

FIREBREAK PLAN

FOR

McCLELLAN AIR FORCE BASE

AND DAVIS COMMUNICATIONS FACILITY



U.S. AIR FORCE



Prepared By

Air Force Center for Environmental Excellence

For

Air Force Real Property Agency

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LIST OF ACRONYMS

AFB	Air Force Base
AFCEE	Air Force Center for Environmental Excellence
AFRPA	Air Force Real Property Agency
CDF	California Department of Forestry
CNC	California Nature Conservancy
COE	Army Corps of Engineers
ESA	Endangered Species Act
USFWS	US Fish and Wildlife Services

1.0 INTRODUCTION

1.1 PURPOSE

This plan has been developed to provide environmental managers, site managers, and contractors with a concise resource in which they can find information necessary for the construction and maintenance of firebreaks on Air Force property at the former McClellan Air Force Base (McClellan or Base) and the satellite property in Davis (Davis Communications Facility). This document is designed primarily to assist the site managers and contractors in avoiding impacts to plant and animal species listed as threatened or endangered under the federal Endangered Species Act (ESA) while conducting the required maintenance of the sites. In this document, alternative methods of firebreak construction are considered and specific guidelines are detailed for firebreak construction at the two sites. This plan has been developed for the Air Force Real Property Agency (AFRPA) by the Air Force Center for Environmental Excellence (AFCEE). In addition, this document was coordinated with the Sacramento County and the city of Davis fire departments.

1.2 NECESSITY

Although the base has been constructing firebreaks on these sites for many years, the listing of several vernal pool invertebrates under the Endangered Species Act in the mid-1990s precipitated a review of the standard practices of firebreak construction and maintenance. Vernal pools, which provide habitat for listed plant and animal species, naturally occur in annual grassland habitats at the two sites within the areas where firebreaks were constructed. Firebreak construction poses a threat to the habitat of the listed plants and animals, as well as to the plants and animals themselves. Threats include the following:

Disturbance of the pool sediments;

Burial or crushing of seeds and eggs;

Direct mortality to individual plants or animals; and

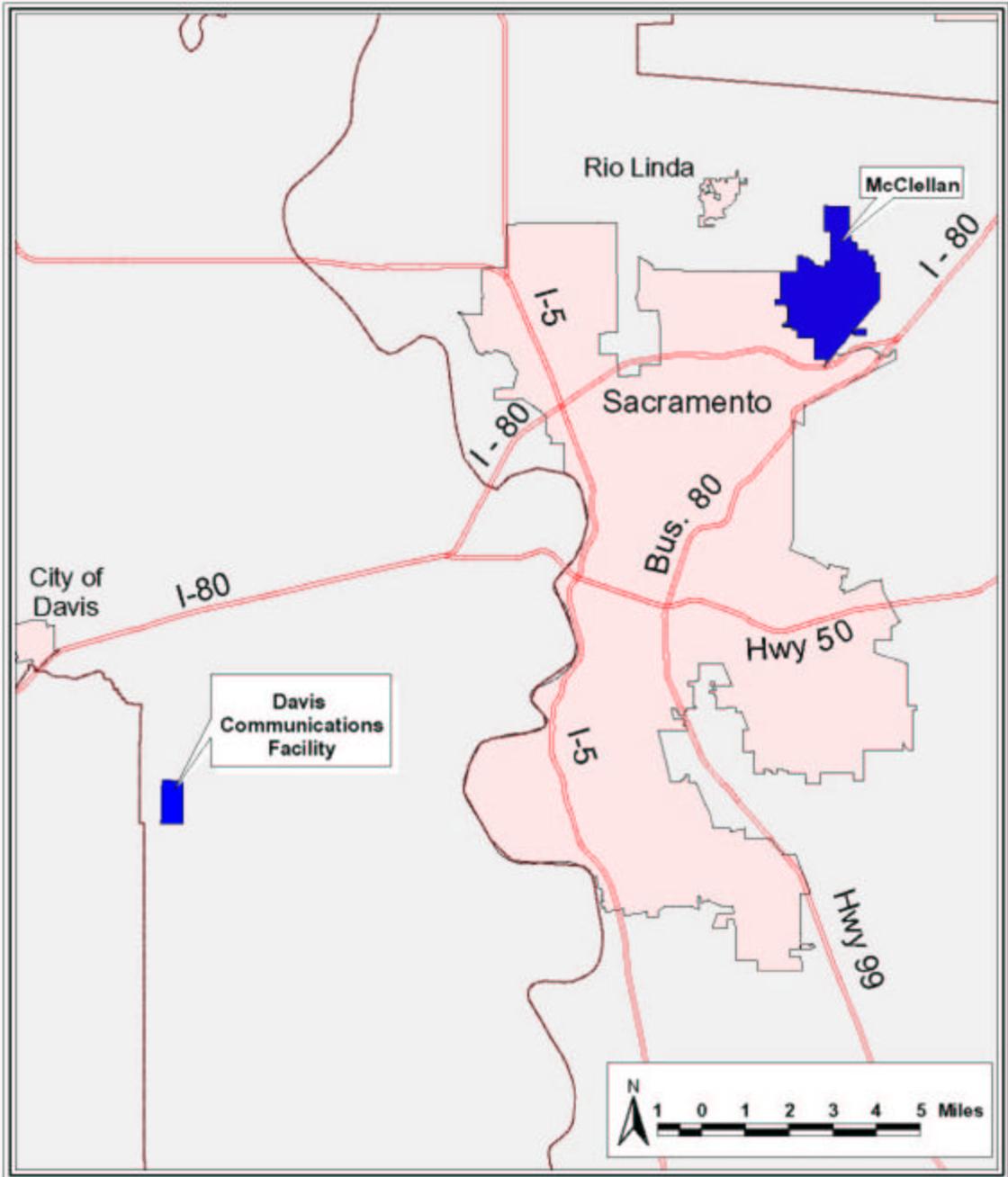
Introduction of exotic and noxious weeds.

Both plants and animals are protected under the ESA through its requirement that all federal agencies ensure that their actions do not jeopardize the continued existence of any endangered or threatened species or destroy critical habitat. In addition, listed animal species are protected from "take" as defined by the ESA. Any adverse modification of the habitat or direct mortality of the listed species could jeopardize the continued existence of the species and would violate the "take" provisions of the ESA. Engaging in prohibited acts is illegal and carries serious penalties. As a federal agency, the Air Force abides by the provisions of the ESA and has taken steps to avoid jeopardizing the listed species. This plan is one measure taken to ensure that impacts to the listed species are avoided.

In addition to compliance with the ESA, the U.S. Army Corps of Engineers (COE) regulates disking in vernal pools under section 404 of the Clean Water Act. Under the Clean Water Act, land-clearing activities using mechanized equipment such as backhoes or bulldozers with shear blades, rakes or disks constitute point source discharges and are subject to section 404 jurisdiction when they take place in wetlands, which are waters of the United States. If disking were to occur in a vernal pool, that activity would require a permit from the COE.

1.3 PLAN AREAS

This plan has been developed specifically to address issues regarding firebreak construction and maintenance in the natural areas of McClellan and the Davis Communications Facility. The regional location of each site is shown in Figure 1-1.



Firebreak Plan
 McClellan and Davis
 Communications Facilities

Figure: 1-1
 Regional Locations

1.3.1 McCLELLAN AIR FORCE BASE

The former McClellan Air Force Base is situated in northern California, eight miles north of the city of Sacramento, in the north-central part of Sacramento County. The Base encompasses approximately 2,900 acres and is bounded approximately by Watt Avenue to the east, Roseville Road to the south, Raley Boulevard to the west, and Elkhorn Boulevard to the north. Land uses surrounding the Base include extensive commercial and residential areas to the east, southwest, and south, with limited agricultural, rural residential, and moderate industrial activity to the west, northwest, and north. Approximately 1,170 of the Base are undeveloped areas containing grasslands with scattered vernal pools and seasonal wetlands. Two natural areas, the North Runway Area at the north end of the Base and the West Nature Area in the western portion of the Base, have been the focus of a multi-year study of the biological resources on the Base. These areas are the primary areas of concern with respect to threatened and endangered species for firebreak construction and maintenance. It should be noted, however, that all of the vernal pools on Base represent potential habitat for federally listed species and are similarly protected from disturbance. Vernal pools within the natural areas on-base can be divided into northern hardpan vernal pools (Holland 1986), mowed vernal pools (in the airfield safety zone), and rice-check vernal pools (seasonal pools that form between the levees in the former rice fields). Pools on the Base provide habitat for a variety of common vernal pool invertebrates, as well as the threatened vernal pool fairy shrimp (*Branchinecta lynchi*).

1.3.2 DAVIS COMMUNICATIONS FACILITY

The second site, the Davis Communications Facility, is approximately 20 miles southwest of the Base and approximately five miles southeast of the city of Davis via Mace Boulevard in Yolo County. The site encompasses approximately 316 acres, and is bounded on the north and south by County Roads 25 and 36, respectively. Although not bounded directly by any roads to the east or west, the site is roughly situated between County Roads 104 and 105.

The Davis site is surrounded on the north, south, and east by agricultural fields devoted to row crops, wheat, and hay crops. To the west of the site is a natural grassland park. The grassland was formerly part of the Davis facility, but was transferred to Yolo County in 1973 for public park and recreational uses. The communications facility site and adjacent park property form an island of relatively undisturbed natural habitat in a sea of intensively farmed lands.

Vernal pools at the Davis site are very different from those at the Base site. The most significant difference is the presence of two federally listed plant species: Colusa grass (*Neostapfia colusana*) and Crampton's tuctoria (*Tuctoria mucronata*), both federal and state listed species. These pools also support large populations of the federally endangered vernal pool tadpole shrimp (*Lepidurus packardii*). Areas mapped as wetlands on the Davis site include subalkaline seasonal wetlands with small openings dominated by clay pan vernal pool species (CNC 1993); northern hardpan vernal pools (on a different soil series than for the Base sites); and former scraped firebreaks (areas where soil has been bladed during past firebreak construction activities, leaving a hole or trench in the landscape that now ponds rainwater and supports vernal pool plants and crustaceans).

2.0 FIRE AGENCY JURISDICTIONS AND REGULATIONS

2.1 JURISDICTIONS

The properties covered by this plan include federal (U.S. Air Force) properties that have been retained or leased at the former McClellan Air Force Base and at the Davis Communications Facility due to the presence of sensitive natural resources. These properties will continue to be maintained by the Air Force until the Section 7 consultation, as required pursuant to the ESA, is completed and the properties can be transferred to Local Reuse Authority (County), Federal Conveyance or private ownership by deed.

McClellan AFB is located within the jurisdiction of the Sacramento Metropolitan Fire District. They now operate one of two McClellan fire stations located on the Base site that can respond quickly to incidents within the Base boundaries.

The Davis Communications Facility is located at 44960 Yolo County Road 36 (NW corner of 105 & 36), in a remote portion of Yolo County where “No Man’s Land Fire Protection District” exists. McClellan AFB had a “Memorandum of Agreement” with the Dixon Fire Department and the California Department of Forestry (CDF) to provide fire protection services at the Davis site (J. Thompson, per. comm.). The Davis Fire Department has assumed contractual agreements with the “No Man’s Land Fire Protection District” for emergency response to this area. The Davis Fire Department has an automatic aid agreement with the Dixon Fire Department and a mutual aid agreement with all other fire protection agencies in Yolo County and in the State of California (B. Green, per. comm., ref. Davis City Fire Web site: www.city.davis.ca.us/fire/GeneralInfo.cfm).

The standard recommendations for firebreak construction, as established by the CDF and the cities and counties having jurisdiction over the McClellan and Davis sites, are as follows:

- Construct firebreaks prior to July 1.
- Remove all flammable vegetation, within a minimum 30-foot wide zone, from around the perimeter of each property and around all combustible structures, fences, etc. that are on or adjacent to the property.
- Disking the perimeter of the property; thereby burying all flammable vegetation, is the most common method of vegetation removal.
- Mowing is an alternative method to remove fire hazard vegetation.
- Mowing height should be set as close to ground level as possible, no more than approximately two inches above the soil surface.
- Clippings and combustible materials must be removed from the firebreak after mowing.

This firebreak plan complies with these recommendations while ensuring the protection of threatened and endangered species.

3.0 ENDANGERED SPECIES ACT

As stated in the Endangered Species Act, the purpose of the Act is "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in subsection (a) of this section." Under the ESA, each federal agency is required to insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of critical habitat for such species. Disking of vernal pools while constructing firebreaks would constitute an action that could jeopardize the existence of the listed plant and animal species that live in the vernal pools.

Protecting vernal pool plants and animals listed under the ESA is a responsibility that the U.S. Air Force accepts and takes seriously. This responsibility is also the law. Federal authorities (primarily the U.S. Fish and Wildlife Service [USFWS]) have both regulatory and enforcement power to ensure protection of threatened and endangered species.

Section 9 of the ESA prohibits the "taking" of listed animal species unless authorized through consultation with the USFWS under Section 7 or Section 10(a) of the ESA. "Take" is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Protection from taking also extends to the habitat for listed animal species, meaning that modifications to or destruction of a listed species' habitat can also be considered a taking under Section 9 of the Act. Like other laws, it is the responsibility of each individual to obey the law, and in this case, not to engage in activities that could potentially result in a take. Under Section 11 of the ESA, civil and criminal fines and penalties may be levied against individuals, agencies, or corporations who knowingly violate any provision of the ESA. Civil fines may range up to \$25,000.00 per incident. Criminal penalties for violating the provisions of the ESA may result in fines of up to \$100,000.00 and one year in prison per incident for an individual, and up to \$250,000.00 with one year in prison per incident for corporations and agencies.

The natural areas of the Base and the Davis Communications Facility provide habitat for two plant species and two animal species listed as threatened or endangered under the ESA. Species known to occur on the sites are shown in Table 3.1 along with their status and known occurrence on the study sites.

Listed species are restricted to the vernal pools and swales found in the grassland areas of each site. Vernal pools are striking features of the sites during winter and spring when they are filled with rainwater and wildflowers. On the sites covered by this plan, pools range in size from approximately 10 feet in diameter and a few inches deep to hundreds of feet long and 24 inches or deeper. When filled with rainwater and under proper environmental conditions, the eggs in the soils at the bottom of the pools hatch and give rise to populations of vernal pool crustaceans, including listed species, such as vernal pool fairy shrimp and vernal pool tadpole shrimp. The adult form of these crustacean species lives only a short time, a few weeks or so, while the pools are filled and environmental conditions are favorable. However, large reserves of eggs exist in the soils of the pools at all times of the year, so disturbance of the pools during the wet or dry season can severely impact the vernal pool crustacean populations.

During the late spring and summer as the pools dry, plants adapted to and often endemic to vernal pools begin to germinate. At the Davis site, the federally listed Colusa grass and Crampton's tuctoria (Solano grass) dominate large portions of multiple pools. Both of these grasses are annual grasses, meaning that the plants seen each year grow from seeds that germinate during the current growing season. Because they are annuals, any disturbance to the seed bank in the pools, even when the plants are not present, could severely impact the populations and jeopardize the continued existence of these species.

Firebreaks are typically constructed along the perimeter of the property in order to prevent fires that start either on or off base from spreading to adjacent properties. Because many of the vernal pools are located along the perimeter fence line of the property where firebreaks are typically constructed, special protection measures must be implemented to avoid affecting the listed species.

Firebreaks have been constructed around the perimeter of the properties for many years; however, construction methods included use of scraping which left depressions and berms which now collect rainwater. With the listing of

vernal pool crustaceans, standard methods of firebreak construction pose a direct threat to these listed animal species and could potentially result in a take of these species or destruction of their habitat. Disking of the vernal pools for a firebreak could also result in damage or disturbance to listed plants at the Davis site. This would violate the take provisions of the ESA and could result in prosecution of the individual and/or contracting entity engaged in the action. This plan has been developed to avoid modification or destruction of the habitat for the listed species while still providing adequate fire protection of the sites. It is imperative that all contractors, County, and Air Force personnel working in and around vernal pools on any of the sites be informed of the sensitive nature of the vernal pools and the legal consequences of intentionally damaging or destroying the pools or the species that inhabit them.

Although listed species were only found in a small proportion of the pools on each of the sites, not all of the pools were sampled. In addition, the environmental conditions may not be favorable every year for vernal pool crustacean activity, even though many eggs may be present in the vernal pool soils. Thus, although not found when sampled, vernal pool crustaceans have potential to exist in all pools. All the vernal pools on the Base and at the Davis site are considered habitat for listed vernal pool crustaceans and are afforded the same level of protection as those pools documented to support threatened or endangered species.

Table 3.1
Endangered and Threatened Plant and Animal Species
Occurring on the former McClellan Air Force Base and the Davis Communications Facility

Common Name Scientific Name	Status*	Known Occurrence
Plants		
Colusa Grass <i>Neostapfia colusana</i>	FT/SE	Davis - Pools 3 and 9
Crampton's Tuctoria / Solano Grass <i>Tuctoria mucranata</i>	FE/SE	Davis - Pool 9
Animals		
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i>	FT	McClellan, Creeks Area - Pool MCC95A
Vernal Pool Tadpole Shrimp <i>Lepidrus packardi</i>	FE	Davis - Pools 3 and 9

*Status categories: FE-Federally Endangered, FT-Federally Threatened, SE-State Endangered

4.0 GENERAL GUIDELINES FOR FIREBREAK CONSTRUCTION

4.1 INTRODUCTION

The guidelines listed below are to be strictly followed and not deviated from in any way unless prior authorization is obtained from the Air Force. A copy of the McClellan firebreak plan, or pertinent environmental compliance sections, should be added to the standard contract for firebreak construction services with a notation of penalties for violation.

4.1.1 ALTERNATIVE METHODS TO DISKING

In areas that are deemed vernal pools or wetlands, alternative methods may be used to construct firebreaks in lieu of disking. Mowing may be used for most of these areas. The equipment used must be a rubber-tired lawn mower that shall not scrape or penetrate the surface of the ground within the vernal pools and wetland areas. Mowing within vernal pools and wetland areas must be conducted only during the dry season, and may not be conducted until the soil on the bottom of the pools has dried sufficiently to withstand the weight of the mower without creating a rut or depression on the ground. Mowing may be used as an alternative method of firebreak construction on the Base and at the Davis Communications Facility.

String-trimmers should be used in areas where lawn mower use is dangerous or not feasible. String-trimmers should be used to trim grass, remove weeds or mow firebreaks in areas inaccessible to riding or walk-behind mowers.

Use of chemical pre-emergents or herbicides to control weeds shall not be used near any vernal pools and is only permitted in Air Force specified areas that will not impact wetlands and their buffer zones.

4.2 GUIDELINES

These general guidelines for construction of firebreaks are based on the requirements and recommendations of the applicable city and county fire departments and the CDF. Additional measures have been added to avoid affecting endangered and threatened species and to prevent unnecessary and potentially serious impacts to their habitat.

4.2.1 PRIOR TO FIREBREAK CONSTRUCTION

Prior to firebreak construction, the following measures will be implemented and overseen by the Air Force. The Air Force may implement these activities using in-house staff or qualified contractors. If a contractor completes these tasks, then an Air Force representative will verify that the tasks were completed according to this plan prior to firebreak construction.

4.2.1.1 SIGN "NO DISK" ZONES

Prior to firebreak construction, the Air Force or its representatives will establish "No Disk" zones on the sites. The locations of "No Disk" zones are shown for each site in Figures 5-1, 5-2, and 5-3. "No Disk" zones should be clearly signed as described below. "No Disk" zones may be staked using wood stakes or metal fence posts. The placement of these delineators should allow the tractor and disk blades to pass between the delineators and the fence and should also provide a buffer between the pool and the disked area. A sign, at least one foot square, will be attached to each post. A post sign should be installed on either side of the vernal pool ("No Disk" zone) to warn the disk operator of the presence of the pool from either direction. Language on the sign should state that no disking is allowed between signs and that disk blades must be raised to cross the pool. An example of how the sign might read is shown below:



4.2.1.2 ESTABLISH INTERIOR FIREBREAKS

In addition to establishing "No Disk" zones, the Air Force or its representative will establish interior firebreak routes on the properties. Interior firebreaks are those portions of the firebreak constructed away from the perimeter fence to avoid sensitive vernal pool habitats located adjacent to the perimeter fence line. The locations of the interior firebreaks are shown for each site in Figures 5-1 through 5-3. Perimeter and interior firebreaks will provide fire protection for the structures on each property while avoiding sensitive habitats.

4.2.1.3 ESTABLISH "NO VEHICLE ACCESS" ZONES

Concurrent with establishing the "No Disk" zones, the Air Force staff will clearly mark "No Vehicle Access" areas. The purpose of this designation is to identify sensitive habitat areas where vehicle access will be prohibited. "No Vehicle Access" areas will be identified in the field by signs placed at detour points.

4.2.1.4 CONDUCT BURROWING OWL SURVEYS

Prior to the initiation of firebreak construction, the firebreak areas shall be surveyed for burrowing owls by a qualified biologist. The survey shall be conducted no more than 30 days prior to firebreak construction. The survey should be conducted by walking through all suitable habitats within approximately 100 feet of the firebreak construction zone. This 100-foot buffer zone is included to account for adjacent burrows and possible impacts from noise and vibration due to equipment operation. Survey transects should be spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines should be no more than 100 feet, and should be reduced as needed to account for differences in terrain, vegetation density, and ground surface visibility. If burrowing owls are detected, a map should be prepared showing the locations of all occupied burrows (occupied burrows are indicated by an observation of at least one burrowing owl, or, alternatively, its molted feathers, cast pellets, prey remains, eggshell fragments, or excrement, at or near a burrow entrance). "No Disk" zones shall be established by delineating a 100-foot setback around all occupied burrows in the firebreak or within the 100-foot buffer zone. Within these setbacks, firebreak construction shall be accomplished by mowing and/or weed whacking only. Weed whackers or hand tools shall be used within the area immediately surrounding the burrow entrance. A qualified biologist shall monitor all firebreak construction within the burrowing owl "No Disk" zones.

4.2.1.5 CONTRACTOR/OPERATOR ENVIRONMENTAL TRAINING

All operators and contractors shall be required to read and comply with the protection measures outlined in this plan. Operators and contractors should be given an updated copy of the plan at least one week prior to firebreak construction to allow time for them to review the information and ask questions prior to beginning their work. The Air Force will provide an on-site briefing to all workers, including field supervisors, all equipment operators, and subcontractor staff, if any, prior to the commencement of work. All contractors and equipment operators shall be required to sign a certificate (as contained in Appendix A) verifying that they have received this briefing and that they have read the sections on endangered species laws, that they understand the material, and that they shall comply with the guidelines and protection measures. The site manager and Air Force will keep copies of the certification sheets on file in their respective offices. The contractor or agents thereof must have on site and in their possession a copy of the firebreak plan for reference at all times and must present it to the Air Force staff or their representative upon request.

4.2.2 FIREBREAK CONSTRUCTION

4.2.2.1 TIMING

Firebreak construction will be completed by no later than July 1st each year. Firebreaks should be conducted at the end of the growing season (mid-May through June) to avoid vegetation growth during construction of the break and to ensure that the vernal pools and wetland areas are dry at the time of firebreak construction.

No vehicles, including tractors or lawn mowers, shall be allowed off the established roads on a site until the soil has dried sufficiently to support the weight of the vehicle. No vehicles will be allowed off roads after the first rains of the season (typically in October or November) or before the end of the rainy season (typically in mid-May).

4.2.2.2 EQUIPMENT

Because equipment will be passing over vernal pools and wetlands (with blades raised) during firebreak construction, ONLY rubber-tired vehicles shall be used. No heavy equipment with metal tracks shall be used to construct firebreaks except in areas that are deemed free of vernal pools and wetlands.

All motorized equipment that is going to be used in firebreak construction shall be checked for leaks (i.e., oil, fuel, and coolant) **PRIOR** to initiating work each and every day of work. Both the contractor and Air Force personnel providing oversight shall check the equipment to be used prior to initiating work. Any equipment found to be leaking fluids shall not be used until the necessary repairs have been made at an appropriate offsite location. If there is a loss of fluids from the vehicles or equipment, proper spill response procedures must be initiated. This is necessary in order to minimize the chances of contaminating pools and potentially impacting listed plant or animal species.

Motorized equipment shall be fitted with spark arrestors to minimize the chances of equipment igniting a fire during construction of the firebreak.

No work shall begin until it has been verified that fire-fighting equipment is present and in close proximity to the operator. A shovel and a fire extinguisher are minimum requirements to be on-site before work can begin.

4.2.2.3 CONSTRUCTION GUIDELINES

At the former McClellan Air Force Base several vernal pools and swales fall in or near the 30-foot firebreak areas and will be designated with “No Disk” zones around them (Figures 5-1 and 5-2). In the North Runway Area, there are several vernal pools along the fence-line between Patrol Road and 26th Street. Due to the presence of these vernal pools, this area is deemed a no-maintenance area and no firebreaks shall be constructed.

The Davis site has fewer pools than the Base site; however, the pools are located primarily around the perimeter of the site. All but one of the vernal pools shall be avoided by constructing large portions of the firebreaks away from the perimeter (Figure 5-3). Although most of the vernal pools will be avoided by following the designated routes, extreme caution must be exercised around vernal pools at this site due to the presence of rare plant populations, and it is imperative that disking, mowing, or vehicle access not disturb the plants.

Basic firebreak construction at both the McClellan and Davis properties will follow the general guidelines listed below, with specific measures to avoid violation of the Endangered Species Act and further minimize impacts to threatened and endangered species habitat.

- 30-foot wide firebreaks shall be constructed on each of the sites (the former McClellan Air Force Base and the Davis Communications Facility) in a way that maximizes protection of equipment, buildings, and other structures while minimizing impacts to sensitive natural resources. These firebreaks will generally be constructed around the perimeter of the sites, but also may follow designated interior routes in order to avoid sensitive habitats. A 30-foot firebreak also shall be constructed around the fenced munitions bunker in the West Nature Area of the Base and around the fenced central compound at the Davis Communications Facility.

- Firebreaks shall be constructed by disking the designated route and burying all vegetation within the 30-foot wide firebreak. The firebreak may be mowed prior to disking, or the Contractor may just disk to bury vegetation. Either method utilized may require multiple passes with the disk to effectively bury vegetation.
- Disked firebreaks shall be smoothed with a roller or other device attached behind the disk blades. Smoothing the breaks will prevent berms from forming that could interfere with the hydrology of the pools (B. Goettle and K. Fuller, personal communication).
- During construction of the firebreaks, operators shall follow the designated perimeter and interior firebreak routes and shall observe all “No Disk” zones (Figures 5-1 through 5-3). At those points designated as “No Disk” zones by posts and signs, the operator shall raise the disk blades out of the soil and cross the vernal pool. Not until the disk blades are beyond the “No Disk” sign on the opposite side of the pool will the operator lower the blades, and in no case shall the operator allow the blades to touch the soil while in the “No Disk” zone. No detours or turn-arounds outside of the 30-foot wide route will be allowed.
- “No Disk” areas may have sufficient vegetation growing within the firebreak zone to compromise the firebreak’s effectiveness. If significant vegetation remains in a vernal pool, this vegetation shall be mowed or trimmed with a string-trimmer and the clippings removed. Mowed vegetation within “No Disk” zones shall not exceed two (2) inches in height at completion. Cuttings should be removed either by hand using rakes or with equipment that lifts the cuttings off the surface without disturbing the surface soil. Machines that vacuum the cuttings *shall not* be used because the vacuum action may remove seeds or eggs on the soil surface. Precautions described above for general firebreak construction will also be followed when mowing the vernal pools.
- In areas where interior firebreak routes cross dirt or gravel roads on a site, disk blades shall be raised before crossing the road and lowered on the opposite side of the road. No disking of the dirt or gravel roads will be allowed in order to maintain the roadbeds in passable condition for maintenance vehicles.
- “No Disk” zones may not be crossed if water is present or standing in the pool or if the soil is wet. In such cases, the operator must contact the Air Force. Operators should follow directions given by the Air Force staff in the kickoff meeting to safely go around a pool.
- Threatened and endangered plant populations occur along the perimeter fence in various locations on the Davis site. In order to avoid impacting these plant populations, interior firebreak routes have been established that avoid the pools entirely. Under no circumstances shall tractors cross these pools, even with disk blades raised above the ground.
- Contractors constructing firebreaks at the McClellan or Davis site shall have at least two (2) people on site during construction. One person will operate the tractor pulling the disk. The second person shall watch for fires that may be started inadvertently due to the operation of the equipment. The second person must keep visual contact with the tractor at all times in order to catch sight of and distinguish any fires that may inadvertently start.
- Should a fire start onsite at any time during firebreak construction, the person on fire watch shall inform the equipment operators and shall be responsible for putting out the fire. The equipment operator shall immediately stop disking (or mowing) and assist with fire suppression. The fire shall be reported immediately to the site manager. In addition, the appropriate fire department will be contacted for assistance (note: crews should carry a radio and/or a cellular telephone at all times). Firebreak construction will not resume until the operator and the fire department personnel determine the cause of the fire and implement corrective measures to avoid reoccurrence.
- All equipment operators either on or off the Base shall carry a shovel and fire extinguisher for use in fire suppression. Both items should be in the immediate possession of the equipment operator. A water truck should also be onsite, whether it be on or off the Base, during firebreak construction in order to respond to small fire emergencies.

- Site managers will verify weather conditions with a weather information source on each day of firebreak construction. On “Red Flag” fire days or hot, dry days, disking or mowing will be limited to the morning hours (before 1100 hours). Disking or mowing shall not be attempted on windy days, or when the relative humidity is below 30 percent.
- The northern section of the West Nature Area on the McClellan site should be accessed from the gate on Patrol Road. The West Nature Area has two creeks and a large borrow pit pool that cuts the area into five sections. Each section should be accessed by the equipment operator in a manner that impacts the natural communities to the least extent possible. Equipment operators shall use existing roads whenever possible to move around the site and shall avoid pools as much as possible.
- Disk blades shall be lowered only when constructing the break around the perimeter of the sites or around the munitions area in the West Nature Area on the McClellan site or the central compound on the Davis site. While moving equipment between sites, or away from the perimeter fence, disk blades must be raised above the ground to prevent inadvertent disruption of vernal pools or other sensitive habitats.

4.2.3 POST FIREBREAK CONSTRUCTION

Following completion of the firebreak, an Air Force staff person shall visit each site to verify that the breaks have been constructed according to the plan and to verify that no vernal pools or threatened or endangered plants or animals were impacted by the firebreak construction. Impacts to vernal pool plants or animals will be assumed to have occurred if a pool has been disked.

Final payment to the contractor should be dependent on verification by Air Force staff of construction according to the guidelines described in this plan. If pools were disked or negatively impacted during construction, then a penalty in an amount to be determined by the Air Force should be levied against the contractor. Any penalty levied by the Air Force will be for failure to complete the contract according to contract specifications and will have no bearing on fines or penalties that may be assessed for violation of applicable laws. The USFWS should also be contacted regarding any disking of pools.

5.0 REFERENCES

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- Bachman, Steve. Chief, McClellan Fire Department. Personal communication, January 22, 1997
- Fuller, Ken. Botanist, U.S. Fish and Wildlife Service. Personal communication, March 18, 1997.
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- Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. California Department of Fish and Game, Nongame-Heritage Program. Sacramento, California 156 pp.
- Thompson, J. Civil Engineering, McClellan Air Force Base, 77 CEG/CERS, Comment on Rev. 4 draft Firebreak Plan , January 14, 1997.
- McLaughlin, J. Rev. 4 Reviewer, McClellan Air Force Base, 77 CEG/CERS, Final Comments on Final Coordination of the Firebreak Plan, 11 June 1997.
- Williams, Kevin. Manager, Jepson Prairie Preserve. Personal communication, December 5, 1996.

6.0 PROJECT STAFF

Diane Arreola
Biologist, Former SM-ALC/EM

Paul Bernheisel
AFCEE Field Team Leader

Dana Crull
GIS Contractor, Anteon

Molly Enloe
Biologist, Parsons (McClellan)

Mohamed Ibrahim
Biologist Intern, Anteon

Timothy Lacy
Wildlife Biologist, RMI

Fern Matin
Administrative Manager, WPI

Heather Perry
Former Biologist Intern, CCF

Kevin Thomas
Biologist Intern, Anteon

Jane Valerius
Botanist, RMI

7.0 APPENDIX A

**ENVIRONMENTAL COMPLIANCE;
DEPARTMENT OF INTERIOR
“INFORMAL CONSULTATION” LTR.
AND
CHECK-OFF SHEET**



IN REPLY REFER TO:
1-1-98-I-1221

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
3310 El Camino Avenue, Suite 130
Sacramento, California 95821-6340

May 14, 1998

Mr. Larry Blevins
Natural Resource Manager
Department of the Air Force
5050 Dudley Boulevard, Suite 3
McClellan AFB, California 95652-1395

Subject: Informal Endangered Species Consultation on the Final Firebreak Plan for
McClellan Air Force Base Natural Areas and the Lincoln and Davis
Communications Facilities, McClellan Air Force Base, Yolo, Placer and
Sacramento Counties, California

Dear Mr. Blevins:

This is in response to our phone conversation dated April 20, 1998 requesting concurrence with the determination that the proposed action, firebreak maintenance plan, is not likely to adversely affect federally listed species including Solano grass (*Tuctoria mucronata*), Colusa grass (*Neostapfia colusana*), vernal pool tadpole shrimp (*Lepidurus packardii*), and the vernal pool fairy shrimp (*Branchinecta lynchi*). We have reviewed (1) the Final Firebreak Plan for McClellan Air Force Base Natural Areas and the Lincoln and Davis Communications Facilities dated March 1997 transmitted with your correspondence and (2) Figures 5-2 through 5-6 showing the proposed firebreak and no-disk zones, which were sent to this office on May 13, 1998 and concur with this determination, providing the mitigation measures identified in this documentation are followed. Therefore, unless new information reveals effects of the proposed action that may affect listed species in a manner or to an extent not considered, or a new species or critical habitat is designated that may be affected by the proposed action, no further action pursuant to the Endangered Species Act of 1973, as amended is necessary. If you have questions please contact John Sargent or Jan Knight of my staff at (916) 979-2120.

Sincerely,


Wayne S. White
Field Supervisor

**McCLELLAN AIR FORCE BASE FIREBREAK CONSTRUCTION
ENVIRONMENTAL COMPLIANCE CERTIFICATION
AND CHECK-OFF SHEET**

Each contractor working around vernal pools will complete this checklist and certification prior to initiation of firebreak construction. Site Managers will keep a copy of this certification on file and forwards a copy to Air Force Real Property Agency (AFRPA).

CHECK-OFF SHEET (To Be Completed by Site Manager and Operator/Contractor)

Site Name:	Date:	Firebreak width (must be 30ft.):
Weather Conditions		
Temperature:	Wind:	Humidity:
Operator/Contractor Name and Address:		Fire Watcher Name:
Equipment Being Used (only rubber-tired vehicles may be used):		
Water Truck Present: Yes / No Approximate Capacity:		Basic Fire Fighting Equipment (list):
Equipment Checked for Fuel, Oil, or Coolant Leaks?: Yes / No When:		Equipment Free of Fuel, Oil, or Coolant Leaks: Yes / No

OPERATOR/CONTRACTOR CERTIFICATION

I understand that the vernal pools found on the site are habitat for plants and animals listed as threatened or endangered under the federal Endangered Species Act of 1973, as amended (Act). ***Disking in the pools is not allow under any circumstances.*** I have read the information contained in the firebreak plan regarding protection measures for the listed species and agree to comply with the measures. I further understand that I can be held responsible for intentionally destroying or modifying the habitat of a listed species. Such actions could result in criminal or civil prosecution and severe penalties under the Act.

Operator/Contractor Signature

Date

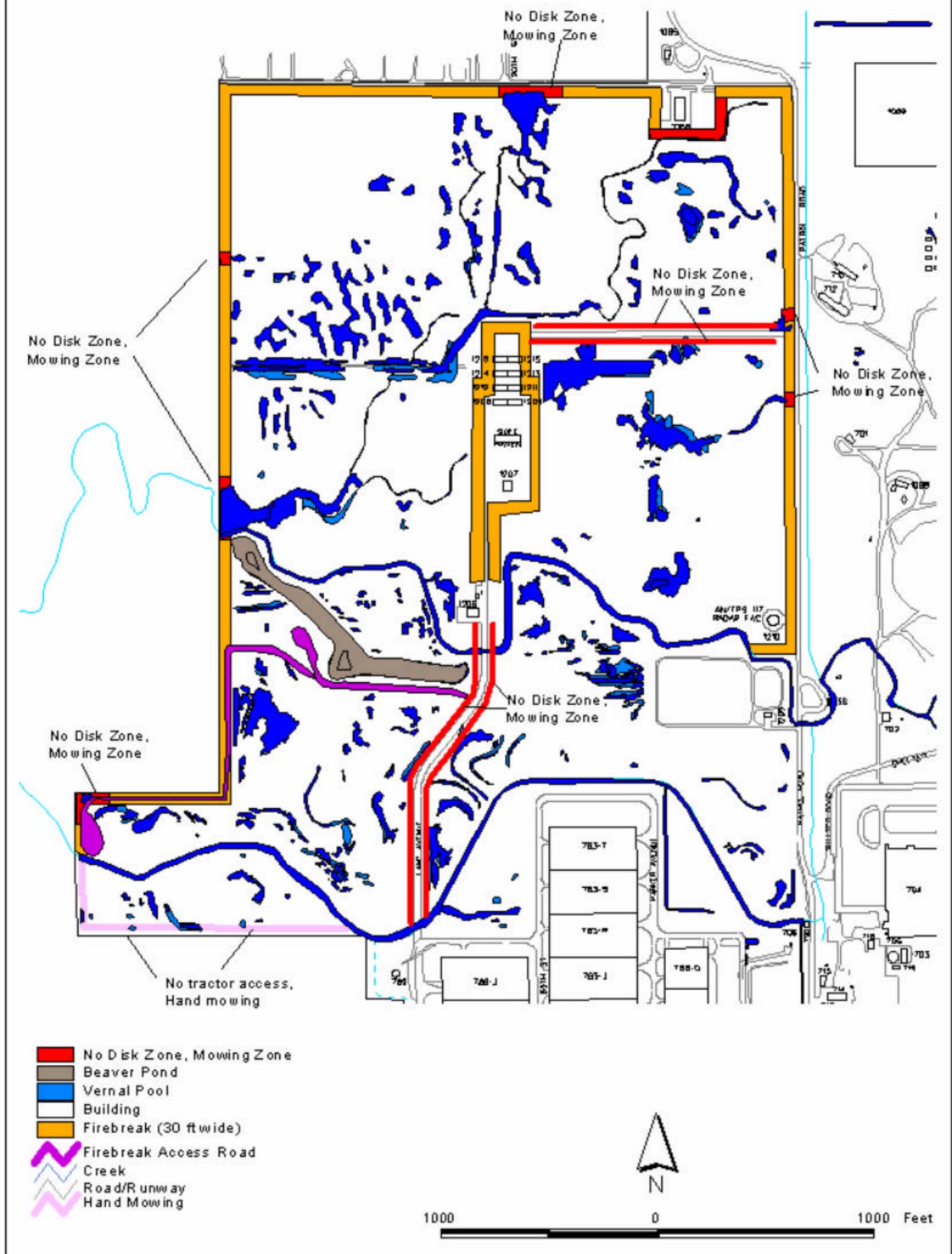
SITE MANAGER/ AIR FORCE REAL PROPERTY AGENCY REPRESENTATIVE CERTIFICATION

I have reviewed the information regarding threatened and endangered species protection with the operator/contractor. Weather conditions and timing of the firebreak construction are consistent with guidelines detailed in the firebreak plan. The information regarding equipment and safety precautions listed above have been verified and are correct.

Site Manager/ AFRPA Representative Signature

Date

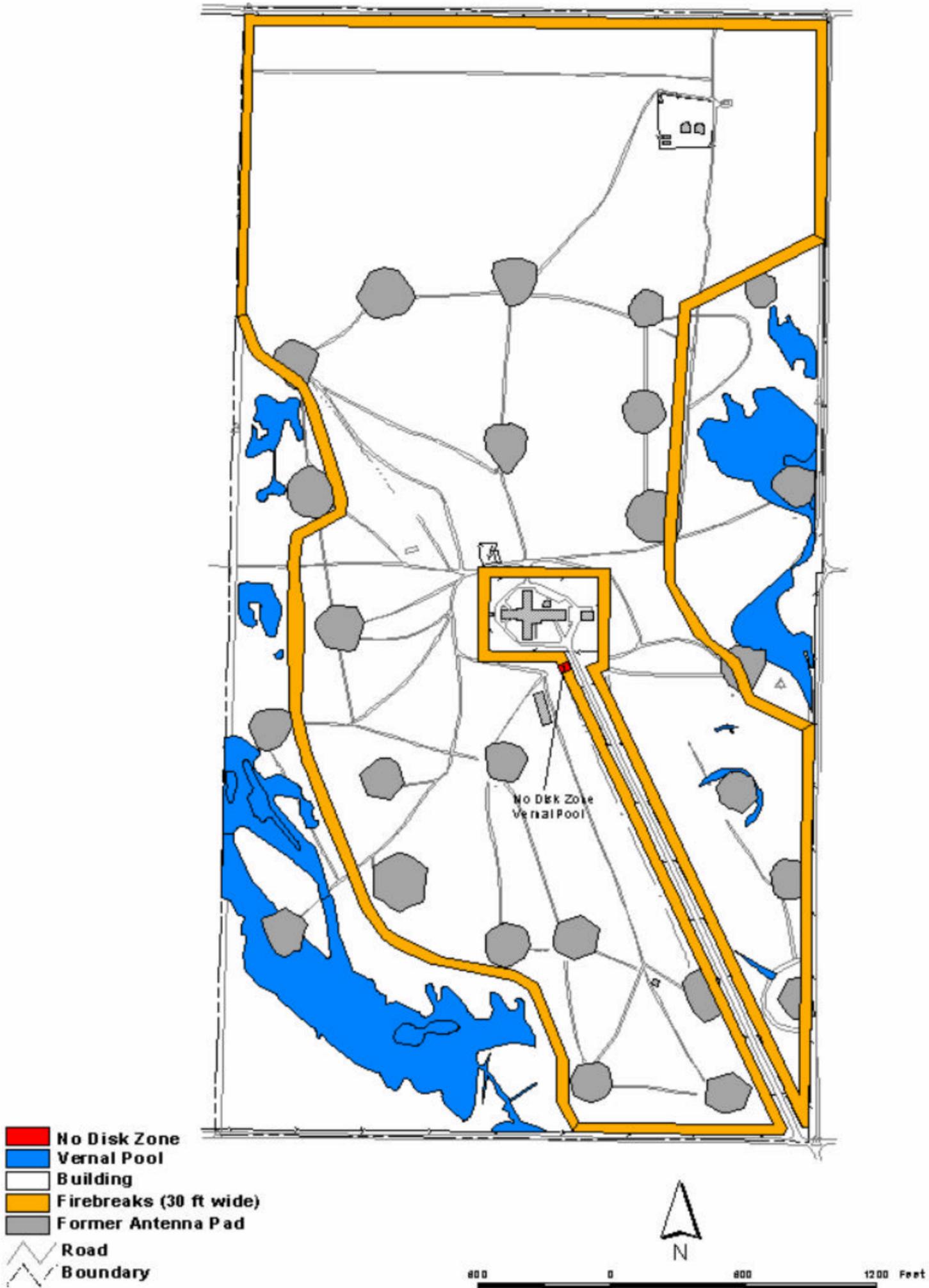
McClellan AFB West Area



McClellan AFB, CA (1981)

FIGURE 5-1

Davis



NO DISK ZONE VERNAL POOL

FIGURE 5-3