



United States Department of the Interior
NATIONAL PARK SERVICE

Yosemite National Park
P. O. Box 577
Yosemite, California 95389

IN REPLY REFER TO:
L7615(YOSE-PM)

Memorandum

To: Russ Balch, Project Manager, Yosemite National Park

From: Superintendent, Yosemite National Park

Subject: NEPA and NHPA Clearance: 2009-045 Sunrise High Sierra Camp Septic System & Grease Interceptor Replacement (25250)

The Executive Leadership Team has reviewed the proposed project/action and completed its environmental assessment documentation, and we have determined that there:

- Will not be any effect on threatened, endangered, or rare species and/or their critical habitat.
- Will not be any effect on historical, cultural, or archeological resources.
- Will not be serious or long-term undesirable environmental or visual effects.

The subject proposed project, therefore, is now cleared for all NEPA and NHPA compliance requirements as presented above. Project plans and specifications are approved and construction and/or project implementation can commence.

For complete compliance information see PEPC Project 25250.

Don L. Neubacher

Enclosure (with attachments)

cc: Statutory Compliance File



Categorical Exclusion Form

Project: 2009-045 Sunrise High Sierra Camp Septic System & Grease Interceptor Replacement

PEPC Project Number: 25250

Project Description:

This project will replace the existing septic tank and grease interceptor systems at Sunrise High Sierra Camp. The existing septic tank is no longer functional and will be removed along with shed above it. The existing grease trap is inadequately sized for the water processing required. Pipes regularly clog and maintenance needs have increased.

The following actions will be taken:

- Replace existing septic tank with a new 1500 gallon polyethylene septic tank in a 20 foot long, seven foot wide, and 6.5 foot deep pit north of and adjacent to the dining facility.
- Reroute waste lines to the new septic tank location. Trench lines will be approximately 80 foot long, 1.5 foot, and 2.5 foot deep.
- Replace the existing grease interceptor with a new 45-gallon bearproof unit. Install new unit below grade in a vault, 4 foot long, 3 foot wide, and 4 foot deep excavation.
- Install hair traps in the lavatory and shower drains.
- Replace existing shed with an 8 foot long, 6 foot wide, 10.5 foot high shed in the existing location to store materials necessary for operation of the camps utility systems. A 6 foot wide by 8 foot long, 1.5 foot deep excavation will need to be dug for the structure's footing and slab.

Helicopter support will be required to transport materials to the project site. Coordination of the delivery of new equipment and the removal of demolished materials will be arranged to minimize the number of flights. Park archeologists were consulted during the development of this project and will be present during ground disturbance. Human solid waste will continue to be processed through a separate system that uses a camp composting toilet. Management guidelines for preventing grease and solid wastes from entering into the new system will be developed.

Project Locations:

Tuolumne County, CA

Describe the category used to exclude action from further NEPA analysis and indicate the number of the category (see Section 3-4 of DO-12):

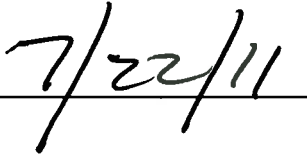
- C.15 Installation of underground utilities in previously disturbed areas having stable soils, or in an existing utility right-of-way.

On the basis of the environmental impact information in the statutory compliance file, with which I am familiar, I am categorically excluding the described project from further NEPA analysis. No exceptional circumstances (e.g. all boxes in the ESF are marked "no") or conditions in Section 3-6 apply, and the action is fully described in Section 3-4 of DO-12.

Superintendent

A handwritten signature in black ink, appearing to read "D. J. Neubach", written over a horizontal line.

Date

A handwritten date "7/22/11" in black ink, written over a horizontal line.



ENVIRONMENTAL SCREENING FORM (ESF)

DO-12 APPENDIX 1

Date Form Initiated: 07/21/2010

Updated May 2007 - per 2004 Departmental Manual revisions and proposed Director's Order 12 changes

A. PROJECT INFORMATION

Park Name: Yosemite National Park
Project Title: 2009-045 Sunrise High Sierra Camp Septic System & Grease Interceptor Replacement
PEPC Project Number: 25250
Project Type: Facility Rehabilitation (FR)
Project Location: Tuolumne, California
Project Leader: Russ Balch

Is project a hot topic (controversial or sensitive issues that should be brought to attention of Regional Director)? No

C. RESOURCE EFFECTS TO CONSIDER:

Identify potential effects to the following physical, natural, or cultural resources	No Effect	Negligible Effects	Minor Effects	Exceeds Minor Effects	Data Needed to Determine/Notes
1. Geologic resources – soils, bedrock, streambeds, etc.		Negligible			The septic tank measures 20 feet long by seven feet wide by 6.5 feet deep. Trenching for the tank measures 80 feet long by 1.5 wide by 2.5 deep. The shed will require a footing that measures 36 feet long by 1.5 feet wide by 1.5 feet deep.
2. From geohazards	No				
3. Air quality		Negligible			The project will produce some temporary dust.

Identify potential effects to the following physical, natural, or cultural resources	No Effect	Negligible Effects	Minor Effects	Exceeds Minor Effects	Data Needed to Determine/Notes
4. Soundscapes		Negligible			The septic tank will require the use of demolishing equipment over approximately two days. Generators will be used throughout the project.
5. Water quality or quantity	No				
6. Streamflow characteristics	No				
7. Marine or estuarine resources	No				
8. Floodplains or wetlands	No				
9. Land use, including occupancy, income, values, ownership, type of use	No				
10. Rare or unusual vegetation – old growth timber, riparian, alpine	No				
11. Species of special concern (plant or animal; state or federal listed or proposed for listing) or their habitat	No				
12. Unique ecosystems, biosphere reserves, World Heritage Sites	No				Yosemite National Park is a World Heritage Site.
13. Unique or important wildlife or wildlife habitat	No				

Identify potential effects to the following physical, natural, or cultural resources	No Effect	Negligible Effects	Minor Effects	Exceeds Minor Effects	Data Needed to Determine/Notes
14. Unique or important fish or fish habitat	No				
15. Introduce or promote non-native species (plant or animal)		Negligible			Mitigation measures associated with this project include equipment and materials free of exotic and noxious weed species.
16. Recreation resources, including supply, demand, visitation, activities, etc.	No				
17. Visitor experience, aesthetic resources	No				
18. Archeological resources	No				
19. Prehistoric/historic structure	No				
20. Cultural landscapes	No				
21. Ethnographic resources	No				
22. Museum collections (objects, specimens, and archival and manuscript collections)	No				
23. Socioeconomics, including employment, occupation, income changes, tax base, infrastructure	No				

Identify potential effects to the following physical, natural, or cultural resources	No Effect	Negligible Effects	Minor Effects	Exceeds Minor Effects	Data Needed to Determine/Notes
24. Minority and low income populations, ethnography, size, migration patterns, etc.	No				
25. Energy resources	No				
26. Other agency or tribal land use plans or policies	No				
27. Resource, including energy, conservation potential, sustainability	No				
28. Urban quality, gateway communities, etc.	No				
29. Long-term management of resources or land/resource productivity	No				Facilities maintenance meets the park's long-term management of resources.
30. Other important environment resources (e.g. geothermal, paleontological resources)?	No				

D. MANDATORY CRITERIA

Mandatory Criteria: If implemented, would the proposal:	Yes	No	N/A	Comment or Data Needed to Determine
A. Have significant impacts on public health or safety?		No		
B. Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas?		No		Mitigated; the assessment of effect is "No Adverse Effect."
C. Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources (NEPA section 102(2)(E))?		No		
D. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?		No		
E. Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?		No		
F. Have a direct relationship to other actions with individually insignificant, but cumulatively significant, environmental effects?		No		
G. Have significant impacts on properties listed or eligible for listing on the National Register of Historic Places, as determined by either the bureau or office?		No		
H. Have significant impacts on species listed or proposed to be listed on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species?		No		
I. Violate a federal law, or a state, local, or tribal law or requirement imposed for the protection of the environment?		No		

Mandatory Criteria: If implemented, would the proposal:	Yes	No	N/A	Comment or Data Needed to Determine
J. Have a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898)?		No		
K. Limit access to and ceremonial use of Indian sacred sites on federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007)?		No		
L. Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112)?		No		

For the purpose of interpreting these procedures within the NPS, any action that has the potential to violate the NPS Organic Act by impairing park resources or values would constitute an action that triggers the DOI exception for actions that threaten to violate a federal law for protection of the environment.

E. OTHER INFORMATION

1. Are personnel preparing this form familiar with the site? Yes
2. Did personnel conduct a site visit? No
3. Is the project in an approved plan such as a General Management Plan or an Implementation Plan with an accompanying NEPA document? No
4. Are there any interested or affected agencies or parties? Yes
5. Has consultation with all affected agencies or tribes been completed? N/A
6. Are there any connected, cumulative, or similar actions as part of the proposed action? No




E. INTERDISCIPLINARY TEAM SIGNATORIES

<u>Interdisciplinary Team</u>	<u>Field of Expertise</u>
Don L. Neubacher	Superintendent
Kathleen Morse	Chief of Planning
Randy Fong	Acting Chief of Project Management
Katariina Tuovinen	Chief of Administration Management
Ed Walls	Chief of Facilities Management
Joe Meyer	Acting Chief of Resources Management & Science
Marty Nielson	Chief of Business and Revenue Management
Tom Medema	Chief of Interpretation and Education
Charles Cuvelier	Chief of Visitor and Resource Protection
Russ Balch	Project Leader
Elexis Mayer	Environmental Planning and Compliance Program Manager
Barbara Wyatt	Historic Preservation Officer
Renea Kennec	NEPA Specialist

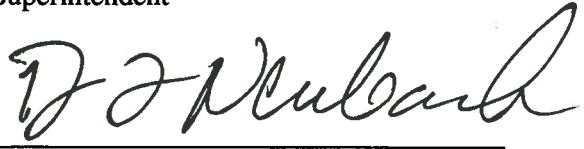
F. SUPERVISORY SIGNATORY

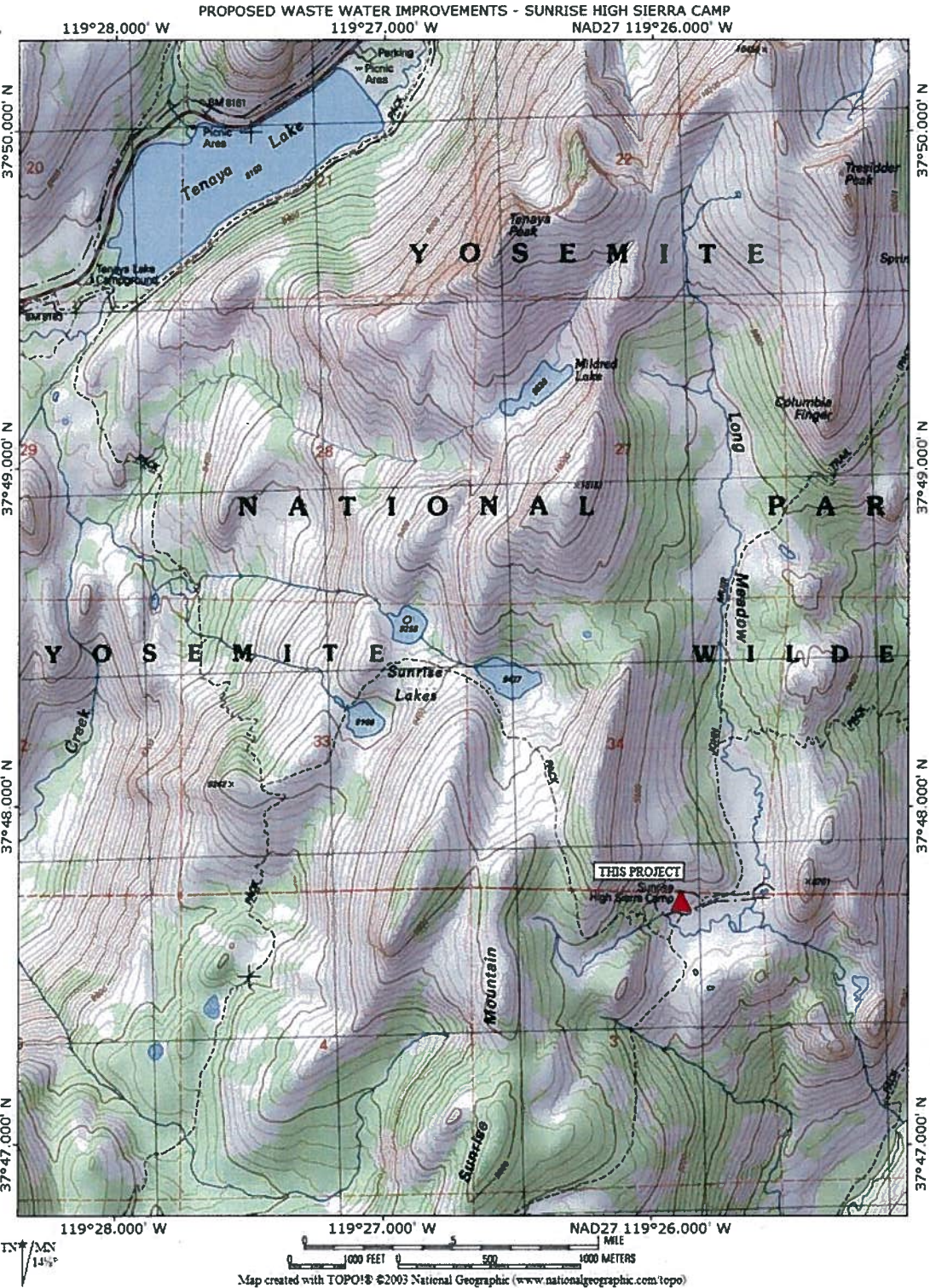
Based on the environmental impact information contained in the statutory compliance file and in this environmental screening form, environmental documentation for this stage of the subject project is complete.

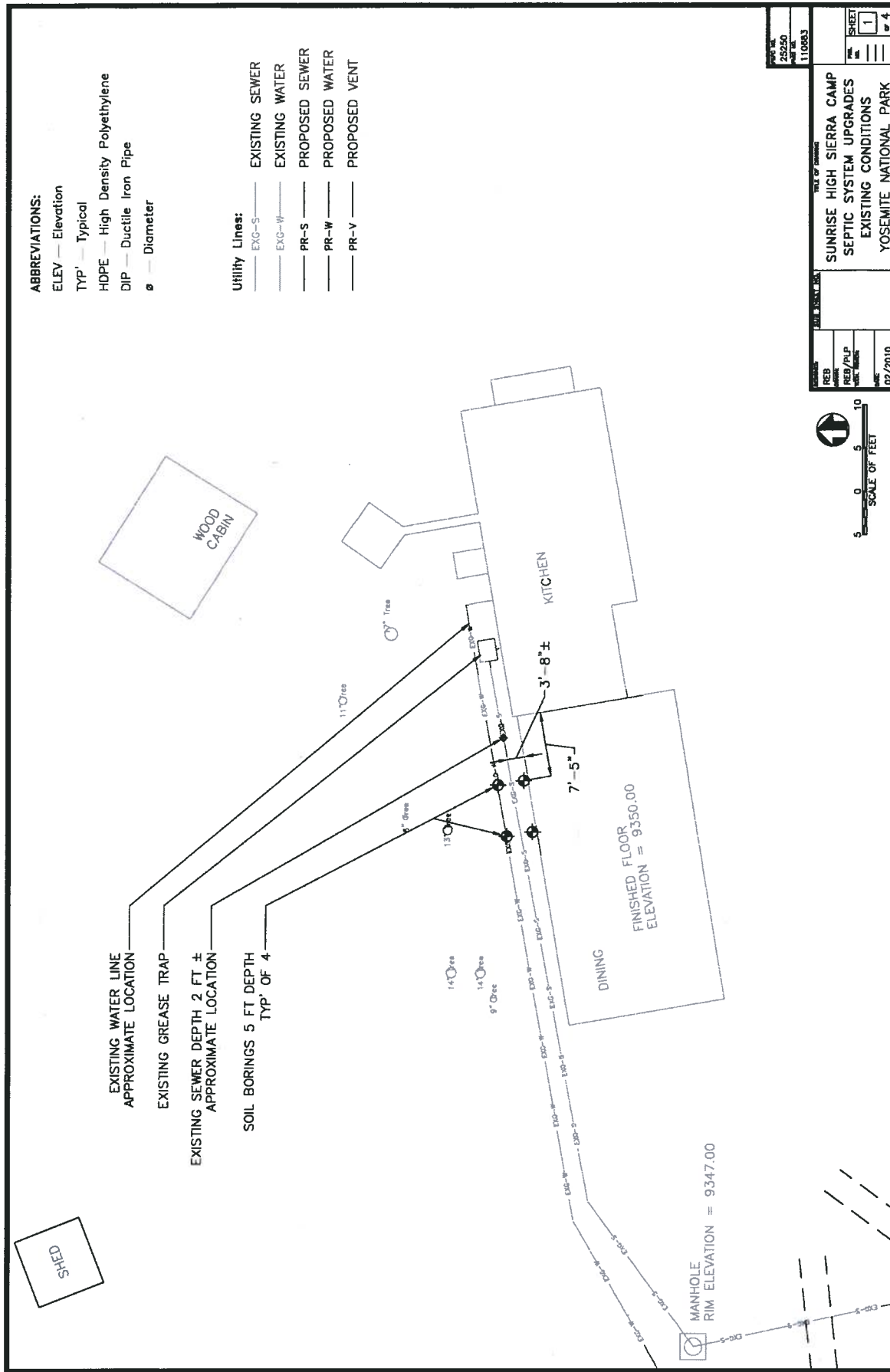
Recommended:

Compliance Specialists	Date
 Compliance Specialist – Renea Kennec	<u>4/4/11</u>
 Compliance Program Manager – Elexis Mayer	<u>7/21/11</u>
 Acting Chief, Project Management – Randy Fong	<u>7/25/11</u>

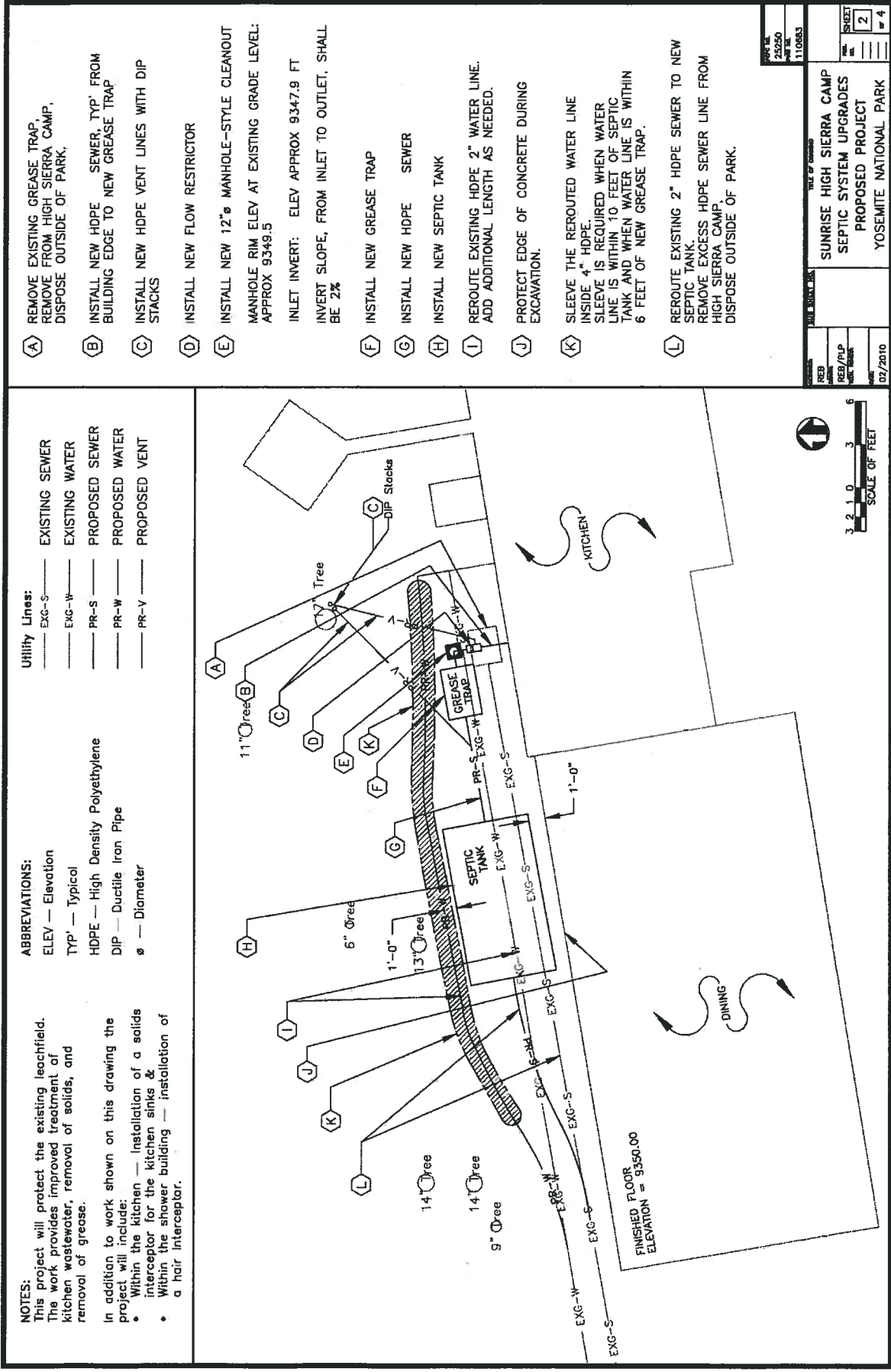
Approved:

Superintendent	Date
 Don L. Neubacher	<u>7/25/11</u>

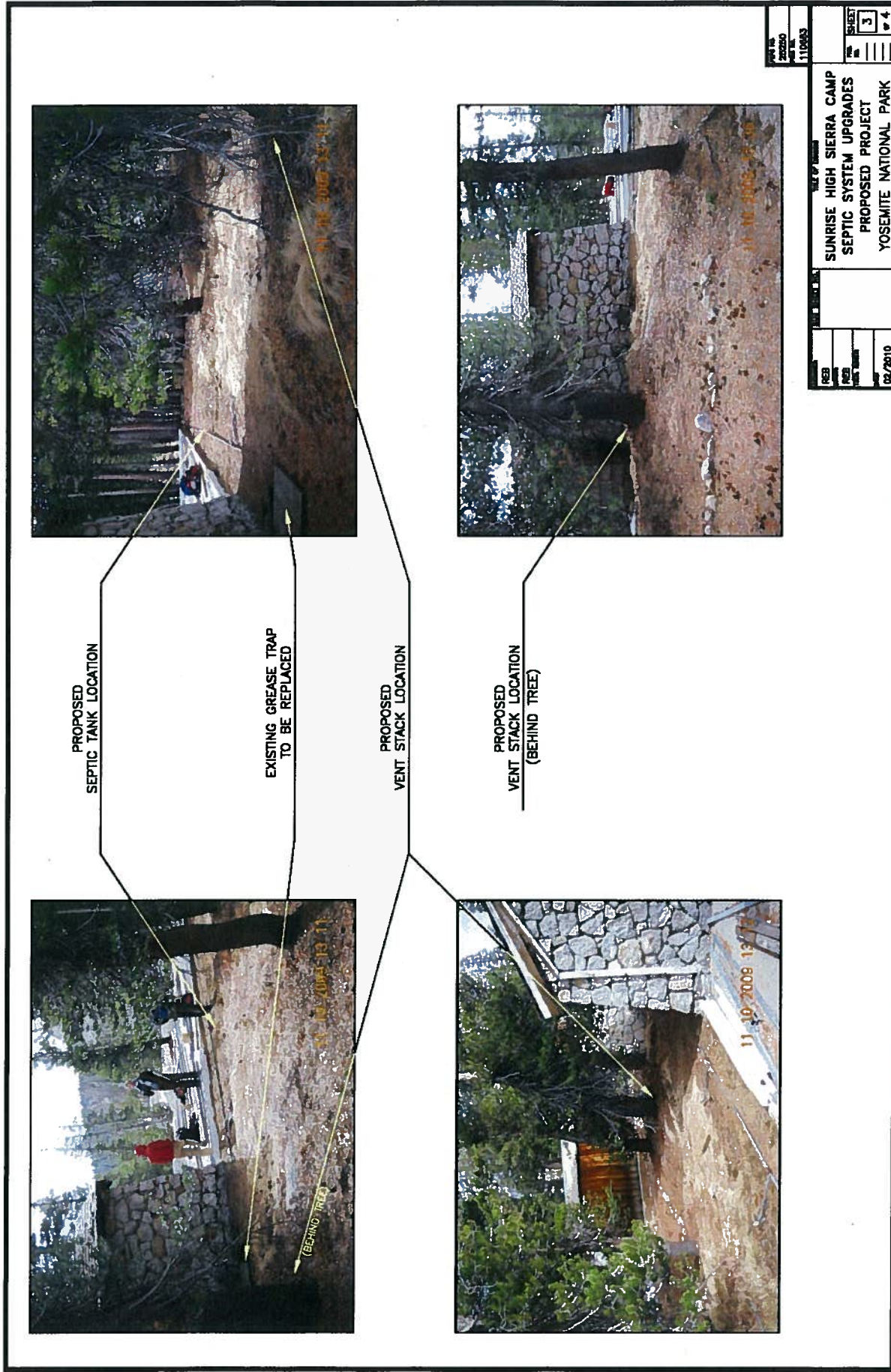




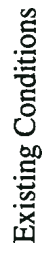
Existing Conditions



Proposed Conditions



Existing Conditions





National Park Service
U.S. Department of the Interior

Yosemite National Park
Date: 04/04/2011

PARK ESF ADDENDUM

Today's Date: April 4, 2011

PROJECT INFORMATION

Park Name: Yosemite National Park
Project Title: 2009-045 Sunrise High Sierra Camp Septic System & Grease Interceptor Replacement
PEPC Project Number: 25250
Project Type: Facility Rehabilitation (FR)
Project Location: Tuolumne, California
Project Leader: Russ Balch

PARK ESF ADDENDUM QUESTIONS & ANSWERS

ESF Addendum Questions	Yes	No	N/A	Data Needed to Determine/Notes
SPECIAL STATUS SPECIES CHECKLIST				
Listed or proposed threatened or endangered species (Federal or State)?		No		
Species of special concern (Federal or State)?		No		
Park rare plants or vegetation?		No		
Potential habitat for any special-status species listed above?		No		
NATIONAL HISTORIC PRESERVATION ACT CHECKLIST				
Entail ground disturbance?	Yes			The septic tank measures 20 feet long by seven feet wide by 6.5 feet deep. Trenching for the tank measures 80 feet long by 1.5 wide by 2.5 deep. The shed will require a footing that measures 36 feet long by 1.5 feet wide by 1.5 feet deep.
Are any archeological or ethnographic sites located within the area of potential effect?		No		

ESF Addendum Questions	Yes	No	N/A	Data Needed to Determine/Notes
Entail alteration of a historic structure or cultural landscape?		No		
Has a National Register form been completed?		No		
Are there any structures on the park's List of Classified Structures in the area of potential effect?		No		
WILD AND SCENIC RIVERS ACT CHECKLIST				
Fall within a wild and scenic river corridor? (Name the river corridor)		No		
Fall within the bed and banks AND will affect the free-flow of the river?			/	
Have the possibility of affecting water quality of the area?		No		
Remain consistent with its river segment classification?			N/A	
Fall on a tributary of a Wild and Scenic River?		No		
Will the project encroach or intrude upon the Wild and Scenic River corridor?		No		
Will the project unreasonably diminish scenic, recreational, or fish and wildlife values?		No		
Consistent with the provisions in the Merced River Plan Settlement Agreement?			N/A	
WILDERNESS ACT CHECKLIST				
Within designated Wilderness?		No		
Within a Potential Wilderness Addition?	Yes			Minimum Requirement Analysis is attached.



ASSESSMENT OF ACTIONS HAVING AN EFFECT ON CULTURAL RESOURCES

A. DESCRIPTION OF UNDERTAKING

1. **Park:** Yosemite National Park

2. **Project Description:**

Project Name: 2009-045 Sunrise High Sierra Camp Septic System & Grease Interceptor Replacement

Prepared by: Renea Kennec **Date Prepared:** 4/21/11 **Telephone:** 209-379-1038

PEPC Project Number: 25250

3. **Has the area of potential effects been surveyed to identify cultural resources?**

☒ No

☐ Yes

Source or reference:

Check here if no known cultural resources will be affected. (If this is because area has been disturbed, please explain or attach additional information to show the disturbance was so

☒ extensive as to preclude intact cultural deposits.)

4. **Potentially Affected Resource(s):**

No Historic Properties Affected

5. **The proposed action will: (check as many as apply)**

☐ No Destroy, remove, or alter features/elements from a historic structure

☐ No Replace historic features/elements in kind

☐ No Add non-historic features/elements to a historic structure

☐ No Alter or remove features/elements of a historic setting or environment (inc. terrain)

☐ No Add non-historic features/elements (inc. visual, audible, or atmospheric) to a historic setting or cultural landscape

☐ Yes Disturb, destroy, or make archeological resources inaccessible

☐ Yes Disturb, destroy, or make ethnographic resources inaccessible

☐ Yes Potentially affect presently unidentified cultural resources

☐ No Begin or contribute to deterioration of historic features, terrain, setting, landscape elements,

_____ or archeological or ethnographic resources
No Involve a real property transaction (exchange, sale, or lease of land or structures)
_____ Other (please specify): _____

B. REVIEWS BY CULTURAL RESOURCE SPECIALISTS

The park 106 coordinator requested review by the park's cultural resource specialist/advisors as indicated by check-off boxes or as follows:

[X] Archeologist
Name: Laura Kirn
Date: 07/14/2010

Check if project does not involve ground disturbance []
Assessment of Effect: X No Historic Properties Affected ___ No Adverse Effect ___ Adverse
Effect ___ Streamlined Review
Recommendations for conditions or stipulations:

[X] Historical Architect
Name: Sueann Brown
Date: 04/09/2010

Check if project does not involve ground disturbance []
Assessment of Effect: X No Historic Properties Affected ___ No Adverse Effect ___ Adverse
Effect ___ Streamlined Review
Recommendations for conditions or stipulations:
Doc Method: No Potential to Cause Effects [800.3(a)(1)]

[X] Anthropologist
Name: Jennifer Hardin
Date: 07/14/2011

Comments: All associated American Indian tribes and groups consulted & provided 30 day review period beginning June 7, 2011. No comments received as of July 13, 2011.

Check if project does not involve ground disturbance []
Assessment of Effect: X No Historic Properties Affected ___ No Adverse Effect ___ Adverse
Effect ___ Streamlined Review
Recommendations for conditions or stipulations:

[X] Historical Landscape Architect
Name: David Humphrey
Date: 04/12/2010

Check if project does not involve ground disturbance []

Assessment of Effect: X No Historic Properties Affected No Adverse Effect Adverse Effect
 Streamlined Review

Recommendations for conditions or stipulations:

Doc Method: No Potential to Cause Effects [800.3(a)(1)]

No Reviews From: Curator, Historian, 106 Advisor, Other Advisor, Anthropologist

C. PARK SECTION 106 COORDINATOR'S REVIEW AND RECOMMENDATIONS

1. Assessment of Effect:

X No Historic Properties Affected No Adverse Effect Adverse Effect

2. Documentation Method:

[] A. STANDARD 36 CFR PART 800 CONSULTATION
Further consultation under 36 CFR Part 800 is needed.

[] B. STREAMLINED REVIEW UNDER THE 2008 SERVICEWIDE PROGRAMMATIC AGREEMENT (PA)

The above action meets all conditions for a streamlined review under section III of the 2008 Servicewide PA for Section 106 compliance.

APPLICABLE STREAMLINED REVIEW Criteria
(Specify 1-16 of the list of streamlined review criteria.)

[] C. PLAN-RELATED UNDERTAKING

Consultation and review of the proposed undertaking were completed in the context of a plan review process, in accordance with the 2008 Servicewide PA and 36 CFR Part 800.
Specify plan/EA/EIS:

[X] D. UNDERTAKING RELATED TO ANOTHER AGREEMENT

The proposed undertaking is covered for Section 106 purposes under another document such as a statewide agreement established in accord with 36 CFR 800.7 or counterpart regulations.

Specify: 1999 Park Specific Programmatic Agreement

☐ E. COMBINED NEPA/NHPA Document

Documentation is required for the preparation of an EA/FONSI or an EIS/ROD has been developed and used so as also to meet the requirements of 36 CFR 800.3 through 800.6

☐ F. No Potential to Cause Effects [800.3(a)(1)]

☐ G. Memo to SHPO/THPO

☐ H. Memo to ACHP

3. Additional Consulting Parties Information:

Additional Consulting Parties: No

4. Stipulations and Conditions:

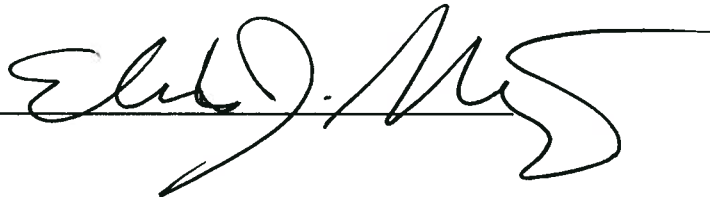
Following are listed any stipulations or conditions necessary to ensure that the assessment of effect above is consistent with 36 CFR Part 800 criteria of effect or to avoid or reduce potential adverse effects.

5. Mitigations/Treatment Measures:

Measures to prevent or minimize loss or impairment of historic/prehistoric properties:
(Remember that setting, location, and use may be relevant.)

No Assessment of Effect mitigations identified.

Signature of Historic Preservation Officer



Date: 7/20/11

D. SUPERINTENDENT'S APPROVAL

The proposed work conforms to the NPS *Management Policies* and *Cultural Resource Management Guideline*, and I have reviewed and approve the recommendations, stipulations, or conditions noted in Section C of this form.

Signature of Superintendent



Date: 7/25/11

Minimum Requirement Analysis Sunrise High Sierra Camp, Septic System & Grease Interceptor Replacement Project

Introduction

The Sunrise High Sierra Camp is one of a series of five High Sierra backcountry camps that were established starting in 1916 at the request of NPS director Stephen Mather with a significant boost in 1923 at the direction of Park Superintendent W.B. Lewis. Sunrise, the youngest of the High Sierra Camps (HSC), was established in 1961 and has been in nearly continuous seasonal operation since that time. A variety of systems have been utilized to provide potable water and sanitation to the camp, which periodically require rehabilitation, modification, repair, or replacement to maintain their functionality and to meet public health codes. By law and policy these actions must be the minimum required to allow the continued operation of the HSC while protecting environmental values within the Potential wilderness addition (PWA) and wilderness character in the surrounding designated wilderness.

Purpose and Need

The purpose of the proposed project is to prevent damage to Long Meadow and the surrounding wilderness environment resulting from the deteriorating wastewater system of the Sunrise HSC. The proposed project seeks to rehabilitate and modify the deteriorating septic system and grease interceptor in order to restore its sanitary functionality and protect water quality and human health, in accordance with applicable federal and state laws and NPS policies.

The wastewater treatment system is in disrepair and without the proposed work runs a risk of discharge of wastewater into the surrounding wilderness environment. The existing obsolete 1200-gallon, single-compartment, concrete, septic tank has been bypassed due to leakage and inadequate gravity flow to the leach field. Past practices have included the use of a gasoline powered pump to deliver wastewater to a treatment pond used until 1994. However, this practice applied to the existing septic system would reduce treatment efficiency within the leach field and would add noise and air pollution to the PWA.

Currently, wastewater from the kitchen and shower facilities flow directly to the leach field without the pretreatment normally provided by a septic tank. Solids in the wastewater from the HSC facilities, including kitchen grease, may clog the leach field preventing proper wastewater treatment and may cause wastewater flooding.

Kitchen wastewater is specifically excluded from being defined as greywater by the 2010 California plumbing code. Consequently, a septic tank is mandated.

The repairs are required to restore the functionality of the septic system, prevent potential groundwater contamination, to prevent degradation of the fragile subalpine environment, and to meet state and federal requirements. Without the repairs, system failure will occur, most likely within the next 3-5 years. A new system would need to be installed to service Sunrise HSC if it is to continue to operate as a nonconforming use within the PWA.

Additionally, the existing storage shed located on top of the existing septic tank, is nearing the end of its design life, with only 3-5 more years of usability. The existing shed suffers major adverse impacts from marmots and insects plus minor degradation from wood rot.

The shed is needed to store tools, equipment, and supplies necessary for operating Sunrise HSC utility systems and will be rebuilt to maintain its functionality. Wood chips and toilet tissue are stored and necessary to provide the carbon source required for proper operation of the camp's composting toilets. Sanitation and disinfection supplies are stored to support public health needs. Various hand tools are stored for camp maintenance needs as well as occasional storage for trail maintenance crews. On site storage precludes the need for partial mule loads and the accompanying increased wilderness impacts.

Project Objectives

- Ensure that operation of Sunrise HSC as a nonconforming use does not cause increased adverse impacts to the PWA or the adjacent wilderness environment
- Address insufficient wastewater treatment at Sunrise HSC
 - Prevent grease and solids from the kitchen facility from reaching the leach field
 - Prevent solids from the shower house from reaching the leach field
- Rebuild existing storage shed
- Repair or replace existing bypassed septic tank

Analysis

Step 1: Determine whether the proposed action takes place in designated Wilderness or in a Potential Wilderness Addition.

The Sunrise HSC is an existing nonconforming use in a Potential Wilderness Addition.

Step 2: Determine whether the proposed action is required for the administration of the Yosemite Wilderness.

The proposed action is needed to protect the Potential Wilderness Addition and surrounding wilderness environment from wastewater contamination and to protect the health, safety, and enjoyment of the park visitors. The action supports the following Wilderness Management Plan objectives: 1) Manage for ecosystem integrity; 2) Mitigate, reduce, or eliminate human-induced change; and 3) Recognize and integrate wilderness values.

Step 2a: Determine whether the proposed action is required for the continuation of the existing nonconforming use.

The proposed action is required for the continuation of the existing nonconforming use.

Step 3: Determine if the objectives of the proposed action can be met with actions outside of wilderness or potential wilderness.

No, the existing wastewater system, which is in deteriorating condition and needs repair, is located within a Potential Wilderness Addition.

Step 4: Develop the scope of the project.

The scope of the project is to prevent adverse impacts to the Sunrise HSC Potential Wilderness Addition and the surrounding wilderness by restoring proper wastewater treatment for the camp's kitchen and shower facilities.

Step 5: Develop a list of alternatives to meet the objective of the proposed action.

Considerations common to all Action Alternatives (all alternatives except Alternative 1):

- **Storage shed at new location:**
This was discussed. The concept was to move the storage shed to an area more central and more convenient to the HSC. However this would require an additional footprint, albeit within the PWA and closer to other HSC structures. It was decided to rebuild the replacement shed on its current previously-disturbed footprint.
- **Waste Concrete Removal:**
The demolished septic tank will result in waste concrete that could be removed from the HSC and the park. This was not included in the alternatives since:
 1. Complete removal of the demolished tank would likely result in damage to the existing adjacent rock wall. The rock wall was constructed to hide and protect existing wastewater conveyance facilities. Damage to the rock wall would require the importation of additional mortar for repairs and would require the removal of waste mortar.
 2. Removal of the waste concrete would necessitate the need for additional fill dirt to make up for the loss in volume. The fill dirt would need to come from a newly constructed barrow pit not otherwise necessary, or would need to be imported by mule or helicopter.
 3. Should the determination be made to remove Sunrise HSC, the waste concrete could be removed with other demolition material at that future date.
- **No showers or a reduced number of showers:**
The risk to the existing septic system is a result of solids and grease introduced into the leach field, not as a result of showers used at their current level. Shower impacts were considered but were not determined to have an actionable adverse impact, nor a detectable adverse impact, on the PWA or the surrounding wilderness. HSC workers should have access to showers, and should be required to shower, since they provide food service to the guests. Showers are available to HSC guests and on a paid-basis for passersby. Passerby and guest showers may be limited or curtailed as a future control mechanism should water and/or wastewater flow quantities become a problem.
- **Routing the shower sewer line through the septic tank:**
Routing the shower sewer through the septic tank would provide for the removal of solids from the shower waste stream. This would be an incidental result of Alternatives 2, 3, and 4. For Alternative 5 it would require 90 linear feet of additional 2 inch diameter sewer line installed in the ground along lines previously disturbed and in areas disturbed as a consequence of implementing Alternative 5. The shower sewer would gravity feed, using this alternative, but would have an in-line sag that could collect solids and cause sewer plugs.
Hair interceptors could be used to remove solids from the shower wastewater stream or a combination of sewer rerouting and hair interceptors could be used.

- Grease management as it is currently practiced by the concessionaire includes the use of precooked bacon, minimizing use of cooking oil, cold box lunches using precooked meats, and some entrées that introduce minimal grease to the wastewater stream. Additional grease reductions could be made by removing high fat entrées such as pork and beef from the menu or precooking those items before delivery to the HSC. The installation of a septic tank would capture any grease inadvertently escaping from the grease interceptors but it would not reduce the overall amount of grease needing removal from the backcountry. HSC staffs are required to check grease interceptors daily and to remove grease from the backcountry on a schedule that will assure proper grease interceptor operation.

Mitigating measures common to all Action alternatives:

- All work will be confined within the limits of areas designated by NPS project management and staff as absolutely necessary to perform the work.
- Work areas will be cordoned off and posted to preclude accidental intrusion by the public.
- Work crews will hike in and out.

Alternative 1: No Action

- Continue operation of the existing systems as-is with no modifications.

Alternative 2: Repair existing system without pump.

- Remove existing storage shed to access existing obsolete septic tank.
- Remove any residual solid waste in existing septic tank and clean for repairs.
- Remove septic tank roof and any portions of the existing septic tank walls and floor that cannot be salvaged, depending on condition of tank and system.
- Repair functionality of existing septic tank, including fabricating concrete patches for any wall, floor, or roof sections that cannot be salvaged. Use concrete patch mix on salvageable walls. Inspect and repair any wall penetrations to prevent leakage around pipes. Repair tank roof or replace if un-repairable. Seal-coat walls, floor, and ceiling with durable sulfate resistant coating. Return septic tank roof to its original location.
- Rebuild storage shed over repaired septic tank. Storage shed would be in kind with materials chosen for greater longevity.
- Reroute sewer through repaired septic tank.
- Bypass existing dosing tank to permit gravity flow to leach field.

Alternative 3: Repair existing system and install solar-powered pump.

- Remove existing storage shed to access existing obsolete septic tank.
- Remove any residual solid waste in existing septic tank and clean for repairs.
- Remove septic tank roof and any portions of the existing septic tank walls and floor that cannot be salvaged, depending on condition of tank and system.
- Repair functionality of existing septic tank, including fabricating concrete patches for any wall, floor, and roof sections that cannot be salvaged. Use concrete patch mix on

salvageable walls. Inspect and repair any wall penetrations to prevent leakage around pipes. Repair tank roof or replace if unrepairable. Seal-coat walls, floor, and ceiling with durable sulfate resistant coating. Return septic tank roof to its original location.

- Reroute sewer to repaired septic tank.
- Install pump in existing septic tank to aid flow from septic tank to leach field.
- Rebuild storage shed over repaired septic tank. Storage shed would be in kind with materials chosen for greater longevity.
- Install minimum 18 square feet of photovoltaic (PV) panels to power pump. New storage shed would be oriented south, to provide roof mounting PV panels or PV panels would be stanchion mounted adjacent to the storage shed. Two to four batteries would need to be installed to provide for nights and cloudy days. Size for each battery would be equal to a full-size pickup truck battery.

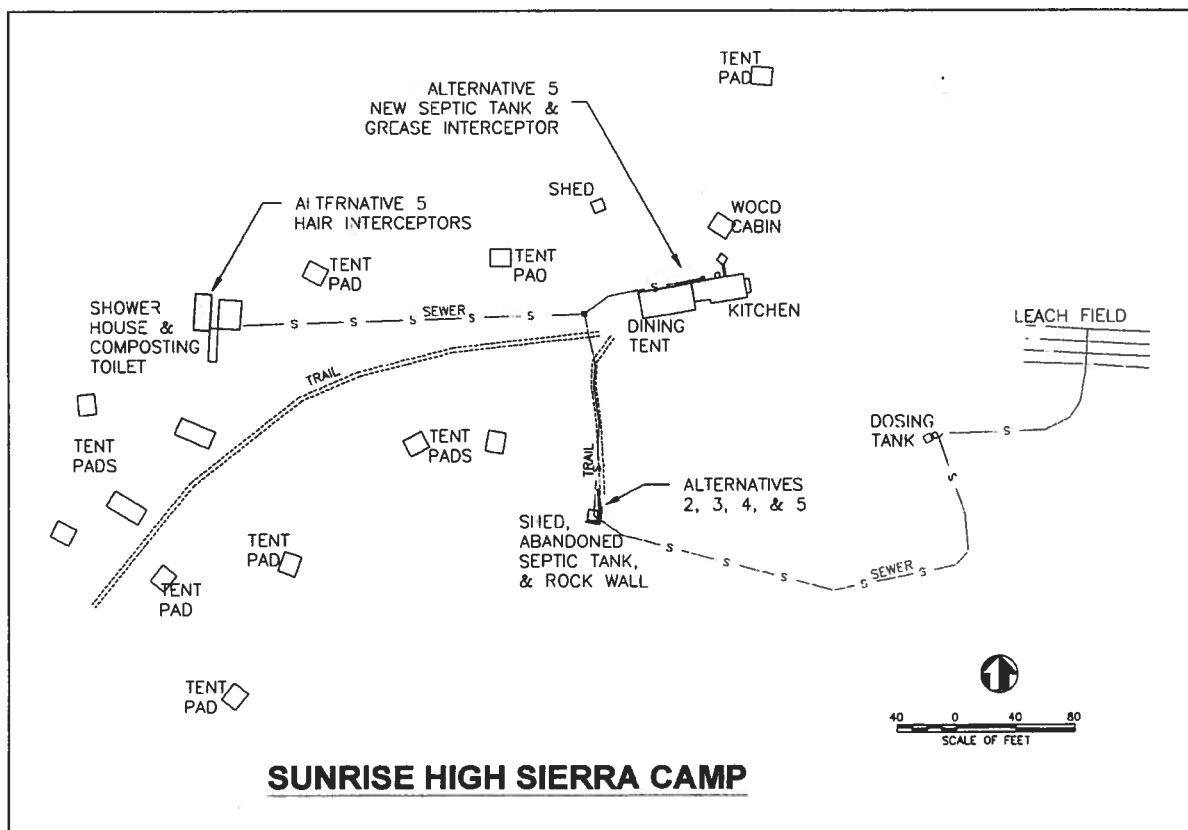
Alternative 4: Replace existing septic tank with new polyethylene tank and solar-powered pump

- Remove existing storage shed to access existing obsolete septic tank.
- Remove any residual solid waste in existing septic tank.
- Remove existing septic tank, preserving adjacent rock wall and removing waste concrete from the park.
- Install new polyethylene septic tank.
- Reroute sewer to repaired septic tank.
- Install pump in new septic tank to aid flow from septic tank to leach field.
- Rebuild storage shed over new septic tank. Storage shed would be in kind with materials chosen for greater longevity.
- Install minimum 18 square feet of photovoltaic (PV) panels to power pump. New storage shed would be oriented south, to provide roof mounting PV panels or PV panels would be stanchion mounted adjacent to the storage shed. Two to four batteries would need to be installed to provide for nights and cloudy days. Size for each battery would be equal to a full-size pickup truck battery.

Alternative 5: Demolish existing septic tank and install new polyethylene septic tank at new location

- Remove existing storage shed to access existing obsolete septic tank.
- Remove any residual solid waste in existing septic tank.
- Demolish the existing septic tank in place, preserving adjacent rock wall and cutting and removing exposed reinforcement bar (rebar) from the park.
- Install new underground polyethylene septic tank in new location along north side of dining facility adjacent to kitchen which would improve gravity flow. Service hatches would be at or just under the ground surface.

- Rebuild storage shed in its original location. Storage shed would be in kind with materials chosen for greater longevity.
- Replace grease interceptor adjacent to kitchen with larger more efficient grease interceptor. The new grease interceptor would be underground with a hatch about 2 feet in diameter, allowing for removal of accumulated kitchen grease. The approximate underground footprint would approximately be 4 x 6 feet and not more than 5 feet depth.
- Install solids interceptor on kitchen drain line to remove solids and improve grease interceptor performance.
- Install one or more hair interceptors on shower and lavatory drain line upstream of leach field to prevent hair from reaching leach field. Hair interceptors installation would be inside the shower building or in the crawl space under the shower building. The shower sewer line may also be rerouted based on physical layout and feasibility as it relates to installed polyethylene septic tank.
- The septic tank would be in a previously disturbed area. Approximately 80 linear feet of water and sewer lines would be rerouted around the septic tank into an area that remains adjacent to the kitchen and dining areas. The rerouted lines would be in an area that does not appear to have been previously excavated. Trenches would be about 1½ feet wide by 2½ feet deep.



Step 6: Determine the effects of each alternative on wilderness health and character.

Alternative 1: Existing septic system is failing and if not repaired could potentially result in release of wastewater and kitchen grease. Any such release could harm humans, wildlife, and the environment; degrading Potential Wilderness Addition and surrounding wilderness.

- Greatest potential adverse impact on human health and the environment. Wastewater usually contains microorganisms that are dangerous to humans and nutrients in wastewater degrade wilderness
- Greatest potential adverse impact on surface water and groundwater quality
- System failure would make restoration of wilderness condition more difficult if the camp were to be designated as wilderness. Released kitchen grease would biodegrade slowly and would encourage unnatural animal behavior. Bears, in particular, would be attracted to grease and would indulge in activities causing unnatural physical harm to the wilderness environment and to themselves. Microorganisms in wastewater are potentially harmful to wildlife. Nutrients in untreated wastewater would encourage plants that thrive on nitrogen and/or phosphorous at the expense of biodiversity.
- Does not include a septic tank for kitchen wastewater as mandated by the 2010 California Plumbing Code
- Least short-term impact on wilderness character and experience
- No helicopter flights or mule traffic
- No noise
- No increase in footprint

Alternative 2: A temporary solution that could lead to the same problems now affecting the system, after one to four years of operation. Could potentially result in release of materials hazardous to human health and the environment, degrading the Potential Wilderness Addition and the surrounding wilderness within two years.

- Potential adverse impact on human health and the environment. Wastewater usually contains microorganisms that are dangerous to humans and nutrients in wastewater degrade wilderness
- Potential adverse impact on surface water and groundwater quality
- System failure would make restoration of wilderness condition more difficult if the camp were to be designated as wilderness. Released kitchen grease would biodegrade slowly and would encourage unnatural animal behavior. Bears, in particular, would be attracted to grease and would indulge in activities causing unnatural physical harm to the wilderness environment and to themselves. Microorganisms in wastewater are potentially harmful to wildlife. Nutrients in untreated wastewater would encourage plants that thrive on nitrogen and/or phosphorous at the expense of biodiversity.

- The existing septic tank location does not provide sufficient gravity flow to provide proper wastewater flow to the leach field and would result in system failure
- The existing dosing system would have to be removed from the system further degrading the wastewater treatment performance within the leach field
- No Increase in footprint

Alternative 3: An electro-mechanical solution that would be subject to mechanical and electrical failure. As the system aged dependability would decrease. Mechanical or electrical failure could potentially result in release of materials hazardous to human health and the environment, degrading the Potential Wilderness Addition and the surrounding wilderness. Would require installation of a solar PV system in plain sight of the camp and the John Muir Trail.

- Would prevent grease from entering and clogging the leach field
- Potential wastewater Spills at the existing septic tank location
- Potential adverse impact on human health and the environment. Wastewater usually contains microorganisms that are dangerous to humans and nutrients in wastewater degrade wilderness
- Potential adverse impact on surface water and groundwater quality
- System failure would make restoration of wilderness condition more difficult if the camp were to be designated as wilderness. Released kitchen grease would biodegrade slowly and would encourage unnatural animal behavior. Bears, in particular, would be attracted to grease and would indulge in activities causing unnatural physical harm to the wilderness environment and to themselves. Microorganisms in wastewater are potentially harmful to wildlife. Nutrients in untreated wastewater would encourage plants that thrive on nitrogen and/or phosphorous at the expense of biodiversity.
- Solar PV system installed in plain sight of the camp and the John Muir Trail could degrade the wilderness experience for visitors and diminish the camp's historic character
- No Increase in footprint

Alternative 4: An electro-mechanical solution that would be subject to mechanical and electrical failure. As the system aged dependability would decrease. Mechanical or electrical failure could potentially result in release of materials hazardous to human health and the environment, degrading the Potential Wilderness Addition and the surrounding wilderness. Would require installation of a solar PV system in plain sight of the camp and the John Muir Trail.

- Would require maximum of three helicopter flights to deliver prefabricated septic tank and PV solar system components
- Potential wastewater Spills at the existing septic tank location
- Would prevent grease from entering and clogging the leach field

- Potential adverse impact on human health and the environment. Wastewater usually contains microorganisms that are dangerous to humans and nutrients in wastewater degrade wilderness
- Potential adverse impact on surface water and groundwater quality
- System failure would make restoration of wilderness condition more difficult if the camp were to be designated as wilderness. Released kitchen grease would biodegrade slowly and would encourage unnatural animal behavior. Bears, in particular, would be attracted to grease and would indulge in activities causing unnatural physical harm to the wilderness environment and to themselves. Microorganisms in wastewater are potentially harmful to wildlife. Nutrients in untreated wastewater would encourage plants that thrive on nitrogen and/or phosphorous at the expense of biodiversity.
- Solar PV system installed in plain sight of the camp and the John Muir Trail could degrade the wilderness experience for visitors
- Polyethylene septic tank would experience little or no degradation and would not need replacement for decades if at all
- Multiple compartment septic tank would be used providing better pretreatment and improve treatment performance within the leach field
- Polyethylene septic tank could be cut into pieces and readily removed from the park, if the camp were to be designated as wilderness
- No Increase in footprint

Alternative 5: A long term solution that would prevent grease and solids from clogging the leach field and prevent future leakage from the septic tank, virtually eliminating the risk of hazardous materials leaking into the environment and groundwater. Installing a grease interceptor and septic tank adjacent to the kitchen facility would remove grease as near to the source as possible thereby reducing the risk of grease and solids clogging pipes. Hair interceptors would remove solids from the shower facility.

- Lowest potential for leaking or spilling wastewater into the environment
- Lowest potential for contaminating groundwater and lowest potential for adversely affecting surface water quality
- Gravity feed to the leach field would eliminate the need for a pump or solar system
- Would require a maximum of three helicopter flights to deliver prefabricated septic tank and grease interceptor
- Polyethylene septic tank would experience little or no degradation and would not need replacement for decades if at all
- Multiple compartment septic tank would be used providing better pretreatment and improve leach field performance
- Polyethylene septic tank could be cut into pieces and readily removed from the park, if the camp were to be designated as wilderness

- Underground utility footprint increases adjacent to kitchen since water and sewer lines must be rerouted around new septic tank. Visible increase in surface footprint would be negligible.

Step 7: Determine the management concerns of each alternative.

Alternative 1: Would result in continued deterioration of the camp's wastewater system resulting in noncompliance with applicable federal laws, state laws, and NPS policies and the subsequent closure of Sunrise HSC.

Alternative 2: Would utilize the same type of piecemeal site-fabricated wastewater treatment system that has failed in the past and would likely fail in the near future. Prolongs the service life of some components but does not eliminate the need to replace them at a future time. Would shorten service life of the leach field, as compared to Alternatives 3, 4 and 5, necessitating a leach field replacement at some future date.

Alternative 3: Would utilize the same type of piecemeal site-fabricated wastewater treatment system that has failed in the past and would likely fail in the future. Prolongs the service life of some components but does not eliminate the need to replace them at a future time. Reusing deteriorated components, adding a PV system, and adding a pump would increase the maintenance load.

Alternative 4: Would represent a long-term solution to the wastewater treatment system problems at Sunrise HSC but entails new operational and maintenance loads associated with the solar PV system and pump.

Alternative 5: Would represent a long-term solution to the wastewater treatment system problems at Sunrise HSC. Activities at Sunrise HSC would entail more short-term impacts from construction than the other alternatives. Because Alternative 5 does not require any mechanical parts that could fail, future maintenance would be minimal and system dependability would be excellent.

Step 8: Chose an alternative.

Alternative 1 is not chosen since it would fail in the near term resulting in adverse impacts to the wilderness and the PWA. Potential adverse impacts to human and wildlife welfare would increase. This alternative could be considered NPS negligence resulting in system failure and a subsequent forced camp closure made outside the normal public decision-making process.

Alternative 2 would reemploy the existing obsolete septic tank while reducing the effectiveness of the leach field. The maintenance load would be similar to Alternative 5 but this would be offset by the need for future system upgrades and component replacements.

Alternatives 3 & 4 have increased system complexity with an associated increased maintenance load and decreased dependability but no better treatment performance than Alternative 5.

Alternative 5 is the preferred alternative for meeting the minimum requirement standard because it represents the best long-term solution for protecting the Sunrise HSC Potential

Wilderness Addition and adjacent wilderness from potential adverse impacts resulting from the deteriorating wastewater treatment system serving the camp, with the least long-term impact on wilderness values and visitors' wilderness experience. The short term impact is greater than the Alternatives 1, 2, & 3 and about equal to Alternative 4 but the long term impacts from Alternatives 1 through 4 are greater than the short term impact from Alternative 1. The key advantages leading to lower long-term wilderness and PWA impacts are a reduction of future construction, long-lasting system components, system simplicity, lower maintenance load, and greater dependability.

Amendment
Minimum Tool Analysis
Sunrise High Sierra Camp, Septic System & Grease Interceptor
Replacement Project

Background:

The Minimum Tool Analysis (MTA) originally approved for this project is a supporting document to the Minimum Requirements Analysis (MRA). The MRA documented the decision process used to determine the minimum infrastructure improvements necessary for the Sunrise High Sierra Camp (SHSC) to remain in service as a non-conforming use, in accordance with the 1984 California Wilderness Act (CWA). The MTA documented the decision process as to how those infrastructure improvements would be put into place with the least impact to the SHSC and the surrounding wilderness. The SHSC is within a potential wilderness addition (PWA) as defined in the CWA.

The original MRA remains unchanged and remains in full force. For reasons outlined below the MTA is being amended to reflect a change in conditions in the implementation of the infrastructure improvements outlined in the MRA. The MTA amendment shall receive the same level of approval as the original MRA since it is an indirect amendment to the MRA.

The infrastructure improvements outlined in the MRA are being implemented under contract. The contract Scope of Work allowed the “use helicopters only for the delivery of materials and assemblies that are too bulky or heavy to be delivered by any other legal means. The number of flights for this project shall not exceed any limitations described in the MRA.” The 95% draft MRA included the MTA and was included in the contract documents as a 95% draft. The draft MRA/MTA would “Utilize 2-4 heavy lift helicopter flights If heavy lift helicopters are not available, it may take two or three times as many flights using the type of general aviation helicopters typically used at the park.”

Conditions:

The final version of the MRA and MTA were completed as two separate documents. The MTA allowed for the use of two heavy lift helicopters with a third allowed for off-site construction to reduce “wilderness impact from on-site construction”.

On September 7, 2011 the park’s law enforcement officers observed eight flights had already flown with more flights to come. The officers contacted the National Park Service (NPS) Contracting Officer’s Technical Representative (COTR) for the SHSC project and the flight operations were shut down as a result of non-compliance with the MRA and MTA developed under NEPA and CWA requirements. At the shut down the contractor had materials ready for flight to SHSC that could have been delivered by “other legal means”. NPS maintenance personnel observed supplies already delivered to SHSC that could have been delivered by “other legal means”.

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Items are remaining to be hauled into SHSC that can only be transported by helicopter. These include a metal door & door frame, iron pipe, prefabricated building components, and balky building components.

Immediately after the shutdown it was determined that the availability of heavy lift helicopters was limited as a result of fires in Texas and around Barstow, CA. A medium lift helicopter is available but at an increased number of flights.

Monitoring and Pre-approval of Flights:

All flights shall be pre-approved by the COTR prior to initiation of flights and may be monitored by on-site law enforcement.

Alternatives:

The original MTA selected Alternative C. The proposed alternatives, below, would remain within Alternative C with variations reflecting the use of helicopters. The proposed alternatives will be numbered C1, C2 and C3. The original completed MRA and MTA remain in force with only the variations listed below. Specifically, the variations outlined in the selected alternative, below, will apply in addition to the implementation of the MTA/MRA.

Alternative C1: Discontinue the Current Contract

In this alternative the contractor would be de-mobilized from the job site. The contractor could be reimbursed for on-site materials which could then be used to complete the project at a later date by a different work crew.

Alternative C2: Complete all Haul-in with Helicopters

This alternative would be the hauling in of all materials, equipment, and tools by helicopters and the removal of any remaining tools, equipment, and construction debris at construction completion by way of helicopters.

Alternative C3: Complete Remaining Haul-in Using Mules for Portions that can be Hauled in on Mules and Helicopters for Heavy, Bulky, and Prefabricated Components

This would allow the use of helicopters for those portions that are not yet at SHSC but must still be delivered by helicopter as “materials and assemblies that are too bulky or heavy to be delivered by any other legal means”. It would also allow the use of a helicopter “to accommodate off-site construction of assemblies that would otherwise have a higher wilderness impact from on-site construction”.

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Analysis:

Alternative C1: Discontinue the Current Contract

The materials would need to be stored or removed, possibly for the winter, until a new crew could be brought in to complete the project. Removing some or most of the materials may be necessary due to winter conditions including winds and heavy snow loads. Bringing loads back in would require at least two helicopter flights and 16 mule strings. One helicopter flight and two mule strings would be necessary at project completion for removal of equipment.

Alternative C2: Complete all Haul-in with Helicopters

This approach would have the effect of evading the NEPA process since the original MTA addressed the unnecessary use of helicopters in wilderness areas.

Alternative C3: Complete Remaining Haul-in Using Mules for Portions that can Hauled in on Mules and Helicopters for Heavy, Bulky, and Prefabricated Components

This will result in up to five additional approved flights into SHSC and two or three additional mule strings. One or two mule strings would be necessary at project completion for removal of tools.

Selection of Alternative:

Alternative C1: Discontinue the Current Contract

This alternative would potentially result in a delay until after the snow melts next season. It would result in increased impacts due to demobilization and remobilization.
This is *not* the preferred alternative.

Alternative C2: Complete all Haul-in with Helicopters

This alternative would not be in line with the limited use of helicopters in the original MRA/MTA.
This is *not* the preferred alternative.

Alternative C3: Complete Most Remaining Haul-in with Helicopters and Use Mules for Portions that can be hauled in on Mules

This is the alternative that best aligns with the original MRA/MTA. It will move the project forward in accordance with the original MRA and best preserves wilderness character. The combination of minimal helicopter flights and less impact from demobilization/mobilization

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resulting in the fewest impacts to wilderness character while still realizing the benefits articulated in the original MRA.

This is the preferred alternative.

Project Title: Sunrise High Sierra Camp, Septic System & Grease Interceptor Replacement Project

Amendment to MTA: Supporting document to the MRA (3/17/2011)

Check one:

- ☒ The proposed action is a temporary, one time activity
- ☐ The proposed action will be an on-going, long term activity.

Submitted By:

for Russell Z. Porten
J. Colter Chisum
Project Manager

09/09/2011
Date

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(Attach any comments and conditions)

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Date

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