

APPENDIX B: SUMMARY OF MITIGATION AND MONITORING COMMITMENTS

Resource	Mitigation and Monitoring Commitments	Where to Include in BID Package	Implementation Responsibility	Comments/Status ¹
Air Quality	<ul style="list-style-type: none"> Contractors will be required to reduce fugitive dust emissions during construction by implementing best management practices (BMPs), such as spraying exposed soils, covering trucks when transporting materials, minimizing mud tracking by vehicles, controlling vehicle speeds on construction access roads, and stabilizing construction entrances per CDOT M-208-1 requirements. 	Specification	Contractor	
	<ul style="list-style-type: none"> Contractors will be required to comply with BMPs to reduce air emissions from construction vehicles, such as reducing idling time of equipment and vehicles and using newer construction equipment or equipment with add-on emission controls. 	Specification	Contractor	
Archaeology	<ul style="list-style-type: none"> In the unlikely event that cultural deposits are discovered during construction, CDOT would follow its standard practice of ceasing work, consulting with the CDOT archaeologist, and evaluating materials in consultation with the State Historic Preservation Office (SHPO) to determine if mitigation is required. 	Specification	CDOT/ Contractor	
Cumulative Impacts	<ul style="list-style-type: none"> No mitigation necessary. 	NA	CDOT/Lakewood	
Energy	<ul style="list-style-type: none"> Measures to reduce energy consumption will include limiting the idling of construction equipment, locating construction staging areas close to the work site, minimizing motorist delays and vehicle idling, and coordinating general maintenance activities during construction to avoid excessive queuing and construction delays during peak hours. 	Plan/Specification	Contractor	
Environmental Justice	<ul style="list-style-type: none"> No mitigation measures are necessary. 	NA	NA	
Farmlands	<ul style="list-style-type: none"> No mitigation measures are necessary. 	NA	NA	

¹ To be updated as project is implemented.

² Not applicable in plan sheets or project specifications; to be completed in advance of or in conjunction with design efforts

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Fish and Wildlife	<ul style="list-style-type: none"> Obtain Senate Bill 40 Permit from CDOW. 	Permit/Plan	FHWA/CDOT (Design Consultant)	
	<ul style="list-style-type: none"> Conduct surveys for bird nests before April 1 and remove any unoccupied nests in advance of construction. 	Specification	Contractor	
	<ul style="list-style-type: none"> Trees will not be removed between April 1 and August 15 to avoid impacts to migratory birds. 	Permit	Contractor	
Floodplains	<ul style="list-style-type: none"> Sediment traps, check dams, sediment basins, or other best management practices (BMPs) will be installed to control sedimentation during construction of drainage improvements in gulches. Specific BMPs will be determined during final design. 	Plan/Specification	Contractor	
	<ul style="list-style-type: none"> During final design, CDOT will coordinate with the appropriate local and federal agencies to conduct hydraulic analysis and obtain necessary floodplain permits. 	Plan/Permit	FHWA/CDOT (Design Consultant)	
Geological Resources and Soils	<ul style="list-style-type: none"> No mitigation measures are necessary. 	NA	NA	
Hazardous Materials	<ul style="list-style-type: none"> Protective measures will be taken before, during, and after construction to minimize the risk of encountering petroleum products and petroleum-contaminated soils. A full Phase I Environmental Site Assessment (ESA) according to American Society of Testing and Materials (ASTM) 2005 standards will be completed prior to any total property acquisition. Phase II ESAs will be conducted to characterize, manage, and remediate contaminated properties identified as concern in Phase I ESAs. 	NA	FHWA/CDOT (Design Consultant)	
	<ul style="list-style-type: none"> A <i>Materials Handling Plan</i> will be prepared to address contaminated soil and groundwater that may be encountered as directed by the findings of Phase I assessments. The plan will be prepared according to CDOT standards. 	Plan		
	<ul style="list-style-type: none"> Painted surfaces disturbed during construction or demolition and disposed of separately will be tested, handled, and disposed of properly. 	Plan/Specification		
	<ul style="list-style-type: none"> An asbestos survey will be conducted and a demolition permit will be obtained prior to the demolition of bridges or buildings. Any asbestos-containing material that is friable or will be friable during construction and demolition activities will be removed prior to demolition by a licensed abatement contractor. 	Plan/Specification/Permit		

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Historic Properties	<ul style="list-style-type: none"> Mitigation measures will be part of a Memorandum of Agreement (MOA) negotiated among CDOT, FHWA, and the Colorado SHPO. The Lakewood Historical Society, City of Lakewood, and Jefferson County will be provided an opportunity to participate in the MOA. Mitigation may include additional historical survey in the study area, signage, and historic preservation training and education. 	NA	FHWA/CDOT	
	<ul style="list-style-type: none"> Any new historic documentation that is developed as part of the MOA will be provided to interested local historic preservation groups 	N/A	CDOT	
	<ul style="list-style-type: none"> Aesthetics of noise walls will consider compatibility with neighborhood history and may include treatments to support neighborhood history. 	Plan	FHWA/CDOT (Design Consultant)	
Land Use	<ul style="list-style-type: none"> Final design and right-of-way negotiations by CDOT will coordinate with the City of Lakewood to address compatibility with land use plans and the allowance of non-conforming properties that may result from right-of-way acquisition. 	NA	FHWA/CDOT/ Lakewood	
Noise	<ul style="list-style-type: none"> New noise walls are constructed between the frontage roads and US 6 west of Wadsworth to Garrison Street. Preliminary design and noise modeling indicates that 15-foot walls are required for properties adjacent to US 6, 8-foot walls are appropriate along the reconfigured frontage road in the NE quadrant (Green Acres neighborhood), and 4-foot safety barriers should be included along the US 6 bridge 	Plan	FHWA/CDOT (Design Consultant)	
	<ul style="list-style-type: none"> Noise analysis will be conducted during final design to confirm noise wall heights and alignments 	NA	FHWA/CDOT (Design Consultant)	
	<ul style="list-style-type: none"> During final design of the project, the City of Lakewood will have the opportunity to provide input on design elements related to noise mitigation, including grading, landscaping, color and material of any noise walls, with the goal of constructing an aesthetically pleasing and economically viable project. 	Plan	FHWA/CDOT (Design Consultant)	
	<ul style="list-style-type: none"> Construction noise impacts will be mitigated by limiting work to daytime hours (as described by CDOT and City of Lakewood requirements) when possible and requiring the contractor to use well-maintained equipment, including muffler systems. 	Specification	Contractor	

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Paleontology	<ul style="list-style-type: none"> The CDOT Staff Paleontologist will examine final plans to determine whether construction monitoring is required. 	NA	CDOT	
	<ul style="list-style-type: none"> Prior to construction, the CDOT Staff Paleontologist will examine the existing Denver Formation bedrock exposure that could not be examined previously because of snow cover at the time of original survey. If any scientifically significant fossil localities are discovered during that survey, CDOT will perform mitigation of construction impacts by systematic salvage of a statistically representative sample of the fossils found there, either prior to or during construction. 	N/A	CDOT	
	<ul style="list-style-type: none"> If sub-surface bones or other potential fossils are found during construction, work will cease. The CDOT Staff Paleontologist will assess the significance and make further recommendations. 	Specification	Contractor	
Pedestrian and Bicycle Facilities	<ul style="list-style-type: none"> Intelligent Transportation Systems (ITS) options, such as signing, lighting, and pavement treatments, will be considered in final design to improve safety of pedestrian and bicycle crossings of US 6 ramps on east side of Wadsworth. 	Plan	FHWA/CDOT (Design Consultant)	
	<ul style="list-style-type: none"> A grade-separated pedestrian/bicycle crossing to remove conflicts between bicycles and pedestrians at the loop ramp on the west side of Wadsworth will be examined further in final design. 	Plan	FHWA/CDOT (Design Consultant)	
	<ul style="list-style-type: none"> Signage and designated pedestrian and bicycle routes will be provided during construction. 	Specification	Contractor	
Right of Way and Relocations	<ul style="list-style-type: none"> All acquisitions and relocations will comply fully with federal and state requirements, including the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. 	NA	CDOT	
Section 4(f) and 6(f) Resources	<ul style="list-style-type: none"> No mitigation necessary for Section 6(f) resources (none present) See Historic Resources for Section 4(f) mitigation No mitigation necessary for non-historic Section 4(f) resources 	NA	NA	
Socioeconomics	<ul style="list-style-type: none"> CDOT will coordinate with emergency service providers to identify possible locations for emergency access breaks in the medians. 	Plan	FHWA/CDOT (Design Consultant)	
	<ul style="list-style-type: none"> CDOT will provide advance notice to emergency service providers, local schools, residents, and local businesses of upcoming construction activities that are likely to result in traffic disruption. This will be accomplished through direct contact, radio and public announcements, flyers, newspaper notices, onsite signage, and the use of the Lakewood and CDOT websites. 	Specification	Contractor	

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Threatened/Endangered Species	<ul style="list-style-type: none"> No mitigation measures are necessary. 	NA	NA	
Transportation	<ul style="list-style-type: none"> Continue to coordinate with the Regional Transportation District (RTD) and City of Lakewood regarding development plans at and around the 13th Avenue LRT station. 	NA	CDOT	
	<ul style="list-style-type: none"> Coordinate with RTD and City of Lakewood on the placement and aesthetics of bus stops and shelters. Bus shelters would be provided by others. 	Plan	FHWA/CDOT (Design Consultant)	
	<ul style="list-style-type: none"> Coordinate with RTD to ensure access to bus stops during construction. 	Specification	Contractor	
	<ul style="list-style-type: none"> Comply with CDOT Lane Closure Strategy for any lane closures during construction. Provide advance notice for extended lane closures, and identify detours with adequate signing to minimize out-of-direction travel. 			
Utilities	<ul style="list-style-type: none"> Utility impacts will be mitigated through close coordination with CDOT, City of Lakewood, and utility providers. 	NA	CDOT	
	<ul style="list-style-type: none"> Relocations may be avoided by placing encasement for protection over buried utilities or through design modifications to avoid major utility impacts, such as the use of retaining walls, roadway profile variations, and/or horizontal alignment shifts. For those situations where impacts cannot be avoided, utilities will be relocated. 	Plan	FHWA/CDOT (Design Consultant)	
Vegetation and Noxious Weeds	<ul style="list-style-type: none"> Vegetation removed during construction will be re-established as soon as feasible. 	Specification	Contractor	
	<ul style="list-style-type: none"> Establishment of noxious weeds will be controlled by BMPs such as managing open soil surfaces and topsoil that is stockpiled for reuse. 	Specification	Contractor	
	<ul style="list-style-type: none"> Prior to construction the impact area will be surveyed for presence of noxious weeds. 	Specification	Contractor	
	<ul style="list-style-type: none"> An Integrated Noxious Weed Management Plan may be developed and implemented to prevent the spread of noxious weeds during construction. 	Specification	Contractor	

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Visual/Aesthetics	<ul style="list-style-type: none"> CDOT will coordinate with Lakewood with regard to the aesthetics of the Build Alternative. 	NA	CDOT	
	<ul style="list-style-type: none"> City of Lakewood will install, irrigate, and maintain any landscaping in medians or other areas. Landscaping will comply with clear zone requirements. 	NA	Lakewood	
	<ul style="list-style-type: none"> CDOT will continue to maintain any non-irrigated areas in the interchange area. 	NA	CDOT	
Water Resources/Quality	<ul style="list-style-type: none"> Permanent water quality treatment features will be included in the final design to collect and treat roadway runoff by filtering pollutants before discharging stormwater into area waterways. 	Plan	FHWA/CDOT (Design Consultant)	
	<ul style="list-style-type: none"> A Colorado Discharge Permit System - Stormwater Construction Permit (SCP) will be required for this project. A Stormwater Management Plan will be developed in accordance with the conditions of the SCP. 	Specification/Plan	CDOT/Contractor	
	<ul style="list-style-type: none"> A construction dewatering permit will be obtained. 	Permit	Contractor	
	<ul style="list-style-type: none"> Erosion and sediment control BMPs will be implemented in accordance with CDOT Standard Specifications for Road and Bridge Construction and the revised provisions for water quality outlined in the Consent Order with CDPHE and incorporated into Section 107.25 (Water Quality) and Section 208 (Erosion Control). 	Specification/Plan	CDOT/Contractor	
Wetlands and Waters of the US	<ul style="list-style-type: none"> CDOT will obtain a Section 404 permit for impacts to wetlands and WUS. The U.S. Army Corps of Engineers (USACE) has confirmed informally that a Nationwide Permit (14 and/or 27) would be applicable. 	Plan/Permit	CDOT	
	<ul style="list-style-type: none"> A wetland finding will be completed during final design and will include a final assessment of impacts and a detailed plan for mitigation. 	Plan/Specification	CDOT/Contractor	
	<ul style="list-style-type: none"> Unavoidable impacts to wetlands resulting from the Build Alternative will be mitigated on a one-for-one basis in accordance with CDOT policy, resulting in no net loss of wetlands. 			