

Appendix B: Mitigation Measures Common to All Alternatives

The National Park Service places a strong emphasis on avoidance, minimization, and mitigation of impacts during development projects in the park. To help ensure that design and implementation of any future development projects protect natural, cultural, and social resources and the quality of the visitor experience, parkwide mitigation measures have been developed. The following section discusses mitigation measures that would occur prior to, during, and after construction of any proposed improvements within the river corridor.

Prior to Construction

- An Oil and Hazardous Materials Spill Prevention, Control, and Countermeasure Plan shall be prepared for all development projects to address hazardous materials storage and spill prevention. The plan shall be submitted for park approval prior to any construction. (*water quality, soils, wetlands*)
- A Storm Water Pollution Prevention Plan shall be prepared and implemented for construction activities to control surface runoff, reduce erosion, and prevent sedimentation from entering waterbodies during construction. The plan shall be submitted for park approval prior to any construction. (*water quality, soils*)
- A construction work schedule shall be prepared for all construction projects that minimizes effects on wildlife in adjacent habitats, peaks in visitation, and noise levels at residential housing and visitor lodging areas. (*wildlife, special-status species, noise, park operations, visitor experience*)
- An Environmental and Cultural Resource Compliance Monitoring Plan shall be prepared for all construction projects to ensure implementation of mitigation measures described in this section. The plan shall identify the frequency and type of monitoring required by qualified natural and cultural resources personnel. The plan shall be submitted for park approval prior to any construction. (*cultural resources, water quality, air quality, wildlife, vegetation*)
- All construction personnel shall attend an environmental protection briefing prior to working on any construction site in the park. This briefing is designed to familiarize workers with statutory and contractual environmental requirements, and the recognition of and protection measures for archeological sites, sensitive habitats, water resources, and wildlife habitats. (*water quality, air quality, soils, wetlands, wildlife, vegetation, cultural resources*)
- Protective barriers shall be placed around specified staging areas, trees, plants, root zones, river edges, aquatic habitats, wetlands, sensitive wildlife habitats, cultural resources features, and infrastructure. Barriers shall be installed prior to construction and field inspected by natural and cultural resources personnel to verify proper placement. (*vegetation, wetlands, cultural resources, wildlife*)
- Qualified cultural resources personnel shall survey and evaluate previously undocumented features and/or historical archeology sites prior to any construction. (*cultural resources*)
- Associated American Indian tribes shall be consulted when resources to which they attach cultural and religious significance are involved. (*cultural resources*)
- Aboveground structures shall be sited and designed in conformance with *A Sense of Place: Design Guidelines for Yosemite Valley* (NPS 2004c), which recommends architectural and landscape treatments to maintain the appropriate character for development while

minimizing adverse effects to landscape features such as topography, views, and vegetation. *(cultural resources, scenic resources)*

- Imported soils, fills, or aggregates shall be free of deleterious materials. Sources of imported materials shall be submitted for park approval prior to construction. *(non-native species management, vegetation, soils)*
- A plant condition inventory shall be conducted to identify areas of invasive weed species, aquatic and terrestrial vegetation compositions, traditionally used plant resources, and appropriate native shrubs and ground cover to salvage and reuse. *(wetlands, non-native species management, vegetation, cultural resources)*
- A Non-native Species Management Plan shall be prepared prior to the commencement of any ground-disturbing activities (including hazard tree removal) that specifies the locations and methods for removing non-native species, prescriptions for monitoring activities after construction, and reporting requirements. The plan shall be submitted for park approval prior to ground-disturbing activities. *(non-native species management, vegetation)*
- A Revegetation Plan shall be prepared prior to the commencement of any ground-disturbing activities (including hazard tree removal) that prescribes seed collection, plant salvage, revegetation, and post-construction monitoring activities. The park botanist and historic preservation officer shall review the plan to verify compliance with the *Vegetation Management Plan, A Sense of Place: Design Guidelines for Yosemite Valley*, and the protection of traditional-use plants. *(wetlands, non-native species management, vegetation, cultural resources)*
- Preconstruction surveys shall be conducted by a qualified biologist to identify the number, type, and location of special-status bird, bat, and aquatic species within the project area. Structures and habitat that provide hibernacula, nursery colonies, or roosting habitat would remain and other protective measures shall be identified during surveys. *(special-status species, wildlife)*
- The Underground Services Alert shall be informed by construction personnel 72 hours prior to any ground disturbance to enable National Park Service utilities staff and other appropriate utility services to verify the on-site location and depth (elevation) of existing utilities and services through field survey (potholing). *(park operations)*
- A Transportation Plan shall be prepared to ensure safe and efficient passenger and vehicle circulation during construction projects. The plan shall determine the sequencing of signage to route visitors around construction areas and to day-use parking and other appropriate locations in the Valley. The plan shall be submitted for park approval prior to any construction. *(park operations, transportation, visitor experience)*

During Construction

- Yosemite National Park and/or a contractor (as appropriate) shall implement and comply with requirements of the Oil and Hazardous Materials Spill Prevention, Control, and Countermeasure Plan prepared for all construction projects. *(water quality, soils)*
- Yosemite National Park and/or a contractor (as appropriate) shall implement and comply with operational compliance requirements of the Storm Water Pollution Prevention Plan issued for each project. *(water quality, soils)*
- Construction activities shall be monitored by qualified natural and cultural resources personnel as outlined in the Environmental and Cultural Resource Compliance Monitoring Plan prepared for each project. *(cultural resources, water quality, air quality, wildlife, vegetation)*

- Construction waste shall be separated into recyclable materials, green waste, and other debris that shall be placed in refuse containers daily and disposed of weekly. Recycled, toxic-free, and environmentally sensitive materials, equipment, and products shall be used whenever possible. Burning or burying of waste is strictly prohibited. (*water quality, air quality, soils*)
- Wastewater contaminated with silt, grout, or other by-products from construction activities shall be contained in a holding tank to prevent entry into watercourses or wetlands. (*water quality, wetlands*)
- Hazardous or flammable chemicals shall be prohibited from storage in the staging area, except for those substances identified in the Oil and Hazardous Materials Spill Prevention, Control, and Countermeasure Plan prepared for all construction projects. Hazardous waste materials shall be immediately removed from project sites in approved containers. (*water quality, soils*)
- Stationary equipment shall be parked over containment pads designed to trap any leaking oil, fuel, or hydraulic fluids and shall be inspected daily. (*water quality, soils*)
- Secondary containment shall be required for all equipment operating with fluids. Routine oiling, lubrication, and refueling shall be conducted with secondary containment and is prohibited in watercourses or wetlands at any time. (*water quality, wetlands, soils*)
- Spill response materials (including absorbent pads, booms, and other materials to contain hazardous material spills) shall be maintained on project sites to ensure rapid response to spills. (*water quality, soils*)
- Immediate notification of spills to the appropriate agencies shall be required. Any spill release shall be digitally photographed or videotaped as part of response activities. (*water quality, soils*)
- Disruption of utility service shall require advanced notification to National Park Service, concessioners, and residents prior to planned disruptions. Unexpected interruptions due to construction activities shall promptly be reconnected. (*park operations, visitor experience*)
- Yosemite National Park and/or a contractor (as appropriate) shall implement and comply with the Non-native Species Management Plan prepared for each project. (*water quality, soils*)
- All construction tools and equipment entering the park shall be cleaned by means of pressure washing and/or steam cleaning so as to arrive on site free of mud or seed-bearing material. Each piece of equipment shall undergo inspections immediately prior to entering the park. (*non-native species management, vegetation*)
- Clearing of vegetation and ground disturbance shall be minimized to the greatest extent possible. (*non-native species management, vegetation, cultural resources, water quality, soils*)
- Vegetation salvage, seed collection, and revegetation shall be implemented as defined in the Revegetation Plan. (*wetlands, vegetation, cultural resources*)
- Topsoil shall be salvaged, segregated during storage, and reused in the proper location and depth. Wetland soils shall be salvaged and reused as fill in wetland areas. Stockpiles of soils infected with fungal pathogens (root rot) must not be moved and reused in noninfected areas of the park. Equipment buckets, tires, and hand tools used in areas containing root rot shall be cleaned prior to removal. (*wetlands, vegetation, soils*)
- Soil and stump treatment prescriptions shall be executed according to the park's Root Rot Management Guidelines and the park forester. Stumps from excavations shall be disposed of in a legal manner outside of the park boundary. (*vegetation, soils*)

- Stationary noise sources shall be located as far as possible from sensitive wildlife habitats, as well as residential housing and visitor lodging areas. Construction equipment shall not be left running while standing by. Hydraulic or electric-powered impact tools shall be used when feasible. All on-site work that generates noise levels above 76 decibels at the site boundary shall be done between 8:00 a.m. and 5:00 p.m. (*noise, air quality, wildlife, park operations, visitor experience*)
- Lockable, bear-proof dumpsters and food storage containers shall be delivered to the construction site for construction crew use. (*wildlife, bear management*)
- Excavation sites must be monitored or covered to avoid trapping wildlife, and routes of escape for wildlife should be maintained. The construction site shall be inspected daily for appropriate covering and flagging of excavation sites. Each morning the project area shall be inspected for wildlife trapped in excavation pits. A qualified biologist shall be available to inspect excavations before refilling occurs. (*wildlife*)
- A park employee shall be designated to monitor the worksite daily for proper disposal of waste, wrappers, and food packaging. (*wildlife, bear management*)
- Site watering and slow truck speeds shall be managed as appropriate to control dust. When hauling dry materials, truck beds shall be securely covered to prevent blowing dust or loss of debris. (*air quality*)
- A Transportation Plan shall be implemented for construction projects. Appropriate signage shall be located and sequenced during construction activities to ensure safe and efficient traffic and pedestrian circulation. Information about traffic detours and recreational closures shall be provided to visitors as they enter the park at each entrance station. (*park operations, transportation, visitor experience*)

Post-Construction

- All tools, equipment, barricades, signs, surplus materials, debris, and rubbish shall be removed from the project work limits upon project completion. (*park operations, vegetation*)
- The success of revegetation efforts shall be monitored. Plant materials used for revegetation shall remain alive and in a healthy, vigorous condition for a period of one year after final acceptance of planting. The project site shall be monitored in accordance with the Non-native Species Management Plan and Revegetation Plan. All plants determined to be in an unhealthy condition shall be replaced. (*non-native species management, vegetation, cultural resources*)