



National Park Service
U.S. Department of the Interior
Guadalupe Mountains National Park
Salt Flat, TX

Finding of No Significant Impact

Relocate Amenities at Frijole Ranch Complex

Background

In compliance with the National Environmental Policy Act, the National Park Service prepared an environmental assessment to examine various alternatives and environmental impacts associated with the proposal to improve the visitor experience and relocate amenities in the Frijole Ranch area, a National Register listed historic ranch house that has been adaptively re-used as a cultural museum. Other popular activities in the area include picnicking in the front yard of the ranch house and hiking the two trails that begin at the north end of the parking lot.

The proposal to improve the visitor experience at Frijole Ranch is needed in part to address the current parking lot that is too small to accommodate buses, RVs, school groups, and periods of heavy visitation. There are also safety issues associated with use of the current parking lot and erosion problems in and near the current parking lot that the proposed action alternatives would alleviate. Currently, there are few opportunities for wheelchair users at the ranch, and the site is not in compliance with the requirements of the Americans with Disabilities Act and the Architectural Barriers Act. The action alternatives propose to comply with these laws and provide a universally accessible restroom facility and drinking fountain and a new accessible trail.

This document records 1) a Finding of No Significant Impact as required by the National Environmental Policy Act of 1969 and 2) a determination of no impairment as required by the NPS Organic Act of 1916.

Selection of the Preferred Alternative

Three alternatives were evaluated in the environmental assessment including Alternative A (No Action), Alternative B (Move the gravel parking area to the south side of the wash and west side of the Frijole Ranch Road, keep the park's administrative horse/mule operation on the same footprint, build a fabricated barn on a slab at the south end of the current pasture, and construct an accessible path through the orchard), and Alternative C (Preferred: Move the gravel parking area to the south side of the wash and west side of the Frijole Ranch Road, move the park's administrative horse/mule operation to the south side of Highway 62/180, and construct an accessible path through the orchard). Alternative C is the National Park Service's preferred alternative because it best meets the purpose and need for the project as well as the project objectives to:

1. Provide a safe parking and picnic area that is large enough to accommodate the current traffic flow and allow RVs and buses the ability to safely turn around.
2. Meet federal and state health and safety requirements by providing a universally accessible restroom facility with a drinking fountain.
3. Create more accessible opportunities within the historic district; Bring the facilities at the Frijole Ranch Historic District into compliance within the requirements of the Americans with Disabilities Act and the Architectural Barriers Act.
4. Correct the erosion problem associated with the improperly sized double culverts located along Frijole Ranch road in the wash ½ mile north of Hwy 62/180 and at the wash at the entrance to the current parking area of the Frijole Ranch Historic District.
5. Alleviate the sheet flooding problem associated with the current parking area.
6. Maintain or enhance the historic integrity of the district.
7. Remove the impact of the horse and mule operation from the adjacent watershed. Improve safety and efficiency of the administrative horse/mule operation by reducing the interface of administrative and visitor vehicles, and providing a suitable area for mechanized unloading and storage of large hay bales.

Under Alternative C, a new gravel parking area would be constructed on the south side of the wash where the Frijole Ranch road enters the Frijole Ranch Historic District parking area on the west side of the Frijole Ranch road. The proposed parking area would include parking spaces for 18-22 passenger vehicles and 2-4 RVs. A single large group shade covered picnic area and 2-4 shade covered accessible single family picnic areas would be interdispersed around the proposed parking area. A universally accessible restroom and drinking fountain would be included. The current parking area would be rehabilitated to address the sheet flooding problem with water being diverted to the wash. A universally accessible path would join the parking area with the Frijole Ranch Historic District. Another trail would come off of the Manzanita and Smith Spring trail passing through the orchard and terminate at the edge of the yard by the stone gate. A prefabricated barn and horse/ mule corral would be built on a concrete slab approximately 1/4 mile south of U.S. Highway 62/180 along an abandoned road within the park.

Mitigation Measures

- To minimize the amount of ground disturbance, staging and stockpiling areas would be in previously disturbed sites, away from visitor use areas to the extent possible. All staging and stockpiling areas would be returned to pre-construction conditions following construction.

- Construction zones would be identified and fenced with construction tape, snow fencing, or some similar material prior to any construction activity. The fencing would define the construction zone and confine activity to the minimum area required for construction. All protection measures would be clearly stated in the construction specifications and workers would be instructed to avoid conducting activities beyond the construction zone as defined by the construction zone fencing.
- Revegetation and recontouring of disturbed areas would take place following construction. Revegetation efforts would strive to reconstruct the natural spacing, abundance, and diversity of native plant species using native species. All disturbed areas would be restored as nearly as possible to pre-construction conditions shortly after construction activities are completed. Weed control methods would be implemented to minimize the introduction of noxious weeds. Some trees may be removed, but other existing vegetation at the site would not be disturbed to the extent possible.
- Because disturbed soils are susceptible to erosion until revegetation takes place, standard erosion control measures such as silt fences and/or sand bags would be used to minimize any potential soil erosion.
- Fugitive dust generated by construction would be controlled by spraying water on the construction site, if necessary.
- To reduce noise and emissions, construction equipment would not be permitted to idle for long periods of time.
- To minimize possible petrochemical leaks from construction equipment, the NPS and contractors would regularly monitor and check construction equipment to identify and repair any leaks.
- Construction workers and supervisors would be informed about special status species. Contract provisions would require the cessation of construction activities if a species were discovered in the project area, until park staff re-evaluates the project. This would allow modification of the contract for any protection measures determined necessary to protect the discovery.
- Should construction unearth previously undiscovered cultural resources, work would be stopped in the area of any discovery and the park would consult with the Texas Historical Commission and the Advisory Council on Historic Preservation, as necessary, according to §36 CFR 800.13, *Post Review Discoveries*. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) would be followed.
- The National Park Service would ensure that all contractors and subcontractors are informed of the penalties for illegally collecting artifacts or intentionally damaging paleontological materials, archeological sites, or historic properties. Contractors and subcontractors would also be instructed on procedures to follow in case previously unknown paleontological or archeological resources are uncovered during construction.

- Construction workers and supervisors would be informed about the special sensitivity of the park's values, regulations, and appropriate housekeeping.
- According to 2006 *Management Policies*, the National Park Service would strive to construct facilities with sustainable designs and systems to minimize potential environmental impacts. Development would not compete with or dominate the park's features, or interfere with natural processes, such as the seasonal migration of wildlife or hydrologic activity associated with wetlands. To the extent possible, the design and management of facilities would emphasize environmental sensitivity in construction, use of nontoxic materials, resource conservation, recycling, and integration of visitors with natural and cultural settings. The National Park Service also reduces energy costs, eliminates waste, and conserves energy resources by using energy-efficient and cost-effective technology. Energy efficiency is incorporated into the decision-making process during the design and acquisition of buildings, facilities, and transportation systems that emphasize the use of renewable energy sources.
- Driving and parking of construction equipment would be limited to already disturbed areas (e.g. existing parking lots), or areas cleared for the new parking/picnic area.
- Areas of new disturbance that are not part of the new development footprint would be kept to a minimum, so as to reduce the area that requires post-construction revegetation.
- On-site project supervision would ensure that no contributing elements of the historic district are disturbed or damaged.
- Before and after photographic documentation would be completed for all changes within and adjacent to the historic district, and added to the park's record of changes made to the district over time. This record would help evaluate cumulative impacts in the future.

Alternatives Considered

Three alternatives were evaluated in the environmental assessment including the no-action alternative and two action alternatives. Under Alternative A, No-Action, there would be no changes to the facilities in the Frijole Ranch area. Alternatives B and C were the two action alternatives considered. The primary difference between the two action alternatives is the location of the horse/mule operation and proposed barn; all other portions of these two alternatives are identical and are described above. Alternative B proposes keeping the horse/mule operation in the existing pasture and building a barn on the south side of the existing pasture, whereas Alternative C proposes moving the horse/mule operation from the existing pasture and creating a new pasture with a newly constructed barn on the south side of US Highway 62/180.

Environmentally Preferred Alternative

Alternative C is the environmentally preferred alternative. The environmentally preferred alternative is determined by applying the six criteria suggested in §101 of the National Environmental Policy Act. According to these criteria, the environmentally preferred alternative should 1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; 2) assure for all generations safe, healthful,

productive, and esthetically and culturally pleasing surroundings; 3) attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences; 4) preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice; 5) achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and 6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Alternative C is the environmentally preferred alternative because it best addresses these six evaluation factors. Alternative C allows the park to comply with state and federal laws, improve staff and visitor safety, and enhance visitor facilities for future generations, while minimizing environmental impacts to the extent possible.

Why the Preferred Alternative Will Not Have a Significant Effect on the Human Environment

As defined in 40 CFR §1508.27, significance is determined by examining the following criteria:

Impacts that may be both beneficial and adverse. A significant effect may exist even if the agency believes that on balance the effect will be beneficial.

Implementation of the preferred (selected) alternative will result in some adverse impacts; however, the overall benefit of the project, particularly to visitor services, outweighs these negative effects. The adverse effects are summarized as follows. There would be minor adverse impacts to vegetation when creating the new parking area.

Although new trees and native plants will be planted after construction, some vegetation will also need to be removed during project implementation. The newly created pasture, which had been grazed approximately 40 – 50 years prior, would also have some impacts to vegetation from livestock use. However, the current pasture would be abandoned and would begin to naturally revegetate. Relocation of the horse/mule operation away from Frijole Ranch would remove a contributing element from the historic district, but during special occasions or events, the mules could be temporarily brought back to the ranch for interpretive use.

The overall benefit of implementing the preferred (selected) alternative is that recreation resources and visitor experiences will be improved. This alternative would provide a safe parking and picnic area that is large enough to accommodate the current traffic flow and allow RVs and buses the ability to safely turn around. It would also meet federal and state health and safety requirements by providing a universally accessible restroom facility with a drinking fountain. More accessible opportunities within the historic district would be created, and the facilities at the Frijole Ranch Historic District would be brought into compliance within the requirements of the Americans with Disabilities Act and the Architectural Barriers Act. This alternative would also remove the impact of the horse and mule operation from the adjacent watershed and improve safety and efficiency of the administrative horse/mule operation by reducing the interface of administrative and visitor vehicles and providing a suitable area for mechanized unloading and storage of

large hay bales. There would be an overall improvement in landscape condition due to fixing drainage and erosion problems in the parking lot.

The degree to which the proposed action affects public health or safety

The preferred alternative will have an overall beneficial effect on public health and safety, particularly for staff and visitors using the Frijole Ranch parking area.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas

The preferred alternative will not impact unique characteristics of the area including park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas because these resources do not exist in the project area. The preferred alternative will have impacts on the Frijole Ranch Historic District, but these impacts were determined to have no adverse effect to the overall district. A letter dated August 24, 2009 from the Texas Historical Commission confirms the NPS determination of *no adverse effect* for all components of the preferred alternative per §106 of the National Historic Preservation Act.

The degree to which the effects on the quality of the human environment are likely to be highly controversial

Throughout the environmental process, the proposal to relocate amenities at the Frijole Ranch Complex was not highly controversial, nor are the effects expected to generate future controversy.

The degree to which the possible effects on the quality on the human environment are highly uncertain or involve unique or unknown risks

The effects of relocating the amenities at the Frijole Ranch Complex are fairly straightforward and do not pose uncertainties. The environmental process has not identified any effects that may involve highly unique or unknown risks.

The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration

The preferred alternative is not expected to set a precedent for future actions with significant effects, nor does it represent a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

Cumulative effects were analyzed in the environmental assessment and no significant cumulative impacts were identified.

The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

Minor effects may occur to the Frijole Ranch Historic District, none of which will affect eligibility to the National Register. These potential effects will be minimized by following the mitigation procedures mentioned in this document. A letter dated August 24, 2009 from the Texas Historical Commission confirms the NPS determination of *no adverse effect* for all components of the preferred alternative per §106 of the National Historic Preservation Act.

The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

The Endangered Species List for Culberson County Texas listed on the United States Fish and Wildlife Service (USFWS) website was confirmed to be up to date by the USFWS. This document indicated that there are no records of threatened or endangered species in the project area. A biological evaluation was prepared and noted that under any alternative, the project would have a *no effect* action on any federally listed species. The park received a concurrence letter on June 20, 2009 from the USFWS documenting a *no effect* finding.

Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment

The action will not violate any federal, state, or local laws or environmental protection laws. The Texas Parks and Wildlife Department (TPWD) was consulted in July 2009 regarding species of concern to the state, but submitted no written comments. The park received a phone call from TPWD on October 2, 2009 (after the public review period) and commented that they had no further concerns that had not already been addressed or evaluated in the EA. Written correspondence documenting these comments will be received by the park in the near future.

Appropriate Use, Unacceptable Impacts, and Impairment

Sections 1.5 and 8.12 of NPS *Management Policies* underscore the fact that not all uses are allowable or appropriate in units of the National Park System. The proposed use was screened to determine consistency with applicable laws, executive orders, regulations, and policies; consistency with existing plans for public use and resource management; actual and potential effects to park resources; total costs to the Park Service; and whether the public interest would be served. The Frijole Ranch Complex is one of the most popular areas in the park. Proper location, sizing, construction materials and methods, and mitigation measures will ensure that unacceptable impacts to park resources and values will not occur. The proposed project is consistent with the Master Plan and Draft General Management Plan. With this in mind, the NPS finds that relocating the amenities at the Frijole Ranch Complex is an acceptable use at Guadalupe Mountains National Park.

The impact threshold at which impairment occurs is not always readily apparent. Therefore, the Service applies a standard that offers greater assurance that impairment will not occur. The Service will do this by avoiding impacts that it determines to be unacceptable. These are impacts that fall short of impairment, but are still not acceptable within a particular park's environment. Park managers must not allow uses that will cause unacceptable impacts; they must evaluate existing or proposed uses and determine whether the associated impacts on park resources and values are acceptable. Because the application of mitigating measures is expected to be successful in ensuring that no major adverse impacts would occur and that satisfactory reclamation of the disturbed area is expected to be achievable, implementation of the preferred alternative would not result in any unacceptable impacts.

In analyzing impairments in the NEPA analysis for this project, the NPS takes into account the fact that if an impairment were likely to occur, such impacts would be considered to be major or significant under CEQ regulations. This is because the context and intensity of the impact would be sufficient to render what would normally be a minor or moderate impact to be major or significant. Taking this into consideration, NPS guidance documents note that "Not all major or significant impacts under a NEPA analysis are impairments. However, all impairments to NPS resources and values would constitute a major or significant impact under NEPA. If an impact results in impairment, the action should be modified to lessen the impact level. If the impairment cannot be avoided by modifying the proposed action, that action cannot be selected for implementation." "Interim Technical Guidance on Assessing Impacts and Impairment to Natural Resources" National Park Service, Natural Resource Program Center, July 2003. In addition to reviewing the definition of "significantly" under the NEPA regulations, the NPS has determined that implementation of the preferred alternative would not constitute an impairment to the integrity of Guadalupe Mountains National Park's resources or values as described by NPS *Management Policies* (NPS 2006 § 1.4). This conclusion is based on the NPS's analysis of the environmental impacts of the proposed action as described in the EA, the public comments received, relevant scientific studies, and the professional judgment of the decision-maker guided by the direction in 2006 NPS *Management Policies*. The EA identified less than major adverse impacts on historic structures and paleontological resources. Although the plan/project has some negative impacts, in all cases these adverse impacts are the result of actions taken to preserve and restore other park resources and values. Overall, the plan results in benefits to park resources and values, opportunities for their enjoyment, and it does not result in their impairment.

Public Involvement

The environmental assessment was made available for public review and comment during a 40-day period ending August 31, 2009. To notify the public of this review period, a press release was placed in the local newspaper and copies of the EA were made available for review at the park visitor centers in Pine Springs, TX and Carlsbad, NM. 89 postcards were mailed to stakeholders, interested parties, and park neighbors that briefly described the alternatives and provided an NPS website entitled Planning, Environment, and Public Comment to access the complete EA. Copies of the document were sent to

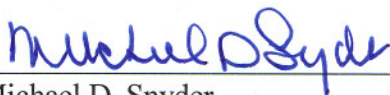
two individuals and certain state and federal agencies who requested a copy. Seven comments were received during this review period, only two of which were substantive. One comment was from the Texas Historical Commission which concurred with the park's finding on no adverse effect to historic properties. Similarly, the USFWS commented that they concurred with the park's finding of a no effect action on any federally listed species. Another comment was from a park neighbor that stated Alternative B was the most suitable. A comment was received from the Conservationist's Wilderness Committee that stated they supported the Preferred Alternative, Alternative C. The White Mountain Apache Tribe commented that they determined the proposed project would not have any impact to the tribe's cultural heritage or historic resources and that they had no further concerns or comments. The two substantive comments centered on three topics: the need to truck the livestock from the newly proposed corral locations, the horse/mule operation in general, and the presence of livestock at Frijole Ranch. These comments are addressed in the Errata Sheets attached to this FONSI. The FONSI and Errata Sheets will be sent to all commentors.

Conclusion

As described above, the preferred alternative does not constitute an action meeting the criteria that normally require preparation of an environmental impact statement (EIS). The preferred alternative will not have a significant effect on the human environment. Environmental impacts that could occur are limited in context and intensity. There are no unmitigated adverse effects on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

Based on the foregoing, the National Park Service has determined that an EIS is not required for this project and thus will not be prepared.

Approved:



Michael D. Snyder



Date

Director, Intermountain Region, National Park Service

Errata Sheets

Relocate Amenities at Frijole Ranch Complex

Guadalupe Mountains National Park

Of the seven comments that were received during public review of the EA, two of the comments are considered substantive. According to NPS policy, substantive comments are those that 1) question the accuracy of the information in the EA, 2) question the adequacy of the environmental analysis, 3) present reasonable alternatives that were not presented in the EA, or 4) cause changes or revisions in the proposal.

Some substantive comments may result in changes to the text of the EA, in which case, they are addressed in the *Text Changes* section of the Errata Sheets. Other substantive comments may require a more thorough explanatory response and are addressed in the *Response to Comments* section. NPS responds to all substantive comments in either or both of these sections. Since no text changes were required as a result on the comments received for this EA, there is no *Text Changes* section in this document.

Substantive comments for this EA centered on concerns regarding the need to truck the livestock from the newly proposed corral locations, the horse/mule operation in general, and the presence of livestock at Frijole Ranch. These concerns are explained below.

Response to Comments

Comment 1 – I have a concern about access from the proposed new corral area to the trails on the other side of the highway and wonder if a horseback trail can be run under the highway bridge to connect with the Foothills Trail to prevent the need to cross the highway or always truck the livestock as they are being ridden/trailed into the backcountry.

Response 1 – Currently, the park trailers the livestock to the Pine Springs campground or Dog Canyon campground to access designated livestock trails and very rarely rides the mules from the Frijole Barn to the backcountry. For the past ten years, the livestock has been regularly hauled via trailer to these locations, which saves between 40 minutes to an hour each way. This practice will continue when the proposed new barn is constructed.

Comment 2 – I believe moving the stock from Frijole Ranch would cause a loss of historic integrity in the cultural landscape. The livestock at the ranch represent a big part of this area's history and to remove them from their historical location in my opinion would be a mistake.

Response 2 – Minor effects may occur to the Frijole Ranch Historic District, but none of these are so severe that they will cause a loss of historic integrity and affect eligibility to the National Register. The potential effects will be minimized by following the mitigation procedures mentioned in this document. A letter dated August 24, 2009 from the Texas Historical Commission confirms the NPS determination of *no adverse effect* to the cultural landscape at Frijole Ranch and all other components of the preferred alternative per §106 of the National Historic Preservation Act.

Comment 3 – The livestock at Frijole Ranch represent a big part of this area's history and to remove them from their historical location in my opinion would be a mistake.

Response 3 – The livestock will be removed to remedy safety concerns in the existing parking lot and improve operational efficiency. Also, the livestock operation is impacting the wash in the existing pasture due to the nitrate accumulation and transportation. During special occasions or interpretive events, the livestock may be temporarily brought to the ranch house for interpretive purposes. Therefore, visitors will still occasionally have access to experiencing a livestock operation.

Comment 4 – If the area in front of the ranch is to be returned to a bone yard and no longer parking I believe there would be plenty of room to maneuver a trailer. Also it is discussed that if the stock is indeed moved then the barn would be "modified" into some sort of educational center. Could the barn be modified and non-stock gear moved out to accommodate larger quantities of hay? Also this area has already been exposed to exotic plants and year after year exotic plants are pulled. Without careful inspection and purchase of hay, the new barn/pasture will be exposing a new area to exotic plant species and push out native populations.

Response 4 – The barn space for hay storage is not the real issue. The large bales have to be maneuvered with heavy equipment which the current Frijole barn cannot accommodate. Park management intends to inspect hay prior to purchase in order to reduce the chances introducing exotic plants to the new pasture. There is mitigation in place to monitor and remove exotic species if they exist.

Comment 5 – Nitrates have been washed downstream in Cherry Canyon for approximately 100 years in this area. This area has become accustomed to nitrates and in some ways has probably evolved to the excess nitrates. If you move the pasture to the proposed location you will be exposing a new area to increased amounts of nitrates and these nitrates will be washed into Cottonwood Canyon. So nitrates will still be washed downstream. Moving the pasture and barn will not eliminate nitrates being washed downstream it will only move the location it is happening in.

Response 5 – Currently, the stock barn is located immediately beside a steep-sided wash, causing a large quantity of manure to be concentrated in a position where it can and is being carried immediately into the wash by rainfall runoff. Regardless of how long this human-induced impact has occurred, it is considered that best management practices seek to reduce the amounts of anthropogenic nutrients being introduced into surface waters. The preferred alternative would move the barn to an area 500 feet away from the closest wash and a cement pad for retaining the concentrated manure would be installed. This would allow the manure to be collected for transportation away from the park more efficiently and effectively than can be done on the irregular ground surface at the current barn. The proposed new pastures and barn would be located on ground surfaces with generally less gradient than where they currently are. Lower gradients would reduce

mobility from runoff, allowing the manure more time to break down and leach nitrates more slowly into the soil, thereby giving plants greater opportunity to take up the nutrients and allowing less opportunity to be carried into the local runoff. More efficient removal of concentrated manures and less mobility of dispersed manure in pastures would significantly reduce the amount of nitrates being incorporated into local runoff waters.

Comment 6 –Frijole Ranch is a daily stop for many park employees. Would the barn off the bone yard road be a daily stop for park employees to look in on the stock? Not likely.

Response 6 – The livestock do not require daily monitoring when using the large bales of hay for feed. The maintenance staff will be required to monitor water trough levels and clean the corrals several times per week. Also, the abandoned road where the new barn location is proposed is located near the housing area of the park. For recreation, this road is often walked by park staff that lives adjacent to this area. The mules have each other for company, but will no doubt be visited by park staff frequently.

Comment 7 - In terms of hay, most large bales weigh approximately 800 lbs and are 3ft x 6ft. Smaller bales are becoming harder and harder to find. So switching to large bales is a logical move, I agree. However, these bales are normally sold in large quantities (20 ton loads). For NPS to receive a 20 ton load of hay is not logical due to the fact that only 6 animals are being fed, so most of the hay would go bad. The question then is how many large bales to get? If the maintenance division picked up 6 tons, that would approximately be 16 large bales; these bales would fit into the current barn if the center bay was cleared out and the doors were modified on the west section. *16 large bales = 12800 lbs and if the stock consumes approx. 50 lbs of hay a day then this amount would last approx. 250 days or just over 8 months.

Response 7 – It is true that the small bales of hay are getting harder to find. Therefore, NPS often has to settle for lower quality hay because the supplies are limited. Large bales are very common and will allow NPS more flexibility in choosing higher quality. The large bales weigh between 1800 to 2000 lbs and are 4'wide X 4'high X 8'long. It is estimated that we'll use approximately 24 of the large bales per year to feed the park's 8 animals, which can be delivered by one truck load. The proposed plan is to purchase one truck load per year by contract (including delivery). Currently, it takes around 4 or 5 of the park's maintenance staff to manually load and unload the small bales several times per year, so using the large bales will allow those 4 to 5 employees to accomplish other duties and save the park the cost of hauling several loads to both the Pine Springs and Dog Canyon areas. The new barn will be capable of storing around 36 bales. Alfalfa does not go bad in storage if it is baled and stored correctly. As mentioned above, the large bales can only be moved by heavy equipment so the current barn cannot be used due to the fact that the heavy equipment cannot enter. The new barn will accommodate the park's front end loader and will also serve as a storage facility for it as well.