

Dallas to Houston High-Speed Rail Mitigation Commitments

The Federal Railroad Administration (FRA) identified compliance and mitigation measures as a part of the Final Environmental Impact Statement (EIS) for the Dallas to Houston High Speed Rail Project (Project) that would avoid, minimize or compensate for adverse environmental impacts related to the construction and/or operation of the Project. FRA developed these compliance and mitigation measures in consultation with appropriate regulatory agencies, based on stakeholder and public comments, and input from Texas Central Railroad (TCRR).

TCRR has agreed to implement the compliance and mitigation measures identified below, which were also included in the Final EIS. In addition, TCRR is responsible for adhering to applicable federal, state, and local laws, ordinances and requirements.

TCRR has agreed to maintain an environmental compliance system to serve as a database of compliance and mitigation commitments and provide accountability and transparency to environmental regulatory agencies. TCRR will also prepare a quarterly report that summarizes the status of implementing compliance and mitigation measures by geographic area, mitigation activities completed, significant upcoming activities, and any corrective actions taken for any instances of non-compliance. TCRR will make the quarterly report available to the public by posting it on the TCRR Project website.¹

¹ As of July 2020, TCRR is hosting their Project website at <https://www.texascentral.com/>.

Number	Title	Compliance/Mitigation Measure
AQ-CM#1	Texas Low Emission Diesel Fuel (TxLED) Program	The TxLED Program was implemented to reduce emissions of nitrogen dioxide from diesel-powered motor vehicles and non-road equipment operating in 110 central and eastern Texas counties, including all counties in which the HSR Project would operate. The Texas Commission on Environmental Quality (TCEQ) administers and has oversight of the TxLED Program. ² TCRR shall adhere to the TxLED Program for all diesel fueled on-road motor vehicles and non-road construction equipment.
AQ-MM#1	Dust Suppression Techniques	During the construction period, TCRR shall cover and/or treat disturbed areas where practicable with dust suppression techniques, including but not limited to, soil binders, sprinkling, watering and/or chemical stabilizer/suppressants. This shall also include effectively controlling fugitive dust emissions by the application of water, presoaking or other dust suppression techniques during all clearing, grubbing, scraping, excavation, grading, cut and fill and demolition activities.
AQ-MM#2	Materials Transport	During construction, TCRR shall cover or effectively wet all materials transported offsite. Additionally, TCRR shall cover or effectively wet materials transported within the construction site when within 120 feet of adjacent homes or businesses to limit visible dust emissions.
AQ-MM#3	Construction Off-Road Vehicle Speed Limitations	During construction, TCRR shall limit vehicle travel speeds to minimize dust generation.
AQ-MM#4	Road Surface Maintenance	During construction in urban areas, TCRR shall remove trackout of soil on area roadways when it extends 50 feet or more from the construction site and at the end of each workday.
AQ-MM#5	Construction Equipment	During construction, TCRR shall limit idling of construction equipment during periods when the equipment is inactive, and properly maintain construction equipment in accordance with the manufacturer's specifications.
AQ-MM#6	Ground Disturbing Activities	During the construction period, TCRR shall phase ground disturbing activities to the greatest extent possible to reduce the amount of disturbed surfaces at any one time.
AQ-MM#7	Construction Materials Transport	During construction, TCRR shall transport a minimum of 20 percent of the Project-wide construction materials (i.e., sand, gravel, cement, ballast, sub-ballast, steel and rail pieces used for concrete) using existing freight rail lines in an effort to minimize road vehicle emissions and construction period traffic impacts in nonattainment counties (Harris, Waller, Dallas, Ellis, and Freestone). Construction emissions are calculated by county in nonattainment areas and for the Project as discussed in Section 3.2.3.1, Construction Emissions Methodology .
WQ-CM#1	Section 401 Water Quality Certification	Prior to construction and concurrent with the Section 404 process described in Section 3.7, Waters of the U.S. , TCRR shall complete a Tier II Certification Questionnaire and Alternatives Analysis Checklist for review by TCEQ to obtain a Section 401 Water Quality Certification. TCEQ may request additional information from TCRR.

² 30 TAC 114.312–114.319 — Low Emission Diesel.

Number	Title	Compliance/Mitigation Measure
WQ-CM#2	<p>Texas Pollutant Discharge Elimination System (TPDES) General Construction Permit (TXR150000) and Multi-Sector General Permit (TXR050000)</p>	<p>Prior to construction, TCRR shall prepare a Storm Water Pollution Prevention Plan (SWPPP) for the Project or for each construction segment and submit a Notice of Intent (NOI) to TCEQ (with the appropriate fees) to obtain coverage under the General Construction Permit. Before starting construction, TCRR shall ensure a copy of the Site Notice is posted at the construction site and the notice will remain posted until construction is completed. Activities conducted during construction must adhere to General Construction permit requirements.</p> <p>TCRR shall obtain authorization under the Multi-Sector General Permit (TXR050000) to discharge stormwater from the TMFs during operation of the Project. TCRR shall monitor contaminant levels in stormwater discharges annually as set forth in the permit. These results will be maintained onsite with the SWPPP.</p>
WQ-CM#3	<p>Stormwater Management/ Stormwater Pollution Prevention Plan</p>	<p>Prior to construction, TCRR shall prepare an SWPPP and submit an NOI to TCEQ to address authorized discharges that would reach waters of the U.S., including discharges to Municipal Separate Storm Sewer Systems (MS4) and privately owned separate storm sewer systems that drain to waters of the U.S., to identify and address potential sources of pollution that are reasonably expected to affect the quality of discharges from the construction site. TCRR shall be responsible for implementing the SWPPP throughout the construction period. During construction, TCRR shall restrict construction activities to permanent and temporary workspaces and easements.</p> <p>To address Section 401 Water Quality Certification requirements, TCRR shall identify and implement temporary stormwater controls. TCRR shall implement sediment control measures prior to the start of and during construction and isolate the construction area from waterbodies and wetlands. TCRR shall store dredged and fill material in a way that prevents sedimentation runoff to waterbodies. Control measures may include the following:</p> <ul style="list-style-type: none"> • Sandbag berm • Silt fence • Triangular filter dike • Rock berm • Hay bale dike • Brush berms • Stone outlet sediment traps • Erosion control compost • Compost filter socks • Sediment basins • Mulch filter socks • Bypass pump-around system, or similar alternative – to be used in conjunction with berms for effective dewatering

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		<p>TCRR shall stabilize disturbed areas during construction to prevent sediment from entering adjacent waterbodies and wetlands. Stabilization measures may include the following:</p> <ul style="list-style-type: none"> • Temporary vegetation • Blankets/matting • Mulch • Sod • Interceptor swale • Diversion dike • Erosion control compost • Mulch filter socks • Compost filter socks
<p>WQ-CM#4</p>	<p>Compliance with MS4 Requirements</p>	<p>As part of compliance with TPDES and any MS4 requirements, prior to construction TCRR shall provide MS4 operators (including the City of Houston and the City of Dallas) a copy of the SWPPP and/or NOI, where required by local ordinance. During the construction phase, the MS4 operators may inspect the construction site as regularly as every 14 calendar days. TCRR shall conduct regular inspections, maintenance and recordkeeping to determine whether appropriate controls measures have been installed and implemented in accordance with the SWPPP and General Construction Permit.</p>
<p>WQ-MM#1</p>	<p>Maintenance and Inspection of Temporary Erosion and Sediment Controls</p>	<p>Prior to construction, TCRR shall include maintenance and inspection procedures that comply with Best Management Practices (BMP) in the SWPPP (WQ-CM#3: Stormwater Management/Stormwater Pollution Prevention Plan). Procedures will include the following, at minimum:</p> <ul style="list-style-type: none"> • Silt and sediment shall be removed from devices no later than when the design capacity of the device reaches 50 percent of the original design capacity. • Deteriorated materials shall be repaired or replaced when discovered. <p>TCRR shall regularly inspect the Project area in compliance with General Construction Permit TXR150000. TCRR shall inspect the Project area, as defined in the SWPPP, to evaluate the condition of erosion and sediment controls. Inspections shall either be conducted every 14 calendar days or within 24 hours of a rain event consisting of greater than or equal to 0.5 inch. An alternative schedule would be that TCRR conduct regular inspections every seven calendar days regardless of whether there has been a rainfall event since the previous inspection.</p>
<p>WQ-MM#2</p>	<p>Crew Training</p>	<p>Prior to and throughout construction, TCRR shall hire and maintain a qualified representative to train construction crews and contractors and oversee the installation and maintenance of erosion and sediment controls and other BMPs.</p>

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WQ-MM#3	Site Restoration and Revegetation	Upon completing construction activities, TCRR shall restore temporary construction areas to at least the quality of preexisting conditions. Additionally, where feasible, seed mixes approved by the U.S. Department of Agriculture shall be used to minimize the introduction of invasive species. In previously undisturbed areas, TCRR shall work with landowners to determine site restoration and revegetation requirements appropriate for the existing land use (i.e., agriculture, pasture, woodlands). Where native seeding is proposed, TCRR shall verify that seed mixes consist of native species appropriate for the ecoregion. TCRR shall coordinate site restoration and revegetation requirements, including the control of invasive species, in accordance with other statutory obligations (i.e., Section 404 permit, TPDES, United States Fish and Wildlife Service (USFWS), Texas Parks and Wildlife Department [TPWD]), landowner agreements, and local site conditions.
WQ-MM#4	Well Modifications	Prior to construction, TCRR shall identify and coordinate well plugging and abandonment activities with the appropriate regulatory agency (TCEQ, Texas Railroad Commission, Groundwater Conservation District [GCD] or Texas Water Development Board). TCRR shall coordinate any relocations (drilling) with the appropriate regulatory agency. Additionally, TCRR shall hire licensed drillers in accordance with Texas Department of Licensing specifications. ³
WQ-MM#5	New Well Permits/ Registrations in GCD	Should TCRR relocate groundwater wells within the Bluebonnet, Prairielands and Mid-East Texas GCD, TCRR shall coordinate with the well owner and the appropriate GCD to permit and/or register the relocated wells. See also HM-MM#2: Hazardous Materials Management and HM-MM#4: Waste Management .
WQ-MM#6	Total Suspended Solids/ Stormwater Runoff Control (Permanent)	Once construction is completed, TCRR shall implement final stabilization measures to reduce total suspended solids, soil erosion and sedimentation to protect adjacent waterbodies. Acceptable measures for stabilization include the following: <ul style="list-style-type: none"> • Retention/irrigation systems • Extended detention basin • Vegetative filter strips • Grassy swales • Erosion control compost • Compost filter socks • Sedimentation chambers • Constructed wetlands • Wet basins • Compost filter socks • Vegetation lined drainage ditches

³ 16 TAC 76.

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		<ul style="list-style-type: none"> • Sand filter systems • Mulch filter socks
WQ-MM#7	Wildlife Friendly Control Measures	TCRR shall use soil stabilization materials and techniques that minimize entanglements to snakes and other wildlife.
NV-CM#1	Compliance with Local Regulations	<p>TCRR shall complete all construction activities in compliance with the applicable provisions of the local noise and vibration regulations described in Section 3.4.2, Regulatory Context. Construction noise and vibration mitigation measures that may be required include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Install temporary construction site sound barriers near noise sources • Limit or avoid nighttime construction near residential neighborhoods • Locate stationary construction equipment as far as possible from noise-sensitive sites • Re-route construction-related truck traffic along roadways that will cause the least disturbance to residents • During nighttime work, use smart backup alarms, which automatically adjust the alarm level based on the background noise level, or switch off backup alarms and replace with spotters • Use low-noise emission equipment • Implement noise-deadening measures for truck loading and operations • Monitor and maintain equipment to meet noise limits • Line or cover storage bins, conveyors and chutes with sound-deadening material • Use acoustic enclosures, shields or shrouds for equipment and facilities • Use high-grade engine exhaust silencers and engine-casing sound insulation • Minimize the use of generators to power equipment • Limit use of public address systems • Grade surface irregularities on construction sites • Use moveable sound barriers at the source of the construction activity • Coordinate with utilities to identify where relocation and/or encasement of pipelines would be needed to avoid vibration damage from nearby construction and compensate the utilities for such work
NV-MM#1	Additional Noise and Vibration Assessments for Operation	During final design, TCRR shall conduct additional noise and vibration assessments for sensitive receivers in accordance with the methodology outlined in Section 3.4.3, Methodology . TCRR shall mitigate noise and vibration impacts as defined in NV-MM#3: Operational Noise Mitigation and Monitoring . TCRR shall provide FRA a copy of the assessment prior to construction.
NV-MM#2	Construction Noise Control Plan	TCRR shall prepare a detailed Noise Control Plan as part of the overall Construction Management Plan (see SC-CM#1: Emergency Preparedness Plan). A noise control engineer or acoustician shall prepare the Noise

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		<p>Control Plan to comply with local noise ordinances and to identify TCRR’s specific equipment and methods of construction. The plan shall address:</p> <ul style="list-style-type: none"> • Contractor’s specific equipment types • Schedule and methods of construction • Maximum noise limits for each piece of equipment with certification testing • Lot-line construction noise limits • Prohibitions on pile driving and certain other types of equipment and processes during the nighttime hours • Identification of specific sensitive sites near construction sites • Methods for projecting construction noise levels • Noise monitoring plan requirements • Implementation of noise control measures where appropriate • Public information and complaint response procedures
<p>NV-MM#3</p>	<p>Operational Noise Mitigation and Monitoring</p>	<p>TCRR shall mitigate noise and vibration impacts to a level below severe, as determined by the updated assessments in NV-MM#1: Additional Noise and Vibration Assessments for Operation. Severe noise impacts are defined by FRA guidance criteria as detailed in Section 3.4.3.2.3, Operational Noise Impact Criteria. Where TCRR proposes to use sound barriers to mitigate noise impacts, TCRR shall seek input from the impacted landowners and local jurisdictions on barrier types and designs. If TCRR does not implement sound barriers, TCRR shall compensate impacted landowners for the cost of sound insulation treatments for buildings that would reduce the noise impact to a level below severe. The compensation cost shall be site-specific and shall include the cost of labor and materials. As described in Section 3.4.6, building sound insulation treatments include, but are not limited to, adding an extra layer of glazing to windows, sealing holes in exterior surfaces that act as sound leaks and providing forced ventilation and air conditioning so that windows do not need to be opened.</p> <p>As described in Section 3.4.5.2.4, HSR Operational Noise Impacts, the severe impact locations tend to be scattered geographically as shown on the noise impact maps in Appendix D, Cultural and Community Resources Mapbook. The projected noise impacts are described by county and segment in Appendix E, Noise and Vibration Technical Memorandum.</p> <p>In accordance with mitigation monitoring, TCRR shall continue monitoring noise and vibration levels during the operations testing phase of the Project. Should additional operational noise and/or vibration impacts be identified, TCRR shall hold a community noise and vibration mitigation workshop to identify appropriate mitigation.</p>
<p>HM-CM#1</p>	<p>Demolition of Structures</p>	<p>During construction, TCRR shall test for and properly manage lead-based paint, asbestos-containing building materials or polychlorinated biphenyl-containing equipment prior to demolition and transport the materials to a proper disposal facility in accordance with the regulations in the National Emission</p>

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		Standards for Hazardous Air Pollutants, Occupational Health and Safety Act and Title 25 of Texas Administrative Code. Asbestos regulations are enforced by the Texas Department of State Health Services.
HM-CM#2	Best Management Practices	TCRR shall implement the BMPs specified in the SWPPP and other site-specific plans during construction and operation activities to reduce or prevent potential impacts to nearby receptors through actions such as dust control, construction safety procedures, equipment stockpiling methods, personal protective equipment and employee training on safe handling of hazardous materials.
HM-MM#1	Environmental Site Assessments	<p>Prior to construction, TCRR shall investigate the 70 high- and moderate-risk sites identified in Table 3.5-2 and Table 3.5-3 using industry standard site assessment process (Phase I Environmental Site Assessment (ESA)- ASTM 1527). The Phase I ESA shall include review of available TCEQ files (existing sampling data and/or investigation reports).</p> <p>If the results of a Phase I ESA reveal recognized environmental conditions (release of hazardous substances or petroleum products to the environment), TCRR shall perform a Phase II ESA (ASTM 1903) that could include soil and groundwater sampling to quantify contamination. Where conditions warrant a Phase II ESA, TCRR shall include the following in the ESAs:</p> <ul style="list-style-type: none"> • A work plan that includes the numbers and locations of proposed soil borings/monitoring wells, drilling and sampling methods, analytical methods, sampling rationale and site geohydrology sited in a manner to determine impacts to construction • A site-specific health and safety plan • Documentation to include field procedures and evaluation of the levels and extent of contaminants found and conclusions and recommendations regarding the condition of the site and the necessary remediation or waste management activities necessary to complete construction <p>If the Phase II ESAs indicate the presence of contaminated soil and/or groundwater at concentrations exceeding TCEQ screening values in locations where ground-disturbing activities occur, TCRR shall conduct appropriate remediation prior to construction. Remediation activities may include removal of contaminated soil, in situ treatment or soil capping. Contaminated soil shall be disposed of properly (HM-MM#4: Waste Management). If contamination is intrinsic to construction activities and remediation prior to construction is impractical, TCRR shall complete mitigation measures during construction.</p>
HM-MM#2	Hazardous Materials Management	Prior to construction, TCRR shall prepare a Hazardous Materials Management Plan to ensure that the handling, use, storage and disposal of hazardous materials would be in accordance with applicable federal, state and local regulations during construction and operation activities. TCRR shall require its construction contractor and any other entities handling hazardous materials during construction and operation activities to adhere to the Hazardous Materials Management Plan. TCRR shall obtain required local and state permits for installation and operation of fuel/oil storage tanks before installing them. Fuel/oil storage tanks are likely to be installed initially during the construction period and then during the operation period for fueling and maintenance activities at the Trainset Maintenance Facilities (TMF) and Maintenance-of-

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		Way (MOW) facilities. TCRR shall develop a Spill Prevention, Control, and Countermeasure (SPCC) Plan for fuel and oil storage tanks/drums if there is an aggregate aboveground capacity greater than 1,320 gallons or a completely buried storage capacity of greater than 42,000 gallons and there is a reasonable expectation of oil discharge into waters of the U.S., should a spill occur. The petroleum storage tank (PST) requirements are enforced by TCEQ. TCRR shall provide a copy of the Hazardous Materials Management Plan to FRA.
HM-MM#3	Previously Unidentified Hazardous Materials	Prior to construction, TCRR shall prepare a Hazardous Materials Contingency Plan to address the potential for discovery of unidentified hazardous materials, USTs or hazardous or solid waste. The contingency plan shall also address remediation of accidental damage that might occur during oil/gas wells and pipelines relocation and require that such remediation be conducted prior to continuation of construction activities in the affected area. TCRR shall require its construction contractor and any other entities handling hazardous materials during construction and operation activities to adhere to the Hazardous Materials Contingency Plan. Hazardous materials and solid/hazardous waste regulations are enforced by TCEQ.
HM-MM#4	Waste Management	Prior to construction, TCRR shall prepare a Waste Management Plan to address handling, transporting and disposing of hazardous waste and construction and demolition waste generated during construction and operation activities. The Waste Management Plan shall be consistent with applicable federal, state and local regulations and specify that, where practicable, uncontaminated construction and demolition waste would be diverted from landfills by reuse or recycling. Reuse of material may include reuse on the construction project when fill is needed. TCRR shall require its construction contractor and any other entities handling hazardous waste during construction and operation activities to adhere to the Waste Management Plan and to handle and dispose of hazardous waste, solid waste and debris encountered or generated during construction and operation activities according to applicable federal, state and local regulations. Solid and hazardous waste regulations are enforced by TCEQ. Asbestos regulations are enforced by the Texas Department of State Health Services. Depending on the amount of hazardous waste generated, TCRR shall prepare a Resource Conservation and Recovery Act (RCRA) Contingency Plan, if applicable. The Contingency Plan and the SPCC Plan may be combined into a single plan.
HM-MM#5	Removal of PSTs	During construction, TCRR shall handle the decommissioning of PSTs that will be impacted, in accordance with federal and local regulations including RCRA and Title 30 of Texas Administrative Code. The PST regulations are enforced by TCEQ.
NR-CM#1	Migratory Bird Treaty Act (MBTA) Compliance	TCRR shall comply with the MBTA and memorandum M-37050. If ground clearing would occur during the nesting season (March 1 through August 31), TCRR shall hire a qualified surveyor to perform pre-construction surveys for nesting birds prior to the removal of vegetation. Additionally, if an inactive nest is found outside of nesting season, it will be removed to prevent use during nesting season.
NR-CM#2	Bald and Golden Eagle Protection Act Compliance	Prior to the start of construction, TCRR shall hire a qualified biologist to survey for bald eagle nests within the Study Area and 660 feet beyond the Study Area limits. If TCRR does not have right of entry areas within

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		660 feet of the Study Area limits, surveys shall be conducted with binoculars. In accordance with the <i>National Bald Eagle Management Guidelines</i> ⁴ and the Bald and Golden Eagle Protection Act, should bald eagle nests be discovered during the surveys or construction, TCRR shall avoid take of those nests. Additionally, an appropriate buffer distance coordinated with USFWS shall be placed around the nests, in which construction shall be prohibited until the nest is no longer active and nesting season, defined as August 1 through January 31, is over. If an active or inactive nest is located within the vegetation clearing limits, TCRR shall consult with USFWS to determine whether a Bald and Golden Eagle permit from USFWS is required before any action that may result in take occurs, such as removing a nest.
NR-CM#4	Section 7 Consultation and Biological Opinion	To ensure the appropriate measures to avoid and minimize harm from potential impacts to federally listed species under the ESA, FRA, in consultation with USFWS, determined it is appropriate to develop a Biological Assessment (BA) and enter into formal Section 7 consultation. The Final BA (dated June 2020) includes avoidance and minimization efforts for the interior least tern, whooping crane, Houston toad, large-fruited sand verbena and Navasota ladies'-tresses. For specific language regarding these measures and in order to ensure measures to mitigation harm to protected species, TCRR will comply with the BO (02ETTX00-2019-F-2135).
NR-CM#5	Aquatic Invasive Species (AIS) Transport	Prior to construction, TCRR shall prepare and follow an AIS transfer prevention plan that outlines BMPs that will be used to prevent inadvertent transfer of AIS species to new areas via Project equipment and temporary fills that would enter and/or leave inland waters. This measure is for compliance with TPWD Code Sections 66.007 and 66.0072 and Texas Administrative Code(TAC) Title 31, Part 2, Chapter 57, Subchapter A.
NR-MM#1	Site Training	Site awareness training will occur prior to and during construction. TCRR will hire a qualified biologist to develop appropriate environmental awareness training that TCRR will administer to all site personnel before beginning work on the Project. The training will include the definition of "take" relative to protected species, the potential presence of protected species, reporting requirements and measures to be taken to minimize impacts to the natural environment. TCRR will hire staff to train all site personnel on identification of protected species within suitable habitat before site personnel can begin work on the Project. TCRR will document training activities and retain documentation for the duration of construction and provide copies to USFWS upon request. The documentation will include names of site personnel undergoing training, names of trainers, name of qualified biologist that developed the curriculum, dates and duration of training and curriculum materials.
NR-MM#2	Field Delineation of Sensitive Habitat Areas	Prior to vegetation clearing, TCRR will hire a qualified biologist to determine the boundary of sensitive habitat areas. Sensitive habitat areas are areas intended to be avoided by the Project or areas where

⁴ Ibid.

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		<p>impacts have not been accounted for in the Final EIS. TCRR shall install signs signaling the need to avoid construction activities in these areas. Specifically, sensitive habitats areas include the following:</p> <ul style="list-style-type: none"> • Protected species habitat detailed in the BA (Appendix K, Agency Specific Reports, Biological Assessment) • Areas documented for protection in the Biological Opinion (BO) developed by USFWS in NR-CM#4: Section 7 Consultation and Biological Opinion • Lakes, wetlands, estuaries, lagoons, streams and rivers identified for protection in WW-CM#5: Waters of the U.S. Mitigation Plan. (Sensitive habitat areas exclude those features permitted for discharge or fill under Clean Water Act (CWA) Section 404 in WW-CM#4: CWA Section 404, Individual Permit.) • Areas where migratory birds or bald eagle nests are located • Areas identified as bat roost sites
NR-MM#3	Aquatic Species	<p>Prior to construction, TCRR shall develop an SWPPP to minimize impacts to resources, including aquatic protected species such as state- or federal-listed fish and mussel species. TCRR will coordinate with TPWD to determine whether protected mussel species presence/absence surveys are required prior to construction in streams that would be directly impacted to avoid take of individual species.</p>
NR-MM#4	Minimize Disturbance in Sensitive Habitat Areas	<p>During construction, TCRR shall minimize disturbance to vegetation by designating previously disturbed areas for staging and equipment storage and limit driving speeds near sensitive habitat areas when feasible. Sensitive habitat areas are defined in NR-MM#2: Field Delineation of Sensitive Habitat Areas. TCRR will consult with USFWS to determine appropriate speed limits for sensitive habitat areas as documented in the BO developed by USFWS in NR-CM#4: Section 7 Consultation and Biological Opinion, if necessary. The speed limits are dependent on the natural resources present within sensitive habitat areas and their sensitivity to dust generated by construction traffic. In addition, TCRR shall ensure disturbed ground is rehabilitated as soon as possible following construction activities to minimize exposure of bare ground susceptible to colonization by nonnative plants.</p>
NR-MM#5	Minimize Nighttime Lighting	<p>During nighttime construction and operation, TCRR shall use the minimum amount of nighttime lighting needed for safety and security.</p>
NR-MM#6	Wildlife Crossings	<p>TCRR shall install wildlife crossings where the Project is on embankment to facilitate the movement of large and small species of wildlife and avoid habitat fragmentation. Through environmental analysis, TCRR, along with Texas Department of Transportation (TxDOT), TPWD and USFWS, will identify existing wildlife corridors and large habitat blocks to facilitate in the placement of crossings. TCRR shall determine the location, frequency, size and monitoring of wildlife crossings in coordination with wildlife agencies and landowners; through field investigations by trained biologists; and largely based on species' biology, such as home range size and habitat. TCRR will incorporate the wildlife crossings into the final design for the</p>

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		<p>Project also considering the following specifications (see Appendix E, Wildlife Crossings Technical Memorandum for detailed information):</p> <ul style="list-style-type: none"> • Wildlife crossings shall be designed to facilitate movement of large and small species of wildlife across the landscape. • Wildlife crossings shall include culvert crossings constructed within the Project embankments in areas with surrounding wildlife habitat. • The recommended dimension of a wildlife crossing underpass for small to large mammals is 32 feet wide and greater than 13 feet high, with a minimum recommendation of 10 feet wide and 12 feet high. • The minimum recommended dimension of a wildlife crossing underpass incorporated into large creek culvert crossings is greater than 10 feet wide and greater than 13 feet high, with a minimum of 6.5 feet wide and 10 feet high. This size could be used for small to large mammals as well as amphibians and reptiles. For smaller modified culverts, the recommended dimension for small- to medium-sized mammals and amphibians and reptiles is greater than 3 feet wide and greater than 4 feet high with a minimum of 1.5 feet wide and greater than 3 feet high. • For wildlife crossings designed for small- to medium-sized mammals, the recommended size is 1 to 4 feet wide and 1 to 4 feet high or a diameter of 1 to 4 feet. • For areas constrained by engineering design requirements, wildlife crossings would be reduced in height to 6 feet (medium animal) or 2 to 4 feet (small animal). • Water crossing designs shall incorporate aquatic and wildlife movement requirements to facilitate wildlife crossings. • Culverts for wildlife crossings should be placed near those used to convey stormwater, but at an elevation above the design flood elevation. Travel routes to these wildlife crossing culverts would also need to be above the 100-year flood elevations and should have appropriate cover. • Wildlife crossings shall be placed regardless of frequency to accommodate special situations (e.g., fenced stations or maintenance facilities and large road crossings). • Wildlife crossings in highly urbanized areas shall be limited, namely in the City of Dallas and Houston, due to anticipated low wildlife populations. • Wildlife corridors shall be situated in areas with limited noise and human activity, to the greatest extent practicable, and with a straight line of sight for wildlife. • Crossings shall be located away from highways and other hazard areas to prevent wildlife mortality due to exposure to traffic or other threats, unless studies or expertise from researchers and professionals indicate a high mortality along certain areas necessitating placement of wildlife crossings in such locations.

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		<ul style="list-style-type: none"> In areas where the Project parallels existing roadway corridors, TCRR shall place wildlife crossings in locations with high road mortality, as these areas are considered population sinks and known wildlife corridors.
NR-MM#7	Wildlife Mortality Recording Forms	<p>During the operation of the high-speed passenger rail (HSR), once a trainset arrives at a terminal station, TCRR will remove any debris from the front of the trainset. TCRR staff shall record and document any obvious wildlife/bird mortality for a period of 5 years. TCRR will also record obvious wildlife mortality for overhead catenary system electrocutions for a period of 5 years after initial operation. TCRR shall make the data available to FRA or other government agencies upon request.</p>
WW-CM#1	Avoidance and Minimization	<p>In accordance with Section 404 (b)(1) guidelines and pursuant to the Final Mitigation Rule,⁵ TCRR shall take appropriate and practicable steps to avoid and minimize adverse impacts to waters of the U.S. during construction. Measures to avoid and minimize impacts may include:</p> <ul style="list-style-type: none"> Heavy equipment working in wetlands or mudflats will be placed on mats, or other measures must be taken to minimize soil disturbance. Temporary fills will consist of materials that will not be eroded by expected high flows. Temporary fills will be removed in their entirety and the affected areas returned to pre-construction elevations as soon as practicable after construction. No activity will be permitted to use unsuitable material (trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts. The areas affected by temporary fills will be revegetated as soon as practicable after construction. Access roads will be constructed so that the length of each road crossing minimizes adverse effects on waters of the U.S. (e.g., is the shortest distance across the waterbody) and will be as near as possible to pre-construction contours and elevations. The placement of drainage swales in waters of the U.S. will be avoided and, if unavoidable, minimized and constructed to not drain to waters of the U.S. In wetland areas disturbed by construction, a minimum of 12 inches of topsoil material from the wetland will be stockpiled and used as backfill material to restore pre-construction contours. Open bottom culverts will be used in place of closed culverts where practicable. Construction detention basins will be off channel.
WW-CM#2	Maintain Low Flow	<p>In compliance with the CWA and under United States Army Corps of Engineers (USACE) general conditions, TCRR shall design and construct all crossings of waters of the U.S. to maintain low flows and avoid and/or minimize stream relocations during construction and operation of the HSR system.</p>

⁵ 40 C.F.R. 230.91

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WW-CM#3	Pre-construction Conditions	In compliance with the CWA and under USACE general permit conditions, TCRR shall require the construction contractor to restore pre-construction contours and remove temporary fills from all temporarily impacted waters of the U.S. (e.g., temporary equipment crossings or temporary disturbances in construction areas around and beneath the HSR system) to pre-construction conditions. TCRR shall provide post-construction monitoring of temporarily impacted waters of the U.S. and provide reports to USACE in accordance with the final terms and conditions of the Section 404 permit (see WW-CM#4: CWA Section 404, Individual Permit).
WW-CM#4	CWA Section 404, Individual Permit	Where avoidance of impacts to waters of the U.S. is not practicable, TCRR shall obtain an Individual Permit from the appropriate USACE districts (Fort Worth and Galveston) prior to initiating construction. The decision to issue a permit rests with the USACE District Engineer and is based on a number of considerations, including conservation, economics, aesthetics and several other factors. The USACE is evaluating the Project under the provisions of one standard Individual Permit within each District's Area of Responsibility. TCRR, under the oversight of the USACE, shall comply with all the conditions required in the Section 404 permit during construction and operation of the Project. Section 10 compliance would be incorporated into the Individual Permit from both the Fort Worth and Galveston Districts.
WW-CM#5	Waters of the U.S. Mitigation Plan	To mitigate unavoidable impacts to waters of the U.S. and as part of WW-CM#4: CWA Section 404, Individual Permit , TCRR shall develop a mitigation plan to provide compensatory mitigation for permanent impacts exceeding district thresholds (0.1 acre or 300 linear feet of waters of the U.S. at each single and complete crossing within the Fort Worth and Galveston Districts) in accordance with the requirements of the CWA and as agreed upon by the respective USACE Districts, including specific mitigation guidelines within each district. TCRR developed and submitted a draft mitigation plan with the October 2017 Section 404 submittal packet to the USACE Fort Worth and Galveston Districts. Prior to construction, TCRR shall submit a final mitigation plan as part of WW-CM#4: CWA Section 404, Individual Permit . The mitigation plan shall include sufficient detail to demonstrate measures taken to avoid, minimize and mitigate the aquatic functions that would be lost or impaired as a result of the Project.
WW-CM#6	Section 408 Permission	TCRR shall prepare a Section 408 permission request to the USACE Fort Worth District to alter USACE Projects (the Dallas Floodway–East Dallas Levee Trinity Left Bank, Dallas Floodway Extension– Upper/lower Chain of Wetlands, Dallas Floodway Extension–Central Wastewater Treatment Plant Trinity Right Bank and Dallas Floodway Extension–Future Lamar Levee in Dallas County) as determined by the USACE. A separate Section 408 submittal led by the utility owners would be required for two overhead electric crossing adjacent to the Section 408 boundary. For additional information see Section 3.7.5.2.1, Environmental Consequences, Dallas County , and Section 3.7.5.2.2, Environmental Consequences, Ellis County . Impacts to streams, wetlands and waterbodies that occur within the USACE Projects are detailed in Appendix E, Impacts to USACE Projects Technical Memorandum .

Number	Title	Compliance/Mitigation Measure
		<p>As noted in Section 3.7.2, Regulatory Context, the alteration of existing USACE projects must not impair their usefulness. The procedures for Section 408 permission are grouped into nine steps including pre-coordination, written request, required documentation, district-led agency technical review, summary of findings, division review, USACE headquarters review, notification and post-permission oversight. TCRR developed and submitted a Section 408 Permission Request to the USACE Fort Worth and Galveston Districts in September 2019. The USACE will not issue a decision on TCRR’s Section 404, Individual Permit (WW-CM#4: CWA Section 404, Individual Permit) until TCRR’s Section 408 Permission request has been approved.</p>
WW-MM#1	Compensatory Mitigation	<p>As a result of WW-CM#4: CWA Section 404, Individual Permit and WW-CM#5: Waters of the U.S. Mitigation Plan, the USACE will determine the amount of compensatory mitigation that TCRR shall be required to implement. Pending approval of the mitigation plan by the USACE and prior to construction, TCRR shall purchase wetland mitigation credits (on an acreage basis) and stream mitigation credits (on a linear footage basis).</p> <p>If credits are unavailable, TCRR shall develop permittee responsible mitigation sites as required by the USACE. The following mitigation banks were identified in the mitigation strategy that and are currently available to be utilized by the Project.⁶</p> <ul style="list-style-type: none"> • Rockin' K on Chambers Creek - Dallas (Segments 1, 2A); Ellis (Segments 2A, 3A); Navarro (Segment 3A) • Red Oak Umbrella - Dallas (Segments 1, 2A); Ellis (Segments 2A, 3A); Navarro (Segment 3A); Freestone (Segment 4); Leon (Segment 4) • Bunker Sands Mitigation Bank - Dallas (Segments 1, 2A); Ellis (Segments 1, 2A, 3A); Navarro (Segment 3A) • Trinity River Mitigation Bank - Dallas (Segments 1, 2A); Ellis (Segments 1, 2A) • Mill Branch Mitigation Bank - Dallas (Segments 1, 2A); Ellis (Segments 1, 2A, and 3A); Navarro (Segment 3A) • Bill Moore Mitigation Bank - Navarro (Segment 3A) • Tarkington Bayou Mitigation Bank - Grimes (Segment 5); Waller (Segment 5); Harris (Segment 5) • Hebert Mitigation Bank - Grimes (Segment 5); Waller (Segment 5); Harris (Segment 5) • Katy Prairie Stream - Harris (Segment 5) • Greens Bayou - Harris (Segment 5)⁷
FP-CM#1	Floodplain Development Permit	<p>During final design, TCRR shall obtain floodplain development permits from the local floodplain administrators/directors, listed in Table 3.8-2, and comply with local floodplain regulations, as required by</p>

⁶ RES 2019

⁷ Greens Bayou Wetlands Mitigation Bank (GBWMB) is a Harris County-owned wetlands mitigation bank and credits are reserved for projects by Harris County. Credits would only be available for the Project with Harris County Commissioner’s Court approval.

Number	Title	Compliance/Mitigation Measure
		<p>the floodplain development permits. Natural events such as hurricanes (i.e., Hurricane Harvey in August 2017) that cause flooding events may result in floodplain boundary changes; therefore, TCRR shall monitor Federal Emergency Management Agency mapped floodplain boundaries during final design to ensure design components comply with local floodplain regulations.</p>
<p>FP-CM#2</p>	<p>Construction Floodplain Best Management Practices</p>	<p>During construction within floodplains, TCRR shall implement erosion and sedimentation controls in accordance with TPDES Permit No. TXR150000.⁸ TCRR shall conduct periodic site inspections and maintenance when BMPs are in place to identify and address areas requiring maintenance. TCRR shall maintain records of all inspections as part of the SWPPP. Local regulatory entities listed in Tables 3.8-2 and 3.8-3 have the authority to conduct additional inspections as they deem necessary.</p> <p>To minimize disruption of natural flow patterns and to maintain floodplain benefits, TCRR shall construct temporary channels or coffer dams to reroute flows around work areas. At the conclusion of construction, site restoration, including vegetation replanting, shall be performed by TCRR in accordance with TCEQ CWA Section 401 water quality certification standards (refer to Section 3.3.6, Waters Quality, Avoidance, Minimization and Mitigation).</p> <p>For all stream crossings temporarily impacted during construction, TCRR will implement BMPs in accordance with local regulating authorities (listed in Tables 3.8-2 and 3.8-3), any local site development permits and any USACE 404 permits. Typical BMPs may include:</p> <ul style="list-style-type: none"> • Passage of normal or high downstream flows would be maintained to the maximum extent practicable. • Temporary fills would consist of materials that would not be eroded by expected high flows. • Temporary fills would be removed in their entirety and the affected area returned to pre-construction elevation as soon as practicable after construction. • The areas affected by temporary fill would be revegetated as soon as practicable after construction. • Access roads would be constructed so that the length of each road crossing minimizes any adverse effects on waters of the U.S. (e.g., the shortest crossing distance would be used) and would be as near as possible to pre-construction contours and elevations. • During construction, a combination of temporary and permanent detention basins, notched weirs, swales and vegetative strips would be used to limit off-site stormwater runoff.
<p>FP-CM#3</p>	<p>Operational Floodplain Best Management Practices</p>	<p>During final design, TCRR shall incorporate permanent floodplain controls that may include swales, vegetative strips and soil stabilization measures in combination with detention ponds to reduce peak flow rates in compliance with current applicable floodplain permit requirements. TCRR shall maintain permanent floodplain features located within the TCRR right-of-way (ROW).</p>

⁸ TxDOT, “Manual Notice 2019-1,” accessed December 2019, http://onlinemanuals.txdot.gov/txdotmanuals/hyd/bridge_hydraulic_considerations.htm.

Number	Title	Compliance/Mitigation Measure
FP-CM#4	Operational SWPPP	TCRR shall document specific post-construction control measures required by the local regulating authorities, defined in Tables 3.8-2 and 3.8-3 , in the post-construction SWPPP and enforced by TCEQ and the U.S. Environmental Protection Agency, as discussed in Section 3.3, Water Quality , to ensure compliance with the CWA and Texas Water Code. ⁹
FP-CM#5	Channel Stability	During final design, TCRR shall follow the latest FHWA Hydraulic Engineering Circular (HEC)-20 and HEC-18 procedures to maintain stable stream channels and protect existing and planned infrastructure. These procedures would apply to hydraulic structures, outfalls, intakes, bridges, rail crossings of roads regulated by the Federal Highway Administration (FHWA) and TxDOT and rail crossings over waterbodies.
EU-CM#1	Development Impact Report	During final design, TCRR shall coordinate with the City of Dallas and complete a Development Impact Report prior to construction to determine the utility needs of the Dallas Terminal Station and Dallas TMF. This assessment would take into account the size and purpose of the station and ancillary facilities to determine the appropriate infrastructure needs (e.g., the size of water or wastewater lines) and how best to connect to existing City of Dallas/Dallas water utilities systems.
EU-CM#2	Coordination with Prairielands Groundwater Conservation District for the Bardwell MOW Water Demand	TCRR or its contractor shall evaluate options to accommodate the daily water demand (3,811 gallons per day) of the Bardwell MOW facility. One option could include drilling local water wells in Ellis County, which would require coordination with the Prairielands Groundwater Conservation District. New utilities shall be installed in full accordance with applicable state, local and federal regulations.
EU-CM#3	Coordination with Anderson Water Company and Wickson Creek Special Utility District (SUD) for the Brazos Valley Intermediate Station Water Demand	Prior to construction, TCRR shall evaluate options to provide the estimated 28.9 annual acre/feet of water demand at the Brazos Valley Intermediate Station. Should TCRR acquire water from Anderson Water Company, TCRR shall coordinate with Anderson Water Company to complete a development review and determine infrastructure needs and any required permits/approvals. TCRR may also decide to partner with Wickson Creek SUD, which has capacity. New utilities shall be installed in full accordance with applicable state, local and federal regulations.
EU-CM#4	Coordination with the City of College Station for the Brazos Valley Intermediate Station Wastewater Demand	Prior to construction, TCRR shall evaluate options to accommodate the 0.03 mgd of wastewater that would be generated at the station. Should TCRR decide to connect to the Carter's Creek Wastewater Treatment Plant (approximately 20 miles east of the station), TCRR shall obtain any necessary permits or approvals from the City of College Station. Should TCRR decide to develop a large capacity on-site sewage system, TCRR shall obtain any necessary permits or approvals from the TCEQ for a Class V injection well. New utilities shall be installed in accordance with applicable state, local and federal regulations.
EU-CM#5	TCEQ Permits	Contingent upon EU-CM#4: Coordination with the City of College Station for the Brazos Valley Intermediate Station Wastewater Demand , during final design, TCRR shall coordinate with TCEQ, as

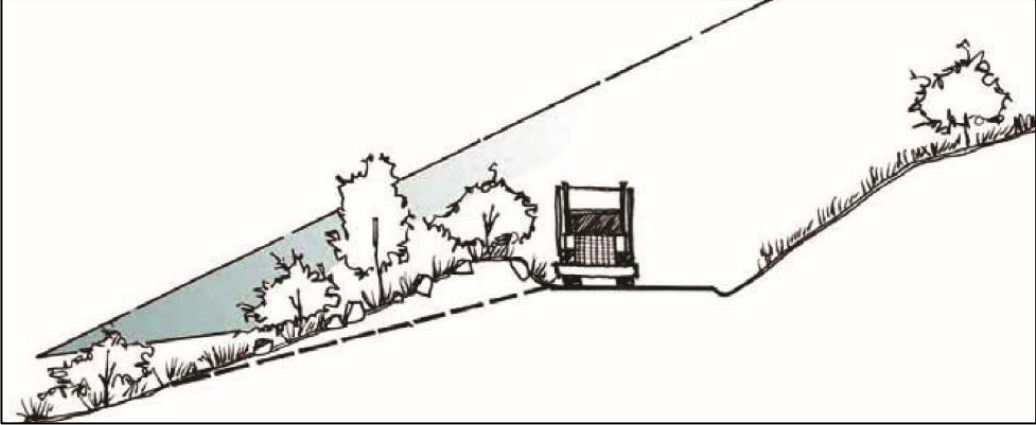
⁹ Water Quality Control, Texas Water Code, Title II, Subtitle D, Chapter 26, accessed December 2019, <https://statutes.capitol.texas.gov/Docs/WA/htm/WA.26.htm>.

Number	Title	Compliance/Mitigation Measure
		applicable, for state permits pertaining to the development of Class V injection wells at the Brazos Valley Intermediate Station.
EU-CM#6	Wastewater Capacity Reservation Application	During final design, TCRR shall coordinate with the City of Houston to complete a Wastewater Capacity Reservation Application prior to construction to more accurately determine the needs of the Houston Terminal Station and Houston TMF.
EU-CM#7	Abandonment and Relocation of Oil and Gas Wells	Prior to construction, TCRR shall identify and coordinate oil and gas well abandonments and relocations required for the Project with the well operator/owner and Railroad Commission of Texas, in accordance with Statewide Rule 14, Plugging, Revised and Statewide Rule 13.
EU-MM#1	Identification of Utilities	During final design, TCRR shall perform below ground utility exploration to verify exact locations and depths of known subsurface utilities. This data may inform or modify TCRR's approach to the protection and/or relocation of these utilities.
EU-MM#2	Relocation of Major Utilities	During final design and construction, TCRR shall resolve conflicts with each major utility provider (water, wastewater, oil and gas, electric transmission, etc.). As of the publication of the Final EIS, the Project collectively would impact more than 400 major utilities, which are owned by 35 different providers. Where utilities must be relocated, TCRR will coordinate with the utility providers to combine multiple relocations of the same type, where possible, and comply with other regulatory requirements applicable to utility relocations, including landowner consents, where applicable. Utility relocations will be completed at TCRR's expense. Because of utility relocations, construction of the Project would result in scheduled and/or accidental interruptions of utility services. TCRR shall coordinate with the utility provider during final design and phasing of construction activities to minimize interruptions during the relocation process. Relocation of electric transmission lines will be in accordance with the Texas Public Utility Commission Substantive Rule 25.101, as applicable to electric utilities.
EU-MM#3	Protection and Encasement of Major Utilities	During final design and construction, TCRR shall resolve conflicts with each major utility provider (water, wastewater, oil and gas, electric, etc.). As of the publication of the Final EIS, the Project collectively would impact more than 400 major utilities, which are owned by 35 different providers. Where utilities must be protected or encased, TCRR will coordinate with the utility providers to protect or encase utilities in place rather than relocate, as often as practicable. Protection and encasement of utilities will be completed at TCRR's expense. Protective actions include activities during construction (e.g., shoring) and/or operations (e.g., encasement). Due to utility protection and encasement, construction of the Project would result in scheduled and/or accidental interruptions of utility services. TCRR shall coordinate with the utility provider during final design and phasing of construction activities to minimize interruptions during the protection or encasement process and comply with other regulatory requirements applicable to utility interruptions, such as electric transmission line outage clearances.

Number	Title	Compliance/Mitigation Measure
EU-MM#4	Relocation of Minor Utilities	During final design and construction, TCRR shall coordinate with the respective utility providers to resolve conflicts with minor utilities (fiber optic, telecommunications, etc.) to avoid service interruptions.
EU-MM#5	Electric Utility Provider Coordination	During final design, TCRR shall coordinate with utility providers such as Oncor and CenterPoint Energy to provide connections to the electric grid. The modifications required to make these connections include relocating existing lines at TCRR's expense, connecting new lines and vertically adjusting existing structures. The location of these modifications would be determined by the utility provider and would be subject to other applicable regulatory requirements, which may include landowner consent where applicable. The utility provider may choose to include these modifications into existing plans to support the operation of their system. Water and wastewater lines or other non-electric utilities required by TCRR shall not interfere with the electric utility lines and structure foundations within the designated electric utility easements and ROWs as determined by the electric utility.
EU-MM#6	Discovery of Unidentified Utility	During construction, TCRR shall cease construction in the area should a utility line be discovered that was not previously identified and conflicts with construction activities. TCRR shall coordinate with the utility owner regarding utility protection or relocation, as needed.
EU-MM#7	Implementation of Water Saving Devices	During construction, TCRR shall install water saving devices and/or strategies at all facilities. These may include water efficient fixtures in restrooms and kitchens in the stations as discussed in Appendix F, TCRR Final Conceptual Engineering Design and Constructability Reports (Section 3.14.2.4) .
EU-MM#8	Vegetation to Minimize Water Use and Avoid Interference with Electric Utility Lines	During final design, TCRR shall develop a landscape plan as referenced in AS-MM#5: Landscaping Plan . The plan shall specify drought resistant or native vegetation that would minimize the use of water. TCRR shall not plant trees or vegetation that at maturity will exceed 10 feet in height and interfere with the operation and maintenance of electric utility lines.
AS-MM#1	Visual Screening	<p>As part of the low impact development (LID) approach, TCRR shall incorporate context-sensitive design solutions that complement the character of the surrounding communities. TCRR shall screen the Project from neighborhoods, businesses or other entities with an unrestricted view of the Project, where practicable, through visual barriers such as vegetation (including trees and shrubs), walls, berms or natural looking constructed landforms (Figure AS-MM#1), recognizing that elements of the Project may remain visible with screening (i.e., viaduct and berms). The shape and height of constructed landforms must be adapted to the surrounding landscape and must consider the distance and viewing angle to ensure that the earthworks would be visually unobtrusive. If chain-link or cyclone fence is used, it shall include slats in the fencing. TCRR shall coordinate with local jurisdictions to identify additional pertinent visual screening criteria. TCRR shall include visual mitigation measures in the Landscaping Plan (AS-MM#5: Landscaping Plan). Screening shall comply with mitigation requirements related to vegetation and landscaping as summarized in the Landscaping Plan (AS-MM#5: Landscaping Plan).</p> <p>TCRR shall present (through email, meetings or other means as outlined in the Public Involvement Plan, AS-MM#9: Public Involvement Plan) the concept design for the Project and proposed visual impact mitigation</p>

Number	Title	Compliance/Mitigation Measure
		<p>to the public. TCRR shall advertise the availability of the design and visual mitigation measures on TCRR’s Project website¹⁰ and through other public notification methods outlined in the Public Involvement Plan (AS-MM#9: Public Involvement Plan). Additionally, TCRR shall issue a public notice in newspapers. TCRR shall send a specific notification to the adversely impacted visual resources listed below.</p> <ul style="list-style-type: none"> • Guiberson Corp. Machine Shop • Guiberson Corp Residence • Honey Springs (Bulova Homecoming Cemetery) • Smith Family Cemetery • Nettles • Randolph • Ten Mile • Pankey – Shiloh • Shiloh Church • Ratliff • Science of the Soul Study Center • Christian Family Church <p>TCRR is not required to send notifications to owners of parcels that are being acquired for the Project. TCRR shall document public feedback and take reasonable measures to incorporate public feedback into the final design. While Le May and Le Forge community is not specifically included in this mitigation measure because TCRR shall make offers to acquire each property and relocate each resident in the neighborhood per EJ-MM#1: Le May and Le Forge Neighborhood Mitigation, the larger community shall receive specific notification the availability of the design and visual mitigation measures. TCRR shall send specific notification to the Fruitdale Recreation Center (located at 4408 Vandervort, Dallas, Texas 75216).</p>

¹⁰ As of January 2020, TCRR is hosting their Project website at <https://www.texascentral.com/>.

Number	Title	Compliance/Mitigation Measure
		<p data-bbox="892 240 1738 266">Figure AS-MM#1: Use of Constructed Landforms with Vegetative Screening¹¹</p> 
<p data-bbox="201 961 317 987">AS-MM#2</p>	<p data-bbox="369 945 680 1003">Design Stations to Adapt to Local Context</p>	<p data-bbox="739 844 1852 902">TCRR shall coordinate with the cities of Dallas and Houston and Grimes County to design stations to visually integrate into and complement the character of the surrounding area. Design solutions include:</p> <ul data-bbox="764 915 1881 1107" style="list-style-type: none"> <li data-bbox="764 915 1856 974">• Designing HSR stations and associated structures such as elevators, escalators and walkways to be attractive architectural elements or features that add visual interest to the streetscapes near them <li data-bbox="764 980 1780 1039">• Designing HSR station parking structures and adjacent facilities to integrate visually into the surrounding area <li data-bbox="764 1045 1881 1107">• Integrating trees and landscaping into the station streetscape where practicable to soften and buffer the appearance of guideways, columns and elevated stations
<p data-bbox="201 1214 317 1240">AS-MM#3</p>	<p data-bbox="369 1198 688 1256">Preserve Existing Vegetation and Feather Edges</p>	<p data-bbox="739 1127 1894 1338">During construction, in areas that require clearing for temporary or permanent use, TCRR shall minimize the clearing of vegetation and shall only partially clear the ROW where feasible. Vegetation should be beat down, mowed or covered with protective surface matting rather than removed. When areas do not have to be contoured, the crowns and roots from cut vegetation should be left undisturbed in order to allow for re-sprouting. Trees that would not present a safety or engineering hazard or otherwise interfere with operations should be left in the ROW. When technical and safety concerns do not require complete removal of vegetation, trees shall be trimmed or topped instead of removed. TCRR shall feather edges (i.e.,</p>

¹¹ Bureau of Land Management, Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands, 2013.

Number	Title	Compliance/Mitigation Measure
		the progressive and selective thinning of trees) and vary tree heights to create an irregular vegetation outline and more natural appearance.
AS-MM#4	Low Impact Development (LID)	TCRR will use the Institute of Sustainable Infrastructure’s Envision® Rating System (also referred to as Envision®) to guide evaluation efforts to incorporate LID into the planning and design of the Project. TCRR will use the Leadership in Energy and Environmental Design rating system to guide evaluation efforts to incorporate LID into the planning and design of ancillary and support facilities.
AS-MM#5	Landscaping Plan	During final design, TCRR shall prepare a landscaping plan that describes how TCRR will comply with mitigation measures related to landscaping, visual mitigation and vegetation, including but not limited to AS-MM#1: Visual Screening; AS-MM#2: Design Stations to Adapt to Local Context; AS-MM#3: Preserve Existing Vegetation and Feather Edges; WQ-MM#3: Site Restoration and Revegetation; and EU-MM#8: Vegetation to Minimize Water Use and Avoid Interference with Electric Utility Lines. Feedback obtained from public input associated with AS-MM#9: Public Involvement Plan will be incorporated into AS-MM#5: Landscaping Plan.
AS-MM#6	Construction Lighting Plan	Prior to construction TCRR shall develop a lighting plan that complies with applicable requirements of the local jurisdiction’s regulations. TCRR shall submit the final plan to FRA and make available to local jurisdictions upon request. The plan shall define daytime and nighttime construction activities and shall stipulate techniques such as shielding and directional lighting to limit exposure. If nighttime construction activities are performed, lighting shall be limited to the lowest safe level. TCRR shall include this plan in the Construction Management Plan (SC-MM#1).
AS-MM#7	Operational Lighting Plan	Prior to operations, TCRR shall develop an operational lighting plan that outlines nighttime lighting required to safely operate the system in compliance with applicable regulations. The plan shall include lighting BMPs that would focus the lighting on the rail line directly ahead and shield the surrounding communities from excess light during operation. Ancillary facility lighting, particularly in the rural communities, shall use sensors and shielding to limit light exposure at night. TCRR’s LID approach shall incorporate comfortable and energy efficient lighting optimized through architectural design that encourages natural sunlight and an adaptable, controllable systems for lighting.
AS-MM#8	Aesthetic and Visual Guidelines for Construction Security Fencing	Prior to construction, TCRR shall develop aesthetic and visual guidelines for security fencing, including signage and material shrouds. TCRR shall coordinate with local jurisdictions to identify applicable aesthetic and visual guidelines. TCRR shall install construction security fencing that complies with the guidelines. TCRR shall submit the guidelines to FRA prior to the start of construction and make them available to the local jurisdictions upon request.
AS-MM#9	Public Involvement Plan	TCRR prepared a Public Involvement Plan, provided in Appendix I: TCRR Plans and Public Outreach. TCRR shall implement the public involvement program outlined in the plan the goal of the public involvement program is to:

Number	Title	Compliance/Mitigation Measure
		<ul style="list-style-type: none"> • Facilitate two-way communication between TCRR and the public on final design and construction activities to achieve the least possible disruption the public • Facilitate this two-way communication on mitigation measures specifically called for in the Final EIS and for issues that may arise during the final design process or construction, such as dust control, construction vehicle routing, road closures or detours, construction noise, livestock management issues, visual impact mitigation and operational noise mitigation <p>The plan:</p> <ul style="list-style-type: none"> • Inventories and specifically describes how TCRR will implement mitigation measures that require public engagement • Identifies specific customer groups (such as traveling public, neighboring residents, adjacent businesses, emergency providers, schools, local governments and environmental justice communities) • Identifies methods for engaging customer groups and documenting feedback • Identifies methods for informing the public of construction activities including road detours and closures
TR-CM#1	Freight and Transit Crossing Easements	Prior to construction, TCRR shall coordinate directly with freight railroad operators (BNSF, Union Pacific Railroad, TU Electric Big Brown Steam Electric Station Rail and Texas Utilities General Company) and the transit agencies (Dallas Area Rapid Transit [DART]) to obtain crossing easements, determine safety requirements during construction, and manage construction schedules to correspond with freight and transit operations.
TR-CM#2	Roadway Access Permit	Prior to construction, TCRR shall coordinate with TxDOT and local jurisdictions to obtain the authorization to construct access driveways on road ROWs.
TR-CM#3	Road Closure Permit	Prior to construction, TCRR shall coordinate with TxDOT and the local municipalities to obtain authorization for the temporary closure of state ROW (incorporated/unincorporated). The TxDOT District Engineer shall review closure requests of state roads, while the county would review local roads.
TR-CM#4	ROW Barriers	Where the HSR system would cross and/or parallel to freight railroads, TCRR shall coordinate with local railroads to install the appropriate column protection and permanent barriers per industry standards and regulations.
TR-MM#1	Traffic Control Plan	Prior to construction, TCRR shall develop one comprehensive traffic control plan or multiple plans that correspond to construction phasing in order to minimize traffic disruption. The plan(s) shall comply with TxDOT’s <i>Manual on Uniform Traffic Control Devices</i> (MUTCD) requirements. ¹² TCRR shall develop the

¹² Current version is TxDOT, Texas Manual on Uniform Traffic Control Devices (TMUTCD), Revision 2 October 9, 2014, <https://www.txdot.gov/government/enforcement/signage/tmutcd.html>.

Number	Title	Compliance/Mitigation Measure
		<p>plan(s) in consultation with TxDOT and applicable local jurisdictions, including emergency services. The traffic control plan(s) will address, at minimum:</p> <ul style="list-style-type: none"> • Detours for traffic flows • Signage • Striping and pavement markings • Emergency access (i.e., fire, ambulance, police) and results of analysis of emergency response times as required in SS-MM#1: Model Construction Impacts on Emergency Response Times • Provisions for safe and efficient operation of all modes of transportation during construction • Road and lane closures • Traffic delays • Agreements to repair roads in the event roads are damaged during construction • A description of how TCRR will comply with mitigation measures related to traffic control <p>With the exception of temporary closures during non-business hours or for periods of less than 1 hour, TCRR shall maintain driveway access to all businesses and residences throughout construction. If a given property has multiple driveways, at least one shall remain open at all times.</p> <p>TCRR would maintain access to all businesses and residences and would ensure access is maintained throughout construction with appropriate signage directing drivers to access points. In addition to complying with TxDOT’s MUTCD, the traffic control plan will include the following notification requirements, at minimum:</p> <ul style="list-style-type: none"> • TCRR shall communicate traffic control measures with the public, local officials and the media prior to and during construction activities. Communication may include media alerts, direct mailings to area businesses and property owners, information on freeway variable message signs and paid newspaper notices. • TCRR shall provide a construction notice to residents and businesses in the vicinity of the alignment at least 14 calendar days prior to construction. • TCRRs shall contact local emergency services (hospital, fire, police) at least 14 calendar days in advance of ramp, lane or road closures so that they can arrange for alternate travel routes. • TCRR shall notify the public a minimum of 14 calendar days in advance of any road closures. • At least 14 calendar days prior to construction, TCRR shall place advance warning signs at locations designated by the TxDOT to notify motorists, pedestrians and bicyclists of construction-related delays. • After construction begins, TCRR shall notify the public and business owners of temporary access changes during construction at least 7 calendar days in advance of the change.

Number	Title	Compliance/Mitigation Measure
TR-MM#2	Infrastructure Improvements	<p>TCRR shall ensure that final design for civil site work and infrastructure improvements (e.g., utilities, viaduct, roadway, intersections and drainage) is in accordance with the most current applicable specifications and design guidelines of the applicable regulatory authority (city, county, and/or TxDOT standards). For those cases where the local jurisdictions have no design guidelines, TCRR shall use TxDOT design criteria.</p> <p>Prior to construction and operation, TCRR will perform a full Traffic Impact Analysis (TIA) that complies with the City of Dallas, City of Houston or TxDOT TIA requirements, as determined applicable through consultation with City of Dallas, City of Houston and TxDOT. A list of intersections that may need to be improved based on preliminary traffic analysis and design is included in Section 3.11.5.2, Environmental Consequences; however, the actual location and extent of intersection improvements will be subject to the TIA process. TCRR shall coordinate with the appropriate agency with jurisdiction and implement infrastructure improvements as required by the applicable TIA or review process.</p>
TR-MM#3	Transit Coordination	<p>Prior to construction, TCRR shall coordinate directly with all transit agencies (DART, Houston Metro, Community Transit Service, Inc., Heart of Texas Rural Transit District, Brazos Transit District and Colorado Valley Transit) to manage construction schedules to correspond with freight and transit operations. TCRR shall also coordinate directly with all transit agencies for connections to and from the proposed station sites, including scheduling and facility improvements/design.</p>
TR-MM#4	Private Access	<p>Prior to construction, TCRR shall coordinate with landowners to provide access to structures that would not be displaced or acquired by the Project.</p>
EH-CM#1	Compliance with Americans with Disabilities Act of 1990 (ADA) and Texas Accessibility Standards (TAS)	<p>For design and operation of the Project, TCRR shall comply with all applicable statutes and regulations as outlined in ADA (42 U.S.C. 1201 et seq.), its applicable implementing regulations (including 49 Code of Federal Regulations [C.F.R.] parts 37-38) and TAS (Texas Government Code, Chapter 469).</p>
LU-CM#1	Permanent ROW Agreements	<p>Prior to construction, TCRR shall coordinate with TxDOT to obtain approval and necessary agreements for the use of state-owned ROW.</p>
LU-CM#2	Dallas Terminal Station Development Permit	<p>Prior to construction, TCRR shall obtain a development permit from the City of Dallas for the Dallas Terminal Station. During the permitting process, TCRR shall coordinate with the City of Dallas to ensure that the Dallas Terminal Station complies with relevant zoning and special purpose district regulations.</p>
LU-CM#3	Houston Terminal Station Development Plan Code Compliance	<p>Prior to construction, TCRR shall coordinate with the City of Houston to check development plan codes for compliance with regulations that include property subdivision, parking, tree and shrub requirements, setbacks and access. During the permitting and construction process, TCRR shall coordinate with the City of Houston to ensure compliance with relevant site development regulations.</p>
LU-CM#4	Houston Terminal Station Site Development Related Permits	<p>Prior to construction, TCRR shall obtain site development related permits, such as building code permits, encroachments permits for utilities that support the station and a stormwater quality permit. During the</p>

Number	Title	Compliance/Mitigation Measure
		<p>permitting process, TCRR shall coordinate with the City of Houston to ensure that the development of the Houston Terminal Station complies with relevant permits.</p>
<p>LU-CM#5</p>	<p>Adhere to Development Regulations</p>	<p>TCRR shall adhere to applicable development regulations for any ancillary facilities (e.g., stations, TMF and MOW facilities, TPSSs, maintenance roads and signal houses) that would be required and constructed. Table 3.13-1 summarizes the local plans and regulations that provide guidance for the aesthetic character of each community.</p>
<p>LU-CM#6</p>	<p>Uniform Relocation Assistance and Real Property Acquisition Policies Act</p>	<p>If TCRR receives federal financial assistance for the funding of the Project, it shall comply with the Uniform Act. <i>(This Compliance Measure (CM) would be required only if TCRR applies for and receives federal financial assistance.)</i></p>
<p>LU-MM#1</p>	<p>Temporary Conversion of Land</p>	<p>TCRR shall return temporarily impacted land to its pre-Project condition following the completion of construction activities in that area, unless otherwise determined through visual mitigation measures in the Landscaping Plan (AS-MM#5) or AS-MM#1: Visual Screening.</p>
<p>LU-MM#2</p>	<p>Agriculture and Livestock Management</p>	<p>Prior to the start of construction, TCRR shall coordinate with landowners identified as owning displaced or acquired property, as outlined in Section 3.11, Land Use, and Appendix E, Land Use Technical Memorandum, to determine individual property owner temporary needs for livestock management during construction, as well as permanent needs during operation of the system. During construction, this could include the use of temporary fencing or the relocation of livestock to alternate pastures. Measures to avoid conflicts could involve the use of enhanced creek crossings and access to maintain open movement of livestock, as well as farming or ranching equipment. Permanent needs would include negotiating livestock and/or equipment crossing along areas of the alignment that are not on viaduct. TCRR shall negotiate with the landowner to provide adequate access (crossings) or compensation for land that is severed. TCRR shall negotiate these management needs on a case-by-case basis with the affected landowners and shall incorporate the outcome of negotiations into the written agreements with the affected landowners, prior to the start of construction on that property.</p>
<p>LU-MM#3</p>	<p>Acquisition and Relocation Mitigation Plan</p>	<p>TCRR shall develop an acquisition and relocation mitigation plan as detailed in Appendix I, TCRR Plans and Public Outreach. These plans are often used for large infrastructure projects that displace a high number of residences and businesses and are considered successful in minimizing the impact to property owners. TCRR will make the plan available to the public. The plan will meet the following objectives, at minimum:</p> <ul style="list-style-type: none"> • Provide affected owners assistance in situations when relocation is necessary • Make a best effort to minimize the permanent closure of displaced businesses as a result of relocations • Within the limits of established laws and regulations, minimize the economic disruption caused by relocation <p>The relocation mitigation plan shall include the following components, at a minimum:</p>

Number	Title	Compliance/Mitigation Measure
		<ul style="list-style-type: none"> • Appraisal, acquisition and relocation process descriptions that describe the activities of the appraisal and relocation specialists • Clear protocols for assigning appraisal and relocation staff to affected property owners, tenants or other residents on an individual basis • A process to establish individualized assistance to affected property owners, tenants or other residents in applying for funding, including research to summarize loans, grants and federal aid available, and research of demographically similar areas for relocation <p>For elderly and handicapped persons with dwellings displaced or acquired, replacement housing shall meet or be functionally equivalent for specific accessibility needs to the displacement dwelling. Replacement dwellings should be free of any barriers that would preclude reasonable ingress, egress or use of the dwelling by that displaced person. If adequate dwellings that meets accessibility needs cannot be identified, TCRR shall provide funding for accessibility housing improvements of equal or better standard to those that were displaced.</p>
SC-MM#1	Construction Management Plan	<p>Prior to the start of construction, TCRR shall develop one comprehensive construction management plan or multiple plans that correspond to construction phasing. The Construction Management Plan shall include:</p> <ul style="list-style-type: none"> • Planned timing of construction activities by construction phase or by county. • A description of how TCRR will comply with mitigation measures related to construction, including but not limited to dust control measures in AQ-CM#1: Texas Low Emission Diesel Fuel (TxLED) Program and AQ-MM#1: Dust Suppression Techniques to AQ-MM#7: Construction Materials Transport, NV-MM#2: Construction Noise Control Plan including measures to reduce the impact of noise on sensitive receivers at community facilities, AS-MM#6: Construction Lighting Plan and AS-MM-#9: Aesthetic and Visual Guidelines for Construction Security Fencing. <p>TCRR shall make the Construction Management Plan available to the public, local (city and county) jurisdictions, emergency responders and school districts on TCRR’s Project website.¹³</p>
SC-MM#2	Le May and Le Forge Neighborhood Mitigation	Mitigation for potential community cohesion impacts would be covered through measures outlined in EJ-MM#1: Le May and Le Forge Neighborhood Mitigation .
SC-MM#3	Hash and Nail Road and Plantation Forest Neighborhood Mitigation	See EJ-MM#2: Hash Road and Nail Drive Community and Plantation Forest Community Mitigation .
SC-MM#4	White Oak Falls Mitigation	For properties that will be acquired, TCRR shall comply with LU-MM#3: Acquisition and Relocation Mitigation Plan . For properties that are not acquired, TCRR will comply with AS-MM#1: Visual Screening and AS-MM#2: Design Stations to Adapt to Local Context .

¹³ As of January 2020, TCRR is hosting their Project website at <https://www.texascentral.com/>.

Number	Title	Compliance/Mitigation Measure
SC-MM#7	Relocation of Union Church	Union Church would be displaced by the Project. For any acquisitions or relocations, TCRR shall comply with LU-MM#3: Acquisition and Relocation Mitigation Plan . In addition, TCRR shall provide assistance to the church in notifying patrons and the nearby community of relocation.
SC-MM#8	Acquisition of The Connection School of Houston	The Connection School would be displaced by the Project. For any acquisitions or relocations, TCRR shall comply with LU-MM#3: Acquisition and Relocation Mitigation Plan . In addition, TCRR shall further coordinate with the school to access relocating displaced structures on existing property.
EMF-CM#1	Fencing and Metal Grounding	As part of the general operation and maintenance of the HSR system, the external fencing and any other grounded metallic objects would be routinely inspected and replaced as necessary.
SS-CM#1	Emergency Preparedness Plan	<p>Under 49 C.F.R. 239, TCRR will be required to prepare an Emergency Preparedness Plan for review and approval by FRA. Under 49 C.F.R. 239.101, the plan shall include at minimum:</p> <ul style="list-style-type: none"> • On-board and control center communication protocols • Emergency procedures involving operations on elevated structures and in electrified territory • A program to provide training resources for all on-line emergency responders who could reasonably be expected to respond during an emergency situation, including communication protocols and participation in emergency situations • Procedures for distribution of the Emergency Preparedness Plan, including material amendments, to emergency responders • Employee emergency preparedness training, including a schedule for initial and periodic training within the first 180 days of passenger service and procedures for testing an individual who is employed by the railroad, under a contract or subcontract with the railroad, or employed by a contractor or subcontractor to the railroad for emergency preparedness qualifications • An inventory and location of emergency equipment with schedule of maintenance for replacement of first-aid kits, on-board emergency equipment and on-board emergency lighting • A program for passenger awareness of emergency procedures, to enable passengers to respond properly during an emergency • Procedures regarding emergency egress or rescue of passengers with disabilities
SS-CM#2	System Safety Program	<p>Under 49 C.F.R. 270, TCRR will be required to develop a System Safety Program. The purpose of the System Safety Program is to systematically evaluate safety hazards and manage risks through ongoing preventive and corrective actions, including a risk-based hazard management program and hazard analysis. Under 49 C.F.R. 270.103, the System Safety Program Plan will be required to reference or include, at a minimum:</p> <ul style="list-style-type: none"> • Safety philosophy, culture and program goals • Safety roles and responsibilities within the organization, including the lines of authority used to manage safety issues • System Safety Program implementation process and milestones

Number	Title	Compliance/Mitigation Measure
		<ul style="list-style-type: none"> • System safety program training requirements for employees and contractors • Description of TCRR’s hazard management program (see SS-CM #4: Perform Hazard Analysis) <p>Under 49 C.F.R. 270.303, TCRR will be required to annually assess implementation of and compliance with the System Safety Program and report findings and improvement plans to FRA. Under 49 C.F.R. 270.103, TCRR will be responsible for ensuring employees who are responsible for implementing and supporting the system safety program, or utilizing or providing significant safety-related services, have received the proper training for their position, and documenting all required System Safety Program training events as part of its safety program. FRA may conduct audits of the system safety program for compliance with the approved system safety program plan, as provided under 49 C.F.R. 270.305.</p>
SS-CM#3	Inspection, Testing, and Maintenance	FRA proposes in the Notice of Proposed Rulemaking (NPRM) minimum standards and schedules for inspection, testing and maintenance of vehicles, track and other critical infrastructure required for the prevention of mechanical failures. Upon approval of the Inspection, Testing and Maintenance Program by FRA, TCRR will be responsible for performing the specified inspections, tests and maintenance tasks at the identified intervals.
SS-CM#4	Perform Hazard Analysis	As part of its System Safety Program requirements, under 49 C.F.R. 270.103(p)-(q), TCRR would need to establish a risk-based hazard management program and conduct hazard analyses. The hazard management program would establish the process used to identify and analyze hazards; methods for determining frequency, severity and corresponding risk of identified hazards; procedures for identifying hazard controls or mitigating actions; and risk management roles and responsibilities within the organization.
SS-CM#5	Fire Safety	FRA proposes in the NPRM requirements regarding flammability and smoke emission characteristics, testing standards and certification requirements for the interior of trainsets. In addition, FRA, through the NPRM, would require TCRR to complete a written fire safety analysis for the passenger equipment being procured. This analysis would identify and prioritize fire hazards inherent in the equipment; identify design steps or materials that would provide sufficient fire resistance; ensure ventilation systems would not contribute to the lethality of a fire; identify components that require overheat protection; identify locations (as necessary) for smoke detectors, automated fire suppression equipment, and fire extinguishers. As required by 49 C.F.R. 239.101, each passenger car is required to have a minimum of one portable fire extinguisher.
SS-CM#6	Liability Coverage	TCRR will be responsible for complying with applicable state and federal insurance requirements.
SS-CM#7	Compliant Facility Design	During final design, the design of stations, Emergency Response and Maintenance Staging Area structures and maintenance facilities shall meet applicable emergency access/egress and structural requirements. This includes applicable Occupational Safety and Health Administration and National Fire Protection Association standards for emergency access and egress; ADA requirements, International Building Code standards adopted by Texas Local Government Code 214.216; and other structural design, fire life safety

Number	Title	Compliance/Mitigation Measure
		and accessibility standards specified under local permitting requirements. Refer to EH-CM#1: Compliance with ADA and TAS .
SS-CM#8	System Security Plan	Security of passenger rail is overseen by the Transportation Security Administration (TSA). Prior to operations, and as stated in Appendix F, TCRR Final Conceptual Engineering Design and Constructability Reports , TCRR will prepare a System Security Plan that complies with applicable federal and state transportation security regulations, including Texas Senate Bill 975 and the TSA's RAILPAX-04-01 and RAILPAX-04-02. The System Security Plan will document processes for mitigating and/or eliminating security threats, vulnerabilities and risks. This plan will identify the controls that will be in place to safeguard the personal security of passengers and employees and to evaluate and improve the effectiveness of the security system. Given the sensitivity of the planning, design and implementation of the security program, the specific details of Texas Central's security plans will only be shared with law enforcement and designated security and emergency response personnel.
SS-CM#9	ROW Barrier Plan	In the NPRM, FRA proposes a requirement that TCRR develop, adopt and comply with a ROW Barrier Plan. The ROW Barrier Plan would address unauthorized access to the ROW, including intrusion detection and overhead shielding at overpasses. Refer to TR-CM#2: Roadway Access Permit and TR-CM#3: Road Closure Permit .
SS-MM#1	Model Construction Impacts on Emergency Response Times	Prior to construction, as an additional measure to mitigate impacts to emergency access or response times, TCRR shall evaluate its Traffic Control Plans using computer assisted dispatch software to determine the baseline and construction period response times within each jurisdiction based on construction phasing, duration of impacts and location of nearest alternate route. TCRR will revise its construction plans if they produce delays that exceed standards negotiated with each permitting authority or more than 10 percent of baseline response times to a given area. Refer to TR-MM#1: Traffic Control Plan and TR-CM#4: ROW Barriers .
RF-MM#2	Honey Springs Cemetery Construction Impacts Mitigation	Honey Springs Cemetery would experience temporary construction impacts and permanent visual quality impacts. Prior to construction TCRR shall coordinate with City of Dallas Parks and Recreation Department to identify and minimize when Honey Springs Cemetery may be inaccessible during construction and provide public notice of temporary closure. Compliance and mitigation for temporary construction impacts shall include NV-CM#1: Compliance with Local Regulations and be further mitigated through NV-MM#2: Construction Noise Control Plan . Mitigation for localized air quality impacts caused by construction shall include AQ-CM#1: Texas Low Emission Diesel Fuel (TxLED) Program , and AQ-MM#1: Dust Suppression Techniques; AQ-MM#2: Materials Transport; AQ-MM#3: Construction Off-Road Vehicle Speed Limitations; AQ-MM#4: Road Surface Maintenance; and AQ-MM#5: Construction Equipment . Additionally, construction lighting mitigation shall include AS-MM#6: Construction Lighting Plan .

Number	Title	Compliance/Mitigation Measure
		<p>Temporary loss of access to the facility due to construction shall be mitigated through TR-CM#3: Road Closure Permit, TR-MM#1: Traffic Control Plan and TR-MM#6: Private Access.</p>
<p>EJ-MM#1</p>	<p>Le May and Le Forge Neighborhood Mitigation</p>	<p>The Project would displace approximately 41 percent of the homes in the neighborhood and represent an adverse impact to community cohesion. Remaining homes would be further isolated from nearby neighborhoods by the addition of the Project. Due to the large number of displacements and further isolation of the neighborhood, TCRR shall make offers to acquire each property and relocate each resident in the neighborhood.</p> <p>Due to specific and unique concerns of this minority and low-income community, FRA identified the following measures to be undertaken and incorporated into TCRR’s relocation mitigation plan for displaced residents of the Le May and Le Forge neighborhood:</p> <ul style="list-style-type: none"> • TCRR shall provide a notice to vacate to tenants and property owners through certified mail delivery a minimum of 120 days prior to the date by which they are required to vacate. • TCRR shall offer each displaced tenant and property owner a personal relocation agent prior to issuing a notice to vacate. The role of the relocation agent is to serve as a single point of contact and to guide the displaced tenant or property owner throughout the relocation process. The relocation agent shall offer and explain the services below to the displaced tenant or property owner. The displaced tenant or property owner may decline to accept assistance from the relocation agent. • TCRR shall coordinate with tenants and property owners through their assigned personal relocation agent to provide moving services. For elderly and mobility impaired residents, additional services shall be offered by TCRR to assist with the physical packing, relocation and unpacking of personal belongings. • TCRR shall make financial planning and budgeting services available to tenants and/or property owners for 1 year following delivery of the notice to vacate. • Upon request from a property owner or tenant, TCRR shall jointly relocate residents who desire to remain in proximity to each other, where possible.
<p>EJ-MM#2</p>	<p>Hash Road and Nail Drive Community and Plantation Forest Community Mitigation</p>	<p>Due to specific and unique concerns of this minority and low-income community, FRA identified the following measures to be undertaken and incorporated into TCRR’s relocation mitigation plan for displaced residents of the Hash Road and Nail Drive community and the Plantation Forest community:</p> <ul style="list-style-type: none"> • TCRR shall provide a notice to vacate to tenants and property owners through certified mail delivery a minimum of 120 days prior to date by which they are required to vacate. • TCRR shall offer each displaced tenant and property owner a personal relocation agent prior to issuing a notice to vacate. The role of the relocation agent is to serve as a single point of contact and to guide the displaced tenant or property owner throughout the relocation process. The relocation agent shall offer and explain the services below to the displaced tenant or property owner. The displaced tenant or property owner may decline to accept assistance from the relocation agent. TCRR

Number	Title	Compliance/Mitigation Measure
		<p>shall coordinate with tenants and property owners through their assigned personal relocation agent to provide moving services. For elderly and mobility impaired residents, additional services shall be offered by TCRR to assist with the physical packing, relocation and unpacking of personal belongings.</p> <ul style="list-style-type: none"> • TCRR shall make financial planning and budgeting services available to tenants and/or property owners for 1 year following delivery of the notice to vacate. • TCRR shall mitigate potential aesthetic and visual impacts due to the rails proximity to the neighborhood as outlined in AS-MM#1: Visual Screening and AS-MM#2: Design Stations to Adapt to Local Context.
CR-CM#1	THC Consultation for Cemeteries	<p>All cemeteries in Texas are protected under provisions of the Texas Health and Safety Code in Chapters 711-715; Title 13 § 2, Chapter 22, Rule 22.4(b) of the Texas Administrative Code – <i>Unknown and Abandoned Cemeteries</i>, and Rule 22.5 of the Texas Administrative Code – <i>Removal of Remains from an Abandoned or Unknown Cemetery</i>; and in Section 28.03(f) of the Penal Code of Texas, which prohibits the use of cemetery property for non-cemetery purposes without consent. Prior to construction, TCRR shall consult as required under Section 711.035(d) and Section 711.035(f) for impacts of the Project to cemeteries that are not covered under Section 106 of the National Historic Preservation Act and thus not addressed by the Programmatic Agreement (attached to the Record of Decision). This would include all cemeteries that have been identified to date as well as and all other unknown cemeteries identified during survey and/or construction.</p>
SG-MM#1	Erodibility, Shrink-swell Potential, Corrosion, and Settlement	<p>During final design, TCRR shall incorporate stabilization techniques and BMPs, such as lime stabilization and outside fill, into the design of the Project to improve unstable and settlement-prone soils to minimize and mitigate the hazards of soil conditions throughout the Project alignment as a result of erodibility, shrink-swell potential, corrosion potential, settlement and slope failures.</p>
SG-MM#2	Pre-construction Site Inspections	<p>During final design, TCRR shall conduct site geotechnical inspections and slope monitoring of the Project alignment to identify concerns and determine whether unstable locations are in need of improvement so that mitigation measures, such as additional site stabilization, can be incorporated in the final design.</p>
SG-MM#3	Field Verification of Midlothian Quarry and Plant in Ellis County	<p>During final design, TCRR shall field verify the boundaries of the Midlothian Quarry and Plant, located approximately one-half mile west of the Project in Ellis County. Aerial imagery and parcel data indicate the entire quarry and plant are located west of the Study Area. If field verification confirms the entire quarry is outside the limit of disturbance (LOD), no impacts would be anticipated, and no further action shall be required. If field verification identifies quarry land within the LOD, TCRR would either alter the design plans to avoid the quarry or coordinate with the landowner regarding acquisition. TCRR intends to acquire mineral rights not already severed from the surface unless specifically requested by the landowner.</p>

Note: All cited sections and/or appendices in this table are references to information contained within FRA’s Final Environmental Impact Statement published May 29, 2020, and available at <https://railroads.dot.gov/environmental-reviews/dallas-houston-high-speed-rail/dallas-houston-high-speed-rail-final>.