Appendix D
California Stormwater Quality Association Extended Detention Basin Treatment Control BMP Specifications
Extended Detention Basin

Description
Dry extended detention ponds (a.k.a. dry ponds, extended detention basins, detention ponds, extended detention ponds) are basins whose outlets have been designed to detain the stormwater runoff from a water quality design storm for some minimum time (e.g., 48 hours) to allow particles and associated pollutants to settle. Unlike wet ponds, these facilities do not have a large permanent pool. They can also be used to provide flood control by including additional flood detention storage.

California Experience
Caltrans constructed and monitored 5 extended detention basins in southern California with design drain times of 72 hours. Four of the basins were earthen, less costly and had substantially better load reduction because of infiltration that occurred, than the concrete basin. The Caltrans study reaffirmed the flexibility and performance of this conventional technology. The small headloss and few siting constraints suggest that these devices are one of the most applicable technologies for stormwater treatment.

Advantages
- Due to the simplicity of design, extended detention basins are relatively easy and inexpensive to construct and operate.
- Extended detention basins can provide substantial capture of sediment and the toxics fraction associated with particulates.
- Widespread application with sufficient capture volume can provide significant control of channel erosion and enlargement caused by changes to flow frequency.
**TC-22  Extended Detention Basin**

relationships resulting from the increase of impervious cover in a watershed.

**Limitations**

- Limitation of the diameter of the orifice may not allow use of extended detention in watersheds of less than 5 acres (would require an orifice with a diameter of less than 0.5 inches that would be prone to clogging).

- Dry extended detention ponds have only moderate pollutant removal when compared to some other structural stormwater practices, and they are relatively ineffective at removing soluble pollutants.

- Although wet ponds can increase property values, dry ponds can actually detract from the value of a home due to the adverse aesthetics of dry, bare areas and inlet and outlet structures.

**Design and Sizing Guidelines**

- Capture volume determined by local requirements or sized to treat 85% of the annual runoff volume.

- Outlet designed to discharge the capture volume over a period of hours.

- Length to width ratio of at least 1.5:1 where feasible.

- Basin depths optimally range from 2 to 5 feet.

- Include energy dissipation in the inlet design to reduce resuspension of accumulated sediment.

- A maintenance ramp and perimeter access should be included in the design to facilitate access to the basin for maintenance activities and for vector surveillance and control.

- Use a draw down time of 48 hours in most areas of California. Draw down times in excess of 48 hours may result in vector breeding, and should be used only after coordination with local vector control authorities. Draw down times of less than 48 hours should be limited to BMP drainage areas with coarse soils that readily settle and to watersheds where warming may be determined to downstream fisheries.

**Construction/Inspection Considerations**

- Inspect facility after first large storm to determine whether the desired residence time has been achieved.

- When constructed with small tributary area, orifice sizing is critical and inspection should verify that flow through additional openings such as bolt holes does not occur.

**Performance**

One objective of stormwater management practices can be to reduce the flood hazard associated with large storm events by reducing the peak flow associated with these storms. Dry extended detention basins can easily be designed for flood control, and this is actually the primary purpose of most detention ponds.
Extended Detention Basin

Dry extended detention basins provide moderate pollutant removal, provided that the recommended design features are incorporated. Although they can be effective at removing some pollutants through settling, they are less effective at removing soluble pollutants because of the absence of a permanent pool. Several studies are available on the effectiveness of dry extended detention ponds including one recently concluded by Caltrans (2002).

The load reduction is greater than the concentration reduction because of the substantial infiltration that occurs. Although the infiltration of stormwater is clearly beneficial to surface receiving waters, there is the potential for groundwater contamination. Previous research on the effects of incidental infiltration on groundwater quality indicated that the risk of contamination is minimal.

There were substantial differences in the amount of infiltration that were observed in the earthen basins during the Caltrans study. On average, approximately 40 percent of the runoff entering the unlined basins infiltrated and was not discharged. The percentage ranged from a high of about 60 percent to a low of only about 8 percent for the different facilities. Climatic conditions and local water table elevation are likely the principal causes of this difference. The least infiltration occurred at a site located on the coast where humidity is higher and the basin invert is within a few meters of sea level. Conversely, the most infiltration occurred at a facility located well inland in Los Angeles County where the climate is much warmer and the humidity is less, resulting in lower soil moisture content in the basin floor at the beginning of storms.

Vegetated detention basins appear to have greater pollutant removal than concrete basins. In the Caltrans study, the concrete basin exported sediment and associated pollutants during a number of storms. Export was not as common in the earthen basins, where the vegetation appeared to help stabilize the retained sediment.

**Siting Criteria**

Dry extended detention ponds are among the most widely applicable stormwater management practices and are especially useful in retrofit situations where their low hydraulic head requirements allow them to be sited within the constraints of the existing storm drain system. In addition, many communities have detention basins designed for flood control. It is possible to modify these facilities to incorporate features that provide water quality treatment and/or channel protection. Although dry extended detention ponds can be applied rather broadly, designers need to ensure that they are feasible at the site in question. This section provides basic guidelines for siting dry extended detention ponds.

In general, dry extended detention ponds should be used on sites with a minimum area of 5 acres. With this size catchment area, the orifice size can be on the order of 0.5 inches. On smaller sites, it can be challenging to provide channel or water quality control because the orifice diameter at the outlet needed to control relatively small storms becomes very small and thus prone to clogging. In addition, it is generally more cost-effective to control larger drainage areas due to the economies of scale.

Extended detention basins can be used with almost all soils and geology, with minor design adjustments for regions of rapidly percolating soils such as sand. In these areas, extended detention ponds may need an impermeable liner to prevent groundwater contamination.
TC-22 Extended Detention Basin

The base of the extended detention facility should not intersect the water table. A permanently wet bottom may become a mosquito breeding ground. Research in Southwest Florida (Santana et al., 1994) demonstrated that intermittently flooded systems, such as dry extended detention ponds, produce more mosquitoes than other pond systems, particularly when the facilities remained wet for more than 3 days following heavy rainfall.

A study in Prince George’s County, Maryland, found that stormwater management practices can increase stream temperatures (Galli, 1990). Overall, dry extended detention ponds increased temperature by about 5°F. In cold water streams, dry ponds should be designed to detain stormwater for a relatively short time (i.e., 24 hours) to minimize the amount of warming that occurs in the basin.

Additional Design Guidelines

In order to enhance the effectiveness of extended detention basins, the dimensions of the basin must be sized appropriately. Merely providing the required storage volume will not ensure maximum constituent removal. By effectively configuring the basin, the designer will create a long flow path, promote the establishment of low velocities, and avoid having stagnant areas of the basin. To promote settling and to attain an appealing environment, the design of the basin should consider the length to width ratio, cross-sectional areas, basin slopes and pond configuration, and aesthetics (Young et al., 1996).

Energy dissipation structures should be included for the basin inlet to prevent resuspension of accumulated sediment. The use of stilling basins for this purpose should be avoided because the standing water provides a breeding area for mosquitoes.

Extended detention facilities should be sized to completely capture the water quality volume. A micropool is often recommended for inclusion in the design and one is shown in the schematic diagram. These small permanent pools greatly increase the potential for mosquito breeding and complicate maintenance activities; consequently, they are not recommended for use in California.

A large aspect ratio may improve the performance of detention basins; consequently, the outlets should be placed to maximize the flowpath through the facility. The ratio of flowpath length to width from the inlet to the outlet should be at least 1.5:1 (L:W) where feasible. Basin depths optimally range from 2 to 5 feet.

The facility’s drawdown time should be regulated by an orifice or weir. In general, the outflow structure should have a trash rack or other acceptable means of preventing clogging at the entrance to the outflow pipes. The outlet design implemented by Caltrans in the facilities constructed in San Diego County used an outlet riser with orifices.
Extended Detention Basin TC-22

sized to discharge the water quality volume, and the riser overflow height was set to the design storm elevation. A stainless steel screen was placed around the outlet riser to ensure that the orifices would not become clogged with debris. Sites either used a separate riser or broad crested weir for overflow of runoff for the 25 and greater year storms. A picture of a typical outlet is presented in Figure 1.

The outflow structure should be sized to allow for complete drawdown of the water quality volume in 72 hours. No more than 50% of the water quality volume should drain from the facility within the first 24 hours. The outflow structure can be fitted with a valve so that discharge from the basin can be halted in case of an accidental spill in the watershed.

Summary of Design Recommendations

1. Facility Sizing - The required water quality volume is determined by local regulations or the basin should be sized to capture and treat 85% of the annual runoff volume. See Section 5.5.1 of the handbook for a discussion of volume-based design.

2. Basin Configuration - A high aspect ratio may improve the performance of detention basins; consequently, the outlets should be placed to maximize the flowpath through the facility. The ratio of flowpath length to width from the inlet to the outlet should be at least 1.5:1 (L:W). The flowpath length is defined as the distance from the inlet to the outlet as measured at the surface. The width is defined as the mean width of the basin. Basin depths optimally range from 2 to 5 feet. The basin may include a sediment forebay to provide the opportunity for larger particles to settle out.

A micropool should not be incorporated in the design because of vector concerns. For online facilities, the principal and emergency spillways must be sized to provide 1.0 foot of freeboard during the 25-year event and to safely pass the flow from 100-year storm.

3. Pond Side Slopes - Side slopes of the pond should be 3:1 (H:V) or flatter for grass stabilized slopes. Slopes steeper than 3:1 (H:V) must be stabilized with an appropriate slope stabilization practice.

4. Basin Lining – Basins must be constructed to prevent possible contamination of groundwater below the facility.

5. Basin Inlet – Energy dissipation is required at the basin inlet to reduce resuspension of accumulated sediment and to reduce the tendency for short-circuiting.

6. Outflow Structure - The facility’s drawdown time should be regulated by a gate valve or orifice plate. In general, the outflow structure should have a trash rack or other acceptable means of preventing clogging at the entrance to the outflow pipes.

The outflow structure should be sized to allow for complete drawdown of the water quality volume in 72 hours. No more than 50% of the water quality volume should drain from the facility within the first 24 hours. The outflow structure should be fitted with a valve so that discharge from the basin can be halted in case of an accidental spill in the watershed. This same valve also can be used to regulate the rate of discharge from the basin.
Extended Detention Basin

The discharge through a control orifice is calculated from:

\[ Q = CA(2g(H-H_0))^{0.5} \]

where:
- \( Q \) = discharge \((\text{ft}^3/\text{s})\)
- \( C \) = orifice coefficient
- \( A \) = area of the orifice \((\text{ft}^2)\)
- \( g \) = gravitational constant \((32.2)\)
- \( H \) = water surface elevation \((\text{ft})\)
- \( H_0 \) = orifice elevation \((\text{ft})\)

Recommended values for \( C \) are 0.66 for thin materials and 0.80 when the material is thicker than the orifice diameter. This equation can be implemented in spreadsheet form with the pond stage/volume relationship to calculate drain time. To do this, use the initial height of the water above the orifice for the water quality volume. Calculate the discharge and assume that it remains constant for approximately 10 minutes. Based on that discharge, estimate the total discharge during that interval and the new elevation based on the stage volume relationship. Continue to iterate until \( H \) is approximately equal to \( H_0 \). When using multiple orifices the discharge from each is summed.

(6) Splitter Box - When the pond is designed as an offline facility, a splitter structure is used to isolate the water quality volume. The splitter box, or other flow diverting approach, should be designed to convey the 25-year storm event while providing at least 1.0 foot of freeboard along pond side slopes.

(7) Erosion Protection at the Outfall - For online facilities, special consideration should be given to the facility’s outfall location. Flared pipe end sections that discharge at or near the stream invert are preferred. The channel immediately below the pond outfall should be modified to conform to natural dimensions, and lined with large stone riprap placed over filter cloth. Energy dissipation may be required to reduce flow velocities from the primary spillway to non-erosive velocities.

(8) Safety Considerations - Safety is provided either by fencing of the facility or by managing the contours of the pond to eliminate dropoffs and other hazards. Earthen side slopes should not exceed 3:1 (H:V) and should terminate on a flat safety bench area. Landscaping can be used to impede access to the facility. The primary spillway opening must not permit access by small children. Outfall pipes above 48 inches in diameter should be fenced.

Maintenance

Routine maintenance activity is often thought to consist mostly of sediment and trash and debris removal; however, these activities often constitute only a small fraction of the maintenance hours. During a recent study by Caltrans, 72 hours of maintenance was performed annually, but only a little over 7 hours was spent on sediment and trash removal. The largest recurring activity was vegetation management, routine mowing. The largest absolute number of hours was associated with vector control because of mosquito breeding that occurred in the stilling basins (example of standing water to be avoided) installed as energy dissipaters. In most cases, basic housekeeping practices such as removal of debris accumulations and vegetation
Extended Detention Basin

management to ensure that the basin dewateres completely in 48-72 hours is sufficient to prevent creating mosquito and other vector habitats.

Consequently, maintenance costs should be estimated based primarily on the mowing frequency and the time required. Mowing should be done at least annually to avoid establishment of woody vegetation, but may need to be performed much more frequently if aesthetics are an important consideration.

Typical activities and frequencies include:

- Schedule semiannual inspection for the beginning and end of the wet season for standing water, slope stability, sediment accumulation, trash and debris, and presence of burrows.
- Remove accumulated trash and debris in the basin and around the riser pipe during the semiannual inspections. The frequency of this activity may be altered to meet specific site conditions.
- Trim vegetation at the beginning and end of the wet season and inspect monthly to prevent establishment of woody vegetation and for aesthetic and vector reasons.
- Remove accumulated sediment and re-grade about every 10 years or when the accumulated sediment volume exceeds 10 percent of the basin volume. Inspect the basin each year for accumulated sediment volume.

Cost

Construction Cost

The construction costs associated with extended detention basins vary considerably. One recent study evaluated the cost of all pond systems (Brown and Schueler, 1997). Adjusting for inflation, the cost of dry extended detention ponds can be estimated with the equation:

\[ C = 12.4V^{0.76} \]

where:

- \( C \) = Construction, design, and permitting cost, and
- \( V \) = Volume (ft³).

Using this equation, typical construction costs are:

- $41,600 for a 1 acre-foot pond
- $239,000 for a 10 acre-foot pond
- $1,380,000 for a 100 acre-foot pond

Interestingly, these costs are generally slightly higher than the predicted cost of wet ponds (according to Brown and Schueler, 1997) on a cost per total volume basis, which highlights the difficulty of developing reasonably accurate construction estimates. In addition, a typical facility constructed by Caltrans cost about $160,000 with a capture volume of only 0.3 ac-ft.

An economic concern associated with dry ponds is that they might detract slightly from the value of adjacent properties. One study found that dry ponds can actually detract from the
perceived value of homes adjacent to a dry pond by between 3 and 10 percent (Emmerling-Dinovo, 1995).

**Maintenance Cost**
For ponds, the annual cost of routine maintenance is typically estimated at about 3 to 5 percent of the construction cost (EPA website). Alternatively, a community can estimate the cost of the maintenance activities outlined in the maintenance section. Table 1 presents the maintenance costs estimated by Caltrans based on their experience with five basins located in southern California. Again, it should be emphasized that the vast majority of hours are related to vegetation management (mowing).

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<th>Table 1 Estimated Average Annual Maintenance Effort</th>
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**References and Sources of Additional Information**


**Extended Detention Basin**

http://www.mde.state.md.us/environment/wma/stormwatermanual/index.html


**Information Resources**


TC-22  Extended Detention Basin

PLAN VIEW

PROFILE

Schematic of an Extended Detention Basin (MDE, 2000)
Appendix E
U.S. Fish and Wildlife Service
Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance
INTRODUCTION

The following document includes many of the San Joaquin kit fox (*Vulpes macrotis mutica*) protection measures typically recommended by the U. S. Fish and Wildlife Service (Service), prior to and during ground disturbance activities. However, incorporating relevant sections of these guidelines into the proposed project is not the only action required under the Endangered Species Act of 1973, as amended (Act). Project applicants should contact the Service in Sacramento to determine the full range of requirements that apply to your project; the address and telephone number are given at the end of this document. Formal authorization for the project may be required under either section 7 or section 10 of the Act. Implementation of the measures presented in this document may be necessary to avoid violating the provisions of the Act, including the prohibition against "take" (defined as killing, harming, or harassing a listed species, including actions that damage or destroy its habitat). Such protection measures may also be required under the terms of a biological opinion pursuant to section 7 of the Act resulting in incidental take authorization (authorization), or an incidental take permit (permit) pursuant to section 10 of the Act. The specific measures implemented to protect kit fox for any given project shall be determined by the Service based upon the applicant's consultation with the Service.

The purpose of this document is to make information on kit fox protection strategies readily available and to help standardize the methods and definitions currently employed to achieve kit fox protection. The measures outlined in this document are subject to modification or revision at the discretion of the Service.

All surveys, den destructions, and monitoring described in this document must be conducted by a qualified biologist. A qualified biologist (biologist) means any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the San Joaquin kit fox. In addition, biologist(s) must be able to identify coyote, red fox, gray fox, and kit fox tracks, and to have seen a kit fox in the wild, at a zoo, or as a museum mount.

SMALL PROJECTS

Small projects are considered to be those projects with small footprints such as an individual infill oil well, communication tower, or bridge repair. These projects must stand alone and not be part of, or in any way connected to larger projects (i.e., bridge repair or improvement to serve a
The Service recommends that on these small projects, the biologist survey the proposed project boundary and a 200-foot area outside of the project footprint to identify habitat features, and make recommendations on situating the project to minimize or avoid impacts. If habitat features cannot be completely avoided, then pre-construction surveys should be conducted.

Pre-construction/pre-activity surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to impact the San Joaquin kit fox. Surveys should identify kit fox habitat features on the project site and evaluate use by kit fox and, if possible, assess the potential impacts to the kit fox by the proposed activity. The status of all dens should be determined and mapped (see Survey Protocol).

Written results of pre-construction/pre-activity surveys must be received by the Service within five days after survey completion and prior to the start of ground disturbance and/or construction activities. If a natal/pupping den is discovered within the project area or within 200-feet of the project boundary, the Service shall be immediately notified. If the pre-construction/pre-activity survey reveals an active natal pupping or new information, the project applicant should contact the Service immediately to obtain the necessary take authorization/permit.

If take authorization/permit has already been issued, then the biologist may proceed with den destruction within the project boundary, except natal/pupping dens (active or inactive). Protective exclusion zones can be placed around all known and potential dens which occur outside the project footprint (conversely, the project boundary can be demarcated, see den destruction section).

OTHER PROJECTS

It is likely that all other projects occurring within kit fox habitat will require a take authorization/permit from the Service. This determination would be made by the Service during the early evaluation process (see Survey Protocol). These other projects would include, but are not limited to: linear projects; projects with large footprints such as urban development; and projects which in themselves may be small but have far reaching impacts (i.e., water storage or conveyance facilities that promote urban growth or agriculture, etc.).

The take authorization/permit issued by the Service may incorporate some or all of the protection measures presented in this document. The take authorization/permit may include measures specific to the needs of the project, and those requirements supersede any requirements found in this document.
EXCLUSION ZONES

The configuration of exclusion zones around the kit fox dens should have a radius measured outward from the entrance or cluster of entrances. The following radii are minimums, and if they cannot be followed the Service must be contacted:

- Potential den: 50 feet
- Known den: 100 feet
- Natal/pupping den (occupied and unoccupied): Service must be contacted
- Atypical den: 50 feet

**Known den:** To ensure protection, the exclusion zone should be demarcated by fencing that encircles each den at the appropriate distance and does not prevent access to the den by kit foxes. Exclusion zone fencing should be maintained until all construction related or operational disturbances have been terminated. At that time, all fencing shall be removed to avoid attracting subsequent attention to the dens.

**Potential and Atypical dens:** Placement of 4-5 flagged stakes 50 feet from the den entrance(s) will suffice to identify the den location; fencing will not be required, but the exclusion zone must be observed.

Construction and other project activities should be prohibited or greatly restricted within these exclusion zones. Only essential vehicle operation on existing roads and foot traffic should be permitted. Otherwise, all construction, vehicle operation, material storage, or any other type of surface-disturbing activity should be prohibited within the exclusion zones.

DESTRUCTION OF DENS

Disturbance to all San Joaquin kit fox dens should be avoided to the maximum extent possible. Protection provided by kit fox dens for use as shelter, escape, cover, and reproduction is vital to the survival of the species. Limited destruction of kit fox dens may be allowed, if avoidance is not a reasonable alternative, provided the following procedures are observed. The value to kit foxes of potential, known, and natal/pupping dens differ and therefore, each den type needs a different level of protection. **Destruction of any known or natal/pupping kit fox den requires take authorization/permit from the Service.**
**STANDARD RECOMMENDATIONS**

**Natal/pupping dens:** Natal or pupping dens which are occupied will not be destroyed until the pups and adults have vacated and then only after consultation with the Service. Therefore, project activities at some den sites may have to be postponed.

**Known Dens:** Known dens occurring within the footprint of the activity must be monitored for three days with tracking medium or an infra-red beam camera to determine the current use. If no kit fox activity is observed during this period, the den should be destroyed immediately to preclude subsequent use. If kit fox activity is observed at the den during this period, the den should be monitored for at least five consecutive days from the time of the observation to allow any resident animal to move to another den during its normal activity. Use of the den can be discouraged during this period by partially plugging its entrances(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied may the den be excavated under the direction of the biologist. If the animal is still present after five or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant, for example during the animal's normal foraging activities. The Service encourages hand excavation, but realizes that soil conditions may necessitate the use of excavating equipment. However, extreme caution must be exercised.

Destruction of the den should be accomplished by careful excavation until it is certain that no kit foxes are inside. The den should be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period. If at any point during excavation a kit fox is discovered inside the den, the excavation activity shall cease immediately and monitoring of the den as described above should be resumed. Destruction of the den may be completed when in the judgement of the biologist, the animal has escaped from the partially destroyed den.

**Potential Dens:** If a take authorization/permit has been obtained from the Service, den destruction may proceed without monitoring, unless other restrictions were issued with the take authorization/permit. If no take authorization/permit has been issued, then potential dens should be monitored as if they were known dens. If any den was considered to be a potential den, but is later determined during monitoring or destruction to be currently, or previously used by kit foxes (e.g., if kit fox sign is found inside), then destruction shall cease and the Service shall be notified immediately.

**CONSTRUCTION AND OPERATIONAL REQUIREMENTS**

Habitat subject to permanent and temporary construction disturbances and other types of project-related disturbance should be minimized. Project designs should limit or cluster permanent project features to the smallest area possible while still permitting project goals to be achieved. To minimize temporary disturbances, all project-related vehicle traffic should be restricted to established roads, construction areas, and other designated areas. These areas should also be
STANDARD RECOMMENDATIONS

included in preconstruction surveys and, to the extent possible, should be established in locations disturbed by previous activities to prevent further impacts.

1. Project-related vehicles should observe a 20-mph speed limit in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. To the extent possible, night-time construction should be minimized. Off-road traffic outside of designated project areas should be prohibited.

2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2 feet deep should be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures under number 13 of this section must be followed.

3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.

4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in closed containers and removed at least once a week from a construction or project site.

5. No firearms shall be allowed on the project site.

6. To prevent harassment, mortality of kit foxes or destruction of dens by dogs or cats, no pets should be permitted on project sites.

7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the Service. If rodent control
must be conducted, zinc phosphide should be used because of proven lower risk to kit fox.

8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped individual. The representative will be identified during the employee education program. The representative's name and telephone number shall be provided to the Service.

9. An employee education program should be conducted for any project that has expected impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and agency personnel involved in the project. The program should include the following: a description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the above-mentioned people and anyone else who may enter the project site.

10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. should be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but that after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the Service, California Department of Fish and Game (CDFG), and revegetation experts.

11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the Service should be contacted for advice.

12. Any contractor, employee, or military or agency personnel who inadvertently kills or injures a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFG immediately in the case of a dead, injured or entrapped kit fox. The CDFG contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden or biologist.

13. The Sacramento Fish and Wildlife Office and CDFG will be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during
project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers given below. The CDFG contact is Mr. Ron Schlorff at 1416 9th Street, Sacramento, California 95814, (916) 654-4262.

Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:

Endangered Species Division
2800 Cottage Way, Suite W2605
Sacramento, California 95825-1846
(916) 414-6620
"Take" - Section 9 of the Endangered Species Act of 1973, as amended (Act) prohibits the "take" of any federally listed endangered species by any person (an individual, corporation, partnership, trust, association, etc.) subject to the jurisdiction of the United States. As defined in the Act, take means ". . . to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Thus, not only is a listed animal protected from activities such as hunting, but also from actions that damage or destroy its habitat.

"Dens" - San Joaquin kit fox dens may be located in areas of low, moderate, or steep topography. Den characteristics are listed below, however, the specific characteristics of individual dens may vary and occupied dens may lack some or all of these features. Therefore, caution must be exercised in determining the status of any den. Typical dens may include the following: (1) one or more entrances that are approximately 5 to 8 inches in diameter; (2) dirt berms adjacent to the entrances; (3) kit fox tracks, scat, or prey remains in the vicinity of the den; (4) matted vegetation adjacent to the den entrances; and (5) manmade features such as culverts, pipes, and canal banks.

"Known den" - Any existing natural den or manmade structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records, past or current radiotelemetry or spotlighting data, kit fox sign such as tracks, scat, and/or prey remains, or other reasonable proof that a given den is being or has been used by a kit fox. The Service discourages use of the terms "active" and "inactive" when referring to any kit fox den because a great percentage of occupied dens show no evidence of use, and because kit foxes change dens often, with the result that the status of a given den may change frequently and abruptly.

"Potential Den" - Any subterranean hole within the species' range that has entrances of appropriate dimensions for which available evidence is insufficient to conclude that it is being used or has been used by a kit fox. Potential dens shall include the following: (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, or ground squirrel) that otherwise has appropriate characteristics for kit fox use.

"Natal or Pupping Den" - Any den used by kit foxes to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt and/or vegetation at one or more entrances. A natal den, defined as a den in which kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two, therefore, for purposes of this definition either term applies.

"Atypical Den" - Any manmade structure which has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.
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RESPONSE TO COMMENTS

PUBLIC COMMENT PROCESS

The public comment period is critical part of the NEPA public participation process. It provides the opportunity for other responsible agencies and interested parties to analyze the proposed project and provide any comments they might have on the adequacy of the environmental document. The responses to comments intended to provide complete explanations to the commenter and improve the overall understanding of the project.

COMMENTS ON THE DRAFT EIS/EIR

Reclamation received one comment letter on the Draft EA during the public review period. Table 1 presents a list of the agency that provided a comment letter on the Draft EA. The individual comments within the letter are annotated in the margin using the letter code and consecutive numbering (e.g., SJH-1, SJH-2). The responses to comments use the same annotation in order to easily correspond with the comment letter. This letter, in addition to the responses to comments, are located on the following pages.

<table>
<thead>
<tr>
<th>Individual/Organization</th>
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<td>Sagaser, Jones &amp; Helsley</td>
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October 8, 2008

VIA HAND DELIVERY

Ms. Judi Tapia
BUREAU OF RECLAMATION
1243 N Street
Fresno, California 93721

Re: Comments to FONSI-07-132, County of Fresno Boundary Change to Include TRACT #4870 Within Millerton New Town

Dear Ms. Tapia:

I represent several landowners in Fresno County, including Table Mountain Rancheria, and on their behalf wish to express concern regarding the environmental review of the proposed County of Fresno Service Area Boundary Change to include Tract #4870 within Millerton New Town (the “Project”). This includes the Bureau of Reclamation’s (the “Bureau”) September 2008, Draft Environmental Assessment (“EA”) and related Finding Of No Significant Impact (“FONSI”) for the Project. In particular, given the location of the proposed Project, and its potential effect on the human environment, we believe that it is important for the Bureau to prepare an Environmental Impact Statement prior to its consideration of the Project for approval.

A. The EA and FONSI are Inadequate Under NEPA

Review of an agency’s EA and FONSI is conducted under a four-part analysis:

First, the agency must have accurately identified the relevant environmental concern.
Second, once the agency has identified the problem it must have taken a “hard look” at the problem in preparing the EA.

Third, if a finding of no significant impact is made, the agency must be able to make a convincing case for its finding.

Last, if the agency does find an impact of true significance, preparation of an EIS can be avoided only if the agency finds that changes or safeguards in the project sufficiently reduce the, impact to a minimum.

See Coalition on Sensible Transp., Inc. v. Dole, 826 F.2d 60, 66-67 (D.C. Cir. 1987). Simply, the EA and the FONSI here do not meet the above standard.

1. The EA and the FONSI Analyze Impacts Using an Improper Environmental Baseline

The Bureau’s review of environmental impacts in the EA and the FONSI is based on an impermissible baseline. Specifically, the EA explains that the “development entities within MNT” mistakenly “graded Tract 4870,” and “[i]n doing so they eliminated natural drainages and natural habitat on that tract of land.” (EA at 4.) However, rather than examining the environmental effects of the Project prior to the improper grading, the EA instead analyzes only post-grading impacts. Indeed, in the biological section of the EA, the document concludes that “Tract 4870 has been completely graded so no vernal pools or wetlands exist on the site currently,” (EA at 49 [emphasis added]). In so finding, the EA bases its finding of no significant impact on the fact that wetlands habitat that could be utilized by several endangered or listed species is now “absent” from the site. (See, e.g., EA at 39; see also EA at 39 [for Vernal Pool Fairy Shrimp, explaining that “Vernal Pool habitat required by this species is absent from Tract 4870 (and related infrastructure)”]; [Conservancy Fairy Shrimp (same)]; Vernal Pool Tadpole Shrimp (same)); 40 [for California Tiger Salamander, “Vernap pool or other breeding habitat is absent from Tract 4870”], 41 [Succulent Owl’s Clover (same)]; [San Joaquin Valley Orcutt (same)].)

The Bureau here cannot use the post-grading state of the property as the environmental baseline. That baseline obscures the environmental impacts of the whole of the action, and rewards the applicants for the premature grading work they performed on the property. In addition to obscuring the project’s impacts on the environment, such a baseline has the effect of eliminating potential mitigation for the project’s potentially significant effects. Accordingly, the Bureau should revise the EA to include an appropriate baseline that takes the pre-grading condition of the property into account.
2. The EA and FONSI Cannot Rely on Stale Environmental Documents, Primarily from the 1980s, to Avoid Evaluating the Project’s Effects on the Human Environment

Although not entirely clear, the EA appears to rely upon several previous state environmental documents, most of which were prepared and approved in the early 1980s. (See EA at 5.) The only other environmental documents cited include a Biological Opinion for the Bureau’s long-term CVP contract renewal, and five- and nine-year old addenda to the 1984 Millerton New Town Specific Plan. (Id.) To the extent the Bureau is relying on any of the above documents for purposes of its environmental review, none of the above documents suggest that a project-level environmental analysis was performed for the Project. Further, and more fundamentally, there is no indication as to whether the addenda to the 1984 MNT Specific Plan actually included the instant project, what environmental effects were analyzed, what level of detail the environmental effects were analyzed, what mitigation measures were imposed, or an explanation as to why those documents remain valid despite substantial changes in the area. These changes include, but are not limited to:

- Approval and consideration of development projects within the area, including the adjacent Friant Ranch Project. (See Exhibit “A.”)

- November 2002 City of Fresno 2025 General Plan Update (which contemplates development currently occurring in the near-by Copper River Ranch area, and undoubtedly impacts traffic along Auberry Road and Friant Road).

- The new listing of several species, such as the Vernal Pool Fairy Shrimp and the CTS, and the designation of the project area as critical habitat for the CTS. (See, e.g., EA at 45-46.)

- Existing over-utilization of water resources by other users in CSA 34, such as Brighton Crest.

- Federal law has clarified that greenhouse gases such as CO₂ are “pollutants” covered under the federal Clean Air Act. See Massachusetts v. EPA, 49 U.S. 497 (2007). As such, the impact of the project on greenhouse gases needs to be evaluated and mitigated.
3. The Bureau Has Impermissibly Piecemealed Environmental Review for the Project

NEPA prohibits the segmentation (or piecemealing) of environmental review for different stages or approvals for a development project. See, e.g., O'Reilly v. United States Army Corps of Engineers, 477 F.3d 225 (2007). The practical problem with segmentation is that it results in the obscuring of environmental impacts for a project, and also forecloses potential mitigation measures. (Id.)

Segmentation is of particular concern here. The EA, for example, recognizes that the consultation with Fish & Wildlife will be necessary, and that Fish & Wildlife may impose some undefined mitigation on the project at sometime in the future. (EA at 52.) But this review by Fish & Wildlife should be performed concurrently with this project. Absent concurrent review, there is a significant danger that the full effects of the project will not be revealed or disclosed, and that mitigation measures will not be implemented — indeed, the EA simply states that Fish & Wildlife may impose some unspecified mitigation measures at some time in the future. This is improper under NEPA, and results in an invalid FONSI/EA.

It is also unclear why other phases of the larger Mountain New Town project were not discussed in the EA.

4. The Bureau Should Consult with Additional Agencies

On pages 63 and 64 of the EA, the Bureau states that it has and will consult with various agencies. However, there are several agencies that have been omitted. For example, because the Project will increase runoff into the San Joaquin River, a navigable waterway, (See EA at 17, 28, 34), it is important for the Bureau to consult with the U.S. Army Corps of Engineers regarding the impact of the project on the river, including the potential need for a permit under Section 404 of the Clean Water Act. The Bureau should also consult with Table Mountain, a tribal government with property near the instant project and within CSA 34. The County of Fresno (and other relevant local agencies) should also be consulted, particularly given potential land use impacts of the Project on those agencies.

B. The Project May Potentially Significantly Affect the Quality of the Human Environment and, as a Result, the Bureau Must Prepare an Environmental Impacts Statement

NEPA requires the preparation of an EIS for an action whenever the project could “have a potentially significant impact on the human environment.” 40 C.F.R. § 1501.4. In this case, the evidence shows that the Project will have a significant
impact on the environment and, as a result, a full EIS must be prepared by the Bureau prior to approving the Action:

**Biological Impacts.** First, and most fundamentally, the Biological Opinion uses the wrong baseline. As stated above, “development entities within MNT” mistakenly “graded Tract 4870,” and “[i]n doing so they eliminated natural drainages and natural habitat on that tract of land.” (EA at 4.)

The problem here is that although the applicants impermissibly graded the property, the Bureau has now elected to use the post-grading state of the property as the environmental baseline, stating that the EA concludes that “Tract 4870 has been completely graded so no vernal pools or wetlands exist on the site currently.” (EA at 39 [emphasis added]; see also EA at 39 [for Vernal Pool Fairy Shrimp, explaining that “Vernal Pool habitat required by this species is absent from Tract 4870 (and related infrastructure)”; [Conservancy Fairy Shrimp (same)]; Vernal Pool Tadpole Shrimp (same)]; 40 [for California Tiger Salamander, “Vernal pool or other breeding habitat is absent from Tract 4870”], 41 [Succulent Owl’s Clover (same)]; [San Joaquin Valley Orcutt (same)].) Stated simply, the biological effects of the Project should be evaluated against the land in its natural state - not against the state of the property after the applicants’ grading activities.

This is of particular concern given that the EA itself shows that Tract 4870 is within area designated as critical habitat by the U.S. Fish & Wildlife Service for California Tiger Salamander and Vernal Pool Fairy Shrimp, (see EA, Figs. 7, 8), which in the case of most development projects would require the applicant to mitigate for the loss of critical habitat. The applicants here should not be excused from mitigating for the loss of critical habitat simply because they “eliminated natural drainages and natural habitat on that tract” that existed prior to their grading activities. (EA at 4.)

The biological impacts analysis is also outdated. As the EA recognizes, several species have only recently been listed as protected or endangered. Despite this, it appears that the last biologist who reviewed whether development within the area would result in negative biological impacts did so in 1997 and 1998. (See EA at 2.) This omission is noteworthy because in August 2005, the U.S. Fish & Wildlife Service made several amendments to the critical habitat for the California Tiger Salamander (“CTS”), and specifically designated the property in question as critical habitat for the CTS. (See EA at 45, Fig. 7.)

The Biological Opinions listed in the EA plainly do not address this issue, as they were completed well before the August 2005 redesignation of the critical habitat for CTS to this property. Further, as explained above, the more recent Biological Opinions referenced in the EA solely concern the Bureau’s water contracts and
maintenance activities; project-level impacts were simply not within the scope of those documents. (See EA at 11-13.)

The EA also explains that runoff from the Project will be diverted to White Fox Creek to Little Dry Creek, which flows into the San Joaquin River. (EA at 17, 28, 34.) Despite this, there is no explanation as to the Project’s projected amount of wastewater/storm water runoff that will flow down White Fox Creek, ultimately reaching the San Joaquin River. There is likewise no discussion of the biological effects of the increased runoff on the river’s aquatic habitat. Because this is a potentially significant, albeit unaddressed, impact, an EIS should be prepared to fully assess these impacts. See 40 C.F.R. § 1501.4.

Traffic. Although the EA purports to summarize the traffic-related impacts of the Bureau’s contemplated action, there is no discussion as to the additional trips that may be generated by the Project, the impact of those trips on highly-used roadways such as Friant Road and Auberry Road, and whether the additional trips resulting from the project will result in an increase of the level of service for any of the local facilities (intersections, road segments) above the County’s threshold of significance. Indeed, there is not even an estimation as to how many vehicle trips will be generated by the Project, much less an indication as to how those trips will affect local roadways and intersections. Accordingly, at the very least, a traffic study should be prepared or included with the environmental review to analyze the effect of the project on local roadways.

Loss of Agricultural Land. The EA recognizes that the Project will have both a direct effect and a cumulative effect on the loss of agricultural land. (See, e.g., EA at 36 [“Loss of grasslands used for grazing cattle can have impacts on the local economy by reducing the amount of money flowing into the community from agriculture.”].) Although the EA suggests that these issues were discussed in previously plan-level documents from the County, the EA does not explain what determinations were made in those documents, applicable mitigation, whether those documents remain current, and why those documents remain valid.

Impacts to Water Quantity. Although the EA suggests that the Project would use approximately 88 acre-feet per year (“AFY”) of water, (EA at 31), the EA does not analyze the effect this additional usage may on water quantity. For example, the EA notes that the County has reserved 1,390 AFY for CSA 34, (see id. at 3), but there is no discussion as to whether and how this will affect deliveries within CSA 34. This is important because the homeowners at Brighton Crest, who are also within CSA 34, are using more water than originally allocated to them for their domestic and irrigation uses. Despite this, and the fact that the applicants have been engaged in meetings to help the
County remedy the effects of this overuse of the water resources, there is no mention in the EA of either (1) the quantity of water used by the Brighton Crest homeowners or (2) the quantity actually being delivered to Brighton Crest. As such, based on the information provided, it is impossible to evaluate the effects of the action as to water quantity, and an EIS should be prepared to fully examine this issue.

**Drainage & Water Quality.** The EA states that White Fox Creek currently carries winter runoff and summer tailwater from the project area. (EA at 17.) This runoff ultimately flows into the San Joaquin River. (Id. at 34.) Although the EA states this runoff has decreased over recent years due to “more efficient” water management at the Brighton Crest golf course, (id. at 17), there is no analysis as to whether the Project will increase runoff into White Fox Creek and, consequently, the San Joaquin River. Because of this admitted hydrologic connection, the effects of this runoff should be fully evaluated.

The EA also states that “[t]he Proposed Action results in a slight increase in additional drainage; however, this increase has been planned for and addressed through the site plan.” (EA at 35.) The EA, however, does not include a copy of the site plan, does not discuss what mitigation measures the site plan supposedly includes, or explain how such measures will ultimately address potential issues relating to additional drainage. (Id.)

**Public Services/Water Delivery Infrastructure.** For the reasons stated above, the dearth of information in the EA also makes it is also impossible to meaningfully evaluate the effects of the Action on existing infrastructure within CSA 34. For example, there is no indication as to how much water is actually utilized by some other CSA 34 water users (such as Brighton Crest), or how the additional allocations would affect those users. There is also no analysis of how the Action would affect other users who have been allotted capacity under the 2000 Millerton New Town Infrastructure Plan. (See Exhibit “B” at 6.) Moreover the water usage contemplated under the EA at page 20 does not align with the unit allocations contemplated in the 2000 Millerton New Town Infrastructure Plan. (Compare EA at 20 with Exhibit “A” at 6.) These figures should be reconciled, and the analysis should be expanded at both a project level and a cumulative level to address these impacts.

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1 The EA should also analyze projected runoff prior to the recent efficient water practices allegedly developed over the last few years. This is important because there is no assurance that runoff from the golf course will remain constant.
The Bureau must also analyze the fact that the current CSA 34 infrastructure is located at the bottom of Millerton Lake, and is in need of repairs. Recent meetings sponsored by the County, and attended by the applicants, have sought to address this issue. Despite this, there is no mention of the inadequacy of the current infrastructure in the EA.

**Growth Inducing Impacts.** NEPA also requires the discussion of growth-inducing impacts in environmental review documents: "Indirect 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." (40 C.F.R. § 1508.8.) Here, the whole purpose of the Action is to facilitate growth, including the development of the Project.

**Air Quality.** The Supreme Court in *Massachusetts v. EPA*, 549 U.S. 497 (2007), found that greenhouses such as carbon dioxide were "air pollutants" for purposes of the Clean Air Act and, as a result, could be regulated by the EPA. There is no indication that the project’s effects on greenhouse gas emissions was ever discussed in the EA or any previous environmental review mentioned in the EA. Such analyses are now typical — indeed, required — under the California Environmental Quality Act, Calif. Pub. Resources Code, § 21000 et seq. Because this is a potentially significant effect on the human environment, an EIS should be prepared to analyze the greenhouse gas emissions for the Project. 40 C.F.R. § 1501.4.

**Controversy.** An EIS must also be prepared when there is a high degree of controversy regarding a particular action. This is important to note in this case due to the proximity of the San Joaquin River, and the fact that the Project will admittedly increase runoff into the San Joaquin River. As the Bureau is aware, the San Joaquin River is at the epicenter of the State’s water wars, and any action that may affect the river’s flows, aquatic habitat, or water quality is highly controversial. See, e.g., *Central Delta Water Agency v. Bureau of Reclamation*, 452 F.3d 1021 (9th Cir. 2006); *Westlands Water Dist. v. United States*, 337 F.3d 1092 (9th Cir. 2003); *San Luis & Delta-Mendota Water Auth. v. United States*, 2008 U.S. Dist. LEXIS 70936 (E.D. Cal., Sept. 19, 2008); see also EA at 51 [explaining *NRDC v. Rodgers* settlement regarding San Joaquin River].

Accordingly, due to the controversial nature of the resources at issue in this Action, the Bureau should prepare an EIS.

**Cumulative Impacts.** The EA also fails to fully discuss the cumulative impacts of the Project. NEPA requires discussion of cumulative impacts, which are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions"
regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (40 C.F.R. § 1508.7.)

Here, the issue of cumulative impacts is exceptionally important because of the County’s recent consideration of the Friant Ranch EIR by the County of Fresno. (Exhibit “A.”) The Friant Ranch Specific Plan encompasses 1,505 acres adjacent to the Project, including a 2,996 unit mixed-use development. (Id.) There is absolutely no mention of the Friant Ranch project in the EA, despite its large size. Because of the size of the Friant Ranch Project, and the fact that analysis of the cumulative impacts associated with this adjacent development were not included in the environmental documents referred to in the EA, the potentially significant cumulative impacts on the human environmental must be considered in a full EIS.

Additionally, the water usage contemplated under the EA at page 20 does not align with the unit allocations contemplated in the 2000 Millerton New Town Infrastructure Plan. (Compare EA at 20 with Exhibit “B” at 6.) The cumulative impacts analysis should discuss the water allotments discussed in that document, and the associated development contemplated under that document.

Summary. Accordingly, because the Project could result in potentially significant impacts on the human environmental, as described above, the Bureau must prepare a full EIS for the Project.²

C. The Bureau Has Not Prepared a Mitigated FONSI and, in Any Event, the Mitigation Measures Proposed in the FONSI Are Not Sufficiently Tangible, Specific, or Enforceable

Throughout the EA, the Bureau suggests that the potentially significant environmental effects of the Project would be mitigated in various ways, based on mitigation measures that are not fully described in the document. There are several problems associated with proceeding in this fashion.

First, the Bureau has prepared a FONSI, not a Mitigated FONSI. This is important because the FONSI requires the Bureau to find that the action contemplated does not have potentially significant effects on the human environment. While a

² The EA also states that "the project proponent has a need to develop a portion of the land quickly since significant funds have been expended in planning, mitigation and infrastructure development. Beginning to recoup this investment is critical for the financial viability of the project." (EA at 10.) However, such considerations are irrelevant under NEPA, and should not be proffered as an excuse to perform an incomplete environmental review of a proposed action.
Mitigated FONSI may in some circumstances be prepared where there are significant effects, but those effects will be mitigated through tangible, specific, and enforceable mitigation measures, this is not what the Bureau has done. Rather, despite the above, the EA appears to concede at some level that the project may have significant environmental effects, but that those effects will be lessened due to mitigation. However, the Bureau has merely elected to adopt a FONSI (not a Mitigated FONSI), which is not an appropriate vehicle for the Bureau to determine that the project will not have significant impacts after mitigation.

Moreover, even if this were a Mitigated FONSI, the mitigation stated therein would not pass muster under NEPA. Rather, mitigation stated in a Mitigated FONSI must be tangible and specific, as opposed to vague and illusory. See Cabinet Mountains Wilderness/Scotchman’s Peak Grizzly Bears v. Peterson, 685 F.2d 678 (D.C. Cir. 1982).

- At some unspecified time, “[t]he proponents of the project met both formally and informally with Reclamation staff to discuss elements of a mitigation and monitoring plan for the entire planning area (finalized in the form of a County-approved matrix), as well as mitigation, monitoring, and management plans for each individual tract map.” (EA at 2.) To the extent there is a monitoring plan, it has not been discussed in the EA. Thus, the Bureau cannot find that the mitigation measure is tangible and specific.

- The EA also suggests that the applicants will be mitigating impacts to open space: “The mandatory open space impact fee was set at a $175 per residential unit, but provision was made for fee increases over time.” (EA at 3; see also id. at 19.) There is no indication that this mitigation is enforceable, or any discussion whatsoever as to why the Bureau believes this fee is sufficient to fully mitigate the impacts of the Action as to open space.

- The EA states that “[t]he Proposed Action results in a slight increase in additional drainage; however, this increase has been planned for and addressed through the site plan.” (EA at 35.) The EA, however, does not include a copy of the site plan, does not discuss what mitigation measures the site plan supposedly includes, or explain how such measures will ultimately address potential issues relating to additional drainage. (Id.)
The EA makes brief reference to air quality mitigation measures, but does not explain what these mitigation measures are, much less why they are tangible, specific, and enforceable. (See EA at 56.)

The EA states that “[I]f historical properties are affected in new development areas requiring CVP water, Reclamation would consult with the appropriate SHPO ad Native American representatives.” (EA at 58.) However, the EA provides no explanation as to how this mitigation is enforceable.

The EA also states that the Bureau is informally consulting with the Fish & Wildlife Service. (See EA at 52.) But this consultation should be performed concurrently with this Action and the related environmental review. Otherwise, neither the decision makers nor the public will be fully apprised of the environmental effects of the Project. This is important because the EA suggests that the “impacts to biological resources as a result of the development would be minimized through the collection of fees to purchase conservation easements or open space lands; implementation of mitigation and avoidance measures by the developer; conducting pre-construction surveys for nesting birds, protection of habitat via a Habitat Conservation Plan and avoidance of wetlands stock ponds and vernal pools.” (Id.)

Accordingly, based on the foregoing, the Bureau’s FONSI is inadequate, even if it is construed as a Mitigated FONSI.

D. Conclusion

For each of the above reasons, the Bureau should decline to approve the FONSI and related EA for the Project, and should likewise decline to adopt the Project pending the preparation of a full Environmental Impact Statement.

Respectfully submitted,

John P. Kinsey
#1 – Improper baseline

Reclamation’s No Action Alternative under NEPA is considered to be “the future without the Federal project.” Actions that have occurred prior to the federal action are not the responsibility of Reclamation. In this EA Reclamation has correctly utilized the existing conditions without the federal action as the No Action Alternative.

#2 – EA relies on stale environmental docs

The EA does not rely on stale documents for its analysis. The County is the land use authority and the EA merely points out the result of the County’s planning and environmental review process which led to it’s approval of the development. Reclamation’s action is to allow the boundary change and placement of CVP water on the Tract. Reclamation’s action does not cause the changes and impacts related to the development. That discretionary action was the County’s, not Reclamation’s and the EA is not intended to be an analysis of the impacts due to the development of Tract 4870. This explanation can be found in the draft EA in the scope section (Section 1.4) of the EA.

#3 – Impermissibly Piecemealed

Through federal case law a four-part test has developed to determine if a single project is improperly segmented into multiple parts. This test asks whether “the proposed segment 1) has logical termini; 2) has substantial independent utility; 3) does not foreclose the opportunity to consider alternatives; 4) does not irretrievably commit federal funds for closely related projects.” Reclamation has evaluated these four tests and determined that delivery of water to Tract 4870 meets all four tests relative to Reclamation’s independent determination whether or not to deliver water to the rest of the Millerton New Town development and therefore the EA does not impermissibly piecemeal.

Additionally in Section 1.4 Scope of the EA as well as other places in the document it is disclosed that Reclamation plans on analyzing water delivery to the entire Millerton New Town development where the State Board order has allowed CVP water delivery.

#4 – Reclamation should consult additional agencies

Reclamation has had many discussions with the Corps regarding the project. The Corps will also be doing a NEPA document for their determinations and the developer is working with the Corp to comply with all Corp requirements. The draft EA has been sent to Corps and Reclamation and Corps have been working closely on project.

County of Fresno has been involved in process EA development.

There have been two Section 106 consultations with Indian Tribes for this inclusion. Reclamation developed a letter and associated map. It was then determined that a better map would be more informative. Letters were sent to Honorable Leanne Walker-Grant,
Chairperson of the Table Mountain Rancheria, among other tribes on 2/19/08 and 4/10/08.

#5 – May potentially signif affect and must prepare an EIS

Reclamation has reevaluated our original determination that the project will have no significant impact on the human environment particularly reviewing the resources areas of concern expressed in the comment letter: Biological Resources, Traffic, Loss of Agricultural Land, Impacts to Water Quantity, Drainage & Water Quality, Public Service/Water Delivery Infrastructure, Growth Inducing Impacts, Air Quality, Cumulative Impacts as well as the controversial nature of the project.

Biological Resources -
Reclamation submitted a Biological Assessment to the Fish and Wildlife Service on XXXXXX. Recently consultation concluded on the project with the resulting in a Biological Opinion dated 1/7/09 which is partially excerpted below:

“Because the proposed project site contains suitable habitat for the California tiger salamander, the Service has determined that construction of the proposed project is likely to adversely affect the California tiger salamander. We have determined that the proposed project may affect, but is not likely to adversely affect the endangered San Joaquin kit fox (Vulpes macrotis nutica), the threatened San Joaquin Valley Orcutt grass (Orcuttia inaequalis), the threatened succulent owl’s clover (Castilleja campestris ssp. succulenta), and the threatened vernal pool fairy shrimp (Branchinecta lynchi). We have made this determination regarding the San Joaquin kit fox because the species has not been documented on the proposed project site, or in the vicinity of the proposed project site and the applicant has committed to implementation of the Standardized Recommendations for the Protection of the San Joaquin kit fox Prior to or During Ground Disturbance (Service 1999). We have made this determination for the San Joaquin Valley Orcutt grass, the succulent owl’s clover, and the threatened vernal pool fairy shrimp because no project activities will occur within 250 feet of a vernal pool ecosystem; therefore, there will be no direct or indirect effects from the proposed project to these species. The proposed project site lies within designated critical habitat Unit 24b (Fresno County) for the vernal pool fairy shrimp. We have determined that the proposed project will not result in adverse modification to designated critical habitat for the vernal pool fairy shrimp because the action area does not contain suitable vernal pool or seasonal wetland habitat.

After assessing the current status of the California tiger salamander, the environmental baseline for the action area, effects of the proposed action, and cumulative effects, it is the Service’s biological opinion that the proposed action is not likely to jeopardize the continued existence of the California tiger salamander. The action area lies within designated critical habitat Unit 2 (Northeast Fresno – Southern San Joaquin Valley Geographic Region) for the California tiger salamander. The Tract 4870 development area provides only limited physical and biological features for the California tiger salamander that are not essential to the conservation of the species. Therefore, although,
this action affects designated critical habitat for the California tiger salamander, no adverse modification of the critical habitat would occur.”

Information on the consultation with the FWS has been incorporated into the Final EA.

Traffic -
Reclamation’s action is not triggering the traffic impacts and therefore any impacts on traffic would occur with or without Reclamation’s action. Reclamation has appropriately determined that Reclamation’s action would not cause a significant impact to traffic.

The County of Fresno has taken steps through their CEQA process to address traffic impacts:
“The Mitigated Negative Declaration prepared for Tract No. 4870 identified cumulative transportation and circulation impacts that will result from the development, and specified the measures required to mitigate those impacts. A traffic Impact Study (TIS) prepared by a consultant, using normally accepted methods, estimated the traffic that will be generated by the development of Tract No. 4870 and distributed that traffic over the circulation system. The TIS analyzed the operation of the system with and without the development and identified locations where the system will operate below minimum standards at build-out. The minimum standards are a Level of Service determined by the agency having jurisdiction over the facility.”
(From Fresno County Board of Supervisors Agenda Item 21 on 1/29/08 which resulted in the signing of Resolution 08-53 discussed below.)

Resolution 08-53 was signed by the County Board of Supervisors on 1/29/08. This resolution established fees and processes to mitigate for Tract 4870’s impact on traffic in the area.

Loss of Ag Land –
It is Reclamation’s understanding that the historic land use for Tract 4870 is for grazing cattle and that the land is not prime agricultural land. The EA states that “Reclamation has no land use authority. As such, the federal action would not trigger any land use changes that have not already been analyzed in the incorporated by reference County General and Specific Plan EIRs.” “Allowing the delivery of CVP water by expanding the County’s service area boundary will allow water deliveries to Tract 4870 which is already slated for development and has no additional impact to land use.” Reclamation’s action is not triggering the land use changes and therefore any impacts to land use have already occurred and would occur with or without the project. The difference may be the rapidity with which the impact would occur. Reclamation has appropriately determined that Reclamation’s action would not cause a significant impact to land use.
Impacts to Water Quantity –
The EA correctly concludes that there would be no impact to water quantity as the 88 af that would be delivered as part of an existing CVP contract and is water that Reclamation has committed to delivering since the mid 1970s. Table 1 of the EA described that the County has taken their full contractual CVP allocation in several years.

Drainage and Water Quality –
Section 3.2.2 of the EA has been supplemented to clarify the basis for Reclamation’s determination that there is no significant impact to this resource due to Reclamation’s action. The Mitigation Measures and Monitoring Plan which is a part of the project description is included as Appendix B of the EA.

Public Services/Water Delivery -
Reclamation has addressed the water usage of Tract 4870 and the allocations to other water users in the area. See Section 2.3.3. Reclamation’s action is to expand the service area boundary to include Tract 4870 but does not require the use of water on that Tract. Other entities, most likely the County of Fresno and CSA #34 are responsible for allocating the CVP water under the contract and the federal proposed action does not impact the ability of the County of CSA #34 to make those decisions. Reclamation correctly concluded that the federal action has no impact on public services or water delivery.

Growth Inducement –
As stated in the response to comment #2 above Reclamation’s action is to allow the boundary change and placement of CVP water on Tract 4870. Reclamation’s action does not cause the changes and impacts related to the development. That discretionary action was the County’s, not Reclamation’s and the EA is not intended to be an analysis of the impacts due to the development of Tract 4870. Reclamation’s action of allowing CVP water to be provided to a development that has already been approved does not have growth inducing impacts.

Air Quality - As stated in the response to comment #2 above Reclamation’s action is to allow the boundary change and placement of CVP water on Tract 4870. Reclamation’s action does not cause the changes and impacts related to the development. That discretionary action was the County’s, not Reclamation’s and the EA is not intended to be an analysis of the impacts due to the development of Tract 4870. Reclamation’s action of allowing CVP water to be provided to a development that has already been approved does not have impacts on air quality.

Controversy – The controversy test of NEPA which drives a project to need analysis at the EIS level involves adequacy and validity of data on which analysis is based and impacts of the action and not on the concerns raised about the project itself. The San Joaquin River and its potential restoration is a controversial subject it is true, however Tract 4870 is likely to have a 0.1 percent to 2.5 percent increase in the volume of water in the river. The controversy has stemmed from having inadequate water in the river to support fisheries and who much provide the water for river restoration. Reclamation is not aware that adding additional water to the river entities voluntarily interested in doing so is controversial.

Cumulative Impacts – Again, the County is the land use authority who decides what development is appropriate in Fresno County. Reclamation’s action is to allow CVP water to be delivered to Tract 4870 in accordance with County decisions. The cumulative impacts of
development in Fresno County has already been analyzed and decided by the County. Reclamation has no discretion over those actions and is not causing the planned development. Reclamation has appropriate drawn conclusion on the cumulative impacts of its action.

#6 – Mitigate FONSI issues
Reclamation has not prepared a mitigated FONSI as the mitigation measures have been incorporated into the project description and are up front commitments of the project rather than measures determined during the analysis to minimize impacts.