3.11 Hazardous Materials

3.11.1 Summary of Draft Tier 1 EIS

Hazardous materials include hazardous waste, hazardous substances, petroleum products, and other regulated materials. The existing hazardous material sites were identified by searching for facilities that were reported to various regulatory agencies within a prescribed search radius (by facility type) from the centerline of the Build Corridor Alternatives, generally between 0.25 mile and 1 mile – this is the hazardous materials analysis area. Over 800 regulated hazardous materials sites were identified in the hazardous materials analysis area, including Comprehensive Environmental Response, Compensation, and Liability Act-designated contaminated sites (Superfund), hazardous waste, underground storage tanks, leaking underground storage tanks, Voluntary Remediation Program and Brownfields, landfills, and other facility types (GeoSearch 2017a–2017q).

The environmental consequences of the Build Corridor Alternatives would be similar. The potential environmental consequences are two-fold:

- Human and environmental health risks associated with encountering hazardous materials during construction
- Risk of a spill or accident on I-11 associated with the transportation of hazardous materials

3.11.1.1 Encountering Hazardous Materials During Construction

Encountering hazardous materials during construction can have negative environmental consequences on human health and the environment due to direct exposure, or by inadvertently distributing contaminants into surrounding soil, surface water, or groundwater. The sections of the Build Corridor Alternatives that are co-located with existing roadway facilities would generally result in a smaller construction footprint compared to a new alignment. Those sections where co-location is anticipated tend to have a higher density of hazardous materials facilities, particularly in highly developed urban areas. Undeveloped rural areas have a low density of hazardous materials facilities. Draft Tier 1 EIS **Table 3.11-6**, **Table 3.11-7**, and **Table 3.11-8** summarize the end-to-end considerations for the Purple, Green, and Orange Alternatives, respectively. The No Build Alternative would not impact hazardous material sites.

3.11.1.2 Risk of Spill or Accident on I-11

Hazardous materials, as defined in 49 CFR 173.403, are transported through the Study Area on existing transportation routes and could be transported on future transportation routes associated with the Build Corridor Alternatives. The movement and use of hazardous materials present exposure risks from accidental releases and spills. Additional risks could be introduced where routes on new location expose sensitive receptors such as water resources, wildlife habitat, or recreation resources to hazardous materials. Further, widening of existing roadways may result in a slightly reduced distance of nearby receptors to hazardous materials being transported on I-11.

The Arizona Department of Public Safety is charged with enforcing rules and regulations governing the operation of vehicles transporting hazardous materials, especially as it relates to 49 U.S.C. Chapter 51 – Transportation of Hazardous Material and Section 5112, Highway routing of hazardous material, which prescribe standards for states and tribal governments to use in transporting hazardous material in commerce. Commercial Vehicle Enforcement districts are located throughout the state, and safety is promoted through auditing, education, inspection, and enforcement operations as dictated by state and federal regulations. In this way, Arizona State Troopers are proactively mitigating accidental spills on highways.

Should a spill of hazardous material occur, the response would be carried out in accordance with the *Arizona State Emergency Response and Recovery Plan* (Arizona Department of Emergency and Military Affairs 2017). This plan is in compliance with the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300). Additionally, many local agencies and organizations have developed plans to address accidental releases and spills.

3.11.2 Summary of Changes Since Draft Tier 1 EIS

Agencies and the public expressed concerns about the transport of hazardous materials and the potential to contaminate sensitive water resources. The City of Tucson is concerned in particular that spills occurring on routes adjacent to the Preferred Alternative with west option near Sandario Road could reach the Central Avra Valley Storage and Recovery Project (CAVSARP) and Southern Avra Valley Storage and Recovery Project (SAVSARP) water recharge and groundwater storage areas. Contamination of either the CAVSARP or SAVSARP would affect the groundwater (specifically groundwater associated with the Tucson Active Management Area). The risk of accidental spills into these specific water resources was not discussed in **Section 3.11** (Hazardous Materials) of the Draft Tier 1 EIS. A commitment to evaluate engineering solutions to contain spills in areas that have a high potential to drain to sensitive receptors is included in **Section 3.11.6** (T2-HazardousMaterials-2). Accidental releases or spills would be addressed by regulatory agencies under existing regulatory programs and/or plans.

3.11.3 No Build Alternative

Under the No Build Alternative, construction impacts would not occur. Vehicles transporting hazardous materials would continue to use the existing transportation network and risks would be similar to existing conditions. No new sensitive environmental resources would be exposed to hazardous materials risks.

3.11.4 Recommended Alternative

Hazardous materials could be encountered during construction of the Recommended Alternative, especially in urban areas and where the Recommended Alternative is co-located with another facility. The potential to encounter hazardous materials is less in rural and undeveloped areas than in urban areas. The potential of contamination from vehicles transporting hazardous material would be similar to existing conditions along co-located stretches and would introduce the potential for contamination along new stretches. Spills that occur along the Recommended Alternative could impact recharge and storage basins in the vicinity of CAVSARP and SAVSARP.

3.11.5 Preferred Alternative

Hazardous materials could be encountered during construction of the Preferred Alternative, especially in urban areas and where the Preferred Alternative is co-located with another facility. The potential to encounter hazardous materials is less in rural and undeveloped areas than in urban areas. The potential of contamination from vehicles transporting hazardous material would be similar to existing conditions along co-located stretches and would introduce the potential for spills along new stretches. Spills that occur along the west option in Pima County could impact recharge and storage basins in the vicinity of CAVSARP and SAVSARP.

3.11.6 Mitigation and Tier 2 Analysis

3.11.6.1 Tier 2 Analysis Commitments

FHWA and ADOT completed an initial level of analysis in this Final Tier 1 EIS to identify a 2,000-foot-wide preferred Build Corridor Alternative. Additional analysis in Tier 2 will inform (1) the selection of a specific alignment (approximately 400 feet wide) within the selected 2,000-foot-wide corridor and (2) the selection of the west option or east option in Pima County. Tier 2 analysis will also identify measures to avoid, minimize, or mitigate impacts. Specifically, ADOT commits to carrying out the following analysis during the Tier 2 process:

- **T2-HazardousMaterials-1:** Conduct detailed hazardous materials evaluations, including review of regulatory agency files; subsurface investigations to quantify the vertical and horizontal distribution of hazardous materials; and remediation planning as needed.

- **T2-HazardousMaterials-2:** Evaluate engineering solutions to contain spills in areas that have a high potential to impact sensitive receptors, including water resources, groundwater recharge areas, wildlife habitat, and recreation resources.

3.11.6.2 Mitigation Commitments

As required by NEPA, FHWA and ADOT considered measures to avoid, minimize, and mitigate impacts from the Project (generally referred to as mitigation measures) during this Tier 1 process. Specific mitigation that ADOT is committing to implement if a Build Alternative is selected includes:

- **MM-HazardousMaterials-1:** Prior to construction, prepare and implement a project-specific Health and Safety Plan and Hazardous Materials Management Plan to address potential hazardous materials that could be encountered. These plans will consist of specific measures to protect worker and public health and safety, as well as programs to manage contaminated materials during construction.

- **MM-HazardousMaterials-2:** If unknown contaminated media is encountered during construction, stop working until the contamination is properly evaluated and measures are developed to protect worker health and safety in accordance with the project-specific Health and Safety Plan and Hazardous Materials Management Plan.

- **MM-HazardousMaterials-3:** Identify practical measures to avoid, minimize, and mitigate the environmental consequences from hazardous materials.

- **MM-HazardousMaterials-4:** Implement preparedness plans, such as the *Arizona State Emergency Response and Recovery Plan* (Arizona Department of Emergency and Military Affairs 2017).

3.11.6.3 Additional Mitigation to be Evaluated in Tier 2

During the Tier 2 process, ADOT will evaluate mitigation measures in addition to those listed above, to include best practices, permit requirements, and/or other mitigation strategies suggested by agencies or the public. Examples of mitigation measures that ADOT may evaluate in Tier 2 include:

- Avoid contaminated sites wherever practical; where impractical, initiate further site investigation and coordination with affected property owners.

- Conduct surveys for asbestos, lead-based paint, and universal wastes prior to demolition of any building structures and bridges or elevated structures. If these regulated materials are encountered, abate them in accordance with applicable regulations and guidelines.

- Implement standard construction measures for fugitive dust control, as well as stormwater erosion and sediment controls, to minimize the spread of contaminated soil. During the construction phase, require the contractor to file and abide by a dust management plan to minimize the effects of dust on surrounding communities.

- Comply with local, state, and federal regulations regarding the storage and use of hazardous materials on the site.

- Consider alignments that place the new highway facility farther away from sensitive resources, such as CAVSARP and SAVSARP.

- Consider engineering solutions in areas where accidental spills could impact irrigation facilities, water wells, or other water resources, such as lined catchment basins.

- Incorporate best management practices designed to reduce erosion, minimize sedimentation, and eliminate non-stormwater pollutants as identified in ADOT's *Erosion and Pollution Control Manual for Highway Design and Construction* (ADOT 2012) and ADOT's *Standard Specifications for Road and Bridge Construction* (ADOT 2008). (The most recent versions of these design standards will apply during Tier 2 analysis.) Restrictions and requirements that would be considered are further discussed in **Section 3.13** (Water Resources).