007

Gas	Type of Land Use	Square Feet or Units	Natural Gas Usage Factor* (SCF/square foot or unit/month)	Natural Gas Usage for Project (SCF/month)	Natural Gas use for Project (SCF/year)	Emission Factor CO ₂ /SCF**	Emission Factor (g/MMBTU)**	Heating Value of Natural Gas (BTU/SCF)**	Emissions (tons per year)	Emissions (pounds per day)
Methane	Office	321260	2.0	642520	7710240	N/A	4.75	1020	0.04	0.23
	Retail/Shopping	871200	2.9	2526480	30317760	N/A	4.75	1020	0.16	0.89
	Residential	2714	6665	18088810	217065720	N/A	4.75	1020	1.16	6.34
	Industrial	0	241611	0	0	N/A	4.75	1020	0.00	0.00
	Multi-family	252	4011.5	1010898	12130776	N/A	4.75	1020	0.06	0.35
Nitrous Oxide	Office	321260	2.0	642520	7710240	N/A	0.095	1020	0.00	0.00
	Retail/Shopping	871200	2.9	2526480	30317760	N/A	0.095	1020	0.00	0.02
	Residential	2714	6665	18088810	217065720	N/A	0.095	1020	0.02	0.13
	Industrial	0	241611	0	0	N/A	0.095	1020	0.00	0.00
	Multi-family	252	4011.5	1010898	12130776	N/A	0.095	1020	0.00	0.01

Total

Units	Nitrous Oxide	Methane
pounds per day	0.16	7.80
tons per year	0.03	1.42
GWP	310	21
MMTCO ₂ e/year	0.000009	0.000030

* Natural gas usage factor from URBEMIS2002 default

** USEPA, 2004: Direct Emissions from Stationary Combustion Sources, Climate Leaders Greenhouse Inventory Protocol, Core Model Guidance, October 2004
Emissions of CH₄, N₂O = Emission Factor x Heating Value of Natural Gas x Natural Gas Usage x Number of Units/Square Feet

Air Conditioning and Refrigeration Fugitive Emissions

Project: North Fork Village-1
 Prepared by: Michael Brandman Associates
 Prepared on: 11/17/2007

HCF-134a

Type of Unit	Size (units or 1000 sf)	Units	Capacity of Unit (kg)	Annual Leak Rate in % of capacity	Emissions (kg/year)	Emissions (tons/year)	GWP of Gas	Metric Tonnes CO ₂ e/year
Domestic Refrigeration	2714	2714	0.5	0.5%	6.785	0.007	1300	9
Commercial Refrigeration	871.2	100	1000	30.0%	30000	33.000	1300	38,696
Residential A/C	2714		50	5%	0	0	1300	0
Office A/C	321.26		100	5%	0	0	1300	0
Commercial A/C	871.2		100	5%	0.0	0.000	1300	0
Industrial A/C	0		100	5%	0	0	1300	0
Total						33.007		38,705
								29,944

Source: EPA 2004c U.S. Environmental Protection Agency, Climate Leaders. October 2004. Direct HFC and PFC Emissions from Use of Refrigeration and Air Conditioning Equipment. EPA430-K-03-004. www.epa.gov/climateleaders/docs/refrige_acequipuseguidance.pdf

Notes:
 The number of air conditioning units for commercial is estimated by assuming one unit per 1,000 square feet. This information is based on experience with other projects.

SECTION 5: MITIGATION MONITORING AND REPORTING PROGRAM

The California Environmental Quality Act (CEQA) requires public agencies to develop monitoring programs for the purpose of ensuring compliance with those mitigation measures adopted as conditions of project approval in order to mitigate or avoid significant environmental effects identified in environmental impact reports. Mitigation measures identified within this EIR have been described in sufficient detail to provide the necessary information to identify 1) the actions to be taken to reduce each significant impact, 2) the parties responsible for carrying out the mitigation measure, and 3) the timing of implementation of each mitigation measure.

A mitigation monitoring program, incorporating the mitigation measures set forth in the EIR as modified by this Response to Comments document, will be adopted at the time of certification of the Final EIR.

A Mitigation Monitoring and Reporting Program (MMRP) for the North Fork Village-1 Approved Specific Plan has been separately provided as Table 1-1, and is available for public inspection at the County of Madera Resource Management Agency, Planning Department, 2037 W. Cleveland Avenue, Madera, California, 93637.

The purpose of the MMRP is to provide a framework outlining the implementation steps for each mitigation measure in the approved EIR. The MMRP identifies the timing and responsible party for implementation of each mitigation measure. In addition, the MMRP provides a format to document that each mitigation measure has been implemented and a monitoring loop for tracking performance of each mitigation measure.