

TABLES

**Table 1. Potential Applicable Or Relevant And Appropriate Requirements (ARARs)
Feasibility Study, Impact Area MRA RI/FS, Former Fort Ord, California**

| Source or Authority | Requirement, Standard, or Criterion | Type | Description | Remarks |
|--|---|---|--|--|
| Federal ARARs | | | | |
| Endangered Species Act (16 USC §§ 1531–1543) | 16 USC § 1536 (a) and (c); 16 USC § 1538 (a)(1) | Applicable (1,2,3)* / Location | Federal agencies are required under Section 7 of the ESA to ensure that their actions do not jeopardize the continued existence of a listed species or result in destruction of or adverse modification of its critical habitat (16 USC § 1536). If the proposed action may affect the listed species or its critical habitat, consultation with the USFWS and/or California Fish and Game may be required (50 CFR § 402.14). Additionally, Section 9 of the ESA prohibits the illegal taking of a listed species (16 USC § 1538(a)(1)). | The Army has completed an endangered species, Section 7 consultation, and the USFWS has issued several Biological Opinions for the Army disposal and reuse actions at the former Fort Ord. Endangered plant and animal species and critical habitats occur at Fort Ord. Each reuse area will be screened for potential impacts to any endangered species identified in the <i>Installation-Wide Multispecies Habitat Management Plan (HMP; USACE, 1997)</i> and additional requirements identified in subsequent documents (<i>USACE, 2005; USFWS, 1999, 2002, 2005; BLM, Army; 2004; Zander, 2002</i>). The provisions of the HMP and referenced additional requirements satisfy the requirements of the ESA. |
| Migratory Bird Treaty Act (MBTA) | 16 U.S.C. §§703-712 | Applicable (1,2,3) / Location | The statute sections prohibit the taking, possession of, buying, selling, purchasing, or bartering of any migratory bird, including feathers or other parts, nest eggs, or products, except as allowed by regulations. | The requirement includes specific standards of control. U.S. Fish and Wildlife Service has issued a non-jeopardy biological opinion for Army predisposal actions to include the remediation of MEC, which provides that vegetation clearance activities occur outside the nesting seasons for migratory birds. |
| Hazardous Materials & Transportation Act | 49 CFR Part 172.101 | Applicable (3) / Chemical and Action | These regulations impose procedures and controls on the transportation of hazardous materials. | The regulations include specific standards of control and substantive requirements, criteria and limitations that may apply to the transport of detonation materials and selected recyclable ordnance materials. |
| Federal Resource Conservation and Recovery Act (RCRA), Subpart M (Military Munitions Rule) | 40 CFR Parts 266 and 270 | Relevant and Appropriate (2, 3) / Chemical and Action | The regulations identify when military munitions on active ranges become subject to the regulatory definition of “solid waste”, for purposes of Subtitle C, and if these wastes are hazardous, the management standards which apply. | Portions of the Rule may be relevant and appropriate, but those provisions of the Rule which exclude military munitions from RCRA Subtitle C regulations are not appropriate to the remediation of a closed range. The relevant portions relate to the management of MEC which is recovered, including characterization as hazardous waste and requirements for treatment, storage, and transportation. The Rule provides for the storage and transportation of recovered military munitions in accordance with DDESB standards. |

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| State of California ARARs | | | | |
| California Endangered Species Act | Fish and Game Code §§ 2051 et seq.; §2080. | Relevant and Appropriate (1,2,3) / Location | The statute sections provide a declaration of policy and definitions. Section 2080 provides that no person shall take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts. | Section 2080 includes specific standards of control with respect to the taking of endangered or threatened species. Under CERCLA, the Army is not required to comply with non-substantive, procedural and administrative provisions of §2051. The Army has coordinated the development of the HMP with CDFG and that mitigation measures to protect both State and federal rare, threatened and endangered species have been identified and will be implemented during the Army's action of MEC remediation if selected for implementation. |
| California Fish and Game Code | §3511 | Relevant and Appropriate (1,2,3) / Location | This statute section prohibits taking or possessing fully protected birds or parts thereof, listed as: (a) American peregrine falcon (<i>Falco peregrinus anatum</i>) (b) Brown pelican (c) California black rail (<i>Laterallus jamaicensis coturniculus</i>) (d) California clapper rail (<i>Rallus longirostris obsoletus</i>) (e) California condor (<i>Gymnogyps californianus</i>) (f) California least tern (<i>Sterna albifrons browni</i>) (g) Golden eagle (h) Greater sandhill crane (<i>Grus canadensis tabida</i>) (i) Light-footed clapper rail (<i>Rallus longirostris levipes</i>) (j) Southern bald eagle (<i>Haliaeetus leucocephalus leucocephalus</i>) (k) Trumpeter swan (<i>Cygnus buccinator</i>) (l) White-tailed kite (<i>Elanus leucurus</i>) (m) Yuma clapper rail (<i>Rallus longirostris yumanensis</i>). | The requirement includes specific standards of control that may apply to the American peregrine falcon (some possibility), golden eagle (slight possibility), brown pelican (not likely but possible), and California least tern (not likely but possible). Vegetation clearance activities will occur outside the nesting seasons for these protected birds. |
| California Fish and Game Code | §3513 | Relevant and Appropriate (1,2,3) / Location | This statute section declares that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act. | The requirement includes specific standards of control. U.S. Fish and Wildlife Service has issued a non-jeopardy biological opinion for Army predisposal actions to include the remediation of MEC. In addition, vegetation clearance activities will occur outside the nesting seasons for migratory birds. |
| California Fish and Game Code | §3503.5 | Relevant and Appropriate (1,2,3) / Location | This statute section prohibits the take, possession or destruction of any birds in the orders of Falconiformes or Strigiformes, or to take, possess, or destroy the nest or eggs of any such bird, except as provided in the code. | The requirement includes specific standards of control that may apply to vultures, hawks, ospreys, falcons and owls. Vegetation clearance activities will occur outside the nesting seasons for these birds. |
| California Fish and Game Code | Title 14, CCR §472 | Relevant and Appropriate (1,2,3) / Location | This regulation limits the taking of nongame birds and mammals except for specified species. | The requirement includes specific standards of control that may affect American crows. Vegetation clearance activities will occur outside the nesting seasons. |
| California Fish and Game Code | §4800 et. seq. | Relevant and Appropriate (1,2,3) / Location | This statute section declares that it is unlawful to take, injure, possess, transport or sell any mountain lion. | The requirement includes specific standards of control. Due to the size of vegetation clearance and MEC remediation activities that may be selected for implementation, it is unlikely that mountain lions will be negatively affected. In fact, the use of fire to set back plant community succession will result in an improvement to wildlife habitat that will benefit mountain lions. |

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| Source or Authority | Requirement, Standard, or Criterion | Type | Description | Remarks |
|---|---|---|--|---|
| California Fish and Game Code | Title 14, CCR §§40-42 | Relevant and Appropriate (1,2,3) / Location | These regulations make it unlawful to take, possess, purchase, propagate, sell, transport, import, or export any native reptile or amphibian, unless under special permit. | <p>The requirement includes specific standards of control that may apply to black legless lizard and coast horned lizard.</p> <p>CDFG was heavily involved in the development of the Installation-Wide Multispecies Habitat Management Plan (HMP), which included the development of mitigation measures to protect the California black legless lizard.</p> |
| California Clean Air Act (Health and Safety Code) | Monterey Bay Unified Air Pollution Control District Rule 438 (Open Outdoor Fires; <i>Adopted April 16, 2003; Revised September 15, 2004</i>) | Applicable (1) / Action | These prohibitory rules describe permit requirements, allowable days for burning, and restrictions. The rules include both substantive and procedural requirements regarding open burning. | <p>The rule includes specific standards of control. It also includes non-substantive procedural and administrative provisions with which the Army, under CERCLA, is not required to comply.</p> <p><u>Substantive requirements:</u></p> <p>§3.3, prohibiting burn on no-burn days. The Army will conduct prescribed burns on allowable days in accordance with CCR Title 17, §80110.</p> <p>§3.4.10, burn shall be ignited only by devices and methods approved by the California Department of Forestry and Fire Protection. The Army will use ignition devices approved by CDF.</p> <p>§3.4, materials to be burned shall be dry and reasonably free of dirt, soil and visible surface moisture prior to burning, and shall be free from combustible impurities such as tires, tar paper, household rubbish, demolition or construction debris, and other materials not grown at a site. The Army will comply with this section by removing tires, structures and other debris from the sites prior to conducting prescribed burns, where it is safe to do so. Numerous MEC items have been removed from the areas where accessible and where it was safe to do so. Emissions from incidental detonation of MEC during prescribed burning are expected to be insignificant, based on a study conducted by the Army, in consultation with EPA and DTSC (<i>Technical Memorandum, Air Emissions from Incidental Ordnance Detonation During a Prescribed Burn on Ranges 43 through 48 (Harding ESE, 2001)</i>). The study concluded that air pollutant emissions from incidental MEC detonation during a prescribed burn will be minor compared to emissions contributed directly from biomass burning, and will result in pollutant concentration well below health-protective regulatory screening levels.</p> <ul style="list-style-type: none"> ▪ The regulation is intended to protect the public health. The Army will substantively comply with this regulation by implementing the site preparation measures as described above, as well as conducting the burns in accordance with the smoke management program, and applying resources to contain the fire within the intended boundaries to minimize public exposure to smoke. |

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|--|---|---|--|---|---|----------|-----------------------|--------------|-------------------------|-----------------|-------------------------|------------------|-------------------------|---|
| California Health and Safety Code, Division 20 | Title 22, CCR Division 4.5 | Applicable (3) / Chemical and Action | The statute and regulations provide for identification of hazardous waste in §§66261. If a material is a hazardous waste, Division 4.5 provisions further regulate hazardous waste generators, transporters, and treatment, storage, and disposal facilities. | The Army will evaluate discovered items in accordance with the approved work plan to determine the presence of energetic materials or other constituents that would cause it to be characterized as a hazardous waste. Substantive requirements: <ul style="list-style-type: none"> Storage: onsite storage of MEC items occur in a designated bunker that meets the standard of DDESB 6055.9 STD, including security measures such as fences, signs, and an alarm system. Transportation: offsite transportation of small arms ammunition will incorporate applicable manifesting and placarding requirements. Conforms to Defense Reutilization and Marketing Office (DRMO) instruction. Disposal/recycling: offsite disposal or recycling facility or facilities for small arms ammunition will be state and/or RCRA-authorized. | | | | | | | | | | |
| California Health and Safety Code | Title 22, CCR §66264.601-603 | Relevant and appropriate (2) / Action | These regulations apply to hazardous waste treatment which is conducted in a device that does not meet the definition of a "container" in 22 CCR 66260.10 is characterized as a "Miscellaneous Unit" subject to the provisions of 22 CCR 66264.601-603. For activities where detonations are in a device that meet the 22 CCR 66260.10 definition of a container, the requirements for "temporary units," as set forth in 22 CCR 66264.553 apply. | The regulations include generally described narrative standards. Compliance with substantive requirements is achieved through regulatory coordination of site-specific work plans in accordance with CERCLA and FFA. Under CERCLA, the Army is not required to comply with procedural requirements such as obtaining a permit. | | | | | | | | | | |
| California Health and Safety Code | Title 22, CCR §66265.382 | Relevant and Appropriate (3)/ Chemical and Action | Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate and bulk military propellants which cannot safely be disposed of through other modes of treatment. Detonation is an explosion in which chemical transformation passes through the material faster than the speed of sound (0.33 kilometers/second at sea level). Owners or operators choosing to open burn or detonate waste explosives shall do so in accordance with the following table and in a manner that does not threaten human health or the environment. <table border="0"> <tr> <td><u>lb. waste explosives</u></td> <td><u>Min. Distance from OB/OD to property</u></td> </tr> <tr> <td>0 to 100</td> <td>204 meters (670 feet)</td> </tr> <tr> <td>101 to 1,000</td> <td>380 meters (1,250 feet)</td> </tr> <tr> <td>1,001 to 10,000</td> <td>530 meters (1,730 feet)</td> </tr> <tr> <td>10,001 to 30,000</td> <td>690 meters (2,260 feet)</td> </tr> </table> | <u>lb. waste explosives</u> | <u>Min. Distance from OB/OD to property</u> | 0 to 100 | 204 meters (670 feet) | 101 to 1,000 | 380 meters (1,250 feet) | 1,001 to 10,000 | 530 meters (1,730 feet) | 10,001 to 30,000 | 690 meters (2,260 feet) | The requirement includes specific standards of control and addresses situations similar to those that may be addressed during MEC remediation; detonation of MEC will comply with these requirements. |
| <u>lb. waste explosives</u> | <u>Min. Distance from OB/OD to property</u> | | | | | | | | | | | | | |
| 0 to 100 | 204 meters (670 feet) | | | | | | | | | | | | | |
| 101 to 1,000 | 380 meters (1,250 feet) | | | | | | | | | | | | | |
| 1,001 to 10,000 | 530 meters (1,730 feet) | | | | | | | | | | | | | |
| 10,001 to 30,000 | 690 meters (2,260 feet) | | | | | | | | | | | | | |
| California Fish and Game Code | §1900 et. seq. | Relevant and Appropriate (1,2,3)/ Action | These statute sections sets forth programmatic and administrative provisions, and in §1908, provides that no person shall import into the state, or take, possess, or sell within this state, except as incident to the possession or sale of the real property on which the plant is growing, any native plant, or any part or product thereof, that the commission determines to be an endangered native plant or rare native plant. | Although the definition of "person" in the statute does not apply to the Army, the standards of control are relevant and appropriate, and the citation is therefore considered as ARAR. The Army is implementing the HMP which contains mitigation measures designed to protect the continued survival of rare and endangered plants. | | | | | | | | | | |

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| California Fish and Game Code | Title 14, CCR §783 et. seq. | Relevant and Appropriate (1,2,3)/ Action | These regulations provide that no person shall import into the State, export out of the State or take, possess, purchase, or sell within the State, any endangered species, threatened species, or part or product thereof, or attempt any of those acts, except as otherwise provided in the California Endangered Species Act, Fish and Game Code Section 2050, et seq. ("CESA"), the Native Plant Protection Act, the Natural Community Conservation Planning Act, the California Desert Native Plants Act, or as authorized under this article in an incidental take permit. The regulations also provide programmatic and administrative procedures for incidental take permits. | <p>The Section includes specific standards of control with respect to taking rare or endangered plants. Although the definition of "person" in the statute does not apply to the Army, the standards of control are relevant and appropriate, and the citation is therefore considered as ARAR.</p> <p>The Army is implementing the HMP which contains mitigation measures designed to protect the continued survival of threatened and endangered species.</p> |
| California Clean Air Act (Health and Safety Code) | Title 17, CCR §80100 et. seq. | Relevant and Appropriate (1)/ Action | The regulations provide guidelines, programs and agency procedures for smoke management plans. | <p>The regulations are relevant and appropriate. The Army will comply with substantive elements of the regulations. Under CERCLA, the Army is not required to comply with procedural and administrative provisions; however these elements will be addressed as part of the remedial design/remedial action process.</p> <p><u>Substantive requirements:</u></p> <p>§80110(d) prohibiting burn on no-burn days. The Army will conduct prescribed burns on allowable days in accordance with CCR Title 17, §80110.</p> <p>§80145(o)(1) [local air district smoke management plan or other enforceable mechanisms shall] require the material to be burned to be free of material that is not produced on the property or in an agricultural or prescribed burning operation. Material not to be burned includes, but not limited to, tires, rubbish, plastic, treated wood, construction/demolition debris, or material containing asbestos. The Army will comply with this section by removing tires, structures and other debris from the sites prior to conducting prescribed burns, where it is safe to do so. Numerous MEC items have been removed from the ground surface of the areas where accessible and where it was safe to do so. Emissions from incidental detonation of MEC during prescribed burning are expected to be insignificant, based on a study conducted by the Army, in consultation with EPA and DTSC (<i>Technical Memorandum, Air Emissions from Incidental Ordnance Detonation During a Prescribed Burn on Ranges 43 through 48</i> (Harding ESE, 2001)). The study concluded that air pollutant emissions from incidental MEC detonation during a prescribed burn will be minor compared to emissions contributed directly from biomass burning, and will result in pollutant concentration well below health-protective regulatory screening levels.</p> <ul style="list-style-type: none"> The regulation is intended to protect the public health. The Army will substantively comply with this regulation by implementing the site preparation measures as described above, as well as conducting the burns in accordance with the smoke management program, and applying resources to contain the fire within the intended boundaries to minimize public exposure to smoke. |

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| | | | State of California TBC | |
| California Fish and Game Commission | Wetlands Resources (pursuant to §703 of California Fish and Game Code; not a statute) | Policy (1,2,3) / Location | This policy (1) seeks to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California; (2) strongly discourages development in or conversion of wetlands; and (3) opposes, consistent with its legal authority, any development or conversion which would result in a reduction of wetland acreage or wetland habitat values. To that end, the Commission (1) opposes wetland development proposals unless, at a minimum, project mitigation assures there will be "no net loss" of either wetland habitat values or acreage; and (2) strongly prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values. | The policy provides for the protection of wetland resources. CDFG was heavily involved in the development of the Installation-Wide Multispecies Habitat Management Plan (HMP) (and subsequent Wetland Resources Protection Plan specific to former Fort Ord), which include the development of mitigation measures to protect wetland resources. |
| | | | Regulations that were considered as potential ARARs but were not considered applicable. | |
| California Fish and Game Code | §3005 | | The statute section prohibits the taking of birds or mammals, except non-game mammals, with any net, pound, cage, trap, set line or wire, or poisonous substance. Included in the term "taking" is the killing of birds or mammals by poison. | Birds and mammals will be protected by achieving the identified Remedial Action Objectives (RAOs). Further, the scope of the remedial actions does not include intentional taking of birds and mammals with unlawful devices. |
| California Fish and Game Code | §4000 et. seq. | | This statute section provides that a fur-bearing mammal may be taken only with a trap, firearm, bow and arrow, poison under a proper permit, or with the use of dogs. | The scope of the remedial actions does not involve intentional taking of fur-bearing mammals with unlawful devices. |
| California Fish and Game Code | Title 14, CCR §460 | | This regulation makes it unlawful to take Fisher, marten, river otter, desert kit fox and red fox. | The remedial actions will not result in the take of Fisher, marten, river otter, desert kit fox and red fox. The species of red fox protected by the State is located in the Sierra Nevada mountain range. The species of red fox located at former Fort Ord is an introduced species and is not protected by this section. |
| California Clean Air Act | Health and Safety Code §41701 | | This statute section prohibits the discharge into the atmosphere from any source whatsoever any air contaminant for a period or periods aggregated more than three minutes in any one hour which is dark or darker than No. 2 on the Ringelmann Chart or obscures the view to a degree equal to or greater than smoke. | Agricultural burning for which a permit has been granted pursuant to Article 3 (commencing with §41850, emission limitations for agricultural burning) are exempt from this requirement per §41704(b). Any prescribed burns that would be conducted for vegetation removal prior to MEC remediation will be conducted under MBUAPCD Rule 407, which implements the requirements of Article 3 (California Health and Safety Code §41850 et. seq.). The exemption applies though the Army is not required to obtain a permit under CERCLA. |

1 = Vegetation Clearance; 2 = MEC Remediation; 3 = Detonation of MEC

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**Table 2. Summary of Remedial Alternatives Evaluation
Feasibility Study, Impact Area MRA RI/FS, Former Fort Ord California**

| REMEDIAL ALTERNATIVE | EPA's 9 CERCLA EVALUATION CRITERIA | | | | | | | | |
|--|--|--|--|--|---|--|-----------------------------------|--|---|
| | Threshold Criteria | | Balancing Criteria | | | | | Modifying Criteria | |
| | Overall Protection of Human Health & Environment | Compliance with ARARs | Short-Term Effectiveness | Long-Term Effectiveness & Permanence | Reduction of T, M, V Through Treatment | Implementability | Cost | State Acceptance | Community Acceptance |
| <p><u>Alternative 1</u> No Further Action</p> | <p>Not protective of human health. Unsafe for the future property owner to conduct the required habitat management activities, and for the public.</p> <p>Not protective of the environment. Existing minimum requirements under HMP, and other requirements for management of the habitat such as prescribed burning and monitoring could not be implemented.</p> | <p>Does not comply with ARARs. HMP and other requirements for management of the habitat such as prescribed burning and monitoring could not be implemented.</p> | <p>Not effective in the short term because no action is taken.</p> | <p>Not effective or permanent in the long term since no further action would be taken to address MEC risks. It would be unsafe for the future property owner to conduct the required habitat management activities, and the continued presence of MEC on the ground surface would pose a hazard to the public.</p> | <p>Does not provide reduction because no further action would be taken.</p> | <p>Not administratively feasible to implement. While the No Further Action Alternative would be easy to implement, it would not comply with ARARs. In addition, taking no further action is unacceptable in terms of safety, and the necessary approvals are not expected.</p> | <p>No costs</p> | <p>Addressed in the Impact Area MRA RI/FS ROD once comments on the Proposed Plan have been received. This alternative is not expected to be acceptable to the regulatory agencies.</p> | <p>Addressed in the Impact Area MRA RI/FS ROD once comments on the Proposed Plan have been received. This alternative is not expected to be acceptable to the public.</p> |
| <p><u>Alternative 2</u> Technology-Aided Surface MEC Remediation and Land Use Controls</p> | <p>Protective of human health. Land Use Controls would provide a level of protection that would allow for proper management of the habitat reserve.</p> <p>Protective of environment. Prescribed burning of CMC habitat is essential for long-term management of listed and sensitive species. Prescribed burning and MEC removals would be performed incorporating required mitigation to avoid and reduce impacts to listed species or critical habitat for species. Post-remediation habitat monitoring would continue to be conducted.</p> | <p>MEC remediation would be implemented in compliance with ARARs. HMP and other requirements for management of the habitat such as prescribed burning and monitoring could be implemented.</p> | <p>Workers and the community would be protected during implementation of prescribed burning, MEC removal, and land use controls via safety protocols. Prescribed burns may cause some smoke impacts to the community, which are expected to be temporary. Community notification and smoke management would minimize potential impacts from smoke. Regarding the environment, would not have significant short-term impacts.</p> | <p>Provides long-term effectiveness and permanence during reuse, because all MEC detected on the surface would be removed, and land use controls would be implemented to mitigate risks from MEC potentially remaining during reuse.</p> | <p>Provides significant reduction through surface MEC removal.</p> | <p>Implementable from an administrative perspective. Necessary approvals to conduct MEC removals and associated habitat management could be obtained. Necessary services, equipment, and skilled workers to implement are readily available. High level of effort to implement; requires significant coordination to implement prescribed burning prior to MEC removals.</p> | <p>\$88.90 million (Table A3)</p> | <p>Addressed in the Impact Area MRA RI/FS ROD once comments on the Proposed Plan have been received. Based on agency comments on the RI/FS, it is anticipated to not be acceptable to the regulatory agencies.</p> | <p>Addressed in the Impact Area MRA RI/FS ROD once comments on the Proposed Plan have been received. This alternative may be acceptable to the public.</p> |

**Table 2. Summary of Remedial Alternatives Evaluation
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| REMEDIAL ALTERNATIVE | EPA's 9 CERCLA EVALUATION CRITERIA | | | | | | | | |
|---|---|--|--|---|---|--|-----------------------------|---|---|
| | Threshold Criteria | | Balancing Criteria | | | | Modifying Criteria | | |
| | Overall Protection of Human Health & Environment | Compliance with ARARs | Short-Term Effectiveness | Long-Term Effectiveness & Permanence | Reduction of T, M, V Through Treatment | Implementability | Cost | State Acceptance | Community Acceptance |
| Alternative 3 Subsurface MEC Remediation and Land Use Controls | Protective of human health. Provides greatest level of protection; would remove all detected MEC on surface and in subsurface. Land Use Controls would provide a level of protection that would allow for proper management of the habitat reserve. Protective of environment for majority of Impact Area MRA. Prescribed burning of CMC habitat is essential for long-term management of listed and sensitive species. Prescribed burning and MEC removals would be performed incorporating required mitigation to avoid and reduce impacts to listed species or critical habitat. Most significant impacts to the environment due to approximately 320 acres containing high-density anomalies anticipated to require large-scale excavations to remove subsurface MEC. Post-remediation habitat monitoring would continue to be conducted, and habitat restoration as necessary. | MEC remediation would be implemented in compliance with ARARs. HMP and other requirements for management of the habitat such as prescribed burning and monitoring could be implemented for the majority of the Impact Area MRA. The HMP and other requirements currently limit the amount of temporary habitat destruction to 75 acres. Large-scale excavations in high-density anomaly areas of approximately 320 acres are not consistent with the HMP and other requirements. It would therefore be necessary to re-initiate formal consultation with the USFWS in accordance with the requirements of the ESA. | Workers and the community would be protected during implementation of prescribed burning, MEC removal, and land use controls via safety protocols. Prescribed burns may cause some smoke impacts to the community, which are expected to be temporary. Community notification and smoke management would minimize potential impacts from smoke. Due to logistical considerations involved in conducting subsurface removals, smaller areas would be cleaned up each year; therefore, this alternative would take longer to implement and complete. Regarding the environment, would have significant short-term impacts on the environment for the portions of the Impact Area MRA where areas of high-density anomalies would require excavation and sifting. | Provides long-term effectiveness and permanence during reuse, because all MEC detected on the surface and in the subsurface would be removed using the best appropriate technology, and land use controls would be implemented to mitigate risks from MEC potentially remaining during reuse. | Provides greatest degree of reduction through surface and subsurface MEC removal. | Implementable from an administrative perspective. Necessary approvals to conduct MEC removals and associated habitat management could be obtained. Significant coordination required for excavation of high density anomaly areas. Necessary services, equipment, and skilled workers to implement are readily available. Highest level of effort to implement; requires significant coordination to implement prescribed burning prior to MEC removals. | \$423.20 Million (Table A4) | Addressed in the Impact Area MRA RI/FS ROD once comments on the Proposed Plan have been received. Based on agency comments on the RI/FS, it is anticipated to be acceptable to the regulatory agencies. | Addressed in the Impact Area MRA RI/FS ROD once comments on the Proposed Plan have been received. This alternative may be acceptable to the public. |

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| REMEDIAL ALTERNATIVE | EPA's 9 CERCLA EVALUATION CRITERIA | | | | | | | | |
|--|--|--|--|--|---|--|--|--|--|
| | Threshold Criteria | | Balancing Criteria | | | | Modifying Criteria | | |
| | Overall Protection of Human Health & Environment | Compliance with ARARs | Short-Term Effectiveness | Long-Term Effectiveness & Permanence | Reduction of T, M, V Through Treatment | Implementability | Cost | State Acceptance | Community Acceptance |
| <p><u>Alternative 4</u> Technology-Aided Surface MEC Remediation (100%), Subsurface MEC Remediation in Selected Areas (10%), and Land Use Controls</p> | <p>Protective of human health. Provides a high level of protection; would remove all detected MEC on surface and reuse-specific selected areas in the subsurface. Land Use Controls would provide a level of protection that would allow for proper management of the habitat reserve. Protective of environment for majority of Impact Area MRA. Prescribed burning of CMC habitat is essential for long-term management of listed and sensitive species. Prescribed burning and MEC removals would be performed incorporating required mitigation to avoid and reduce impacts to listed species or critical habitat. Some impacts to the environment due to approximately 85 acres containing high density anomalies associated with sensitively fuzed munitions anticipated to require large-scale excavations to remove subsurface MEC for safe reuse. Post-remediation habitat monitoring would continue to be conducted, and habitat restoration as necessary.</p> | <p>MEC remediation would be implemented in compliance with ARARs. HMP and other requirements for management of the habitat such as prescribed burning and monitoring could be implemented for the majority of the Impact Area MRA. Approximately 85 acres of high density anomaly areas associated with sensitively fuzed munition types would require large-scale excavation; it may therefore be necessary to re-initiate formal consultation with the USFWS in accordance with the requirements of the ESA.</p> | <p>Workers and the community would be protected during implementation of prescribed burning, MEC removal, and land use controls via safety protocols. Prescribed burns may cause some smoke impacts to the community, which are expected to be temporary. Community notification and smoke management would minimize potential impacts from smoke. Regarding the environment, would have significant short-term impacts on the environment for the portions of the Impact Area MRA where areas of high density anomalies associated with sensitively fuzed munitions types would require excavation and sifting.</p> | <p>Provides long-term effectiveness and permanence during reuse, because all MEC detected on the surface and in selected areas of the subsurface would be removed using the best appropriate technology, and land use controls would be implemented to mitigate risks from MEC potentially remaining during reuse.</p> | <p>Provides significant reduction through surface removal and subsurface MEC removal in selected areas.</p> | <p>Implementable from an administrative perspective. Necessary approvals to conduct MEC removals and associated habitat management could be obtained. Necessary services, equipment, and skilled workers to implement are readily available. High level of effort to implement; requires significant coordination to implement prescribed burning prior to MEC removals.</p> | <p>\$138.40 Million (Table A5)</p> | <p>Addressed in the Impact Area MRA RI/FS ROD once comments on the Proposed Plan have been received. Based on agency comments on the RI/FS, it is anticipated to be acceptable to the regulatory agencies.</p> | <p>Addressed in the Impact Area MRA RI/FS ROD once comments on the Proposed Plan have been received. This alternative may be acceptable to the public.</p> |

Acronyms

ARARs = Applicable or Relevant and Appropriate Requirements
 ESA = Endangered Species Act
 MEC = munitions and explosives of concern
 ROD = Record of Decision
 T, M, V = toxicity, mobility, volume
 USFWS = U.S. Fish and Wildlife Service

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**Table 3. Summary of Costs for Implementation of Remedial Alternatives
Feasibility Study, Track 3 Impact Area MRA RI/FS, Former Fort Ord, California**

| Remedial Alternative | <u>Alternative 1</u> No Further Action | <u>Alternative 2</u> Technology-Aided Surface MEC Remediation and Land Use Controls | <u>Alternative 3</u> Subsurface MEC Remediation and Land Use Controls | <u>Alternative 4</u> Technology-Aided Surface MEC Remediation, Subsurface MEC Remediation in Selected Areas, and Land Use Controls |
|---|--|--|---|---|
| *CAPITAL COSTS (YEAR 1) | -- | \$8.88 million | \$23.41 million | \$15.38 million |
| *ANNUAL COSTS (30 YEARS) | -- | \$80.02 million | \$399.76 million | \$123.03 million |
| *TOTAL COST OF REMEDIAL ALTERNATIVE | -- | \$88.90 million | \$423.2 million | \$138.4 million |
| *LONG TERM MANAGEMENT MEASURE COSTS (Property transfer documentation, Annual Monitoring, 5-Year Review Reporting) | \$453,000 ((\$22,000 in Capital Costs; \$431,000 in Annual Costs) | | | |

Footnotes

* Costs estimates for these alternatives are provided in Appendix A.

-- There are no costs associated with implementation of the No Further Action alternative.

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