



APPENDIX D

**BEST MANAGEMENT PRACTICES AND
STANDARD OPERATING PROCEDURES**

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D. BEST MANAGEMENT PRACTICES & STANDARD OPERATING PROCEDURES

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Appendix D

Best Management Practices & Standard Operating Procedures

D.1 BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) are land and resource management techniques determined to be the most effective and practical means of maximizing beneficial results and minimizing conflicts and negative environmental impacts from management actions. BMPs can include structural and nonstructural controls, specific operations, and maintenance procedures. BMPs can be applied before, during, and after activities to reduce or eliminate negative environmental impacts. BMPs are not one-size-fits-all solutions. BMPs should be selected and adapted through interdisciplinary analysis to determine which management practices are necessary to meet the goals and objective of the resource-management plan (RMP). The best practices and mitigation measures for a particular site are evaluated by considering site-specific conditions, local resource conditions, and a suite of techniques that guide or may be applied to management actions to aid in achieving desired outcomes. BMPs are often developed in conjunction with land-use plans, but they are not considered a land-use plan decision unless the land-use plan specifies that they are mandatory. They may be updated or modified without a plan amendment if they are not mandatory.

D.2 STANDARD OPERATING PROCEDURES

Standard Operating Procedures (SOPs) are procedures carried out daily during proposal implementation which are based on laws, regulations, executive orders, BLM planning manuals, policies, instruction memoranda, and applicable planning documents. SOPs describe the flow of actions as well as identifying roles and responsibilities. Policy and planning procedures either already exist or have been identified through collaborative planning processes which are used as a guide during the implementation of management decisions. It is the goal of SOP to maintain operational efficiency and consistency during the planning and implementation processes.

D.3 RESOURCES

D.3.1 CAVE RESOURCES

D.3.1.1 Standard Operating Procedures

- Survey priorities will be assigned to those areas that are most likely to include significant cave resources, are relatively accessible to the public, and/or vulnerable to damage or loss from land use activities.

D.3.2 CULTURAL RESOURCES

D.3.2.1 Standard Operating Procedures

- Where impacts are occurring, implement protection measures to stop, limit, or repair damage to sites. A variety of protection measures, described in BLM Manual 8140, may be used to protect the integrity of sites at risk such as signing, fencing or barriers, trash removal, target shooting closures, erosion control, backfilling, repairing, shoring up, or stabilizing structures, restricting uses and access, and closures. Structural and material stabilization techniques may use chemical, mechanical, or structural elements to retard deterioration of cultural resources.
- Ensure that all proposed undertakings and authorizations are reviewed and conducted in compliance with Section 106 of the NHPA, the Archaeological Resources Protection Act, the NAGPRA and other applicable laws.
- Compliance with Section 106 of the National Historic Preservation Act:
 1. All undertakings will be subject to thorough cultural resource inventory in order to identify all cultural resources that lie within the Area of Potential Effect (APE).
 2. All identified cultural resources within the APE will be evaluated for National Register eligibility.
 3. All undertakings shall be scrutinized for ways to design or re-design proposed projects to avoid cultural resources. Every effort shall be made to minimize impacts on cultural resources.
- Those cultural resources within the APE that have the characteristics that would make them eligible for the National Register of Historic Places (NRHP) would be mitigated using appropriate treatment strategies, in order to reduce the intensity of the impact to the lowest level possible.
- Evaluate project designs and proposed activities and mitigate or adjust activities to avoid disturbing or removing Native American human remains and associated items to the maximum extent possible and practicable. Where disturbance cannot be avoided, the BLM will consult with associated tribes under NAGPRA. Avoid directing site visitors toward areas where these items would be observed or disturbed.
- Complete Class II (sample) and Class III (intensive) field inventories to identify cultural resources and evaluate the condition of sites, in accord with Section 110 of the NHPA. Use the information obtained through these surveys to allocate sites to proper use categories, develop protection measures, and integrate survey results into research designs and interpretation efforts. Priorities for inventory will be determined based on resource use and an area's or site's protection priority.

D.3.3 PALEONTOLOGICAL RESOURCES

D.3.3.1 Standard Operating Procedures

- The collection of “reasonable” amounts of common invertebrate and plant fossils would be allowed without a permit when not aided by mechanical or motorized devices (43 CFR 3620).
- Paleontological inventory of project areas would be done prior to authorizing surface-disturbing activities to protect vertebrate or noteworthy occurrences of invertebrate or plant fossils.
- Survey priorities will be assigned to those areas that are most likely to include significant paleontological resources, are relatively accessible to the public, and/or vulnerable to damage or loss from land use activities.
- For all authorized surface-disturbing activities, inventories will be conducted on a case-by-case basis, as deemed necessary by the authorized officer, for each proposed surface-disturbing activity to ensure maintenance or integrity of paleontological values.
- The authorized officer may issue a permit for the collection of paleontological resources if it is determined that the applicant is qualified to carry out the research; the research is undertaken for the purpose of furthering paleontological knowledge or for public education; and the proposed methods of collection will not threaten significant natural or cultural resources.
- The following stipulations may be applied to surface-disturbing activities:
 1. User/operators shall be responsible for informing all persons associated with a project that they shall be subject to prosecution for damaging, altering, excavating, or removing any vertebrate or noteworthy occurrences of invertebrate or plant fossils on site.
 2. If vertebrate or noteworthy occurrences of invertebrate or plant fossils are discovered, the user/operator shall suspend all operations that further disturb such materials and immediately contact the authorized officer.
 3. User/operators shall not resume until written authorization to proceed is issued by the authorized officer.
 4. Within five working days, the authorized officer will evaluate the discovery and inform the operator of actions that will be necessary to prevent loss of significant scientific values.
 5. The user/operator shall be responsible for the cost of any mitigation required by the authorized officer.
 6. Upon verification from the authorized officer that the required mitigation has been completed, the operator shall be allowed to resume operations.

D.3.4 SOIL RESOURCES

D.3.4.1 Best Management Practices

- Best management practices would be applied when authorizing vegetative or surface disturbances to limit soil loss and erosion and protect water quality.
- Disturbance to surface resources would be minimized when constructing new developments or reconstructing existing facilities. Mitigation plans would be developed, disturbed surfaces would be restored, and soils would be stabilized in accordance with restoration objectives.

D.3.5 VEGETATION RESOURCES

D.3.5.1 Standard Operating Procedures

- Several treatment methods and standard operating procedures would be used in a vegetation treatment program. Bureau of Land Management's policies and guidance for public land treatments would be followed in implementing all treatment methods. SOPs and guidelines are provided in the following documents:
 1. Manual Section 1740, BLM Arizona Standards for Rangeland Health (Land Health Standards)
 2. "Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Programmatic EIS" (BLM 2007) and "Vegetation Treatments on BLM Lands in 17 Western States Programmatic Environmental Report (ER)" (BLM 2007)
 3. Other general and specific program policy, procedures, and standards for implementing renewable resource improvements
- The programmatic EIS and ER described above provide information regarding the application of herbicides and pesticides and identify procedures and guidelines that would be followed by the BLM to ensure that risks to human health and the environment from treatment actions would be kept to a minimum. Included are SOPs those for the prevention of weeds and weed control, and a compilation of treatment-specific procedures and guidelines based on various guidance in BLM manuals, handbooks, regulations, and standard agency and industry practices. For resource specific SOPs and guidelines including those for fire use, and mechanical, manual, biological and chemical methods, see Table 2-5 in the ER. These methods would be used under all alternatives.

D.3.6 VISUAL RESOURCE MANAGEMENT

D.3.6.1 Standard Operating Procedures

Facility Construction. Facility construction will achieve resource management and use benefits and focus on resource protection, resource management, and public safety. Facilities will be constructed to be visually unobtrusive while emphasizing protection of resources. Facilities will be located in areas where they are visually unobtrusive and will cause minimal damage to resources. Recreational facilities,

including visitor centers, will be preferentially located off site in nearby communities and built through the use of partnerships.

Scenic quality. Measures to mitigate potential visual impacts include the use of natural materials, screening, painting, project design, location sighting, or restoration.

D.3.7 WILDLIFE RESOURCES

D.3.7.1 Standard Operating Procedures

- Coordinate with AGFD on migratory bird inventories when migratory bird inventories are proposed by BLM or required of third parties.
- Coordinate with AGFD when Sonoran desert tortoise inventories are proposed by BLM or required of third parties. The inventories should be completed using standardized protocols such as those developed by AGFD.
- Wildlife water developments proposed in Wilderness Areas would have to meet the non-impairment criteria.

D.3.7.2 Best Management Practices

- Reasonable administrative vehicular access to wildlife water facilities would be granted to AGFD, BLM and authorized permittee personnel for the purposes of constructing, maintaining, and/or repairing facilities or conducting research or surveys.
- The use of new technologies, products, and construction designs that provide for the lowest degree of maintenance and a visually obscure wildlife water development that is compatible with the surrounding terrain would be emphasized.
- See manuals 6500 (Wildlife and Fisheries Management) and 6780 (Habitat Management Plans)
- Fences constructed will comply with applicable wildlife fence standards (Fences – BLM Manual Handbook H-1741-1). Existing fences that impede big game movement or that otherwise conflict with wildlife may be modified to comply with applicable wildlife fence standards on a case-by-case basis.
- The PDO will consult agency species management plans and other conservation plans as appropriate to guide management and devise mitigation measures when needed. Examples of these plans include but are not limited to the North American Landbird Conservation Plan, National and Arizona Partners in flight Bird Conservation Plans, Arizona Bat Conservation Plan, and the Arizona State Wildlife Action Plan (Comprehensive Wildlife Conservation Strategy).
- The PDO would comply with the *BLM Migratory Bird Treaty Act- Interim Management Guidance* (Instructional Memorandum 2008-050)

D.4 RESOURCE USES

D.4.1 LANDS & REALTY

D.4.1.1 Standard Operating Procedures Access

Access:

- Reasonable public and administrative access to BLM-administered land will be obtained in the following ways:
 1. Require reciprocal access easements to meet specific program needs;
 2. Consider and manage the use of public land for right of way[s] (ROW)s, ROW reservations, easements, permits, leases, licenses, agreements, etc., except for those areas identified as exclusion areas;
 3. Secure access easements as needed to prevent closing of access to public land.

Corridors & Communication Sites:

A corridor is used for one or more of the following major facilities:

1. Natural gas and other pipelines that are at least 10 inches in diameter;
 2. Electric transmission facilities that have a capacity of 115 kilovolt lines or greater voltage;
 3. Major telephone transmission, cable, or fiber optic lines;
 4. Significant canals that provide delivery of water to urban areas;
 5. Transportation facilities that are those formally defined as Current or Proposed Roads of Regional Significance or Current or Proposed Major Arterials (functional class) identified by a local government jurisdiction as regionally significant and projected to carry 20,000 or more vehicles per day by the year 2015;
 6. Utilities, whether interstate, intrastate, or local, should be collocated in designated corridors to the maximum degree possible to minimize impacts to public lands;
 7. Transportation routes, whether interstate, intrastate, or local, should be collocated with utilities in designated corridors to the maximum degree possible to minimize impacts to public lands.
- The BLM will strive to coordinate applicable transportation-related planning efforts for the Lower Sonoran Planning Area with ADOT, Maricopa County Department of Transportation, Maricopa Association of Governments, and Pinal, Pima, Yuma, and Gila counties.
 - Smaller utility lines needed for local service in the vicinity of the corridors should be co-located within a corridor unless doing so would limit the opportunity to collocate additional major utility lines in the corridor.

- Avoidance of sensitive or special resources is a primary consideration in future planning and designation of utility corridors.
- BLM planning should promote, whenever possible, optimal energy transfer efficiency and support alternative energy sources such as use of photovoltaic cells (solar energy) and wind power.
- In February 2003, the Department of Homeland Security (DHS) issued the National Strategy for the Physical Protection of Critical Infrastructures and Key Assets (DHS 2003), which summarized the initial assessment of and planning to protect against vulnerabilities to the terrorist threat. As DHS continues to carry out its mandate, the designation of utility and transportation corridor location and the planning and maintenance of utilities; railroads; and Federal, State, and interstate highways that cross BLM-administered lands will be consistent with all directives, policies, and procedures that DHS may institute to minimize vulnerabilities to the energy grid.
- Whenever possible, utility transmission lines will be designed and/or routed to minimize adverse visual impacts to the surrounding land and vistas.
- The BLM's utility corridor designations must be consistent with authority granted under FLPMA Title V, Sections 501–511 (43 United States Code [USC] 1761–1771), the Mineral Leasing Act of 1928 (CFR 2880) and the BLM ROW Manual, Sections 2801.11 and 2801.12.
- In accordance with Executive Order No. 13212, the Energy Project Streamlining process (signed May 18, 2001), Federal energy-related planning must serve to expedite the production, transmission, or conservation of energy.
- The BLM will continue to cooperate as a full partner with the U.S. Forest Service, Arizona Public Service Company, and Salt River Project in Arizona in the Western Utility Group, whose mission is to facilitate an exchange of information and coordinate planning efforts between Federal agencies and utility providers throughout the western United States.
- The BLM will, as appropriate, coordinate communication-related planning efforts with the Federal Communications Commission.
- Bureau of Land Management planning related to telecommunication infrastructure must, in accordance with the Telecommunications Act of 1996, help facilitate implementation of wireless telephone systems, in compliance with existing law, by making Federal land and facilities available for communication sites.
- New ROWs will make maximum use of existing routes and will share facilities whenever possible, including joint use by different types of utilities, such as transmission line towers and communication sites.
- Communications related planning efforts will be coordinated with the Federal Communications Commission, as needed.
- If areas are discovered that require the protection of a withdrawal, the withdrawal will be processed. If other Agency withdrawals are revoked - the BLM will manage the lands the same as the adjacent lands.
- New utilities within the El Paso Natural Gas multiuse corridor must comply with the adopted Individual Operating Plans for the administration of energy transport development.

These Individual Operating Plans meet the requirements of Section 368 to expedite the permitting process (see Appendix B of the Approved RMP/ROD for Designation of Energy Corridors on BLM Administered Lands in 11 Western States, 2009). The Individual Operating Plans provide coordinated, consistent interagency management procedures for permitting ROWs within the corridors. The Individual Operating Plans also identify mandatory requirements that will help ensure that future projects developed within Section 368 corridors are planned, constructed, operated, and eventually decommissioned in a manner that protects and enhances environmental resources and long-term sustainability.

General Rights of Way:

- BLM may require that a licensed surveyor provide cadastral survey (to be reviewed by a BLM cadastral surveyor) of a right-of-way route prior to issuance of the authorization to an outside entity.

D.4.2 LIVESTOCK GRAZING

D.4.2.1 Standard Operating Procedures

- Rest rotation, deferred rotation, seasonal or short duration use, or other grazing management systems may be implemented where the need has been identified through monitoring. Monitoring will be used to assess the effectiveness of changes brought about by new management practices.
- Intensity, season and frequency, and distribution of grazing use should provide for growth and reproduction of the plant species needed to reach Desired Plant Community objectives.
- Deferment of livestock will be considered, where possible in cooperation with lease and permit holders, to allow for the use of prescribed fire or other vegetative treatments, or the use of the area as a grass bank to allow for rest in other grazing allotments.
- Administrative vehicular access to repair range improvements by the grazing lessee is assured through issuance of the grazing permit.
- Any compensation for a loss of range improvements will be made in accordance with 43 CFR 4120.3-6.
- Livestock management changes may be made when sufficient assessment, inventory, or monitoring data are available.
- Fence construction and maintenance will follow guidance provided in BLM handbook on Fencing No. 1741-1.
- Grazing on designated ephemeral (annual and perennial) rangeland may be authorized if the following conditions are met:
 - Ephemeral vegetation is present in draws, washes, and under shrubs and has grown to useable levels at the time grazing begins.
 - Sufficient surface and subsurface soil moisture exists for continued plant growth.
 - Serviceable waters are capable of providing for proper grazing distribution.

- Sufficient annual vegetation will remain on site to satisfy other resource concerns, (i.e., watershed, wildlife, wild horses and burros).
- Ephemeral use will be authorized up to March 31 when conditions warrant. After April 1, authorizations will be limited to 30 days, subject to further evaluation. This will ensure maintenance for habitat for special status species (e.g. Sonoran desert tortoise).
- Monitoring is conducted during grazing to determine if objectives are being met.

D.4.3 RECREATION

D.4.3.1 Standard Operating Procedures

- The following provisions are set forth by regulation or bureau policy and thus do not require planning decisions to be implemented as part of management actions.
- General standard operating procedures:
- Encourage “Tread Lightly” and “Leave No Trace” travel and camping techniques.
- Adopt measures to increase visitor responsibility for campfire etiquette and to reduce proliferation of campfire rings.
- Implement procedures for systematic monitoring of sites developed or authorized for public visitation. Restrict visitor access or group tours if necessary to prevent damage from visitor use.
- Determine areas where comprehensive site assessments are needed to determine existing physical and social impacts of recreation activities, to define desired conditions and standards, or to establish monitoring plans to manage camping and other uses.
- Develop and maintain partnerships and identify cooperative, sustainable recreation and tourism-based economic opportunities with nearby communities.
- Develop and maintain partnerships with local clubs and organizations to help maintain and monitor motorized and non-motorized trails.
- Post applicable toll-free phone numbers on kiosks, maps, brochures, permits, and other public outreach conveyances to keep the public involved in reporting emergencies and criminal activities, including damage to resources.
- Allow cultural and natural resource interpretation signs and facilities where needed for visitor enjoyment or resource protection. Interpretive developments must be compatible with recreation management objectives, desired recreation settings, and VRM standards.
- Pursue interpretation and environmental educational opportunities, outreach development, and implementation of on-site and off-site programs for adults and children.
- Develop school curricula focusing on the BLM's mission with staffs from schools, school districts, and other learning institutions.
- Pursue multicultural interpretation and environmental education opportunities, outreach, development, and implementation of programs for adults and children. Apply learning

- modalities and incorporate various learning styles in program design and delivery. Encourage the use of multiple intelligence or other theories for program presentations.
- Support existing educational and interpretive programs and initiatives such as Project Archaeology; Leave No Trace; Tread Lightly; Project Learning Tree; and other proven national, State, regional, and local programs.
 - Develop websites and distribute brochures, maps, access guides, and information sheets to provide information on recreational opportunities, interpreted sites, resource protection, designated trails and travel routes, safe travel, and safe shooting practices.

Special recreation permits

The BLM issues special recreation permits (SRPs) to manage visitor use; to protect natural and cultural resources; to meet the goals and objectives of the field office recreation program as outlined in a land-use plan; and to authorize specific types of recreational activities. Special recreation permits (including academic, educational, scientific, or research use) are issued to qualified applicants on a first-come, first-served and a case-by-case basis based on resource values and how the SRPs meet resource and public health and safety concerns. Permit authorization numbers will be set and could be adjusted based on monitoring of areas to be used to accurately accommodate level of use, and to sustain resources while maintaining desired social and managerial settings.

Special recreation permit stipulations

In addition to the conditions and stipulations listed on the Special Recreation Application and Permit form, supplemental office and resource-specific stipulations are included with approved permits that are designed to protect the land and resources involved, reduce user conflicts, and/or minimize health and safety hazards. These stipulations must be followed to keep the permit in good standing. Failure to comply with the stipulations may result in the loss of permit privileges.

Standard SRP stipulations are listed below. Not all stipulations may apply in every SRP, and stipulations may be added, modified, or deleted on a case-by-case basis based on the specific event being permitted.

General SRP stipulations

- Estimated fee payments or the minimum non-refundable annual fee, whichever is applicable, will be submitted in advance to the BLM authorized officer prior to issuance or validation of the SRP. Any additional use fees will be due at the end of the 6-month reporting period in which the fees were accrued, or at the end of the event, whichever is applicable. Overpayment of fees will be applied to the following year's estimated use fees.
- Post-use reports and estimated fee payments for annual and multi-year permits will be submitted to the BLM on a fiscal year semi-annual basis. They are due within 15 days after the 6 month use period (April 15 and October 15).
- The permittee is required to contact private landowners and other governmental agencies whose property is affected by the use associated with the permit (this includes the Arizona State Land Department for State Trust land). Evidence that authorization has been obtained must be available to the BLM authorized officer upon request.

- Any changes to the approved Plan of Operations must first be approved by the BLM authorized officer. This includes the use of subcontractors.
- The permit does not authorize exclusive use and shall not be construed in any way so as to prevent public use or access on any public land except as expressly allowed under the permit.
- The permittee is required to provide the BLM authorized officer with a copy of a valid Certificate of Insurance covering the periods of use. The U.S. Government must be named as a co-insured party on the policy.
- It is the responsibility of the permittee to ensure valid insurance coverage including general public liability, with the limits listed above, is provided for all equipment and services supplied by subcontractors. A copy of the valid insurance coverage must be made available to the BLM authorized officer upon request.
- A copy of this permit and the stipulations must be carried by guides during all tours conducted on BLM-administered land, and must be made available to any BLM employee or client upon request.
- Any violation of the permit terms, conditions, and stipulations may be subject to penalties prescribed in 43 CFR 8372.0-7, which may include fines as set (currently up to \$1,000 and/or imprisonment up to 12 months). Additionally, any such violation may result in permit probation, suspension, or revocation. Examples that can lead to permit violations include, but are not limited to delinquent post use reports and/or payments, deviations to operating plan not approved by authorized official, violation of laws and regulations, significant resource damage, and public endangerment.
- All signs on public land must be authorized by the BLM in writing.
- The permittee is responsible for ensuring the safety of all clients and support personnel, assuring that all permit actions are in conformance with local, State, and Federal health and safety standards and providing for appropriate emergency attention.
- All injuries requiring emergency hospital care will be reported to the BLM authorized officer within 2 days of the occurrence and a Death and Injury Report submitted to the BLM authorized officer within 10 days of the occurrence.
- The BLM reserves the right to alter the terms, condition, or stipulations of a permit at any time for reasons such as significant policy, administrative procedure, or stipulation change.
- Annual permits remain valid if the permittee is in good standing by complying with all terms, conditions, and stipulations including timely submission of post use reports, and applicable use fee payments. For multi-year permits, an annual review is done at the beginning of each fiscal year (October 1) and permits are validated for the upcoming fiscal year. For a permit to be validated, the permittee must be in good standing by complying with all terms, conditions, and stipulations including timely submission of post use reports and applicable use fee payments. In addition, certificates of insurance shall be current and operating plans must be reviewed and updated with any changes before a permit will be validated for the upcoming fiscal year.

1. Require holders of special recreation permits (SRPs) to give site visitors suitable educational information on archaeological site etiquette and resource conservation.
2. SRP applicants will be strongly encouraged to have a working knowledge of Leave No Trace and Tread Lightly principles. Additionally, applicants will be asked to incorporate Leave No Trace and Tread Lightly principles into their tour, program, or event activities.

Resource protection stipulations

- All activities are to remain on the approved roads, trails, washes, and/or staging areas. No deviation to these routes is permitted without prior approval from the BLM authorized officer. Motorized vehicles are not permitted in riparian areas or in running washes except at road crossings.
- Employees and clients will be instructed that it is unlawful to disturb, deface, excavate, or remove any archaeological or paleontological objects or structures (i.e., "look but do not touch!"). Rock art may be photographed but not touched. Collection of prehistoric or historic artifacts is not allowed. Any prehistoric or historic cultural site or human remains discovered by the permittee, employees, or clients will be left undisturbed and reported as soon as possible to the BLM authorized officer.
- Permittee must notify the BLM authorized officer of any specific archaeological sites proposed for inclusion on tours. Tours to sites are subject to BLM approval and protective stipulations.
- Historical mine sites should not be disturbed. Collecting artifacts from these sites is strictly prohibited.
- All persons operating under the SRP, including subcontractors, are prohibited from entering abandoned mines.
- Proposed activities will be conducted in a manner that will not interfere with mining or exploration operations. No mineral specimens are to be collected from areas encumbered by active mining claims unless authorized by the claimant(s).
- Harassment of livestock, wildlife, and wild horses or burros or destruction of private and public improvements such as fences and gates is prohibited. All gates and fences shall be left as found. The taking of any threatened and endangered plant or animal is prohibited.
- Collection, harassment, and disturbance of desert tortoises and Gila monsters are prohibited by Arizona State Law. If encountered on roads or trails, the animals should be avoided. If a desert tortoise is encountered and cannot be avoided, it should be carefully moved to safety by carrying it horizontal to the ground, not tilted, and placed in the shade the minimum distance needed to remove it from harm's way. Gila monsters should be avoided and not handled. They are venomous and can inflict a serious and painful bite.
- Vegetation clearing, trimming, or removal is not permitted without prior approval from the BLM authorized official.
- If the volume of use is determined to be adversely impacting soils or riparian condition through erosion, bank alteration, or other means, the BLM may restrict use of affected areas or routes to allow restoration and recovery of degraded areas. During wet periods, certain

road and trail segments may be closed to all traffic. The BLM will consider the applicant's needs when designing and implementing restrictions or watershed restoration efforts that could influence the operation.

- In order to minimize the importation or spread of noxious weeds, all vehicles are to be washed thoroughly (including the undercarriage and engine compartment) before entering public land to remove all soil and vegetation debris (including seeds and seed heads) acquired from previous use. This washing should occur at the home base of operations of the permittee before traveling to public land. All vehicles used for activities approved by this permit are subject to inspection by the BLM.
- The permittee will be committed to preserving and protecting public lands by learning, practicing, and promoting the "Leave No Trace" principles as presented by the Leave No Trace Center for Outdoor Ethics (see www.lnt.org).

Motorized vehicle-use stipulations:

- Motorized routes and non-motorized trails will be evaluated on a case-by-case basis for use in permitted events and suitability for future use, closure, re-routing, rehabilitation, upgrading or authorization as an approved and permitted course will be determined.
- No motorized vehicles are permitted in riparian areas or in running washes except at road crossings. Substantiated reports of unauthorized use in these areas will result in immediate probation and possible suspension or revocation of permit privileges.
- Per 43 CFR 9268, all motor vehicle use will comply with existing BLM and State motorized vehicle laws and regulations on public lands relating to use, standards, registration, operation and inspection. These regulations include, but are not limited to, the following:
 1. No person shall operate an OHV on public land in a reckless, careless or negligent manner; in excess of established speed limits; while under the influence of alcohol, narcotics or drugs; or in a manner causing, or likely to cause, significant undue damage to or disturbance of the soil, wildlife, wildlife habitat, improvements, cultural resources or vegetation.
 2. Drivers shall yield the ROW to pedestrians, saddle horses, pack trains, and animal drawn vehicles.
 3. Drivers are prohibited from operating a motor vehicle unless the driver and each front seat passenger are restrained by a properly fastened safety belt.
- The permittee will be committed to preserving and protecting the public land by learning, practicing, and promoting the "Tread Lightly!" principles as presented by the Tread Lightly non-profit organization (see www.treadlightly.org).

Hunting outfitter/guide supplemental stipulations

The following stipulations for hunting outfitters and guides are in addition to the terms and conditions listed on the back of the special recreation application and permit form and the standard stipulations for BLM's Phoenix District and LSFO. The stipulations listed below are part of the permit: Failure to comply with them may result in the loss of permit privileges.

- Hunters shall not hunt within ¼ of a mile of any developed recreation or archaeological site.
- Hunters may not use motorized vehicles of any type to retrieve injured or killed animals, including hunters with Challenged Hunter Access/Mobility Permits. Outside of wilderness areas, the use of wheeled game carts is allowed and recommended.
- No base camps may be established in undisturbed areas without the prior approval of the BLM.
- The BLM shall be notified of any base camp stays anticipated to occur over the standard 14-day camping limit. This notification shall be received at least three business days prior to the fourteenth day of occupancy. Under no circumstances is the base camp occupancy to exceed the length of the hunting season for which the hunt permit/tag is drawn.
- Portable self-contained chemical toilets are the preferred method for human waste disposal and are required for groups larger than eight people. "Catholes" may be used for groups less than eight people and must be located at least 200 feet from water sources or dry wash beds. Toilet paper and feminine hygiene products are to be packed out and properly disposed. Waste from self-contained toilets shall be disposed of at State approved sewage disposal facilities.
- The permittee must notify the BLM three business days in advance if horses or pack stock animals are to be used for hunting activities.
- The permittee shall provide the BLM contact with the following information at least three business days prior to the start of the hunt:
 1. Hunt number and Game Management Units for which the permit-tag was drawn
 2. Anticipated area of concentration for hunt and location of overnight base camps
 3. If applicable, the following additional information needs to be provided: 1) Name of the lead guide, 2) Vehicle information including make, model, color and license number

Parking, Staging Areas, Roads, and other Facilities and Sites

Facilities to manage concentrated recreation use typically are planned and authorized by site-specific planning that is conducted at the project level on a case-by-case basis:

- Facilities (such as camping locations, motorized and non-motorized activity staging areas, toilets, scenic turnouts, cultural interpretive sites, directional and interpretive signs, non-motorized trails, and roads) will be authorized where needed for resource protection, visitor safety, resolution of visitor use conflicts, or to implement an RMP or implementation-plan decision.
- To the greatest extent possible, all new construction and modifications for recreational facilities, outdoor developed areas, and any related programs and activities will be accessible to people with disabilities in accord with the Architectural Barriers Act of 1968 and Section 504 of the Rehabilitation Act of 1973, with later amendments. Guidance, requirements, and standards applicable to conform with the above legislation may be found in the following:
 1. Uniform Federal Accessibility Standards,

2. Americans with Disabilities Act (ADA) Accessibility Guidelines,
 3. ADA-ABA Accessibility Guidelines (use whichever guidance is most stringent), and
 4. Proposed Outdoor Developed Areas Guidelines (U.S. Access Board found at <http://www.access-board.gov> and 43 CFR Part 17, Subpart E found at <http://www.gpoaccess.gov/cfr/index.html>.)
- Roads and trails will be maintained as needed.
 - Per 43 CFR 9268, all motor vehicle use will comply with existing BLM and State motorized-vehicle laws and regulations on public lands relating to use, standards, registration, operation and inspection.
 - Vehicle and recreational uses and access to areas with known listed, sensitive, threatened, or endangered species (plant and wildlife) will be avoided.
 - Recreational use and vehicular traffic will be minimized when the soils are so wet or abnormally dry that the route or surrounding resources may be damaged by use and during high fire-threat conditions.
 - The BLM will work with private property owners to reduce conflicts between private owners and recreational activities.
 - Coordinate with partners and nearby land owners and managers to develop joint campgrounds on and off public lands.
 - Develop partnerships and volunteer opportunities with local clubs, organizations, and communities to maintain and monitor routes, recreation sites, and other areas.
 - Develop brochures, maps, and information sheets to disseminate recreation use information to the public.

Recreational target shooting

Public lands administered by the BLM are generally available for recreational target shooting unless otherwise specifically closed to that use. BLM will work with the public, organizations, and law enforcement to promote safe shooting practices that limit user conflicts and damage to natural and cultural resources. The following discussion describes criteria for the selection of safe and considerate shooting sites.

It is the ultimate responsibility of the recreational target shooter to ensure the projectiles they fire are contained within the shooting site they select. While shooting is allowed in most public land areas, the shooter should make no concession concerning safety. Consideration of other people using public lands is not only considerate, Arizona Revised Statutes Title 13-1201 says:

- A. A person commits endangerment by recklessly endangering another person with a substantial risk of imminent death or physical injury.
- B. Endangerment involving a substantial risk of imminent death is a class six felony. In all other cases, it is a class one misdemeanor.

General considerations for selecting a suitable shooting site include the following:

- Select a site with a safe backstop. That means that it is visibly apparent where the bullets are hitting behind the target. A hill or pushed-up berm of dirt is perfect. Remember that bullets can ricochet off flat surfaces—that includes rocks, dirt and water. Place targets right in front of the backstop to ensure that bullets stop in the dirt.
- Select a site that doesn't put others at risk. Do not shoot towards or across areas where other people congregate such as hiking trails, vehicle parking and staging areas, and trail heads. It is a violation of Arizona State law (A.R.S. 17-301B) to shoot across a maintained road. Though this law only pertains to maintained roads, there are many routes in the desert that are used by motorcycles, quads, and four-wheel drive vehicles that are not as apparent as a maintained road. Shooting in the direction, or across them, though not a violation of the referenced law, could be just as dangerous to people using them. Choose a site that avoids shooting across or towards motorcycle, quad, or four-wheel-drive routes as well.
- In addition to motorized routes, there are many popular hiking, bicycling, and equestrian trails. Select a site that doesn't cross or shoot in the direction of a trail that could put people at risk.
- Selection of a safe shooting site would include staying more than ¼ mile from any residence or occupied structure. When selecting a site, assume any structure is occupied. It is a violation of Arizona State Law to knowingly discharge a firearm at a structure. The statute (A.R.S 13-1211A and B) says:
 - A. A person who knowingly discharges a firearm at a residential structure is guilty of a class two felony.
 - B. A person who knowingly discharges a firearm at a nonresidential structure is guilty of a class three felony.
- Selection of a site should include avoiding such improvements as wildlife or livestock water facilities, livestock control facilities such as corrals and fences, signs or kiosks installed to provide information, barns or other rural developments, or any other improvement that was not specifically designed to be shot at.
- It is a violation of Arizona State law (A.R.S. 13-1603A 1) if a person "Throws, places, drops or permits to be dropped on public property or property of another which is not a lawful dump any litter, destructive or injurious material which he does not immediately remove." This includes not only trash, but also brass or shells (including shotgun shells) from spent ammunition, and items used as targets. Shooters are required to remove any targets, items on which targets are mounted, and brass from spent ammunition. BLM Phoenix District policy is to only use targets that do not produce litter, and to remove them when shooting is finished.
- Under the Code of Federal Regulations (43 CFR 8365.2-5(a)) no person shall "Discharge or use firearms..." on a developed recreation site. (43 CFR 8360.0-5(c) defines "Developed Recreation Sites and Areas" as "...sites and areas that contain structures or capital improvements primarily used by the public for recreation purposes. Such sites or areas may include such features as: delineated spaces for parking, camping or boat launching; sanitary facilities; potable water; grills or fire rings; or controlled access."

Selecting sites with side berms and backstops is optional where the shooter can be assured of safe shooting 1.5 miles downrange for pistol or 3.5 miles downrange for high powered rifles, with appropriate left and right ricochet safety zones. With the popularity of public lands for recreation and other uses, this scenario is the exception rather than the rule. Therefore, the primary purpose for selection of backstops and side berms is to protect against the injury of people, the damage of property or both.

The type of firearms being fired and the shooting activity being conducted will dictate the extent of the backstops, side berms and safety fans required to achieve that goal.

A downrange safety fan is an area beyond the backstop and side berms that is free of people or property that can be injured or damaged by errant bullets. It is important to remember that, depending on the suitability of the backstop and side berms, a safety fan downrange will be required to assure a safe shooting area. Below are ideal specifications for both backstops and side berms. Sites with less than ideal backstops and side berms must have increasingly longer downrange safety fans, approaching the distances described above of 1.5 miles for pistols and 3.5 miles for high power rifles. Even with an ideal backstop and side berms, site selection should still consider downrange safety and a downrange safety fan.

- The characteristics of safe backstops and berms recognized as needed for safe shooting practices are as follows:
 - Height. Preferred backstops include naturally occurring hills or mountainsides, or steep-sided wash banks. Backstops of soft dirt are preferred over hard surfaces, and rocky slopes should be avoided as they create a high ricochet hazard. A minimum height of 15 feet is acceptable but 20 to 25 feet is recommended. Remember that bullet ricochet can happen even on the best backstop. Site selection should consider ricochet possibilities and backstops that exceed 20 to 25 feet should be chosen where possible to reduce ricochet away from the shooting area.
 - Width/Length. The width of the backstop should be at least as wide as it is high. Targets should be placed directly in front of or on the backstop with sufficient backstop on either side to catch bullets. Ideally, side berms should be the same height and the full length of the shooting area from the backstop to even with the firing line.
 - Slope. The range side slope (side facing the shooter) must be as steep as possible, but not less than a 45-degree slope (a ratio of one-to-one). Side berm slopes should have the same dimensions.
- The bottom line is to select a shooting site in harmony with adjacent properties and other public land users. The site should prevent adjacent properties and other public land users from experiencing any risk from the shooting activities. The overall responsibility of the shooter is to stop fired bullets before they exit the selected shooting area. It is the intention of the BLM to provide a safe and pleasant experience for any public land user. If shooting areas emerge that are contrary to the above criteria they will be clearly construed as putting other public land users at risk and they may be closed to shooting by the authorized officer, either temporarily or permanently.

D.4.4 TRAVEL MANAGEMENT

D.4.4.1 Best Management Practices

Travel System Planning

- Ensure that road specifications and plans are consistent with good safety practices.
- Design, construction and maintenance of roads, primitive roads and trails will comply with guidelines identified in the BLM 9113 Roads Manual, the BLM 9115 Primitive Roads Manual or the BLM 9114 Trails Manual (2012).
- Plan each road to the minimum standards for the intended use. Adapt plans to the soils and terrain to minimize disturbance and damage to soil productivity, vegetation, water quality, and wildlife habitat.
- Plan natural road cross-drainage by insloping and using relief culverts or outsloping and by grade changes. Plan for effective well-placed dips or water bars.
- Design relief culverts or roadside ditches to prevent fill erosion or direct discharge of sediment into streams.
- Emphasize the use of existing roads (through continued use or reconstruction) to minimize new road construction.
- Implement mitigation techniques when designing and implementing the route system.

Road/Primitive Road Construction

- Construct culverts, cross drains, or other water control devices to prevent erosion.
- Design roads to balance cuts and fills or use full bench construction where stable fill construction is not possible.

Road/Primitive Road Drainage

- Provide adequate drainage from the surface of all roads by using outsloped or crowned roads, drain dips, or insloped roads with ditches and cross-drains or relief culverts.
- Vary road grades to reduce concentrated flow in road surface, ditches, and culverts and on fill slopes and road surfaces.
- Size drainage structures appropriately to handle anticipated flow during normal runoff or storms.
- Outsloped Roads: Outsloped roads provide means of dispersing water in a low-energy flow from the road surface. Outsloped roads are appropriate when fill slopes are stable, drainage will not flow directly into stream channels, and transportation safety considerations can be met. Outsloping is the preferred method of drainage for primitive roads.
- Insloped Roads: For insloped roads, generally design ditch gradients to be between two and eight percent to prevent sediment deposition and ditch erosion. The higher gradients may be suitable for more stable soils; use the lower gradients for less stable soils.

- Drain Dips: Construct drain dips deep enough into the subgrade so that traffic will not obliterate them. Dips should be angled 20 to 45 degrees perpendicular to the road and have a drainage grade of two to eight percent. Alternative drain dip designs are acceptable when properly constructed to ensure performance and longevity.
- Prevent downslope movement of sediment by using sediment catch basins, drop inlets, changes in road grade, headwalls, recessed cut slopes, slash filter windrows, or other design features.
- Prevent cross drains, culverts, water bars, dips, and other drainage structures from discharging onto erodible soils or fill slopes without outfall protection.
- Design roads for minimal disruption of drainage patterns.

Road/Primitive Road Maintenance

- Maintain erosion control features through periodic inspection and maintenance, including cleaning dips and cross-drains, repairing ditches, marking culvert inlets to aid in location, and clearing debris from catch basins and culverts.
- Avoid using roads during wet periods if such use would damage the road drainage features.
- Grade road surfaces only as often as necessary to maintain a stable running surface and to retain the original surface drainage.
- Conduct spot maintenance on primitive roads to correct safety, conserve resources or to maintain the desired recreation experience. Grading the full length of primitive roads is not required, nor desired, in most cases.

Non-motorized Trail Construction

- Construction will follow BLM 9114 Trails Manual (2012) or other applicable standard.
- All trails are designed to minimize surface disturbance.
- Linear areas of interest would be marked with fiberglass posts or rock cairns to establish the footpath.
- Alternative types of transportation to link areas of interest should be considered.

D.4.4.2 Standard Operating Procedures

New Routes

- Changes to the route system and the TMP will be considered in unison with the SDNM RMP five-year evaluation process. The guidance for the five-year RMP evaluation cycle and how such an evaluation is conducted is provided in the Land Use Planning Handbook, H-1601-1, section V.B, on pages 33-36. Consequently, a five-year evaluation cycle is also suitable for the TMP. The evaluation will determine if the RMP, and successively the TMP, are being properly implemented, analyze the plan's effectiveness, and determine if changes to the subject plans are needed. Linking the evaluation cycle of the TMP to the RMP evaluation cycle will be very informative in determining success for key aspects of plan implementation and desired monument management outcomes. Moreover, the evaluation process will afford

citizens, organizations and agencies opportunities to propose changes to the TMP and travel management system. BLM-driven route changes or projects required for public health and safety, to maintain or acquire public access as prescribed by the TMP, or to address new issues, rules, regulations or laws will be conducted on an “as needed” basis.

- After the initial five-year review period, new route development would be considered only for resource protection, address changed conditions or public safety purposes when no other options meet the management need. If such development is required, routes and management strategies will be planned, designated, and developed with community and user input. Limits of acceptable change indicators and standards would be adopted and use conflicts reduced.
- The process of adding new routes to the designated route network, motorized or non-motorized, will include a structured analysis approach. All proposed additions will be processed as follows:
 1. Route locations will, as a minimum, be mapped or located under instructions from the BLM using accepted Global Positioning System devices and presented to BLM for consideration. Locations of route proposals off of designated motorized routes must be located and mapped using non-motorized methods.
 2. Route proposals submitted to BLM will include a description of the route (including its proposed width), its proposed use(s) (including expected traffic and design vehicle) and rationale for its need.
 3. The proposed location will be staked and flagged for on-the-ground review by resource specialists.
 4. The route location will be analyzed for potential conflicts such as (but not limited to): wildlife habitat and movement, cultural resources, visual resources, other recreation uses, mining claims or leases, grazing facilities, ROWs, and proximity to other jurisdictions (such as private land). A structured process will be used to evaluate and document the potential route conditions.
 5. The conflict assessment may lead to development of mitigation actions or alternative locations or design.
 6. An environmental analysis would be conducted to determine the environmental effects of the proposed route and any alternatives and recommended mitigation.
 7. A decision will be issued by the authorized officer based on LUP conformance, resource objectives, and environmental impacts.
 8. If the decision is to approve the addition of the route, the Travel Management Plan will be updated, accordingly.

General Management

- The development of standards for monitoring the route system will be directed by compliance with laws, regulations, and travel management plan goals and objectives.

- Route or area closures or mitigation will be enacted where OHV or special vehicle use is determined to be inconsistent with established recreational management objectives, and/or such use is causing harm to natural or cultural resources.
- Partnerships will be developed with local clubs and organizations to help maintain and monitor motorized routes and non-motorized trails.
- Manage OHV use and travel activities, and implement best management practices according to the Arizona BLM Guidelines for OHV Recreation Management.
- A route inventory database will be maintained using standard collection and information storage methods.
- The field office area will be monitored to detect unauthorized route creation.
- Create design and maintenance guidelines and procedures for managing access points, roads and trails, consistent with the route's access purpose.

D.4.5 WILDLAND FIRE & FUELS MANAGEMENT

D.4.5.1 Standard Operating Procedures

- Fire suppression will be carried out in a manner consistent with Interagency Standards for Fire and Aviation Operations, which is updated on an annual basis by the National Interagency Fire Center. Logistical support, operation and coordination, and policies and procedures for mobilization of firefighting resources are outlined in the Southwest Area Mobilization Guide.
- Fire management activities will continue to avoid disturbing known archaeological sites or sites found during such activities. Fires will not be intentionally started at known sites. Archaeologists will serve as resource advisors for fire management and help develop and implement fire and fuels management plans, which would address effects on cultural resources. Fire crews will be educated about the need to protect cultural resources.
- In areas suitable for fire, the BLM will monitor existing air quality levels and weather conditions to determine which prescribed fires can be ignited and which, if any, must be delayed to ensure that air quality meets federal and state standards. If air quality approaches unhealthy levels, the BLM will delay igniting prescribed fires.
- The BLM will update and maintain Fire Management Plans to include site-specific actions for managing wildfire and fuels in accordance with Federal fire policies and this plan. These plans will be coordinated with the USFWS and AGFD to address site-specific concerns for Federally protected species. Consultation with the USFWS will occur with these project-level plans, as necessary.
- Avoid impacts to protected plants or their habitats by developing, modifying, redesigning, mitigating, or abandoning projects.
- Use suppression tactics that limit damage or disturbance to the habitat and landscape. Use no heavy equipment (such as dozers) unless approved.

- Use fire retardants or chemicals next to waterways in accordance with the Environmental Guidelines for Delivery of Retardant or Foam near Waterways (Interagency Standards for Fire and Aviation Operations Task Group 2004).
- Protect all known cultural resources from disturbance.
- Use MIST, comply with the management plan to the maximum extent possible, and coordinate with resource advisors.
- Implement general and species-specific conservation measures to the extent possible to minimize harm to federally listed, proposed, or candidate species within the action area.

D.5 SPECIAL DESIGNATIONS

D.5.1 AREAS OF CRITICAL ENVIRONMENTAL CONCERN

There are no ACECs within the Sonoran Desert National Monument.

D.6 SOCIAL & ECONOMIC

D.6.1 PUBLIC HEALTH & SAFETY

D.6.1.1 Standard Operating Procedures

- Releases of hazardous materials will be minimized through compliance with current regulations. When hazardous materials are released into the environment, their impacts on each resource will be assessed and the appropriate response, removal, and remedial actions to take will be determined.
- All actions (including land-use authorizations and disposals, mining and milling activities, and unauthorized land uses) will be evaluated for hazardous materials, waste minimization, and pollution prevention. Appropriate mitigation will be identified for surface-disturbing and disruptive activities associated with all types of hazardous materials and waste management and all types of fire management.
- Investigate all reported hazardous-materials and solid-wastes sites. Identify the probable scope of needed containment and clean-up efforts. Plan necessary containment and/or cleanup responses on a case-by-case basis as soon as possible upon report.
- Conduct active investigations to identify potentially responsible parties and recover planning, containment, cleanup, monitoring, investigation, and enforcement costs associated with spill/release responses.
- Site-specific inventories will be completed when land is being disposed or acquired. It is DOI policy to minimize potential liability of the department and its bureaus (including the BLM) by acquiring property that is not contaminated unless directed by Congress, court mandate, or as determined by the Secretary.
- Mining and milling sites will be inspected to determine appropriate management for hazardous materials.

- Parties responsible for contamination will be identified and be liable for cleanup and resource damage costs, as prescribed by law.
- Maintain current and develop new, as needed, law enforcement/public safety patrol, fire suppression, and search and rescue programs.
- Complete site-specific inventories when lands are being disposed or acquired. It is departmental policy to minimize potential liability of the Department of Interior (DOI) and its bureaus by acquiring property that is not contaminated unless directed by Congress, court mandate, or as determined by the Secretary.
- Inspect mining and milling sites to determine appropriate management for hazardous materials.
- Evaluate all actions (including land use authorizations and disposals, mining and milling activities, and unauthorized land uses) for hazardous materials, waste minimization, and pollution prevention. Minimize releases of hazardous materials through compliance with current regulations. Identify appropriate mitigation for activities associated with all types of hazardous materials and waste management and all types of fire management.

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