2.18 Invasive Species

2.18.1 Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration (FHWA) guidance issued August 10, 1999, directs the use of the State's invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a project.

2.18.2 Affected Environment

The information presented in this section was compiled from two technical reports prepared in 2017 and 2018, including the Amended Natural Environment Study (NES) prepared for the State Route 133 Safety Improvement Project at El Toro Road (EA 0N0600) and the NES prepared for the SR-133 Widening and Drainage Improvement Project (EA 0Q3600).

The California Invasive Plant Council (Cal-IPC) 2006 Invasive Plant Inventory highlights non-native plants that are serious problems in wildlands (i.e., natural areas that support native ecosystems, including national, State, and local parks, ecological reserves, wildlife areas, national forests, and Bureau of Land Management [BLM] lands). The inventory categorizes plants as High, Moderate, or Limited based on each species' negative ecological impact in California. Plants categorized as High have severe ecological impacts. Plants categorized as Moderate have substantial and apparent, but not severe, ecological impacts. Plants categorized as Limited are invasive, but their ecological impacts are minor on a statewide level.

The following is a list of the 41 invasive plant species identified in the Biological Study Area (BSA) grouped by their California Invasive Plant Inventory rating:

- **Overall High Rating (total of 5):** Giant reed (*Arundo donax*), red brome (*Bromus madritensis*), hottentot fig (*Carpobrotus edulis*), sweet fennel (*Foeniculum vulgare*), and pampas grass (*Cortaderia selloana*)

- **Moderate Rating (total of 21):** Australian saltbush (*Atriplex semibaccata*), slender oat (*Avena barbata*), wild oat (*Avena fatua*), black mustard (*Brassica nigra*), ripgut brome (*Bromus diandrus*), Italian thistle (*Carduus pycnocephalus*), tocalote (*Centaurea melitensis*), bull thistle (*Cirsium vulgare*), poison hemlock (*Conium maculatum*), artichoke thistle (*Cynara cardunculus*), rattail fescue (*Festuca myuros*), Italian rye grass (*Festuca perennis*), crown daisy (*Glebionis coronaria)*], short podded mustard (*Hirschfeldia incana*), foxtail barley (*Hordeum murinum*), crystalline iceplant (*Mesembryanthemum crystallinum*), tree tobacco (*Nicotiana glauca*), harding grass (*Phalaris aquatica*), Mexican fan palm (*Washingtonia robusta*), London rocket (*Sisymbrium irio*), and Bermuda grass (*Cynodon dactylon*)

- **Limited Rating (total of 15):** Soft chess (*Bromus hordeaceus*), brass buttons (*Cotula coronopifolia*), red stemmed filaree (*Erodium cicutarium*), cutleaf geranium (*Geranium dissectum*), bristly ox-tongue (*Helminthotheca echioides*), bur clover (*Medicago polymorpha*), English plantain (*Plantago lanceolata*), rabbitsfoot grass (*Polypogon monspeliensis*), wild radish (*Raphanus sativus*), castor bean (*Ricinus communis*), curly dock (*Rumex crispus*), Russian thistle (*Salsola tragus*), Peruvian peppertree (*Schinus molle*), smilo grass (*Stipa miliacea*), and horehound (*Marrubium vulgare*).

2.18.3 Environmental Consequences

2.18.3.1 Temporary Impacts

Alternative 1 (Build Alternative)

The Build Alternative has the potential to spread invasive species within the direct soil disturbance limits through the entering and exiting of contaminated construction equipment and through the improper removal and disposal of invasive species during the construction period. If the introduction of invasive species occurs within adjacent undisturbed native habitats, such effects may permanently alter areas supporting native habitats (permanent impacts are discussed in Section 2.18.3.2, below). With implementation of Measures BIO-2 and BIO-4 provided in Section 2.13, Natural Communities, the Build Alternative would avoid the spread of invasive species within the direct disturbance limits by restoring the temporary impact areas with native vegetation and by implementing appropriate measures to prevent the spread or introduction of invasive species. With Measures BIO-2 and BIO-4 implemented, the Build Alternative would not result in adverse temporary effects related to invasive species.

Alternative 2 (No Build Alternative)

The No Build Alternative would not include construction of any of the proposed improvements. Therefore, the No Build Alternative would not result in new effects related to invasive species. Locations within the State Route 133 (SR-133) right-of-way where invasive species currently occur would not be modified under the No Build Alternative.

2.18.3.2 Permanent Impacts

Alternative 1 (Build Alternative)

To accommodate the shoulder widening and utility undergrounding, as well as the new, modified, and relocated drainage infrastructure, the Build Alternative would permanently remove existing invasive plant species located adjacent to SR-133 and may reduce existing invasive species in the area. However, potential effects from invasive species associated with construction are considered permanent when the introduction of invasive species into previously undisturbed areas would result from permanent effects to native habitats. The Build Alternative has the potential to spread invasive species to adjacent native habitats in the BSA through the entering and exiting of contaminated construction equipment, the inclusion of invasive species in seed mixtures and mulch, and through the improper removal and disposal of invasive species causing seed to be spread along the highway. With the implementation of appropriate invasive species control measures outlined in Section 2.13, Natural Communities, under Measure BIO-4, potential project-related permanent effects related to invasive species would not be adverse.

Alternative 2 (No Build Alternative)

The No Build Alternative would not include construction or operation of any of the proposed improvements. Therefore, the No Build Alternative would not result in effects related to invasive species.

2.18.4 Avoidance, Minimization, and/or Mitigation Measures

Measures BIO-2 and BIO-4, provided in Section 2.13, Natural Communities, would be implemented to reduce potential temporary and permanent effects of the Build Alternative related to invasive species.

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