

# **Appendix H**

## Mitigation Monitoring Plan

**Appendix H  
Environmental Permits, Commitments and Mitigation**

No.	Impact/Mitigation Measure	Implementation & Monitoring	Responsible Party	Timing
1.	<u>Traffic and Transportation Impacts</u>	<p>All traffic control plans and mitigation measures, prepared by the contractor, will be approved by the City of Dallas prior to construction and incorporated into construction specifications. Specifications will include provisions for a maximum number of lanes closed during peak traffic hours, maintenance and removal of traffic control devices, efficient traffic rerouting measures, and scheduling of construction activities within the roadways for times other than peak traffic periods.</p> <p>This will include on-going coordination efforts between the city and residents and businesses before, during, and after construction. Private business parking areas and driveways will not be used for equipment maneuvering or parking. Impacts to traffic operations include:</p> <ul style="list-style-type: none"> <li>• Restriping of the travel lanes and physical delineation for the exclusive bi-directional streetcar lane on Houston Street and the Houston Street Viaduct.</li> <li>• The addition of the traffic signal at the transition from the southbound outside travel lane to the median of Zang Boulevard. This is to protect both the streetcar and vehicular traffic.</li> <li>• The addition of the traffic signal at the intersection of Oakenwald Street and Zang Boulevard. This is to protect turning movements and facilitate pedestrian movements at the intersection.</li> <li>• Physical delineation on Colorado Boulevard to maintain exclusive use of the outside, westbound travel lane for streetcar.</li> <li>• All crossing approaches will be signed with standard safety and warning signs installed to warn traffic/pedestrians of streetcar's approach especially in areas where contra-flow movements occur.</li> </ul>	DART City of Dallas NCTCOG	Final Design, Construction, and Operations

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2.	<p><u>Hazardous Materials</u>          During the detail structural assessment of the Houston Street Viaduct, core samples revealed asbestos material located at 106 expansion joints on the viaduct. Depending on structural rehabilitation requirements, these materials may be impacted during construction.</p>	<p>The design and preparation of required monitoring and remediation plans for at-risk hazardous/regulated materials areas will be coordinated with the TCEQ. The contractor will be responsible for developing a remediation plan in compliance with OSHA standards and requirements of the Texas Department of State Health Services. This plan will be coordinated through DART and the City of Dallas.</p> <p>If unanticipated sources of hazardous/regulated materials are encountered during construction, the construction manager or designee will immediately notify the DART Environmental Compliance Section (ECS) and City of Dallas. Specific mitigation activities addressing the specific contamination occurrence will then immediately be implemented. All ECS activities will be performed according to all applicable federal, state, and local regulations.</p>	<p>DART          City of Dallas          NCTCOG</p>	<p>Final Design,          Construction</p>
3.	<p><u>Safety–Pedestrians</u>          Whenever possible, DART with input from the City of Dallas and the NCTCOG, will design pedestrian paths to avoid crossing or passing through streetcar tracks, vehicular access drives, and parking areas.</p>	<p>DART with input from the City of Dallas and the NCTCOG will identify where pedestrian crossings occur and will mark them with standard pavement markings and signs. Sight distance at crosswalks, intersections, driveways, parking areas and streetcar crossings will conform to AASHTO Guidelines.</p>	<p>DART          City of Dallas          NCTCOG</p>	<p>Final Design,          Construction</p>
4.	<p><u>Safety–Stops</u>          DART with input from the City of Dallas and the NCTCOG will design the project to provide good visibility to the public and incorporates <u>Crime Prevention through Environmental Design</u> (CPTED) guidelines.</p>	<p>DART with input from the City of Dallas and the NCTCOG will utilize the CPTED guidelines as the basis of the final design of the streetcar stops. Streetcar stops will be reviewed by DART’s Fire Life Safety Committee and Americans with Disabilities Act (ADA) coordinator.</p>	<p>DART          City of Dallas          NCTCOG</p>	<p>Final Design</p>
5.	<p><u>Safety–Project Level</u>          Develop System Safety Certification Plan</p> <p>DART with support from the City of Dallas will be responsible for 24-hour daily patrol of the line and project materials and conduct area walk-throughs.</p>	<p>DART Rail Program Development, in conjunction with City Dallas, will prepare and complete the Safety Certification Plan at the completion of the 90% design for the project.</p> <p>DART’s Fire Life Safety Committee and key City of Dallas departments will meet quarterly during final design through construction.</p>	<p>DART          City of Dallas          NCTCOG</p>	<p>Final Design</p>

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6.	<p><u>Construction Impact (Utilities)</u>          Best management practices will be used to maintain availability of necessary utilities during construction.</p>	<p>Contractors will be directed to consider the following items in their construction specifications for mitigation of utilities:</p> <ul style="list-style-type: none"> <li>• Prior to construction, all area utility companies and agencies will be contacted and requested to provide line location measures and approval of the proposed utility line alteration</li> <li>• Businesses and residences affected by utility disruptions will be notified of the disruption at least two weeks in advance</li> <li>• Down periods for businesses should occur during off-business hours and should not exceed a 24-hour period</li> <li>• Businesses such as restaurants, grocery stores or food preparation/manufacturing facilities should be accommodated in order to protect food preparation and storage mechanisms</li> <li>• If utilities not identified prior to construction are identified during construction, work will be discontinued so that appropriate utility companies and agencies will be contacted to identify the line(s).</li> </ul>	<p>DART          City of Dallas          NCTCOG</p>	<p>Final Design,          Construction</p>
7.	<p><u>Construction Impact (Air Quality)</u></p>	<p>DART General Requirements and Standard Specifications for Construction Projects (Section 01560) provides dust control measures for construction activities and requires the contractor to have sufficient equipment on-site to implement them at all areas of construction and at all times (including weekends, holidays, and non-working hours). The control of exhaust emissions from construction equipment will be in accordance with Environmental Protection Agency (EPA) guidelines.</p> <p>Contractors will be required to limit the idling of construction vehicles and to use emission control devices.</p> <p>Good housekeeping practices, such as wetting or chemically treating exposed earth areas, covering dust-producing materials during transport, and limiting construction activities during high wind conditions, will be employed, to minimize dust impacts.</p> <p>Proper traffic management during the construction period will be implemented to mitigate potential adverse effects, or increases in CO concentrations.</p>	<p>DART          City of Dallas          NCTCOG</p>	<p>Construction</p>

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8.	<p><u>Construction Impact (Construction Staging Areas)</u>  The contractor, with input from DART, the City of Dallas, and the NCTCOG, will select a construction staging area(s) based on the EA's potential site evaluation.</p>	<p>DART General Requirements and Standard Specifications for Construction Projects (Section 01560) states that the contractor must store equipment and materials in conformance with applicable local regulations. Unnecessary materials and equipment are not allowed to be loaded with a weight that would endanger its structural integrity or the safety of persons. Materials are not allowed to be stored on private property without written authorization of the owners of the property. Best management practices will be implemented to prevent storm water runoff from construction materials and equipment by covering such materials and equipment with awnings, roofs, or tarps; storing material on asphalt or concrete pads; surrounding material stockpiling areas with diversion dikes or curbs; and using secondary containment measures such as dikes or beams around fueling areas.</p>	<p>DART  City of Dallas  NCTCOG</p>	<p>Construction</p>
9.	<p><u>Construction Impact (Migratory Bird Treaty Act)</u>  Cliff swallow (<i>Hirundo pyrrhonota</i>) nests were identified under the Houston Street Viaduct during field reconnaissance in accordance with the Migratory Bird Treaty Act.</p>	<p>Prior to the removal of inactive nests of migratory birds, the contractor shall consult with the U.S. Fish and Wildlife Service (USFWS) office with local jurisdiction, including any appropriate state wildlife agencies, in the event that a USFWS, including a state, permit may be required for removal of inactive nests in accordance with the provisions of 50 C.F.R. Part 21. After USFWS consultation and the issuance of a permit, if necessary, the contractor may hire a biologist to remove all empty nests before March 2012 (prior to the active nesting season). Upon removal of old or inactive nests, the contractor should net the area beneath the bridge to deter the construction of new nests at this location. The area should be regularly monitored during the nesting season (March through August) by a professional biologist to ensure no new nesting activity occurs.</p> <p>The contractor with input from DART, the City of Dallas, and the NCTCOG will implement construction phase services to include:</p> <ol style="list-style-type: none"> <li>1. Protections to minimize noise, dust, and avoid any materials from falling off the bridge to help provide protection against harming migratory or wading birds that could be present during construction.</li> <li>2. Should an active nest of Cliff Swallows (<i>Hirundo pyrrhonota</i>), or any other migratory bird, be identified during construction, all construction activities on the bridge must cease until the migratory bird nest can be removed in accordance with the provisions of the Migratory Bird Treaty Act, 16 U.S.C. §§703 – 712, and its implementing regulations by the USFWS at 50 C.F.R. Part 21.</li> </ol>	<p>DART  City of Dallas  NCTCOG</p>	<p>Construction</p>

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10.	<u>Construction Impact (Noise)</u>	<p>DART Construction Guidelines Specifications Section 01560 Part 1.9 A-G states that construction activities must comply with noise maximum limits set out in Tables 01560 1-3. Noise control measures that would be applied to meet the noise limits include the following:</p> <ol style="list-style-type: none"> <li>1. Avoiding nighttime construction in residential neighborhoods.</li> <li>2. Using specially quieted equipment with enclosed engines and/or high performance mufflers.</li> <li>3. Locating stationary construction equipment as far as possible from noise sensitive sites.</li> <li>4. Re-routing construction-related truck traffic along roadways which will cause the least disturbance to residents.</li> </ol> <p>Noise monitoring will be performed if complaints are received from the public during construction to verify compliance with the limits. Noise control measures will be applied as needed to meet the noise limits.</p>	DART City of Dallas NCTCOG	Construction
11.	<p><u>Construction Impact (Water Quality and Runoff)</u>  The DART’s Final Design Consultant will prepare an Erosion and Sediment Control Plan (E&amp;SCP) as part of a “baseline” Storm Water Pollution Prevention Plan (SW3P) that complies with the requirements of the relevant Storm Water Discharge Construction General Permit. This baseline SW3P will be included as part of the Project’s bid documents (drawings and specifications).</p>	<p>A comprehensive Storm Water Pollution Prevention Plan (SW3P), meeting the requirements of the Texas Pollutant Discharge Elimination System (TPDES) Storm Water General Permit, will be implemented to address water quality and runoff issues. Mitigation to protect area water quality will include measures to provide erosion controls and minimization of the introduction of sediments, wastewater and chemicals to surface and subsurface waters. The SW3P will define and ensure the implementation of practices that will be used to reduce pollutants in storm water discharges associated with construction activity at the construction site, and assure compliance with the terms and conditions of the permit.</p> <p>If unanticipated sources of hazardous or regulated materials were encountered during construction activities, the construction manager or designee will immediately notify DART. Specific mitigation activities, which address the type, level, and quantity of contamination encountered, will be immediately implemented. The handling, treatment, and disposal of any hazardous materials will occur in full compliance with Federal, state, and local requirements.</p>	DART City of Dallas NCTCOG	Final Design, Construction

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12.	<u>Construction Impacts (Safety and Security)</u> The contractor will be required to be familiar with and comply with applicable federal, state, and local laws, ordinances, and regulations regarding safety and security during construction.	DART with input from the City of Dallas and the NCTCOG will facilitate pedestrian safety in the vicinity of construction activities through the use of temporary construction fencing and barricades around the construction sites. Access into the construction sites will be controlled. Some construction will require temporary detours or reduced roadway capacity. Traffic safety maintenance measures will be employed to minimize this risk.	DART City of Dallas NCTCOG	Construction
13.	<u>Vibration Analysis</u>	During final design, the contractor will be required to conduct a detailed vibration analysis of the historic Houston Street Viaduct to ensure its structural integrity upon project implementation.	DART City of Dallas NCTCOG	Final Design