FINAL ENVIRONMENTAL ASSESSMENT

DOCKET NO. FD 36616

Savage Tooele Railroad Company – Construction and Operation – Line of Railroad

in Tooele County, Utah.

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SURFACE TRANSPORTATION BOARD

Washington, DC 20423

Office of Environmental Analysis

March 1, 2024

Re: Docket No. FD 36616, Savage Tooele Railroad Company – Construction and Operation – Line of Railroad in Tooele County, Utah; **Issuance of Final Environmental Assessment**

Dear Reader:

The Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) is pleased to provide you with this Final Environmental Assessment (Final EA) and Response to Comments on the Draft EA for the proposed construction and operation of a line of railroad by the Savage Tooele Railroad (STR) Company. The EA analyzes the potential environmental and historic impacts of STR's request for Board authority to construct and operate approximately 11 miles of rail line in Tooele County, Utah. The proposed rail line would provide common carrier rail service to tenants of the Lakeview Business Park (LBP) in Grantsville, Utah.

OEA has prepared this EA pursuant to the National Environmental Policy Act (NEPA) (42 U.S.C. §§ 4321-4370m-11) and related environmental laws, including Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108). This EA analyzes the potential environmental impacts of the proposed rail line. OEA also considered the No-Action Alternative, which would occur if the Board were to deny authority for STR to construct and operate the proposed line. Under the No-Action Alternative, there would be no rail service operated by STR to and from the LBP and transportation of all LBP goods would likely continue to be by commercial truck.

The Final EA is available for viewing and downloading on the Board's website at www.stb.gov. All information that has been filed with the Board can be found on the Board's website (Docket No. FD 36616).

This Final EA addresses the 21 comments received on the Draft EA, presents OEA's final conclusions regarding the potential environmental impacts of the proposed rail line, and sets forth OEA's final recommendations to the Board, including recommended environmental mitigation measures. After this Final EA is issued, the Board will issue its final decision on whether to authorize the proposed rail line. In making its final decision, the Board will consider the entire record, including the information presented on the transportation merits, the Draft EA, Final EA, and all public and agency comments received. If the Board decides to authorize the proposed line, the Board may impose conditions on STR as part of that decision, including environmental mitigation conditions.

OEA appreciates the efforts of all interested parties who have participated in this environmental review.

Sincerely,

Danielle Gosselin
Director
Office of Environmental Analysis

Summary

S.1 Introduction

Below is a summary of the analysis and major conclusions in this Environmental Assessment (EA) assessing the potential environmental and historic impacts of Savage Tooele Railroad's (STR) request for authority to construct and operate approximately 11 miles of railroad line in Tooele County, Utah (Proposed Action).

S.2 Purpose and Need

According to STR, the purpose of the Proposed Action is to provide rail service to tenants of the Lakeview Business Park (LBP). STR states that there is currently insufficient rail infrastructure to accommodate the rapid growth of manufacturing and warehousing facilities across the country, and specifically in the Greater Salt Lake City area, including Tooele County, as part of a national trend that started prior to the COVID-19 pandemic. This national trend has seen manufacturers and distributors of goods respond to the supply chain disruptions that resulted in part from the pandemic by adding manufacturing and warehousing capacity in the United States, either by moving existing operations from overseas or adding new capacity.

The proposed federal action is the Surface Transportation Board's (Board) decision to authorize with appropriate conditions or deny construction and operation of the proposed rail line. The proposed rail line is not being proposed or sponsored by the federal government. Therefore, the purpose and need for the proposed rail line is informed by the goals of STR as the project applicant in conjunction with the Board's enabling statutes.

S.3 Proposed Action

STR proposes to reinstitute common carrier freight rail service over an approximately six-mile segment of a former branch line, the former "Warner Branch" segment, and to construct approximately five miles of new railroad line within the LBP, currently under development in Grantsville, Utah. On the six-mile segment of the former Warner Branch, tracks remain on approximately 5.75 miles of the right-of-way. STR would also construct four 2,500-foot segments of ancillary switching (or interchange) track to offload and onload rail cars to and from the UP main line. The construction and operation of such ancillary track does not require prior approval from the Board. Here, however, enough information about this ancillary track is available to permit its consideration at this time in this EA.

S.4 Draft EA

The Board is the lead agency for this environmental review. The Board's Office of Environmental Analysis (OEA) is responsible for conducting the environmental review process, independently analyzing environmental data, and making environmental recommendations to the Board. OEA issued a Draft EA for public review and comment for

30 days. Comments were due by October 30, 2023. OEA received comments from 21 individual commenters. OEA read all comment documents and responded to the 52 discrete individual substantive comments in Appendix I of this Final EA. The following is a summary of the comments received on the Draft EA, by topic:

Environmental Review Process: STB should prioritize serving the public good, not private business interests; upstream and downstream public health consequences should have triggered an Environmental Impact Statement; Proposed Action would degrade community quality of life; additional tribal outreach suggested; transportation merits do not outweigh environmental harm; property values would be negatively impacted; Proposed Action would result in environmental benefits from moving freight by rail instead of by truck; Proposed Action would meet the needs of the growing population in Tooele County.

Noise and Vibration: Concerns raised about noise impacts on residents, horses, and livestock and vibration impacts on wells.

Grade Crossing Safety and Delay: Alternative rail alignments would reduce the number of road crossings and risk of automobile/train accidents that could result from the Proposed Action; volume of road traffic could be substantially greater depending on time of day.

Biological Resources: Concerns raised about impacts to red hawks nesting in the area; claims that study area is too small, yet impacts would be significant; industrial development incentivized by the Proposed Action would destroy habitat in adjacent areas and broader eco-region.

Water Resources: Concerns raised about trains running through wetlands causing significant disruption to the ecosystem; need to identify what actions would require a Clean Water Act Section 401 certification; accelerated industrial development would affect the ecologically imperiled Great Salt Lake, groundwater, and surface water; recommend that completion of Section 404 consultation be a condition of STB's decision; recommend using Federal Emergency Management Agency's (FEMA) Federal Flood Risk Management Standard.

Hazardous Materials: Concerns raised about potential impacts of leaks, spills, and derailments on the Great Salt Lake and surrounding sensitive aquatic habitat; claims that chemicals from potential accidents would impact local well water and the water used by surrounding areas; potential for lead contamination north of Erda Way.

Air Quality: Concerns that the Environmental Protection Agency's (EPA) standard for ozone does not reflect threats because the EPA standard is set too low; request to include detailed emission inventory in Appendix E; recommend hazardous air pollutants (HAPs) analyses be based on quantitative air modeling results; recommend including LBP construction and operation information and effects from its businesses operational emissions and vehicle traffic in the Final EA; Proposed Action would not decrease air pollution because it would stimulate development of LBP and Utah Inland Port Authority (UIPA) sites, and traffic and diesel locomotives would generate pollution; Draft EA did not appropriately take into account the impacts of open space turned into asphalt and concrete.

Climate Change: Requests to add more detail to the climate change plan mitigation measure; requests for more evaluation of the cumulative impacts of the LBP on greenhouse gases and climate change; claims that industrial development stimulated by the proposed rail line

would increase population, economic activity, and water demand, worsening the climate crisis.

Land Use, Zoning Public Policy: Questions about the market for warehouse space; concerns that economic growth fostered by the Proposed Action would lead to population growth that residents do not want.

Environmental Justice: Concerns that there may be marginalized communities impacted by the Proposed Action; recommend contacting more residences and businesses.

Cumulative Impacts: Claims that the purpose of the Proposed Action is to incentivize industrial development in the LBP, two proposed Utah Inland Port Authority (UIPA) sites, and throughout the region and that adding new truck and vehicle trips would cause pollution and other impacts; other comments stated that the Proposed Action would not incentivize development of the LBP and that STR does not plan to serve developments other than the LBP; claims that the Draft EA did not consider other reasonably foreseeable inland port projects affecting Great Salt Lake wetlands and uplands in Salt Lake City, Brigham City, Garland, Tremonton, Box Elder County, Weber County, and throughout Tooele County; requests to examine impact of induced industrial development that would adversely impact the life span and well-being of millions of people and animals in the Great Salt Lake basin.

Mitigation: Requests to revise grade crossing measure to clarify need to comply with Utah Department of Transportation's (UDOT) requirements; requests to add to pesticides mitigation measure; claims that voluntary measures provide no public protection.

S.5 Final EA

Following issuance of the Draft EA and the 30-day comment period, OEA prepared this Final EA. In preparing this Final EA, OEA considered all comments received on the Draft EA and responded to those comments in Appendix I. In this Final EA, changes made in this Final EA that respond to comments on the Draft EA and update information where appropriate are shown in redline. This Final EA presents OEA's final recommended environmental mitigation in Chapter 4. Substantive changes between the Draft and Final EA include:

*Section 3.*6: The Hazardous Materials section was updated to include more information about the potential for leaks, spills, or releases.

Section 3.7: The Cultural Resources section was updated to document that the Utah SHPO concurred with OEA's determinations of eligibility and effect assessments in a letter dated November 27, 2023, completing the Section 106 process.

*Section 3.*8: The Air Quality section's Table 3.8-2 was updated to include more information on applicable EPA de minimis thresholds and clarification on the nonattainment designation.

*Section 3.*9: The Climate Change section was updated to clarify OEA's conclusions that freight rail rather than trucks could have a positive effect on climate change, and additional detail was added to the recommended mitigation measure **(MM-Climate-01)**, making clear that the climate change plan would be prepared in accordance with the Council on

Environmental Quality's (CEQ's) NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change to achieve the objectives laid out in Executive Order 14008, Tackling the Climate Crisis at Home and Abroad.

*Section 3.*11: The Land Use, Zoning and Local Plans section was updated to clarify OEA's conclusions that the Proposed Action would be consistent with the zoning and land use of the area, that the rail line predated most, if not all, of the current development, and that the current development has taken place without an operating rail option.

Section 3.13: The Cumulative Impacts section was expanded to include additional detail on the LBP and two UIPA project areas, the Tooele Valley Project Area and the UIPA Twenty Wells Project Area, and OEA's conclusions were updated.

Section 4.7: Grade Crossing Safety and Delay Mitigation Measure **MM-Grade Crossing-01** was updated to state that STR shall consult with and comply with *reasonable* UDOT requirements for creating new rail/roadway crossings at SR 138 and Erda Way.

Section 4.8: Biological Resources Mitigation Measure **MM-Biological-05** was updated to state that STR shall only use herbicides in right-of-way maintenance to control vegetation that are approved by EPA *and are applied by trained individuals following the instructions on the pesticide label* and who will limit application of the pesticides to the extent necessary for safe rail operations *and not use the pesticides near wetlands*.

Section 4.13: Climate Change Mitigation Measure **MM-Climate-01** was updated to add that the plan will use CEQ's NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change.

Appendix E: The Air Quality appendix was expanded to include a detailed list of the construction equipment required for the Proposed Action and used for the *de minimis* analysis.

This Final EA responds to the substantive comments received on the Draft EA (see Appendix I), presents OEA's final conclusions regarding the potential environmental impacts of the Proposed Action, and sets forth OEA's final recommendations to the Board, including final recommended environmental mitigation measures. Next, the Board will consider the entire record, including the Draft EA and Final EA, all comments received, OEA's recommendations, and the transportation merits in making its final decision on whether to authorize the Proposed Action. If the Board decides to authorize the Proposed Action, the Board may impose conditions on its authorization as part of that decision, including environmental mitigation conditions.

S.6 Alternatives

The regulations implementing the National Environmental Policy Act (NEPA) require that federal agencies consider reasonable alternatives to the proposed action, including a No-Action Alternative. A reasonable alternative must meet the project's purpose and need and must be logistically feasible and practical to implement.

OEA used a two-step screening process to evaluate potential alternatives. Screening 1 used criteria to evaluate the range of reasonable alternatives based on STR's stated purpose and

need for the Proposed Action. Screening 2 used criteria to evaluate the potential for environmental impacts. For Screening 1, OEA developed criteria that would need to be met for an alternative to be considered reasonable for further consideration based upon the planning objectives of STR. For Screening 2, OEA defined criteria that should be met and used to distinguish relative differences between alternatives.

OEA found, based upon the information provided by STR and the evaluation of the alternatives in Screening 1 and 2 discussed above, that the Proposed Action is the only reasonable and feasible Build Alternative to carry forward for detailed analysis in this Draft EA. The reasons for this include the following:

- The Proposed Action would connect the LBP to a freight rail mainline that carries large volumes of commodities and goods transported for distribution throughout the U.S.
- The Proposed Action would be located within a former rail corridor, which is compatible with planned transportation activities and avoids greenfield construction.
- Impacts to public recreation facilities, utilities, businesses, future projects, and local plans would be minimized or avoided under the Proposed Action.

Therefore, OEA selected the Proposed Action, along with the No-Build Alternative, to carry forward for detailed analysis in this EA.

S.7 Summary of Impacts

S.7.1 No-Action Alternative

Under the No-Action Alternative, the Board would not authorize STR's proposed construction and operation and STR would not construct and operate the proposed line. No rail line would serve the LBP and all goods would move by truck to and from the LBP.

S.7.2 Proposed Action

Because the Proposed Action would be built on existing rail right-of-way, there would be fewer environmental and historic impacts than would be the case with construction on entirely new right-of-way. As demonstrated in this Final EA and **Table S-1**, the impacts of the Proposed Action range from no impacts to some impacts which can be minimized with mitigation. The resources for which the Proposed Action would have no or *de minimis* impacts are:

- Vibration
- Cultural resources
- Air quality
- Energy
- Land use, zoning, and local plans
- Environmental justice
- Cumulative impacts

The resources for which the Proposed Action would have some impacts which can be minimized with mitigation are:

- Noise
- Grade crossing safety
- Grade crossing delay
- Biological resources
- Water resources
- Hazardous materials
- Climate change

S.8 Mitigation

STR provided 37 voluntary mitigation measures addressing a broad range of environmental issues, and OEA is recommending 25 additional mitigation measures to further minimize project-related impacts. After considering all public comments on the Draft EA, OEA is recommending that the Board impose all of the mitigation in this Final EA on any decision authorizing the proposed rail line. As appropriate, the Final EA modifies certain conditions in the Draft EA in response to comments received. ~~OEA will make its final recommendations on mitigation to the Board in the Final EA after considering all public comments on this Draft EA.~~

S.9 Conclusion

OEA concludes that the Proposed Action would have no impacts on several environmental resource areas, including air quality, energy, land use, and historic resources. For resource areas that have the potential to be impacted, including noise and grade crossing safety and delay, OEA concludes that these impacts can be minimized with the mitigation recommended in the Final EA. See **Table S-1** below.

Table S-1 Project Impacts and Recommended Mitigation Summary

Resource Area	Impacts, OEA Recommended Mitigation Measures, and STR Voluntary Mitigation
Noise and Vibration	
	OEA concludes that with the voluntary mitigation proposed by STR to control noise and limit construction times, there would be no noise and vibration impacts during construction. OEA anticipates that noise from rail operations would impact one noise receptor, receptor #6, if a quiet zone is not applied for, and granted. If there is no quiet zone, OEA concludes that noise impacts to this receptor would be minimized with building sound insultation and the other mitigation recommended by OEA. Further, because the modeled noise contour also comes close to adversely affecting several other receptors, OEA also recommends that STR be required to measure train horn and wayside noise levels from actual train operations to verify the modeled noise contour location used in this EA. STR has proposed voluntary mitigation agreeing to work with the City of Erda, Utah Department of Transportation (UDOT), and Tooele County to seek to establish quiet zones at SR 138 and Erda Way. OEA does not anticipate vibration impacts from rail operations. OEA concludes that while there would be the potential for noise impacts from the operation of the Proposed Action, impacts could be minimized by STR's voluntary mitigation measures and OEA's additional recommended mitigation measures.
Grade Crossing Safety	
	OEA concludes that while grade crossing safety impacts could result during construction of the new crossings at SR 138 and Erda Way, these impacts would be minor and temporary and would be minimized through the use of traffic control best practice measures proposed by STR as voluntary mitigation.[1] If the Board authorizes the Proposed Action, OEA estimates that the number of crashes at grade crossings would increase by 0.0102 crashes per year across the two at-grade crossings at SR 138 and Erda Way under the 2023 conditions (or one predicted crash approximately every 98 years). Under the projected 2026 conditions, the total predicted number of crashes would increase by 0.0131 crashes per year at the two at-grade crossings (or one predicted crash approximately every 76 years). Although the Proposed Action could result in an increase in the potential for crashes at grade crossings in the study

[1] STR's proposed voluntary mitigation would require it to coordinate with local agencies on construction schedules, detours, traffic control, and traffic control permits and to maintain egress or traffic routing and install temporary traffic control within the area and work zones, including pavement markings, signing, and detours as described in Chapter 4.

Resource Area	Impacts, OEA Recommended Mitigation Measures, and STR Voluntary Mitigation
	area, the number of crashes on roadways in the area could also decrease because freight rail is generally safer than truck. OEA anticipates that impacts to grade crossing safety from the Proposed Action would be mitigated by the voluntary mitigation measures proposed by STR and OEA's recommended mitigation. OEA recommends mitigation measures requiring STR to consult and comply with the UDOT grade crossing requirements. Further, STR would be required not to block at-grade crossings for more than 10 minutes and to notify emergency services dispatching centers if grade crossings become blocked by trains that may be unable to move for a prolonged period. In addition, STR has proposed voluntary mitigation requiring it to consult with appropriate agencies on the design of the at-grade crossing warning devices and pavement markings, signing, delineators, and active warning devices; emergency service response; permits and approvals; information signs; and Operation Lifesaver educational programs. OEA concludes that while there would be the potential for grade crossing safety impacts from the operation of the Proposed Action, impacts could be minimized by STR's voluntary mitigation measures and OEA's additional recommended mitigation measures.
Grade Crossing Delay	
	OEA concludes that while there would be the potential for impacts to grade crossing delay from construction of the Proposed Action at the two new grade crossings on SR 138 and Erda Way, any delays would be minor and temporary and could be minimized through the use of the traffic control best practice measures proposed by STR as voluntary mitigation.[2] OEA concludes that rail operations at at-grade crossings would cause increased delay to vehicles and emergency service providers due to the two new at-grade crossings. However, this impact would be minor. OEA predicts that the two new at-grade crossings would not cause the LOS to decrease below LOS A. On average, the grade crossing delay would be less than 1.0 second per vehicle. Because LOS A corresponds to free flow conditions, OEA concludes that the two new at-grade crossings would result in only minor delay impacts. To address this minor delay impact, OEA recommends mitigation requiring STR to not block at-grade crossings for more than 10 minutes and requiring STR to notify appropriate emergency services dispatching centers if grade crossings become blocked by trains for a prolonged period.

[2] STR has proposed voluntary mitigation requiring it to coordinate with local agencies on construction schedules, detours, traffic control, and traffic control permits and to maintain egress or traffic routing and install temporary traffic control within the area and work zones, including pavement markings, signing, and detours.

Resource Area	Impacts, OEA Recommended Mitigation Measures, and STR Voluntary Mitigation
	Because the Proposed Action would not result in a decrease in the LOS at either of the proposed grade crossings at SR 138 or Erda Way, OEA did not identify grade crossing impacts at SR 138 or Erda Way that would warrant grade separation. UDOT indicated in a letter to OEA dated May 1, 2023, that STR has agreed to work with UDOT and local entities to provide funding for grade separation at SR 138 in the future if conditions warrant. STR has proposed voluntary mitigation requiring it to consult with appropriate federal, state, and local transportation agencies to determine the final design of the at-grade crossing warning devices and to comply with applicable UDOT and local requirements. Further, OEA is recommending mitigation requiring STR to consult with UDOT and comply with their reasonable requirements for creating new rail/roadway crossings. OEA concludes that while there would be the potential for grade crossing delay impacts from the operation of the Proposed Action, any delays would be minor and could be minimized by STR's voluntary mitigation measures and OEA's additional recommended mitigation measures.
Biological Resources	
	OEA concludes that minor impacts to biological resources would occur during construction activities and maintenance. OEA further concludes that the Proposed Action would result in some impacts to plant communities. Specifically, OEA expects that the estimated 1.8 acres of vegetation in areas temporarily altered for construction activities would recover, and no permanent impacts in those areas is anticipated. However, OEA expects that an estimated 4.6 acres of vegetation would be permanently lost or altered. To address these impacts to plant communities, OEA is recommending mitigation that requires STR to limit ground disturbance and use fencing during construction, and after construction, requires STR to landscape with a native seed mix, implement a plan to address the spread of non-invasive plants, and limit the use of herbicides to only trained individuals following the instructions on the pesticide label and who will limit application to the extent necessary for safe rail operations and not use the pesticides near wetlands. OEA concludes that the Proposed Action would result in no or negligible impacts to wildlife, ESA-listed species, state-listed and sensitive species, Bald and Golden Eagles, natural areas, and critical habitat. If the Board imposes all of OEA's recommended mitigation, including STR's voluntary mitigation, OEA anticipates no impacts to biological resources during construction or operation of the Proposed Action.
Water Resources	
	OEA concludes that impacts to certain water resources would occur during construction activities and maintenance. OEA anticipates that the Proposed Action would result in no or negligible impacts on

Resource Area	Impacts, OEA Recommended Mitigation Measures, and STR Voluntary Mitigation
	ground water and floodplains. However, the Proposed Action could result in impacts on surface waters, wetlands, and water quality. OEA anticipates no impacts to water resources from rail operations. As part of the Proposed Action, STR would replace deteriorated existing culverts with new culverts equivalent to or larger than the existing culverts. OEA anticipates that the new culverts would improve the movement of surface waters and the connectivity of wetlands. To mitigate any potential for impacts on surface waters, OEA is recommending mitigation requiring STR to design the drainage crossing structures for a 100-year storm event and to coordinate with Federal Emergency Management Agency (FEMA) if the culverts would result in an unavoidable increase greater than 1 foot to the 100-year water surface elevations. OEA also concludes that the Proposed Action would require the placement of fill material in some wetland areas resulting in a permanent loss of 0.5 acres of wetlands. To mitigate impacts on wetlands, OEA is recommending mitigation requiring STR to obtain a permit from the U.S. Army Corps of Engineers (USACE), minimize impacts to wetlands in the Proposed Action final design, prepare a mitigation plan in consultation with USACE if applicable, and compensate for the loss of any wetlands. Finally, OEA anticipates that construction of the Proposed Action would create ground disturbance that could lead to erosion of sediments into water bodies. To minimize these short-term localized impacts on water quality, STR has proposed voluntary mitigation requiring it to obtain stormwater management permits and develop a stormwater pollution prevention plan including construction best management practices (BMPs). OEA is recommending additional mitigation requiring STR to obtain a Section 401 Water Quality Certification from the Utah Department of Environmental Quality (UDEQ). If the Board authorizes the Proposed Action and imposes all of OEA's recommended mitigation, including STR's voluntary mitigation, OEA anticipates no impacts to water resources during construction or operation of the Proposed Action.
Hazardous Materials	
	While OEA does not expect impacts to hazardous material release sites to occur, if unanticipated contaminated soils related to the proposed line's history of past railroad operations or associated with nearby hazardous material release sites and incidents are encountered during construction and regular maintenance of the Proposed Action, mitigation may be required. Therefore, OEA is recommending mitigation requiring that if STR encounters contamination (or signs of potential contamination) during construction activities, it will perform a Phase 2 environmental investigation following American Society of Testing and Materials E1527-05, Standard Practice for Environmental Site Assessments, and that should the findings of a Phase 2 environmental investigation identify contamination in soil and/or groundwater, STR will coordinate with relevant state agencies on regulatory obligations and comply with those agencies' reasonable requirements for avoiding impacts related to soil and/or groundwater

Resource Area	Impacts, OEA Recommended Mitigation Measures, and STR Voluntary Mitigation
	contamination. In addition, as a common carrier, STR would be obligated to transport hazardous materials upon reasonable request. While the likelihood of leaks, spills, or releases is unknown, OEA anticipates that most hazardous materials releases resulting from rail incidents on the proposed line would be small and infrequent and would be minimized by appropriate management actions and the mitigation recommended in this EA. If the Board imposes all of OEA's recommended mitigation, including STR's voluntary mitigation, OEA anticipates no hazardous materials impacts during construction or operation of the Proposed Action based on the available information.
Cultural Resources	
	OEA conducted a Class III pedestrian inventory in May 2023 under Section 106 of the National Historic Preservation Act (NHPA) after consulting with the Utah State Historic Preservation (SHPO) in February 2023. The entire length of the Proposed Action along the former Warner Branch was documented. The location where the Proposed Action is bisected by the Historic Lincoln Highway (SR 138) was investigated and documented. In addition, two historic structures were newly identified, documented, and evaluated for National Register of Historic Places (NRHP) significance. OEA is recommending mitigation requiring STR to provide OEA with a construction monitoring plan that addresses training procedures, monitoring plans, and provisions for complying with regulations in the event of an unanticipated discovery of archaeological sites, artifacts, or unmarked human remains during construction activities. OEA concludes that the Proposed Action would have no adverse effect on historic properties within the Area of Potential Effects (APE). The Utah SHPO concurred with OEA's determinations of eligibility and effect assessments in a letter dated November 27, 2023, thus concluding the Section 106 review process. ~~OEA continues to consult with the Utah SHPO on these findings.~~
Air Quality	
	OEA determined that construction would result in criteria pollutant emissions below the applicable *de minimis* thresholds. OEA also projects hazardous air pollutants (HAPs) emissions during construction to be small, with the largest single HAP emission being 0.025 tons per year of formaldehyde. OEA did not identify any air quality impacts related to construction; therefore, OEA does not recommend mitigation.[3]

[3] While OEA did not find air quality impacts requiring mitigation, the EA includes STR's proposed voluntary mitigation requiring it to implement appropriate dust control measures to reduce fugitive dust emissions and to ensure that construction equipment is properly maintained to limit construction-related air pollutant emissions.

Resource Area	Impacts, OEA Recommended Mitigation Measures, and STR Voluntary Mitigation
	OEA determined that operation of the Proposed Action would result in increases in criteria pollutant emissions, but that they would be below the respective de minimis thresholds for Tooele County. Total HAPs emissions would also be small, totaling 0.09 tons per year. Greenhouse gas emissions are estimated to be approximately 392 tons of CO_2e relative to the No-Action Alternative. OEA did not identify any impacts related to air quality for the operation of the Proposed Action rail line; therefore, OEA does not recommend any mitigation.
Climate Change	
	OEA anticipates that climate change would affect rail operations. Therefore, OEA is recommending mitigation requiring STR to provide OEA with a climate change plan documenting how the effects of climate change on rail infrastructure would be considered and addressed by STR in final engineering design and construction. In accordance with comments from the Environmental Protection Agency (EPA) on the Draft EA, OEA is recommending that STR's climate change plan use the CEQ's NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change to achieve the objectives laid out in Executive Order 14008, Tackling the Climate Crisis at Home and Abroad. OEA concludes that the recommended mitigation measure would minimize the impact of climate change of the Proposed Action.
Energy	
	OEA concludes that the Proposed Action would result in no impacts to energy because it would increase overall energy efficiency by reducing energy used by commercial trucks. The reduction anticipated from freight shifting to rail would be greater than the minor increase in energy consumption from rail locomotives and vehicles stopped at grade crossings at SR 138 and Erda Way.
Land Use, Zoning, and Public Policy	
	OEA concludes that based on a review of land use and zoning in Tooele County, the City of Grantsville and Erda City, construction and operation of the Proposed Action would not result in impacts to zoning and land use. ~~The Proposed Action is consistent with the general plans for the City of Grantsville, Erda City, and Tooele County.~~The Proposed Action is consistent with the goals of the Grantsville City general plan, the City of Erda 2022 general plan, and the Tooele County 2022 General Plan Update to halt rapid population growth while also attracting commercial opportunities that would improve the quality of life for residents. The railroad right-of-way as a transportation land use has been present in the study area for several decades. OEA concludes that the Proposed Action would be consistent with the zoning and land use of the area, that the rail line predated most, if not all, of the current development, and that the current development has taken place without an operating rail option.

Resource Area	Impacts, OEA Recommended Mitigation Measures, and STR Voluntary Mitigation
Environmental Justice	
	OEA concludes that the Proposed Action is not anticipated to cause disproportionately adverse impacts on EJ populations because OEA did not identify minority or low-income populations in the study area for EJ analysis.
Cumulative Impacts	
	OEA determined that the identified reasonably foreseeable projects in the area of the Proposed Action would not have overlapping impacts with the Proposed Action, with the exception of the UIPA Tooele Valley Project Area. OEA cannot determine whether the development of the UIPA Tooele Valley Project Area would have water resource impacts to wetland areas based on the preliminary nature of the available information in the UIPA Tooele Valley Project Area Plan and the lack of a specific development plan. For the other resource areas, OEA does not anticipate cumulative impacts associated with the Proposed Action and any other reasonably foreseeable actions in the study area.

Table of Contents

Dear Reader Letter

Summary

Chapter 1 – Purpose and Need 1-1

1.1 Introduction 1-1

1.2 Purpose and Need 1-3

1.3 Role of the Board 1-4

1.3.1 Request for Conditional Approval of Transportation Merits 1-5

1.4 NEPA Process 1-5

1.4.1 Request for Preparation of an Environmental Assessment 1-6

1.5 Other Agency Roles and Reviews 1-6

1.6 Agency and Tribal Consultation 1-6

1.6.1 Section 106 Consultatoin 1-7
1.6.2 Consultation with UDOT 1-7

1.7 Public Outreach 1-8

Chapter 2 – Proposed Action and Alternatives 2-1

2.1 Proposed Action 2-1

2.1.1 Construction 2-3
2.1.2 Operation and Maintenance 2-5

2.2 No-Action Alternative 2-7

2.3 Alternatives Reviewed 2-7

2.3.1 Screening Process 2-8
2.3.2 Alternatives Screening 1 2-10
2.3.3 Alternatives Screening 2 2-11
2.3.4 Build Alternative Carried Forward in the EA 2-15

Chapter 3 – Affected Environment and Environmental Consequences 3-1

3.1 Noise and Vibration 3-2

3.1.1 Approach 3-2
3.1.2 Affected Environment 3-3
3.1.3 Environmental Consequences 3-4
3.1.4 Conclusion 3-9

3.2 Grade Crossing Safety 3-9

3.2.1 Approach 3-10
3.2.2 Affected Environment 3-11
3.2.3 Environmental Consequences 3-12
3.2.4 Conclusion 3-16

3.3 Grade Crossing Delay 3-17

3.3.1 Approach 3-17
3.3.2 Affected Environment 3-18
3.3.3 Environmental Consequences 3-19
3.3.4 Conclusion 3-26

3.4 Biological Resources 3-27

3.4.1 Approach 3-27
3.4.2 Affected Environment 3-28
3.4.3 Environmental Consequences 3-31
3.4.4 Conclusion 3-34

3.5 Water Resources 3-34

3.5.1 Approach 3-34
3.5.2 Affected Environment 3-36
3.5.3 Environmental Consequences 3-38
3.5.4 Conclusion 3-40

3.6 Hazardous Materials 3-41

3.6.1 Approach 3-41
3.6.2 Affected Environment 3-42
3.6.3 Environmental Consequences 3-43
3.6.4 Conclusion 3-44

3.7 Cultural Resources 3-44

3.7.1 Approach 3-44
3.7.2 Affected Environment 3-45

3.7.3 Environmental Consequences 3-48
3.7.4 Conclusion 3-50

3.8 Air Quality 3-50

3.8.1 Approach 3-50
3.8.2 Affected Environment 3-53
3.8.3 Environmental Consequences 3-55
3.8.4 Conclusion 3-58

3.9 Climate Change 3-58

3.9.1 Approach 3-58
3.9.2 Affected Environment 3-59
3.9.3 Environmental Consequences 3-61
3.9.4 Conclusion 3-62

3.10 Energy 3-63

3.10.1 Approach 3-63
3.10.2 Affected Environment 3-63
3.10.3 Environmental Consequences 3-63
3.10.4 Conclusion 3-64

3.11 Land Use, Zoning, and Local Plans 3-64

3.11.1 Approach 3-65
3.11.2 Affected Environment 3-65
3.11.3 Environmental Consequences 3-66
3.11.4 Conclusion 3-69

3.12 Environmental Justice 3-70

3.12.1 Approach 3-70
3.12.2 Affected Environment 3-71
3.12.3 Environmental Consequences 3-73
3.12.4 Conclusion 3-73

3.13 Cumulative Impacts 3-74

3.13.1 Approach 3-74
3.13.2 Past, Present, and Reasonably Forseeable Future Actions 3-74
3.13.3 Cumulative Impacts 3-79
3.13.4 Conclusion 3-83

Chapter 4 – Mitigation 4-1

4.1 Conditioning Power of the Board 4-1

4.2 Voluntary Mitigation 4-1

4.3 The Mitigation Process 4-2

4.4 Mitigation Measures 4-3

4.5 General Mitigation Measures 4-3

4.5.1 STR's Voluntary Mitigation Measures 4-3
4.5.2 OEA's Final Recommended Mitigation 4-4

4.6 Noise…… 4-4

4.6.1 STR's Voluntary Mitigation Measures 4-4
4.6.2 OEA's Final Recommended Mitigation 4-5

4.7 Grade Crossing Safety and Delay 4-6

4.7.1 STR's Voluntary Mitigation Measures 4-6
4.7.2 OEA's Final Recommended Mitigation 4-7

4.8 Biological Resources 4-7

4.8.1 OEA's Final Recommended Mitigation 4-7

4.9 Water Resources 4-8

4.9.1 STR's Voluntary Mitigation Measures 4-8
4.9.2 OEA's Final Recommended Mitigation 4-9

4.10 Hazardous Materials 4-10

4.10.1 STR's Voluntary Mitigation Measures 4-10
4.10.2 OEA's Final Recommended Mitigation 4-11

4.11 Cultural Resources 4-11

4.11.1 OEA's Final Recommended Mitigation 4-11

4.12 Air Quality…… 4-12

4.12.1 STR's Voluntary Mitigation Measures 4-12

4.13 Climate Change 4-12

4.13.1 OEA's Final Recommended Mitigation 4-12

References R-1

Appendices

Appendix A Agency and Tribal Consultation

Appendix B Noise and Vibration Technical Appendix

Appendix C Grade Crossing Safety and Delay

Appendix D Biological Resources and Water Resources Appendix

Appendix E Air Quality

Appendix F Land Use, Zoning, and Local Plans

Appendix G Public Comments

Appendix H Construction Description by Segment

Appendix I Response to Comments on the Draft EA

Acronyms

AADT	Annual average daily traffic
ACS	American Community Survey
APE	Area of potential effects
AREMA	American Railway Engineering and Maintenance-of-Way Association
Board	Surface Transportation Board of the United States
BTS	Bureau of Transportation Statistics
Btu	British thermal units
CAA	Clean Air Act
CCSP	U.S. Climate Change Science Program
CEQ	Council on Environmental Quality
C.F.R.	Code of Federal Regulations
CH4	Methane
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
dB	Decibels
dBA	A-weighted decibels
DOT	Department of transportation
EA	Environmental Assessment
EJ	Environmental Justice
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973
FAQs	Frequently asked questions
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration

FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GIS	Geographic information systems
GHG	Greenhouse gas
HAPs	Hazardous air pollutants
Hazmat	Hazardous materials
HCM	Highway Capacity Manual
HPMS	Highway Performance Monitoring System
HUD	U.S. Department of Housing and Urban Development
Hz	Hertz
ICC	Interstate Commerce Commission
ICCTA	Interstate Commerce Commission Termination Act
IPaC	Information for Planning and Consultation
IPCC	Intergovernmental Panel on Climate Change
Ldn	Day-night average noise levels
Leq	Energy-average noise level
LOS	Level of Service
mGTs	Million gross tons
MM	Mitigation measure
MP	Milepost
mph	Miles per hour
NAAQS	National Ambient Air Quality Standards
National Register	National Register of Historic Places
NCA4	Fourth National Climate Assessment
NCA5	Fifth National Climate Assessment
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
N_2O	Nitrous oxide
NO_2	Nitrogen dioxide
NO_x	Nitrogen oxides

NRC	National Research Council
NRCS	Natural Resources Conservation Service
O_3	Ozone
OEA	Office of Environmental Analysis
OFCM	Office of the Federal Coordinator for Meteorological Services and Supporting Research
OSHA	Occupational Safety and Health Administration
PM	Particulate matter
QZRI	Quiet Zone Risk Index
RCP	Representative Concentration Pathway
ROW	Right-of-way
RSIP	Residential Sound Insulation Program
SEL	Sound exposure level
SHPO	State Historic Preservation Office
SIP	Safety Integration Plan
SO2	Sulfur dioxide
SSM	Supplemental safety measure
SWPPP	Stormwater prevention pollution plan
THPO	Tribal Historic Preservation Office
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGCRP	U.S. Global Change Research Program
USGS	U.S. Geological Survey
USDOT	U.S. Department of Transportation
VdB	Decibels (vibration)
VM	Voluntary measure
VOC	Volatile organic compound

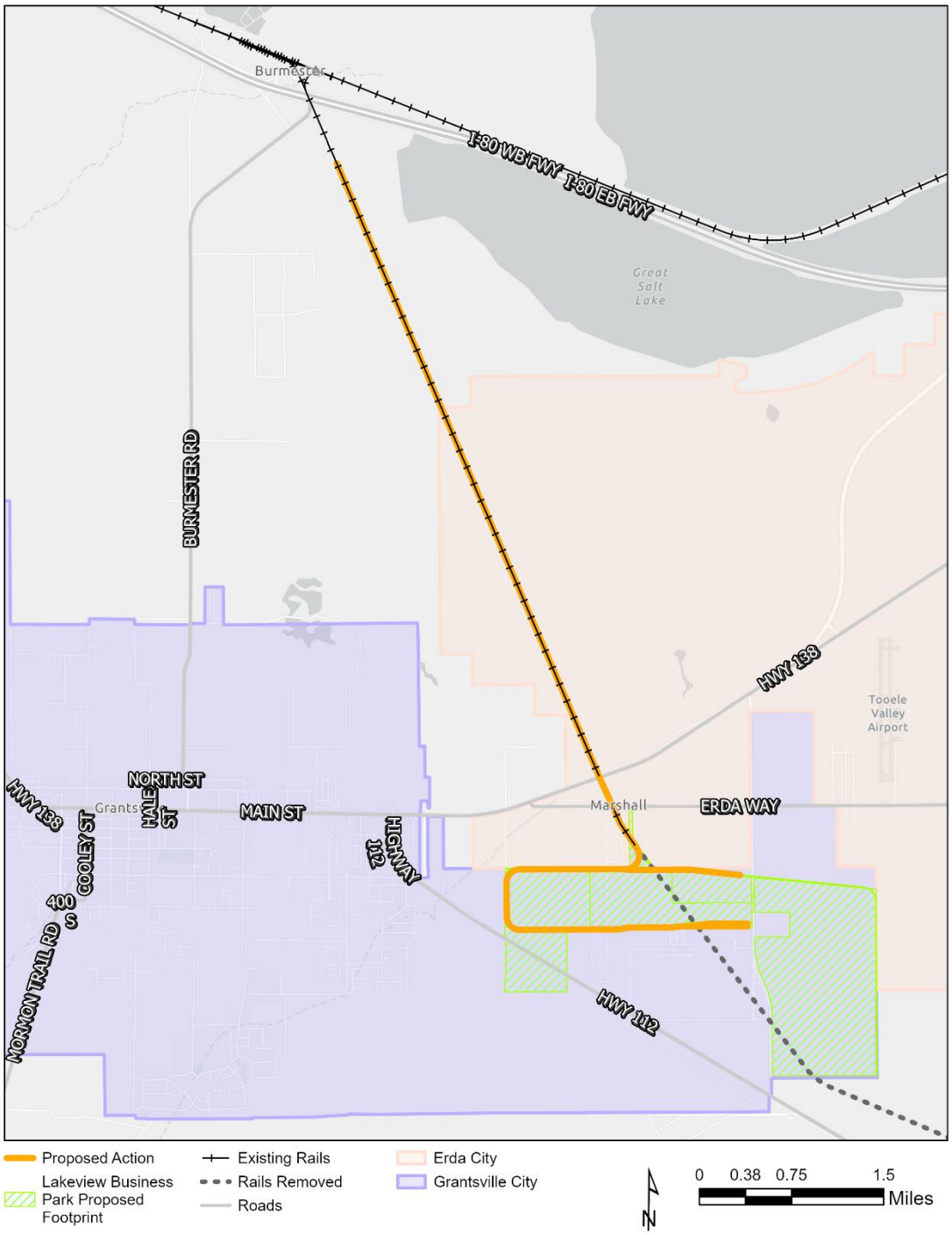
Chapter 1

Purpose and Need

1.1 Introduction

On June 30, 2022, Savage Tooele Railroad (STR) filed a petition in Docket No. FD 36616 seeking authorization from the Surface Transportation Board (Board) for an exemption under 49 U.S.C. § 10502 from the prior approval requirements of §10901 to construct and operate approximately 11 miles of railroad line in Tooele County, Utah (Proposed Action). STR is a non-carrier, wholly owned subsidiary of Savage Enterprises, LLC, a Delaware company. Both companies are subsidiaries of the Savage Companies, which were founded in Utah in 1946 and provide transportation and logistics services worldwide. The proposed rail line would re-establish a former rail line connection to the Union Pacific Railway Company's (UP) Shafter Subdivision at Burmester, Utah and the national rail network. Under the Proposed Action, STR would provide common carrier rail service to tenants of the Lakeview Business Park (LBP) in Grantsville, Utah. LBP tenants currently are only able to receive and ship commodities by truck. STR forecasts that it would operate one roundtrip train (two trains per day, one in each direction) along the 11-mile line. STR indicates that Tooele County is one of the fastest growing areas in the country and does not have sufficient rail transportation infrastructure to meet future transportation and logistics needs. The proposed rail line would help meet the shipping needs of a growing region by creating a rail connection between the LBP and the national rail network (see **Figure 1.1-1)**. STR must receive Board authorization to construct and operate the 11-mile line as a common carrier.

Figure 1.1-1. General Project Area and Access to the LBP



More specifically, STR proposes to reinstitute common carrier freight rail service over an approximately six-mile segment of a former branch line, the former "Warner Branch" segment, and to construct approximately five miles of new railroad line within the LBP, currently under development in Grantsville, Utah. On the six-mile segment of the former Warner Branch, tracks remain on approximately 5.75 miles of the right-of-way. STR would also construct four 2,500-foot segments of ancillary switching (or interchange) track to offload and onload rail cars to and from the UP main line. The construction and operation of such ancillary track does not require prior approval from the Board. Here, however, enough information about this ancillary track is available to permit its consideration in this Environmental Assessment (EA).[1]

1.2 Purpose and Need

The construction and operation of the proposed new rail line is not a federal government-proposed or sponsored project. Rather, the Proposed Action is the request for authority to construct and operate 11 miles of common carrier rail line (described in this document as STR's petition). Therefore, the project's purpose and need is informed by both STR's goals and the Board's enabling statute—the Interstate Commerce Act, as amended by the ICC Termination Act, Pub. L. No. 104-188, 109 Stat. 803 (1996), which encourages the construction and operation of new rail lines to meet the nation's transportation needs.

According to STR, the purpose of the Proposed Action is to provide common carrier rail service to tenants of the LBP. STR states that there is currently insufficient rail infrastructure to accommodate the rapid growth of manufacturing and warehousing facilities across the country generally and in the Greater Salt Lake City area, including Tooele County, specifically. This national trend, which started prior to the COVID-19 pandemic, has seen manufacturers and distributors of goods respond to the supply chain disruptions that resulted in part from the pandemic by adding manufacturing and warehousing capacity in the United States, either by moving existing operations from overseas or adding new capacity.[2]

[1] Under 49 U.S.C. § 10906, Board authorization is not required for construction, acquisition, operation, abandonment, or discontinuance of ancillary switching or interchange track. Railroads also have the right to increase efficiency by improving, reactivating, and rehabilitating their rail lines, and rerouting their traffic without authority from the Board. In this case, however, STR asked for authority to construct and operate as a common carrier over the entire 11-mile rail line, including the six-mile former Warner Branch segment, where most track remains, and five miles of new rail line. Moreover, the planned 2,500-foot segments of ancillary switching or interchange track are an integral part of the proposed construction, and OEA has the information needed to include that track in its environmental review at this time. Accordingly, the EA considers the potential environmental impacts of the entire 11 miles of railroad line and the planned ancillary switching or interchange track.

[2] See generally, https://www.forbes.com/sites/forbesrealestatecouncil/2021/02/17/the-rise-of-warehousing-a-steam-train-with-no-end-in-sight/?sh=74610fc73486; https://www.cnn.com/2022/10/09/economy/manufacturing-jobs/index.html.

STR states that many of the companies seeking to locate in the LBP desire rail service for their facilities, but track and reasonable access to common carrier rail service currently does not exist. STR indicates that the proposed rail line could provide needed rail service connecting the LBP to UP's Shafter Subdivision and the national rail network. Construction of the LBP began in 2020. Currently, there are two tenants in place that are receiving commercial truck service.

Moreover, according to STR, the Proposed Action is needed to help meet the needs of the expanding population of Tooele County, which has been referred to by local officials as the seventh fastest growing county in the United States, due in large part to housing that is more affordable than neighboring Salt Lake County. Roughly 75 percent of Tooele County residents commute to Salt Lake County for work.[3] According to STR, the County needs manufacturing, distribution, and warehousing facilities to meet the demands of the rising population. STR indicates that rail service to LBP tenants would mean that large volumes of commodities and goods could be transported into and out of the County without tying up local roads and highways with commercial trucks.

1.3 Role of the Board

The Board is a nonpartisan, independent federal regulatory agency, composed of five presidentially appointed Members confirmed by the Senate. The Board has jurisdiction and licensing authority over certain rail transportation matters, including the construction and operation of new rail lines; railroad acquisitions, mergers, consolidations, and line sales; and proposals to abandon rail service (49 U.S.C. § 10901, § 11323-5, § 10903).

The Board licenses railroads as common carriers, requiring them to accept goods and materials for transport from all customers upon reasonable request (49 U.S.C. § 11101(a)). Under 49 U.S.C. § 10502, the Board must, to the maximum extent permissible, exempt the proposed construction and operation of a new rail line from the requirements of 49 U.S.C. § 10901 if it finds that regulation of the project:

1. is not necessary to carry out the rail transportation policy of 49 U.S.C. § 10101; and
2. either:

   a) the transaction or service is of limited scope, or

   b) the application of a subdivision of subtitle IV of the Interstate Commerce Act as amended by the Interstate Commerce Commission Termination Act of 1995 is not needed to protect shippers from the abuse of market power.

The Board does not regulate the number of trains operating over a specific section of rail line, nor does it maintain control over general day-to-day railroad operations. In this case, for the reasons discussed above, the Board will consider whether to authorize the proposed

[3] https://www.abc4.com/news/local-news/the-secrets-out-tooele-county-exploding-with-growth/

construction and operation of the entire 11-mile line, consisting of six miles of reinstituted service over the former Warner Branch and five miles of new rail line.

1.3.1 Request for Conditional Approval of Transportation Merits

In a letter dated December 5, 2022, STR requested that the Board conditionally approve its petition before completion of the environmental review to provide assurances to potential customers of LBP who are considering investing in rail infrastructure, among other reasons. In a decision served March 30, 2023, the Board denied STR's request. As discussed in more detail below, this means that the Board will complete the environmental and historic review before issuing a final decision on the merits, based on the entire record, including the record on the transportation merits, the Draft EA, the Final EA, and all public and agency comments received. This Final EA considers and responds to all substantive comments received on the Draft EA and concludes the environmental review process. Next, the Board will issue a final decision on the merits, based on the entire record, including the record on the transportation merits, the Draft EA, the Final EA, and all public and agency comments received. In its final decision, the Board will decide whether to authorize construction and operation of the proposed rail line and, if so, what, if any, environmental mitigation conditions to impose.

1.4 NEPA Process

The Board is required to examine the potential environmental impacts of actions subject to its licensing authority under the National Environmental Policy Act (NEPA) (42 U.S.C. §§ 4321-4370m-11), the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108), and related environmental laws. The environmental and historic review process is intended to assist the Board and the public in identifying and assessing the potential environmental and historic consequences of a proposed action before a decision on that proposal is made. The Board's Office of Environmental Analysis (OEA) is the office within the Board responsible for ensuring the agency's compliance with NEPA, NHPA, and related environmental laws.

In conducting its environmental review, OEA considers the NEPA requirements and the Council on Environmental Quality (CEQ) implementing regulations; the Board's environmental regulations at 49 C.F.R. Part 1105; and other related environmental laws and their implementing regulations.

As part of the environmental review process, OEA makes recommendations to the Board regarding measures for mitigating potential adverse environmental impacts that could occur as a result of a Board decision. Environmental mitigation measures may include voluntary measures developed by railroad applicants and additional measures recommended by OEA. The Board encourages railroad applicants to propose voluntary mitigation. In some situations, voluntary mitigation can replace, supplement, or reach farther than mitigation measures the Board might otherwise impose. In a letter dated June 22, 2023, STR submitted voluntary mitigation measures that are discussed in more detail in Chapter 4. In making its final decision in this case, the Board will consider OEA's conclusions regarding environmental impacts and OEA's final recommendations for mitigation.

1.4.1 Request for Preparation of an Environmental Assessment

Based on the information provided by STR and comments from the federal, state, and local agencies and tribes received during consultation conducted in October and November of 2022, OEA determined that the preparation of an EA, instead of an Environmental Impact Statement (EIS) is appropriate in this case under 49 C.F.R. §1105.6(d).[4] OEA granted STR's request for a waiver of the preparation of an EIS on January 10, 2023, for the following reasons:

- No Tribal interest has been expressed, and the Utah State Historic Preservation Officer (SHPO) raised no specific concerns during preliminary agency and tribal consultation conducted in October and November of 2022;
- The results of a wetland survey determined that any potential impacts, as defined by the U.S. Army Corps of Engineers, would likely be minimal;
- Due to the small volume of expected rail traffic (one roundtrip per day), the potential for impacts related to air quality and safety during rail operations would be minimal;
- The EA will appropriately assess potential issues and solutions related to traffic patterns and vehicle delays at the proposed crossing of State Route 138 (SR 138); and
- OEA does not expect impacts to be significant.

1.5 Other Agency Roles and Reviews

STR indicates that it has consulted with appropriate state, city, and local entities in Utah about the purpose, design, and implementation of the Proposed Action. STR anticipates its Proposed Action would be consistent with the General Plans of the City of Grantsville. STR has stated that it would consider any input from the City of Grantsville and the City of Erda and coordinate the project construction with them as much as possible. The environmental and historic information in this EA could help inform the permitting process of other permits that might be required. Permits are discussed in **Chapter 3**. **Appendix A, Agency and Tribal Consultation** describes in more detail the agency consultation process with agencies including the U.S. Environmental Protection Agency (EPA), U.S. Army Corps of Engineers (Corps), U.S. Fish and Wildlife Service (USFWS), and state and local agencies.

1.6 Agency and Tribal Consultation

In October and November 2022, OEA consulted with relevant federal, state, and local agencies, and tribes with jurisdiction or interest in potentially affected resources associated with the Proposed Action (see Agency Consultation List in **Appendix A**). OEA sent letters

[4] While the Board's regulations under 49 C.F.R. §1105.6(a) state that EISs will normally be prepared for rail construction projects, under 49 C.F.R. §1105.6(d), the Board may reclassify or modify these requirements for individual proceedings. In practice, and consistent with the CEQ regulations and 49 C.F.R. §1105.6(d), OEA prepares EAs for construction projects where it does not expect impacts to be significant.

to 44 agency and tribal contacts providing background information on the Proposed Action and on how to participate in the environmental and historic review process. OEA provided a 30-day period for the agencies and tribes that were consulted to assist OEA in identifying potential impacts of the Proposed Action and indicate if any agencies and tribes might be interested in serving as a cooperating agency. OEA received nine comments from agencies during this initial consultation, including comments from the Utah SHPO and the Utah Department of Transportation (UDOT). There were no cooperating agency requests.

During initial consultation and the preparation of the Draft EA, OEA consulted with federally recognized Indian tribes, consistent with NEPA, Section 106 of the NHPA, and Executive Order (EO) 13175, "Consultation and Coordination with Indian Tribal Governments." EO 13175 requires that federal agencies conduct government-to-government consultation with federally recognized Indian tribes in the development of federal policies (including regulations, legislative comments or proposed legislation, and other policy statements or actions) that have tribal implications. Through government-to-government consultation, tribes can voice potential concerns about significant resources that may not otherwise be raised during the Section 106 process.

OEA contacted four tribes that were listed in HUD's Tribal Directory Assessment Tool for the project area:

- Skull Valley Band of Goshute;
- Confederated Tribes of the Goshute Reservation, Nevada, and Utah;
- Shoshone-Bannock Tribes of the Fort Hall Reservation; and
- Ute Indian Tribe of the Uintah and Ouray Reservation, Utah.

OEA also contacted the Tribal Historic Preservation Officer for the Ute Indian Tribe of the Uintah and Ouray Reservation, Utah. No tribes chose to participate in government-to-government consultation.

1.6.1 Section 106 Consultation

In addition to conducting an environmental review of the Proposed Action under NEPA, OEA has assessed the potential effects of the Proposed Action on historic properties that are listed in or are eligible for listing in the National Register of Historic Places (National Register), as required by Section 106 of NHPA. OEA met with the Utah SHPO in February 2023 to review the Proposed Action and agree on a cultural resources analysis approach. OEA sent consulting party invitations for the Section 106 process to 11 potential entities, including the four tribes listed above. The four parties that accepted the invitation to be a consulting party are listed in **Appendix A**.

1.6.2 Consultation with UDOT

In a November 2022 letter to OEA, UDOT requested that OEA consider at-grade and grade separated crossings of SR 138 because it is a high-speed rural highway with a posted speed limit of 65 mph in the area of the Proposed Action. OEA met with UDOT in March 2023 to discuss this request. In a subsequent letter to OEA, UDOT offered to work with STR on the

development of a quiet zone for an at-grade crossing of SR 138 and stated that it does not believe grade separation is warranted at this time, based on the level of delay that exists today.[5] This EA analyzes the potential impacts of the Proposed Action on Grade Crossing Safety and Delay in **Chapter 3, Sections 3.2 and 3.3**.

1.7 ~~Requests for Comments & Next Steps~~Public Outreach

This EA examines existing environmental conditions of the study area and potential environmental and historic impacts associated with the Proposed Action and the No-Action Alternative, consistent with NEPA, Section 106 of the NHPA, and other relevant environmental laws. The Draft EA was available to the public for a 30-day comment period between September 29, 2023 and October 30, 2023. Interested agencies, tribes, individuals, and other stakeholders were encouraged to submit detailed and substantive comments on the Draft EA during the 30-day comment period. A physical copy of the Draft EA was available for review at the local libraries identified in **Table 1.7-1** below. The Final EA will also be made available here.

Table 1.7-1. Draft EA and Final EA hard copy locations

Grantsville City Library 42 Bowery St, Grantsville, UT 84029 435-884-1670 https://www.grantsvilleut.gov/departments/library/ Tuesday through Friday: 10:00 a.m. to 6:00 p.m.; Wednesday 10:00 a.m. to 7:00 p.m.; Saturday 10:00 a.m. to 3:00 p.m.
Tooele City Library 128 West Vine Street, Tooele, UT 84074 435-882-2182 https://tooelelibrary.org/ Monday through Thursday: 10:00 a.m. to 8:00 p.m.; Friday: 10:00 a.m. to 6:00 p.m.; Saturday: 10:00 a.m. to 2:00 p.m.

During the comment period for the Draft EA, OEA received comments from 22 individual commenters, comprised of federal agencies; state and local elected officials; organizations; and individuals. OEA responded to the substantive comments received in Appendix I and made appropriate changes to the Draft EA in this Final EA. When a comment resulted in a substantive revision (addition, deletion, correction, etc.) to the Draft EA text, the change in this Final EA is indicated by change bars in the left-hand margin of each chapter and appendix; substantive changes made to the text of the Draft EA appear in red and blue in this Final EA (track changes indicates the language deleted in red and new language added appears in blue).

[5] A quiet zone is an at-grade crossing where train horn sounding is not required if certain safety measures are met and approved by FRA. As detailed in **VM-Noise-03** in Chapter 4, STR's voluntary mitigation would require it to confer with the City of Erda, UDOT, and Tooele County about the establishment of quiet zones at Route 138 and Erda Way.

Substantive changes between the Draft and Final EA include:

*Section 3.*6: The Hazardous Materials section was updated to include more information about the potential for leaks, spills, or releases.

Section 3.7: The Cultural Resources section was updated to document that the Utah SHPO concurred with OEA's determinations of eligibility and effect assessments in a letter dated November 27, 2023, completing the Section 106 process.

*Section 3.*8: The Air Quality section, Table 3.8-2 was updated to include more information on applicable EPA de minimis thresholds and clarification on the nonattainment designation.

*Section 3.*9: The Climate Change section was updated to clarify OEA's conclusions that freight rail rather than trucks could have a positive effect on climate change, and additional detail was added to the recommended mitigation measure **(MM-Climate-01)**, that the climate change plan is prepared in accordance with the Council on Environmental Quality's National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change to achieve the objectives laid out in Executive Order 14008, Tackling the Climate Crisis at Home and Abroad.

Section 3.11: The Land Use, Zoning and Local Plans section was updated to clarify OEA's conclusions that the Proposed Action would be consistent with the zoning and land use of the area, that the rail line predated most, if not all, of the current development, and that the current development has taken place without an operating rail option.

Section 3.13: The Cumulative Impacts section was expanded to include additional detail on the LBP and two UIPA project areas, the Tooele Valley Project Area and the UIPA Twenty Wells Project Area, and OEA's conclusions were updated.

*Section 4.*7: Grade Crossing Safety and Delay Mitigation Measure **MM-Grade Crossing-01** was updated to state that STR shall consult with and comply with *reasonable* UDOT requirements for creating new rail/roadway crossings at SR 138 and Erda Way.

Section 4.8: Biological Resources Mitigation Measure **MM-Biological-05** was updated to state that STR shall only use herbicides in right-of-way maintenance to control vegetation that are approved by EPA *and are applied by trained individuals following the instructions on the pesticide label* and who will limit application of the pesticides to the extent necessary for safe rail operations *and not use the pesticides near wetlands*.

Section 4.13: Climate Change Mitigation Measure **MM-Climate-01** was updated to add that the plan will use CEQ's National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change to achieve the objectives laid out in Executive Order 14008, Tackling the Climate Crisis at Home and Abroad.

Appendix E: The Air Quality appendix was expanded to include a detailed list of the construction equipment required for the Proposed Action and used for the *de minimis* analysis.

As discussed in Section 1.3.1, this Final EA considers and responds to all substantive comments received on the Draft EA and concludes the environmental review process. Next, the Board will issue a final decision on the merits, based on the entire record, including the

record on the transportation merits, the Draft EA, the Final EA, and all public and agency comments received. In its final decision, the Board will decide whether to authorize construction and operation of the proposed rail line and, if so, what, if any, environmental mitigation conditions to impose.

~~Interested parties are encouraged to file their written comments electronically through the Board's website, www.stb.gov, by clicking on the "File an Environmental Comment" link. Please refer to Docket No. FD 36616 in all correspondence, including e-filings, addressed to the Board. Comments also may be submitted by mail, addressed to:~~

~~Andrea Poole~~

~~Surface Transportation Board~~

~~Environmental Filing, Docket No. FD 36616~~

~~395 E. Street SW~~

~~Washington, DC 20423~~

~~It is not necessary to mail written comments that have been filed electronically. Please refer to Docket No. FD 36616 in all correspondence, including all comments submitted to OEA on the Draft EA.~~

~~Comments on this Draft EA must be received or postmarked within the published comment period, which will close in 30 days on **October 30, 2023**. All comments received – mailed or e-filed – will carry equal weight in helping to complete the EA process and guide the Board in making a decision in this proceeding. If you require an accommodation under the Americans with Disabilities Act, please call (202) 245-0245.~~

~~Following the close of the comment period on the Draft EA, OEA will issue a Final EA that will consider and respond to all comments received on the Draft EA and make any modifications necessary to the existing environmental analysis. The Final EA will set forth OEA's final recommended environmental mitigation measures to the Board. The Board will then consider the entire record, including the record on the transportation merits, the Draft EA, the Final EA, all public comments received, and OEA's final recommended environmental mitigation measures (including STR's voluntary mitigation and OEA's final recommended mitigation) in making its final decision in this proceeding. The Board's final decision will determine whether to authorize the proposed rail line, and if so, what, if any, environmental mitigation conditions to impose.~~

Chapter 2

Proposed Action and Alternatives

This chapter provides a detailed discussion of the Proposed Action, alternatives to the Proposed Action, and a No-Action Alternative. The NEPA implementing regulations (40 C.F.R. Parts 1500–1508) require that agencies critically evaluate alternatives to a proposed action, including a no-action alternative. Based on the purpose and need for the Proposed Action, information provided by STR, and OEA's independent analysis, OEA has carried forward the Proposed Action and the No-Action Alternative for detailed analysis in this Draft EA.

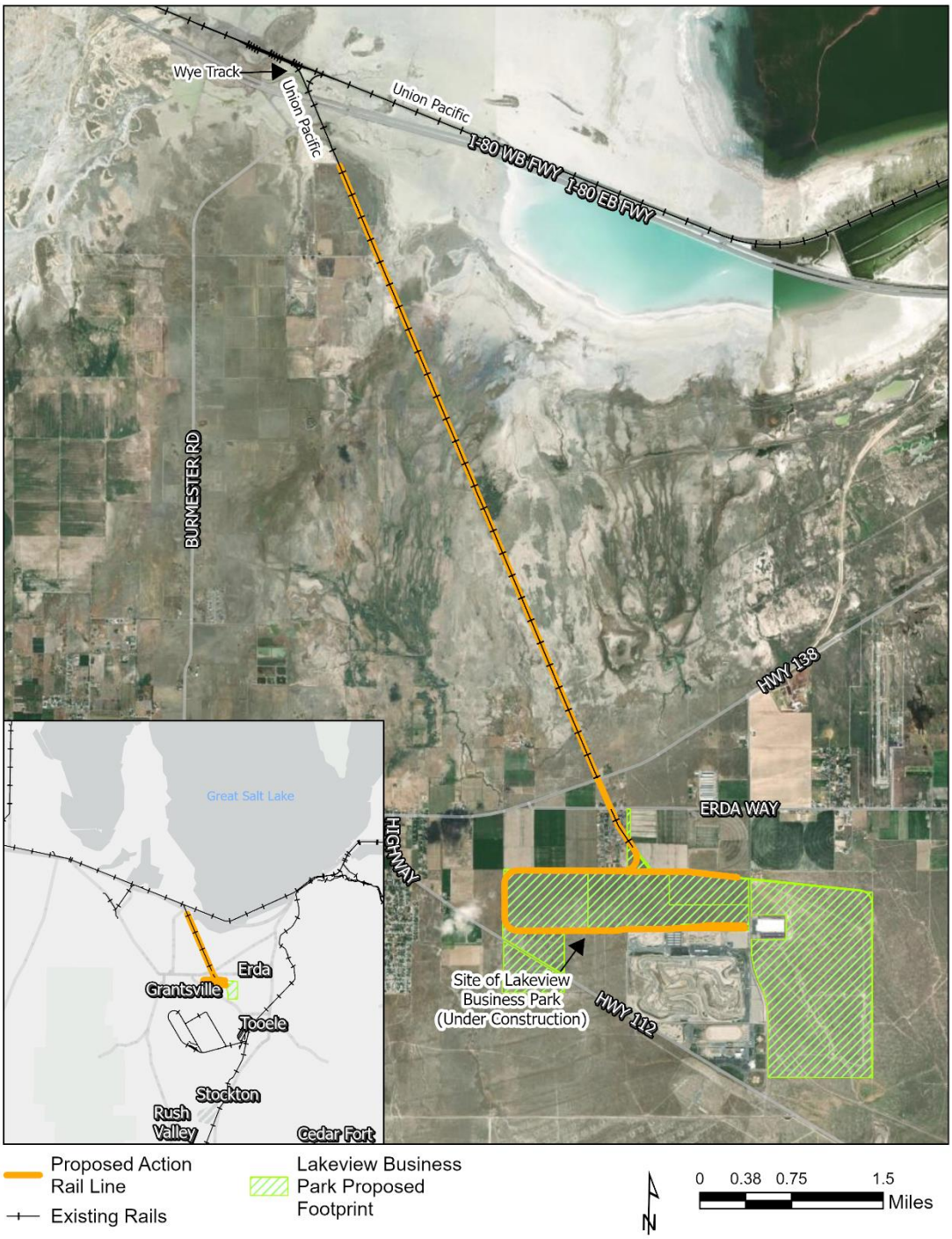
2.1 Proposed Action

The Proposed Action is the proposed reinstitution of common carrier freight service over an approximately six-mile segment of a former 15.8-mile branch line and construction of approximately five miles of new rail line within the LBP under development in Grantsville, Utah (See **Figure 2.1-1**). The Final EA also considers four 2,500-foot segments of ancillary track that do not require prior approval from the Board under 49 U.S.C. § 10906 but are an integral part of the proposal and sufficiently developed to permit a meaningful environmental review.

The Proposed Action would use a six-mile segment of the former Warner Branch line which, according to STR, was fully abandoned pursuant to authority granted to UP's predecessor, Western Pacific Railroad Company (WP), in 1983 (petition page 1); however, the railbed and tracks remain largely intact. Specifically, the Warner Branch formerly connected to the current UP Shafter Subdivision mainline in Burmester and then continued southeast for 15.8 miles to the UP Lynndyl Subdivision in the City of Tooele. Construction on the Warner Branch was completed in 1917. Rail service operated on the Warner Branch from 1917 until 1979. The former Warner Branch line was fully abandoned after the Board's predecessor, the Interstate Commerce Commission, authorized abandonment of the Warner Branch in Finance Docket No. 30208, *Western Pacific Railroad Company - Abandonment Exemption – in Tooele County,* Utah (I.C.C. decided August 2, 1983). Under the Proposed Action, UP would retain its existing ownership and operation of the tracks between milepost 0.0, the rail interchange with the Shafter Subdivision in Burmester, Utah, and milepost 1.04, where STR's ownership of the formerly abandoned six-mile segment of rail line would begin.[1] STR currently is contracting to purchase all portions of the property needed to implement the Proposed Action that is owned by UP and other parties.

[1] By decision served February 13, 2024, the Board granted UP authority to reinstitute common carrier service over the tracks between milepost 0.0 and milepost 1.04. *See Union Pac. R.R.—Operation Exemption—in Tooele Cnty, Utah*, FD 36741 (STB served Feb. 13, 2024).

Figure 2.1-1. Proposed Action



2.1.2 Construction

STR anticipates construction activities for the Proposed Action would take approximately six months.[2] STR has indicated that rails and ties would be delivered by train flat car from UP to STR from the Shafter Subdivision via the UP wye track to STR at milepost 1.04.[3] Other construction materials are anticipated to be delivered to and distributed from the rail right-of-way at milepost 1.04 by truck from Interstate 80 to the north, Burmester Road to the west, and a temporary construction access road. STR anticipates the ballast for construction to be delivered by truck from quarries located in Grantsville and North Salt Lake. Rail sub-base material is needed for the siding track area and areas of new track construction, which STR anticipates being delivered by truck from pits near the site in Grantsville.

STR anticipates that the following types of construction equipment would be used during construction of the proposed rail line: graders, front end loaders, roller compactors, dump trucks, water truck for dust control, fork lifts for unloading rail materials, high-rail trucks with jib cranes, gondola rail cars for gathering old rail and ties, flatbed rail cars for distributing new rail and steel ties, a rail pusher car for manipulating gondola and flatbed cars, high-rail ballast dumps bins for distributing ballast, high-rail tamper, small blade dozer for flattening existing rail bed, and backhoes.

STR would use two methods for construction of the proposed line. For the six-mile segment of the former Warner Branch where there are existing tracks, the tracks would be rehabilitated using hi-rail equipment from the top of the existing rails. For the five-mile segment within the LBP and the 0.25-mile segment of the former Warner Branch where rails have been removed, new track and railbed construction would be required. Construction is summarized by segment in **Figure 2.1-2** and **Table 2.1-1** and described in detail by segment in **Appendix H. Construction Description by Segment**.

[2] STR assumes construction activities would overlap in duration.

[3] A wye is an arrangement of tracks were three lines meet that forms a "Y" shape. These tracks allow trains to be turned in the opposite direction. (Know your railroad ABCs, bnsf.com)

Figure 2.1-2. Proposed Action Segments

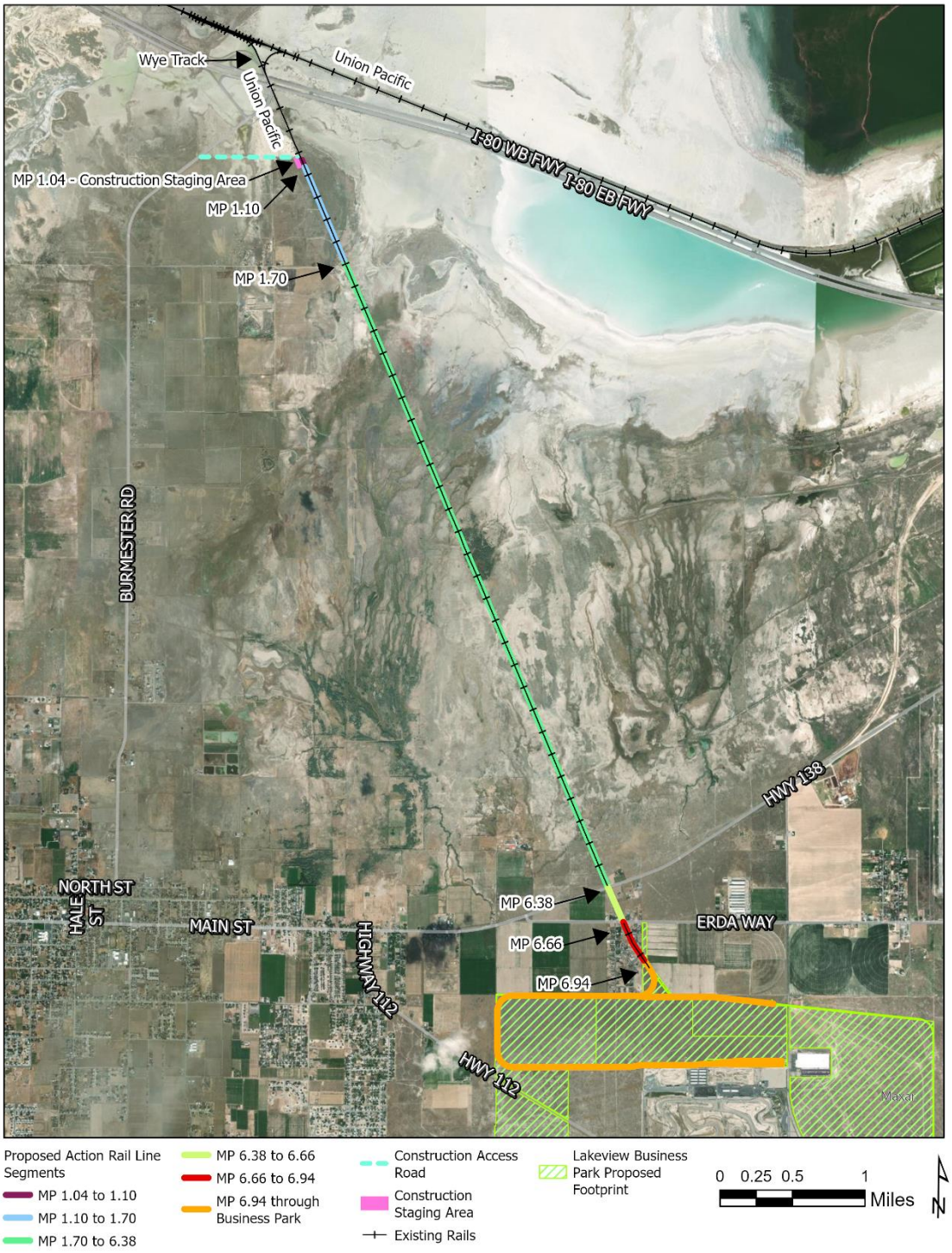


Table 2.1-1. Construction by Segment

Mileposts	Common Carrier Tracks Present?	Rehabilitate or construct new tracks	Current Owner	Construction Method
Temporary Construction Access & Staging Area	N/A	N/A	Private owner	N/A
1.04 – 1.10	Yes	Rehabilitate tracks	UP	Top of rail
1.10 – 1.70	Yes	Rehabilitate tracks and construct new ancillary interchange tracks	UP & other private owner	Top of rail for existing track, new construction for interchange tracks
1.70 – 6.38	Yes	Rehabilitate tracks	UP & other private owner	Top of rail
6.38 – 6.66	No	Construct new tracks	Other private owner	New construction
6.66 – 6.94	Yes	Rehabilitate tracks	UP	Top of rail
6.94 through LBP	No	Construct new tracks	LBP	New construction

2.1.3 Operation and Maintenance

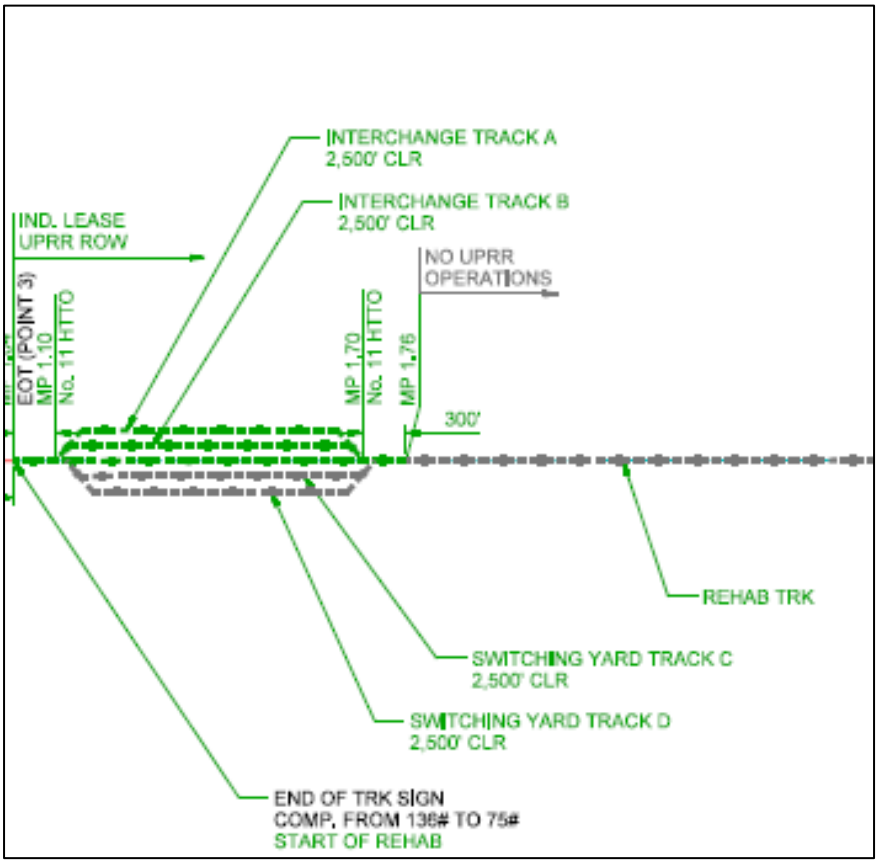
STR states that the Proposed Action would enable tenants of the LBP to receive and ship commodities by railroad. The proposed rail service is projected to transport 1,200 carloads in the first year of operation, which could expand to up to 8,000 carloads in the future, depending on the LBP tenants and their demand for rail transportation. Without the availability of freight rail service, these commodities would either ship on commercial trucks, or possibly, the businesses would not choose to locate in Tooele County.

The proposed rail line is anticipated to be used for one round trip per day or a total of two train movements per day per a letter from STR to OEA dated June 29, 2023. This letter revises the projection of four trains per day (two roundtrips) STR previously had anticipated in its request for authority filed on June 30, 2022. Based on more current projections of likely traffic volumes, STR anticipates operating one round trip most weekdays, Monday through Friday. According to STR's June 29, 2023 letter, operations are expected to be only during the daylight hours between the hours of 7:00 AM and 10:00 PM to reduce the potential noise impacts on the local community. STR expects train speeds at grade crossings would be 20 miles per hour. STR would maintain the rail line and any grade crossing components.

UP trains would leave the Shafter Subdivision, enter the STR's railroad line through UP wye track and deliver the railcars destined for STR's customers to the ancillary (interchange) tracks to be constructed between mileposts 1.10 and 1.70. UP would deliver railcars to track A and pick up the railcars STR has released from interchange track B (**Figure 2.1-3**). UP would then depart back through its wye track and re-enter the Shafter Subdivision. STR

trains would deliver railcars picked up from UP to customers and then return them back to the interchange yard.

Figure 2.1-3. Proposed Action Interchange Tracks



Source: Savage Services

STR estimates that train lengths would range between 900 and 1,500 feet and have between 12 and 20 cars on average per train. STR plans to use two locomotives per train. The locomotives would be two Tier 0+[4] GP-38 [5]or similar locomotives with approximately 2,000 horsepower. Locomotives would be approximately 60 feet in length. Car lengths would range between 42 feet and 89 feet, with an average car length of 65 feet. STR projects the gross tonnage to be handled would be approximately 2,600 tons southbound into the LBP and 680 tons northbound to the interchange tracks. These numbers may evolve over time based on actual customer needs.

[4] The Environmental Protection Agency (EPA) has established emission standards for newly manufactured and remanufactured locomotives. These standards, which are codified at 40 C.F.R. part 1033, include several sets of emission standards with applicability dependent on the date a locomotive is first manufactured. The first set of standards (Tier 0) applies to most locomotives originally manufactured before 2001. The most stringent set of standards (Tier 4) applies to locomotives originally manufactured in 2015 and later.

[5] The GP-38 is a four-axle diesel-electric locomotive.

STR proposes to install idle technology that would shut the locomotive engine down during periods of disuse, like in overnight periods. In addition, STR would install engine block heating equipment to avoid idling the locomotives during winter conditions when the locomotive would not be used. The estimated idle time during a typical 8-hour shift would be 0.5-1.5 hours. Locomotives would not idle when not in operation. STR anticipates that locomotives would be fueled at a designated track within the LBP.

2.2 No-Action Alternative

Under the No-Action Alternative, the Board would not authorize STR's proposed construction and operation and STR would not construct and operate the proposed line. No rail traffic would serve the LBP and all goods would move by truck to the LBP as under current conditions.

The No-Action Alternative would not meet STR's purpose and need because the proposed rail line would not be constructed or operated. Without the proposed rail line, transport of all goods to and from the LBP would likely continue by commercial truck.

2.3 Alternatives Reviewed

Under the CEQ rules, an EA shall include a brief discussion of alternatives as required by section 102(2)(E) of NEPA, such as, "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."[6] For proposed licensing and permitting actions, CEQ has made clear that the range of reasonable alternatives can be focused by the "Primary Objectives of the permit applicant."[7] STR initially reviewed two possible route alternatives leading to the LBP. Both route alternatives would utilize existing rights-of-way. STR determined, and informed OEA, that there are no greenfield alternatives that would minimize the potential for environmental impacts resulting from the construction of the Proposed Action.[8] In addition, no build alternatives or route modifications for the Proposed Action were suggested by federal, state, or local agencies.

Based on its review, OEA confirmed that no other reasonable build alternatives or route modifications exist that could meet STR's purpose and need with fewer potential environmental impacts. OEA therefore concluded that this EA would assess only the Proposed Action and the No-Action Alternative. See the discussion below for a detailed analysis of OEA's assessment of potential alternatives.

[6] CEQ Regulations at 40 C.F.R. § 1501.2 and Section 102(2)(E) of NEPA.

[7] Guidance Regarding NEPA Regulations, Memorandum For: Heads of Federal Agencies, From: A. Alan Hill, Chairman, Council on Environmental Quality, 1983.

[8] Greenfield construction is any kind of development on previously undeveloped land such as agricultural land, grasslands, forests, or wetlands.

2.3.1 Screening Process

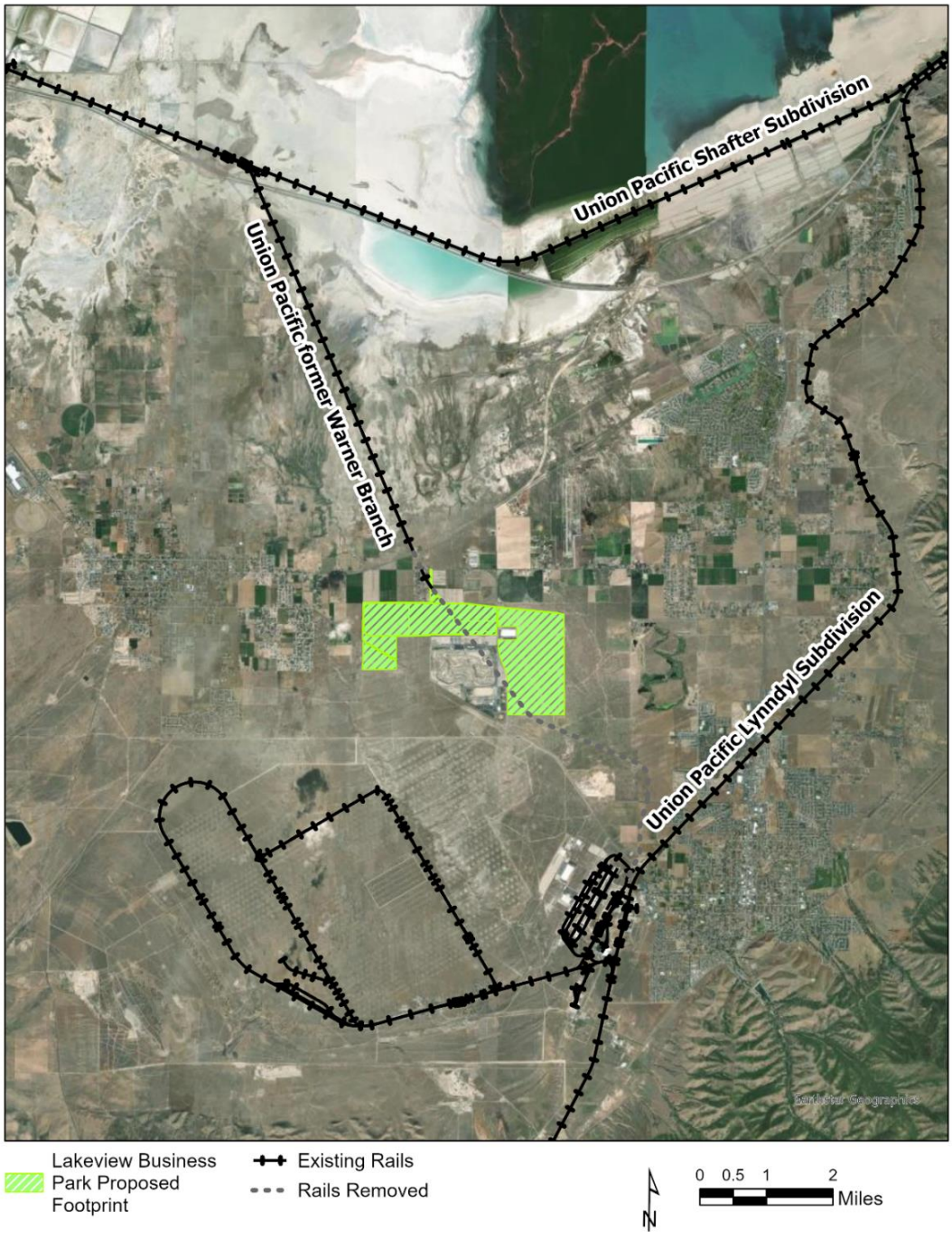
OEA used a two-step screening process to evaluate potential alternatives. Screening 1 used criteria to evaluate the range of reasonable alternatives based on STR's stated purpose and need for the Proposed Action. Screening 2 used criteria to evaluate the potential for environmental impacts. The area surrounding the LBP where STR considered alternatives is depicted in **Figure 2.3-1**. Construction of the LBP began in 2020.

For Screening 1, OEA developed criteria presented in **Table 2.3-1** that would need to be met for an alternative to be considered reasonable for further consideration based upon the planning objectives of the STR.

Table 2.3-1. Screening 1 - Objectives Criteria

1	Transportation Mode: Alternative would use freight rail as the mode of transport.
2	Use of Existing Right-of-Way: Alternative would maximize the use of existing right-of-way.
3	Sufficient land: Alternative would have sufficient land to allow for the construction of a new common carrier freight rail line and necessary ancillary facilities such as switching tracks with an appropriate shape and configuration to meet acceptable railroad design standards.
4	Proximity to Class 1 Railroad Mainline: Alternative would be located near and could access an existing freight rail main line on which large volumes of commodities and goods are currently transported to facilitate efficient rail access to the national rail network.
5	Proximity to LBP: Alternative would be able to access the LBP site using acceptable railroad standards and configurations.
6	Location: Alternative would be located in an area appropriate for and compatible with transportation activities and would minimize environmental impacts associated with greenfield construction.

Figure 2.3-1. Alternatives Reviewed Area



For Screening 2, OEA defined criteria that should be met and used to distinguish relative differences between alternatives, which are presented in **Table 2.3-2**. Alternatives that have adverse impacts that cannot be mitigated are less desirable. OEA applied these criteria to each alternative in **Section 2.3.2**.

Table 2.3-2. Screening 2 - Impact Criteria

1	Public facilities protected under Section (4f) impacts: Alternative should avoid and/or minimize impacts to public facilities protected under Section (4f) to preserve options for USDOT funding.
2	Local roadway impacts: Alternative should avoid and/or minimize impacts to local roadways.
3	Utility infrastructure Impacts: Alternative should avoid and/or minimize impacts to utility infrastructure.
4	Local business impacts: Alternative should avoid and/or minimize impacts to local businesses.
5	Disturbance impacts: Alternative should avoid and/or minimize impacts from new disturbance.
6	Future project impacts: Alternative should avoid and/or minimize impacts that could interfere with future projects.
7	Residential area impacts: Alternative should avoid and/or minimize impacts to residential areas.

2.3.2 Alternatives Screening 1

OEA screened the following alternatives to determine if they met the purpose and need and the defined Screening 1 - Objectives criteria:

- **Warner Branch Northern Rail Alignment Alternative:** An alternative that would use the Warner Branch accessing the LBP from the north.
- **Warner Branch Southern Rail Alignment Alternative:** An alternative that would use the Warner Branch to access the LBP from the south.
- **New Rail Alignment Alternative:** An alternative that would use a new alignment rather than an existing or former rail corridor.

2.3.2.1 Screening 1 Alternative Eliminated

OEA reviewed three Alternatives using the Screening 1 - Objectives Criteria (**Table 2.3-3**). Based on its review, OEA eliminated the New Rail Alignment Alternative from further consideration. This alternative met the Objectives Criteria of using freight rail technology, sufficient land to allow for the construction of a freight rail line, access to an existing freight rail main line, and access to the LBP site. It was eliminated from consideration because it would not maximize use of an existing right-of-way and would require extensive greenfield construction through an area competing for space with UDOT's long-term transportation planning initiative in Tooele County to improve traffic conditions for a growing population. UDOT's transportation planning initiatives include the proposed construction of the Midvalley Highway directly to the east of the proposed rail line, which would preclude new rail construction. Further, per OEA's consultation with UDOT in February 2023, the agency anticipates further growth, and work needed to accommodate that growth, in the area of

Grantsville west of the proposed project. Additionally, lots within the City of Erda to the west of the proposed rail line are zoned for rural residential use.

Table 2.3-3. Alternatives Screening 1 - Objectives Criteria

	Warner Branch Northern Rail Alignment Alternative	***Warner Branch Southern Rail Alignment Alternative***	***New Rail Alignment Alternative***
Uses freight rail as mode of transport	✓	✓	✓
Maximizes use of an existing rail right-of-way	✓	✓	X
Sufficient land to allow for the construction freight rail	✓	✓	✓
Proximity to Class 1 railroad mainline	✓	✓	✓
Able to access the LBP site	✓	✓	✓
Location appropriate for and compatible with current land use and transportation planning in Tooele County, UT	✓	✓	X

2.3.3 Alternatives Screening 2

OEA further reviewed the two potential routes that met the Screening 1 objectives criteria:

- Warner Branch Northern Rail Alignment Alternative
- Warner Branch Southern Rail Alignment Alternative

The two alternatives are mapped in **Figure 2.3-2** below. The Warner Branch Northern Rail Alignment Alternative was described previously in **Section 2.1 Proposed Action**.

The Warner Branch Southern Rail Alignment Alternative would connect the LBP, currently under construction, using approximately five miles of the former Warner Branch rail line, interchanging freight cars with UP's Lynndyl Subdivision west of the City of Tooele and adjacent to the Tooele Army Depot. This alternative would access the southeastern side of the LBP, then follow the former Warner Branch southeast into the City of Tooele where railcars would be interchanged. This section of the former Warner Branch has had all tracks and the railroad bed removed, and it is in use as the Mid-Valley trail, a recreational trail. New track and railroad bed would be required for this alternative. Tooele County and one private party own the right-of-way required for this alternative.

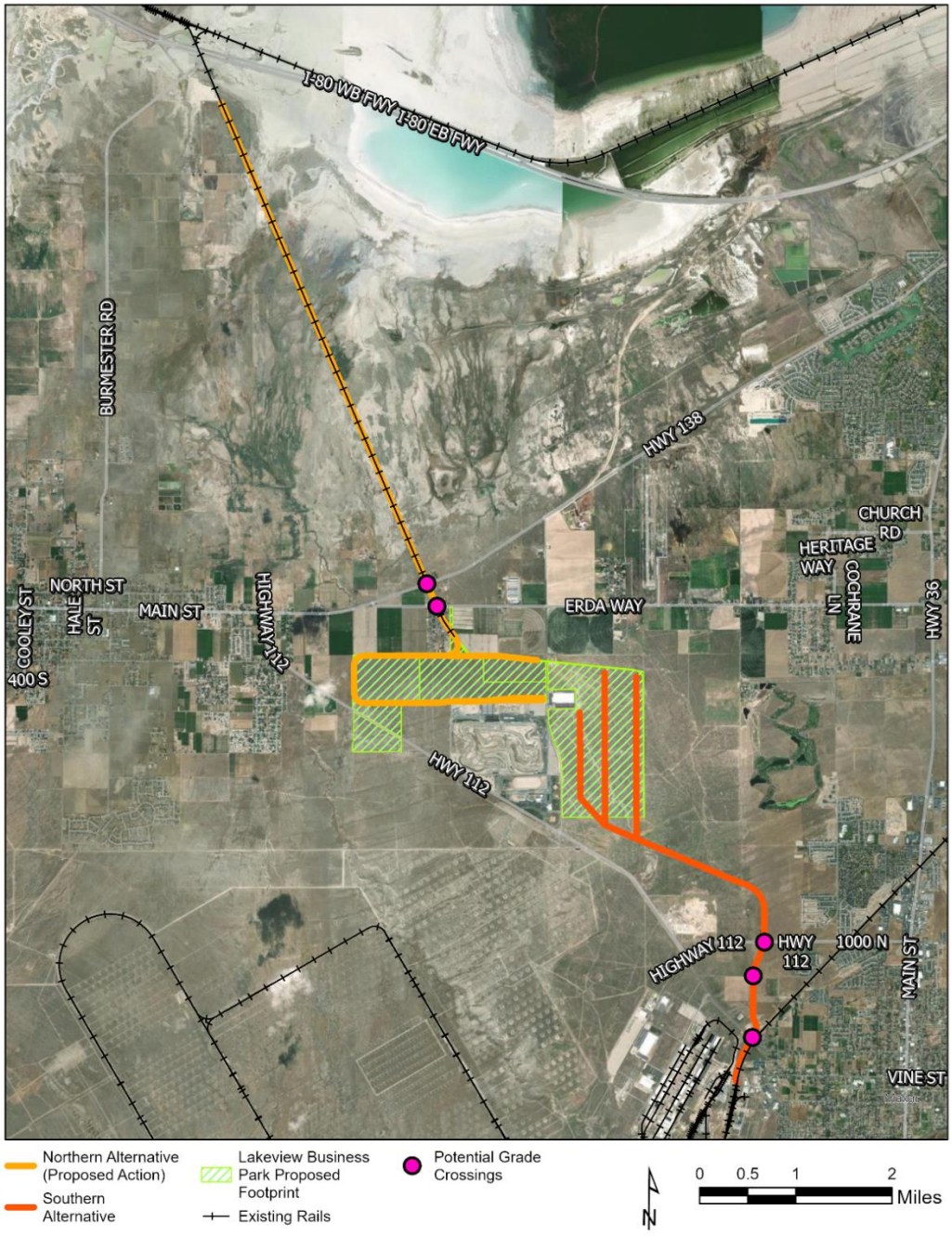
2.3.3.1 Screening 2 Alternative Eliminated

OEA's assessment of each alternative using the Screening 2 impact criteria is summarized in **Table 2.3-4**.

Table 2.3-4. Alternatives Screening 2 - Impact Criteria

Impact Screening Criteria	Warner Branch Northern Rail Alignment Alternative	Warner Branch Southern Rail Alignment Alternative
Avoid impacts to public facilities protected under Section (4f) to preserve option for USDOT funding	None known	Would displace the existing Midvalley bicycle and pedestrian trail
Avoid interference with local roadways	Two new roadway crossings (SR 138 and Erda Way)	Seven new roadway crossings: three existing roads (SR 112, W Utah Ave, and Rogers Street) and four crossings of new roads proposed in the City of Tooele Master Plan
Avoid interference with existing utility infrastructure	None known	Relocation of storm water line
Avoid impacts to local businesses	None known	Acquisition and demolition of large building constructed in the former rail right-of-way and relocation of the building's business
Minimize new disturbance in former rail right-of-way	0.25 mile of new disturbance for new railroad bed and tracks and 5.75 miles of no new disturbance for reconstructed existing rail within an existing railroad bed	Five miles of new disturbance for new railroad bed and tracks
Minimize interference with future projects	None known	Would cross proposed Midvalley highway (SR 179) alternative route
Minimize distance to residential areas	Located adjacent to residential development in the vicinity of Erda Way, Gunderson Circle, and Railroad Circle. Some of the residences existed when the rail line was still in operation. Construction of new residences occurred with rail bed physically present, railroad components visible from the surrounding area, and adjacent land continuously under the ownership of UP or its predecessors.	Located west of White's Mobile Home Park

Figure 2.3-2. Screening 2 Alternatives Reviewed



OEA compared the Northern Alternative and the Southern Alternative based on the seven evaluation criteria as shown in the table above as described below:

Avoid impacts to public facilities protected under Section (4f): The Southern Alternative, which follows the Warner Branch's former route, has since been converted into a bicycle and pedestrian path that would need to be removed and/or relocated to construct the proposed rail line. According to STR, residents, officials, and users of the trail would strongly oppose removing the existing recreational trail. If the Southern Alternative were carried forward and federal funds were used to reconstruct the rail line and displace the trail, there would be Section 4(f) impacts.[9] The Northern Alternative would not impact any public use facilities or recreational trails.

Avoid interference with local roadways: The Southern Alternative would introduce seven new roadway grade crossings, three of existing roads and four grade crossings of new roads proposed in the City of Tooele Master Plan, compared with two roadway crossings for the Northern Alternative. The Southern Alternative would require adding a new at-grade crossing across Utah Avenue, just west of N 1100 W Street in Tooele, which is a major east-west access point into the City of Tooele, a major school bus route, and one of the primary egress/ingress emergency services routes for the city with an Annual Average Daily Traffic (AADT) of 6,800 in 2019. The Southern Alternative would also require the addition of a new at-grade crossing across SR 112, which, like Utah Avenue, is a major east-west access point into the City of Tooele, a major school bus route, and one of the primary egress/ingress emergency services routes for the city with an AADT of 6,200. The Southern Alternative would also require a grade crossing at Rodgers Street. The Tooele City master plan includes new arterials and collector streets, four of which would create additional new grade crossings with this southern approach alignment. According to STR, City of Tooele officials expressed significant concerns about the additional at-grade rail traffic at Utah Avenue and the new grade crossings at the other locations, especially SR 112. The Northern Alternative would add new roadway crossings at SR 138 (11,417 AADT 2023) and Erda Way (566 AADT 2023), fewer than the Southern Alternative. Other local and state officials have also generally expressed concerns about the crossings during the preliminary consultation process for the EA. For example, the Grantsville, Tooele, and Tooele School Districts stated that Utah Avenue frequently experiences trains blocking the crossing for long durations and is frequently activated for prolonged periods due to activity in the Tooele Army Depot.

Avoid interference with existing utility infrastructure: The Southern Alternative would have impacts on utility infrastructure. The City of Tooele has a major storm water line that would have to be relocated to reconstruct the southern rail alignment.

[9] Section 4(f) refers to the original section within the U.S. Department of Transportation Act of 1966 which provided for consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development. While Section 4(f) does not apply to the Board, it would apply to funding provided by USDOT if STR were to apply for such funding.

Avoid impacts to local businesses: The Southern Alternative would require the acquisition and demolition of a large building that has been constructed on top of the former rail right-of-way and relocation of the existing building's business operations. The Northern Alternative would not require any business relocations.

Minimize new disturbance in former rail right-of-way: The Northern Alternative would create 0.25 miles of disturbance for the construction of new railroad bed and tracks on the former Warner Branch where tracks have been removed. Tracks remain on the other 5.75 miles of the former Warner Branch; these would be reconstructed using high-rail equipment operating from the existing tracks and cause minimal disturbance. The Southern Alternative would create five miles of disturbance for new railroad bed and tracks because railroad infrastructure has been removed on this segment of the Warner Branch.

Minimize interference with future projects: The Southern Alternative would cross the proposed Midvalley Highway (SR 179) extension alternative route. The proposed Midvalley Highway alignment would cross the Southern Alternative rail line on grade-separated structure that would need to be designed and constructed to be large enough to accommodate the rail crossing, adding additional cost to the project. The Southern Alternative would be inconsistent with CEQ regulations (40 C.F.R. part 1506.2 (d)) because it would conflict with planned roadway network extensions and an anticipated residential development expansion contained in the City of Tooele's local plans. The Northern Alternative would not impact any of the Midvalley Highway alternative alignments or any other known future projects.

Minimize distance to residential areas: Both Alternatives are located primarily in non-residential areas. The closest area of residential development for the Southern Alternative would be White's Mobile Home Park to the east. The Northern Alternative would traverse an area of residential development on Erda Way, Gunderson Circle, and Railroad Circle.

Based upon this impact screening analysis, OEA found that the Northern Alternative would have fewer impacts and dismissed the Southern Alternative from further analysis because it would interfere with existing utility infrastructure and future roadway projects, would be inconsistent with local plans, and would impact public facilities protected under Section (4f).

2.3.4 Build Alternative Carried Forward in the EA

OEA found, based upon the information provided by STR and the evaluation of the alternatives in Screening 1 and 2 discussed above, that the Proposed Action was the only reasonable and feasible Build Alternative to carry forward for detailed analysis. The reasons for this include the following:

- The Proposed Action would connect the LBP to a freight rail mainline that carries large volumes of commodities and goods transported for distribution throughout the U.S.
- The Proposed Action would be is located within a former rail corridor that is appropriate for and compatible with planned transportation activities and avoids greenfield construction.
- Impacts to public recreation facilities, utilities, businesses, future projects, and local plans would be minimized or avoided under the Proposed Action.

Therefore, OEA selected the Proposed Action, along with the No-Build Alternative, to carry forward for detailed analysis in the EA.

Chapter 3

Affected Environment and Environmental Consequences

Introduction

This chapter describes the affected environment and analyzes the environmental consequences for each resource that the Proposed Action and No-Action Alternative could affect. OEA determined the resources to analyze through thresholds set forth in the Board's environmental regulations at 49 C.F.R. § 1105.7(e) and agency and tribal consultation and comments.

OEA took the following steps to analyze each resource:

1. Reviewed regulations and guidance relevant to each resource, which are described in applicable sections.

2. Defined a study area or study areas to analyze.

3. Developed analysis approaches.

4. Reviewed the current conditions of the resource in the relevant study area(s).

5. Analyzed the potential impacts that the Proposed Action and No-Action Alternative would or could have on the resource.

6. Identified mitigation that would minimize or compensate for impacts, if warranted.[1]

7. For cumulative impacts, analyzed the impacts of the Proposed Action when combined with impacts of other past, present, and reasonably foreseeable future projects and actions.

OEA makes its final environmental recommendations to the Board, including its final recommendations on mitigation, in this Final EA, after considering all agency and public comments on the Draft EA. The Board will consider OEA's final recommendations when deciding whether or not to approve STR's request for construction and operation of the Proposed Action.

OEA compared all impacts of the Proposed Action and the No-Action Alternative. Under the No-Action Alternative, STR would not construct and operate the Proposed Action and any potential beneficial or adverse impacts would not occur. If efforts to establish a quiet

[1] **Chapter 4, Mitigation**, contains the complete list of mitigation measures. Each mitigation measure has a unique identifier that consists of a prefix and a number. STR's voluntary mitigation measures have a prefix of VM while OEA's recommended mitigation measures include the prefix MM.

zone are unsuccessful, OEA identified adverse noise impacts, which could be minimized with the recommended noise mitigation in this EA. OEA also identified minor impacts on other resource areas, including grade crossing safety and delay, which can be minimized with the recommended mitigation in this EA. The environmental resource sections in this chapter are organized by the potential for impacts. OEA identified adverse noise impacts; therefore, it is discussed first below.

3.1 Noise and Vibration

3.1.1 Approach

OEA used well-established noise and vibration methods to analyze noise and vibration impacts associated with the Proposed Action. **Appendix B** details these methods, as well as the applicable regulations, statutes, and guidelines that OEA followed. OEA defined the study area for the noise and vibration analysis to be the area within approximately one mile to either side of the centerline of the Proposed Action rail line. OEA determined that this study area distance, based on prior OEA experience, is sufficient to identify potential noise and vibration impacts from the construction and operation of the Proposed Action.

When describing noise conditions, OEA used the following definitions:

- **Day-night average noise level (DNL):** The energy average of A-weighted decibels (dBA) sound level over a 24-hour period; includes a 10-decibel adjustment factor for noise between 10 p.m. and 7 a.m. to account for the greater sensitivity of most people to noise during the night. The effect of nighttime adjustment is that one nighttime event, such as a train passing by between 10 p.m. and 7 a.m., is equivalent to 10 similar events during the daytime.

1. **A-weighted decibels (dBA):** A measure of noise level used to compare noise levels from various sources. A-weighting approximates the frequency response of human hearing.
2. **Ambient noise:** The sum of all noise (from human and naturally occurring sources) at a specific location over a specific time is called ambient noise.

The Board's regulations for noise analysis (49 C.F.R. 1105.7e(6)) have the following criteria:

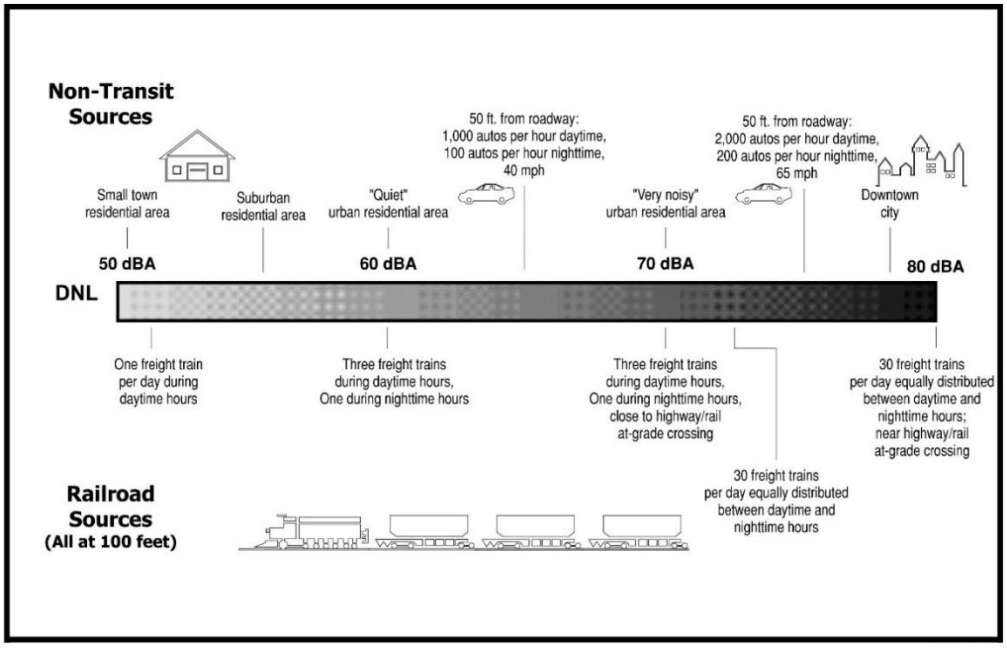
- An increase in noise exposure as measured by a day-night average noise level (DNL) of 3 A-weighted decibels (dBA) or more; and,
- An increase to a noise level of 65 DNL or greater.

If the estimated noise level increase at a location exceeded either of these criteria, OEA estimated the number of affected receptors (*e.g.*, schools, libraries, residences, retirement communities, nursing homes) and quantified the noise increase. The two components (3 dBA increase, 65 DNL) of the Board's criteria are implemented separately to determine an upper bound of the area of potential noise impact. However, noise research indicates that

both criteria components must be met to cause an adverse noise impact (Coate, 1999[2], STB 1998b[3]). That is, noise levels would have to be greater than or equal to 65 DNL and increase by 3 dBA or more for an adverse noise impact to occur.[4]

"Noise" is considered unwanted sound. Human perception of and response to a new noise source is based in part on how loud it is compared to existing/ambient noise levels. **Figure 3.1-1** shows typical community noise levels expressed in terms of DNL.

Figure 3.1-1. Typical day-night average noise levels (DNL) for residential areas



Noise from train operations is typically comprised of two components, wayside noise, and horn noise. Wayside noise is generated by the operation of the train including locomotive engine and wheel/rail sound. Horn noise is the sound of locomotive warning horns which are sounded at grade crossings.

3.1.2 Affected Environment

The study area is relatively unpopulated, with existing noise sources such as vehicular traffic on State Route 138 (SR 138) and Erda Way. Ambient noise measurements were conducted

[2] Coate, D. 1999. *Annoyance Due to Locomotive Warning Horns.* Transportation Research Board Noise and Vibration Subcommittee A1FO4. August 1–4. San Diego, CA.

[3] Surface Transportation Board (Board). 1998a. Final Environmental Impact Statement No. 980194, Conrail Acquisition (Finance Docket No. 33388) by CSX Corporation and CSX Transportation, Inc., and Norfolk Southern Corporation and Norfolk Southern Railway Company (NS).

[4] Although the Board's regulations at 49 C.F.R. § 1105.7(e)(6) indicate that either an increase of 3 dBA or an increase to 65 dBA Ldn would be an adverse impact, research indicates that both conditions must be met or exceeded for an adverse noise impact from rail operations to occur (Board 1998; Coate 1999).

at five locations in the study area for up to 52 hours at each location. These ambient noise measurements ranged from DNL 49 to 59. **Appendix B** details the approach and data collected as part of the noise measurement program.

The ambient noise measurements are within the "Small Town" to "Quiet Urban" residential categories shown in preceding **Figure 3.1-1.** Low (or no) population areas further from SR 138 and Erda Way have lower ambient sound levels.

3.1.3 Environmental Consequences

3.1.3.1 Proposed Action

Construction

During construction of the Proposed Action, noise levels and vibration along the right-of-way would increase temporarily as a result of increased truck traffic and use of heavy equipment. OEA anticipates that noise and vibration from construction equipment would have minimal, if any, impacts to adjacent land uses, as construction would occur on a six-mile segment of the former Warner Branch railroad line, on which the tracks remain for 5.75 miles, and on a five-mile segment of new railroad line within the Lakeview Business Park (LBP). STR proposed voluntary mitigation requiring it to work with its contractor(s) to make sure that project-related construction vehicles are maintained in good working order with properly functioning mufflers to control noise to mitigate these impacts (**VM-Noise-02)**. In addition, STR proposed voluntary mitigation requiring it to ensure that the daily construction schedule would adhere to time restrictions limiting construction noise prior to 7:00 a.m. or after 5:00 p.m. to the maximum extent practicable—with the exception of road crossing construction, which may occur on a 24/7 schedule to lessen traffic interruptions during project-related construction (**VM-Noise-04)**.

Operations

To evaluate impacts from rail operations, OEA identified where the Proposed Action would meet the criteria of an increase to a noise level of 65 DNL or greater. To do this evaluation, Computer Aided Noise Abatement (CADNA) software was used to calculate 65 DNL noise contours for the Proposed Action. Train operational assumptions from STR were used in OEA's evaluation, including STR's planned train length of 1,420 feet consisting of two 60-foot-long locomotives and twenty 65-foot-long rail cars. Train speed was assumed to be 20 miles per hour. One train per day would make a round trip from the north to customers at the LBP and return back to the north. Therefore, under the Proposed Action two train passbys per day would occur at receptors such as residential buildings. STR would operate Monday through Friday between the hours of 7:00 a.m. and 10 p.m.; therefore, no nighttime (10:00 p.m. to 7:00 a.m.) train activity would occur.[5]

[5] See STR Letter to the Board dated June 29, 2023 revising their operating plan to state that STR plans to operate one roundtrip per day during daytime hours between 7:00 a.m. and 10:00 p.m. on weekdays to reduce potential impacts to the local community.

Figure 3.1-2 shows the results of this analysis with the outer red contours at 65 DNL. This figure depicts that for the Proposed Action in the area of SR 138 and Edra Way, where operations would be reinstituted over the former Warner Branch railroad line, the 65 DNL noise contour includes one receptor (#6).

Figure 3.1-2. Receptors within the 65 DNL Contour

Table 3.1-1 shows that one receptor (#6) would be exposed to 65 DNL associated with the Proposed Action as well as the associated increased noise level above ambient levels. The receptor is a residence that was constructed in 2020.[6] This receptor would be adversely impacted by the Proposed Action since there would be a 3 dBA or greater increase above ambient sound levels. To mitigate this impact, OEA recommends detailed mitigation to address and minimize impacts to that receptor in addition to requiring STR to comply with Federal Railroad Administration (FRA) regulations (49 C.F.R. Part 210) establishing decibel limits for train operation proposed by STR as voluntary mitigation (**VM-Noise-01)**. OEA's mitigation would require that STR employ reasonable and feasible noise mitigation such as building sound insulation for this OEA-identified receptor (receptor #6) that would experience noise impacts at or greater than the regulatory analytical threshold of 65 day-night average sound level (DNL)/+3 A-weighted decibels (dBA) **(MM-Noise-01)**. OEA's recommended mitigation would require that STR implement the following in developing the building sound insulation:

- Using industry standard loudspeaker testing, the existing building sound insulation performance shall be determined in accordance with ASTM 966-90, *Standard Guide for Field Measurements of Airborne Sound Insulation of Building Facades and Façade Elements* (**MM-Noise-01)**.
- The design goal for the sound insulation shall be a 10 dBA noise reduction. The calculated Noise Level Reduction (NLR) improvement shall be at least 5 dBA. If the calculated NLR associated with acoustical replacement windows and doors is less than 5 dBA, then no additional mitigation shall be required since the improvement would be minor and likely not noticeable. The overall goal of the required sound insulation analysis is to demonstrate that interior noise levels (with the Proposed Action) at receptor #6 would be 45 DNL or lower, and to implement sound insulation to result in an NLR improvement of 5 dBA or more, where feasible and reasonable based on the characteristics of the property (**MM-Noise-01)**.

Table 3.1-1. Receptor Counts

	Number of Receptors	**Increase above Ambient (dBA)**
Horn 65 DNL	1	5

Because the modeled noise contour also comes close to adversely affecting several other receptors, OEA also recommends that STR be required to measure train horn and wayside noise levels from actual train operations within one month of train operations reaching one round trip per day to verify the modeled noise contour location used in this EA, and that STR shall take enough measurements of the actual train horn and wayside noise levels to demonstrate that Sound Exposure Level (SEL) values are acquired to achieve a 90 percent confidence interval of 3 dBA or less (**MM-Noise-02)**. If the average measured SEL value is greater than the assumed 110 dBA for horn noise (measured at 100 feet), STR shall calculate

[6] Tooele County. Geographic Information Systems. https://tooelecountygis.maps.arcgis.com/home/index.html. Accessed February 15, 2023.

the actual 65 DNL contour using the methodology in this EA and comply with the mitigation in **MM-Noise-01** for any newly affected receptors (**MM-Noise-02)**.

OEA further recommends mitigation that, in addition to other recommended measures, would effectively reduce noise from train operations by requiring STR to maintain rail and rail beds, lubricate curved track where effective, and employ operating procedures— such as maintaining wheels in good working order, grinding rough rail surfaces, and regularly maintaining locomotives— that can have the collateral benefit of effectively reducing noise from train operations (**MM-Noise-03, -04, -05)**.

OEA also examined the potential for vibration impacts. The 80 VdB (human annoyance) vibration contour line would be 35 feet from the tracks. This would be within the 100-foot right-of-way and would not touch residential receptors. Therefore, OEA does not anticipate adverse impacts due to train passby vibration.

Quiet Zone Considerations

STR has proposed voluntary mitigation requiring it to consult with the City of Erda, Utah Department of Transportation (UDOT), and Tooele County about the establishment of quiet zones at SR 138 and Erda Way and to assist the City of Erda and Tooele County in identifying appropriate supplemental or alternative safety measures, practical operational methods, or technologies that could lead to the establishment of quiet zones at those locations in accordance with FRA's rules and procedures **(VM-Noise-03**). FRA's Train Horn Rule (49 C.F.R. 222) requires train engineers to sound the warning horn when a train is approaching and passing through a public highway-rail at-grade crossing. A quiet zone is an FRA exemption from the Train Horn Rule so that the warning horn is not sounded at a grade crossing.

FRA has a specific process for local governments to follow if they wish to request a quiet zone.[7] The local government jurisdiction in which the at-grade crossing is located must apply for the quiet zone. SR 138 and Erda Way are located within the City of Erda; therefore, Erda would need to apply for the quiet zone from FRA. Other agency(ies) and/operator(s) could work with the local government making the application. The process involves a detailed series of steps that must be followed and coordinated with FRA, such as a diagnostic team review, submission of required documentation, and notice to interested parties. STR has designed the project to support the establishment and maintenance of quiet zones for both SR 138 and Erda Way. OEA performed an evaluation of the Proposed Action with and without potential quiet zones at SR 138 and Erda Way because STR cannot control the quiet zone application process.

OEA determined that there would be no noise receptors, including receptor #6, adversely impacted by operation of the Proposed Action if a quiet zone is established at SR 138 and Erda Way.

[7] QuietZoneBrochure.pdf (dot.gov)

3.1.3.2 No-Action Alternative

The noise environment associated with the No-Action Alternative is represented by **Figure B.5-7** in **Appendix B**. If the Proposed Action does not occur, noise levels in the area are anticipated to remain unchanged.

3.1.4 Conclusion

OEA concludes that with the voluntary mitigation proposed by STR to control noise and limit construction times there would be no noise and vibration impacts during construction.

OEA anticipates that adverse noise impacts from rail operations would be mitigated by the voluntary mitigation measures proposed by STR and OEA's recommended mitigation. OEA anticipates that noise from the operations of the Proposed Action would adversely impact one noise receptor, receptor #6, if a quiet zone is not applied for and granted. If there is no quiet zone, OEA concludes that noise impacts to this receptor would be minimized with building sound insultation and the other mitigation recommended by OEA **(MM-Noise-01, -03, -04, -05)**. Further, because the modeled noise contour also comes close to adversely affecting several other receptors, OEA also recommends that STR be required to measure train horn and wayside noise levels from actual train operations to verify the modeled noise contour location used in this EA (**MM-Noise-02)**. STR has proposed voluntary mitigation requiring it to work with the City of Erda, UDOT, and Tooele County to seek to establish quiet zones at SR 138 and Erda Way. OEA concludes that if the City of Erda applied for, and FRA granted, a quiet zone, no noise receptors would be adversely impacted. OEA does not anticipate vibration impacts from operations.

3.2 Grade Crossing Safety

This section describes the existing conditions and environmental consequences resulting from the Proposed Action on safety. STR has proposed to reconstruct roadway/rail at-grade crossings (at-grade crossings) at SR 138 and Erda Way on the segment of the former Warner Branch railroad line. The former rail crossings at SR 138 and at Erda Way were closed when the rail line was abandoned. The proposed crossings at SR 138 and Erda Way to reestablish the rail line for the Proposed Action are required to be treated as new crossings according to Rule R930-5 of the Utah Administrative Code.

An at-grade crossing is defined as "a location where a public highway, road, street, or private roadway, including associated sidewalks and pathways, crosses one or more railroad tracks at grade," according to 49 C.F.R. § 234.5. Aside from crashes involving individuals trespassing on railroad tracks, the majority of rail-related fatalities and injuries, including fatalities involving motor vehicles and pedestrians, occur at grade crossings (AAR 2022). Based on FRA data from 2017 to 2021, there were 9,030 crashes at public grade crossings in the United States, resulting in 1,262 deaths and 2,865 injured people. STR's two proposed at-grade crossings could result in an increased risk of crashes involving trains and motor vehicles.

In assessing grade crossing safety impacts, OEA considered applicable federal, state, and local regulatory frameworks. At the federal level, this includes regulations administered by the Federal Highway Administration (FHWA) and FRA, which both have jurisdiction over aspects of grade crossing safety under federal law. STR's request for new crossings would need to meet the requirements of Rule R930-5 of the Utah Administrative Code, which establishes the state's intent to reduce the total number of grade crossings and create a net safety increase. All potential new grade crossings in Utah are required to follow a multiple step process to obtain approval from UDOT, which includes a public hearing as well as a Traffic Impact Study. STR would be required to meet the requirements specified in Rule R930-5-7.6 before a new crossing request would be approved by UDOT at SR 138 and Erda Way which includes providing documentation to UDOT showing safety improvements that would enhance the overall safety of the corridor. The two proposed crossings would require permits and maintenance agreements with UDOT for the crossing at SR 138 and with the City of Erda for the crossing at Erda Way.

3.2.1 Approach

This subsection discusses OEA's approach for estimating safety impacts at grade crossings under the No-Action Alternative and the Proposed Action. Crashes can occur at at-grade crossings when vehicles attempt to cross the tracks at the same time as a passing train. Although such crashes are generally rare, they can result in damages, injuries, or fatalities when they occur. In 2020, FRA published a report that includes statistics on the safety performance of more than 105,000 open public at-grade crossings in the U.S. that not grade-separated (FRA 2020). During the five-year period from 2014 to 2018, there were 8,467 crashes at those at-grade crossings, representing an average of 0.016 crashes per crossing per year, or approximately one crash per crossing every 62.5 years.

OEA defined the study area for grade crossing safety to include the two new proposed public grade crossings at SR 138 and Erda Way that would result from the Proposed Action. OEA identified those grade crossings by reviewing STR's proposed railroad alignment. To quantify changes in safety, OEA used rail traffic and vehicle traffic data estimates for 2023 and projected out to 2026. The 2023 figures represent existing conditions with the current limited business park build out. In 2026, AADTs are projected as a result of growth related to the planned business park development. OEA then compared the predicted changes in safety at grade crossings under the Proposed Action to the No-Action Alternative.

OEA then estimated the probability of a crash occurring at each grade crossing and other related statistics based on FRA crash prediction methods (FRA 2019). Other related statistics included estimated crash frequency per year and intervals between crashes.

OEA used several roadway and grade crossing characteristics to estimate future crash frequency. OEA's analysis included the projected number of trains operated per day through each crossing under the Proposed Action as compared to the No-Action Alternative, the estimated train speed, the estimated average train length, the annual average daily traffic (AADT) on the crossing roadway, the type of protection at the crossing (for example, flashing lights and crossing gates), the road surface type, the number of roadway lanes, and the number of main line tracks.

As discussed above, STR supports the establishment of quiet zones for both SR 138 and Erda Way. Quiet zones are locations where trains do not need to sound their horns at at-grade crossings. Because trains do not sound their horns in quiet zones, at-grade crossings in these areas may be more susceptible to safety impacts than crossings elsewhere, depending on rail and vehicular traffic levels and crossing safety enhancements. SR 138 and Erda Way are located within the City of Erda; therefore, Erda would need to apply for a potential quiet zone from FRA. OEA performed an evaluation of the Proposed Action with and without potential quiet zones at SR 138 and Erda Way because STR cannot control the quiet zone application process. OEA considered the potential safety impacts associated with at-grade crossings in designated quiet zones.

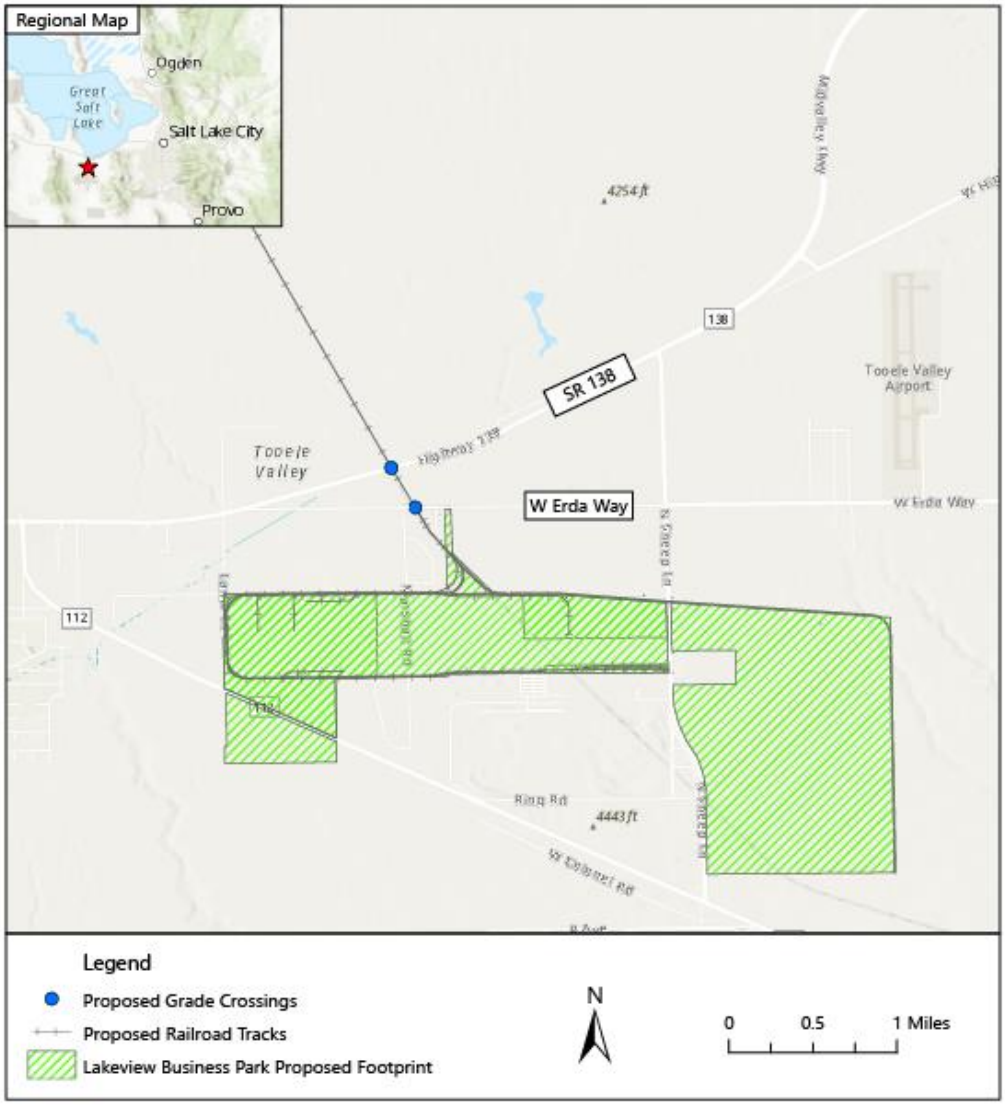
3.2.2 Affected Environment

When the former rail line was abandoned, the rail crossings at SR 138 and Erda Way were closed. STR has proposed to construct new at-grade crossings at SR 138 and Erda Way at the former crossing locations (**Figure 3.2-1**). The proposed grade crossings are both rural crossings with AADTs ranging from 540 to 12,054 vehicles per day in 2023.[8] The 2023 AADT data represents existing conditions with the current limited business park developed. In 2026, the projected AADTs would range from 1,585 to 27,080 vehicles per day as a result of growth related to the planned business park development.[9] The number of proposed mainline tracks at the crossings is one track and the number of roadway lanes at the crossings is two lanes. The proposed grade crossings are paved roadways and the proposed warning devices for at-grade crossings would include flashing lights and gates. Because the former grade crossings were closed in 1983, there are no recent grade crossing crashes or crash data.

[8] See **Appendix C**, Section C.1 Grade Crossing Safety Approach for a discussion of methods and sources used.

[9] Id.

Figure 3.2-1. Grade Crossings for Safety and Delay Analysis



3.2.3 Environmental Consequences

To characterize the potential safety-related environmental consequences at the two new public grade crossings at SR 138 and Erda Way, OEA estimated grade crossing safety performance due to anticipated train movements in 2023 with the current business park developed and in 2026 with business park development growth under the Proposed Action and the No-Action Alternative.

3.2.3.1 Proposed Action

Construction

During construction of the two new at-grade crossings at SR 138 and Erda Way required to reconstruct the segment of the former Warner Branch railroad line, there would be the potential for temporary minor impacts on grade crossings safety from activities related to construction of the new crossings and the presence of construction equipment and personnel at the crossings on SR 138 and Erda Way. STR anticipates construction activities for the Proposed Action would take approximately six months; therefore, OEA concludes that these minor impacts would be temporary. These temporary impacts would be minimized by construction phasing and traffic control best practice measures proposed by STR as voluntary mitigation. STR would coordinate with local agencies on construction schedules, detours, traffic control, and traffic control permits and would maintain egress or traffic routing to allow for passage of emergency and other vehicles (**VM-Grade Crossing-02)**. In addition, STR would install temporary traffic control, including pavement markings, signing, and detours, throughout the project limits and applicable work zones (**VM-Grade Crossing-05)**.

Operation

OEA expects that operation of the Proposed Action with the two new at-grade crossings at SR 138 and Erda required to reconstruct the segment of the former Warner Branch railroad line would result in a small increase in the predicted number of crashes at the two new at-grade crossings.

Table 3.2-1 presents the predicted number of crashes per year and estimated time between crashes under the Proposed Action and the No-Action Alternative in 2023 and 2026. Under the 2023 conditions, the total predicted number of crashes would increase by 0.0102 crashes per year across the two at-grade crossings as a result of the Proposed Action. This corresponds to one predicted crash approximately every 98 years. Under the 2026 conditions, the total predicted number of crashes would increase by 0.0131 crashes per year across the two at-grade crossings as a result of the Proposed Action. This corresponds to one predicted crash approximately every 76 years. **Appendix C** provides detailed inputs and the results of OEA's analysis.

Table 3.2-1. Grade Crossing Safety for 2023 and 2026 Conditions

Roadway Crossing	Year	AADT	No-Action Alternative				Proposed Action with At-Grade Crossings			
			Trains Per Day	Train Speed (mph)	Predicted Total Crashes (crashes/year)	Years between Predicted Crashes	Trains Per Day	Train Speed (mph)	Predicted Total Crashes (crashes/year)	Years between Predicted Crashes
SR 138	2023	12,054	0	--	0	--	2	20	0.007	139
	2026	27,080	0	--	0	--	2	20	0.007	112
Erda Way	2023	540	0	--	0	--	2	20	0.003	331
	2026	1,585	0	--	0	--	2	20	0.004	244

-- = not applicable

Note: Road surface is paved and there are two roadway lanes for both SR 138 and Erda Way. The type of protection assumed is lights and gates for both roads.

In general, at-grade crossings with more safety measures (such as flashing lights and gates) tend to have lower predicted crashes. On the other hand, at-grade crossings with more traffic volume tend to have higher predicted crashes. Because both at-grade crossings at SR 138 and Erda Way are proposed to have the same safety measures, the roadway traffic volumes account for the difference in predicted crashes. SR 138 has the higher traffic volume; therefore, it is also associated with the higher predicted number of crashes.

Beyond the predicted number of at-grade crossing crashes, UDOT expressed safety concerns related to the SR 138 at-grade crossing due to the high-speed nature of the highway and the significant amount of truck traffic. STR has included in the Proposed Action warning systems on the approaches to the at-grade crossings in its preliminary design plan. The warning system plans include overhead warning flashers and a 'BE PREPARED TO STOP' sign approximately 540 feet in advance of the stop line.

OEA expects that the number of crashes on roadways could decrease as a result of the use of freight rail rather than trucks to move goods. According to UP, a single rail car can carry an equivalent amount of freight as three to four trucks.[10] Per STR, a single train consist that would operate on the proposed rail line would be comprised of up to 20 rail cars. Therefore, a single freight train that would operate under the Proposed Action could remove up to 80 trucks from the road, which could decrease the number of crashes on roadways.

[10] https://www.up.com/customers/track-record/tr030822-12-train-facts-you-might-notknow.htm#:~:text=Because%20rail%20cars%20can%20hold,that%27s%20a%20lot%20of%20trucks!

OEA anticipates that safety impacts identified from crashes would be minimized through the voluntary mitigation measures proposed by STR and the OEA-recommended mitigation. STR has proposed voluntary mitigation requiring it to consult with appropriate federal, state, and local transportation agencies to determine the final design of the at-grade crossing warning devices **(VM-Grade Crossing-01)**. Warning devices on public roadways would be subject to review and approval, depending on location, by UDOT, the City of Erda, and Tooele County. STR would follow standard safety designs for each at-grade crossing for proposed warning devices and signs. These designs would follow the Federal Highway Administration's Manual on Uniform Traffic Control Devices for Streets and Highways (2022) and the American Railway Engineering and Maintenance-of-Way Association's guidelines for railroad warning devices. STR would also comply with applicable UDOT and local requirements. STR has proposed additional voluntary mitigation requiring it to address grade crossing safety including measures requiring it to: consult with UDOT and applicable road authority about pavement markings, signing, delineators, and active warning devices for vehicles, pedestrians, and bicyclists (**VM-Grade Crossing-04)**; work with the local agencies to facilitate the development of cooperative agreements with emergency service providers to share services areas and emergency call response (**VM-Grade Crossing-06)**; consult with affected communities regarding clearing vegetation or installing lights (**VM-Grade Crossing-07)**; obtain and abide by applicable UDOT permits and approvals (**VM-Grade Crossing-08)**; provide and maintain permanent signs prominently displaying a toll-free telephone number enabling drivers to report promptly any accidents, malfunctioning warning devices, stalled vehicles, or other dangerous conditions (**VM-Grade Crossing-09)**; and coordinate with Operation Lifesaver to provide educational programs to communities, schools, and other organizations located along the proposed rail line **(VM-Grade Crossing-10)**.[11]

OEA is recommending mitigation requiring STR to consult and comply with UDOT on its process and requirements for creating new rail/roadway crossings at SR 138 and Erda Way in accordance with the requirements of UDOT Administrative Rule R930-5, and specifically R930-5-7.6, which addresses the requirements for new crossings **(MM-Grade Crossing-01**). OEA also recommends mitigation requiring STR not to block at-grade crossings for more than 10 minutes **(MM-Grade Crossing-02)** and requiring STR to notify emergency services dispatching centers if grade crossings become blocked by trains that may be unable to move for a prolonged period **(MM-Grade Crossing-03**).

FRA would be responsible for determining whether a quiet zone is appropriate for an at-grade crossing if applied for by the local jurisdiction(s), and if deemed eligible as a quiet zone, FRA would impose the appropriate measures to ensure safety as part of that application process.

[11] Operation Lifesaver is a nationwide, nonprofit organization that provides public education programs to help prevent collisions, injuries, and fatalities at highway/rail grade crossings.

3.2.3.2 No-Action Alternative

Under the No-Action Alternative, the Board would not authorize the Proposed Action, and there would be no new grade crossings on SR 138 and Erda Way. No adverse impacts would be expected related to safety at road crossings.

3.2.4 Conclusion

OEA concludes that while grade crossing safety impacts could result during construction of the Proposed Action from activities related to construction of the new crossings and the presence of construction equipment and personnel at the crossings on SR 138 and Erda Way on the reconstructed segment of the former Warner Branch railroad line, these impacts would be minor and temporary during the six-month construction period and would be minimized through the use of traffic control best practice measures proposed by STR as voluntary mitigation.[12]

If the Board authorizes the Proposed Action, OEA estimates that the number of crashes at grade crossings would increase by 0.0102 crashes per year across the two at-grade crossings at SR 138 and Erda Way as a result of operation of the Proposed Action under the 2023 conditions (or one predicted crash approximately every 98 years). Under the projected 2026 conditions, the total predicted number of crashes would increase by 0.0131 crashes per year at the two at-grade crossings as a result of operation of the Proposed Action (or one predicted crash approximately every 76 years). OEA concludes that operation of the Proposed Action would increase the potential for train-vehicle crashes at grade crossings as compared to zero crashes per year under the No-Action Alternative. Although the Proposed Action could result in an increase in the potential for crashes at grade crossings in the study area, the number of crashes on roadways in the area could also decrease because rail freight is generally safer than truck.

OEA anticipates that impacts to grade crossing safety from the Proposed Action would be mitigated by the voluntary mitigation measures proposed by STR and OEA's recommended mitigation. OEA recommends mitigation measures requiring STR to consult and comply with UDOT grade crossing requirements **(MM-Grade Crossing-01**). Further, STR would be required not to block at-grade crossings for more than 10 minutes **(MM-Grade Crossing-02)** and to notify emergency services dispatching centers if grade crossings become blocked by trains that may be unable to move for a prolonged period **(MM-Grade Crossing-03**). In addition, STR has proposed voluntary mitigation requiring it to consult with appropriate agencies on the design of the at-grade crossing warning devices and pavement markings, signing, delineators, and active warning devices; emergency service

[12] STR has proposed voluntary mitigation requiring it to coordinate with local agencies on construction schedules, detours, traffic control, and traffic control permits and to maintain egress or traffic routing and install temporary traffic control within the area and work zones, including pavement markings, signing, and detours as described in **Chapter 4 (VM-Grade Crossing-02, -05)**.

response; permits and approvals; information signs; and Operation Lifesaver educational programs.[13]

3.3 Grade Crossing Delay

This section describes the existing conditions and environmental consequences resulting from the Proposed Action on vehicular delay. STR has proposed roadway/rail at-grade crossings (at-grade crossings) at SR 138 and Erda Way on the segment of the former Warner Branch railroad line. The former rail crossings at SR 138 and at Erda Way were closed when the rail line was abandoned. The proposed crossings at SR 138 and Erda Way to reestablish the rail line for the Proposed Action are required to be treated as new crossings according to Rule R930-5 of the Utah Administrative Code.

An at-grade crossing is defined as "a location where a public highway, road, street, or private roadway, including associated sidewalks and pathways, crosses one or more railroad tracks at grade," according to 49 C.F.R. § 234.5. If the Board were to authorize the Proposed Action, two new grade crossings would be created at SR 138 and Erda Way. Rail traffic would increase the total amount of time during the day that the at-grade crossings would be closed to vehicle traffic, which would cause delay for drivers. The subsections that follow describe the approach used to analyze the impacts, the affected environment, and the impacts of the Proposed Action on grade crossing delay.

In assessing grade crossing delay impacts, OEA considered applicable federal, state, and local regulatory frameworks. At the federal level, this includes the regulations of FHWA and FRA, which both have jurisdiction over aspects of grade crossing safety under federal law. At the state level, requests for new crossings would need to be coordinated with UDOT and meet the requirements of Rule R930-5 of the Utah Administrative Code as described in **Section 3.2**.

3.3.1 Approach

This subsection discusses OEA's approach to estimating the expected delay at grade crossings under the Proposed Action and the No-Action Alternative. Drivers traveling on roadways experience delay whenever passing trains temporarily block crossings. For roads with low levels of vehicular traffic, the delay that drivers experience is approximately equal to the amount of time it takes the passing train to clear the at-grade crossing, which depends

[13] STR has proposed voluntary mitigation requiring it to consult with appropriate federal, state, and local transportation agencies to determine the final design of the at-grade crossing warning devices; consult with UDOT and applicable road authority about pavement markings, signing, delineators, and active warning devices for vehicles, pedestrians, and bicyclists; work with the local agencies to facilitate the development of cooperative agreements with emergency service providers to share services areas and emergency call response; consult with affected communities regarding clearing vegetation or installing lights; obtain and abide by applicable UDOT permits and approvals; provide and maintain permanent signs prominently displaying a toll-free telephone number enabling drivers to report promptly accidents; and to coordinate with Operation Lifesaver educational programs, as described in **Chapter 4** (**VM-Grade Crossing-01,-04,-06,-07,-08,-09,-10**).

on the length of the train and the speed at which it is moving. For busier roads with more vehicle traffic, delays at at-grade crossings can be made longer by the queue of vehicles waiting for the passing train to clear the crossing. The longest delays occur when a train passes through an at-grade crossing on a busy road during the hours of peak traffic. Long delays can also occur when a train stops unexpectedly due to a crash or breakdown while traversing an at-grade crossing, but such events are relatively rare.

OEA defined the study area for grade crossing delay to include the two new proposed public grade crossings at SR 138 and Erda Way that would result from the Proposed Action. OEA identified those grade crossings by reviewing STR's proposed railroad alignment. To quantify changes in delay, OEA used rail traffic and vehicle traffic data estimates for 2023 and projected out to 2026. The 2023 figures represent existing conditions with the current limited business park build out. In 2026, AADTs are projected as a result of growth related to the planned business park development. OEA then compared the predicted delay at grade crossings under the Proposed Action to the predicted delay under the No-Action Alternative.

In characterizing the operation of grade crossings in the study area, OEA considered performance measures such as blocked crossing time per train, crossing delay per stopped vehicle, number of vehicles delayed per day, maximum vehicle queue length, average delay per vehicle in a 24-hour period, total vehicle delay per day, and level of service (LOS). LOS is a qualitative measure of motor vehicle traffic flow, indicated by letters from A to F, where A represents free flow conditions and F indicates extreme congestion. OEA calculated estimated delay time using the industry standard equations set forth in **Appendix C**, which include the following variables: AADT, train speed, train length, number of trains per day, number of railroad tracks, and number of roadway lanes.

OEA specifically considered the impact of increased delay on emergency vehicles. In addition to delay, OEA considered site-specific conditions, including the existing road network and the locations of nearby emergency service stations.

OEA did not quantify delay impacts at private grade crossings because insufficient data exist on vehicle traffic volumes at private grade crossings to allow for such an analysis. However, traffic on private roadways is generally very low. The Proposed Action would likely increase delay at private grade crossings, but the average delay at those grade crossings would be negligible due to the very low vehicular traffic volumes. STR has proposed voluntary mitigation that requires it to consult with railroad representatives at the appropriate agency(s) to determine the final details and reasonable signage for private at-grade crossings along access roads prior to project-related construction (**VM-Grade Crossing-03)**.

3.3.2 Affected Environment

OEA identified two proposed public grade crossings in the study area (**Figure 3.2-1**). The proposed grade crossings are both rural crossings with AADTs ranging from 540 to 12,054 vehicles per day in 2023. In 2026, the projected AADTs range from 1,585 to 27,080 vehicles per day as a result of growth related to the planned business park. The proposed number of mainline tracks at the crossings is one track and the number of roadway lanes at the crossings is two lanes. The proposed grade crossings are both paved roads and the

proposed warning devices for at-grade crossings would include both flashing lights and gates.

3.3.3 Environmental Consequences

3.3.3.1 Proposed Action

Construction

During construction of the new two at-grade crossings there would be the potential for temporary minor impacts on grade crossing delay from activities related to construction of the new crossings and the presence of construction equipment and personnel at the crossings on SR 138 and Erda Way. OEA expects that these minor temporary impacts would be minimized through the traffic control best practice measures proposed by STR as voluntary mitigation. STR would coordinate with local agencies on construction schedules, detours, traffic control, and traffic control permits and would maintain egress or traffic routing to allow for passage of emergency and other vehicles (**VM-Grade Crossing-02)**. In addition, STR would install temporary traffic control, including pavement markings, signing, and detours, throughout the project limits and applicable work zones **(VM-Grade Crossing-05)**.

Operation

OEA estimated grade crossing delay and related performance measures due to anticipated train movements in 2023 and 2026 under the Proposed Action and the No-Action Alternative to characterize the potential delay-related environmental consequences during operations at the two grade crossings.

Table 3.3-1 shows information for both grade crossings in the study area, including the projected rail traffic, train speed, train length, AADT, and the gate down time (i.e., estimated time that a passing train would take to pass through the crossing) under the Proposed Action and the No-Action Alternative.

Table 3.3-1. Proposed Public Grade Crossings Summary

Roadway Crossing	2023 AADT	2026 Projected AADT	Trains Per Day with No-Action	Trains Per Day with Proposed Action	Minimum Train Length with Proposed Action (feet)	Maximum Train Length with Proposed Action (feet)	Train Speed with Proposed Action - (mph)	Gate Down Time with No-Action (minutes)	Minimum Gate Down Time with Proposed Action with At-Grade Crossings (minutes)	Maximum Gate Down Time with Proposed Action with At-Grade Crossings (minutes)	Average Gate Down Time with Proposed Action with At-Grade Crossings (minutes)
SR 138	12,054	27,080	0	2	900	1500	20	0	1.11	1.45	1.28
Erda Way	540	1,585	0	2	900	1500	20	0	1.11	1.45	1.28

Impacts to Grade Crossings

OEA expects that operation of the Proposed Action with at-grade crossings would result in minor impacts on grade crossing delay in the study area. Grade crossing delay would not occur under the No-Action Alternative.

Table 3.3-2 shows the estimated delay-related performance measures in 2023 and 2026 under the Proposed Action (with the two new at-grade crossings) and the No-Action Alternative. OEA expects that the two new at-grade crossings would operate at a level of service (LOS) A, compared to the No-Action Alternative, which would also operate at LOS A under the 2023 and 2026 conditions.

Appendix C provides detailed inputs and results of OEA's grade crossing delay analysis for both new grade crossings under the Proposed Action and the No-Action Alternative—including the average delay per stopped vehicle, number of vehicles delayed per day, maximum vehicle queue, average delay per vehicle in a 24-hour period, total delay in a 24-hour period, and LOS—along with the basic train, vehicle, and roadway characteristics used in the calculation of these performance measures.

Table 3.3-2. Proposed Action Grade Crossing Delay for 2023 and 2026 Conditions

				2023 No-Action								*2023 Proposed Action*								
Roadway Crossing	**Year**	**AADT**	**Number of Roadway Lanes**	**Trains Per Day**	**Train Length (feet)**	**Number of Stopped Vehicles Per Day**	**Average Delay per Stopped Vehicle (minutes)**	**Average Delay per Vehicle in 24-hour Period (seconds)**	**Total Delay in 24-hour Period (hours)**	**Level of Service**	**Maximum Queue (vehicles)**	**Trains Per Day**	**Average Train Length (feet)**	**Train Speed (mph)**	**Number of Stopped Vehicles Per Day**	**Average Delay per Stopped Vehicle (minutes)**	**Average Delay per Vehicle in 24-hour Period (seconds)**	**Total Delay in 24-hour Period (hours)**	**Level of Service**	**Maximum Queue (vehicles)**
SR 138	2023	12,054	2	0	--	0	0	0	0	A	0	2	1200	20	21	0.78	0.08	16.8	A	15
	2026	27,080	2	0	--	0	0	0	0	A	0	2	1200	20	48	1.07	0.11	51.8	A	35
Erda Way	2023	540	2	0	--	0	0	0	0	A	0	2	1200	20	1	0.65	0.07	0.62	A	1
	2026	1,585	2	0	--	0	0	0	0	A	0	2	1200	20	3	0.67	0.07	1.9	A	2

-- = not applicable

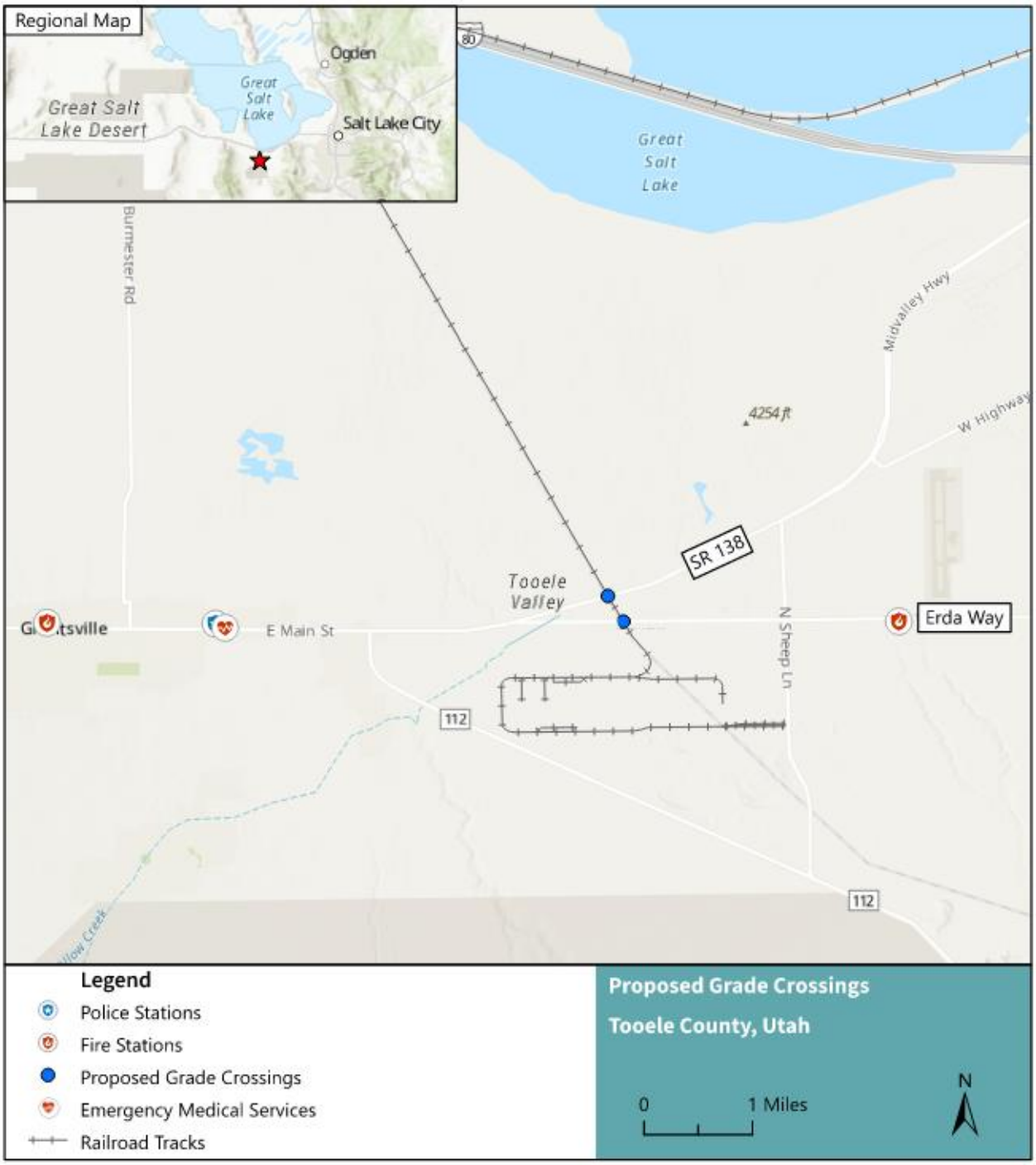
Impacts to Emergency Vehicles

The same delay-related performance measures from the prior section and methods from **Appendix C** were used to estimate the potential impact on emergency vehicles, including police, fire, and emergency medical service vehicles at the two new at-grade crossings at SR 138 and Erda Way. While an emergency vehicle could potentially bypass a queue of waiting vehicles and be first to cross when the train has exited the crossing and warning devices indicate it is safe to cross, it may not always be feasible to do so. The dispatching of emergency service vehicles by local providers would depend upon conditions specific to the emergency, which would determine whether vehicles would use either of the two new grade crossings at SR 138 or Erda Way during a particular emergency, or whether there would be a better alternative route for an emergency vehicle to reach its destination. As described in the prior section and shown in **Table 3.3-2**, the average delay per stopped vehicle and the average delay for all vehicles in a 24-hour period at the two new at-grade crossings would be relatively short.

OEA also considered the location of nearby emergency service facilities. **Figure 3.3-1** shows a map of emergency service facilities, including police, fire, and emergency medical service stations, in relation to the two proposed grade crossings. The table and corresponding maps are intended to be used simultaneously to provide context for reviewers.

Given the relatively short delay times associated with the at-grade crossings, emergency vehicles would typically wait for the train to pass. Although an infrequent occurrence, an at-grade crossing can become blocked when a train comes to a stop before clearing the crossing. While also infrequent, it is possible that an emergency could occur at the same time that a stopped train blocks an at-grade crossing. These simultaneous events are rare but represent a potentially serious situation. To mitigate this potential impact, STR has proposed voluntary mitigation requiring it to work with appropriate local agencies to facilitate the development of cooperative agreements with emergency service providers to share services areas and emergency call response prior to and during construction and operation of the project (**VM-Grade Crossing-06)**. OEA also recommends additional mitigation requiring that STR would not block an at-grade crossing for more than 10 minutes (**MM-Grade Crossing-02**) and that STR would notify appropriate emergency services dispatching centers if grade crossings become blocked by trains that may be unable to move for a prolonged period. (**MM-Grade Crossing-03**).

Figure 3.3-1. Proximity of Emergency Services to Grade Crossings



Grade Separation

USDOT, through FHWA and FRA, has regulatory jurisdiction over safety at grade crossings, pursuant to the Highway Safety Act of 1966 (HSA) (23 U.S.C. §§ 401-408). The HSA governs the distribution of funds to states aimed at eliminating hazards at grade crossings, and USDOT has issued regulations that address grade crossing safety and provides funding for the installation and improvement of warning devices through the states. Jurisdiction over grade crossings falls primarily to the states and it is up to the states to determine allocation of funds for grade crossing projects. Each state is required to periodically inspect grade crossings and to determine the adequacy of warning devices at each location, as well as to order safety improvements. USDOT oversees and approves the state determinations. In addition to federal oversight and funding, states also monitor crossings and, in many cases, designate funding to complement the federal funds. Grade separations are very costly and, because grade separations typically benefit primarily the community and not the railroad, railroads typically pay a small share of the total cost. Under USDOT regulations at 23 C.F.R. § 646.210 and pursuant to 23 U.S.C. § 130(b), the railroad share for a grade separation project seeking federal aid that would eliminate an existing crossing with active warning devices (i.e., flashing lights, bell and/or gates) would be five percent of the project costs, including preliminary engineering, right-of-way, and construction costs.

According to FHWA guidelines (FHWA and FRA 2019), grade crossings should be considered for grade separation if one or more of the following conditions exist:

- The road is a limited access facility,
- The posted highway speed equals or exceeds 55 mph,
- AADT exceeds 30,000 in urban areas or 20,000 in rural areas,
- Maximum authorized train speed exceeds 79 mph,
- Freight trains average 30 or more trains per day,
- Passenger trains average 75 or more per day in urban areas or 30 or more per day in rural areas,
- Transit trains average 150 or more per day in urban areas or 60 or more per day in rural areas,
- Freight train crossing exposure (the number of freight trains per day times the AADT) exceeds 900,000 in urban areas or 600,000 in rural areas,
- Passenger train crossing exposure (the product of the number of passenger trains per day and AADT) exceeds 2,250,000 in urban areas or 600,000 in rural areas,
- Transit train crossing exposure (the number of transit trains per day times the AADT) exceeds 4,500,000 in urban areas or 1,200,000 in rural areas,
- The expected accident frequency for active devices with gates, as calculated by the USDOT Accident Prediction Formula, including five-year history, exceeds 0.5 per year. If the highway is a part of the designated National Highway System, the expected accident frequency for active devices with gates, as calculated by the USDOT Accident Prediction Formula including five-year accident history, exceeds 0.2 per year, or

- Vehicle delay exceeds 30 vehicle hours per day with consideration for cost effectiveness.

While OEA took the FHWA criteria into account, these are not federal requirements for grade separation and many grade crossings that meet these criteria have not been allocated federal or state funding for separation. **Table C.2-3** in **Appendix C** identifies the FHWA thresholds that would suggest consideration for grade separation under the Proposed Action. For the SR 138 grade crossing, the threshold for posted highway speed (exceeds 55 mph) is met under existing conditions, and the threshold for vehicle delay (exceeds 30 vehicle hours per day) is met for grade separation consideration under the Proposed Action in 2026. In addition, the threshold for AADT (exceeds 20,000 in rural areas) is met for grade separation consideration under the Proposed Action in 2026. For the Erda Way grade crossing, none of the FHWA thresholds are met for grade separation consideration under the Proposed Action in 2023 or in 2026.

As part of its analysis of grade crossings and whether to recommend site-specific grade crossing mitigation, OEA also considered whether the Proposed Action with at-grade crossings would increase average delay per delayed vehicle by 30 seconds or more at either of the two grade crossings or whether the Proposed Action with the two at-grade crossings would result in an increase in average queue length that could adversely affect mobility of a community by blocking a major roadway that would not be blocked under the No-Action Alternative. OEA found that the average delay per delayed vehicle at the SR 138 at-grade crossing would increase by 47 and 64 seconds under the 2023 and 2026 conditions, respectively. OEA found that the average delay per delayed vehicle at the Erda Way at-grade crossing would increase by 39 and 40 seconds under the 2023 and 2026 conditions, respectively.

While the at-grade crossing of SR 138 met thresholds for grade crossing consideration and the increase in average delay per stopped vehicle is greater than 30 seconds, the Proposed Action with at-grade crossings would not cause the LOS of either of the grade crossings to decrease below LOS A.[14] For this reason, OEA is not recommending that the Board require STR to grade separate those roadway crossings. OEA consulted with UDOT regarding grade separation, and in response, UDOT indicated in a letter to OEA dated May 1, 2023, that it supports STR's planned at-grade crossing but indicated that if vehicular traffic increases significantly in the future, a grade separation at SR 138 could be necessary (see UDOT letter, **Appendix A**). UDOT indicated in the letter that STR has committed to collaborate with the agency and local entities to pursue funding to provide grade separation at this location if conditions warrant in the future. STR would be required to consult with appropriate federal, state, and local transportation agencies to determine the final design of the at-grade crossing warning devices and comply with applicable UDOT and local requirements **(VM-Grade Crossing-01)**. Further, OEA is recommending mitigation requiring STR to consult with UDOT and comply with their process and requirements for creating new rail/roadway crossings, specifically regarding grade separation requirements (**MM-Grade Crossing-01**).

[14] Erda Way did not meet the threshold for grade crossing consideration.

3.3.3.2 No-Action Alternative

Under the No-Action Alternative, the Board would not authorize the Proposed Action and there would be no new grade crossings on SR 138 and Erda Way. Therefore, potential adverse impacts related to delay at grade would not occur.

3.3.4 Conclusion

OEA concludes that while there would be the potential for impacts to grade crossing delay from construction of the Proposed Action at the two new grade crossings on SR 138 and Erda Way, these delays would be minor and temporary during the six-month construction period and could be minimized through the traffic control best practice measures proposed by STR as voluntary mitigation.[15]

OEA anticipates that impacts to grade crossing delay from the Proposed Action would be mitigated by the voluntary mitigation measures proposed by STR and OEA's recommended mitigation. OEA concludes that operation of the Proposed Action with at-grade crossings would cause increased delay to vehicles and emergency service providers due to the new at-grade crossings. However, this impact would be minor. OEA predicts that the Proposed Action with at-grade crossings would not cause the LOS of either of the grade crossings to decrease below LOS A. On average, the grade crossing delay would be less than 1.0 second per vehicle. Because LOS A corresponds to free flow conditions, OEA concludes that the Proposed Action with the two new at-grade crossings would result in only minor delay impacts at these grade crossings. To address this minor delay impact, OEA recommends mitigation requiring STR not to block at-grade crossings for more than 10 minutes (**MM-Grade Crossing-02**) and requiring STR to notify appropriate emergency services dispatching centers if grade crossings become blocked by trains for a prolonged period (**MM-Grade Crossing-03**).

The potential SR 138 grade crossing in the study area would meet certain FHWA criteria for considering grade separation under the Proposed Action. However, the Proposed Action would not result in a decrease in the LOS at either the proposed grade crossing at SR 138 or Erda Way. As such, OEA did not identify grade crossing impacts of the Proposed Action at SR 138 or Erda Way that would warrant grade separation. UDOT indicated in a letter to OEA dated May 1, 2023, that STR has agreed to work with UDOT and local entities to pursue funding to provide grade separation at SR 138 if conditions warrant in the future (see UDOT letter, **Appendix A**). STR has proposed voluntary mitigation requiring it to consult with appropriate federal, state, and local transportation agencies to determine the final design of the at-grade crossing warning devices and comply with applicable UDOT and local requirements **(VM-Grade Crossing-01)**. Further, OEA is recommending mitigation requiring STR to consult with UDOT and comply with their process and requirements for

[15] STR has proposed voluntary mitigation requiring it to coordinate with local agencies on construction schedules, detours, traffic control, and traffic control permits and to maintain egress or traffic routing and install temporary traffic control within the area and work zones, including pavement markings, signing, and detours as described in **Chapter 4 (VM-Grade Crossing-02, -05)**.

creating new rail/roadway crossings, specifically regarding grade separation requirements (**MM-Grade Crossing-01**).

OEA expects that STR's voluntary mitigation measures and OEA's additional recommended mitigation measures would minimize the impact of the Proposed Action on grade crossing delay.

3.4 Biological Resources

This section describes the affected environment and potential environmental consequences on biological resources that could result from the Proposed Action. The subsections that follow also describe the study areas for the Proposed Action, data sources, and approach that the OEA used to analyze potential impacts. The biological resources discussed in this section include plant communities, wildlife habitat (terrestrial and aquatic), special status species, natural areas, critical habitat, and migratory birds. Special status species include listed species or those proposed to be listed as threatened or endangered under the Endangered Species Act (ESA); candidate species for ESA listing; bald and golden eagles; and sensitive species listed by state agencies.

3.4.1 Approach

OEA defined the study area for biological resources as the existing and proposed rail right-of-way, plus a buffer of 300 feet to either side of the centerline, and the proposed construction laydown area and access road. Consistent with past practice, OEA also considered the potential impacts of the new rail traffic, including potential increases in rail-related noise on wildlife and critical habitat. OEA obtained and reviewed the U.S. Fish and Wildlife Service (USFWS) Official Species List from USFWS's online Information for Planning and Consultation (IPaC) system as well as the Utah Natural Heritage Program Online Species Search Report to determine species that could occur in the study area. USFWS and State reports are in **Appendix D**.[16]

OEA researched the behavior of special status species and their preferred habitat to determine whether they may occur in the study areas. In addition, OEA researched invasive species lists for species that may occur in the study area.[17] OEA conducted field work within the study area from October 31 to November 3, 2022, to confirm baseline conditions, existing vegetation, and wildlife presence, and protected species habitat.[18] OEA did not conduct field work at an approximate 1,000-foot section of track north of SR 138, which had been fenced off by a property owner.

[16] IPaC is a USFWS project planning tool to research listed species, critical habitat, migratory birds, or other natural resources in an area.

[17] https://ag.utah.gov/farmers/plants-industry/noxious-weed-control-resources/state-of-utah-noxious-weed-list/

[18] Herbaceous plants and wildlife species that may use the area seasonally other than in the period October 31 to November 3 could be not confirmed by field work.

OEA evaluated the potential impacts of the Proposed Action on special status species, other vegetation and wildlife, and natural areas and critical habitat in the study area. OEA used in its analysis data from published reports, feasibility studies, regulatory agency documents, guidance manuals, discussions with resource personnel, aerial photographs, U.S. Geological Survey (USGS) topographic maps, field visits, and Geographic Information Systems (GIS) databases.

3.4.2 Affected Environment

This subsection describes the affected environment with respect to biological resources. OEA characterized the affected environment in terms of general existing conditions within the study area, plant communities, wildlife habitat, special status species, and natural areas.

The Proposed Action would be located within a developed railroad corridor formerly used for rail service and a new business park that is currently partially operational. The surrounding study area primarily consists of pasture lands that have been heavily altered and that are barren due to the use of herbicides, mechanical clearing, and grazing. The majority of the rail right-of-way contains ballast, railroad ties, and steel rails. Within the right-of-way in the LBP, the affected environment consists of heavily altered land as a result of on-going construction activities. **Appendix D** contains photos of site conditions taken during field work conducted during the fall of 2022.

3.4.2.1 Plant Communities

Vegetation provides habitat and food sources for wildlife, improves air quality, provides in-stream shade, filters stormwater, and contributes to flood control.[19] Even though the surrounding study area is mainly pastureland, the existing vegetation within and adjacent to the right-of-way provides important functions to the immediate surroundings, affecting natural resources. Early coordination with USFWS and its Information for Planning and Consultation (IPaC) tool (USFWS n.d.) indicated that no federally listed plant species are present within the study area.

Invasive plant species identified during field work include Russian olive (*Elaeagnus angustifolia*) and salt cedar (*Tamarix ramosissima*).

3.4.2.2 Wildlife Habitat

Habitat and land use types within the study area include agricultural/pasture, maintained roadway/railway/utility right-of-way, residential, salt grass meadow, wetlands/streams, sagebrush flats, and mixed scrub/shrub (see **Table 3.4-2**, below, and **Appendix D**). The existing scrub/shrub and wetland areas are primarily located along the edge of the railroad right-of-way and extend outside the study area. These areas generally provide habitat and resources for birds and wildlife. In the study area, however, herbicide use, mechanical clearing, and ballast placement within the railroad right-of-way have rendered most of these habitats as low quality. In addition, grazing by cattle has degraded the surrounding land.

[19] https://www.epa.gov/system/files/documents/2021-11/bmp-vegetated-filter-strip.pdf

Table 3.4-1. Total Acreage by Habitat Type within the Study Area

Habitat Type	Acreage
Agricultural/Pasture	364.2
Sagebrush Flats	136.4
Maintained Roadway/Railway/Utility right-of-way	22.0
Salt grass Meadow	131.2
Wetlands/Stream	114.3
Residential	49.8
Commercial	22.5
Mixed Scrub/Shrub	18.6

Previous construction activities for the rail corridor and adjacent and bisecting roads, as well as actions associated with converting land for agricultural, residential, and commercial use, have resulted in fragmentation of the habitat that remains in the study area. Land use changes have disrupted the original wildlife habitat continuity, which has likely affected wildlife foraging habits, reproductive habits, and migratory movements. While some wildlife may still use the remaining patches of habitat along the Proposed Action rail line, those animals have likely adapted to the fragmented and heavily altered state of the habitat.

3.4.2.3 ESA-Listed Species

Early coordination with USFWS and its Information for Planning and Consultation (IPaC) tool (USFWS n.d.) indicated that no federally listed species and one species that is a candidate for listing (the monarch butterfly) could be present in the study area (see **Table 3.4-2** for the list of species).

Table 3.4-2. *Federally Protected Species Potentially in Study Area*

Species Name	Federal Protected	Suitable Habitat Present?
Monarch butterfly	Candidate	Yes, open habitats with milkweed plants and other nectar-producing plants are located throughout the corridor.

Source: IPaC

3.4.2.4 State Protected Species

Early consultation with the Utah Division of Wildlife Resources and review of its Natural Heritage Program Online Species Search tool indicated that one species identified as a State Species of Greatest Conservation Need (the Golden eagle) could be present in the study area (see **Table 3.4-3** for the list of species). OEA conducted field work to determine if suitable habitat for protected species was present in the study area and determined that the area would be undesirable for golden eagle habitat.

Table 3.4-3. State Protected Species Potentially in Study Area

Species Name	State Protected	Suitable Habitat Present?
Golden eagle	Species of conservation concern	No, grasslands and wetlands are present throughout the survey boundary along the tracks, these areas have been developed for pastureland and previously maintained with herbicide or mechanical clearing making them undesirable for golden eagle.

Source: IPaC

3.4.2.5 Bald and Golden Eagles

OEA conducted field work to determine if suitable habitat for bald or golden eagles is present in the study area. OEA did not identify suitable habitat for bald (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) within the study area.

3.4.2.6 Natural Areas

Natural areas refer to areas that are protected under federal or state law for the purpose of providing habitat for native vegetation, fish, and wildlife such as wilderness areas and conservation areas and easements. OEA did not identify any natural areas in the vicinity of the Proposed Action using the USGS Protected Areas Database of the United States.[20]

3.4.2.7 Critical Habitat

Critical habitat is defined by the USFWS as the "specific areas within the geographic area, occupied by the species at the time it was listed, that contain the physical or biological features that are essential to the conservation of endangered and threatened species and that may need special management or protection." The USFWS IPaC report indicated that there is no critical habitat for federally listed species within the Project study area (see IPaC lists in **Appendix D**).

3.4.2.8 Migratory Birds

The Migratory Bird Treaty Act (16 U.S.C. 703-711) protects migratory birds by prohibiting the take of birds, feathers, eggs, and nests without prior authorization from the U.S. Department of Interior. Actions must be taken to avoid or minimize impacts to migratory birds and to prevent or abate the detrimental alteration of the environment, for the benefit of migratory birds, as practicable. No evidence of nesting migratory birds was observed at the location of the Proposed Action.

[20] https://www.usgs.gov/programs/gap-analysis-project/science/pad-us-online-applications

3.4.3 Environmental Consequences

3.4.3.1 Proposed Action

Construction activities may result in impacts to biological resources as described below by resource area. Maintenance activities such as plant vegetation clearing in the right-of-way for the Proposed Action could also result in impacts on biological resources and could continue during rail operations. No new impacts from operational activities are expected.

Plant Communities

Adverse impacts are not expected on federally listed plant species as a result of the Proposed Action. Construction of the Proposed Action would involve minimal clearing, grubbing, grading, and some excavating and placing fill material for construction of the proposed interchange tracks.[21] Clearing of vegetation, including clearing of the invasive Russian olive trees identified during field work, as described in **Section 3.4.2.1**, would be completed within the existing right-of-way along the railroad using hi-rail vehicles.[22] Land disturbing activities would also occur in the temporary construction access and staging area. These activities could result in permanent or temporary alteration of existing vegetation. However, OEA expects vegetation to recover in the temporarily disturbed areas, as they are proposed to be used only for the construction period of the Proposed Action.

Table 3.4-4 details the estimated acres of habitat that would be permanently lost or temporarily impacted during construction of the Proposed Action. The estimates in the table are based on the preliminary design information provided by STR. OEA is recommending mitigation requiring STR to use temporary barricades, fencing, and/or flagging in habitats to limit construction-related impacts to the area within the construction right-of-way and to the extent possible and to locate staging areas in previously disturbed sites and not in habitat areas (**MM-Biological-01**). OEA is also recommending mitigation requiring STR to limit ground disturbance to only the areas necessary for construction **(MM-Biological-02)** and to ensure that all disturbed soils are landscaped, seeded with a native seed mix, or otherwise permanently stabilized following project-related construction **(MM-Biological-03)**. OEA further recommends mitigation requiring STR to develop and implement a mitigation plan to address the spread and control of non-native invasive plants (**MM-Biological-04)** and to use herbicides that are approved by the U.S. Environmental Protection Agency (USEPA) and applied by trained individuals in right-of-way maintenance to control vegetation and to limit application of the herbicides to the extent necessary for safe rail operations (**MM-Biological-05)**.

[21] Grubbing is the clearing or removal of removal of the roots of trees, shrubs, and other vegetation from a site preceding construction.

[22] Hi-rail vehicles have both rubber tires and steel wheels so that they can operate on both railroad tracks and roads.

Table 3.4-4. Acres of Potential Plant Community Impacts

Capital Improvement	Plant Type	Permanent Impact (acres)	Temporary Impact (acres)
Construction Laydown Area	Sagebrush Flat	0.0	1.8
Interchange Tracks	Sagebrush Flat	1.5	0.0
Interchange Tracks	Salt Grass Meadow	0.2	0.0
Interchange Tracks	Wetland	0.4	0.0
Railway Track right-of-way	Scrub/shrub Wetland	1.25	0.0
Railway Track right-of-way	Scrub/shrub	1.25	0.0
Total		4.6	1.8

Wildlife

OEA expects the Proposed Action to result in negligible impacts to wildlife. Construction activities within portions of the rail right-of-way, such as land clearing, earthmoving, constructing the railbed, and laying rail line, could result in temporary and some permanent impacts on wildlife. Permanently altered habitats would cause species displacement to similar adjacent habitat. The intensity of these impacts would vary depending on the type of habitat and specific species affected. The Proposed Action could result in wildlife mortality or injury from construction- and operation-related collisions or crushing. Collisions or crushing would be more likely to affect smaller, less mobile species (such as reptiles and insects) that are not able to move away quickly from construction equipment. Collisions with larger animals and birds would be less likely because those animals could move more quickly and vacate a construction area. OEA expects that wildlife fatalities and injuries from operating construction equipment would be infrequent because construction vehicles typically move at slow speeds and because most construction activities would take place within or immediately adjacent to a previously disturbed and heavily maintained rail corridor. While some species could be more susceptible to collisions or crushing, many species would likely vacate an area once land clearing activities start, and noise and construction equipment become perceptible to wildlife. This temporary impact would only last for the duration of construction.

During operation of the Proposed Action, OEA expects that wildlife fatalities and injuries from trains could occur but would be infrequent. Similar to construction activities, once the Proposed Action is in operation, many species would likely vacate the immediate area. Because the Proposed Action would add only one round-trip train per day and rail traffic would likely be diverted from truck transportation, OEA anticipates that there would be no or negligible impacts to wildlife associated with the Proposed Action; therefore, no mitigation is recommended.

ESA-Listed Species

OEA determined that construction of the Proposed Action would result in no impact to ESA-listed species because no ESA-listed species, or their habitats, are located within the

study area. OEA recommends mitigation requiring STR to review updated USFWS species lists prior to project-related construction to see if any special status species were added after the Final EA (**MM-Biological-06)**. STR would be required to notify OEA if new species are identified so that appropriate action can be taken if warranted.

State-Listed and Sensitive Species

OEA determined that construction of the Proposed Action would result in no impact to state-listed and sensitive species because no state-listed or sensitive species, or their habitats, are located within the study area. OEA is nevertheless recommending mitigation requiring STR to review updated Utah species lists prior to the start of project-related construction to see if any special status species were added after issuance of the Final EA. If new species are identified, STR would be required to notify OEA so that appropriate action can be taken if warranted (**MM-Biological-06)**.

Bald and Golden Eagles

The Bald and Golden Eagle Protection Act (BGEPA) provides for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession, and commerce (buying or selling) of such birds. Under the BGEPA, a "take" of an eagle is defined as to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb." As noted in **Section 3.4.2.5**, consultation with the Utah Division of Wildlife Resources and review of its Natural Heritage Program Online Species Search tool indicated that the Golden Eagle is listed as a State Species of Greatest Conservation Need that could be present in the study area; however, OEA conducted field work and determined that the habitat in the study area would be undesirable for golden eagle. OEA determined that construction of the Proposed Action would result in no impact to bald or golden eagles because no eagles, or their habitats, are located within the study area.

Natural Areas

OEA determined that construction of the Proposed Action would result in no impact to natural areas because no natural areas are located within the study area.

Critical Habitat

OEA determined that construction of the Proposed Action would result in no impact to critical habitat because no critical habitat is located within the study area.

Migratory Birds

To ensure compliance with the Migratory Bird Treaty Act, OEA is recommending mitigation requiring STR to clear vegetation in preparation for construction before or after the breeding bird nesting season to avoid inadvertent removal of active nests (nesting adults, young, or eggs) or, if clearing is required during nesting season, STR would consult with OEA and the local office of the USFWS on appropriate nest survey methods for that area (**MM-Biological-07**).

3.4.3.2 No-Action Alternative

Under the No-Action Alternative, STR would not construct, reactivate, and operate the proposed rail line. Accordingly, OEA concludes that the No-Action Alternative would result in no impact on plant communities, wildlife, special status species, critical habitat, or natural areas.

3.4.4 Conclusion

OEA concludes that minor impacts to biological resources would occur during construction activities and maintenance of the Proposed Action. OEA concludes that the Proposed Action would result in some impacts to plant communities. Specifically, OEA expects that the estimated 1.8 acres of vegetation in areas temporarily altered for construction activities would recover and no permanent impacts in those areas would be anticipated. However, OEA expects that an estimated 4.6 acres of vegetation would be permanently lost or altered for the Proposed Action. To address these impacts to plant communities, OEA is recommending mitigation that requires STR to limit ground disturbance (**MM-Biological-01)** and use fencing (**MM-Biological-02)** during construction, and after construction requires STR to landscape with a native seed mix **(MM-Biological-03)**, implement a plan to address the spread of non-invasive plants **(MM-Biological-04)**, and limit the use of herbicides to only trained individuals **(MM-Biological-05)**.

OEA concludes that the Proposed Action would result in no or negligible impacts to wildlife, ESA-listed species, state-listed and sensitive species, Bald and Golden Eagles, natural areas, and critical habitat. If the Board authorizes the Proposed Action and imposes all of OEA's recommended mitigation, including STR's voluntary mitigation, OEA anticipates no impacts to wildlife, ESA-listed species, state-listed and sensitive species, Bald and Golden Eagles, natural areas, and critical habitat during construction or operation of the Proposed Action.

3.5 Water Resources

This section describes the potential impacts on water resources that could result from the Proposed Action. The subsections that follow describe the study area, data sources, and approach used to analyze potential impacts. Water resources considered in this section include groundwater, surface waters (streams), wetlands, and water quality.

3.5.1 Approach

OEA defined the study area for water resources as the existing and proposed rail right-of-way, plus a buffer of 300 feet to either side of the centerline, and the proposed construction laydown area and access road. OEA performed both desktop analysis and field work to determine the study area existing conditions for water resources. In addition, OEA conducted field work within the study area from October 31 to November 3, 2022, to evaluate existing water resources conditions in the project study area. The analysis is described below by topic.

3.5.1.1 Groundwater

OEA used the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey to estimate near-surface groundwater depths. The USDA NRCS Web Soil Survey lists depth to water table based on existing soils within Proposed Action study area. Deeper principal aquifers occur in the study area and are referenced in the USGS Ground Water Atlas of the United States, which describes the location, extent, and geologic and hydrologic features of the important aquifers of the nation.

3.5.1.2 Surface Waters and Wetlands

The U.S. Army Corps of Engineers (USACE) and state environmental departments administer Sections 404 and 401 of the Clean Water Act (CWA), 33 U.S.C. §§ 1251-1389, which regulates discharges of fill into waters of the U.S., including wetlands. Wetlands are defined at 33 C.F.R. § 328.3(b) as "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils." Executive Order (EO) 11990, "Protection of Wetlands," discourages direct or indirect support of new construction impacting wetlands wherever there is a practicable alternative (White House 1977a). OEA used available topographic surveys, GIS elevation data, and field surveys to identify and characterize waterways and hydrology within the study area.

3.5.1.3 Floodplains

A floodplain is an area of land that is susceptible to being inundated by floodwaters from riverine flooding or other sources of flooding. EO 11988, "Floodplain Management" (White House 1977b) requires federal agencies to "avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative." The Federal Emergency Management Agency (FEMA) has primary federal jurisdiction for the administration of EO 11988 and their guidance (44 C.F.R. Part 9; EO 13690). To evaluate potential impacts on floodplains, OEA compared the locations of proposed construction and fill to FEMA floodplain mapping. FEMA typically maps the 100-year (1 percent annual chance base flood) floodplain at points along a stream where the contributing drainage area is generally one square mile or larger.

3.5.1.4 Water Quality

Water quality is enforced at the state level, based on standards set by both the state and U.S. EPA. States also issue National Pollutant Discharge Elimination System (NPDES) permits with EPA approval for controlling pollutants generated during construction when land disturbance exceeds one acre. OEA assessed impacts from the Proposed Action on water quality based on OEA's understanding of how construction could proceed if the Board authorizes the Proposed Action.

3.5.2 Affected Environment

Land use types within the study area include agricultural/pasture, maintained roadway/railway/utility right-of-way, residential, salt grass meadow, wetlands/streams, sagebrush flats, and mixed scrub/shrub (see **Table 3.4-1**, above, and **Appendix D**).

3.5.2.1 Groundwater

Groundwater within the vicinity of the project and across the Tooele Valley occurs both as water-table in unconsolidated aquifers and under artesian conditions. An aquifer is rock that transmits water to wells and springs.[23] An unconsolidated aquifer contains water in an unconfined, or water-table, condition, and generally consists of loosely packed material with a wide range in grain size and variable hydraulic conductivity.[24] An artesian aquifer is groundwater that flows to the land surface because pressure in the rocks underground force it to the surface.[25] Most of the wells in the study area are tapped into the artesian aquifer system, which is approximately 80 to 100 feet thick and starts at a depth of 50 to 300 feet below the ground. According to the USDA Soil Survey for the Tooele County, unconfined groundwater can be found over much of the study area (especially in the areas identified as wetlands) from at the surface to three feet below the ground surface. The Soil Survey identifies groundwater as occurring at greater than eight feet in depth in the upland areas at the northern end of the Proposed Action and near the southern end by the LBP.

3.5.2.2 Surface Waters and Wetlands

As noted above, OEA conducted fieldwork for water resources at the location of the Proposed Action and identified surface waters and wetlands in the study area. The study area includes one intermittent stream and 28 wetland areas. No perennial streams with aquatic organisms are present. The Proposed Action varies from a distance of approximately three miles from the Great Salt Lake at its northern end, to approximately seven miles at its southern terminus in the LBP. Most of the wetlands consist of wet meadows dominated by various grasses and herbs including salt grass, red saltwort, and rabbit brush. Near the central area of the site a scrub shrub type wetland feature was identified and is dominated by Russian olive and salt cedar trees.

[23] www.usgs.gov.
[24] Ibid.
[25] Ibid.

3.5.2.3 Floodplains

OEA determined that there are no Zone A or Zone AE FEMA flood areas in the study area, based upon review of FEMA floodplain mapping. The Proposed Action study area is in Flood Hazard Zone D, which is an area where undetermined flood hazards/no flood hazard analysis has been conducted.[26]

3.5.2.4 Water Quality

OEA considered the water quality of state surface waters within the watershed of the study area for the Proposed Action. As required by the CWA, Utah collects and maintains water quality data for all state surface waters to determine if the waterbodies support their designated uses. These uses include drinking water, recreation, aquatic life, agriculture, and the Great Salt Lake. Waterbodies that do not support one or more of their designated uses are classified as non-supporting and placed on the CWA 303(d) list of impaired waters. Every two years, in compliance with Sections 303 and 305 of the CWA, the Utah Department of Environmental Quality (UDEQ) prepares a list that identifies the quality of the state waters and whether they meet the criteria for their designated use.

Table 3.5-1 provides information about three watersheds near the Proposed Action containing four different waterbodies that are identified in the 2022 integrated 303/305 list. Of these four nearby waters only the Grantsville Reservoir is identified as an impaired water as it does not meet the standard for pH.

Table 3.5-1. Watershed and Impaired Waterbodies

Name	Watershed	303(d) Listed	Impaired Water Body	Impairment
Grantsville Reservoir	South Willow Creek-Frontal Great Salt Lake Watershed	Yes	Condition Impaired for State Waterbody ID: UT-L-16020304-005_00	Bioassessment: Aquatic Life (Freshwater, 95.3 acres)
South Willow Creek	South Willow Creek-Frontal Great Salt Lake Watershed	No	Condition Unknown for State Waterbody ID: UT16020304-008_00	None Listed
Gilbert Bay	Sixmile Creek-Frontal Great Salt Lake Watershed	No	Condition Good for State Waterbody ID: UT-L-16020310-001_00	None Listed
Middle Canyon	Middle Canyon Watershed	No	Condition Unknown for State Waterbody ID: UT16020304-007_00	None Listed

[26] Zone A: Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Zone AE: The base floodplain where base flood elevations are provided. Zone D: Areas with possible but undetermined flood hazards. (https://www.fema.gov/about/glossary)

3.5.3 Environmental Consequences

3.5.3.1 Proposed Action

OEA anticipates construction activities would result in minor impacts to water resources as described below by resource area. Impacts from operations are not expected.

Groundwater

Impacts to groundwater typically occur from water withdrawals, changes in aquifer recharge areas, or excavation of the landscape, which may draw down the surficial water table. OEA expects that construction of the Proposed Action would involve minimal removal of ground surface vegetation, adding ballast, replacement of the rail ties and steel rails, and replacement of existing drainage culverts. These activities would not involve significant water withdrawals, changes in aquifer recharge areas, or excavation. As described in **Section 2.1.2**, STR anticipates construction of the Proposed Action from the existing rail bed with the use of hi-rail equipment, limiting ground disturbance. Therefore, OEA concludes that the Proposed Action would have a negligible impact on groundwater. OEA is recommending mitigation requiring STR to only use herbicides that are approved by EPA and are applied by trained individuals in right-of-way maintenance to control vegetation and to limit application to the extent necessary for safe rail operations (**MM-Biological-05**).

Surface Waters and Wetlands

The Proposed Action has the potential to impact wetlands and streams. The Proposed Action would be constructed within an existing rail right-of-way, where railroad tracks already cross the potentially affected waterways and a business park that is currently under construction. STR would reconstruct culverts in waterways. STR has indicated that it would replace existing culverts with culverts equivalent to or larger than the existing culverts in its preliminary design information. OEA anticipates that the connection of replacement culverts to existing wetlands and waterways would have a small fill impact due to transitional grading from the culvert opening to the receiving waters. STR may install new culverts of equal or greater capacity than those currently in place, which could improve the movement of surface water and the connectivity of wetlands. STR has proposed voluntary mitigation requiring its contractor(s) to construct stream crossings during low-flow periods, when practical **(VM-Water-04**). OEA recommends mitigation requiring STR to design culverts to maintain existing surface water drainage patterns, to design drainage crossing structures for a 100-year flood event (**MM-Water-01),** and to coordinate with FEMA if construction of the culverts would result in an unavoidable increase greater than one foot to the 100-year water surface elevations **(MM-Water-02**).

STR would place ballast and other fill material within wetlands to construct interchange tracks at the northern end of the rail line. OEA assumed that wetlands that run parallel to the existing tracks would be filled to construct the proposed interchange tracks. OEA estimated the area of new fill based on preliminary design information provided by STR to be less than 0.5 acre. One wetland area along the existing railroad tracks is overgrown with Russian olive trees and requires clearing within the existing railroad right-of-way. STR has indicated hi-rail tree removal equipment would be used to avoid the need for grubbing

activities, thus minimizing the impacts to wetlands. OEA anticipates that STR would have to obtain a Nationwide 404 permit under the CWA from USACE for these minimal impacts to wetlands if STR cannot avoid filling the wetlands during final design. OEA is recommending mitigation requiring STR to consult with USACE and obtain a 404 Nationwide permit from USACE, if applicable, before initiating project-related construction in wetlands and other jurisdictional waters of the United States and to comply with all conditions of the Section 404 permit **(MM-Water-03**). OEA also recommends mitigation requiring STR to minimize impacts to wetlands to the extent practicable in the final design and to prepare a mitigation plan for any remaining wetland impacts in consultation with the USACE (**MM-Water-04**). Further, OEA is recommending mitigation requiring STR to compensate for the loss of any wetlands through any one, or a combination of the following: purchasing credits from an authorized wetland mitigation bank, restoring a previously existing wetland or other aquatic site, enhancing an existing aquatic site's function, preserving an existing aquatic site, and/or creating a new aquatic site (**MM-Water-05)**.

CWA Section 404(b)(1) Guidelines state that "secondary effects are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material." (40 C.F.R. § 230.11). OEA does not expect that the Proposed Action would result in any secondary impacts.

Floodplains

The Proposed Action is located outside of regulated floodplains; therefore, OEA expects that it would not result in impacts to floodplains.

Water Quality

OEA identified one impaired waterbody near the Proposed Action, the Grantsville Reservoir, located approximately six miles southwest of the location of the Proposed Action. OEA determined the Proposed Action site drains northeast towards the Great Salt Lake and not toward the Grantsville Reservoir to the southwest; therefore, the Proposed Action would not result in impacts to the Grantsville Reservoir.

Construction of the Proposed Action could result in short-term localized and downstream water quality impacts. During construction, ground disturbance could lead to erosion of sediments, which could flow down gradient into low lying areas and eventually into water bodies. During operations, erosion at culvert crossings and changes in flow patterns have the potential to deliver sediment and pollutants to downstream waters. STR has proposed voluntary mitigation requiring it to submit a Notice of Intent to request permit coverage under Utah Pollutant Discharge Elimination System (UPDES) Construction General Permit (CGP) or Common Plan Permit (CPP) for construction stormwater management **(VM-Water-01)** and submit an application for coverage under the NPDES stormwater construction permit pursuant to Section 402 of the CWA for construction stormwater management **(VM-Water-02**). In addition, STR has proposed voluntary mitigation requiring it to develop a stormwater pollution prevention plan, which would include construction best management practices (BMPs) to control erosion and reduce the amount of sediment and pollutants entering surface waters, groundwater, and waters of the United States, and STR would require contractor(s) to follow all water quality control conditions

identified in permits (**VM-Water-03**). OEA is recommending mitigation requiring STR to obtain a Section 401 Water Quality Certification from the UDEQ, incorporate the conditions of the Certification into its construction contract specifications, and monitor the project for compliance (**MM-Water-06)**.

3.5.3.2 No-Action Alternative

Under the No-Action Alternative, STR would not construct, reactivate, and operate the proposed rail line. Therefore, no impacts on groundwater, surface water, floodplains, and water quality would be anticipated.

3.5.4 Conclusion

OEA concludes that impacts to certain water resources would occur during construction activities and maintenance of the Proposed Action. OEA anticipates that the Proposed Action would result in no or negligible impacts on ground water and floodplains. However, the Proposed Action could result in impacts on surface waters, wetlands, and water quality. OEA anticipates no impacts to water resources from rail operations.

As part of the Proposed Action, STR would replace deteriorated existing culverts with new culverts equivalent to or larger than the existing culverts. OEA anticipates that the new culverts would have the benefit of improving the movement of surface waters and the connectivity of wetlands. To mitigate any potential for impacts on surface waters, OEA is recommending mitigation requiring STR to design the drainage crossing structures for a 100-year storm event (**MM-Water-01)** and to coordinate with FEMA if the culverts would result in an unavoidable increase greater than 1 foot to the 100-year water surface elevations (**MM-Water-02**).

OEA also concludes that the Proposed Action would require the placement of fill material in some wetland areas resulting in a permanent loss of 0.5 acres of wetlands. To mitigate impacts on wetlands, OEA is recommending mitigation requiring STR to obtain a permit from the USACE (**MM-Water-03)**, minimize impacts to wetlands in the Proposed Action final design (**MM-Water-04)**, prepare a mitigation plan in consultation with USACE if applicable, and compensate for the loss of any wetlands (**MM-Water-05**).

Finally, OEA anticipates that construction of the Proposed Action would create ground disturbance that could lead to erosion of sediments into water bodies. To minimize these short-term localized impacts on water quality, STR has proposed voluntary mitigation requiring it to obtain stormwater management permits and develop a stormwater pollution prevention plan including construction BMPs **(VM-Water-01, VM-Water-02, VM-Water-03, and VM-Water-04)**. OEA is recommending additional mitigation requiring STR to obtain a Section 401 Water Quality Certification from the UDEQ (**MM-Water-06)**.

If the Board authorizes the Proposed Action and imposes all of OEA's recommended mitigation, including STR's voluntary mitigation, OEA anticipates no impacts to water resources during construction or operation of the Proposed Action.

3.6 Hazardous Materials

3.6.1 Approach

The following section describes the methods OEA used to identify hazardous material release sites and evaluate each hazardous material release site's potential to affect or be affected by the Proposed Action. OEA defined the study area for hazardous material release sites as the area within a 500-foot buffer around the estimated construction area of the Proposed Action. OEA then conducted a search for hazardous material release sites in the study area. For the purposes of this analysis, a hazardous material release site is an area that has been affected by a documented release of hazardous material into soil, groundwater, surface water, sediments, and/or air. Hazardous materials are hazardous substances as defined by the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. § 103), including hazardous wastes. EPA defines hazardous waste as waste with properties that make it dangerous or potentially harmful to human health or the environment.

To search for documented releases of hazardous materials, OEA obtained environmental database reports from Environmental Risk Information Services (ERIS) to identify environmental database listings within the study area. OEA also conducted a review of the FRA database of train collision reports and incidents reported to the Pipeline and Hazardous Materials Safety Administration to identify recorded hazardous materials incidents within the Study Area as well as of the Emergency Response Notification System (ERNS) database.[27] Additionally, OEA reviewed a previous ASTM Phase I Environmental Site Assessment (ESA) completed for the majority of the study area by Ramboll US Consulting, Inc. (Ramboll) in November 2021 for STR.

After identifying hazardous material release sites in the study area, OEA evaluated whether construction of the Proposed Action could potentially affect those hazardous material release sites, based on the available information about each site. OEA concluded the Proposed Action could result in potential impacts on a hazardous material release site if one or more of the following conditions were met:

- The construction activities would disturb existing soil and ballast where identified hazardous material sites had not achieved regulatory closure with the applicable state or federal agency.
- The construction activities would disturb hazardous material release sites where an existing land use restriction prohibited disturbing contamination that was left in place (for example, contaminated soil covered with asphalt, clean soil, or another barrier).
- If insufficient documentation was available for a hazardous material release site (such as a rail-related spill of hazardous materials) to make conclusions about

[27] The ERNS program is a cooperative data sharing effort among the USEPA Headquarters, the Department of Transportation Research and Special Programs Administrations (RSPA) John A. Volpe National Transportation Systems Center, other DOT program offices, the 10 EPA Regions, and the National Response Center.

potential impacts, OEA conservatively assumed that no remediation had occurred and that the hazardous materials might still be present at the sites identified in **Section 3.6.2**.

3.6.2 Affected Environment

The Proposed Action would involve construction activities within an existing railroad right-of-way. Soils located within railroad rights-of-way can often be impacted with contaminants associated with spills and releases associated with typical railroad operations. Fill of unknown origin is often used to bring the railroad tracks to grade and may contain debris, coal, coal ash, coal slag, or other related contaminants such as metals and polycyclic aromatic hydrocarbons (PAHs). Other railroad-related sources of petroleum and/or hazardous substances may include creosote- or arsenic-laced railroad ties, herbicides, lubricating oils, diesel fuel, and diesel exhaust.

According to the November 2021 ASTM Phase I ESA, no Recognized Environmental Conditions (RECs) were identified for the Proposed Action as defined by the ASTM International *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process E1527-13* (the "ASTM Standard"). Additional concerns identified for the Proposed Action during the Phase I ESA include the past railroad operations as well as the use of slag ballast along the railroad right-of-way, which may be associated with elevated concentrations of arsenic in soil.

According to the Pipeline and Hazardous Materials Safety Administration hazardous material incidents database, three incidents are recorded in Grantsville, Utah within the study area. Two of the three releases did not result in a release to the environment; however, one bulk release of product was reported. A summary of the incident is provided below:

- Incident X-2014080319: In July 2014, a release of approximately 120 gallons of sulfuric acid occurred from a tank railroad car. The ground was reportedly neutralized, and no further response actions were conducted. The exact location of the release is unknown.

Based on a review of the ERIS Report, no other hazardous material release sites were identified within the Study Area. Five listings in the ERNS database were identified; however, the exact location of these listings is unknown. Based on the limited location information provided, one of the five ERNS listings may potentially be located within the construction area of the Proposed Action. A summary of the ERNS listing is provided below:

- Report No. 274115: In December 1994, a continuous release of chlorine equating to 58 tons occurred along a railroad siding. The media impacted was listed as the air and atmosphere. Therefore, presumably no soil was impacted by the release and no response actions were deemed necessary.

3.6.3 Environmental Consequences

3.6.3.1 Proposed Action

Construction

OEA did not identify impacts from the Proposed Action to known hazardous material release sites. OEA determined that unanticipated impacts are possible during construction of the Proposed Action due to the proposed rail line's history of past railroad operations. Construction activities would mainly occur within the right-of-way of a former active railroad. If soils impacted with contaminants typical of railroad rights-of-way, such as arsenic from slag ballast and contaminants associated with nearby hazardous material release sites and rail incidents discussed above in **Section 3.6.2**, are encountered, OEA is recommending mitigation requiring STR to perform a Phase 2 environmental investigation in addition to the Phase 1 previously performed by STR (**MM-HazMat-01)**. Further, should findings of a Phase 2 environmental investigation identify contamination in soil and/or groundwater, STR would be required to coordinate with relevant state agencies on regulatory obligations and comply with those agencies' reasonable requirements for avoiding impacts related to soil and/or groundwater contamination (**MM-HazMat-01)**. In addition, STR proposed hazardous materials best management practices as voluntary mitigation.[28]

Operation

OEA does not anticipate that operation of the Proposed Action would impact hazardous material release sites because train operations would not disturb soil or ballast. Regular maintenance activities such as replacing tracks and ties could disturb soil or ballast. STR has proposed voluntary mitigation requiring it to comply with applicable regulations and notification requirements proposed as voluntary mitigation to avoid the potential for impacts (**VM-HazMat-03**).

As a common carrier, STR would be obligated to transport hazardous materials upon reasonable request (49 U.S.C. § 11101(a)). STR does not know at this time whether it would be asked to transport any hazardous materials; therefore, because there is no data on amounts and types of hazardous materials that could be transported, OEA cannot predict the likelihood of leaks, spills, or releases. In the event these materials would be transported and a release of hazardous materials occurs, the impacts of the release would depend on many factors, including the type of material or materials released; the number of rail cars involved; the volume of material released; the location of the incident in relation to inhabited or sensitive environmental areas; and the timing and effectiveness of local government and railroad emergency response plans.[29] Based on the short length of the proposed line

[28] STR has proposed voluntary mitigation requiring it to prepare a hazardous waste management plan and a hazardous materials emergency response plan, to comply with applicable regulations and notification requirements, and responsibly handle and store materials as described in **Chapter 4** (**VM-HazMat-01, -02, -03, -04, -05, -06, 07**).

[29] See 49 C.F.R. Parts 172 and 174.

(approximately 11 miles) and the small number of trains per day (one round trip), OEA expects that any potential hazardous materials releases resulting from rail incidents on the proposed line would be small and infrequent.

In general, OEA expects that a release of hazardous materials would involve a relatively short duration exposure and would be contained quickly. This would minimize the potential for groundwater contamination, limit the extent of any soil contamination, and allow for the proper management of any surface water contamination. If hazardous materials were to enter surface waters as a result of a release, appropriate management actions would depend on the materials involved and the resources affected. These might include, but would not necessarily be limited to, cleaning up the spill and temporarily restricting the use of the water body. Such measures would minimize the potential for long-term impacts through unrecognized soil or water contamination. Moreover, in the unlikely event of a hazardous materials release along the proposed line, STR's voluntary mitigation measure (**VM-HazMat-05**) would require it to prepare a hazardous materials emergency response plan to address potential derailments or spills.

3.6.3.2 No-Action Alternative

Under the No-Action Alternative, no construction activities or modifications to the existing railroad right-of-way would be performed. Therefore, there would be no impacts on hazardous materials spills or releases.

3.6.4 Conclusion

While OEA does not expect impacts to hazardous material release sites to occur, OEA is recommending a condition requiring STR to develop an appropriate hazardous waste management plan ~~if unanticipated contaminated soils related to the line's history of past railroad operations or associated with nearby hazardous material release sites and incidents are encountered during construction and regular maintenance of the Proposed Action, mitigation may be required~~ **(MM-HazMat-01)**. As a common carrier, STR would be obligated to transport hazardous materials upon reasonable request. While the likelihood of leaks, spills, or releases is unknown, OEA anticipates that most hazardous materials releases resulting from rail incidents on the proposed line would be small and infrequent and would be minimized by appropriate management actions and the mitigation recommended in this EA. If the Board authorizes the Proposed Action and imposes all of OEA's recommended mitigation, including STR's voluntary mitigation, OEA anticipates no hazardous materials impacts during construction or operation of the Proposed Action based on the available information.

3.7 Cultural Resources

3.7.1 Approach

To gain an understanding of the potential for the Proposed Action to affect historic properties, OEA conducted background research using available sources, state surveys, state

archaeological site records, tribal documentation, National Register files, state historic context documents, historic mapping, aerial photography review, and other information, as was available. As a result of this review, one previously recorded historic resource (the Western Pacific Railroad Warner Branch) was identified within the Area of Potential Effects (APE) of the Proposed Action. The Proposed Action proposes to improve the portion of this resource within the APE by restoring the rail line.

During this review of historic background information, OEA also sought to identify potential consulting parties who may have associated interest in the Proposed Action. These identified consulting parties included the Utah State Historic Preservation Office (SHPO), Tribal Historic Preservation Offices (THPOs), American Indian tribes, county and local elected officials, local historic preservation commissions, and local museums (for a full list of all consulting parties see **Appendix A**). OEA consulted with the following American Indian tribes: Skull Valley Band of Goshute; Confederated Tribes of the Goshute Reservation, Nevada, and Utah; Shoshone-Bannock Tribes of the Fort Hall Reservation; and Ute Indian Tribe of the Uintah and Ouray Reservation, Utah.

Initiation of the Section 106 process and a request for consultation for the Proposed Action, was done through the issuance of two notification letters dated October 18 and October 27, 2022, sent by OEA to all identified consulting parties. On February 9, 2023, OEA conducted a consultation meeting with the Utah SHPO to discuss the APE and any historic property concerns. At that time, the Utah SHPO agreed with OEA's definition of the APE for historic properties and requested a cultural resources survey to identify unrecorded above-ground and below-ground resources within the APE.

The APE for historic properties was defined as consisting of a Below-Ground APE for archaeological resources and an Above-Ground APE for historic structures/resources. The Below-Ground APE consists of the Proposed Action, which includes access roads, the existing and required right-of-way along the corridor, and all easements (temporary and permanent) needed for project implementation. The Above-Ground APE includes all portions of the Proposed Action (as described above) and those surrounding areas extending out to a 250-foot radius from the Proposed Action. The Below-Ground APE and the Above-Ground APE are collectively known as the APE.

3.7.2 Affected Environment

3.7.2.1 Previously Recorded Cultural Resources Near the Proposed Action

Historic background review revealed the presence of two previously recorded historic resources located within the APE of the Proposed Action:

Western Pacific Railroad Warner Branch (42TO505): The Warner Branch of the Western Pacific Railroad is a 15.5-mile-long branch extending from the mainline at Burmester south to about one-mile west of the City of Tooele. The line operated as a transportation route for the processing of ore, smelting, and mining within the Tooele Valley and is known for its associated with the development of the Tooele Army Depot. The rail line operated from 1917 to 1979 and was abandoned in 1983. The historic resource is situated along the same alignment currently proposed for the Proposed Action and has been

previously documented in two non-contiguous segments along the alignment and in one additional segment located just south of the Proposed Action. The first segment is a 1,150-meter (3,771-foot) portion located in Section 5, of Township 2 South, Range 5 West. This resource was originally documented in 1988 and updates were made in 2000, 2004, 2006, 2008, 2009, 2011, and 2022.

This resource has been recorded in several segments over the past 30 years. Site 42T0505 was originally recorded in 1988 by P-III Associates, Inc (P-III). P-III originally identified the site as the Utah Nevada Railroad. Baseline Archaeological Services Ltd. Encountered the site in 2004 and discovered that P-IIII had misidentified the site and research indicated the railroad was the Western Pacific Railroad Warner Branch. The site was updated by SWCA in 2000, and by Sagebrush in 2008. EPG updated the site in 2008 and 2009 for the Mona to Oquirrh Power Line Project and Cardno ENTRIX archaeologists revisited and re-recorded the site during inventory for Questar FL 38 pipeline in 2011. In 2022, a portion of the site was documented for the Midvalley Highway Extension. The other recorded segments of the resource are located south of the Proposed Action.

Based on previous surveys of this resource, and current field studies within the APE, it retains integrity and is listed as eligible in the Utah site file database under Criterion A of the National Register of Historic Places (NRHP). It is significant for its association with the area's historic transportation of ore within the Tooele Valley, the development of smelting and mining in the Oquirrh Mountains, and the establishment of the Tooele Army Deport between 1917 and 1979.

1913 Lincoln Highway (42TO1077): The historic Lincoln Highway was constructed in 1913 and extended from New York City to San Francisco. Portions of the original roadway are visible across several states, including Utah. It was the first transcontinental automobile highway and is associated with events significantly impacting the history of Utah and the United States. The Lincoln Highway provided for interstate travel as well as commerce and access to towns and cities along the route. Lincoln Highway was important in connecting Utah to a broader interstate travel and commerce system. The portion of the Lincoln Highway recorded as 42TO1077 consists only of the highway route which has been upgraded, paved, and maintained over numerous years. This historic route follows the modern alignment of SR 138 and crosses the APE.

The portion of the Lincoln Highway within the vicinity of the Proposed Action was recorded on an updated site form in 2007 for UDOT. The segments noted in the vicinity are described as intact roadbeds constructed of gravels and sands. A gutter is located along both sides of the berm which measures 3 to 5 feet (~1.5 meters) in width. Associated features with the Lincoln Highway include partially buried metal culverts. As listed in the Utah site file database, the entire Lincoln Highway system is eligible for the NRHP under Criterion A for its association with the interstate highway system with various intact and preserved segments of the resource eligible under Criterion C. The portion of the linear resource recorded and evaluated within the APE during the 2007 update was determined to be a non-contributing segment to the resource's overall NRHP eligibility under Criterion A.

3.7.2.2 Previously Recorded Architectural/Historic Resources Near the Proposed Action

The Utah online database for historic buildings shows one historic building within 0.5 mile of the railway alignment. This resource (Property Record #2702) is located approximately 1,500 feet (460 meters) west of the APE; however, the address listed for the property (3073 W SR 138, Erda, Utah) is two miles east of the Proposed Action. Recent Google Earth images (2022) do not show any existing structures at the location provided for the resource in the Utah online site database.

3.7.2.3 Previous Cultural Surveys

Four previously completed cultural resource inventories have been completed within or intersecting with the APE. These include an inventory for the Mona to Oquirrh Transmission corridor conducted in 2010 (Huffman and Weymouth 2010). This corridor bisects the northern end of the APE just south of Interstate 80. A fiber optic line between Mills Junction and Grantsville, Utah was completed by Nielson and Seacat (2005). This project runs adjacent to SR 138. Reale and Collister (2011) completed an inventory for the Questar Feeder pipeline in Tooele County, which bisects the APE at Erda Way. They recorded a segment of 42TO505, discussed previously. Finally, a cultural resources inventory was completed in the northeastern portion of Section 2, Township 3 South, Range 5 West. Although this report (SHPO Report No. U07LI1107) is not available through the online database, no previously recorded historic properties were noted or recorded in that portion of the inventory survey area.

3.7.2.4 Pedestrian Survey

Pedestrian survey of the APE was completed under the guidelines and reporting standards issued by, and in consultation with, the Utah SHPO and under the conditions of Public Lands Policy Coordinating Office (PLPCO) Permit No. 125. OEA completed the fieldwork on May 16 and 17, 2023. The purpose of the survey was to identify and evaluate new historic properties that have reached 50 years of age and to revisit previously recorded resources to evaluate their current status and integrity within the APE. All archaeological sites and historic resources were evaluated using the NRHP criteria set forth under the National Historic Preservation Act (NHPA).

As a result of the survey, two previously recorded historic properties, the Warner Branch of the Western Pacific Railroad (42TO505) and the Lincoln Highway (42TO1077), were relocated within the Below-Ground APE and revisited. In addition, two historic residential structures (STRR01 and STRR03) were newly recorded within the Above-Ground APE. State site forms were updated for the revisited resources and new site forms were created for the newly recorded resources.

The Warner Branch of the Western Pacific Railroad resource was previously determined eligible for the NRHP under Criterion A for its association with the development of mining, ore transportation throughout the Tooele Valley, and the establishment of the Tooele Army Depot with an overall period of significance between 1917 and 1979. As a result of the survey, the segment of the resource within the APE was found to retain integrity and significance. It remains eligible for the NRHP under Criterion A.

The Lincoln Highway resource was previously determined to be eligible for the NRHP under Criterion A, with specific intact and well-preserved segments eligible under both Criteria A and C. A segment of the Lincoln Highway, currently used as SR 138, bisects the APE. During the revisit, no original features of the highway were identified. Development of the current SR 138 has obliterated any trace of the original roadway.

Two historic structures (STRR01 and STRR03) were newly recorded during the survey within the Above-Ground APE. Historic structure STRR01 was originally built in 1961, during a time when the railroad was in full operation. During the survey, STRR01 was found to retain integrity and significance under Criterion C as a good example of the Contemporary style. It has been determined to be eligible for the NRHP. Historic structure STRR03 has been heavily altered and lacks integrity. It does not meet any of the NRHP criteria and is not eligible for the NRHP.

~~The Section 106 process is ongoing, and the documentation supporting these determinations and findings (cultural resource survey report, survey forms) will be submitted to SHPO for review and concurrence in the near future, during the review period for this Draft EA. Consultation with the SHPO will continue with the intent to obtain concurrence prior to the issuance of the Final EA.~~Documentation supporting these evaluations and effects determinations and findings (cultural resource survey report, survey forms) was submitted to the Utah SHPO and consulting parties for review and comment on November 24, 2023. The Utah SHPO concurred with OEA's determinations of eligibility and effect assessments in a letter dated November 27, 2023.

3.7.3 Environmental Consequences

3.7.3.1 Proposed Action

Construction

Construction of the Proposed Action has the potential to impact features and/or artifacts of previously recorded historic properties (e.g., archaeological sites and historic resources) within the APE.

The Below-Ground APE encompasses an approximately six-mile-long segment of the previously recorded Warner Branch of the Western Pacific Railroad (42TO505). This resource has been previously determined eligible for the NRHP under Criterion A by the Utah SHPO. Project implementation would consist of rebuilding and repairing the existing railroad grade where needed, installation of new rail track, rail ties, ballast, and the construction of at-grade highway crossings along the approximate six-mile segment.

As the significance of 42TO505 is derived primarily from its historic association with the development of mining and the establishment of the Tooele Army Depot, the proposed reinstallation of the railroad segment would maintain the original alignment and not alter the physical features or characteristics of the property that support the resource's overall eligibility under Criterion A. The rehabilitation of the rail line would also support the continued use of the corridor for rail transportation and would therefore not diminish the characteristics of the property that make it eligible for listing in the National Register.

Therefore, OEA has determined that the Proposed Action would have no adverse effect to this resource.

The Below-Ground APE encompasses a small segment of the previously recorded Lincoln Highway. This segment of the Lincoln Highway has been completely incorporated into modern SR 138 and is considered a non-contributing element to the resource's overall eligibility for the NRHP under Criterion A. Accordingly, OEA has determined that the Proposed Action would have no adverse effect to this resource.

Two newly recorded historic residential properties were recorded within the Above-Ground APE. One of the resources, STRR01 retains integrity and is significant under Criterion C of the NRHP. The residential property has been in continual use as a residence from 1961 to the present day. Rehabilitation of the rail line would restart train operations along the historic rail route, and as a result, restore aspects of the property's original 1961 setting, feeling and association with the adjacent historic rail route. As a result, effects resulting from reinstalling the rail line on its original route would not be considered adverse. Therefore, OEA has determined that the Proposed Action would have no adverse effect to this resource.

STRR03 lacks integrity and does not meet any of the NRHP significance criteria.

The APE was surveyed for archaeological and historical sites. Since no precontact or historic archaeological sites were found during the survey, the potential for the APE to contain American Indian Indigenous sites and/or historic sites is considered very low.

To address the potential for the unanticipated discovery of archeological sites or artifacts during construction activities, OEA is recommending mitigation requiring STR to provide OEA with a construction monitoring plan that addresses training procedures to familiarize construction personnel with the identification and appropriate treatment of historic properties, monitoring of construction activities by a qualified professional archaeologist, provisions for the unanticipated discovery of archaeological sites or associated artifacts, and provisions for complying with the Native American Graves Protection and Repatriation Act (25 U.S.C. § 3001-3013) and other applicable federal, state, and local laws and regulations in the event of an unanticipated discovery of unmarked human remains during construction activities (**MM-Cultural-01)**.

Operation

The Proposed Action would continue the historic transportation use of the rail line. Therefore, OEA does not anticipate impacts to the surrounding historic properties within the APE, which are already characterized by their close association with the railroad.

3.7.3.2 No-Action Alternative

Under the No-Action Alternative, the Board would not authorize the Proposed Action and STR would not construct or operate rail service in the APE. Therefore, potential impacts to cultural resources would not occur under the No-Action Alternative.

3.7.4 Conclusion

OEA conducted a Class III pedestrian inventory in May 2023 under Section 106 of the NHPA in consultation with the Utah SHPO in February 2023. The entire length of the Proposed Action along the former Warner Branch was documented. The location where the Proposed Action is bisected by the Historic Lincoln Highway (SR 138) was investigated and documented. In addition, two historic structures were newly identified, documented, and evaluated for NRHP significance. OEA concludes that the Proposed Action would have no adverse effect on historic properties within the APE and the Utah SHPO has concurred with OEA's determinations of eligibility and effect assessments. However, OEA is recommending mitigation requiring STR to provide OEA with a construction monitoring plan that addresses training procedures, monitoring plans, and provisions for complying with regulations in the event of an unanticipated discovery of archaeological sites, artifacts, or unmarked human remains during construction activities (**MM-Cultural-01)**. ~~OEA is continuing to consult with the Utah SHPO on these findings.~~

3.8 Air Quality

This section describes the existing conditions and environmental consequences for air quality and greenhouse gas emissions under the Proposed Action and the No-Action Alternative. Under the Proposed Action, OEA examined whether construction and operation of the Proposed Action could have potential impacts on air quality and greenhouse gas emissions. Air quality can be an area of concern because air pollutants, such as emissions from locomotives, can affect human health and the environment. Greenhouse gas emissions are also a concern because they contribute to climate change. OEA defined study area for air quality and greenhouse gas emissions as Tooele County, Utah. **Appendix E** contains further details on the affected environment for the air quality analysis conducted.

3.8.1 Approach

The Clean Air Act (CAA) requires the EPA to set National Ambient Air Quality Standards (NAAQS) (40 C.F.R. part 50) for six (6) air pollutants known as criteria pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and sulfur dioxide (SO_2). NAAQS standards are based on human health criteria for the protection of public health (primary standards) and on environmental criteria to prevent environmental and property damage and for the protection of public welfare (secondary standards).[30]

The CAA amendments, issued by EPA, set agency guidelines for attainment of the National Ambient Air Quality Standards (NAAQS). The CAA requires the EPA to set NAAQS (40 C.F.R. Part 50) for six criteria pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$, respectively), and sulfur dioxide (SO_2). NAAQS standards are based on human health criteria to protect public health (primary standards), on environmental criteria to

[30] 40 C.F.R. § 50

prevent environmental and property damage, and to protect public welfare (secondary standards).

The CAA allows for one exceedance of the CO and SO_2 short-term NAAQS per year. The highest second-high accounts for the one exceedance. Annual NAAQS are never to be exceeded. The 24-hour PM_{10} standard is not to be exceeded more than once per year on average over three years. To attain the 24-hour $PM_{2.5}$ standard, the three-year average of the 98th percentile of 24-hour concentrations must not exceed 35 $\mu g/m^3$. For annual $PM_{2.5}$ averages, the average of the highest yearly observations was used as the background concentration. To attain the one-hour NO_2 standard, the three-year average of the 98th percentile of the maximum daily one-hour concentrations must not exceed 188 $\mu g/m^3$. **Table 3.8-1** presents the current NAAQS.

Table 3.8-1. National Ambient Air Quality Standards

Pollutant	Primary or Secondary	Averaging Time	Level	Form
Carbon Monoxide	Primary	8 hours	9 ppm	Not to be exceeded more than once per year
		1 hour	35 ppm	
Lead	Primary and Secondary	Rolling 3-month Average	0.15 µg/m3	Not to be exceeded
Nitrogen Dioxide	Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations; averaged over 3 years
	Primary and Secondary	1 year	53 ppb	Annual Mean
Ozone	Primary and Secondary	8 hours	0.070 ppm	Annual 4th highest daily maximum 8-hour concentration; averaged over 3 years
Particulate Matter 2.5	Primary	1 year	12.0 µg/m3	Annual mean, averaged over 3 years
	Secondary	1 year	15.0 µg/m3	Annual mean, averaged over 3 years
	Primary and Secondary	24 hours	35 µg/m3	98th percentile; averaged over 3 years
Particulate Matter 10	Primary and Secondary	24 hours	150 µg/m3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide	Primary	1 hour	75 ppb	99th percentile of 1-hour daily maximum concentrations; averaged over 3 years
	Secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

EPA uses the term "*de minimis*" across a variety of contexts to describe impacts that are too small or trivial for consideration by regulatory authorities. Under EPA's Transportation Conformity (40 C.F.R. Part 93, Subpart A) and General Conformity (40 C.F.R. Part 93, Subpart B) regulations, federal agencies compare the total estimated annual emissions from their projects to *de minimis* emissions thresholds to determine whether additional analysis and consultation are appropriate. The Transportation Conformity regulations pertain to highway and transit projects under the jurisdiction of the U.S. Department of Transportation (USDOT) and thus do not apply to Board actions. In consultation with EPA, OEA has determined that certain emissions from Board actions, such as emissions from construction activities related to the jurisdictional construction of a new line of railroad, are subject to the General Conformity regulations because those meet the definition of direct or indirect

emissions set forth at 40 C.F.R. § 93.152. However, emissions related to projected increases in rail operations on rail lines or projected increases in activities at rail yards and intermodal facilities resulting from Board decisions are not subject to General Conformity regulations because the Board does not exercise continuing program responsibility over and cannot practically control rail operations on rail lines or activities at rail yards and intermodal facilities (STB 2021). Accordingly, emissions from projected increases in rail traffic resulting from the Proposed Action are not subject to General Conformity regulations. Nevertheless, OEA has compared those emissions to the *de minimis* thresholds to contextualize the potential air quality impacts of the Proposed Action (presented in **Table 3.8-2**).

Table 3.8-2. Applicable EPA De Minimis Thresholds

Pollutant	**Status**	**Threshold (tons/year)**
Oxides of Nitrogen (NO_x)	Moderate – Nonattainment	~~100~~70[1]
Volatile Organic Compounds (VOC)	Moderate – Nonattainment	~~100~~70[1]
Particulate Matter < 2.5 µm in diameter ($PM_{2.5}$)	Serious – Nonattainment	70
Sulfur Dioxide (SO_2)	Nonattainment[2]	~~100~~70[1]

Source: https://www.epa.gov/general-conformity/de-minimis-tables

[1]Note that while the ozone threshold is 100 tons/year, $PM_{2.5}$ and its precursors are all 70 tons/year. The stricter threshold of 70 tons/year was used for OEA's analyses.

[2]See Section 3.8.2 for more information on the SO_2 attainment status for Tooele County.

The following sections describe the methodology used to estimate emissions associated with construction and operation of the Proposed Action.

3.1.1.1 Construction

OEA assessed air quality impacts from construction of the Proposed Action. The construction assessment included data on the air quality impacts of the construction equipment to be used as well as fugitive dust associated with the general construction sitework and earthwork. OEA's analysis estimated the duration of the planned construction to be 130 working days as STR stated that construction would take approximately 26 weeks to complete. OEA estimated emissions assuming an analysis year of 2023. Emissions from both non-railroad equipment and fugitive dust were quantified for the construction analysis are described below. Equipment and fugitive dust emissions were added together to create a total construction emissions inventory.

OEA quantified estimated emissions from non-railroad equipment based on the list of equipment necessary to complete the new track work, which is described in greater detail in **Appendix E**. Based on the construction schedule and equipment information provided to OEA, the number of operational hours for each piece of equipment was estimated. OEA combined these operating hours with emission factors and load factors to estimate equipment emissions.

OEA quantified fugitive dust emissions associated with construction of the Proposed Action from general site work and earthwork. Fugitive dust emissions are emissions of the criteria

pollutant particulate matter. OEA quantified fugitive dust emissions based on the hours of general construction and earthwork.

3.8.1.2 Operations

OEA evaluated the environmental consequences of Proposed Action operation by calculating air quality and greenhouse gas impacts. To do so, OEA assessed changes in pollutant emissions for Proposed Action. OEA compared emissions under the Proposed Action to the No-Action Alternative to determine Action-related emissions. Note that as the Proposed Action is non-operational in the No-Action Alternative, no locomotive emissions occur in this scenario.

OEA estimated emissions for nitrogen oxides (NO_X), volatile organic compounds (VOC), PM_{10}, $PM_{2.5}$, SO_2, CO, Carbon Dioxide Equivalent (CO_2e), Methane (CH_4), Nitrogen Dioxide (N_2O), and HAPs. OEA calculated CO_2e by deriving CO_2, CH_4, and N_2O emissions and applying global warming potentials (EPA 2021a).

OEA combined the No-Action Alternative and Proposed Action fuel usages with the emission factors to calculate the emissions inventory for the Proposed Action as described in **Appendix E**.

3.8.2 Affected Environment

EPA classifies each county in the U.S. as being in "attainment" or "nonattainment" for each criteria pollutant. A county is in attainment for a specific pollutant when the pollutant concentration is below the NAAQs. A county is in nonattainment for a specific pollutant when the pollutant concentration exceeds the NAAQS. Some nonattainment pollutants (such as ozone, CO, and PM_{10}) are further classified by the degree to which they exceed the NAAQS. For ozone, these classifications rank in severity in the order of "Marginal," "Moderate," "Serious," "Severe," and "Extreme." A county can be in attainment for some pollutants and in nonattainment for other pollutants. A third category, "maintenance area," is an area that was formerly in nonattainment but has reduced pollutant concentrations to be in attainment of the NAAQS. EPA bases its attainment status designations on ongoing air monitoring studies and the number of times specific criteria pollutants exceed NAAQS. EPA uses a fourth category, "unclassifiable," for areas with insufficient data to make an attainment determination. EPA treats unclassifiable areas like attainment areas.

Utah has established Air Quality Control Regions to monitor air quality as required by EPA under the provisions of the federal CAA. The affected environment is located in Tooele County, Utah where the rail line is proposed. According to EPA, Tooele County is designated as being in attainment (i.e., meeting NAAQS) for all current criteria pollutants except for the 2015 Ozone standard and the 2006 $PM_{2.5}$ standard~~, and the 1971 Sulfur Dioxide standard~~.[31] While Tooele County is designated as being in nonattainment for the 1971 SO_2 standard, that only applies to a portion of the Oquirrh Mountains above the 5,600-

[31] 40 C.F.R. 81.345; USEPA. 2023. "Nonattainment Areas for Criteria Pollutants (Green Book)" January 2023. https://www.epa.gov/green-book

foot contour and north of Middle Canyon.[32] As such, Conformity determinations are limited to Ozone and $PM_{2.5}$~~, and Sulfur Dioxide~~ for this county. Utah has State Implementation Plans (SIPs) for $PM_{2.5}$ and Sulfur Dioxide in the study area. However, neither specifically applies to the activities of the Proposed Action. The $PM_{2.5}$ SIP states that violations have only been observed from short-term meteorological events[33] and the Sulfur Dioxide SIP was created due to the high emissions from the Kennecott Copper smelter.[34] **Table 3.8-3** presents the attainment status of Tooele County, Utah.

Table 3.8-3. Tooele County Attainment Status

Standard	**Attainment Status**
8-Hour Ozone (2015)	Moderate – Nonattainment (North Wasatch Front) [2]
8-Hour Ozone (2008)	Attainment
8-Hour Ozone (1997) [1]	Attainment
1-Hour Ozone (1979) [1]	Attainment
$PM_{2.5}$ (2012)	Attainment
$PM_{2.5}$ (2006)	Serious – Nonattainment (Salt Lake City) [2]
$PM_{2.5}$ (1997)	Attainment
PM_{10} (1987)	Attainment
Sulfur Dioxide (2010)	Attainment
Sulfur Dioxide (1971)	Primary, Secondary – Nonattainment [2]
Lead (2008)	Attainment
Lead (1978)	Attainment
Carbon Monoxide (1971)	Attainment
Nitrogen Dioxide (1971)	Attainment

[1] Revoked

[2] Partial County. See 40 C.F.R. 81.345 for details.

EPA uses the term *de minimis* to describe matters that are too small or trivial for regulating authority consideration. Air quality analyses compare the total estimated annual changes in these operational emissions of each pollutant with the *de minimis* emissions thresholds provided under 40 C.F.R. Part 93, Subpart B. The Board does not exercise continuing program control over rail operation and would not exercise such control over operation of the Proposed Action. Accordingly, the Proposed Action is not subject to the General Conformity Rule and no assessment of *de minimis* thresholds is needed. However, OEA used the *de minimis* emissions thresholds in the air quality analysis to provide context for the estimated operational emissions (presented in **Table 3.8-3**). The Board would exercise control over the construction of the Proposed Action, thus emissions during construction are

[32] 46 FR 16258 (Thursday, March 12, 1981)

[33] Utah DEQ, 2014. "Control Measures for Area and Point Sources, Fine Particulate Matter, $PM_{2.5}$ SIP for the Salt Lake City, UT Nonattainment Area." Accessed January 19, 2023. SIP IX.A.21_SLC_FINAL_Adopted 12-3-14.pdf (utah.gov)

[34] Utah DEQ, 2006. "Utah State Implementation Plan Section IX Part B Control Measures for Area and Point Sources Sulfur Dioxide." Accessed January 19, 2023. C:\TEMP\GWViewer\SECIXB (utah.gov)

subject to a General Conformity Determination if emissions are estimated to exceed the *de minimis* thresholds.

3.8.3 Environmental Consequences

The following sections estimate pollutant emissions for the Proposed Action and No-Action Alternatives and compare the emissions to regulatory thresholds to determine the Proposed Action's potential to impact air quality and greenhouse gases.

3.8.3.1 Proposed Action

The following sections evaluate the Proposed Action's potential to affect air quality during both construction and operations.

Construction

Emissions of criteria pollutants, greenhouse gases, and hazardous air pollutants (HAPs) were estimated for construction activities for the Proposed Action. Criteria pollutants consist of NO_x, VOCs, PM_{10}, $PM_{2.5}$, SO_2, and CO. Greenhouse gases consist of CO_2, CH_4, and N_2O but are presented as an equivalent value of CO_2e. HAPs included Acetaldehyde, Acrolein, Benzene, 1,3-Butadiene, Ethyl Benzene, Formaldehyde, Naphthalene, and polycyclic organic matter (POM). These pollutants result from the combustion of fuel in internal combustion engines associated with heavy-duty construction equipment.

Table 3.8-4 presents the peak 12-month construction emissions totals by construction activity. A detailed list of the construction equipment required for the Proposed Action and used for the *de minimus* analysis is presented in **Appendix E**. The results show the construction emissions would be far less than any applicable *de minimis* thresholds.

Table 3.8-4. Construction Emissions Estimates

	Construction Activity	
Pollutant	**Estimated Emissions**	***de minimis***
Criteria Pollutants (tons/year)		
NO_x	1.50	100
VOC	0.10	100
PM_{10}	21.22	-
$PM_{2.5}$	2.19	70
SO_2	0.0016	100
CO	0.45	-
Greenhouse Gases (tons/year)		
CO_2e	582.99	-
Hazardous Air Pollutants (tons/year)		
Acetaldehyde	8.9×10^{-3}	-
Acrolein	1.9×10^{-3}	-
Benzene	3.9×10^{-3}	-
1,3-Butadiene	1.7×10^{-4}	-
Ethyl Benzene	5.2×10^{-4}	-
Formaldehyde	2.5×10^{-2}	-
Naphthalene	1.9×10^{-4}	-
POM	1.4×10^{-5}	-

de minimis values are only shown for criteria pollutants for which Tooele County is in nonattainment.

CO_2e values were calculated using the 100-year potential global warming potential (GWP) values from the IPCC Fourth Assessment Report (IPCC 2007)

NO_x = Oxides of Nitrogen; VOC = Volatile Organic Compounds; PM_{10} = Particulate Matter 10 microns or less in diameter; $PM_{2.5}$ = Particulate Mater 2.5 microns or less in diameter; SO_2 = Sulfur Dioxide; CO = Carbon Monoxide; CO_2e = Carbon Dioxide Equivalent; POM = Polycyclic Organic Matter

OEA determined that construction of the Proposed Action would result in criteria pollutant emissions below the applicable *de minimis* thresholds. The construction analysis determined that equipment emissions during the approximately six-month construction period would be relatively small. Relatively larger emissions of PM would be expected to result from earthwork activity and fugitive dust emissions, but these emissions are still *de minimis*. OEA conservatively assumed for its analysis that no control measures were used to minimize fugitive dust. OEA also projects HAPs emissions during construction to be small, with the largest single HAP emission being 0.025 tons per year of formaldehyde. Moreover, while not required as emissions are less than the *de minimis* thresholds, STR has proposed voluntary mitigation requiring it to implement appropriate dust control measures to reduce fugitive dust emissions **(VM-Air-01)** and to ensure that construction equipment is properly maintained to limit construction-related air pollutant emissions **(VM-Air-02)**.

Operations

OEA analyzed the estimated pollutant emissions from operation of the Proposed Action. According to STR, train trips associated with the Proposed Action would be approximately

11 miles at an average speed of 20 miles per hour.[35] Each train was assumed to idle between 30 and 90 minutes. Locomotive emission factors were obtained from EPA using projected fleet emissions.[36]

The Proposed Action would result in increased pollutant emissions from rail operations on the proposed rail line relative to the No-Action Alternative. OEA's emissions analysis shows that rail operations would result in criteria pollutant, HAPs, and greenhouse gas emissions (see **Table 3.8-5**). The increases in criteria pollutant emissions would all be below the respective *de minimis* thresholds for Tooele County. Total HAPs emissions would also be small, totaling 0.09 tons per year. Greenhouse gas emissions are estimated to be approximately 392 tons of CO_2e relative to the No-Action Alternative. Therefore, mitigation would not be required for the operation of the Proposed Action.

Table 3.8-5. Operational Emissions Estimates

	Operational Activity	
Pollutant	**Estimated Emissions**	***de minimis***
Criteria Pollutants (tons/year)		
NO_x	5.74	100
VOC	0.25	100
PM_{10}	0.16	-
$PM_{2.5}$	0.15	70
SO_2	0.0036	100
CO	1.02	-
Greenhouse Gases (tons/year)		
CO_2e	392.46	-
Hazardous Air Pollutants (tons/year)		
Acetaldehyde	2.0×10^{-2}	-
Acrolein	4.0×10^{-3}	-
Benzene	5.7×10^{-3}	-
1,3-Butadiene	4.7×10^{-4}	-
Ethyl Benzene	9.7×10^{-4}	-
Formaldehyde	5.6×10^{-2}	-
Naphthalene	6.9×10^{-4}	-
POM	7.0×10^{-4}	-

de Minimis values are only shown for criteria pollutants for which Tooele County is in nonattainment.

CO_2e values were calculated using the 100-year potential global warming potential (GWP) values from the IPCC Fourth Assessment Report (IPCC 2007). NO_x = Oxides of Nitrogen; VOC = Volatile Organic Compounds; PM_{10} = Particulate Matter 10 microns or less in diameter; $PM_{2.5}$ = Particulate Mater 2.5 microns or less in diameter; SO_2 = Sulfur Dioxide; CO = Carbon Monoxide; CO_2e = Carbon Dioxide Equivalent; POM = Polycyclic Organic Matter

[35] "Savage Tooele Information Response No. 1". Savage Tooele Railroad. January 3, 2023.

[36] "Emission Factors for Locomotives" US EPA Office of Transportation and Air Quality. EPA-420F-09-025. April 2009.

3.8.3.2 No-Action Alternative

Under the No-Action Alternative, the Board would not approve the construction and operation of the Proposed Action, and STR would not construct or operate the Proposed Action. Tooele County would remain designated as being in attainment for all current criteria pollutants except for the 2015 Ozone standard, the 2006 $PM_{2.5}$ standard, and the 1971 Sulfur Dioxide standard.

3.8.4 Conclusion

OEA determined that construction of the Proposed Action would result in criteria pollutant emissions below the applicable *de minimis* thresholds. OEA also projects HAPs emissions during construction to be small, with the largest single HAP emission being 0.025 tons per year of formaldehyde. OEA did not identify any impacts related to air quality for construction of the Proposed Action; therefore, OEA does not recommend mitigation.[37]

OEA determined that operation of the Proposed Action would result in increases in criteria pollutant emissions, but that they would be below the respective *de minimis* thresholds for Tooele County. Total HAPs emissions would also be small, totaling 0.09 tons per year. Greenhouse gas emissions are estimated to be approximately 392 tons of CO_2e relative to the No-Action Alternative. OEA did not identify any impacts related to air quality for the operation of the Proposed Action rail line; therefore, OEA does not recommend any mitigation.

3.9 Climate Change

Many factors can affect global climate change, including changes in atmospheric composition due to greenhouse gas emissions, as described above in **Section 0, Air Quality**. This section describes the regional and local existing conditions, evaluates anticipated impacts of climate change in the study area, and analyzes how climate change could affect the Proposed Action.

3.9.1 Approach

OEA used an approach that is consistent with the objectives laid out in Executive Order 14008, Tackling the Climate Crisis at Home and Abroad, and the CEQ's National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change. OEA selected the project location region of analysis established by the 2018 *Fourth National Climate Assessment* (NCA4), which is the most recent published assessment by the U.S. Global Change and Research Program.[38] NCA4 summarizes current

[37] While OEA did not find air quality impacts requiring mitigation, STR has proposed voluntary mitigation requiring it to implement appropriate dust control measures to reduce fugitive dust emissions and to ensure that construction equipment is properly maintained to limit construction-related air pollutant emissions **(VM-Air-01, -02)**.

[38] USGCRP is currently developing the *Fifth National Climate Assessment* (NCA5) and anticipates releasing this next report in 2023.

and future impacts of climate change in the U.S. OEA defined the study area for climate change as the NCA4 Southwest region, in which Utah is located. To assess existing climate change conditions, OEA reviewed key climate trends in the Southwest region. OEA also reviewed state-level and county-level information from state government websites, as well as tools such as the Climate Explorer, managed by the National Oceanic and Atmospheric Administration (NOAA).

To evaluate climate change impacts on the Proposed Action, OEA also reviewed the U.S. Geological Survey (USGS) National Climate Change Viewer. OEA based its analysis of predicted climate change outcomes on future scenarios often used in climate change research, called Representative Concentration Pathways (RCPs). RCPs estimate factors such as emissions, greenhouse gas concentrations, and particulate matter; various climate models use these data to predict future climate outcomes (USGCRP 2018). Specifically, OEA assessed outcomes under the RCP4.5 and RCP8.5 scenarios. The RCP4.5 is considered a lower scenario with less warming, in which lower population growth, more technological innovation, and lower carbon intensity occur (USGCRP 2018). The RCP8.5 is associated with more warming and higher population growth, less technological innovation, and higher carbon intensity (USGCRP 2018). OEA also applied the USDOT Climate Change Sensitivity Matrix (USDOT 2014) to evaluate climate change impacts on the Proposed Action. This tool presents the relationship between climate stressors (such as wildfires and extreme heat) and impacts on transportation systems, including railroads.

Further, OEA reviewed STR's *Sustainability Report*, which presents its sustainability strategy and details other elements of its environmental, social, and governance (ESG) approach. The report also provides information regarding STR's understanding of climate-related risks and opportunities and its effort to evaluate such risks in three categories: transitional, regulatory, and physical (STR 2021).

3.9.2 Affected Environment

This section summarizes recent and projected climate conditions (including temperature and precipitation trends and projections) in the portion of the NCA4 Southwest region and Tooele County where the Proposed Action would be located.

The Southwest is home to the hottest and driest climate in the U.S. Ecosystems here vary from deserts and grasslands in the hotter, lower elevations to forests and alpine meadows in cooler, higher elevations (USGCRP 2018). Notably, both naturally occurring and human-caused wildfires are prevalent and affect the forest and shrub cover in the region. NCA4 notes that climate change in particular is altering ecosystem services via substantial vegetation shifts and increases in wildfire-burned areas. Regionally, the average annual temperature increased by 1.6 degrees Fahrenheit between 1901-2016 and, of the six years with the highest recorded temperatures, four have occurred in the past decade (2014, 2015, 2016, and 2017) (USGCRP 2018). These hotter temperatures have also contributed to regional reductions in seasonal maximum snowpack water content, which has magnified hydrological droughts in the region.

Currently, in the 2020 decade, Tooele County is projected to experience an average of 265.2 dry days[39] per year under the RCP8.5 scenario and 267.5 dry days under the RCP4.5 scenario (NOAA 2023a). This does not vary substantially from the 1961-1990 observed average of 264.1 dry days (NOAA 2023a). Specifically, NOAA and the National Integrated Drought Information System (NIDIS) reported that 2022 was the 34th driest year to date over the past 128 years (2023). The current U.S. Drought Monitor shows that 100 percent of Tooele County is in severe drought conditions and that 47 percent of the county is in extreme drought conditions (NDMC, NOAA, and USDA 2023). Included within part of the area under extreme drought conditions is the Great Salt Lake. According to a report by Utah State University, the lake has lost 73 percent of its water since 1850 and could disappear entirely within five years if there is no intervention (such as legislative action to increase water flow to the lake) (Gilbert 2023). Evaporation of water bodies such as the Great Salt Lake can lead to other environmental concerns in the surrounding Tooele County area such as increased air and water pollution, increased Endangered Species Act listings due to habitat loss and ecosystem modifications, and declines in agriculture (Gilbert 2023).

Table 3.9-1 below includes information about projected temperature and precipitation changes in Tooele County as compared to historic conditions.

Table 3.9-1. Projected Temperature and Precipitation Changes in Tooele County, Utah under the RCP4.5 and RCP 8.5 Scenarios

	Projected Temperature Change (degrees Fahrenheit)[1]	**Projected Precipitation Change (inches per month)[2]**
Tooele County		
RCP4.5	+3.12	+0.05
RCP8.5	+3.70	+0.07

[1] Change is the difference in mean annual temperature (measured in degrees Fahrenheit) between historical data (1981-2010) and the future climatology period from 2025-2049.

[2] Change is the difference in mean annual precipitation (measured in inches per month) between historical data (1981-2010) and the future climatology period from 2025-2049.

In addition to wildfire risk, increased drought conditions and warming trends over time can also intensify other natural hazards in the state, including avalanches, dam failure, drought, landslides, flooding, and severe weather (Utah Department of Public Safety 2023).

Industry and STR's Current Climate Change Response

STR's 2021 *Sustainability Report* identifies climate-related risks and opportunities and outlines its approach to protecting the environment. Specifically, STR focuses on supporting sustainable supply chains, aiding the energy transition to renewable sources, promoting sustainable farming practices, and restoring and protecting the environment (STR

[39] Defined by NOAA's Climate Explorer tool as "the number of days per year—days when precipitation is less than 0.01 inches—gives a sense of the portion of the year when no moisture is being added to the environment. Changes in the number of dry days can indicate a tendency toward drier or wetter conditions." (NOAA 2023a)

2021). STR is also committed to promoting the transition to a lower-carbon economy. Evaluating climate risks in three categories, STR looks at transitional, regulatory, and physical risks to its business and infrastructure. Transitional risks are those related to changing market forces and consumer preferences, which include how businesses must adapt their practices to mitigate carbon emissions (STR 2021). Regulatory risks are those resulting from legal, regulatory, policy, and liability actions associated with climate change and physical risks include those that are caused by the effects of carbon emissions that, when released into the atmosphere, impact the physical environment. These include extreme weather events such as abnormal temperatures, floods, and storms (STR 2021). STR considers its customers' locations, where it provides services, and how those locations could be affected by climate change (e.g., hurricanes, droughts, and flooding). Part of the company's risk management process includes developing mitigation strategies and action plans depending on the severity and likelihood of such weather events; for instance, its storm response plan includes pre-staging equipment, evacuation planning, and programs to assist its staff and customers during and after a storm (STR 2021).

The American Railway Engineering and Maintenance-of-Way Association (AREMA), which sets industry standards and publishes recommended practices for railway infrastructure design, construction, and maintenance, also provides guidance for rail network resiliency in response to climate change. AREMA's *Climate Resilient Railroads: Vulnerability Assessment Methodologies and Solutions* (2021) recommends performance-based resilience solutions to supplement code-level design standards. The assessment recommends that railroads focus on site-specific elements (such as aging infrastructure materials) that are vulnerable to climate change shocks and stresses by implementing physical improvements to mitigate future impacts to people, assets, operations, and revenue. Specifically, it recommends strategies such as flood-resistant backup power systems, flood walls and pressure slabs, and continuous waterproofing (AREMA 2021).

3.9.3 Environmental Consequences

3.9.3.1 Proposed Action

Extreme Heat and Increased Drought

The NCA4 Southwest region and Tooele County specifically are expected to experience increased temperatures in the coming decades, which could potentially impact the rail lines and supporting infrastructure in the area. Under extreme heat, buckling can occur (110 degrees Fahrenheit is typically the threshold), which is when the metal in the track expands beyond the capacity of its support infrastructure and kinks either vertically or horizontally (Agarwal and Wickersham 2010; OFCM 2002; Rossetti 2002, 2007; Peterson et al. 2008; U.S. CCSP 2008; Bipartisan Policy Center 2009; Zeman et al. 2009; EC 2012). This damage can increase the risk of derailment (OFCM 2002) and requires replacement of the affected track. OEA evaluated the frequency of days in Tooele County projected to exceed a maximum temperature of 105 degrees Fahrenheit. In the 2030 decade, the number of days projected are 2.6 under a higher emissions scenario and 2 under a lower emissions scenario (NOAA 2023b). Extreme heat can also lead to electrical equipment (such as track sensors

and signal sensors) overheating and malfunctioning; in some cases, extreme heat can lead to a temporary disruption in cases where temperature thresholds result in an automatic shutdown (USDOT 2014). Buckled tracks and automatic shutdowns can temporarily remove rail lines from service, which reduces efficiency (USDOT 2014). High heat can also affect service personnel (FTA 2011; NJTC 2012). Heat indices above 105 degrees Fahrenheit increase health and safety risks for rail personnel, potentially leading to operational delays (OFCM 2002). To minimize potential impacts from extreme heat and drought, OEA is recommending mitigation requiring STR to provide OEA with a Climate Change Plan documenting how the effects of climate change on rail infrastructure would be considered and addressed by STR in the final engineering design and construction of the project and in protective health and safety measures for rail personnel exposed to extreme heat (**MM-Climate-01**).

Increased Wildfires

NCA4 documents the prevalence of wildfires in the Southwest region, which are expected to continue if Utah's drought persists over time (Utah Department of Public Safety 2023). Wildfires pose a serious risk to rail infrastructure. Metal rail components can warp or melt from the high heat, including rail ties and tracks (USDOT 2014). Wooden ties can combust from fire exposure (FTA 2011; NRC 2008). Rail equipment can also be destroyed from direct exposure to fire. This type of damage can disrupt rail line service and the wildfire itself can cause service disruptions if rail runs through an active wildfire area (FTA 2011). Smoke from wildfires may also reduce visibility for train operators. To minimize the potential impacts from wildfires, OEA is recommending mitigation requiring STR to provide OEA with a Climate Change Plan documenting how the effects of climate change on rail infrastructure would be considered and addressed by STR in the final engineering design and construction of the project, including provisions for wildfires (**MM-Climate-01**).

Greenhouse Gas Emissions

As described in **Section 3.8.4** regarding air quality, greenhouse gas emissions from the Proposed Action would be below *de minimis* thresholds therefore no mitigation is required for the Proposed Action's effect on climate change.

3.9.3.2 No-Action Alternative

Under the No-Action Alternative, the Board would not authorize the Proposed Action, and STR would not construct the Proposed Action. Any changes to the affected environment of the study area resulting from climate change would occur regardless of whether or not the Board authorizes the Proposed Action.

3.9.4 Conclusion

OEA anticipates that climate change would affect rail operations. Therefore, OEA is recommending mitigation requiring STR to provide OEA with a climate change plan documenting how the effects of climate change on rail infrastructure would be considered and addressed by STR in the final engineering design and construction of the project (**MM-Climate-01**). OEA's final climate change mitigation has been revised to provide that the

climate change plan use the Council on Environmental Quality's National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change to achieve the objectives laid out in Executive Order 14008, Tackling the Climate Crisis at Home and Abroad. OEA concludes that the recommended mitigation measure would minimize the impact of climate change on the Proposed Action. Greenhouse gas emissions from the operations of the Proposed Action would be below *de minimis* thresholds therefore no mitigation is required for the Proposed Action's effect on climate change. Further, as noted in *Section 3.2, Grade Crossing Safety*, OEA expects that the number of trucks on roadways could decrease as a result of the use of freight rail rather than trucks to move goods, which could have a positive effect on air quality and climate change.

3.10 Energy

The Board's environmental regulations, 49 C.F.R. § 1105.7(e)(4), require an evaluation of the potential impacts on energy, which is defined to include transportation of energy resources, recyclable commodities, increase or decrease in energy efficiency, and diversion of freight from rail to trucks. OEA determined that the Proposed Action would not transport energy resources, affect the transportation of recyclable commodities, or cause the diversion of freight from rail to trucks. Therefore, these energy topics did not require evaluation. OEA considered whether the Proposed Action would result in an increase or decrease in overall energy efficiency.

3.10.1 Approach

OEA defined the study area for energy efficiency as Tooele County, Utah. OEA evaluated energy information related to changes in railroad operations and fuel consumption for the Proposed Action compared to the No-Action Alternative. OEA also evaluated changes in energy use due to construction and operation of the Proposed Action as well as its potential impact on energy efficiency.

3.10.2 Affected Environment

Energy use for ground transportation in the study area is limited to primarily gasoline and diesel fuel for automobiles and trucks. As there is not currently freight rail service in the study area, there is no energy use associated with existing rail operations.

3.10.3 Environmental Consequences

3.10.3.1 Proposed Action

Construction

Construction of the Proposed Action would require the consumption of diesel fuel for construction equipment—such as excavators, trucks, bulldozers, and cranes—to perform such activities as clearing and grubbing, grading, infrastructure and track construction, and site cleanup. Track reconstruction on the six-mile reactivation of the former Warner Branch

would be conducted using diesel hi-rail equipment from the top of the existing rail as described in **Section 2.1.2**. Energy consumption during the construction period would be temporary and would place minimal additional demand on the local energy supply. Therefore, OEA expects no impacts on energy availability or supply from construction of the Proposed Action.

Operations

Operation of the Proposed Action would require the consumption of diesel fuel for the operation of locomotives. In addition, cars and trucks would be required to wait at the new roadway at-grade crossings at SR 138 and Erda Way that would be built under the Proposed Action, and the cars and trucks would consume fuel while delayed at these grade crossings. However, according to the traffic study provided by STR, the efficiency of rail to and from the LBP will reduce the need for trucks that would otherwise access the site.[40] Additionally, according to a study by the Upper Great Plan Transportation Institute, trains are up to 5.0 times more energy-efficient than the largest trucks for the movement of goods.[41] Therefore, OEA anticipates that, although the Proposed Action would result in the use of diesel fuel of rail operations and a minor increase in fuel consumption by vehicles stopped at grade crossings, the reduction in commercial trucks from the shift to freight rail from the Proposed Action would result in an increase in overall energy efficiency as compared to the No-Action Alternative.

3.10.3.2 No-Action Alternative

Under the No-Action Alternative, STR would not construct, reactivate, or operate the Proposed Action. The No-Action Alternative would not result in providing rail transport to the LBP that is now under development. Another solution for transporting goods to the LBP would be required, most likely moving goods by commercial truck.

3.10.4 Conclusion

OEA concludes that the Proposed Action would result in no impacts to energy because it would increase overall energy efficiency by reducing energy used by commercial trucks. The reduction anticipated from freight shifting to rail would be greater than the minor increase in energy consumption from rail locomotives and vehicles stopped at grade crossings at SR 138 and Erda Way.

3.11 Land Use, Zoning, and Local Plans

This section addresses land use, zoning, and local plans and the potential impacts of the Proposed Action and No-Action Alternative.

[40] Hales Engineering, Lakeview Business Park Traffic Impact Study, June 18, 2021.
[41] https://www.sciencedirect.com/science/article/abs/pii/S1361920913000898

3.11.1 Approach

To evaluate the potential impacts related to land use and zoning associated with the Proposed Action and the No-Action Alternative, OEA reviewed the existing land use and zoning categories for consistency with local land use plans. The study area for land use, zoning, and local plans includes the right-of-way for the Proposed Action and the surrounding area in the City of Grantsville, City of Erda, and Tooele County. OEA reviewed local zoning maps for the City of Grantsville and the City of Erda and documented existing land uses through field observations and land use maps. OEA also reviewed existing General Plans for Tooele County and the relevant incorporated areas, the Cities of Grantsville and Erda.

3.11.2 Affected Environment

3.11.2.1 Land Use and Zoning

The Proposed Action would be located in a primarily rural area in Tooele County. The northern two miles of the reactivated rail line, from milepost 1.04 to approximately milepost 3.15, would be located in unincorporated Tooele County. The remainder of the reactivated rail line, from milepost 3.15 to milepost 6.94, would be located within the boundaries of the recently incorporated Erda City. Milepost 6.94 to the end of the Proposed Action would be located within the City of Grantsville.

A Manufacturing General (MG) district is in unincorporated Tooele County on the west side of the right-of-way, from the construction access road at approximately milepost 1.04 to approximately milepost 1.75. The proposed right-of-way itself in this area, and as far south as milepost 3.15, where it crosses into Erda City, is located within an unincorporated portion of Tooele County that is zoned MU-40, which is multiple-use land with a 40-acre minimum. The only developed properties within a half-mile of the right-of-way in the unincorporated area are a scrap yard and a petting zoo approximately half a mile to the west, both along Higley Road. The Proposed Action from milepost 3.15 to milepost 6.38, at the crossing of SR 138 within the City of Erda, is zoned A-20, which stipulates agricultural uses with a 20-acre minimum. Land use in this area is primarily pasture land.

The Proposed Action is located in an area zoned Commercial General (CG) between SR 138 at milepost 6.38 to milepost 6.65 at Erda Way, which provides an environment for a variety of commercial uses. East of the CG district, which covers the right-of-way, are seven properties in a rural residential district with a five-acre minimum (RR-5). From milepost 6.66 at the south side of Erda Way to milepost 6.94, where the Proposed Action crosses into Grantsville and the LBP property, the property is zoned for Rural Residential use with a 1-Acre minimum (RR-1). There are approximately three properties located adjacent to the proposed right-of-way in the RR-1 area north of Erda Way and 12 properties to the road's south within that same zoning district. These properties contain a mix of homes, trailers, animal barns, and equipment sheds. Within Erda City west of the RR-1 district is the RR-10 district, which is undeveloped.

The track that would be constructed within the LBP would be in the Grantsville General Manufacturing District (MG). According to the draft Grantsville Zoning Map from October 2022, an MG district provides an environment for larger and more intensive industrial uses that are at least 20,000 square feet in size. The Erda City Zoning map, current as of December 2022, and the October 2022 draft City of Grantsville Zoning map are included in **Appendix F** as **Figure 1** and **Figure 2**.

3.11.2.2 Local Plans

Tooele County adopted its updated general plan in May 2022, which is focused on sustainable growth in the Tooele Valley, where the proposed rail line is located, and preserving the character of the remainder of the predominantly rural county. Tooele County has experienced rapid population growth since 2020 due to people moving to the county, which this recent general plan update seeks to address.

The goals of the Grantsville City general plan for land use are to maintain community character, manage growth, and support a mixture of land uses. In addition, Grantsville City proposes to annex approximately 74,724 acres of land in Tooele County, primarily to the north and south of the existing Grantsville City area that comprises 24,058 acres. The proposed future annexation boundary would encompass the entirety of the reactivated portion of the Proposed Action. The Proposed Action would reactivate six miles of former rail line within Grantsville City and the proposed annexation area. This would be consistent with historic uses, which included railroad operation, and the character of the area, which is primarily rural and uninhabited, and therefore consistent with the City of Grantsville's general plan.

Erda City was incorporated in January 2022 and published its first general plan in June 2022. However, as the plan notes, it is based heavily on the 2022 Tooele County General Plan Update, which was developed and neared completion during the Erda City incorporation process. At that time, Erda was still part of unincorporated Tooele County, although Erda residents contributed to and provided feedback on the update. The Erda 2022 general plan is intended to serve as an interim document to help guide short- and medium-term growth and development for Erda City. Like Tooele County, Erda seeks to halt rapid population growth while also attracting commercial opportunities that would improve the quality of life for residents. The Proposed Action would be consistent with the Erda general plan and with the Tooele County general plan because it would not add population to the Tooele Valley and would support new commercial opportunities in an area designated for growth while preserving the natural character of the remainder of the county.

3.11.3 Environmental Consequences

3.11.3.1 Proposed Action

The Proposed Action appears to be consistent with the existing General Plans for Tooele County and the relevant incorporated areas as well as the Cities of Grantsville and Erda. The Proposed Action would use right-of-way of the former Warner Branch and would extend beyond the former right-of-way between milepost 1.10 and milepost 1.75 for

construction and operation of interchange tracks. Fifteen feet of privately owned land would be required to facilitate construction of two additional tracks on either side of the existing railroad right-of-way for the construction of the four 2,500-foot segments of ancillary switching (or interchange) track. The land in this area is zoned for multiple uses with a minimum of 40-acre lots. The nearest residence or business is over half a mile away to the west, and a vast majority of the surrounding land is undeveloped pasture land.

The Proposed Action would be located immediately adjacent to several developed properties on the north and south sides of Erda Way, between milepost 6.38 and the entrance to the LBP at milepost 6.94. The nearest residence is located just off Erda Way, approximately 60-feet east of the Proposed Action and adjacent to the existing railroad right-of-way.

In the area of the LBP, land has already been disturbed and cleared in preparation for its construction. The northern segment of the new business park tracks would run approximately 250-feet south of the southernmost residences in the RR-1 zoned area. This area was previously undeveloped plains and pasture land. The business park tracks would terminate just north of the Utah Motorsports Campus.

Although the Proposed Action would reconstruct and reactivate prior railroad operations in close proximity to a small number of residences, the right-of-way is predominantly characterized by industrial or large undeveloped lots, much of which is currently used as pasture land. The reactivated portion of the proposed rail line would be constructed and operated on the historic Warner Branch where intact tracks exist today. Although it has not been in use for rail in several decades, this right-of-way has remained intact and undeveloped. Rail transportation would not be a new use in this area and would be consistent with its historic purpose and use.

According to the Tooele County General Plan, the County is well positioned to support distribution and manufacturing activities because of a wealth of vacant land and its proximity to Interstate 80, major freight rail lines, and Inland Port development. The Proposed Action would be located primarily in areas that are zoned for large multiple use or agricultural lots, and the land use is consistent with those zoning regulations. Furthermore, Tooele County is focused on managing growth as a result of in migration and implementing strategies for managed, sustainable growth that maintain the natural character of the majority of its area. The Proposed Action would be consistent with these goals by serving commercial and industrial development in an area designated for such activity. STR indicated that rail service under the Proposed Action to business park tenants would mean that large volumes of commodities and goods could be transported into and out of the County without tying up local roads and highways with commercial trucks. Reducing the number of trucks required to serve the LBP would be consistent with Tooele County's 2022 general plan.

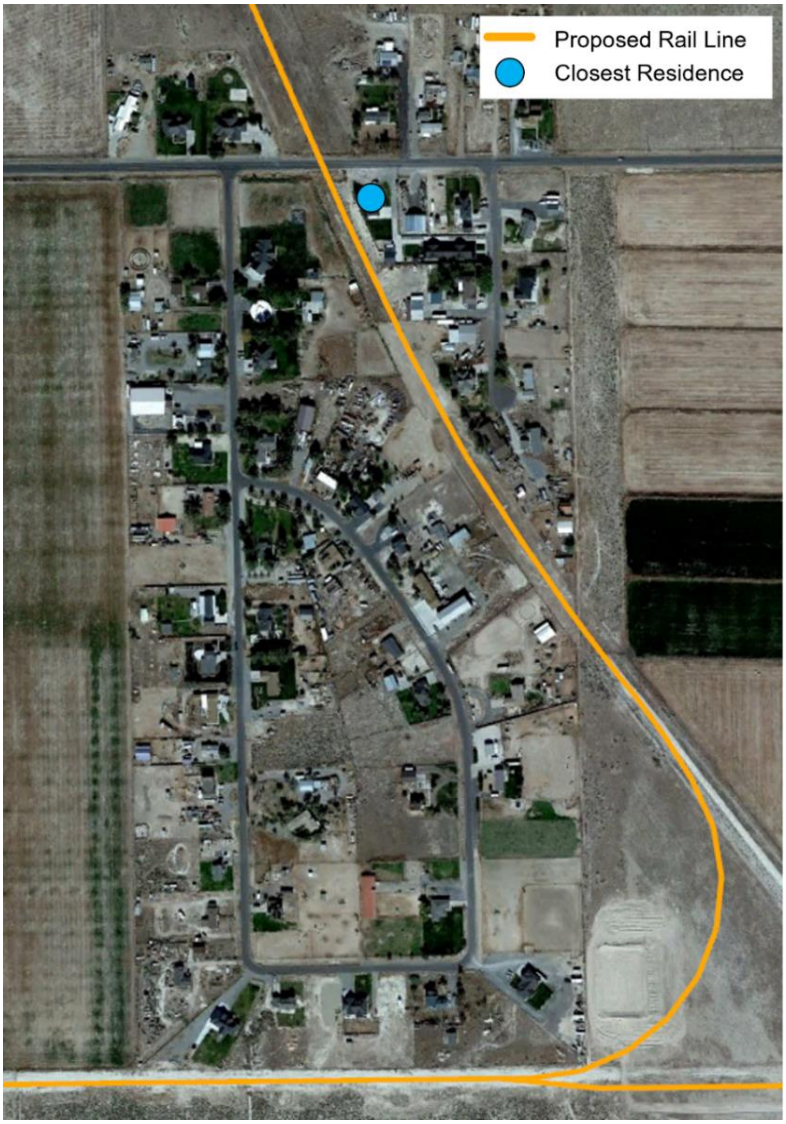
In Grantsville, the Proposed Action would be located in and serve the LBP, which is an area zoned for general manufacturing that supports larger and more intensive industrial uses at least 20,000 square feet in size. The Proposed Action would be consistent with and help facilitate the distribution, manufacturing, and industrial uses planned for the LBP, which are encouraged by the zoning in that area.

In the vicinity of Erda Way, shown in **Figure 3.11-1**, the Proposed Action would run through a small residential neighborhood that is currently zoned for rural residential development, with a minimum one-acre lot size under Erda's zoning code. Although the former Warner Branch ceased rail operations in 1979 and was abandoned in 1983, railroad tracks remain in the former right-of-way in this area on land retained by UP (see **Appendix H**). Nine of the properties that are directly adjacent to the right-of-way were constructed before or within five years of the suspension of rail activity on the Warner Branch. Since that time, residences and other associated outbuildings have been constructed adjacent to and in the vicinity of the proposed right-of-way, which has a visible railroad bed and tracks. The railroad right-of-way as a transportation land use has been present in the study area for several decades. Therefore, the Proposed Action would not be inconsistent with the zoning and land use of the area as the railroad predated most, if not all, of the current development. In addition, much of the current development preceded railroad abandonment and recent structures were built with knowledge of the existing railroad right-of-way ~~ownership~~ and in view of railroad tracks.

3.11.3.2 No-Action Alternative

Under the No-Action Alternative, STR would not construct and operate the rail line. The land use of the area surrounding area would continue to be undeveloped plains and pasture land with residential development in the vicinity of Erda Way. Similar to the Proposed Action, land development would continue in accordance with zoning, and local plans would be advanced in Tooele County and the Cities of Erda and Grantsville.

Figure 3.11-1. Closest Residence to Proposed Action



3.11.4 Conclusion

OEA concludes that based on a review of land use and zoning in Tooele County, the City of Grantsville and Erda City, construction and operation of the Proposed Action would not result in impacts to zoning and land use. The railroad right-of-way has been present in the study area for several decades, and the LBP has already been built and is currently operating and serving shippers by truck. The Proposed Action is consistent with the general plans for the City of Grantsville, Erda City, and Tooele County. The Proposed Action is also consistent with the goals of the Grantsville City general plan, the City of Erda 2022 general plan, and the Tooele County 2022 General Plan Update to halt rapid population growth while also attracting commercial opportunities that would improve the quality of life for

residents. For these reasons, OEA concludes that the Proposed Action would be consistent with the zoning and land use of the area, that the rail line predated most, if not all, of the current development, and that the current development has taken place without an operating rail option.

3.12 Environmental Justice

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994), requires agencies to make environmental justice part of the agency's mission by identifying and addressing disproportionately high and adverse human health and environmental effects of programs, policies, and projects on EJ populations, which are defined as minority populations and low-income populations.[42] EO 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All (April 21, 2023), updates and recommits to EO 12898 by requiring agencies to account for the unique and heightened impacts to communities with EJ concerns.[43]

3.12.1 Approach

OEA applied the following steps to evaluate the potential for the Proposed Action to cause disproportionately adverse impacts on EJ populations:

- OEA identified all potentially high and adverse impacts of the Proposed Action. OEA defined potentially adverse impacts as impacts that would be significant under NEPA or above generally accepted norms.
- Based on the identified adverse impacts, OEA defined the study area within which the Proposed Action could adversely affect potential EJ populations.
- OEA identified potential EJ populations (low-income and minority populations, including American Indians) in the study area using the best available demographic data managed by the U.S. Census Bureau and the U.S. Department of Housing and Urban Development (HUD), as well as through public outreach. OEA considered populations with high rates of limited English-speaking households to inform the public outreach process.

To identify potential EJ populations, OEA defined the study area for analysis as all census block groups that would intersect with the proposed rail line. The analysis primarily considered income and share of the population that falls within a minority group. Consistent with EPA's definition of low-income, OEA defined low-income to mean individuals earning an income less than 200 percent of the federal poverty level. The minority population consisted of all individuals who identify as non-White. A potential EJ population would have to meet the following thresholds:

[42] https://www.epa.gov/environmentaljustice

[43] https://www.whitehouse.gov/briefing-room/presidential-actions/2023/04/21/executive-order-on-revitalizing-our-nations-commitment-to-environmental-justice-for-all/

- a census block group where at least 50 percent of the population identify as minority and/or low-income (earn an income less than 200 percent of the federal poverty level); or
- a census block group where the share of the minority population and/or low-income population is at least 10 percent higher than that of the entire county where the population is located.

3.12.2 Affected Environment

Race, ethnicity, and poverty rates in the census block groups crossed by the Proposed Action are summarized in **Table 3.12-1** and shown in **Figure 3.12-1**. Demographic data for Tooele County and the state of Utah are also provided as a point of comparison.

Table 3.12-1. Race, Ethnicity, and Poverty Level

	Utah	Tooele County	CT 130706 BG 2	CT 130708 BG 3
Race (%)				
White	2,455,192 (77.9)	57,134 (82.9)	2,606 (91.6)	2,423 (82.4)
Black or African American	34,982 (1.1)	437 (0.6)	0	0
American Indian or Alaska Native	27,734 (0.9)	350 (0.5)	0	0
Asian	72,061 (2.3)	486 (0.7)	0	0
Native Hawaiian or Pacific Islander	28,820 (0.9)	444 (0.6)	0	0
Some Other Race	6,851 (0.2)	351 (0.5)	104 (3.7)	0
Two or More Races	79,532 (2.5)	1,704 (2.4)	41 (1.4)	45 (1.5)
Hispanic of All Races	446,067 (14.2)	8,834 (12.7)	93 (3.3)	474 (16.1)
Total Population	3,151,239	69,740	2,844	2,942
% Minority[1]	19.3	15.1	3.3	16.1
% Individuals Below Poverty[2]	-	-	19.5%	18.9%
% Families Below Poverty[2]	30.4	32.7	-	-

Source: U.S. Census Bureau, American Community Survey 2020, 5-year estimates.

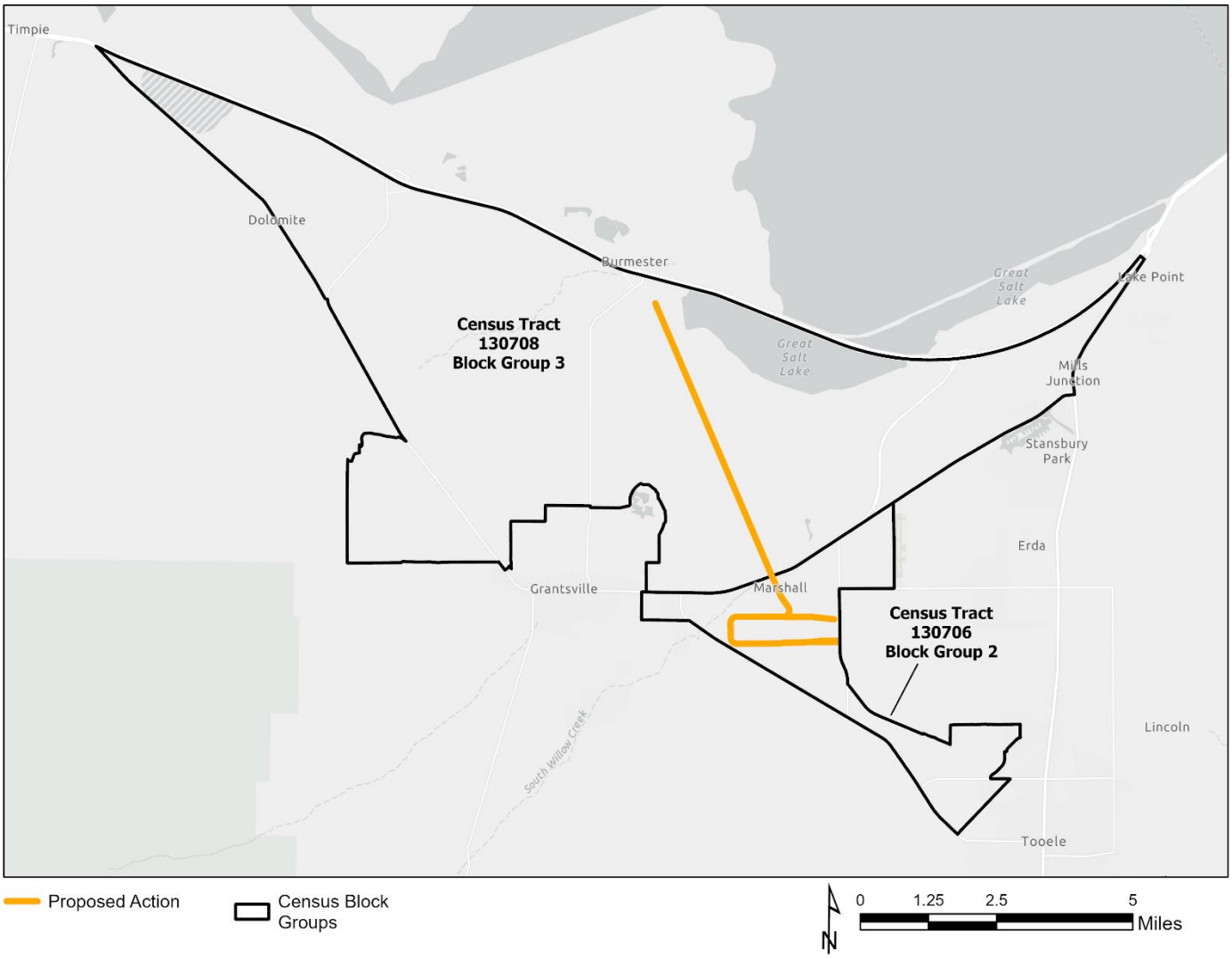
Notes:

[1] Calculated as the sum of census respondents that identified as Black, American Indian or Alaska Native, Asian, Hawaiian or other Pacific Islander (not Hispanic), or Hispanic (all races).

[2] Percentage of individuals/families who earn an income below 200 percent of the federal poverty level.

Based on these criteria, no census block met the EJ criteria for minority population for either of the census block groups that intersect the Proposed Action. All minority populations occupy less than 50 percent of the census block group populations. Neither of the census block groups that would be crossed by the Proposed Action have poverty rates for individuals and families that exceed the county or state estimates, and they are not considered low-income EJ populations for the purpose of this analysis.

Figure 3.12-1. Block Groups in EJ Study Area



3.12.3 Environmental Consequences

OEA did not identify minority or low-income populations in the study area that meet the criteria; therefore, no further EJ analysis is warranted.

3.12.4 Conclusion

OEA concludes that the Proposed Action is not anticipated to cause disproportionately adverse impacts on EJ populations because OEA did not identify minority or low-income populations in the study area that meet the criteria for EJ analysis.

3.13 Cumulative Impacts

Cumulative impacts are defined as "the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 C.F.R. § 1508.7). The impacts of individual minor disturbances and other changes to the environment by humans would accumulate when the frequency of disturbances is so high that the ecosystem or human environment has not fully rebounded before another stressful event is introduced.

This section describes the cumulative impacts of the Proposed Action and other past, present, and reasonably foreseeable future projects and actions. The sections that follow describe the approach, affected environment, and environmental consequences for the cumulative impacts analysis. OEA analyzed the potential cumulative impacts of other activities within the study area with the Proposed Action.

3.13.1 Approach

CEQ developed the handbook, *Considering Cumulative Effects under the National Environmental Policy Act* (1997), to assist federal agencies in assessing cumulative impacts. OEA has followed these guidelines in its evaluation of whether cumulative impacts could result from impacts of the Proposed Action and impacts of past, present, and reasonably foreseeable future projects and actions in the study area. OEA defined the study area and analysis period for cumulative impacts to include reasonably foreseeable projects and actions that could affect the same resource areas as the Proposed Action. For the cumulative impact analysis, OEA considered the reasonably foreseeable projects and actions discussed below.

3.13.2 Past, Present, and Reasonably Foreseeable Future Projects and Actions

3.13.2.1 Lakeview Business Park

The LBP is a business and industrial park being constructed on 1,700 acres in Grantsville City, located on Sheep Lane, which runs north-south through the site as depicted in **Figure 1.1-1.** OEA determined that the LBP is a past, present, and reasonably foreseeable future independent action within the study area of the Proposed Action. Because the LBP is not dependent on or part of the Proposed Action, the EA analyzed any reasonably foreseeable impacts from the LBP as cumulative impacts, rather than indirect impacts caused by the Proposed Action. This conclusion is primarily based on the fact that the LBP already exists and is operating and serving shippers by truck. The LBP master site plan was approved by the Grantsville Planning and Zoning Commission on August 13, 2020 and was approved by the Grantsville City Council on August 19, 2020. STR did not file its petition to construct and operate with the Board until June 30, 2022. This supports OEA's conclusion that the local jurisdiction is advancing the LBP and industrial development in general regardless of whether the Proposed Action is authorized.

Moreover, while the freight rail service that the Proposed Action would provide may be the reason that some companies choose to locate in the LBP, OEA anticipates that other companies could choose to locate there and ship by truck even if the Board denies STR's request for authority. Regardless of the availability of STR's proposed rail service, it is reasonably foreseeable that commercial development in the LBP would continue. As noted above, the location of the LBP is zoned by the City of Grantsville as the General Manufacturing District (MG), which according to the Grantsville Zoning Map is a district that provides an environment for larger and more intensive industrial uses that are at least 20,000 square feet in size. This demonstrates that the local government, which has jurisdiction over land use and development decisions, intends to develop this location for warehousing and industrial type uses, regardless of whether the Board authorizes the Proposed Action.

The LBP master plan indicates that it will contain a mix of manufacturing, distribution, research, and development buildings.[44] The LBP master plan includes 25 million square feet of space potentially creating more than 5,000 jobs. Construction of the LBP began in December 2020, some two years before STR filed for authority from the Board. There are currently two tenants in the LBP: Jabil Inc., a manufacturing company, which has leased 357,000 square feet, and Revman International Inc., a home products distributor, which has leased 146,000 square feet of space. These tenants receive deliveries by commercial truck. In 2022, 40 acres of improved land in the LBP was sold to Lineage Logistics LLC to build a 200,000-square-foot cold storage facility. Brokers for the LBP project have said in statements that highlights of the LBP are: it offers a wide variety of options for tenants and is capable of serving any sized user; Grantsville is a fast-emerging area and growing commercial submarket that offers opportunities for occupiers and other developers looking for a location in the greater Intermountain West; the location has close access to I-80 and a new interchange; it is within a 10-hour drive of half of the U.S., including all major western ports; and it is within 20 minutes of the Salt Lake City International Airport. According to the LBP Conceptual Master Plan Land Site Plan, accessed February 5, 2024, there is one fully leased site, one site under construction, four planned or soon to be delivered sold sites, 21 conceptual available sites west of Sheep Lane, and 20 conceptual available sites east of Sheep Lane.[45]

Based on its review of a Traffic Impact Study (TIS) commissioned by the LBP in 2021, OEA concludes that the LBP could be developed regardless of whether the Proposed Action is authorized.[46] The TIS focuses on the traffic impacts of truck transport alone. It estimates that four million square feet of the LBP development would be complete by 2026, eight million by 2030, and full build of the LBP by 2040. According to the TIS, by 2040 the LBP is anticipated to generate approximately 50,726 weekday daily trips, including 2,667 trips in the morning peak hour, and 3,009 trips in the evening peak hour. The TIS on page 58 further notes that the efficiency of rail to and from the LBP that would result from the Proposed Action would reduce the need for trucks, which would alleviate congestion and improve traffic safety in Tooele Valley. Additionally, the TIS indicates that because of the

[44] Property Overview - LAKEVEW BUSINESS PARK (lakeviewbusinesspark.com)
[45] Id.
[46] Hales Engineering, Lakeview Business Park Traffic Impact Study, June 18, 2021.

reduced truck traffic that would result from potential rail service, the environmental impacts of the LBP would likely be lower than they would be otherwise.

Based on information in the TIS as well as other available information, OEA concludes that the reasonably foreseeable potential effects of the LBP construction and operation are as follows:

- Traffic effects as disclosed in the TIS that would be minimized by mitigation included in the TIS such as installing signals, turning lanes, thru lanes, and widening roadways;
- Biological resources' effects from removal of habitat on the 1,700-acre LBP site, which could affect the broader habitat of the Great Salt Lake region;
- Water resources effects from increased water use and impervious surfaces on the groundwater and surface water on the LBP site, which could affect the broader Great Salt Lake region;
- Air quality effects from operational emissions from industries and businesses that may utilize the LBP and from additional vehicle traffic to and from the LBP; and
- Climate change and greenhouse gas emissions effects from the potential increase in traffic, population, economic activity, and water demand.

3.13.2.2 Midvalley Highway (SR-179)

The Midvalley Highway (SR-179) is a partially completed state highway that is proposed to connect Interstate 80 to the north, through the middle of the Tooele Valley to SR-36 to the south in the area of Tooele City. The purpose and need for the Midvalley Highway is to create an alternative to SR-36 for Tooele County residents to reach points east in the Salt Lake Valley via I-80 and relieve the pinch point at the meeting of SR-36 and I-80 at Lake Point. As of March 2023, approximately three miles of the highway have been completed between I-80 and SR 138. The connection to the completed portion of the Midvalley Highway is located approximately two miles east of the Proposed Action in the vicinity of Sheep Lane. An EA for the remainder of the highway, including selection of a preferred alignment, was completed in September 2023 by UDOT. A map of the four highway alignment options under consideration can be found in **Appendix F**, **Figure 3**. The preferred alternative chosen is included as **Appendix F, Figure 4**. OEA examined the four possible alignments under consideration for the extension of the Midvalley Highway and found that they would be located one to two miles east of the Proposed Action at the closest point. UDOT concluded in the Midvalley Highway EA that its preferred alternative would have no impacts that would require mitigation for land use, farmland, social environment, economic conditions, environmental justice, pedestrians and bicycles, air quality, noise, cultural resources, Section 4(f), visual and aesthetics, construction impacts, and energy. UDOT also concluded that its preferred alternative would have impacts that would require mitigation for right-of-way and relocations, water resources, wetlands and other waters of the U.S., floodplains, and wildlife.

3.13.2.3 Utah Inland Port Authority Tooele Valley Project Area

The Utah Inland Port Authority (UIPA) proposed a Project Area in Tooele County for an inland port located adjacent to the northern end of the proposed rail line, just south of Interstate 80, in the *Tooele Valley A Utah Inland Port Project Area Draft Project Area Plan & Budget* document published on September 22, 2023 (UIPA Tooele Valley Project Area Plan). OEA determined that the UIPA Tooele Valley Project Area Plan is a reasonably foreseeable independent project within the same study area as the Proposed Action; therefore, the Final EA analyzed the UIPA Tooele Valley Project Area Plan for reasonably foreseeable potential cumulative impacts. OEA analyzed impacts from the inland port as cumulative impacts and not as indirect impacts primarily because serving the proposed inland port area is not part of the Proposed Action's purpose and need, and STR does not plan to serve the inland port development or any new or existing businesses outside the LBP.[47]

On December 5, 2023, the UIPA board approved the creation of the Tooele Valley Project Area and adopted the Tooele Valley Project Area Plan. According to the Plan, the Tooele Valley Project Area is located near Burmester Road and Higley Road north of the City of Grantsville and is comprised of approximately 243 acres spread across several parcels, most of which are currently vacant or historically have been used for agricultural purposes. The UIPA Tooele Valley Project Area Plan indicates that it aligns with the city's general plan and zoning requirements and will provide opportunities for residents to work within the county. The Tooele County Council passed a resolution on April 11, 2023, consenting to and requesting the establishment of a UIPA Project Area within the boundaries of Tooele County. The approval of a UIPA Project Area is the first step in the process for developing the area. In a press release dated December 5, 2023, UIPA stated that the Tooele Valley Project Area is proposed for logistics and freight movement.[48] A specific proposal detailing the size and use of the UIPA Project Area is unknown at this time.

The UIPA Tooele Valley Project Area Plan (page 5) states that Tooele County's population is projected to grow from 73,149 in 2020 to 148,890 in 2060 and employment growth is expected to be from 23,903 in 2020 to 41,676 in 2060. The UIPA Tooele Valley Project Area Plan (page 5) documents that Tooele County "has long been a hub for distribution and manufacturing given its large tracts of available land and ease of access to national transportation networks."

For the UIPA Board to adopt a Project Area Plan, an initial environmental review for the Project Area must be completed. Appendix E of the Tooele Valley Project Area Plan includes a review of existing environmental conditions in the UIPA Project Area including the EPA EJScreen community report for Tooele County, description of past and present land uses, geotechnical resources, geology and soils, hydrogeology and hydrology, historic and cultural resources in Tooele County, tribal lands, natural resources, water resources,

[47] Letter from Tom Wilcox on behalf of Savage Tooele Railroad (EI-33156), November 6, 2023.

[48] https://inlandportauthority.utah.gov/all-news/utah-inland-port-authority-announces-new-project-areas-in-tooele-county/

wetlands, floodplains, sources of contamination, hazardous materials, water generation, storage, and disposal, aboveground and underground storage tanks, air quality status. OEA anticipates that reasonably foreseeable potential effects of the construction and operation of the proposed UIPA inland port in the Tooele Valley Project Area include:

- Traffic effects from additional automobile and truck vehicles;
- Biological resources effects from removal of habitat on the 243-acre site, which could affect the broader habitat of the Great Salt Lake region;
- Water resources effects from increased water use and impervious surfaces on the groundwater and surface water on the site, which could affect the broader Great Salt Lake region;
- Air quality effects from operational emissions from industries and businesses that may utilize the Tooele Valley Project Area and from additional vehicle traffic to and from the Project Area; and
- Climate change and greenhouse gas emissions effects from the potential increase traffic, population, economic activity, and water demand.

3.13.2.4 Utah Inland Port Authority Twenty Wells Project Area

UIPA proposed a second Project Area in Tooele County in *Twenty Wells A Utah Inland Port Project Area Draft Project Area Plan & Budget*, dated December 5, 2023 (UIPA Twenty Wells Project Area Plan). OEA determined that the UIPA Twenty Wells Project Area Plan is a reasonably foreseeable independent project within the same study area as the Proposed Action; therefore, the Final EA analyzed the UIPA Twenty Wells Project Area Plan for potential cumulative impacts. OEA analyzed impacts from the Twenty Wells project as cumulative impacts and not as indirect impacts because serving the Twenty Wells Project Area is not part of the Proposed Action's purpose and need, and STR does not plan to serve the wells development or any new or existing businesses outside the LBP.[49] On December 5, 2023, the UIPA board approved the creation of the Twenty Wells Project Area and adopted the Twenty Wells Project Area plan.

The Twenty Wells Project Area overlaps with a portion of the western side of the LBP as discussed in the Twenty Wells Project Area Plan. The Twenty Wells Project Area is located to the west of the LBP footprint for approximately a half mile along SR 112. In a press release dated December 5, 2023, UIPA stated that the Twenty Wells Project Area is 498 acres that are proposed for business and employment. The Project Area is located entirely within the boundaries of Grantsville City, and the City Council of Grantsville City passed a resolution on September 6, 2023 consenting to and requesting the establishment of this UIPA Project Area. The approval of a UIPA Project Area is the first step in the process for developing the area. The Twenty Wells Project Area Plan states that UIPA will coordinate with Grantsville City on the recruitment strategy, and incentives will generally favor industries such as light industrial, manufacturing, distribution, and data centers. A specific proposal detailing the size and use of the Twenty Wells Project Area is unknown at this time.

[49] Letter from Tom Wilcox on behalf of Savage Tooele Railroad (EI-33156), November 6, 2023.

For the UIPA Board to adopt a Project Area Plan for the Twenty Wells Project, an initial environmental review for the Project Area must be completed. Appendix E of the Twenty Wells Project Area Plan describes existing environmental conditions for the topics listed in *Section 3.13.2.3*. OEA anticipates that the reasonably foreseeable potential effects of the construction and operation of the Twenty Wells Project Area will include:

- Traffic effects from additional automobile and truck vehicles;
- Biological resources effects from removal of habitat on the 498-acre site, which could affect the broader habitat of the Great Salt Lake region;
- Water resources effects from increased water use and impervious surfaces on the groundwater and surface water on the site, which could affect the broader Great Salt Lake region;
- Air quality effects from operational emissions from industries and businesses that may utilize the Twenty Wells Project Area and from additional vehicle traffic to and from the Project Area; and
- Climate change and greenhouse gas emissions effects from the potential increase traffic, population, economic activity, and water demand.

3.13.3 Cumulative Impacts

As discussed in **Section 3.1** through **Section 3.12** of this EA, the impacts of the Proposed Action range from no impacts, to some impacts, which can be minimized with OEA's final recommended mitigation. OEA reviewed the resource areas assessed in this EA to determine if there would be reasonably foreseeable impacts from the construction of the LBP, the proposed extension of the Midvalley Highway (SR-179), the UIPA Tooele Valley Project Area, or the UIPA Twenty Wells Project Area that could be combined with the impacts associated with the Proposed Action to result in cumulative impacts.

For resources that would not be impacted by the Proposed Action, no beneficial or adverse impacts would be added cumulatively from the Proposed Action to the independent projects listed above. These resource areas include:

- Air quality
- Energy
- Land use, zoning, and local plans
- Cultural resources
- Environmental justice

The following examines the reasonably foreseeable potential cumulative construction and operations impacts of the independent projects listed above on the environmental resources where the Proposed Action would result in some environmental impacts.

3.13.3.1 Construction

Biological Resources: OEA anticipates that construction of the Proposed Action would permanently displace or alter an estimated 4.6 acres of vegetation where the interchange

tracks would be located and along the right-of-way where the tracks would be reconstructed. The UIPA Tooele Valley Project Area is located adjacent to the northern end of the Proposed Action and, therefore, could affect plant communities near the Proposed Action's interchange tracks. The Proposed Action would extend inside the LBP; however, that portion of the LBP footprint has already been cleared. Therefore, the Proposed Action would not affect any plant communities at that location. The Midvalley Highway extension is one to two miles away from the Proposed Action and accordingly, there would be no overlapping impacts. The UIPA Twenty Wells Project Area would affect some of the same plant community locations as the Proposed Action, as it partially overlaps with the LBP. The monarch butterfly is a candidate listed species identified in areas that overlap with the UIPA Tooele Valley and the Twenty Wells Project Area Plans as well as in the Proposed Action study area as described in Section 3.4.3 of this EA. OEA has included recommended mitigation requiring STR to review updated USFWS species lists prior to project-related construction to see if any special status species, including the monarch butterfly, have been added since issuance of the Final EA (**MM-Biological-06)**.

Water Resources: OEA anticipates that construction of the Proposed Action could result in impacts on surface waters, wetlands, and water quality, including the placement of fill material or conveyance structures. The Proposed Action would reconstruct culverts in waterways that cross the existing rail right-of-way which could cause erosion of sediment at culvert crossings. As stated in Section 3.5.3.1, OEA anticipates that STR would have to obtain a Nationwide 404 permit under the CWA from USACE for the minimal impacts to wetlands (less than 0.5 acres) for construction of the interchange tracks if STR cannot avoid filling the wetlands during final design. ~~Wetlands at the northern end of the rail line and parallel to the existing tracks would be impacted for the construction of interchange track.~~ The impacts from the culverts would be localized on the existing rail right-of-way of the Proposed Action and would be minimized by OEA's recommended mitigation **(MM-Water-01 and MM-Water-02)**. Overall, OEA anticipates that the new culverts would have a benefit by improving the movement of surface waters and the connectivity of wetlands. As the location of these waterbodies are within and along the Proposed Action rail right-of-way, the impacts, mitigation, and benefits would not extend to the location of the LBP, the Midvalley Highway extension or the UIPA Twenty Wells Project Area. Based on a review of the UIPA Draft Project Area Plan document, the UIPA Tooele Valley Project Area contains an area of "marsh, swamp, bog, prairie" in the northwest portion and a small area in the southeast corner of the Project Area. The Toole Valley Project Area Plan recognized the site's proximity to important wetlands and that its adjacency to the Great Salt Lake needs "particular attention so as not to destroy any part of the Great Salt Lake's ecosystem." OEA cannot determine whether the development of the Tooele Valley Project Area together with the Proposed Action would have impacts to the Great Salt Lake's ecosystem based on the preliminary nature of the available information. The LBP and the Twenty Wells Project Area appear to have no wetlands located within their footprints and are located approximately 10 miles south of the Great Salt Lake. Therefore, OEA does not anticipate that the Proposed Action would result in cumulative impacts to water resources when added to impacts from the LBP, the Midvalley Highway, and the UIPA Twenty Wells Project Area. However, due to its proximity to the Proposed Action, cumulative impacts could

occur if the UIPA Tooele Valley Project Area is developed and obtains permits to fill the identified marsh, swamp, bog, and prairie areas.

Hazardous Materials Release Sites: OEA does not anticipate impacts to hazardous materials release sites as a result of construction of the Proposed Action. However, discovery of unanticipated hazardous materials release sites could occur because there would be construction within a former active rail bed. These materials, if encountered, would be located in the Proposed Action study area. ~~These locations would not overlap with either~~OEA does not know if there are hazardous materials release sites at the LBP, Midvalley Highway extension, UIPA Tooele Valley Project Area, or UIPA Twenty Wells Project Area. However, because OEA anticipates no hazardous materials impacts, if the Board authorizes the Proposed Action and imposes all of OEA's recommended mitigation and STR's voluntary mitigation, OEA does not anticipate that the Proposed Action would result in cumulative impacts to hazardous materials release sites.

~~**Cultural Resources**: OEA does not anticipate any impacts to cultural resources as a result of the Proposed Action. However, in the event unanticipated resources are discovered during construction, they would be located in the Proposed Action area of disturbance and would not overlap with either the LBP or Midvalley Highway extension. Therefore, OEA does not anticipate that construction of the Proposed Action would result in cumulative impacts to cultural resources.~~

3.13.3.2 Operations

Noise: Operation of the Proposed Action, along with the LBP, Midvalley extension, UIPA Tooele Valley Project Area, and UIPA Twenty Wells Project Area has the potential to increase ambient noise. OEA found that the four potential alignments under consideration for the Midvalley Highway are between approximately one and two miles east of the Proposed Action at their closest point. OEA reviewed the Midvalley Highway EA Noise Study Area map and determined that none of the sensitive receptors are the same as those of the Proposed Action. ~~Given these distances it is unlikely that noise contours would overlap.~~ There are no known noise impacts associated with the operation of the LBP, the UIPA Tooele Valley Project Area, or the UIPA Twenty Wells Project Area. Therefore, OEA does not anticipate cumulative noise impacts.

Grade Crossing Safety: OEA anticipates that the number of cars on Erda Way and SR 138 that would use the at-grade crossings at those locations would increase as a result of the operation of the LBP. The LBP is anticipated to generate approximately 50,726 weekday daily trips, including 2,667 trips in the morning peak hour, and 3,009 trips in the evening peak hour. When a portion of the former rail line was abandoned, the rail crossings at SR 138 and Erda Way were closed. STR has proposed to construct new at-grade crossings at SR 138 and Erda Way at the former crossing locations (**Figure 3.2-1**). The proposed grade crossings are both rural crossings with AADTs of 540 (Erda Way) and 12,054 (SR1 38) vehicles per day in 2023.[50] The 2023 AADT data represents existing conditions with the current LBP. In 2026, the projected AADTs would be 1,585 (Erda Way) and 27,080 (SR

[50] See **Appendix C**, Section C.1 Grade Crossing Safety Approach for a discussion of methods and sources used.

138) vehicles per day as a result of growth related to the planned LBP development.[51] - It is anticipated that the efficiencies associated with rail transportation under the Proposed Action would reduce road truck traffic. Therefore, OEA does not anticipate that the Proposed Action ~~the LBP~~ would~~to~~ create cumulative grade crossing safety impacts when added to the impacts from the LBP~~Proposed Action~~. The Midvalley Highway extension proposed alignments are located east of the proposed roadway crossings, and none are anticipated to create overlapping cumulative~~tive~~ grade crossing safety impacts ~~when added to the impacts of the Proposed Action~~. The UIPA Tooele Valley Project Area is located near the Interstate 80 interchange with Burmester Road, which is approximately eight miles northwest of the proposed roadway crossings; therefore, OEA does not anticipate the Proposed Action would result in cumulative grade crossing safety impacts when added to the impacts from the UIPA Tooele Valley Project Area. The UIPA Twenty Wells Project Area is located on SR 112, which provides access to Interstate 80 and the planned Midvalley Highway and would be approximately three miles south of the proposed roadway crossings; therefore, OEA does not anticipate that the Proposed Action would result in cumulative grade crossing safety impacts when added to the impacts from UIPA Twenty Wells Project Area.

Grade Crossing Delay: OEA anticipates that delays from the Proposed Action at roadway crossings would be minor and would not cause the LOS of either crossing to decrease below LOS A, even with the proposed LBP in operation. OEA anticipates that, as stated in the LBP 2021 TIS, the efficiency of rail to and from the LBP would reduce the need for trucks, thereby reducing congestion and improving traffic safety in Tooele Valley. Further, OEA anticipates that, as also stated in the LBP 2021 TIS, most of the LBP workers would live in Tooele Valley. Because of the reduced truck traffic and relatively low percentage of workers commuting to and from the Salt Lake Valley, the impacts of the LBP are likely lower than they would otherwise be. Therefore, OEA does not anticipate that the Proposed action would result in cumulative grade crossing delay impacts when added to the impacts from the LBP.

The Midvalley Highway extension proposed alignments are located east of the proposed roadway crossings, and none are anticipated to create overlapping cumulative grade crossing delay impacts ~~with the Proposed Action~~. The UIPA Tooele Valley Project Area is located near the Interstate 80 interchange with Burmester Road, which is approximately eight miles northwest of the proposed roadway crossings of the Proposed Action; therefore, OEA does not anticipate that the Proposed Action would result in cumulative grade crossing delay impacts when added to the impacts from the UIPA Tooele Valley Project Area because even if the UIPA Project Area is developed, the majority of traffic likely would use the Interstate 80 interchange with Burmester Road and would not affect the grade crossings at Erda Way and SR 138. The UIPA Twenty Wells Project Area is located on SR 112, which provides access to Interstate 80 and the planned Midvalley Highway and would be approximately three miles south of the proposed roadway crossings of the Proposed Action; therefore, OEA does not anticipate that the Proposed Action would result in cumulative grade crossing safety impacts when added to the impacts from the UIPA Twenty Wells Project Area because even if the Twenty Wells Project Area is developed, the majority of traffic likely

[51] Ibid.

would use SR 112 to the Interstate 80 interchange or the Midvalley Highway and would not affect the grade crossings at Erda Way and SR 138.

~~**Cultural Resources**: OEA anticipates that if cultural resources impacts are discovered as a result of construction and operation of the Proposed Action, they would be located in the Proposed Action area of disturbance within the former Warner Branch rail line right-of-way and would not have cumulative impacts because the former Warner Branch does not overlap with either the LBP or Midvalley Highway extension. Therefore, OEA does not anticipate that operation of the Proposed Action would result in cumulative impacts to cultural resources.~~

Climate Change: OEA estimated that operation of the Proposed Action would generate greenhouse gas emissions of approximately 392 tons of CO_2e relative to the No-Action Alternative from the two locomotives on their daily round trip. OEA expects that the number of trucks on roadways could decrease as a result of the use of freight rail rather than trucks to move goods, which could have a positive effect on climate change. OEA also anticipates that the LBP, the Midvalley Highway extension, the UIPA Tooele Valley Project Area, and the UIPA Twenty Wells Project Area would generate substantial greenhouse gas emissions from automobile and truck trips to and from these projects. Therefore, OEA anticipates cumulative climate change impacts. After reasonable inquiry, OEA has determined that there is insufficient information available about the UIPA Tooele Valley Project Area and Twenty Wells Project Area to quantify the amount of greenhouse gas emissions they would produce because there are not specific development proposals for these Project Areas at this time. Further, OEA anticipates that climate change would impact the Proposed Action, the LBP, the Midvalley Highway extension, the UIPA Tooele Valley Project Area, and the UIPA Twenty Wells Project Area ~~and that the impact of climate change would be specific to each project~~. OEA's recommended mitigation for the Proposed Action would include development of an appropriate climate change action plan **(MM-Climate-01)**. ~~which would address and respond to these impacts.~~ Because STR's climate action plan would address potential climate change impacts, OEA anticipates that cumulative impacts of the Proposed Action~~projects~~ when added to the impacts from these projects would be negligible.

3.13.4 Conclusion

OEA anticipates cumulative climate change impacts from the Proposed Action when added to the impacts from the Midvalley Highway extension, the UIPA Tooele Valley Project Area, and the UIPA Twenty Wells Project Area project. ~~OEA determined that the reasonably foreseeable projects discussed above would not have overlapping impacts with the Proposed Action.~~ OEA cannot determine whether the development of the UIPA Tooele Valley Project Area would have water resource impacts to wetland areas based on the preliminary nature of the available information about the UIPA Tooele Valley Project Area and the current lack of a specific development plan. For the other resource areas, OEA does not anticipate cumulative impacts associated with the Proposed Action and any other reasonably foreseeable actions in the study area.

Chapter 4
Mitigation

Introduction

This chapter describes mitigation measures that, if imposed by the Board, would avoid, minimize, or mitigate potential environmental impacts of the Proposed Action. The regulations implementing NEPA require that agencies consider mitigation that could reduce the environmental impacts of their actions, but NEPA does not mandate the form or adoption of any mitigation (40 C.F.R. § 1508.1(s)). In the Final EA, OEA is recommending mitigation measures based on the results of OEA's environmental analysis and public and agency consultation. The mitigation includes voluntary mitigation proposed by Savage Tooele Railroad (STR) and additional measures developed by OEA. If the Board decides to grant STR's request for authority to construct and operate the Proposed Action, the mitigation measures set out in this chapter could become conditions of the Board's decision.

If efforts to establish a quiet zone are unsuccessful, OEA identified adverse noise impacts, which could be minimized with the recommended noise mitigation in the Final EA. OEA also identified minor impacts on other resource areas, including grade crossing safety and delay, which can be minimized with the recommended mitigation in the Final EA. The environmental resource sections in this chapter are organized by the potential for impacts; with noise being addressed first.

4.1 Conditioning Power of the Board

The Board has the authority to impose conditions to mitigate environmental impacts, but that authority is not limitless. Any mitigation measure the Board imposes must relate directly to the transaction before the Board, must be reasonable, and must be supported by the record before the Board. OEA's consistent practice has been to recommend mitigation only for those impacts that would result directly from a proposed action. The Board does not require mitigation for pre-existing environmental conditions.

4.2 Voluntary Mitigation

OEA encourages applicants seeking Board authority to propose voluntary mitigation to address the potential environmental impacts of their proposals. In some situations, voluntary mitigation could replace, supplement, or extend further than mitigation measures the Board might otherwise impose. Applicants often have knowledge about issues associated with their Proposed Action because of project planning and consultation with regulatory agencies during the planning process. As a result, applicants can volunteer mitigation that often is above and

beyond or in addition to mitigation the Board could unilaterally impose. The Board's practice is to require compliance with any voluntary mitigation agreed to by applicants in any final decision authorizing a proposed line.

STR has proposed voluntary mitigation. OEA has reviewed the voluntary mitigation and included in **Chapter 4** the voluntary mitigation relevant to the Proposed Action.[1] OEA made minor modifications to the wording of the voluntary mitigation for consistency, correctness, and clarity without changing the meaning or intent.

OEA also encourages applicants to negotiate mutually acceptable agreements with affected communities and other government entities. Negotiated agreements can be with neighborhoods, communities, counties, cities, regional coalitions, states, and other entities. In this case, if STR informs the Board that any negotiated agreements have been reached, the Board would require compliance with the terms of the agreements as environmental conditions in any final decision authorizing the Proposed Action.

4.3 ~~Preliminary Nature of~~The Mitigation Process

OEA's ~~preliminary~~ final recommended mitigation measures are based on information available to date, consultation with appropriate agencies, and the environmental analysis presented in the~~is Draft~~ EA. The mitigation in this chapter includes both STR's voluntary mitigation and mitigation developed by OEA. ~~OEA emphasizes that the identified mitigation measures are preliminary and invites public comment on these proposed mitigation measures. For OEA to assess the comments effectively, it is critical that the public be specific regarding any desired mitigation and the reasons why the suggested mitigation would be appropriate.~~

After OEA issued~~s~~ the Draft EA, it received~~s~~ comments~~, and the~~ during the public comment period ~~closes OEA will prepare a Final EA~~. This~~e~~ Final EA ~~will~~ responds to the substantive~~all~~ comments received on the Draft EA (see Appendix I), ~~may include additional analyses,~~ and ~~will~~ makes final recommendations to the Board on what mitigation to impose. After issuance of this Final ~~the conclusion of the~~ EA~~process~~, the Board will make its final decision in this proceeding, considering ~~weighing~~ both the transportation merits ~~of the proceeding~~ and the full environmental record—which includes the~~is~~ Draft EA, this~~e~~ Final EA, all public and agency comments received, and OEA's final recommended mitigation.

[1] OEA did not include in Chapter 4 voluntary mitigation proposed by STR that was not relevant to the Proposed Action. Specifically, STR proposed voluntary mitigation requiring it to survey for burrowing owls and limit activities or remove owls and/or their borrows if the owls are observed; however, OEA did not identify burrowing owls or habitat in the study area; therefore, this voluntary mitigation was not included in Chapter 4. In addition, STR proposed voluntary mitigation requiring it to comply with any conditions and mitigation commitments recommended by the Utah Division of Wildlife Resources and/or the U.S. Fish and Wildlife Service, for sensitive species, including plants, that could potentially be impacted by the project; however, none were identified; therefore, this voluntary mitigation was not included in Chapter 4.

4.4 Mitigation Measures

The following sections include Voluntary Mitigation (VM) offered by STR and OEA's final recommended ~~preliminary~~ mitigation measures (MM) to address potential project-related impacts discussed in the ~~Draft~~EA. OEA recommends that, if the Board grants STR authority to construct and operate the Proposed Action, such authority should be subject to the mitigation measures identified below. If a resource topic is not listed below, OEA did not identify any adverse impacts that warrant mitigation and has therefore not proposed mitigation measures for this resource area.

4.5 General Mitigation Measures

4.5.1 STR's Voluntary Mitigation Measures

VM-General-01. STR will follow all applicable federal Occupational Safety and Health Administration, Federal Railroad Administration, and operational safety regulations to minimize the potential for accidents and incidents during project-related construction and operation.

VM-General-02. STR's contractors(s) will limit ground disturbance to only the areas necessary for project-related construction.

VM-General-03. STR's contractor(s) will stockpile excavated soil in areas away from environmentally or culturally sensitive areas and will use appropriate erosion control measures to prevent or contain erosion.

VM-General-04. STR's contractors(s) will perform finish grading and surface disturbed areas with appropriate best management practices, where practical and in consultation with the City of Erda when construction is completed.

VM-General-05. Prior to project-related construction, STR will secure agreements with utility owners to establish responsibility for protecting or relocating existing utilities, if impacted by construction.

VM-General-06. STR will appoint a liaison to consult with communities, businesses, agencies, tribal governments, educational institutions, and nonprofit organizations to provide general project information, progress on construction, information on rail operations and safety as needed and will seek to develop cooperative solutions to local concerns regarding project-related construction.

VM-General-07. STR and its contractor(s) will consult with appropriate adjacent landowners for coordination of construction schedules and temporary access during project- related construction.

VM-General-08. STR will install construction warning and detour signs throughout the corridor and at recreation sites around the project area as needed.

VM-General-09. During project-related construction activities, STR and its contractors will comply with speed limits and applicable laws and regulations when operating vehicles and equipment on public roadways.

VM-General-10. STR will design and construct any new temporary or permanent access roads and road realignments to comply with the reasonable requirements of the UDOT Roadway Design Manual (UDOT 2020), other applicable road construction guidance (e.g., county road right-of-way encroachment standards), and agency or landowner requirements regarding the establishment of safe roadway conditions.

4.5.2 OEA's ~~Preliminary~~ Final Recommended Mitigation

MM-General-01. If there is a material change in the facts or circumstances upon which the Board relied in imposing specific environmental mitigation conditions, and upon petition by any party who demonstrates such material change, the Board shall consider revising its final mitigation, if warranted and appropriate.

4.6 Noise

4.6.1 STR's Voluntary Mitigation Measures

VM-Noise-01. STR will comply with Federal Railroad Administration regulations (49 C.F.R. Part 210) establishing decibel limits for train operation.

VM-Noise-02. STR will work with its contractor(s) to make sure that project-related construction and maintenance vehicles are maintained in good working order, with properly functioning mufflers to control noise.

VM-Noise-03. Prior to commencing construction activities STR will confer with the City of Erda, UDOT, and Tooele County about the establishment of Quiet Zones at Route 138 and Erda Way and will assist the City of Erda and Tooele County in identifying appropriate supplemental or alternative safety measures, practical operational methods, or technologies that lead to the establishment of Quiet Zones at those locations, in accordance with FRA's rules and procedures.

VM-Noise-04. During project-related construction, STR's daily construction schedule will adhere to time restrictions that limit construction noise prior to 7:00 a.m. or after 5:00 p.m. to the maximum extent practicable, with the exception of road crossing construction, which may occur on a 24/7 schedule to lessen traffic interruptions.

VM-Noise-05. Prior to project-related construction outside of local time restrictions within the city limits of the City of Erda, STR will consult with and comply with the reasonable requirements of the City of Erda for a special use permit to allow nighttime construction.

4.6.2 OEA's ~~Preliminary~~ Final Recommended Mitigation

MM-Noise-01. STR shall employ reasonable and feasible noise mitigation, such as building sound insulation where OEA identified one receptor (receptor #6) that would experience noise impacts at or greater than the regulatory analytical threshold of 65 day-night average sound level (DNL)/+3 A-weighted decibels (dBA). STR shall implement the following in developing the building sound insulation:

- Using industry standard loudspeaker testing, the existing building sound insulation performance shall be determined in accordance with ASTM 966-90, *Standard Guide for Field Measurements of Airborne Sound Insulation of Building Facades and Façade Elements*.
- The design goal for the sound insulation shall be a 10 dBA noise reduction. The calculated Noise Level Reduction (NLR) improvement shall be at least 5 dBA. If the calculated NLR associated with acoustical replacement windows and doors is less than 5 dBA then no additional mitigation shall be required since the improvement would be minor and likely not noticeable. The overall goal of the required sound insulation analysis is to demonstrate that interior noise levels (with the Proposed Action) at receptor #6 would be 45 DNL or lower, and to implement sound insulation to result in an NLR improvement of 5 dBA or more, where feasible and reasonable based on the characteristics of the property.

MM-Noise-02. Because the modeled noise contour also comes close to adversely affecting several other receptors, STR shall measure train horn and wayside noise levels from actual train operations to verify the modeled noise contour location used in this Draft EA within one month of train operations reaching one roundtrip per day. STR shall take enough measurements of the actual train horn and wayside noise levels to demonstrate that Sound Exposure Level (SEL) values achieve a 90 percent confidence interval of 3 dBA or less. If the average measured SEL value is greater than the assumed 110 dBA for horn noise (measured at 100 feet), STR shall calculate the actual 65 DNL contour using the methodology in this Draft EA and comply with the mitigation in **MM-Noise-01** for any newly affected receptors.

MM-Noise-03. STR shall maintain rail and rail beds according to American Railway Engineering and Maintenance-of-Way Association (AREMA) standards.

MM-Noise-04. STR shall consider lubricating curves, where doing so would both be consistent with safe and efficient operating practices and significantly reduce noise for residential or other noise sensitive receptors.

MM-Noise-05. STR shall employ safe and efficient operating procedures that, in lieu of or as a complement to other noise mitigation measures, can have the collateral benefit of effectively

reducing noise from train operations. Specifically, STR shall inspect rail car wheels and maintain wheels in good working order to minimize the development of wheel flats, inspect new and existing rail for rough surfaces and, where appropriate, grind these surfaces to provide a smooth rail surface during operations, and regularly maintain locomotives.

4.7 Grade Crossing Safety and Delay

4.7.1 STR's Voluntary Mitigation Measures

VM-Grade Crossing-01. STR will consult with appropriate federal, state, and local transportation agencies to determine the final design of the at-grade crossing warning devices. Warning devices on public roadways will be subject to review and approval, depending on location, by the Utah Department of Transportation, City of Erda, and Tooele County. STR will follow standard safety designs for each at-grade crossing for proposed warning devices and signs. These designs will follow the Federal Highway Administration's Manual on Uniform Traffic Control Devices for Streets and Highways (2022) and the American Railway Engineering and Maintenance-of-Way Association's guidelines for railroad warning devices. STR will also comply with applicable UDOT and local requirements.

VM-Grade Crossing-02. Prior to construction of road crossings, when reasonably practical, STR and its contractor(s) will consult with local transportation officials regarding construction phasing and temporary traffic control. STR's contractor(s) will be responsible for local agency coordination of construction schedules, detours, and temporary traffic control, as well as obtainment of necessary temporary traffic control permits from the City of Erda and Tooele County. As appropriate, STR's contractor(s) will maintain egress or traffic routing to allow for passage of emergency and other vehicles.

VM-Grade Crossing-03. Prior to project-related construction, STR will consult with UDOT and other appropriate agency(s) to determine the final details and reasonable signage for private at-grade crossings along access roads.

VM-Grade Crossing-04. Prior to project-related construction, STR will consult with UDOT and applicable road authority regarding roadway safety and user expectations, which includes items such as pavement markings, signing, delineators, and active warning devices for vehicles, pedestrians, and bicyclists at proposed at-grade crossings.

VM-Grade Crossing-05. Prior to and during project-related construction, in accordance with project plans, specifications, and permits, STR's contractor(s) will install temporary traffic control, including pavement markings, signing, and detours, throughout the project limits and applicable work zones.

VM-Grade Crossing-06. Prior to and during construction and operation of the project, STR will work with local agencies to facilitate the development of cooperative agreements with emergency service providers to share services areas and emergency call response.

VM-Grade Crossing-07. STR will consult with affected communities regarding ways to improve visibility at highway-rail at-grade crossings, including by clearing vegetation or installing lights at the crossing during construction.

VM-Grade Crossing-08. STR will obtain and abide by the reasonable requirements of applicable permits and approvals for any project-related construction activities within UDOT rights-of way or state highways where UDOT has jurisdiction and off-system roads that are maintained by UDOT.

VM-Grade Crossing-09. For each of the public at-grade crossings on the proposed rail line, STR will provide and maintain permanent signs prominently displaying both a toll-free telephone number and a unique grade-crossing identification number in compliance with Federal Highway Administration regulations (23 C.F.R. Part 655). The toll-free number will enable drivers to report promptly any accidents, malfunctioning warning devices, stalled vehicles, or other dangerous conditions.

VM-Grade Crossing-10. STR will coordinate with Operation Lifesaver to provide educational programs available to communities, schools, and other organizations located along the proposed rail line. Operation Lifesaver is a nationwide, nonprofit organization that provides public education programs to help prevent collisions, injuries, and fatalities at highway/rail grade crossings.

4.7.2 OEA's ~~Preliminary~~ Final Recommended Mitigation

MM-Grade Crossing-01. STR shall consult with and comply with ~~the~~ reasonable UDOT requirements for creating new rail/roadway crossings at SR 138 and Erda Way. Specifically, STR shall abide by UDOT's reasonable requirements for new crossings ~~comply with UDOT~~under Administrative Rule R930-5, and specifically R930-5-7.6~~, which addresses the requirements for new crossings~~.

MM- Grade Crossing-02. STR shall not block at-grade crossings for more than 10 minutes at a time, when reasonably practical, unless mechanical failure, an obstruction on the track, or a similar emergency condition prevents a train from being moved clear of the crossing.

MM- Grade Crossing-03. STR shall notify appropriate emergency services dispatching centers if grade crossings become blocked by trains that may be unable to move for a prolonged period.

4.8 Biological Resources

4.8.1 OEA's ~~Preliminary~~ Final Recommended Mitigation

MM-Biological-01. STR shall use temporary barricades, fencing, and/or flagging in habitats to contain construction related impacts to the area within the construction right-of-way. To

the extent possible, staging areas shall be located in previously disturbed sites and not in habitat areas.

MM-Biological-02. STR shall limit ground disturbance to only the areas necessary for construction.

MM-Biological-03. STR shall ensure that all disturbed soils are landscaped, seeded with a native seed mix, or otherwise permanently stabilized following project-related construction.

MM-Biological-04. Prior to any project-related construction, STR shall develop and implement a mitigation plan to address the spread and control of non-native invasive plants during the construction. This plan shall address the following: (a) planned seed mixes, (b) weed prevention and eradication procedures, (c) equipment cleaning protocols, (d) revegetation methods, and (e) protocols for monitoring revegetation.

MM-Biological-05. STR shall only use herbicides in right-of-way maintenance to control vegetation that are approved by EPA and are applied by trained individuals, following the instructions on the pesticide label, who will limit application to the extent necessary for safe rail operations and not use the pesticides near wetlands. Herbicides shall be applied to prevent or minimize drift off of the right-of-way into adjacent areas.

MM-Biological-06. STR shall review updated U.S. Fish and Wildlife Service and Utah species lists prior to the start of project-related construction to see if any special status species were added after issuance of the Final EA. If new species are identified, STR shall notify OEA so that appropriate action can be taken if warranted.

MM-Biological-07. STR shall clear vegetation in preparation for construction before or after the breeding bird nesting season to avoid inadvertent removal of active nests (nesting adults, young, or eggs) and to ensure compliance with the Migratory Bird Treaty Act. If clearing is required during nesting season, STR shall consult with OEA and the local office of the U.S. Fish and Wildlife Service (USFWS) on appropriate nest survey methods for that area.

4.9 Water Resources

4.9.1 STR's Voluntary Mitigation Measures

VM-Water-01. STR's contractor(s) will submit a Notice of Intent to request permit coverage under Utah Pollutant Discharge Elimination System (UPDES) Construction General Permit (CGP) or Common Plan Permit (CPP) for construction stormwater management.

VM-Water-02. STR's contractor(s) will submit an application for coverage under the National Pollutant Discharge Elimination System stormwater construction permit pursuant to Section 402 of the Clean Water Act for construction stormwater management.

VM-Water-03. STR will develop a stormwater pollution prevention plan, which will include construction BMPs to control erosion and reduce the amount of sediment and pollutants entering surface waters, groundwater, and waters of the United States. STR will require its construction contractor(s) to follow all water quality control conditions identified in all permits that might be required, including the Section 404 permit from the U.S. Army Corps of Engineers (Corps) and the Section 401 Water Quality Certification from the Utah Department of Environmental Quality and the U.S. Environmental Protection Agency.

VM-Water-04. STR's contractor(s) will construct stream crossings during low-flow periods, when practical.

4.9.2 OEA's ~~Preliminary~~ Final Recommended Mitigation

MM-Water-01. STR shall design drainage crossing structures for a 100-year storm event. STR shall design culverts to maintain existing surface water drainage patterns to the extent practicable and not cause or exacerbate flooding.

MM-Water-02. STR shall coordinate with the Federal Emergency Management Agency (FEMA) if construction of the culverts would result in an unavoidable increase greater than 1 foot to the 100-year water surface elevations.

MM-Water-03. STR shall obtain a permit if applicable from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act before initiating project-related construction in wetlands and other jurisdictional waters of the United States. STR shall comply with all conditions of the Section 404 permit.

MM-Water-04. STR shall minimize impacts to wetlands to the extent practicable in the final design. After all practicable steps have been taken to minimize impacts to wetlands, STR shall prepare a mitigation plan for any remaining wetland impacts in consultation with the U.S. Army Corps of Engineers, if applicable.

MM-Water-05. STR shall compensate for the loss of any wetlands through any one, or a combination of, the following purchasing credits from an authorized wetland mitigation bank, restoring a previously existing wetland or other aquatic site, enhancing an existing aquatic site's function, preserving an existing aquatic site, and/or creating a new aquatic site.

MM-Water-06. STR shall obtain a Section 401 Water Quality Certification from the Utah Department of Environmental Quality. STR shall incorporate the conditions of the Section 401 Water Quality Certification into its construction contract specifications and shall monitor the project for compliance.

4.10 Hazardous Materials

4.10.1 STR's Voluntary Mitigation Measures

VM-HazMat-01. Prior to initiating any project-related construction, STR's contractor(s) will prepare a hazardous waste management plan detailing the manner in which hazardous wastes will be managed and describing the types and volumes of hazardous wastes anticipated to be managed. There will be no export of hazardous materials off-site other than used rail ties. The hazardous waste management plan will address both onsite and offsite hazardous waste management and include the following: description of the methods to be used to ensure accurate piece counts or weights of shipments; waste minimization methods; facilities to be used for treatment, storage, and disposal; onsite areas designated where hazardous wastes are to be handled; identify whether transfer facilities are to be used, and if so, how the wastes will be tracked to ultimate disposal. Additionally, STR's contractor(s) will document hazardous waste inspections on a weekly basis.

VM-HazMat-02. In accordance with STR contractor(s)'s hazardous waste management plan and emergency management plan, and in the event of a spill over the applicable reportable quantity, each STR's contractor will comply with its spill prevention, control, and countermeasures plan and applicable federal, state, and local regulations pertaining to spill containment, appropriate clean-up, and notifications.

VM-HazMat-03. STR will document all activities associated with hazardous material spill sites and hazardous waste sites and will notify the appropriate state and local agencies according to applicable regulations. The goal of the measures is to ensure the proper handling and disposal of contaminated materials, including contaminated soil, groundwater, and stormwater, if such materials are encountered. STR will use disposal methods that comply with applicable solid and hazardous water regulations.

VM-HazMat-04. STR's contractor(s) will responsibly handle and store gasoline, diesel fuel, oil, lubricants, and other petroleum products to reduce the risk of spills contaminating soils or surface waters. If a petroleum spill occurs in the project limits as a result of project-related construction, operation, or maintenance and exceeds specific quantities or enters a waterbody, STR's contractor(s) will be responsible for promptly cleaning the spill and notifying responsible agencies in accordance with federal and state regulations.

VM-HazMat-05. STR's hazardous materials emergency response plan will address potential derailments or spills. This plan will address the requirements of the Pipeline and Hazardous Materials Safety Administration and Federal Railroad Administration requirements for comprehensive oil spill response plans. STR will distribute the plan to federal, state, and local emergency response agencies. This plan will include a roster of agencies and people to be contacted for specific types of emergencies during project-related construction, operation and maintenance activities, procedures to be followed by particular rail employees, emergency routes for vehicles, and the location of emergency equipment.

VM-HazMat-06. In the event of a reportable hazardous materials release, STR will notify appropriate federal and state environmental agencies as required under federal and state law.

VM-HazMat-07. STR will comply with applicable Federal Railroad Administration, Pipeline and Hazardous Materials Safety Administration, and Transportation Security Administration regulations for the safe and secure transportation of hazardous materials.

4.10.2 OEA's ~~Preliminary~~ Final Recommended Mitigation

MM-HazMat-01. If STR encounters contamination (or signs of potential contamination) during construction activities, STR shall perform a Phase 2 environmental following American Society of Testing and Materials E1527-05, Standard Practice for Environmental Site Assessments, in addition to the Phase 1 previously performed by STR. Should findings of a Phase 2 environmental investigation identify contamination in soil and/or groundwater, STR shall coordinate with relevant state agencies on regulatory obligations and comply with those agencies' reasonable requirements for avoiding impacts related to soil and/or groundwater contamination.

4.11 Cultural Resources

4.11.1 OEA's ~~Preliminary~~ Final Recommended Mitigation

MM-Cultural-01. STR shall prepare and provide to OEA a construction monitoring plan no later than 30 days prior to the start of construction and shall abide by the provisions of the plan, including any revisions by OEA, during construction activities. The plan shall address the following:

1. Training procedures to familiarize construction personnel with the identification and appropriate treatment of historic properties,
2. Monitoring of construction activities by a qualified professional archaeologist,
3. Provisions for the unanticipated discovery of archaeological sites or associated artifacts during construction activities, including procedures for notifying OEA and the Utah State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), pursuant to 36 C.F.R. § 800.13(b) in the event of an unanticipated discovery; and,
4. Provisions for complying with the Native American Graves Protection and Repatriation Act (25 U.S.C. § 3001-3013) and other applicable federal, state, and local laws and regulations in the event of an unanticipated discovery of unmarked human remains during construction activities.

4.12 Air Quality

4.12.1 STR's Voluntary Mitigation Measures

VM-Air-01. In accordance with Utah or local agency dust control permitting requirements, STR's contractor(s) will implement appropriate dust control measures to reduce fugitive dust emissions created during project-related construction. STR will require its construction contractor(s) to regularly operate water trucks on haul roads to reduce dust generation.

VM-Air-02. STR will work with its contractor(s) to make sure that construction equipment is properly maintained, and that mufflers and other required pollution-control devices are in working condition in order to limit construction-related air pollutant emissions.

4.13 Climate Change

4.13.1 OEA's ~~Preliminary~~ Final Recommended Mitigation

MM-Climate-01. STR shall prepare a climate change plan documenting how the effects of climate change on rail infrastructure will be considered and addressed by STR in the final engineering design and construction of the rail line. The plan shall account for the extreme heat, drought, and wildfires that are anticipated in this region, which can cause track buckling, warping/melting, and electrical equipment disruptions. The plan shall also cover protective health and safety measures for rail personnel exposed to extreme heat. The plan shall use the Council on Environmental Quality's National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change to achieve the objectives laid out in Executive Order 14008, Tackling the Climate Crisis at Home and Abroad.

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