U.S. Department of Transportation
Federal Railroad Administration

FINDING OF NO SIGNIFICANT IMPACT and FINAL SECTION 4(f) DETERMINATION

Livingston Avenue Bridge Replacement Project
Albany and Rensselaer Counties, New York
October 2022

1 Introduction

The New York State Department of Transportation (NYSDOT) is proposing to undertake the Livingston Avenue Bridge Project (the Project) to replace the Livingston Avenue Bridge, which spans the Hudson River between the cities of Albany and Rensselaer, providing a critical rail link on New York State's Empire Corridor. The bridge, which CSX Transportation Inc. (CSX) owns and the National Railroad Passenger Corporation (Amtrak) maintains and operates, was constructed in 1901-1903 on a substructure that dates to the 1860s and is nearing the end of its serviceable life. Amtrak uses the bridge for intercity passenger trains traveling on the Empire Corridor route and CSX and Canadian Pacific (CP) use the bridge for freight rail service.

Since Federal funds and Federal permits are necessary for the Project, compliance with the National Environmental Policy Act of 1969 (42 USC § 4321 et seq.) (NEPA) is required. The Federal Railroad Administration (FRA) is the lead Federal agency for review under NEPA. FRA and NYSDOT as Project sponsor completed an Environmental Assessment (EA) and draft Section 4(f) Evaluation in May 2022 evaluating the potential environmental effects of the Project. FRA and NYSDOT prepared the EA in accordance with NEPA, the Council on Environmental Quality's NEPA implementing regulations (40 CFR Parts 1500-1508), and FRA's Procedures for Considering Environmental Impacts (64 FR 28545, [May 26, 1999] and 78 FR 2713 [January 14, 2013]), and other related laws and requirements. FRA and NYSDOT have coordinated with the U.S Army Corps of Engineers (USACE) and U.S. Coast Guard (USCG), both of which must issue permits for the Project before it can proceed. The EA documents the effects of the Project on the environment and the measures that will be implemented to avoid, reduce, and mitigate the Project's adverse effects on social, economic, and environmental resources.

The EA was made available for review by agencies and the public for a 38-day review and comment period between May 9, 2022 and June 15, 2022. A notice of availability of the EA was distributed via email and postcard to the Project mailing list and residents of the Project area. The EA was available on FRA's website[1] and NYSDOT's website[2] and its availability was advertised in the *Albany Times-Union*. Public informational meetings were held virtually on May 31, 2022 and in person at the Palace Theater in Albany on June 1, 2022. Summaries of comments received on the EA and responses to those comments are provided in **Attachment D**; the full text of all comments is provided in **Attachment E**.

This Finding of No Significant Impact (FONSI) is made based on the information in the EA to comply with NEPA, 42 U.S.C. §§ 4321 et seq., and its implementing regulations, 40 C.F.R. Parts 1500-1508; FRA's NEPA Procedures; and other applicable laws, including Section 106 of the National Historic Preservation Act (Section 106) and Section 4(f) of the U.S. Department of Transportation Act of 1966 (Section 4(f)).

---

1 https://railroads.dot.gov/environment/environmental-reviews/livingston-avenue-bridge-replacement-project.

2 https://www.dot.ny.gov/livingstonavebridge.

2 Purpose and Need

The purpose of the Project is to improve reliability and reduce passenger and freight train delays along this segment of the Empire Corridor; achieve (at a minimum) a long-term state-of-good-repair for the bridge; eliminate existing bridge and track deficiencies; and maintain or improve navigation near the bridge. This will ensure that the Livingston Avenue Bridge meets modern passenger and freight rail capacity and load (weight) standards, maintains acceptable levels of safety, and supports the long-term utility and vitality of the Empire Corridor. The Project is essential to implementing future rail plans and improving state-wide rail transportation.

2.1 Need to Address Structural Deficiencies and Substandard Conditions

The Livingston Avenue Bridge is more than 100 years old and is nearing the end of its serviceable life. Its superstructure and substructure are in fair to poor condition; the mechanical portions of the swing span are significantly worn and require near constant maintenance to remain operable; the swing span frequently malfunctions, resulting in delays to passenger trains, freight trains, and boat traffic; and the bridge does not meet current design standards related to load, speed, and horizontal and vertical clearance. Due to its deteriorated condition and obsolete design, the bridge cannot support train operations at speeds consistent with the speeds on adjacent rail segments and the two-track bridge can be used only by one train at a time. The bridge also has non-standard vertical and horizontal clearances, which limit the types of carriages and freight that can traverse the span. Moreover, the equipment controlling the bridge operations is obsolete. While Amtrak maintains the system by replacing parts as they are available, finding parts for the obsolete system has become difficult.

2.2 Need to Improve Capacity

The Livingston Avenue Bridge is a restrictive bottleneck along the Empire Corridor that impedes future High Speed Intercity Passenger Rail (HSIPR) plans for the corridor. The Empire Corridor is the only passenger rail route between New York City, Albany, Buffalo, and Niagara Falls; it also serves as a Class I freight rail route (as defined in 49 CFR 1201) that is a critical link in domestic and international goods movement. The current restrictions on bridge operations compromise the short- and long-term utility and vitality of New York's passenger and freight rail service via the Empire Corridor. Improving the existing crossing is an essential component of developing a successful HSIPR corridor in New York State and providing ample connection to New York City.

2.3 Navigational Need

The Livingston Avenue Bridge is a swing span bridge over a navigable section of the Hudson River. It is operated by a bridge operator working in an operator's house on the bridge above the center of the swing span. In recent years, the bridge has opened for ships an average of 300 times a year. Improving the reliability of the movable span is important for maintaining the navigation channel past Albany.

2.4 Project Goals

To evaluate the Project alternatives developed as part of the environmental review process, NYSDOT established three goals for the Project related to the Project purpose and need:

- Goal 1: Improve passenger rail operations, service reliability, and operational flexibility.
- Goal 2: Improve the load capacity of the corridor and remove existing structural operational limitations.
- Goal 3: Minimize conflicts with navigational traffic.

3 Alternatives Considered

FRA and NYSDOT considered a range of different alternatives for repairing, rehabilitating, or replacing the Livingston Avenue Bridge to identify alternatives that would meet the Project purpose and need

and be feasible and reasonable. **Exhibit 1** provides a list of the alternatives considered and summarizes the conclusions of the alternatives evaluation.

In the alternatives evaluation, FRA and NYSDOT first assessed the alternatives to identify whether they would meet the Project purpose and need. All alternatives that met the Project purpose and need were then evaluated to identify whether they were feasible and reasonable, based on their ability to meet the established Project goals and, where relevant, preliminary information on the potential cost, engineering factors, and likely environmental and transportation impacts.

Exhibit 1
Summary of Alternatives Considered

Alternative	Evaluation
Permanent Detour: Use of Alternate Routes	Not reasonable because it would not meet the Project purpose and need.
Rehabilitation: Bridge Repairs	Not reasonable because it would not meet the Project purpose and need. Also, would not satisfy the Project goal of improving service reliability and operational flexibility (Goal 1), upgrading the load capacity of the bridge (Goal 2), or the Goal 2 objectives of improving the design life of the structure and eliminating the existing geometric deficiencies.
Rehabilitation of Existing Bridge (Substructure and Superstructure) to Accommodate Mixed Rail Traffic	Not reasonable because it would not meet the Project goal of removing existing structural operational limitations (Goal 2) or the goal of minimizing conflicts with river traffic (Goal 3); would also not meet Goal 1 objective of eliminating track deficiencies and Goal 2 objective of providing a river crossing with a design life of a minimum of 100 years. Would have a cost ranging between 83 and 91 percent of the cost of replacing the structure.
Rehabilitation of Existing Bridge for Passenger Trains Only	Not reasonable because it would not meet the Project purpose and need. Also, would not meet Project objectives in Goal 2 of maintaining or improving freight movement across the bridge; improving the load rating of the structure to Cooper E-80 freight traffic; or supporting simultaneous two-track operation; and would not meet the goal of minimizing conflicts with river traffic (Goal 3).
Rehabilitation of Existing Bridge – Superstructure Replacement	Not reasonable because it would not meet the Project goal of minimizing conflicts with marine traffic (Goal 3); would not meet Goal 1 objective of eliminating track deficiencies or Goal 2 objective of providing a 100-year design life. Other goals and objectives would not be met in a cost-effective manner.
Replacement Bridge on Existing Alignment	Eliminated because it would have a higher cost and greater construction complexity than other replacement alternatives without providing any advantages.
Replacement Bridge on New Alignment	Not reasonable because it would not meet Project objective of improving freight and passenger rail capacity in a cost-effective manner (part of Goal 1); or the goal of minimizing conflicts with river traffic through improved clearances (Goal 3). Would have much greater cost, need substantially more property acquisition, and would have greater environmental, social, and construction impacts.
Alternative Bridge Types	A fixed span was eliminated because it would have construction complexities, much greater cost, need for substantially more property acquisition, and far greater environmental, social, and construction impacts for a lengthy new structure. A swing span was eliminated because it would have more complex mechanics that are more difficult to maintain and less reliable to operate than a lift span; a swing span also would not increase the width of the navigation channel. A bascule span was eliminated because it would not provide sufficient navigational clearance to meet Goal 3.
No Action Alternative	Would not meet Project purpose and need or any goals or objectives but retained to serve as a comparative baseline for the environmental analyses as required by NEPA.
Build Alternative 1, Replacement on an Adjacent North Alignment	Would meet the Project purpose and need and goals and objectives; evaluated in the EA.
Build Alternative 2, Replacement on an Adjacent South Alignment	Would meet the Project purpose and need and goals and objectives; evaluated in the EA.

Using that approach, FRA and NYSDOT considered a number of different alternatives, including elimination of a bridge at the existing location, rehabilitation of the bridge, and replacement of the bridge on various alignments. FRA and NYSDOT also considered several different bridge types in the evaluation. In the alternatives evaluation, FRA and NYSDOT determined that discontinuation of a rail

crossing between Albany and Rensselaer, repair and rehabilitation of the existing bridge, and replacement of the bridge within the existing bridge footprint would not be reasonable alternatives. FRA and NYSDOT concluded that two Build Alternatives that replace the existing bridge with a new lift bridge either just south or just north of the existing alignment would meet the purpose and need and be feasible and reasonable. The No Action Alternative was also retained for analysis in the EA to serve as a baseline against which to compare the impacts of the Build Alternatives. These alternatives are described below.

3.1 No Action Alternative

In the No Action Alternative, the Livingston Avenue Bridge would remain in service as is, with continued routine maintenance and repairs. No major improvements to, or replacement of, the Livingston Avenue Bridge or its approach tracks would be undertaken with the No Action Alternative. The bridge's live load capacity would not be improved, existing geometric deficiencies and vertical and horizontal clearance deficiencies would not be corrected, and the wye (a triangle of tracks allowing connection to a spur track) at the east approach to the bridge would not be realigned. With these substandard conditions, operations across the bridge would remain limited to single-track operation at 15 mph. With the No Action Alternative, other rail improvements that are planned or programmed separately from the Project would occur. In addition, other improvements to the regional transportation system and development projects that are proposed by others in the vicinity of the Project site would occur.

The No Action Alternative would result in the continued deterioration of the structure, resulting in increased maintenance, and eventually could require the bridge to be closed to rail traffic. If the bridge were to close in the future, trains would have to cross the Hudson River via an inefficient, longer route. In that situation, passenger trains could be diverted to lower class track and across another Hudson River crossing, the Alfred H. Smith Memorial Bridge, on the CSX Castleton Subdivision, which spans the river between Castleton-on-Hudson and Selkirk. Routes would be longer, and trains would either have to bypass the Albany-Rensselaer and Schenectady Stations completely or make circuitous routes to reach them that would add to the required detour.

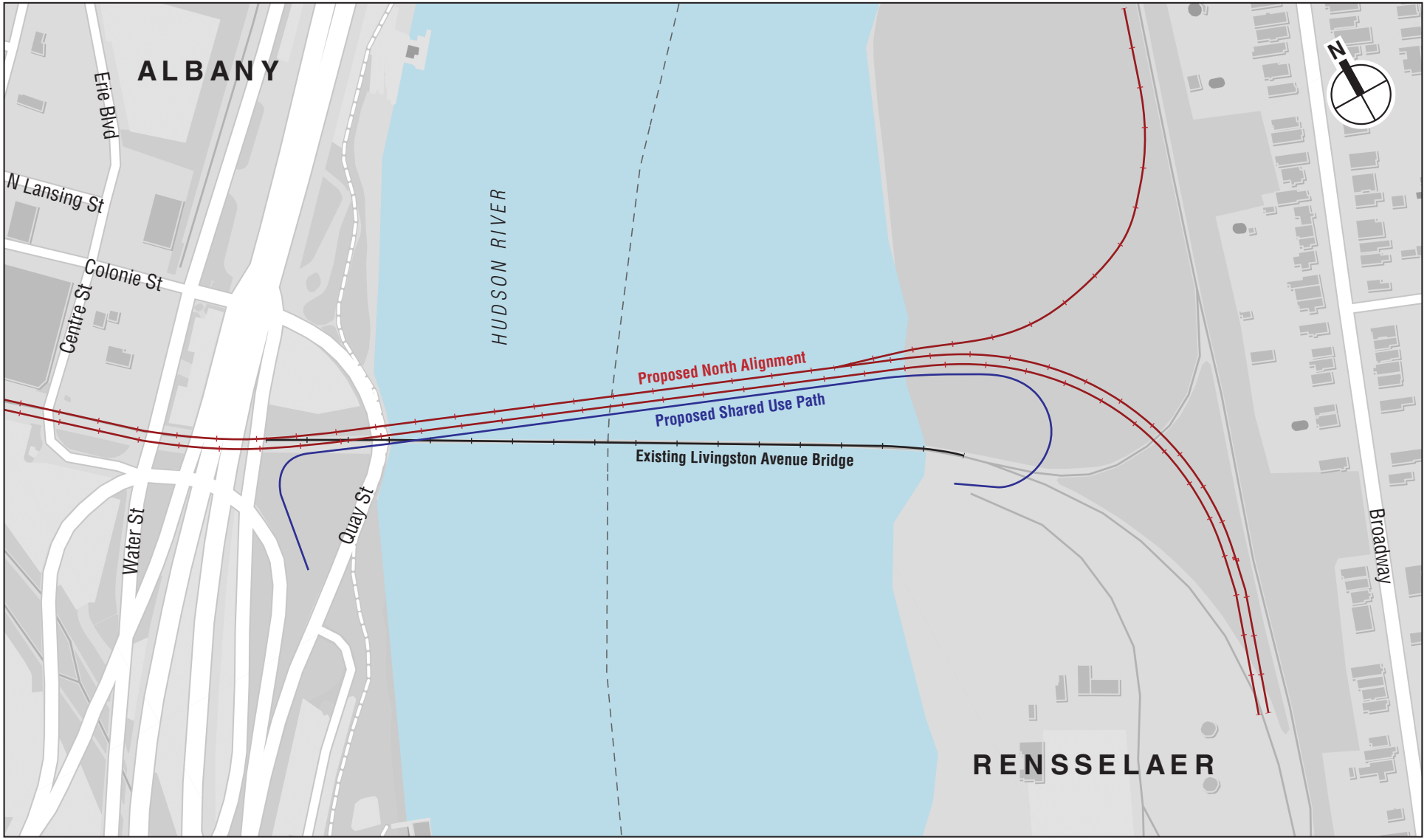
In addition to operational limitations, the No Action Alternative would adversely affect river traffic. Existing horizontal clearance limitations would not be improved. The mechanical features of the swing span would continue to be subject to failure due to age and deterioration, limiting the reliability of the navigation channel.

The No Action Alternative would not meet the purpose and need for the Project or satisfy any of the Project goals and objectives or the programming goals of improving service reliability and operational flexibility, improving load capacity and reducing operational limitations, and minimizing conflicts with navigational traffic. Additionally, pedestrians and cyclists would continue to lack access between the Cities of Albany and Rensselaer at this location due to the closure of the pedestrian walkway on the existing bridge.

3.2 Build Alternative 1 – Replacement on an Adjacent North Alignment

Build Alternative 1 involves the complete replacement of the existing two-track Livingston Avenue Bridge with a new two-track movable bridge on a skewed alignment north of the existing bridge (see **Figure 1**). The skewed alignment would be necessary to connect to the existing alignment prior to passing under the eight-lane I-787 viaduct in Albany, while also providing a straight alignment for the movable span. The alignment would be approximately 200 feet north of the existing bridge on the east side of the river and would abut the existing bridge on the west side. The skewed alignment would require the same number of piers as the existing bridge; however, the piers would be wider. The new bridge would be a truss bridge, the same type of superstructure as the existing bridge, although with a different design. The top of rail elevation would be two feet higher than with the existing bridge, to accommodate a deeper floor system while maintaining the same clearance above the water when the bridge is closed.

7.19.22



Build Alternative 1 – Replacement on an Adjacent North Alignment

Figure 1

The new bridge would have a lift span instead of a swing span like the existing bridge. This would increase the width of the navigation channel from the current width of 100 feet to approximately 190 feet wide. The vertical clearance of the lift span when open would be 60 feet above Mean High Water, which is the same clearance as the nearest bridges upstream and downstream of the Livingston Avenue Bridge. When the bridge is closed, the vertical clearance above the water would be the same as with the existing bridge, 25 feet above Mean High Water. No changes to the regulated navigation channel, which is approximately 600 feet wide in this portion of the Hudson River, would be required. At the lift span, a fender system would protect the bridge piers.

The two towers supporting the lift span would be approximately 145 feet tall above Mean High Water, slightly shorter than the towers on the existing bridge that carry power cables and catenary wires, which are 151.5 feet above Mean High Water. On the east and west, the bridge's approach girder spans would be ballasted deck girders. This would accommodate additional width for increased track spacing.

A shared-use path would run along the south side of the new bridge on a cantilever extending from the bridge trusses and supported on an independent girder superstructure that shares piers and abutments with the deck girder approach spans of the rail bridge. The shared-use path would have a bicycle-height railing on the outboard side and a pedestrian security fence and bicycle-height railing on the inboard side to prevent unauthorized access from the walkway onto the railroad tracks. The walkway would include scenic overlooks at each end of the movable span to provide an area for pedestrians to collect and bicyclists to dismount when the bridge is opening/closing and the walkway gates are closed. On the east side of the river, the shared-use path would connect to the planned Rensselaer Riverfront Multi-Use Trail; on the west side of the river, it would connect to the Mohawk-Hudson Bike-Hike Trail and the Albany Skyway.

On the Rensselaer side of the river, new bridge approach tracks and reconfigured wye tracks would be installed so that the movement from the bridge south toward Albany-Rensselaer Station becomes the primary move, an improvement over the existing condition in which the primary move is to the north to the Troy Industrial Track.

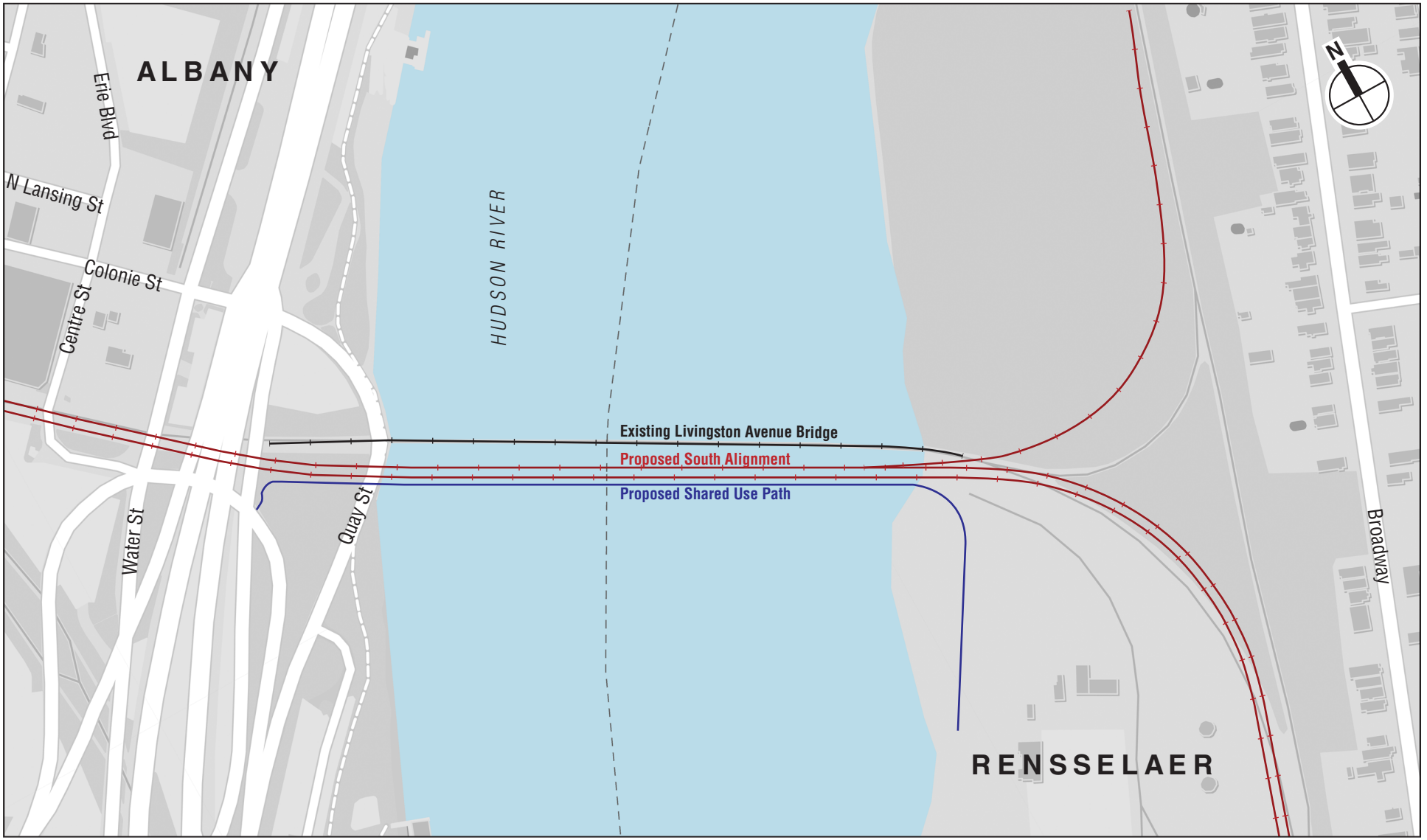
On the Albany side of the river, the western abutment of the bridge would be shifted to the west from its current location, which would improve sightlines along Quay Street where it passes beneath the bridge adjacent to the abutment. The rail bridges over Water and Centre Streets would be rehabilitated and reconfigured to accommodate the shift in the track alignment. At each of those bridges, the beam seats of the bridge abutments that support the bridge girders would be modified or replaced and several pairs of the existing deck girders (i.e., bridge beams) would be repositioned to support the new alignment. At the Water Street bridge, a set of existing deck girders would be removed to accommodate this shift.

No change in the number of daily trains is planned as a result of the Project. With the new bridge, train operating speed on the bridge would be 40 mph for passenger trains and 35 mph for freight trains (an increase from 15 mph currently). The new bridge would have two tracks and could accommodate two trains operating across the bridge at the same time. As the new lift would operate more reliably than the existing bridge, the delays related to bridge malfunction would be eliminated.

3.3 Build Alternative 2 – Replacement on an Adjacent South Alignment

Build Alternative 2 involves the complete replacement of the existing two-track Livingston Avenue Bridge with a new two-track movable bridge located parallel to, and approximately 50 feet south of, the existing bridge (see **Figure 2**). The design and operational characteristics of Build Alternative 2 would be similar to those described for Build Alternative 1 except that Build Alternative 2 would only have eight piers (one fewer than the existing bridge and Build Alternative 1). The truss bridge under Build Alternative 2 would also have a lift span and shared-use path. The approach track work would

7.20.22



Build Alternative 2 – Replacement on an Adjacent South Alignment

include improvements to the wye tracks and require a similar effort for the rehabilitation and reconfiguration of the rail bridges over Water and Centre Streets in Albany.

3.4 Identification of Selected Alternative

Based on the environmental analysis in the EA as well as operational and engineering considerations, NYSDOT identified Build Alternative 2, Replacement on an Adjacent South Alignment, as the Selected Alternative. The Selected Alternative includes a shared-use path creating new access across the Hudson River, consistent with long-term plans to better connect the east and west shoreline communities along the Hudson River.

3.5 Changes to the Selected Alternative After Publication of the EA

Since the EA was published, NYSDOT has incorporated the following changes into the Selected Alternative in response to public comments on the EA:

- **Connection to Albany Skyway:** In the EA, the western terminus of the shared-use path was described as providing a connection to the Albany Skyway, but it was not clear whether this connection would be direct, or via the Mohawk-Hudson Bike-Hike Trail in Corning Riverfront Park. Drawings attached to the EA showed the shared-use path touching down at the Hudson River waterfront, without a direct connection to the Albany Skyway. In response to public comments on the EA, NYSDOT has revised the design to incorporate a direct connection from the shared-use path to the Albany Skyway at the western terminus of the new bridge, where the two pathways will be at a similar elevation.

  FRA and NYSDOT have evaluated this change to the Selected Alternative and found that it would not result in any new adverse effects and would in fact result in beneficial effects. The connection to the Albany Skyway would result in a greatly reduced footprint for the shared-use path in Albany, eliminating the need for the previously planned touchdown in Corning Riverfront Park; that connection would now occur via the Albany Skyway, avoiding the need to construct a duplicative trail segment. As noted by several commenters on the EA, the direct connection to the Albany Skyway would result in an improvement to the functionality and usefulness of both trails and a better solution for regional bicycle and pedestrian connections, as it would save trail users the time and effort that would have been required to descend from the shared-use path to the waterfront and then climb back up to the same elevation on the Albany Skyway (or vice versa when traveling in the opposite direction).

  The connection to the Albany Skyway would not change impact determinations for the following resource categories analyzed in the EA:

  - **Transportation:** Aside from the benefits to pedestrian and bicycle connections noted above, this modification would not affect any elements of the transportation system (roads, rail lines, navigable waters, transit stops or routes, etc.).
  - **Land Use, Social and Economic Conditions:** This modification would not change land use or zoning, nor would it require any new acquisition of property. It would not displace any residents or businesses, divide communities, or have any other adverse social or economic effects. There would be a brief narrowing in the available width of the Albany Skyway during construction of the tie-in to the shared-use path, when construction workers are finalizing work at the tie-in point. This would involve light construction activity to finalize surface finishes of the shared-use path at the point where it meets the Skyway. NYSDOT and its contractor would use cones or construction fencing to prevent the public from entering the work zone, and would stage the work to ensure no disruption to bidirectional traffic on the Skyway. With these measures in place, this temporary, minor disruption to the Albany Skyway would not constitute a significant adverse effect on this open space.
  - **Cultural Resources and Visual Resources:** This modification would not directly impact any historic or cultural resources. As it would be in roughly the same location as the previously

planned shared-use path touchdown, but with a much smaller footprint, it would not have any greater effect on viewsheds than what was analyzed in the EA, and thus would not have an effect on historic resources. For the same reason, it would not adversely affect visual and aesthetic resources.

- **Water Resources and Ecology:** The site of the connection to the Albany Skyway is a grassy lawn area that lacks significance as wildlife habitat, and contains no water resources; therefore, this modification to the Selected Alternative would not have any adverse effects on water resources or ecology.
- **Geology:** This modification would not result in any change to effects on geological conditions because of the nature of the construction as minor, shallow, above-ground work.
- **Air Quality, Energy, Greenhouse Gas Emissions:** This modification would not create a new source of air pollutant emissions or greenhouse gas emissions. It would not increase the operational energy requirements or the Selected Alternative. As mentioned earlier, the connection creates more streamlined access to the shared-use path that would likely encourage bicycle and pedestrian use, potentially minimizing the use of cars for transport and any associated greenhouse gas emissions.
- **Utilities and Infrastructure:** This modification would not involve any new effects on utilities or infrastructure, as none are located on the site of the connection to the Albany Skyway.
- **Contaminated Materials:** This modification would not involve the use of any new hazardous substances, nor would it increase the likelihood of exposure to contaminated materials already present in soils and structures at the Project Site.
- **Safety and Security:** The shared-use path connection to the Albany Skyway would feature a bicycle-height railing and security lighting to ensure the safety and security of trail users.
- **Construction:** As it would reduce the overall footprint of the Selected Alternative, this modification would slightly reduce the amount of construction disturbance associated with the Selected Alternative. As noted above, the brief, minor construction disruption to the Albany Skyway would not constitute an adverse effect on that resource.
- **Indirect and Cumulative Effects:** This modification would not result in any new indirect effects; in combination with other planned and recently completed trail projects, including the Albany Skyway, it would contribute to a cumulative benefit to the regional trail network.
- **Environmental Justice:** As described elsewhere in this section, this modification would not result in any adverse effects, and thus would not result in disproportionately high and adverse effects on environmental justice populations. It would result in benefits to the local community via more direct access to the shared-use path.
- **Section 4(f):** FRA has determined, and the City of Albany has concurred, that the new connection to the Albany Skyway, which is a Section 4(f) property, would not constitute a Section 4(f) use of the Albany Skyway; instead, it would qualify for the exemption applied to temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f). This determination is documented in the Final Section 4(f) Evaluation, which is **Attachment C** to this FONSI.

- **Incorporation of Rensselaer Riverfront Multi-Use Trail:** In the EA, the eastern terminus of the shared-use path was described as connecting to the proposed Rensselaer Riverfront Multi-Use Trail, which was to be constructed in the future as a separate project by the City of Rensselaer. In response to comments on the EA from the City of Rensselaer and others, NYSDOT has incorporated construction of a portion of this trail into the Livingston Avenue Bridge Replacement Project. The portion to be included in the Project will extend from the existing northern limit of the trail at DeLaet's Landing to a point just north of the Livingston Avenue Bridge. NYSDOT's construction contractor will already have established construction access and staging at the site of the trail and will be in an advantageous position to complete the additional work to construct the

trail as part of the Project. The Rensselaer Riverfront Multi-Use Trail (PIN 1760.84) received federal funding through the Federal Highway Administration's (FHWA) Transportation Alternatives Program (TAP) and Congestion Mitigation and Air Quality Improvement (CMAQ) Program, and FHWA and NYSDOT completed NEPA categorical exclusion documentation for the project on January 11, 2021. As described in the categorical exclusion documentation for the Rensselaer Riverfront Multi-Use Trail, that project would not result in any adverse impacts, and no mitigation measures would be required. For the portion of the trail project that will be constructed as part of the Selected Alternative, NYSDOT and its contractor will build the trail as presented in the categorical exclusion documentation and design documents prepared by the City of Rensselaer. FRA and NYSDOT considered whether this new element of the Selected Alternative could result in any effect on Section 4(f) resources, and determined that because the trail is a future resource that will be developed as part of the Selected Alternative, no use of a Section 4(f) property will result from NYSDOT's construction of this trail segment. However, future projects (to which Section 4(f) applies) that would affect the trail may need to consider the trail a Section 4(f) property.

Updated design drawings showing these two modifications to the Selected Alternative are presented in **Attachment G**.

As noted in this section, FRA and NYSDOT have evaluated these modifications and found that they do not affect the impact determinations in the EA or Section 4(f) Evaluation upon which FRA relied in choosing the Selected Alternative. Accordingly, FRA and NYSDOT are incorporating these elements into the Selected Alternative.

4 Affected Environment and Environmental Consequences

In the EA, FRA and NYSDOT evaluated the social, economic, and environmental consequences of the Selected Alternative in accordance with the requirements of NEPA and FRA rules and procedures. The No Action Alternative served as a baseline against which to compare the impacts of the Selected Alternative. Based on the analyses contained in the EA, FRA concludes that the Selected Alternative, along with measures to mitigate potential Project-related adverse impacts, is not likely to result in significant adverse environmental impacts. **Exhibit 2** summarizes the potential long-term impacts of the Selected Alternative and **Exhibit 3** summaries the temporary construction impacts of the Selected Alternative. Measures to mitigate the potential for adverse impacts are addressed in both tables, as warranted.

Exhibit 2
Summary of Potential Long-Term Impacts and Mitigation

Analysis Area	Long-Term Impacts of the Selected Alternative	Mitigation/Commitment
Transportation	The Selected Alternative would eliminate an existing bottleneck on the Empire Corridor, improve reliability and reduce passenger and freight train delays by eliminating track deficiencies and providing a new bridge that would meet modern passenger and freight rail capacity and load standards. It would improve navigation by widening the navigation channel beneath the bridge to 190 feet from 100 feet and eliminating delays to river traffic resulting from bridge malfunctions. Pedestrians and bicyclists would benefit from the shared-use path, which would connect to the planned Rensselaer Riverfront Multi-Use Trail and the Albany Skyway and Mohawk-Hudson Bike-Hike Trail in Albany.	NYSDOT will coordinate operation and maintenance of the shared-use path on the bridge during final design with the Cities of Rensselaer and Albany as well as CSX, CP, and Amtrak.
Land Use and Community Character	The Selected Alternative requires acquisition of 5.4 acres of land in Rensselaer by either fee acquisition or permanent easement, including approximately 1.4 acres programmed for residential use within the proposed 18-acre Kiliaen's Landing development. In Albany, the Selected Alternative would be built entirely on railroad property and land owned by New York State. The proposed shared-use path would provide for greater cohesion between the communities on both sides of the Hudson River and support plans for improved waterfront access. The Selected Alternative would enhance recreational resources in the study area by providing the shared-use path on the bridge. Pedestrians and bicycles are currently not permitted on the bridge.	Property owners will be compensated under the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (the Uniform Act) and its established equitable land acquisition procedures. NYSDOT will coordinate with the City of Rensselaer regarding the Kiliaen's Landing development.
Social Conditions	The shared-use path would comply with the Americans with Disabilities Act (ADA) and be accessible to all social groups, thereby providing a benefit to the communities on both sides of the river.	N/A
Economic Conditions	By maintaining passenger and freight rail along existing, but improved, routes, the Selected Alternative would positively affect the regional and local economies and employment in Albany and Rensselaer Counties.	N/A
Cultural Resources	FRA and NYSDOT have determined that the Selected Alternative would have an adverse effect on the historic Livingston Avenue Bridge due to its demolition and replacement. FRA and NYSDOT have determined that no adverse effect would result from the modifications to the Water and Centre Street rail bridges, because the character-defining features of the Albany Railroad Viaduct would be unaffected. The Selected Alternative would not result in adverse effects to archaeological resources.	As stated in the Section 106 Memorandum of Agreement among FRA, NYSDOT and the State Historic Preservation Office (SHPO) (see **Attachment B** for detailed list of mitigations incorporated herein), NYSDOT will document the Livingston Avenue Bridge following Historic American Engineering Record standards, install interpretive signage on both sides of the river, and design the new bridge as a truss bridge incorporating key visual elements relating to the existing Livingston Avenue Bridge (the pulley housing and operator's building). NYSDOT will also actively seek new ownership of the existing Livingston Avenue Bridge for adaptive reuse, or, because of its overall size, partial reuse at a new location.

Exhibit 2 (cont'd)
Summary of Potential Long-Term Impacts and Mitigation

Analysis Area	Long-Term Impacts of the Selected Alternative	Mitigation/Commitment
Visual and Aesthetic Considerations	The Selected Alternative would enhance visual resources, creating more views of the Hudson River view corridor than exist today, and improving the experience of the viewers via the scenic overlooks on the shared-use path.	N/A
Water Resources	The Selected Alternative would require the placement of fill in the 100-year floodplain and waters of the U.S. under the jurisdiction of USCG and USACE. The Selected Alternative would have eight piers, one fewer than the existing bridge. The total pier footprint would be approximately 0.5 acres, compared to 0.42 acres for the existing bridge. The Selected Alternative would place one support pier within an ephemeral stream; FRA and NYSDOT will consider this stream as jurisdictional Waters of the U.S. for permitting purposes.	NYSDOT will acquire and adhere to all requirements and conditions associated with the permits and approvals for the Selected Alternative, including the USCG Section 9 and USACE Section 10/404 and Section 408 permits and federal coastal consistency review as required by the federal Coastal Zone Management Act. Other potential permits include SPDES and New York State Department of Environmental Conservation (NYSDEC) floodplain and water quality certification. A New York State Office of General Services (NYSOGS) permit for activities affecting the bed of the Hudson River may also be necessary. The NYSDOT Regional Hydraulics Engineer will perform a floodplain hydraulic analysis during the advance detail plan phase. FRA and NYSDOT will assess the need for stormwater treatment during final design. NYSDOT will employ green infrastructure techniques to manage and treat stormwater and maintain natural hydrology and ecological function.
Ecology	The Selected Alternative would result in the loss of 2 acres of woodland of marginal value. No impacts to significant habitat or the disturbance-tolerant wildlife that are found in the City of Rensselaer would occur. The minimal loss of bottom habitat and benthic invertebrates in the river due to the larger pier footprint would not result in adverse impacts.	FRA and NYSDOT consulted with the National Marine Fisheries Service (NMFS) regarding Essential Fish Habitat (EFH) and threatened and endangered species and with the U.S. Fish and Wildlife Service (USFWS) regarding threatened and endangered species, birds protected under the Migratory Bird Treaty Act, and eagles protected under the Bald and Golden Eagle Protection Act. NYSDOT will use low-maintenance native plant material for landscaping.
Geology	None; the Selected Alternative will meet modern seismic codes, and engineering measures will address any unfavorable geological conditions.	NYSDOT will perform a geotechnical investigation prior to construction to identify design and construction requirements for the new bridge.
Air Quality	None; the Selected Alternative would not change rail traffic volumes and would not move the rail alignment notably closer to existing sensitive receptors.	N/A
Energy and Greenhouse Gas Emissions	None; the Selected Alternative would improve the reliability of the freight rail network, a much more efficient mode of transport than trucks. In addition, the new connection to the Albany Skyway and expansion of the bicycle pedestrian system is likewise beneficial to reducing GHG emissions by encouraging alternate modes of transportation.	N/A

Exhibit 2 (cont'd)
Summary of Potential Long-Term Impacts and Mitigation

Analysis Area	Long-Term Impacts of the Selected Alternative	Mitigation/Commitment
Noise and Vibration	None; use of continuous welded rail on the new bridge would result in lower overall noise and vibration levels than existing infrastructure.	N/A
Utilities and Infrastructure	None; all existing utilities in the study area would remain viable with the Selected Alternative.	N/A
Contaminated Materials	None; with the Selected Alternative, rail operations would not result in any new sources of human or environmental exposure to contaminated materials.	N/A
Safety and Security	The Selected Alternative would improve the structural reliability of the bridge, which would increase the safety of the freight and passenger trains traveling over the bridge. It would provide navigation channel fenders and a dolphin system and reduce the potential for boat collisions with an improved design. Vehicular safety conditions would be improved by better visibility along Quay Street, due to the westward shift of the bridge abutment. Pedestrian and bicycle safety would be improved due to the provision of the fenced shared-use path on the bridge, which would eliminate the current safety concern regarding trespassing.	N/A
Environmental Justice	None. The potential adverse impacts associated with the Selected Alternative are not related to the built environment where the environmental justice communities are located and would not adversely affect the quality of life or public health conditions in the study area. Therefore, the Project would not result in disproportionately high and adverse effects on environmental justice populations. At the same time, the Selected Alternative would provide increased resilience for the Empire Corridor service and an ADA-compliant shared use path connecting the communities in Rensselaer and Albany via improved waterfront access, which is a permanent, long-term benefit to the local community.	N/A
Indirect and Cumulative Impacts	No adverse effects. In combination with other waterfront development projects in the study area, the Selected Alternative would improve the non-motorized travel network in the study area and enhance waterfront access by providing a series of connected riverfront trails, scenic viewpoints, and waterfront uses. This would be a regional transportation and recreational benefit and fulfill long-term plans to better connect the east and west shoreline communities along the Hudson River. Replacement of the Livingston Avenue Bridge, together with a number of other planned improvements to the Empire Corridor, would enable full operation of the Empire Corridor High Speed Rail Program.	N/A

Exhibit 3
Summary of Temporary Construction-Period Impacts and Mitigation

Analysis Area	Temporary Construction-Related Impacts of the Selected Alternative	Mitigation/Commitment
Transportation	Two weekend track outages and periodic nighttime track outages that would affect passenger and freight rail traffic. One 2-day closure of the navigation channel that will affect boat traffic. During a two-month construction period for the west bridge abutment and west end span: Quay Street would be closed; access to the Corning Riverfront Park parking lot south of the railroad crossing would be restricted due to a one-way (northbound) traffic pattern; access to the Jennings Landing (amphitheater) parking facilities would be restricted from Quay Street; pedestrian and cyclist access to the Mohawk-Hudson Hike-Bike Trail may be interrupted during heavy lift operations or other operations that may present a risk to the public. During two 2-week periods for work on the Water Street and Centre Street rail bridges: Water Street and Centre Street would each be closed from Quay Street to Livingston Avenue and traffic would be redirected for access to parking (NYSOGS Lots 12A and 12B) and the street network beyond; large truck traffic would be restricted from using the Colonie Street exit from southbound I-787; the pedestrian walkway along Water Street would be relocated to Centre Street for the duration of the Water Street bridge construction; and Water and Centre Streets would be closed concurrently for bridge resetting over the span of two weekends. Partial closure of NYSOGS Lot 11 under the I-787 overpass would be required and approximately 20 parking spaces in the parking lot just north of the existing bridge would be displaced during the construction period. The Selected Alternative would involve construction of a temporary construction access road in Rensselaer from Tracy Street to the staging area north of the existing bridge.	NYSDOT will use construction methods that minimize disruption to transportation services to the greatest extent practicable, including providing proper notice for closures; implementing a Work Zone Traffic Control Program; and maintaining pedestrian and cyclist access to the Mohawk-Hudson Hike-Bike Trail via erection of a canopy through the work area. NYSDOT will coordinate with the City of Albany to ensure continued access to events at Jennings Landing during the closure of Quay Street.
Land Use and Community Character	NYSDOT's construction contractor would need to acquire temporary access easements for construction laydown areas and access routes. The Selected Alternative would require temporary access restrictions to certain parks and recreational resources as described above under "Transportation."	NYSDOT will ensure property owners are compensated under the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. NYSDOT will coordinate with the City of Rensselaer regarding the Kiliaen's Landing development. NYSDOT and its contractor will use cones or construction fencing to prevent the public from entering the work zone at the shared-use path tie-in point to the Albany Skyway, and will stage the work to ensure no disruption to bidirectional traffic on the Skyway.
Social and Economic Conditions	Construction activities would generate jobs, resulting in economic benefits to the local and regional economy.	N/A

Exhibit 3 (cont'd)
Summary of Temporary Construction-Period Impacts and Mitigation

Analysis Area	Temporary Construction-Related Impacts of the Selected Alternative	Mitigation/Commitment
Cultural Resources	None with implementation of mitigation measures	To avoid accidental damage to adjacent resources, a Construction Protection Plan (CPP) will be developed in consultation with SHPO and the property owners to set forth the specific measures to be used to protect architectural resources during the construction period. It will set forth protocols and specifications to prevent inadvertent damage during construction.
Visual Resources and Aesthetic Considerations	None. Construction of the Selected Alternative would not substantially alter important views. During the construction period, cranes, barges, construction equipment, and staging areas would be visible, but these changes would be temporary and of short duration, and would not constitute an adverse effect on visual resources.	N/A
Water Resources	None with implementation of mitigation measures	NYSDOT will ensure the construction contractor performs all work in accordance with USCG, USACE, and NYSDEC permit conditions. NYSDOT will use turbidity barriers and other measures to protect water quality as warranted and as specified by permit conditions. NYSDOT will implement a storm water pollution prevention plan (SWPPP) and comply with NYSDEC technical standards for erosion and sediment control.
Ecology	None with implementation of mitigation measures	Prior to construction of the temporary pier, NYSDOT will undertake a survey of submerged aquatic vegetation and the pier will be installed so as to minimize the potential to affect submerged aquatic vegetation. NYSDOT will follow timing restrictions for construction work in the Hudson River to protect spawning shortnose and Atlantic sturgeon and their eggs and larvae: no in-water construction from March 1 through September 30 (work could still occur within the cofferdam cells). Avoidance of this time period will also minimize impacts to migratory and breeding anadromous fish. NYSDOT will implement other construction best management practices developed in consultation with NMFS to reduce turbidity and noise due to in-water construction activities to minimize adverse impacts to sturgeon and anadromous fish. A mussel salvage/relocation will be completed before in-water work begins. NYSDOT will ensure that tree clearing will occur only between November 1 to March 31 to avoid potential impacts to northern long-eared bats. NYSDOT will ensure that the osprey nest on the existing bridge will be removed in winter when it is inactive per NYSDEC and USFWS requirements. NYSDOT will implement best management practices (such as washing construction equipment) to avoid introducing new invasive species to the area.

Exhibit 3 (cont'd)
Summary of Temporary Construction-Period Impacts and Mitigation

Analysis Area	Temporary Construction-Related Impacts of the Selected Alternative	Mitigation/Commitment
Air Quality	Impacts are minimal with implementation of mitigation measures. Construction emissions would not exceed general conformity thresholds.	NYSDOT will ensure that the construction contractor adheres to NYSDOT standard specifications that relate to air quality and employs best management practices to minimize air pollutant emissions during Project construction, including use of newer, low-emission equipment; dust control measures; use of ultra-low-sulfur fuel in diesel engines; and measures to control exposure to diesel exhaust, such as limiting heavy duty vehicle idling to five minutes or less.
Energy and Greenhouse Gases	Construction of the Selected Alternative would involve energy use and emissions of greenhouse gases. The Selected Alternative is expected to reduce operational greenhouse gas emissions compared to the No Action Alternative, which would partially offset GHG emissions from construction.	To minimize the energy use and greenhouse gas emissions related to producing construction materials, NYSDOT will ensure that the existing bridge is recycled and reused to the fullest extent practicable.
Noise and Vibration	None with implementation of mitigation measures	During track realignment construction for the wye tracks, NYSDOT will ensure the use of a portable noise barrier/curtain with a Sound Transmission Class (STC) rating of STC 30 or greater for work occurring within 60 feet of residences and no nighttime construction (10 PM – 7 AM) within this distance of residences.
Utilities and Infrastructure	The Selected Alternative would require the relocation of a fiber optic cable beneath the western bridge abutment and may affect other utilities in the area.	NYSDOT will coordinate with utility owners (including CSX, the New York State Office of Technology, Niagara Mohawk Power Corporation, and Rensselaer County Sewer District) and will provide advance notice of any short-term outages that may occur as utilities are switched over to relocated lines.
Contaminated Materials	None with implementation of mitigation measures	NYSDOT will undertake sampling in coordination with the geotechnical investigation program prior to construction to identify existing contamination in river sediments and upland soils, and will share sampling results with USEPA. Dredged material will be collected onto a barge, dewatered, and disposed of to reduce the potential for resuspension of polychlorinated biphenyls (PCBs) or other sediment contaminants in the Hudson River during the installation of the bridge piers. Dewatering effluent will be treated in accordance with NYSDEC requirements prior to being discharged back to the river. NYSDOT will implement measures to prevent or minimize floodplain soils from entering the Hudson River. NYSDOT will ensure that dredged materials and floodplain soils are handled and disposed of in accordance with regulatory standards and permit conditions. Phase II subsurface investigations and asbestos and lead surveys will be conducted prior to construction in areas where excavation will occur. Materials will be tested, handled, stored, transported, and disposed of in accordance with all applicable regulations. A Construction Health and Safety Plan will be developed based on sampling results to protect workers, the community, and the environment during construction. A Demolition Plan will be prepared, containing details of best management practices to be incorporated into Project construction.

Exhibit 3 (cont'd)
Summary of Temporary Construction-Period Impacts and Mitigation

Analysis Area	Temporary Construction-Related Impacts of the Selected Alternative	Mitigation/Commitment
Environmental Justice	No disproportionately high and adverse effects. Some localized adverse effects, such as noise and potential dust, would be associated with construction of the Selected Alternative; these effects would occur throughout the study area in both environmental justice block groups and non-environmental justice block groups. Environmental justice communities closest to the Project site would be buffered from construction by distance and intervening vegetation. The closest construction activity to environmental justice communities (reconfiguration of the approach tracks in Rensselaer) would involve only limited work clearing and grading the new track alignment and placing new track. The Selected Alternative would require only a slight shift from existing track alignments. Mitigation measures described above would eliminate or minimize air quality and noise impacts from this construction work. Some road closures and detours would be located within environmental justice block groups; however, they would involve streets that are predominantly commercial or industrial in nature and would not affect residential areas. The detours would not substantially add to travel times and would maintain the current level of safe movement for pedestrians. Construction period effects would be temporary, and would be eliminated or minimized through the implementation of mitigation measures.	N/A. Mitigation measures described above, in particular those for air quality and noise, would eliminate or minimize effects on environmental justice communities.

5 Section 106 Determination

FRA completed consultation in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations (36 CFR Part 800), which require Federal agencies to: 1) take into account the effects of their undertakings on historic properties that are listed in, or meet the eligibility criteria for listing in, the National Register of Historic Places; and 2) afford the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Office (SHPO) a reasonable opportunity to comment. Section 106 also requires that agency officials work with SHPO to identify parties to participate in the Section 106 process (consulting parties). Consulting parties may include, but are not limited to, local governments, Federally recognized Native American tribes, and individuals and organizations with a demonstrated interest in a project.

On behalf of FRA, NYSDOT sent information about the Project to Tribal Historic Preservation Officers (THPOs) for the Saint Regis Mohawk Tribe, the Stockbridge Munsee Community Band of Mohicans, and the Delaware Tribe. FRA, as lead Federal agency responsible for Section 106 compliance for the Project, extended invitations to local preservation groups, local planning agencies, neighborhood associations, and other organizations to participate in consultation. The following organizations agreed to be consulting parties for the Project's Section 106 consultation process: Capital District Transportation Committee, City of Rensselaer Historian, Historic Albany Foundation, Livingston Avenue Bridge Coalition, National Railway Historical Society Mohawk and Hudson Chapter, and New York Central Historical Society.

FRA and NYSDOT concluded that removal of the historic Livingston Avenue Bridge would constitute an adverse effect under Section 106. FRA determined that the rehabilitation and reconfiguration of the Water Street and Centre Street rail bridges, which are components of the NR-eligible Albany Railroad Viaduct, would not result in an adverse effect because character-defining features of the viaduct would not be affected and the change in its overall appearance would be minimal. FRA and NYSDOT developed measures to mitigate the adverse effect of the Project on the NR-eligible Livingston Avenue Bridge in consultation with SHPO, THPOs, and other consulting parties; these measures include the following:

- Documentation of the Livingston Avenue Bridge following HAER standards;
- Interpretive signage in waterfront parks on both sides of the river that conveys the history of the bridge, the railroad, and the area;
- A requirement that the new bridge be a truss bridge that incorporates key visual elements relating to the existing Livingston Avenue Bridge, the pulley housing and operator's building, as requested by SHPO on April 14, 2021;
- A requirement that NYSDOT actively seek new ownership of the Livingston Avenue Bridge for adaptive reuse or partial reuse at a new location. NYSDOT undertook marketing efforts for the bridge in coordination with publication of the EA in May 2022. These marketing efforts consisted of a combination of print and web-based ads that included an advertisement in the Albany Times-Union, a local newspaper, for 14 days and an announcement posted on the internet[3] for 2 months. NYSDOT would have considered only viable offers consistent with the MOA stipulations. If ownership of the bridge were to be transferred for reuse, the transfer deed would have included a preservation covenant that required the new owner to retain the feature intact for a specified period of time. However, NYSDOT did not receive any offers of new ownership.

These measures, as well as additional details regarding mitigation, are included and further described in the Section 106 Memorandum of Agreement (MOA), executed by FRA, NYSDOT, and SHPO, which is provided as **Attachment B** and incorporated into this FONSI.

[3] Bridge marketing materials were posted on https://historicbridgefoundation.com and https://bridgehunter.com.

6 Section 4(f) Determination

Pursuant to the requirements of Section 4(f), the EA included a Draft Section 4(f) Evaluation.

FRA has determined that the Project will require the Section 4(f) use of the historic Livingston Avenue Bridge. There are no feasible and prudent alternatives to the Project's use of the historic railroad bridge and, as documented in the Section 106 MOA provided in **Attachment B**, all possible planning to minimize harm has been identified as mitigation measures. Section 4(f) regulations (23 CFR § 744.3(d)) provide the authority to develop programmatic Section 4(f) evaluations as a time-saving alternative to individual evaluations for certain types of uses. In January 2021, FRA adopted FHWA's Nationwide Historic Bridges Programmatic Section 4(f) Evaluation. FRA has concluded that the Nationwide Historic Bridges Programmatic Section 4(f) Evaluation is applicable to the replacement of the Livingston Avenue Bridge. The Livingston Avenue Bridge Project qualifies for this evaluation because it will use a bridge that is eligible for the National Register of Historic Places (NR), there are no feasible and prudent alternatives to the use of the historic Livingston Avenue Bridge to be replaced as part of the Project, and the Project includes all possible planning to minimize harm resulting from such use.

In addition, FRA has concluded that the Project will have a Section 4(f) *de minimis* impact on the NR-eligible Albany Railroad Viaduct.

FRA made the Draft Section 4(f) Evaluation available for public and agency review and comment on May 9, 2022, concurrent with the EA. FRA received no public comments regarding the Draft Section 4(f) Evaluation. Because the Nationwide Historic Bridges Programmatic Section 4(f) Evaluation is applicable to the replacement of the Livingston Avenue Bridge, concurrence from the U.S. Department of the Interior (USDOI) is not required.

The Final Section 4(f) Evaluation is provided as **Attachment C** to this FONSI.

7 Environmental Commitments

As described in the sections above, FRA and NYSDOT have identified measures required to avoid, minimize, and mitigate environmental impacts of the Project. **Exhibit 4** below itemizes the specific mitigation commitments that NYSDOT is required to implement as part of the Selected Alternative. The exhibit incorporates commitments that are new since publication of the EA, including commitments related to the new elements of the Selected Alternative described in Section 3.5 of this FONSI and new commitments added in response to public comments (see **Attachment D**).

Exhibit 4
List of Environmental Commitments

Resource	Commitments

Transportation	• During final design, NYSDOT will coordinate with the Cities of Rensselaer and Albany as well as CSX, CP, and Amtrak related to operation and maintenance of the shared-use path on the bridge.
	• NYSDOT will coordinate with the City of Albany to ensure continued access to events at Jennings Landing during the closure of Quay Street.
	• NYSDOT will ensure that the construction contractor uses construction methods that minimize disruption to transportation services to the greatest extent practicable, including the following measures:
	  • Provide proper notice for closures.
	  • Implement NYSDOT Work Zone Traffic Control Program.
	  • Maintain pedestrian and cyclist access to the Mohawk-Hudson Hike-Bike Trail via erection of a canopy through the work area.

Land Use and Community Character	• NYSDOT will compensate owners of property to be acquired for the Project in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (the Uniform Act) and its established equitable land acquisition procedures. • NYSDOT will coordinate with the City of Rensselaer regarding the Kiliaen's Landing development to minimize impacts to the proposed development to the extent practicable. • NYSDOT and its contractor will use cones or construction fencing to prevent the public from entering the work zone at the shared-use path tie-in point to the Albany Skyway, and will stage the work to ensure no disruption to bidirectional traffic on the Skyway.
Social Conditions	*None (no impacts identified)*
Economic Conditions	*None (no impacts identified)*
Cultural Resources	• As stated in the Section 106 Memorandum of Agreement (MOA) among FRA, NYSDOT and SHPO (see **Attachment B** for detailed list of mitigations incorporated herein), NYSDOT will document the Livingston Avenue Bridge following Historic American Engineering Record standards, install interpretive signage on both sides of the river, and design the new bridge as a truss bridge incorporating key visual elements relating to the existing Livingston Avenue Bridge (the pulley housing and operator's building). NYSDOT also actively sought new ownership of the existing Livingston Avenue Bridge for adaptive reuse, or, because of its overall size, partial reuse at a new location, in accordance with stipulations of the MOA. However, NYSDOT did not receive any serious offers of new ownership. • To avoid accidental damage to adjacent resources, NYSDOT will develop a Construction Protection Plan (CPP) in consultation with SHPO and the property owners to set forth the specific measures to be used to protect architectural resources during the construction period. The CPP will set forth protocols and specifications to prevent inadvertent damage during construction.
Visual and Aesthetic Considerations	*None (no impacts identified)*

Exhibit 4 (cont'd)
List of Environmental Commitments

Resource	Commitments
Water Resources	• NYSDOT will acquire and adhere to all requirements and conditions associated with the permits and approvals for the project, including the USCG Section 9 and USACE Section 10/404 and Section 408 permits and federal coastal consistency review as required by the federal Coastal Zone Management Act. Other potential permits include SPDES and NYSDEC floodplain and water quality certification. • NYSDOT will acquire and adhere to all requirements and conditions associated with a NYSOGS permit for activities affecting the bed of the Hudson River, if necessary. • The NYSDOT Regional Hydraulics Engineer will perform a floodplain hydraulic analysis during the advance detail plan phase. • FRA and NYSDOT will assess the need for stormwater treatment during final design. • NYSDOT will ensure that the construction contractor performs all work in accordance with USCG, USACE, and NYSDEC permit conditions. This will include the use of turbidity barriers and other measures to protect water quality as warranted and as specified by permit conditions. This will also include implementation of a storm water pollution prevention plan (SWPPP) and compliance with NYSDEC technical standards for erosion and sediment control. • NYSDOT will employ green infrastructure techniques to manage and treat stormwater and maintain natural hydrology and ecological function.
Ecology	• Prior to construction of the temporary pier, NYSDOT will undertake a survey of submerged aquatic vegetation and the pier will be installed so as to minimize the potential to affect submerged aquatic vegetation. • NYSDOT will ensure that the construction contractor follows timing restrictions for construction work in the Hudson River to protect spawning shortnose and Atlantic sturgeon and their eggs and larvae: no in-water construction from March 1 through September 30 (work could still occur within cofferdam cells that were installed outside the no-in-water-work window). Avoidance of this time period will also minimize impacts to migratory and breeding anadromous fish. • NYSDOT will implement other construction best management practices developed in consultation with NMFS during final design to reduce turbidity and noise due to in-water construction activities to minimize adverse impacts to sturgeon and anadromous fish. Examples of measures that could be required include use of small-diameter piles that produce less underwater noise during installation; use of pre-drilling to install piles and vibratory hammering (if necessary, after pre-drilling) to the greatest extent practicable to minimize underwater noise levels; and tapping of piles prior to the start of impact hammering in order to give fish an opportunity to relocate before underwater sound levels become increasingly greater. • NYSDOT will have a mussel salvage/relocation performed before in-water works begins. All mussels found will be relocated to avoid being impacted by construction equipment or sedimentation from construction. • NYSDOT will ensure that tree clearing will occur only between November 1 to March 31 to avoid potential impacts to northern long-eared bats. • NYSDOT will ensure that the construction contractor removes the osprey nest on the existing bridge in winter when it is inactive. • NYSDOT will implement best management practices (such as washing construction equipment) to be established during final design to avoid introducing new invasive species to the area. • NYSDOT will use low-maintenance native plant material for landscaping.

Exhibit 4 (cont'd)
List of Environmental Commitments

Resource	Commitments
Geology	• NYSDOT will perform a geotechnical investigation prior to construction to identify design and construction requirements for the new bridge.
Air Quality	• NYSDOT will ensure that the construction contractor adheres to NYSDOT standard specifications that relate to air quality and employs best management practices to minimize air pollutant emissions during Project construction, including use of newer, low-emission equipment; dust control measures; use of ultra-low-sulfur fuel in diesel engines; and measures to control exposure to diesel exhaust, such as limiting heavy duty vehicle idling to five minutes or less.
Energy and Greenhouse Gas Emissions	• To minimize the upstream energy use and greenhouse gas emissions associated with producing construction materials, NYSDOT will ensure that the existing bridge is recycled and reused to the fullest extent practicable.
Noise and Vibration	• During track realignment construction for the wye tracks, NYSDOT will ensure that the construction contractor uses a portable noise barrier/ curtain with a Sound Transmission Class (STC) rating of STC 30 or greater for work occurring within 60 feet of residences • During track realignment construction for the wye tracks, NYSDOT will ensure that the construction contractor does not undertake nighttime construction (10 PM – 7 AM) within 60 feet of residences.
Utilities and Infrastructure	• NYSDOT will coordinate with utility owners (including CSX, the New York State Office of Technology, Niagara Mohawk Power Corporation, and Rensselaer County Sewer District) and provide advance notice to affected utility customers of any short-term outages that may occur as utilities are switched over to relocated lines.
Contaminated Materials	• NYSDOT will undertake environmental sampling in coordination with the geotechnical investigation program prior to construction to identify existing contamination in river sediments and upland soils; NYSDOT will share the results of this sampling program with USEPA. • NYSDOT will ensure that dredged material will be collected onto a barge, dewatered, and disposed of to reduce the potential for resuspension of polychlorinated biphenyls (PCBs) or other sediment contaminants in the Hudson River during the installation of the bridge piers. NYSDOT will require that the construction contractor treat dewatering effluent in accordance with NYSDEC requirements prior to discharging it back to the river. NYSDOT will implement controls and best management practices to prevent or minimize floodplain soils from entering the Hudson River. NYSDOT will ensure that all dredged materials and floodplain soils are handled and disposed of in accordance with appropriate regulatory standards and pursuant to conditions of any permits issued for the Selected Alternative. • Prior to construction, NYSDOT will conduct a Phase II subsurface investigation in areas where excavation would occur. This would include the collection and laboratory analysis of soil samples and groundwater samples to characterize subsurface conditions prior to construction. • Water quality testing would be performed on any groundwater encountered during construction to ensure compliance with applicable discharge permit/approval requirements and, if necessary, pre-treatment would be conducted prior to discharge. Requirements could include treatment measures such as settling basins to separate sediments from the groundwater prior to their discharge to surface waters.

Exhibit 4 (cont'd)
List of Environmental Commitments

Resource	Commitments
Contaminated Materials (cont'd)	• NYSDOT will ensure that construction is performed in accordance with Occupational Safety and Health Administration (OSHA) lead regulation (29 CFR 1926.62) and NYSDOT Standard Specifications, including Section 202 Demolition of Buildings and Structures, Section 570 Paint Removal Operations, and Section 571 Disposal of Paint Removal Waste. NYSDOT will ensure that the construction contractor will prepare a written Lead-Exposure Control Plan (LECP), with worker exposure assessment and engineering and work practice controls.NYSDOT will ensure that the construction contractor performs a comprehensive asbestos survey of any potential asbestos-containing materials prior to construction. • NYSDOT will ensure that the construction contractor handles and disposes of creosote-treated wood or other creosote products in accordance with ECL Article 27, Title 25. • NYSDOT will require that the construction contractor test, handle, store, transport, and dispose of materials in accordance with all applicable regulations. • NYSDOT will develop and implement a Construction Health and Safety Plan based on sampling results to protect workers, the community, and the environment during construction. • NYSDOT will require the construction contractor to prepare a Demolition Plan containing details of best management practices to be incorporated into Project construction. These best management practices may include environmental ground protection, environmental water protection, plans to contain and collect paint waste, dust control methods, and containment systems (such as cover panels, screens, tarps, scaffolds, supports, and shrouds).
Safety and Security	*None (no impacts identified)*
Environmental Justice	*None (no impacts identified)*
Indirect and Cumulative Impacts	*None (no impacts identified)*

8 Public and Agency Coordination

Throughout the NEPA process, FRA solicited input on the Selected Alternative from several government and transportation agencies including but not limited to: USACE, USCG, SHPO, and other Federal, state, and local government entities. Extensive coordination was conducted among FRA, NYSDOT, USACE, USCG, and SHPO prior to publication of the EA.

The EA was distributed for a 38-day public and agency review and comment period between May 9, 2022 and June 15, 2022. It was also posted to FRA's website[4] and NYSDOT's website[5] and advertised in the *Albany Times-Union*. A notice of availability of the EA was distributed via email and postcard to the Project mailing list and residents of the Project area. Public informational meetings were held virtually on May 31, 2022 and in person at the Palace Theater in Albany on June 1, 2022.

[4] https://railroads.dot.gov/environment/environmental-reviews/livingston-avenue-bridge-replacement-project.

[5] https://www.dot.ny.gov/livingstonavebridge.

9 Public and Agency Comments

Public and agency comments received on the EA are provided in **Attachment E, "Comments Received on the EA,"** and summaries of the comments with FRA and NYSDOT's responses to those comments are provided in **Attachment D, "Summary of and Responses to Comments Received on the EA."**

10 Conclusion

FRA has carefully considered the Project record, including the EA and associated technical reports and analysis; the Section 4(f) evaluation; the mitigation measures required including commitments made in the Section 106 MOA; and the written and oral comments offered by agencies, stakeholders, and the public on this record. Based on this consideration, FRA has determined the Project as presented and assessed in the attached EA satisfies the requirements of NEPA (42 U.S.C. §§ 4321 et seq.), Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and the FRA *Procedures for Considering Environmental Impacts* (FRA's Environmental Procedures, 64 FR 28545, May 26, 1999), and the Selected Alternative would have no foreseeable significant impact on the quality of the human or natural environment provided it is implemented in accordance with the commitments identified in this FONSI. FRA has also satisfied requirements under Section 4(f) of the USDOT Act. FRA has determined that there is no prudent and feasible alternative to the proposed use of Section 4(f) properties and that the Project includes all measures to minimize harm. The EA provides sufficient evidence and analysis for FRA to determine that an environmental impact statement is not required for the Project as presented.

Marlys Osterhues

10/31/2022

Marlys Osterhues
Acting Director
Office of Environmental Program Management
Federal Railroad Administration

Date

This document has been prepared in accordance with FRA's Procedures for Considering Environmental Impacts by the Office of Railroad Policy and Development (64 FR 28545, May 26, 1999) and NEPA (42 USC § 4321), with assistance from the Office of Chief Counsel. This document was prepared in 2022. For further information regarding this document, please contact:

Brandon Bratcher
Environmental Protection Specialist
Environment and Project Engineering Division
Office of Railroad Policy and Development
USDOT Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Attachments:

Attachment A. Errata Sheet

Attachment B. Section 106 Memorandum of Agreement

Attachment C. Final Section 4(f) Evaluation

Attachment D. Summary of and Responses to Comments Received on the EA

Attachment E. Comments Received on the EA

Attachment F. General Conformity and Greenhouse Gas Analysis

Attachment G. Design Drawings

Attachment A
Errata Sheet

Livingston Avenue Bridge Replacement Project
Environmental Assessment
and Draft Section 4(f) Evaluation

Errata Sheet
DEPARTMENT OF TRANSPORTATION
Federal Railroad Administration (FRA), October 2022

This Errata Sheet notes specific corrections to the Livingston Avenue Bridge Replacement Project Environmental Assessment and Draft Section 4(f) Evaluation (EA; issued May 2022). These corrections are provided as an attachment to FRA's Finding of No Significant Impact for the Project, in response to public comments on the EA.

Where FRA has made changes to the text, they are shown below in **bold**. Deletions are shown in **~~strikethrough~~**, while newly added text is **underlined**. Where applicable, the entire paragraph from the EA has been included to provide context for the changes.

CORRECTIONS TO CHAPTER 3: TRANSPORTATION IMPACTS

FRA notes corrections to Chapter 3 of the EA related to (1) navigable waters and (2) pedestrians and bicyclists.

NAVIGABLE WATERS

FRA notes corrections to the discussion of navigable waters to reflect the fact that the Federal navigation channel in the Hudson River is a Federal civil works project that is protected under Section 14 of the Rivers and Harbors Act of 1899.

Affected Environment

In 3.3.2 of the EA, "Navigable Waters," the first two paragraphs of the section are revised as follows to address comments from the U.S. Army Corps of Engineers (USACE).

> *The Hudson River is a navigable waterway of the United States within the jurisdiction of the U.S. Coast Guard under Section 9 of the Rivers and Harbors Act of 1899, which seeks to preserve the public right of navigation and prevent interference with interstate and foreign commerce. In addition, Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the Secretary of the Army acting through USACE for: 1) the construction of any structure in or affecting any navigable waters of the United States; 2) the excavation from or deposition of material in these waters; or 3) any obstruction or alteration in these waters (33 USC § 403).* ***To ensure that civil works projects such as the Federal navigation channel within the Hudson River continue to provide their intended benefits to the public, Section 14 of the Rivers and Harbors Act of 1899, which has since been amended several times and is codified at 33 USC 408 (Section 408), requires that any use or alteration of these projects be approved by the USACE.*** *The Hudson River is also a state-regulated navigable waterway under the jurisdiction of the NYSOGS.*
>
> *The Hudson River is a navigable waterway from the Battery in Manhattan (River Mile [RM] 0) to* ***its source in the Adirondack Mountains. Navigation is unimpeded up to*** *the Troy Dam north of Albany at RM 150. At the Troy Dam, the Troy Lock permits vessels to pass to and from the upper river and the New York State Canal System. The Livingston Avenue Bridge is located at RM 145. Although the Hudson is a freshwater river at this location, the river is tidally influenced as far north as the Troy Dam.*

Impacts of the Build Alternatives

FRA notes a correction to Section 3.5.2 of the EA, "Navigable Waters." The second paragraph of the section is revised as follows to address a comment from USACE.

> *The Build Alternatives would widen the navigable channel beneath the bridge from 100 feet to 190 feet by providing a lift span rather than a swing span (with a center pier). The Build Alternatives would provide a bridge with a vertical clearance of 60 feet when the bridge is open, which is less than the No Action Alternative (with a clearance of 135 feet) but the same as the adjacent upstream and downstream structures. Thus, no adverse impact on river traffic would occur with either Build Alternative as a result of the new structure. When the bridge is closed, the vertical clearance within the navigation channel would be the same as for the existing bridge—25 to 30 feet, depending on the tide. The Build Alternatives would require permits from the USCG and USACE for the new bridge in accordance with the requirements of Sections 9**, ~~and~~** 10**, and 14** of the Rivers and Harbors Act.*

PEDESTRIANS AND BICYCLISTS

No Action Alternative

FRA notes corrections to the discussion of conditions related to bicycles and pedestrians. Specifically, FRA notes a correction to Section 3.4 of the EA, "Impacts of the No Action Alternative." The final paragraph of the section is revised, and a new paragraph is added after the final paragraph, as follows to address a comment from the City of Rensselaer.

> ***~~The No Action Alternative would not affect vehicular traffic or public transportation, nor would it affect pedestrians or bicyclists.~~ With the No Action Alternative, pedestrian and bicyclists would continue to lack access between the Cities of Albany and Rensselaer at this location due to the closure of the pedestrian walkway on the existing bridge.*** *No new shared use path across the Hudson River would be created, and pedestrians would likely continue to trespass across the existing Livingston Avenue Bridge.*
>
> ***The No Action Alternative would not affect vehicular traffic or public transportation.***

CORRECTIONS TO CHAPTER 4: SOCIAL, ECONOMIC, AND ENVIRONMENTAL CONSIDERATIONS

FRA notes corrections to Chapter 4 of the EA related to water resources (Section 4.7).

SECTION 4.7: WATER RESOURCES

Affected Environment

FRA notes a correction to Section 4.7.3.3.1 of the EA, "Federal Wetlands." The second paragraph of the section is revised as follows to address a comment from USACE.

> *FRA and NYSDOT evaluated the study area for the presence of unmapped wetlands in accordance with the criteria defined in the 1987 USACE Wetland Delineation Manual and the 2012 USACE Northcentral and Northeast Regional Supplement in September 2020. One wetland was delineated within the study area. "Wetland B" is along an unpaved path on the east side of the Hudson River (Rensselaer) approximately 450 feet north of the existing rail tracks and about 300 feet from the river shoreline (see Figure 4.7-5). As detailed in Appendix B-2, Wetland B is an approximately 3,050-square-foot (0.07-acre) **~~non-adjacent~~ isolated** wetland that occurs in a slight topographic depression. Hydrology indicators include surface water, soils saturated at the surface, a sparsely vegetated concave surface, a thin muck surface, and a shallow aquitard. The wetland is dominated*

by Japanese stiltgrass (Microstegium vimineum), with lesser duckweed (Lemna minor) covering the water surface. FRA and NYSDOT will consider Wetland B as a jurisdictional wetland for the evaluation of wetland impacts, pending a response from USACE regarding an Approved or Preliminary Jurisdictional Determination.

Avoidance, Minimization, and Mitigation

FRA notes a correction to Section 4.7.6 of the EA, "Avoidance, Minimization, and Mitigation." The list of approvals and permits required for the Project in the first paragraph of the section is revised as follows to address a comment from USACE.

Implementation and construction of the Project would be subject to a number of Federal, New York, and local permits and approvals. The potential relevant permits are as follows:

- *USCG Section 9 Permit*
- *USACE Section 404 Permit and Section 10 Permit*
- ***USACE Section 408 Permit***
- *NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001)*
- *NYSDEC Floodplain Variance*
- *NYSDEC Water Quality Certification (Section 401) of the Clean Water Act*
- *NYSDOS Coastal Zone Consistency Certification Statement and Local Waterfront Revitalization Certification*
- *NYSOGS Grants or License of Land Underwater (New York State Public Lands Law § 6-75.7b)*

CORRECTIONS TO CHAPTER 5: ENVIRONMENTAL JUSTICE

In Chapter 5, FRA notes corrections to Section 5.5 of the EA, "Identification of Disproportionate Adverse Effects." The fourth paragraph of the section is revised, and a new paragraph is added after the fourth paragraph, as follows to address comments from the U.S. Environmental Protection Agency.

While some localized adverse effects, such as noise and potential dust, would occur throughout the study area during the Project's construction in both environmental justice block groups and non-environmental justice block groups, these effects would be temporary and would end once construction is complete. Moreover, construction would be managed to minimize the potential for adverse effects through the use of best management practices such as dust control. ***Noise impacts during construction would be avoided, as NYSDOT would require the construction contractor to use a portable noise barrier/curtain with a Sound Transmission Class (STC) rating of STC 30 or greater during daytime construction within 60 feet of residences, and NYSDOT would prohibit construction activities within 60 feet of residences at night (Section 4.16. 11 provides further discussion of construction noise attenuation measures).*** *Furthermore, environmental justice communities closest to the Project site would be buffered from construction by distance and intervening vegetation. Most construction activity would occur in the water, where the approach spans and movable span would be installed, working from limited onshore staging areas. This would limit the potential for disruption to nearby uses in Rensselaer and Albany, since the activities would not be immediately nearby. Some construction staging would occur on the east side of the bridge, which would be buffered from the residential community by distance and the presence of intervening vegetation that would block views of the construction. The reconfiguration of the approach tracks in Rensselaer would be the closest construction activity to the community****;*** ~~***and***~~ ***this would involve clearing and grading the new track alignment and placing new track. Build Alternative 2 would***

require only a slight shift from existing track alignments; Build Alternative 1 would require a more substantial shift in the alignments, along with raising the elevation of the Troy Industrial Track. The measures described above in Section 4.16.10 (use of newer equipment and clean fuel, idling restrictions, and dust control measures) would ensure that no adverse air quality impacts would occur at nearby residences. The measures described earlier in this paragraph and in Section 4.16.11 related to construction noise attenuation would ensure that the track construction would not result in any adverse noise impacts at nearby residences. Because this work ~~***it***~~ *would occur over a short time period**, would involve the use of mitigation measures for construction noise and air pollutant emissions,** and**,*** ~~***with***~~ ***would*** *only* ***require*** *limited activity* ~~***required***~~*,* ***it*** *would not be intensely disruptive. Although environmental justice communities are located on both sides of the bridge, the Project would not result in construction impacts on these communities which would be buffered from construction as stated above, and therefore, there would be no disproportionately high and adverse effects on environmental justice populations from the Project's construction.*

FRA and NYSDOT have developed a proposed work zone traffic control program to minimize the temporary impacts to vehicular, pedestrian, and bicycle traffic that would occur in Albany under both Build Alternatives. The work zone traffic control program and details on the detours that would be required are presented in Appendix A-3, "Conceptual Staging," and Appendix A-4, "Detour Routes". Quay Street would be closed during a two-month construction period for the west bridge abutment and west end span, and NYSDOT would install a detour via the NYS Route 5 connector to Broadway to North Ferry Street to Erie Boulevard. This route travels through areas that are dominated by commercial and warehouse uses, with very few residential properties along the route. In addition, for work on the Water Street and Centre Street bridges, Water Street and Centre Street would each be closed for a two-week period from Quay Street to Livingston Avenue and traffic would be redirected for access to several parking lots and the street network beyond. Large truck traffic would be restricted from using the Colonie Street exit from southbound I-787 during this time. The pedestrian walkway along Water Street would be relocated to Centre Street for the duration of the Water Street bridge construction. Water and Centre Streets would be closed concurrently for bridge resetting over the span of two weekends. While these road closures and detours would be located within environmental justice block groups, they would involve streets that are predominantly commercial or industrial in nature and would not affect residential areas. The detours would not substantially add to travel times and would maintain the current level of safe movement for pedestrians. Accident history analyzed for this EA does not indicate any existing safety deficiencies or accident-prone locations that would be exacerbated by Project construction or by increased traffic volumes on detour routes. Therefore, there would be no disproportionately high and adverse effects on environmental justice populations from road closures and associated work zone traffic control measures.

CORRECTIONS TO APPENDIX B-8: PUBLIC INVOLVEMENT PLAN

FRA notes corrections to Appendix B-8 of the EA related to the list of Project stakeholders. In the "Context Identification" section of the Public Involvement Plan, the list of Stakeholders is amended to include a new stakeholder group, "Federally Recognized Native American Tribes," after the group entitled "Federal Agencies" and before the group entitled "State Agencies," as follows to address a comment from the U.S. Environmental Protection Agency.

Federal Agencies
Federal Railroad Administration*
United States Coast Guard**
United States Fish & Wildlife Service
United States Army Corps of Engineers**

United States Environmental Protection Agency
National Marine Fisheries Service

* Lead Federal Agency
** Cooperating Agencies. FRA will invite potential cooperating Federal agencies.

Federally Recognized Native American Tribes
Delaware Tribe
Saint Regis Mohawk Tribe
Stockbridge Munsee Community Band of Mohicans

State Agencies
NYS Department of Environmental Conservation
NYS Office of General Services (Owner of riverbed and parking lots under and near the bridge in Albany)
NYS Department of State (NYSDOS)
NYSDOS Division of Coastal Resources
NYS Office of Parks, Recreation and Historic Preservation
Hudson River Valley Greenway

Attachment B
Section 106 Memorandum of Agreement

MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICE,
THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION
REGARDING THE REPLACEMENT OF THE LIVINGSTON AVENUE BRIDGE
CITY OF ALBANY & CITY OF RENSSELAER
ALBANY & RENSSELAER COUNTIES, NEW YORK
PURSUANT to 36 CFR § 800.6(a)(1)
PIN 1935.49
BIN 7092890
NYSOPRHP # 12PR00935

WHEREAS, the Federal Railroad Administration (FRA) in coordination with the New York State Department of Transportation (NYSDOT) is progressing a federally funded project to remove and replace the Livingston Avenue Bridge (BIN 7092890) which spans the Hudson River between the Cities of Albany and Rensselaer, in Albany and Rensselaer Counties, to improve reliability and reduce passenger and freight train delays; achieve a long-term state of good repair for the bridge; eliminate existing bridge and track deficiencies; and maintain or improve waterway navigation near the bridge (the Project); and

WHEREAS, the Project involves modifications to the approach tracks on the west and east sides of the Hudson River, including rehabilitation of the rail bridges of Water and Centre Streets in Albany and changes to the approach in Rensselaer; and

WHEREAS, the Preferred Alternative replaces the Livingston Avenue Bridge with a new multi-span, multi-track, moveable bridge on a new, parallel southern alignment (approximately 50 feet south from the existing bridge location); and

WHEREAS, the Area of Potential Effect (APE) is approximately 100 to 200 feet wide along the CSX/Amtrack tracks from Montgomery Street in Albany to the west abutment; 900 feet in length, 400 feet wide, and 1,272 feet in length across the river to Rensselaer; and 400 feet wide and 1,500 feet long on the east shore from the east abutment to its terminus along the existing track; and

WHEREAS, the Project was selected for federal funding provided by the United States Department of Transportation through the FRA utilizing 2010 High Speed Intercity Passenger Rail grant funds and would be authorized through permits issued by the United States Army Corps of Engineers (USACE) and the United States Coast Guard (USCG); and

WHEREAS, FRA funding of the Project is considered an Undertaking under the National Historic Preservation Act of 1966 (54 U.S.C. § 306108) (NHPA), as amended, and it's implementing regulations at 36 Code of Federal Regulations [C.F.R.] § 800 (hereinafter collectively referred to as Section 106) and FRA is acting as the lead Federal Agency for compliance with Section 106; and

WHEREAS, on April 28, 2021, USCG designated FRA as the lead Federal Agency for compliance with Section 106 and agreed to serve as a Consulting Party; and on May 19, 2021 USACE designated FRA as lead agency and agreed to serve as a Consulting Party on the Project; and

WHEREAS, FRA's action requires review under the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 *et seq.*); and

WHEREAS, FRA and NYSDOT initiated consultation with the New York State Historic Preservation Office (NYSHPO), pursuant to 36 CFR § 800.3(c) via letter dated March 7, 2012; and

WHEREAS, pursuant to 36 CFR § 800.4(b) FRA made a reasonable and good faith effort to identify historic properties that are listed in or determined eligible for listing in the National Register of Historic Places (NRHP)

within a preliminary study area through development of a Cultural Resource Reconnaissance Survey Report (CRRSR) completed in two volumes in April and June 2011. The CRRSR identified the Livingston Avenue Bridge and the Albany Railroad Viaduct as eligible for the NRHP. The CRRSR identified no archaeological resources within the APE. NYSHPO concurred with the findings of this report on May 8, 2012; and

WHEREAS, the Livingston Avenue Bridge (BIN 7092890) (Unique Site Number [USN] 00140.004481), was determined eligible under NRHP Criterion C as an intact example of an early 20th-century swing bridge. It is a Baltimore-truss bridge constructed in 1901, on cut limestone circa 1866 piers, 1272 feet long, 27.8 feet wide, carrying CSX/Amtrak Rail over the Hudson River, and consists of a 260-foot continuous truss swing span, four trusses that span the navigation channel, and four plate girder spans; and

WHEREAS, the Project's APE includes an area that contributes to the Albany Railroad Viaduct. This part of the Albany Railroad Viaduct, within the APE, includes two bridges; the Centre Street-Erie Boulevard Bridge [USN 00140.004789; BIN 7709021]) and the Water Street Bridge [USN 00140.004788; BIN 7092900]). Both are through-girder bridges built in 1948 and were determined eligible under Criterion A, in the 2015 Cultural Resources Survey Report, for their association with the railroad right-of-way and spanning development of national rail service in the Hudson River from the Montgomery Street Railroad Bridge in the City of Albany on the west to Tracy Street on the north and Pine Street on the south in the City of Rensselaer. Pursuant to 36 CFR § 800.4(a)(1), a Draft Finding Documentation was submitted to NYSHPO March 10, 2015 that recommended this undertaking would have a No Adverse Effect on the Albany Railroad Viaduct. NYSHPO concurred April 29, 2015; and

WHEREAS, on April 29, 2015, NYSHPO, in response to the Draft Finding Documentation, requested that an analysis of alternatives to removing the Livingston Avenue Bridge be conducted. The NYSHPO's response did not include comment on FRA's definition of the APE; and

WHEREAS, in response to the NYSHPO's request for additional information regarding alternatives to removing the Livingston Avenue Bridge, NYSDOT provided additional information on alternatives considered in a revised Finding Document submitted to the NYSHPO on June 17, 2015. On August 5, 2015 NYSDOT and NYSHPO met to discuss alternatives presented in the revised Finding Documentation and to discuss additional alternatives. On November 10, 2015, NYSDOT submitted to NYSHPO an Explanation of Alternatives evaluating the additional alternatives considered and measures to minimize harm; and

WHEREAS, NYSDOT considered alternatives to avoid and minimize the adverse effect to the Livingston Avenue Bridge in accordance with 36 CFR 800.6 (as summarized in the Finding Documentation) and concluded that the adverse effect could not be avoided; and

WHEREAS, in a letter dated August 24, 2020, FRA re-initiated consultation with NYSHPO, pursuant to 36 CFR § 800.3(c), because several years had elapsed since the previous consultation. FRA provided an updated Finding Documentation and information about the Project. It included a reiteration of the definition of the APE pursuant to 36 CFR § 800.4(a)(1), a summary of historic property identification efforts within the APE pursuant to 36 CFR § 800.4(b) and a recommendation that the Undertaking would result in an Adverse Effect to the Livingston Avenue Bridge and that the Undertaking would have No Adverse Effect on the Albany Railroad Viaduct pursuant to 36 CFR § 800.5; and

WHEREAS, in a letter dated September 23, 2020, NYSHPO concurred the Undertaking would have an Adverse Effect on the Livingston Avenue Bridge (BIN 7092890), that the Undertaking would have No Adverse Effect on the Albany Railroad Viaduct again, and requested that NYSDOT contact the City of Albany to determine if the City was interested in taking possession of the western end of the Livingston Avenue Bridge for use as a pedestrian pier; and

WHEREAS, NYSDOT contacted the City of Albany on October 27, 2020 to determine if the City was interested in taking possession of the western end of the bridge, and the City of Albany responded on March 4, 2021 and declined to take possession of the Livingston Avenue Bridge; and

WHEREAS, pursuant to 36 C.F.R. § 800(3)(f)(2), in a letter dated February 2, 2015, NYSDOT, on behalf of FRA, invited the Saint Regis Mohawk Tribe, the Stockbridge Munsee Community Band of Mohican Indians, and the Delaware Tribe to participate in the Section 106 process as Consulting Parties; and

WHEREAS, FRA and NYSDOT met with Bonney Hartley of the Stockbridge-Munsee Community Band of Mohicans on June 26, 2015 to discuss the Project and resolve concerns raised by the tribe. The Saint Regis Mohawk Tribe and the Delaware Tribe responded that they had no concerns but requested that they be notified if human remains, or objects of cultural patrimony are encountered during construction of the Project; and

WHEREAS, in a letter dated August 12, 2020, FRA re-initiated consultation with the Stockbridge-Munsee Community Band of Mohican Indians, the Saint Regis Mohawk Tribe, and the Delaware Tribe; and the Stockbridge Munsee Community Band of Mohican Indians and the Delaware Tribe responded that they had no concerns but requested that they be notified if human remains or objects of cultural patrimony are encountered during construction of the Project, while the Saint Regis Mohawk did not respond; and

WHEREAS, pursuant to 36 CFR § 800.3(f), in letters dated May 26, 2017, NYSDOT, on behalf of FRA, invited the following organizations with a demonstrated interest in the Project to participate in the Section 106 process and be Consulting Parties: the Arbor Hill Neighborhood Association; the Bridge Line Historical Society; the City of Albany Historian; the City of Rensselaer Historian; the Historic Albany Foundation; the Livingston Avenue Bridge Coalition; the National Railway Historical Society, Mohawk and Hudson Chapter; the New York Central Historical Society; and Partners for Albany Stories; and

WHEREAS, the City of Rensselaer Historian; the Historic Albany Foundation; the Livingston Avenue Bridge Coalition; the National Railway Historical Society, Mohawk and Hudson Chapter; and the New York Central Historical Society accepted FRA's invitation; and the Capital District Transportation Committee requested and was granted Consulting Party status; and

WHEREAS, the Arbor Hill Neighborhood Association; the Bridge Line Historical Society; and Partners for Albany Stories did not respond to FRA's invitation, and the City of Albany Historian declined the invitation; and

WHEREAS, FRA sought and considered the views of the public regarding Section 106 for this Project at public information meetings held virtually on May 31, 2022, and in person at the Palace Theater in Albany on June 1, 2022. A recording of the virtual event was made available to the public online and information on the Project was provided on the Project website at: https://www.dot.ny.gov/livingstonavebridge. Comments were also accepted via postal and electronic mail and through the project website during the public comment period, which ran from May 9, 2022, through June 15, 2022; and

WHEREAS, pursuant to 36 CFR § 800.6(a)(1), in a letter dated December 3, 2020, FRA notified the Advisory Council on Historic Preservation (ACHP) of the adverse effect determination, providing the specified documentation, and FRA's intention to enter into a Memorandum of Agreement, and the ACHP chose not to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii) (Appendix C); and

WHEREAS, NYSDOT actively sought to minimize effects to the historic Livingston Avenue Bridge by seeking new ownership of it for adaptive reuse, or, because of its overall size, partial reuse at a new location; and

WHEREAS, NYSDOT's marketing for a new bridge owner consisted of a combination of print and web-based ads that included an advertisement in the local newspaper for a minimum of fourteen (14) days and an announcement posted on the internet for a minimum of two (2) months. A signed affidavit from the newspaper was provided to NYSDOT as proof of publication to fulfill this stipulation. All inquiries and offers were due to NYSDOT on July 13, 2022; and

WHEREAS, NYSDOT considered viable offers that meet the following criteria: A willing new owner must dismantle, transport, and provide a guaranteed future use at a new location. The prospective new owner should demonstrate financial feasibility, understanding of the bridges' condition and explain how it will account for disassembly, transport, reassembly, and reuse of the bridge. The plan must include a timeline demonstrating the disassembly, relocation, and reassembly of the bridge within twelve (12) months of ownership. When the

ownership of the bridge is transferred for reuse, the transfer deed would include a preservation covenant that requires the new owner to retain the feature intact for a minimum of twenty (20) years; and

WHEREAS, after 2 months of marketing, no party was found to take possession of the existing bridge nor was a viable offer, as defined in the recital above received; and

WHEREAS, NYSDOT notified all consulting parties, via email on August 5, 2022, that the bridge will be demolished as part of the Project; and

WHEREAS, FRA and NYSDOT, along with NYSHPO, have determined that it is appropriate to enter into this Memorandum of Agreement (Agreement) pursuant to 36 CFR § 800.6, which will govern the implementation of the Project and satisfy FRA's, USCG's, and USACE's obligation to comply with Section 106; and

WHEREAS, NYSDOT, as the Project Sponsor, will have roles and responsibilities in the implementation of this MOA and FRA invited NYSDOT to sign this MOA as an Invited Signatory; and

WHEREAS, NYSDOT on behalf of FRA, invited the Cites of Albany and Rensselaer to be Concurring Parties due their role in Stipulation I.B on August 10, 2022 and they acceptedthe invitation on August 15, 2022, and

WHEREAS, FRA, NYSDOT, and NYSHPO will collectively be referred to as the Signatories; and

NOW, THEREFORE, the Signatories agree that the Project shall be implemented in accordance with the following stipulations in order to take into account the effects of the Project on Historic Properties.

STIPULATIONS

NYSDOT, in coordination with FRA, shall ensure that the following measures are carried out:

I. MITIGATION MEASURES FOR HISTORIC ARCHITECTURAL PROPERTIES

To mitigate the adverse effect of the removal of the NRHP-eligible Livingston Avenue Bridge (BIN 7092890):

A. NYSDOT shall complete Level II Historic American Engineering Record (HAER) documentation (HAER Documentation) through the New York State Museum in accordance with the *Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation: HABS/HAER Standards* (as originally published in the Federal Register, Vol. 48, No. 190, Thursday, September 29, 1983, pp. 44730-34.).

1. All documentation work shall be performed by an individual meeting the Secretary of the Interior's *Professional Qualification Standards* (48 FR 44716, September 1983) for historic architect, architectural historian, or historian.

2. All photography shall comply with the *National Register Photo Policy Fact Sheet* (http://www.nps.gov/nr/publications/guidance/Photo_Policy_final.pdf) and must be completed before demolition of the bridge.

3. NYSDOT shall provide NYSHPO the opportunity to review and comment on the draft HAER documentation prior to demolition of the bridge. NYSDOT will revise the HAER documentation as necessary based on comments received from NYSHPO. NYSDOT shall provide the revised Final-Draft HAER documentation to NYSHPO for review. This review shall be limited to ensuring that NYSDOT addressed all comments provided during initial document review. All reviews will be completed in accordance with Stipulation II Timelines and Communications.

4. Prior to the construction of the new bridge, NYSDOT shall prepare five (5) copies of the Final HAER documentation consisting of one hard copy and one electronic copy in Adobe pdf format on a CD.

NYSDOT shall retain a copy of the documentation for its permanent records, one copy shall be submitted to each of the following organizations: NYSHPO, Rensselaer Historical Society, Albany County Historical Society, and the City of Albany.. NYSDOT shall also provide FRA a pdf of the Final HAER documentation.

B. NYSDOT shall develop two Interpretive Signs that addresses the history of this unique Baltimore Truss swing, railroad bridge; the materials used in the bridge's construction; growth of the railroad; and the history of the area.

1. NYSDOT shall coordinate with the City of Albany to identify a location of one interpretive sign e.g. along the Mohawk-Hudson Bike-Hike Trail within Corning Riverfront Park and shall coordinate with the City of Rensselaer to identify a location of one interpretive sign on a similar trail or park in the City of Rensselaer.

2. NYSDOT will provide a draft interpretive sign to NYSHPO and the Cites of Albany and Rensselaer for review and comment. NYSDOT will revise the interpretive sign based on NYSHPO and Cites of Albany and Rensselaer comments and will provide a revised Final-Draft to NYSHPO and the Cities of Albany and Rensselaer for a final round of review, as necessary. NYSDOT will revise the sign as necessary and provide a final electronic version of the interpretive sign to NYSHPO and the Cities of Albany and Rensselaer prior to fabrication and installation. All reviews shall be completed in accordance with Stipulation II Timelines and Communications.

3. In the event that the interpretive signs are on City of Albany and/or City of Rensselaer property and the City of Albany and/or City of Rensselaer will not allow installation of the signs and/or accept responsibility to maintain the interpretive signage for reasons beyond the NYSDOT's control, NYSDOT will notify NYSHPO and NYSDOT's responsible party and this stipulation will be considered fulfilled. If one of the two cities approves installation and accepts maintenance responsibility for the sign the interpretive sign will be installed in that city.

C. **Bridge Design**

NYSDOT shall ensure that the design of the proposed new bridge is a truss bridge that incorporates key visual elements relating to the existing Livingston Avenue Bridge: the pulley housing and operator's building, as requested by NYSHPO on April 14, 2021. If any of these elements would be substantially altered, NYSDOT shall request an Amendment to the MOA pursuant to Stipulation VII.

II. TIMEFRAMES AND COMMUNICATIONS

A. All time designations are in calendar days unless otherwise stipulated. If a review period ends on a Saturday, Sunday, or Federal holiday, the review period will extend until the first following business day.

B. Unless otherwise stipulated in this Agreement, all review periods are thirty (30) calendar days, starting on the day a complete submission is provided by NYSDOT to the relevant parties via the specified notification processes.

C. NYSDOT will consult with responding parties as appropriate to ensure that all comments received within the 30 calendar-day review period are considered. If NYSDOT does not receive comments within the 30 calendar-day review period, it is understood that the non-responding parties have no comments on the submittal, and NYSDOT may proceed to the next step of the consultation process.

D. In exigent circumstances (e.g., concerns over construction suspensions or delays), all Signatories agree to expedite their respective document review within seven (7) calendar days.

E. All official notices, comments, requests for further information, documentation, and other communications will be sent by e-mail or other electronic means.

F. FRA is responsible for all government-to-government consultation with Tribes.

G. NYSDOT shall provide an annual letter report to all Signatories and Consulting Parties on the anniversary date of execution of this Agreement. At a minimum the report shall include: a Project status summary to date, list of activities and mitigations completed in the previous year, and a list of activities and mitigations to be completed in the coming year.

III. PROJECT MODIFICATION AND CHANGES

If NYSDOT proposes changes to the Project that may result in additional or new effects on historic properties, NYSDOT will notify FRA and NYSHPO of such changes within 15 calendar days. Before NYSDOT takes any action that may result in additional or new effects to historic properties, NYSDOT, in coordination with FRA, will consult with NYSHPO and Consulting Parties and take appropriate steps to identify historic properties in accordance with 36 CFR 800.4 and assess effects in accordance with 36 CFR 800.5. If new adverse effects on historic properties are identified, NYSDOT, in coordination with FRA, will consult with NYSHPO and the Consulting Parties as appropriate, to determine the appropriate course of action. If FRA determines that an amendment to the MOA is required, it will proceed in accordance with Stipulation VII Amendments.

IV. POST-REVIEW DISCOVERIES

A. UNANTICIPATED ARCHEOLOGICAL DISCOVERIES DURING CONSTRUCTION

If during construction, a previously unidentified archeological resource is discovered, NYSDOT will immediately halt construction in the vicinity of the discovery. If the NYSDOT in consultation with the FRA, NYSHPO, the Saint Regis Mohawk Tribe, the Delaware Tribe, and the Stockbridge Munsee Community Band of Mohican Indians determines that the Project will affect a previously unknown and unidentified archeological resource that may be eligible for the National Register or will affect a known archeological property in an unanticipated manner, the procedures in 36 CFR 800.13(b) will be followed. NYSDOT shall make a reasonable effort to avoid or minimize effects to such properties.

B. UNANTICIPATED DISCOVERY OF HUMAN REMAINS

The ***NYSDOT Procedures for Inadvertent Discovery of Human Remains during Construction*** (Appendix A) shall be implemented if human remains, or potential human remains, are discovered during construction. If a discovery consists of a burial site, human remains, or bones thought to be human remains, the Engineer-in-Charge (EIC) will report the discovery to the State Police. Work will be stopped, and measures will be taken to secure and protect the site from further disturbance. The NYSDOT will notify NYSHPO, the FRA, within 48 hours of the discovery. The FRA will contact the Saint Regis Mohawk Tribe, the Delaware Tribe, and the Stockbridge Munsee Community Band of Mohican Indians to initiate consultation regarding the discovery.

If the human remains are identified as potentially Stockbridge Munsee (Mohican), the NYSDOT in coordination with the Stockbridge-Munsee Tribal Historic Preservation Officer and FRA will carry out procedures outlined in the ***Stockbridge-Munsee Community Band of Mohican Indians Policy for Treatment and Disposition of Human Remains and Cultural Items That May be Discovered Inadvertently during Planned Activities*** (Appendix B).

V. DISPUTE RESOLUTION

A. Any Signatory to this MOA or Tribe may object to any proposed action(s) or the manner in which the terms of this MOA are implemented by submitting its objection to FRA in writing, after which FRA will consult with all Signatories to resolve the objection. If FRA determines such objection cannot be resolved, FRA will, within thirty (30) days of such objection:

1. **Forward all documentation relevant to the dispute, including FRA's proposed resolution, to the ACHP (with a copy to the Signatories). ACHP may provide FRA with its comments on the resolution of the objection within thirty (30) days of receiving documentation.**
2. **If the ACHP does not provide comment regarding the dispute within thirty (30) days, FRA will make a final decision on the dispute and proceed accordingly.**
3. **FRA will document this decision in a written response that takes into account any timely comments received regarding the dispute from ACHP and the Signatories and provide them with a copy of the response.**
4. **FRA will then proceed according to its final decision.**
5. **The Signatories remain responsible for carrying out all other actions subject to the terms of this MOA that are not the subject of the dispute.**

B. A Consulting Party to this MOA or a member of the public may object to the manner in which the terms of this MOA are being implemented by submitting its objection to FRA in writing. FRA will notify the other Signatories of the objection in writing and take the objection into consideration. FRA will consult with the objecting party, and if FRA determines it is appropriate, the other Signatories for not more than thirty (30) days. Within fifteen (15) days after closure of this consultation period, FRA will provide the Signatories, participating Tribes, Consulting Parties, and the objecting party with its final decision in writing.

VI. AMENDMENTS

Any Signatory to this Agreement may request in writing to the other Signatories that it be amended. The Signatories will consult for no more than thirty (30) calendar days (or another time period agreed upon by all Signatories) to consider such amendment. The amendment will be effective on the date the amendment is signed by all of the Signatories. FRA will file the executed amendment with the ACHP.

VII. TERMINATION

If any Signatory to this Agreement determines that the terms of the MOA will not or cannot be carried out, that Signatory will immediately notify the other Signatories in writing and consult with them to seek resolution or amendment pursuant to Stipulation V and VI of the Agreement. If within sixty (60) days a resolution or amendment cannot be reached, any Signatory may terminate the Agreement upon written notification to the other Signatories.

Once the Agreement is terminated, and prior to work continuing the Project, FRA must either (a) execute a new Agreement pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. FRA will notify the Signatories as to the course of action it will pursue.

VIII. DURATION

This Agreement will expire when all its stipulations are complete or in five (5) years from the effective date, whichever comes first, unless the Signatories agree in writing to an extension in accordance with Stipulation VI Amendments. The Signatories to this MOA will consult six (6) months prior to expiration to determine if there is a need to extend or amend this MOA.

IX. EFFECTIVE DATE

This Agreement will become effective immediately upon execution by all Signatories.

X. APPENDICES

A. NYSDOT Procedures in the Event of the Inadvertent Discovery of Human Remains During Construction

B. *Stockbridge-Munsee Community Band of Mohicans Policy for Treatment and Disposition of Human Remains and Cultural Items That May be Discovered Inadvertently during Planned Activities*

C. *Letter from the ACHP*

XI. EXECUTION AND IMPLEMENTATION

Execution of this Agreement by the Signatories and its subsequent filing with the ACHP by FRA demonstrates that FRA has considered the effects of this Project on Historic Properties, afforded the ACHP a reasonable opportunity to comment, and satisfied its responsibilities under Section 106 of the NHPA and its implementing regulations.

MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICE,
THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION
REGARDING THE REPLACEMENT OF THE LIVINGSTON AVENUE BRIDGE
CITY OF ALBANY & CITY OF RENSSELAER
ALBANY & RENSSELAER COUNTIES, NEW YORK

Signatory:
FEDERAL RAILROAD ADMINISTRATION

By:_____ Date: 8/31/2022
Name: Amanda Murphy
Title: Acting Federal Preservation Officer

MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICE,
THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION
REGARDING THE REPLACEMENT OF THE LIVINGSTON AVENUE BRIDGE
CITY OF ALBANY & CITY OF RENSSELAER
ALBANY & RENSSELAER COUNTIES, NEW YORK

Signatory:
NEW YORK STATE HISTORIC PRESERVATION OFFICE

By: R Daniel Mackay Date: 8/30/2022
Name: R. Daniel Mackay
Title: Deputy Commissioner of the State Historic Preservation Office

MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICE,
THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION
REGARDING THE REPLACEMENT OF THE LIVINGSTON AVENUE BRIDGE
CITY OF ALBANY & CITY OF RENSSELAER
ALBANY & RENSSELAER COUNTIES, NEW YORK

Signatory:
NEW YORK STATE DEPATMENT OF TRANSPORTATION

By: Patrick Barnes Date: 08/16/2022
Name: Patrick Barnes, P.E.
Title: Regional Director

MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICE,
THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION
REGARDING THE REPLACEMENT OF THE LIVINGSTON AVENUE BRIDGE
CITY OF ALBANY & CITY OF RENSSELAER
ALBANY & RENSSELAER COUNTIES, NEW YORK

Concurring Party:
CITY OF ALBANY

By:_____ Date: 9/1/22
Name Bradley Glass
Title: Director of Planning and Development

MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL RAILROAD ADMINISTRATION,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICE,
THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION
REGARDING THE REPLACEMENT OF THE LIVINGSTON AVENUE BRIDGE
CITY OF ALBANY & CITY OF RENSSELAER
ALBANY & RENSSELAER COUNTIES, NEW YORK

Concurring Party:
CITY OF RENSSELAER

By: Ketura Vics Date: 9/1/2022
Name Ketura Vics
Title: Director of Planning and Development

APPENDIX A

NYSDOT PROCEDURES IN THE EVENT OF THE INADVERTENT DISCOVERY OF HUMAN REMAINS DURING CONSTRUCTION

New York State Department of Transportation (NYSDOT)
Procedures in the Event of the Inadvertent Discovery of Human Remains

1. If a burial site, human remains, or bones thought to be human remains, are encountered during archaeological investigations or during construction for a NYSDOT undertaking, the work will be stopped immediately and rescheduled to avoid disturbing the area. The remains will be left in place and protected from further damage.

2. *Discoveries during Construction*:

   In accordance with the current NYSDOT Standard Specifications, Section 107-01 D. *Archaeological Salvage*[1], the Engineer-in-Charge (EIC) will, through proper channels, notify appropriate Department personnel and other authorities. The EIC will report the discovery of human remains to the local police and the county coroner having jurisdiction, or to the medical examiner, and will arrange immediate inspection of the site[2].

   Discoveries during Archaeological Investigations in Advance of Construction:

   If the discovery occurs during archaeological investigations prior to construction of the project, the Principal Investigator or his/ her designee will immediately notify the NYSDOT Regional Cultural Resources Coordinator (CRC) and report the discovery to the local police and the county coroner having jurisdiction, or to the medical examiner.

3. If the site is determined to be part of a criminal investigation, the police will notify the EIC or Principal Investigator when work in the area may resume.

4. If determined that the remains are not a police issue, the Regional CRC will notify the NYSDOT Office of Environment (OOE), the Federal Highway Administration (FHWA), the Office of Parks, Recreation and Historic Preservation/ State Historic Preservation Office (OPRHP/SHPO), appropriate Indian tribal contacts, and archaeologists, and arrange site visits accordingly. Work will be temporarily suspended in the area, and measures will be taken to secure the burial site and protect the remains from disturbance, including the placement of a twenty-five-foot protective buffer around the burial site.

5. The NYSDOT OOE, in coordination with the Region, will arrange for a qualified physical anthropologist to examine the remains. The NYSDOT in coordination with FHWA will invite designated Indian tribal representative(s) to participate in the consultation process. Representatives will be determined on the basis of established Department contacts and identified areas of interest for tribal nations. The remains will not be removed until determined by the qualified physical anthropologist to be non-native.

6. The NYSDOT, in consultation with the OPRHP/SHPO, Indian tribes and other identified consulting parties, will arrange for an archeologist to establish the horizontal and vertical extent of the burial(s) and assess measures for avoiding the human remains if possible. The avoidance of human remains is the preferred choice.

7. Any new location or alignment developed to avoid the burial(s) will be subject to archaeological investigation, and the results will be provided to the OPRHP/SHPO, Indian tribes, and other consulting parties as appropriate for comment before the project proceeds in this area.

8. If the alignment is unchanged, a plan will be developed in coordination with the FHWA, NYSHPO, the Indian tribal representatives, and other consulting parties as appropriate, to preserve the site and protect the burial(s) before the project proceeds in this area.

---

[1] https://www.dot.ny.gov/main/business-center/engineering/specifications/updated-standard-specifications-us

[2] In Erie County, the discovery must be reported to the medical director.

9. If removal and reburial of the remains is necessary, it will be undertaken in a manner agreed to by all involved parties. Temporary disposition of the remains until reburial will be determined in consultation with the Indian tribes, and other consulting parties as appropriate.

10. Any actions relating to the treatment, disposition, removal, or reburial of human remains will comply with all applicable State and Federal laws and regulations.

APPENDIX B

STOCKBRIDGE-MUNSEE COMMUNITY BAND OF MOHICANS POLICY FOR TREATMENT AND DISPOSITION OF HUMAN REMAINS AND CULTURAL ITEMS THAT MAY BE DISCOVERED INADVERTENTLY DURING PLANNED ACTIVITIES

Stockbridge-Munsee Community
Band of Mohican Indians
Policy for
Treatment and Disposition of Human Remains and Cultural Items
That May be Discovered Inadvertently during Planned Activities

Purpose

The purpose of this policy is to describe the procedures that will be followed by all federal agencies, in the event there is an inadvertent discovery of human remains that are identified as potentially Stockbridge-Munsee (Mohican).

Treatment and Disposition of Human Remains and Cultural Items

1) The federal agency shall contact the Stockbridge-Munsee Community immediately, but no later than three days after the discovery of the remains, using the contact information below: *updated Nov. 2020*

Nathan Allison, Tribal Historic Preservation Officer (THPO)	Nathan.Allison@mohican-nsn.gov	413-884-6029 office

If unavailable, contact:

Bonney Hartley, Tribal Historic Preservation Manager	Bonney.Hartley@mohican-nsn.gov	413-884-6048 office
Heather Bruegl, Cultural Affairs Director	Heather.Bruegl@mohican-nsn.gov	715-793-4270 office
Linda Mohawk Katchenago, Administrator	Linda.Katchenago@mohican-nsn.gov	715-793-4355 office

2) Place tobacco with the remains and funeral objects.

3) Cover remains and funeral objects with a natural fiber cloth such as cotton or muslin when possible.

4) No photographs to be taken.

5) The preferred treatment of inadvertently discovered human remains and cultural items is to leave human remains and cultural items in-situ and protect them from further disturbance.

6) Non-destructive “in-field” documentation of the remains and cultural items will be carried out in consultation with the Tribe, who may stipulate the appropriateness of certain methods of documentation.

7) If the remains and cultural items are left in-situ, no disposition takes place and the requirements of 43 CFR 10 Section 10.4 – 10.6 will have been fulfilled.

8) The specific locations of discovery shall be withheld from disclosure (with the exception of local law officials and tribal officials as described above) and protected to the fullest extent by federal law.

9) If remains and funeral objects are to be removed from the site, consideration will begin between the Stockbridge-Munsee Tribe and the federal agency.

APPENDIX C

LETTER FROM THE ADVISORY COUNCIL ON HISTORIC PRESERVATION (ACHP)

January 6, 2021

Ms. Katherine Zeringue
Federal Preservation Officer
U.S. Department of Transportation
Federal Railroad Administration
Office of Railroad Policy and Development
1200 New Jersey Avenue, SE
Washington, DC 20590

Ref: *Proposed Livingston Avenue Bridge Project*
City and County of Albany; City and County of Rensselaer, New York
(PIN 1935.49, BIN 7092890
ACHP Project Number: 16277

Dear Ms. Zeringue:

On December 3, 2020, the Advisory Council on Historic Preservation (ACHP) received your notification and supporting documentation regarding the potential adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Because the ACHP did not respond within 15 days with a decision regarding participation, the ACHP assumes that the Federal Railroad Administration has continued the consultation to resolve adverse effects.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA) developed in consultation with the New York State Historic Preservation Office (SHPO) and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

If you have any questions or require our further assistance, please contact Sarah Stokely at 202-517-0224 or via e-mail at sstokely@achp.gov.

Sincerely,

LaShavio Johnson

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

Attachment C: Final Section 4(f) Evaluation

C.1 Introduction

This attachment evaluates and documents the Livingston Avenue Bridge Project in terms of its compliance with the requirements of Section 4(f) of the USDOT Act of 1966 (49 USC § 303 and Title 23 USC § 138).[1] Section 4(f) governs the use of land from parks, recreation areas, and wildlife and waterfowl refuges and historic properties (sites that are listed on or determined eligible for listing on the National Register of Historic Places [NR-listed and NR-eligible]). Collectively, these are referred to as Section 4(f) properties. The requirements of Section 4(f) apply to the operating administrations of USDOT, including FRA. The following Section 4(f) properties located near the Livingston Avenue Bridge are discussed in this attachment:

- Corning Riverfront Park (Albany)
- Riverfront Preserve (Albany)
- Mohawk–Hudson Bike–Hike Trail (Albany)
- Albany Skyway (Albany)
- Albany Railroad Viaduct (Albany)
- Livingston Avenue Bridge (Albany and Rensselaer)

C.2 Regulatory Context

Section 4(f) protects parks and recreation areas of national, state, or local significance that are both publicly owned and open to the public; publicly owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public; and historic sites of national, state, or local significance in public or private ownership, regardless of whether they are open to the public. Section 4(f) also protects Federally designated Wild and Scenic Rivers that are publicly owned and function as, or are designated in a management plan as, a significant park, recreation area, or wildlife and waterfowl refuge.

Section 4(f) of the USDOT Act stipulates that FRA and other USDOT operating administrations may not approve the use of Section 4(f) properties unless they have determined that one of the following conditions applies:

- There is no feasible and prudent alternative that would avoid the use of the Section 4(f) property and the action includes all possible planning to minimize harm to that property resulting from such use.
- The use of the Section 4(f) property, including any measures(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) will have a *de minimis* impact, as defined in 23 CFR § 774.17, on the property.

FRA uses the Federal Highway Administration's (FHWA's) *Section 4(f) Policy Paper*[2] as guidance for complying with the regulations.

---

[1] In 1983, Section 4(f) of the USDOT Act was codified as 49 USC §303(c), but this law is still commonly referred to as Section 4(f).

[2] Section 4(f) Policy Paper, FHWA Office of Planning, Environment and Realty, July 20, 2012.

C.2.1 Section 4(f) Use

The Section 4(f) regulations define three types of "use" of Section 4(f) properties (23 CFR § 774.17):

- Land from the Section 4(f) property is permanently incorporated into a transportation facility;
- There is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose, as determined by the criteria in 23 CFR § 774.13(d);[3] or
- There is a "constructive" use of a Section 4(f) property, as defined in 23 CFR § 774.15(a).[4]

Whenever a Section 4(f) property would be used for a transportation project, the responsible USDOT operating administration must demonstrate that there is no feasible and prudent alternative to the use of the Section 4(f) property, and that the project includes all possible planning to minimize harm to the Section 4(f) property. Additionally, if there is no feasible and prudent avoidance alternative to the use of a Section 4(f) resource, and multiple alternatives would use Section 4(f) resources, FRA may approve only the alternative that causes the least overall harm in light of Section 4(f)'s preservation purpose. The responsible USDOT operating administration must coordinate with the U.S. Department of the Interior (DOI), and if appropriate, with the U.S. Department of Housing and Urban Development (HUD) and the U.S. Department of Agriculture (USDA), and the appropriate official(s) with jurisdiction over the Section 4(f) property, prior to approving the use of a Section 4(f) resource (23 CFR § 774.5(a)).[5] This coordination must be documented in a project's Section 4(f) evaluation.

C.2.2 *De Minimis* Impacts

A *de minimis* impact involves the use of Section 4(f) property that is generally minor in nature. A *de minimis* impact is one that—after taking into account avoidance, minimization, mitigation, and enhancement measures that are committed to by the applicant—results in no adverse effect to a historic site and no adverse effect to the activities, features, or attributes qualifying a park, recreation area, or refuge for protection under Section 4(f). Once FRA, through appropriate consultation and public involvement, determines that a transportation use of a Section 4(f) property results in a *de minimis* impact, and documents that determination, analysis of avoidance alternatives is not required, and the Section 4(f) evaluation process is complete.

C.2.3 Exceptions to the Requirement for Section 4(f) Approval

The Section 4(f) regulations (23 CFR § 774.13) identify various exceptions to the requirement for Section 4(f) approval, including, among others: (1) restoration, rehabilitation, or maintenance of transportation facilities that are NR-listed or NR-eligible when adverse effects will not occur; (2) archaeological sites that are NR-listed or NR-eligible when the resource is important chiefly because of what can be learned by data recovery and has minimal value for preservation in place;

---

[3] Temporary occupancy results when Section 4(f) property, in whole or in part, is required for project construction-related activities. The property is not permanently incorporated into a transportation facility, but the activity is considered to be adverse in terms of the preservation purpose of Section 4(f).

[4] "A constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired."

[5] As defined in 23 CFR § 774.17, for public parks, recreation areas, and wildlife and waterfowl refuges, the official(s) with jurisdiction are the official(s) from the agency or agencies that own and/or administer the property in question, and who are empowered to represent the agency or agencies on matters related to the property. For historic sites, the official with jurisdiction is the relevant SHPO, as well as the ACHP if ACHP has chosen to participate in consultation in accordance with Section 106. There may be more than one official with jurisdiction for the same Section 4(f) property.

and (3) temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f).[6]

C.2.4 Nationwide Programmatic Section 4(f) Evaluations

The Section 4(f) regulations (23 CFR § 744.3(d)) provide the authority to develop programmatic Section 4(f) evaluations as a time-saving alternative to individual evaluations for certain types of uses. An approved programmatic Section 4(f) evaluation may only be used if the project meets the specific conditions identified within the programmatic evaluation. FHWA developed the following five nationwide Section 4(f) programmatic evaluations:

1. Independent Walkway and Bikeway Construction Projects
2. Historic Bridges
3. Minor Involvements with Historic Sites
4. Minor Involvements with Parks, Recreation Areas and Waterfowl and Wildlife Refuges
5. Net Benefits to a Section 4(f) Property

On January 7, 2021, FRA and FTA adopted FHWA's nationwide programmatic Section 4(f) evaluations for certain transportation projects having a net benefit to Section 4(f) properties (Nationwide Net Benefit Programmatic Evaluation) and for certain transportation projects that use historic bridges (Nationwide Historic Bridges Programmatic Evaluation). These nationwide Section 4(f) programmatic evaluations provide the USDOT agencies with an alternative to the individual Section 4(f) evaluation process for demonstrating compliance with Section 4(f) requirements, as applicable.[7]

C.3 Proposed Action

The proposed action would address the problems posed by the existing Livingston Avenue Bridge, which is near the end of its serviceable life, and improve reliability and reduce passenger and freight train delays along this segment of the Empire Corridor.

C.3.1 Need, Purpose, Goals and Objectives

The purpose of the Livingston Avenue Bridge Project is to improve reliability and reduce passenger and freight train delays along this segment of the Empire Corridor; achieve (at a minimum) a long-term state-of-good-repair for the bridge; eliminate existing bridge and track deficiencies; and maintain or improve navigation near the bridge. This will ensure that the Livingston Avenue Bridge meets modern passenger and freight rail capacity and load (weight) standards, maintains acceptable levels of safety, and supports the long-term utility and vitality of the Empire Corridor.

---

[6] Under the provisions of 23 CFR § 774.13(d), a temporary occupancy does not constitute a Section 4(f) use if the following conditions are met: (1) The duration is less than the time needed for the project's construction and there is no change in ownership of land; (2) The scope of work is minor, in that both the nature and magnitude of changes to the 4(f) property are minimal; (3) No permanent, adverse physical impacts are anticipated, and there will be no temporary or permanent interference with the protected activities, features, or attributes of the property; (4) The land is fully restored, and returned to a condition at least as good as that which existed prior to the project; and (5) The agreement of the official(s) with jurisdiction over the Section 4(f) property regarding the above conditions is documented. one of more of these conditions is not met, there is a use of the Section 4(f) property, even though the duration of construction related activities is temporary.

[7] https://www.federalregister.gov/documents/2020/12/08/2020-26968/adoption-of-the-federal-highway-administrations-nationwide-section-4f-net-benefit-and-historic.

The superstructure of the existing bridge was erected in 1901-1903 on a substructure that dates to the 1860s and is near the end of its serviceable life. The bridge does not meet current design standards related to load, speed, and vertical clearance. The two-track bridge can be used only by one train at a time and the maximum authorized speed is 15 mph, which is slower than the 40-mph maximum authorized speed on adjacent rail segments. The bridge essentially acts as a single-track bridge, restricting capacity. The vertical clearance for trains traveling across the bridge is nonstandard (18 feet 2 inches, compared to the 23-foot vertical clearance standard established by AREMA).

Recent inspections have confirmed that the bridge has significant deterioration. The superstructure and substructure are in fair to poor condition, including some components with substantial corrosion and several piers that are in critical condition, including piers that have substantial undermining of the timber foundations that support the stone piers. The bridge was not designed for and does not meet modern seismic codes.

The bridge also has non-standard vertical and horizontal clearances, which limit the types of carriages and freight that can traverse the span. The vertical clearance for trains traveling across the bridge is non-standard, at 18 feet 2 inches, compared to the 23-foot vertical clearance standard established by AREMA and used by Amtrak and CSX, and is not high enough to accommodate modern, double-stack freight trains.

The swing span frequently malfunctions, resulting in delays to passenger trains, freight trains, and boat traffic. In recent years, Amtrak has kept a maintenance team on site to address issues with the swing span which has reduced delays associated with malfunctions. Failure of any component of the existing system would cause delays to trains or, if the bridge was stuck or indicated as unable to open, to river traffic.

The current restrictions on bridge operations compromise the short- and long-term utility and vitality of New York's passenger and freight rail service via the Empire Corridor. High-speed passenger rail service along the Empire Corridor is critical to New York State's economic future and environmental sustainability. The Livingston Avenue Bridge is a restrictive bottleneck along the Empire Corridor that impedes future high-speed passenger rail service plans.

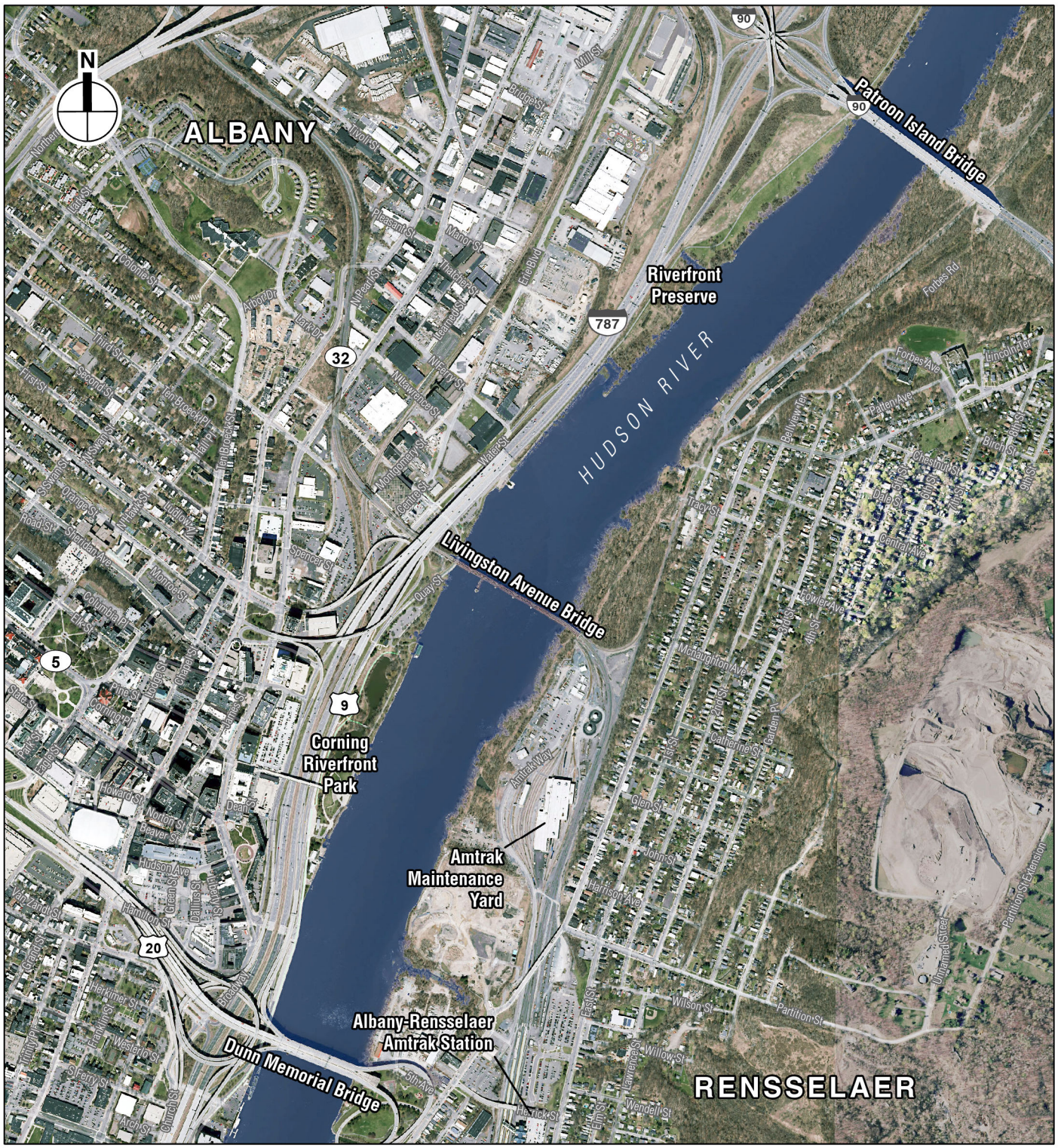
Improving the reliability of the movable span, and therefore the ability to open and close the bridge, is important for maintaining the navigation channel past Albany.

To evaluate the Project alternatives developed as part of the environmental review process, NYSDOT established Project goals. The Project goals, and related objectives that illustrate how those goals can be achieved, are listed in **Exhibit C-1**.

C.3.2 Project Alternatives

Numerous potential alternatives for the Project were evaluated to identify reasonable alternatives that would meet the Project's purpose and need as well as some or all of its goals and objectives. These are described in **Chapter 2, "Alternatives Considered,"** of the Livingston Avenue Bridge Replacement Project Environmental Assessment (EA) prepared in accordance with the National Environmental Policy Act (NEPA). NYSDOT identified two Build Alternatives that would meet the Project purpose, need, goals, and objectives, which were progressed for detailed evaluation in the EA: a replacement bridge to the north of the existing bridge and a replacement bridge to the south of the existing bridge, which the EA identified as NYSDOT's Preferred Alternative (see **Figures C-1 through C-4**).

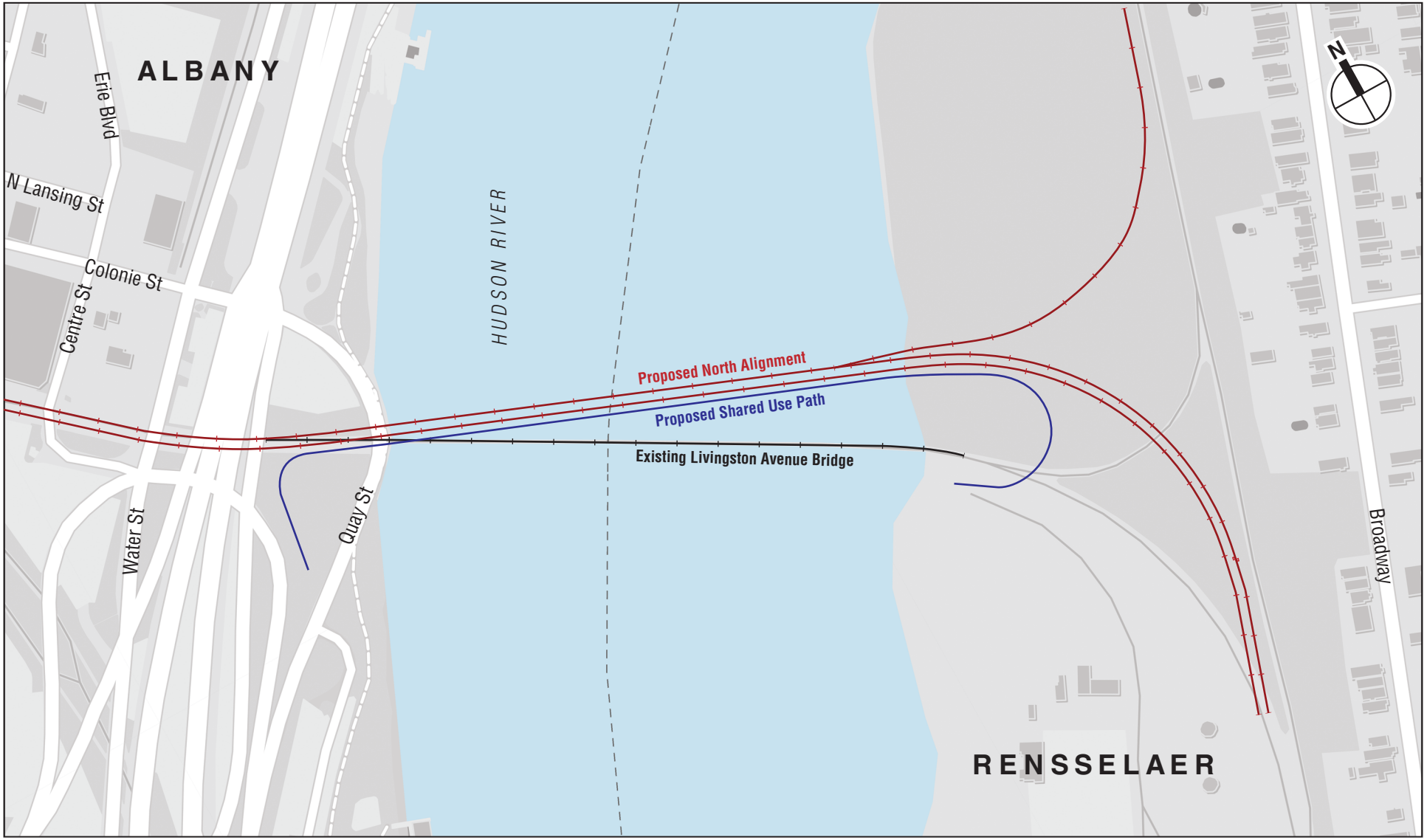
7.22.22



Project Setting

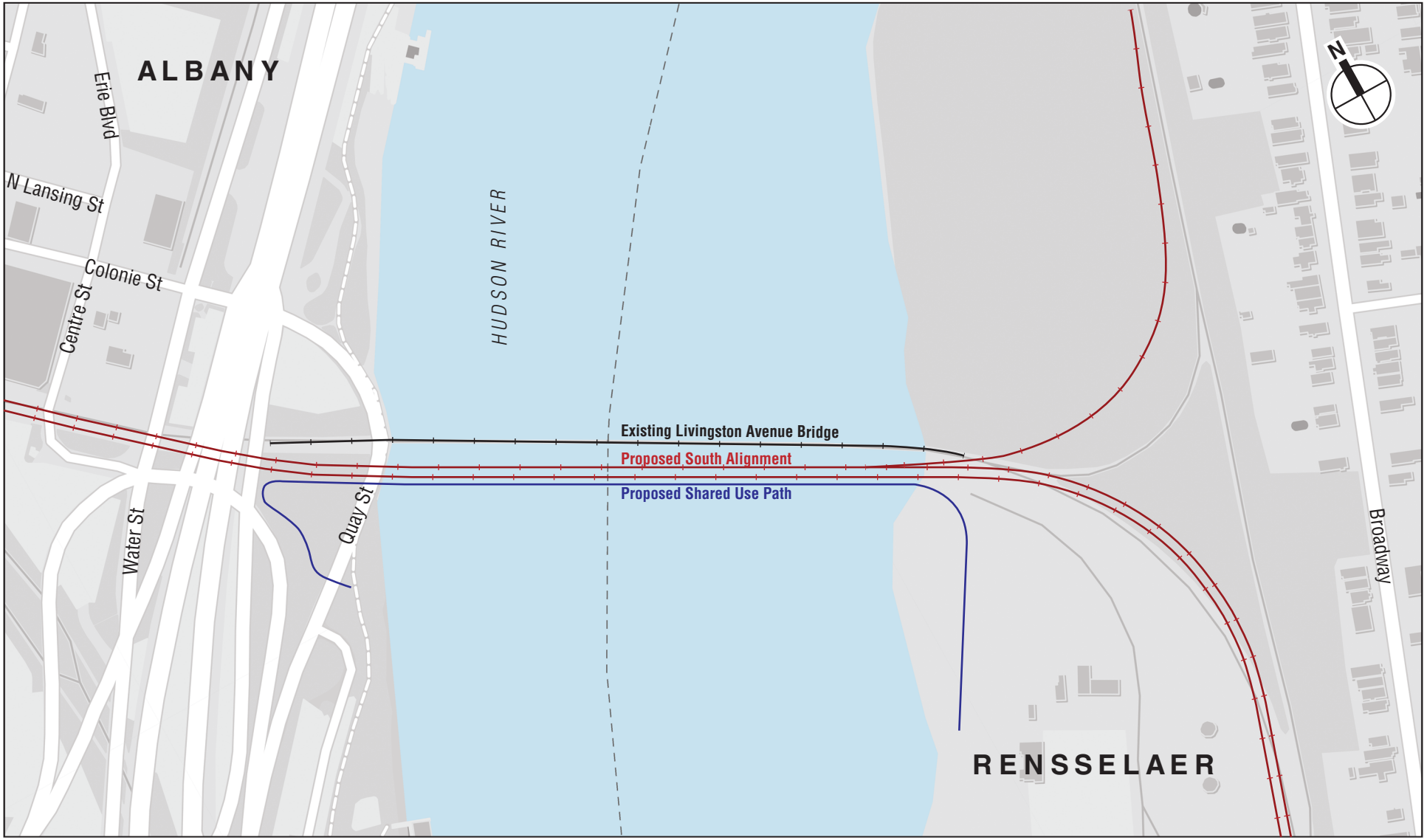
Figure C-1

7.22.22



Build Alternative 1 – Replacement on an Adjacent North Alignment

7.22.22



Build Alternative 2 – Replacement on an Adjacent South Alignment

Figure C-3

Proposed Replacement Bridge with Moveable Span in Raised Position

Proposed Replacement Bridge with Moveable Span in Lowered Position

Renderings of Proposed Replacement Bridge

Exhibit C-1
Project Goals and Objectives

Project Goals	Related Objectives
Goal 1: Improve passenger rail operations, service reliability, and operational flexibility	• Improve the bridge such that it can support simultaneous two-track operation, thereby removing delays to rail traffic. • Increase operational speeds along the bridge to a minimum of 30 mph.* • Correct all identified track deficiencies on the bridge and its approaches to meet current design standards. • Improve operations by providing a signal system that meets current standards and is consistent with the signal systems recently completed on the two adjacent rail projects (Albany to Schenectady Double Track and Albany-Rensselaer 4th Track projects). • Ensure consistency with plans for the Empire Corridor and HSIPR program. • Accomplish Goal 1 in a cost-effective manner.
Goal 2: Improve the load capacity of the corridor and remove existing structural operational limitations	• Maintain or improve freight movement across the bridge. • Provide a river crossing capable of meeting current AREMA live-load standards (Cooper E-80). • Provide a river crossing with a design life of a minimum of 100 years. • Provide a river crossing that meets AREMA structural design criteria. • Provide a river crossing with a track vertical clearance of 23 feet and 14-foot track centers, which will comply with Amtrak standards. • Provide the geometric clearances required by AREMA, CSX, and Amtrak for dual-track operation. • Accomplish Goal 2 in a cost-effective manner.
Goal 3: Minimize conflicts with navigational traffic	• Provide a river crossing that meets or exceeds existing horizontal navigational clearances. • Avoid or minimize disruptions to river traffic during bridge construction. • Avoid or minimize delays to trains or river traffic during bridge operation. • Accomplish Goal 3 in a cost-effective manner.

Note: * 30 mph is the maximum feasible speed on the bridge, given the curve of the approach tracks.

C.3.2.1 No Action Alternative

NEPA requires examination of a No Action Alternative, which is an alternative against which the potential benefits and impacts of Build Alternatives can be compared. In the No Action Alternative, the Livingston Avenue Bridge would remain in service as is, with continued routine maintenance and repairs. No major improvements to or replacement of the Livingston Avenue Bridge would be undertaken with the No Action Alternative. The No Action Alternative would not include any changes to the existing track configuration, including the track configuration of the wye to the east of the bridge. The bridge's live load capacity would not be improved, existing geometric deficiencies and vertical and horizontal clearance deficiencies would not be corrected, and the wye at the east approach to the bridge would not be realigned. With these substandard conditions, operations across the bridge would remain limited to single-track operation at 15 mph.

The No Action Alternative would result in the continued deterioration of the structure, resulting in increased maintenance and eventually could require the structure to be closed to rail traffic. This alternative would not meet the purpose and need for the Project or satisfy the Project goals and objectives or the programming goals of improving service reliability and operational flexibility, improving the load capacity and reducing the operational limitations, and minimizing conflicts with navigational traffic. Additionally, pedestrians and cyclists would continue to lack access between the Cities of Albany and Rensselaer at this location due to the closure of the pedestrian walkway on the existing bridge.

C.3.2.2 Build Alternative 1 – Replacement on an Adjacent North Alignment

This alternative would remove the existing bridge and construct a new bridge, including a lift navigation span, on a skewed alignment adjacent to and north of the existing bridge. The skewed alignment is necessary for a bridge north of the existing bridge so that the tracks could connect back into the existing alignment on the west side of the Hudson River before it passes under the eight-lane I-787 viaduct, while also providing a straight alignment for the movable span. The alignment would be approximately 200 feet north of the existing bridge on the east side of the river and would abut the existing bridge on the west side. The new lift span navigational opening would be approximately 190 feet wide. The new bridge would be designed to accommodate two tracks with 30 mph operating speed.

This alternative would include rehabilitation and reconfiguration of the rail bridges over Water and Centre Streets in Albany to accommodate the shift in the track alignment. Alternative 1 would include a shared use path for bicycles and pedestrians connecting the proposed Rensselaer Riverfront Multi-Use Trail on the east side of the river with the Albany Skyway and Mohawk–Hudson Bike–Hike Trail on the west side. The path would be a 12-foot-wide walkway to provide two-way pedestrian and bicycle traffic across the river. The walkway would include scenic overlooks at each end of the movable span to provide an area for pedestrians to collect and bicyclists to dismount when the bridge is opening/closing and the walkway gates are closed. Alternative 1 would also include construction of an unbuilt portion of the Rensselaer Riverfront Multi-Use Trail from the existing northern limit of the trail at DeLaet's Landing to a point just north of the Livingston Avenue Bridge.

C.3.2.3 Build Alternative 2 - Replacement on Adjacent South Alignment

This alternative would remove the existing bridge and construct a new bridge, including a lift navigation span, on an alignment parallel to and approximately 50 feet south of the existing bridge. The new bridge would be designed to accommodate two tracks of Cooper E-80 operating at 30 mph. The new lift span navigational opening would be approximately 190 feet wide. The new bridge would be designed to accommodate two tracks with 30 mph operating speed. This alternative would also require rehabilitation and reconfiguration of the rail bridges over Water and Centre Streets in Albany to accommodate the shift in the track alignment. Build Alternative 2 would also include a shared use path for bicycles and pedestrians and construction of a portion of the Rensselaer Riverfront Multi-Use Trail, as described above for Build Alternative 1.

C.4 Use of Section 4(f) Properties

This section describes FRA's determinations regarding the impacts of the Build Alternatives to Section 4(f) properties.

There are no publicly owned wildlife and waterfowl refuges or Federally designated Wild and Scenic Rivers in the vicinity of the Project site. The portions of the Hudson River designated as a New York State wild, scenic, and/or recreational river are more than 40 miles upstream of the Project site. The following subsections discuss the impacts of the Build Alternatives on public parks and recreation areas and on historic properties. **Exhibit C-2** summarizes the Section 4(f) properties near the Project site and FRA's determination related to Section 4(f) use of those properties.

C.4.1 Public Parks and Recreation Areas

Construction activities for either Build Alternative would occur in close proximity to four existing public parks and recreation areas in Albany: Corning Riverfront Park, the Riverfront Preserve, the Mohawk–Hudson Bike–Hike Trail, and the Albany Skyway. These are considered Section 4(f) properties and are described in this section.

Exhibit C-2
Section 4(f) Properties FRA Evaluated

Resource Type	Section 4(f) Property	Description	Project Activities at or Near Property	FRA's Determinations of Section 4(f) Use
Park or Recreational Resource	Corning Riverfront Park (Albany)	18-acre waterfront park with playgrounds, trails, and picnic areas	Construction activities near the park	No Use
Park or Recreational Resource	Riverfront Preserve (Albany)	Waterfront park and nature preserve extending 1.5 miles along river	Construction activities near the park	No Use
Park or Recreational Resource	Mohawk–Hudson Bike–Hike Trail (Albany)	Paved, off-road riverfront trail for biking and hiking	Short-term, temporary closures to trail at construction site	Section 4(f) exception applies: Temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f)
Park or Recreational Resource	Albany Skyway	Paved, off-road biking and walking path connecting Corning Riverfront Park to Downtown Albany	Short-term, temporary narrowing of pathway at construction site	Section 4(f) exception applies: Temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f)
Historic Property	Albany Railroad Viaduct (Albany)	Railroad viaduct west of the Livingston Avenue Bridge consisting of three separate viaducts over local streets; NR-eligible	Minor modifications to the Centre Street and Water Street bridges designed to minimize the change in appearance of the bridges; no adverse effect under Section 106	*De minimis* impact
Historic Property	Livingston Avenue Bridge (Albany and Rensselaer)	Steel swing-span railroad bridge over the Hudson River; NR-eligible	Demolition and replacement of bridge; adverse effect under Section 106	Nationwide Historic Bridges Programmatic Section 4(f) Evaluation applies

There is a future recreational facility in Rensselaer – the Rensselaer Riverfront Multi-Use Trail – which FRA has determined is not a Section 4(f) property. [8] As part of the Livingston Avenue Bridge Project, NYSDOT would construct a portion of this trail with either of the Build Alternatives. The portion to be included in the Project would extend from the existing northern limit of the trail at DeLaet's Landing to a point just north of the Livingston Avenue Bridge. This trail segment would connect to the regional trail network via the shared-use path on the new Livingston Avenue Bridge and via the existing, built portion of the trail at DeLaet's Landing. While not a Section 4(f) property for purposes of this Project (as it would not exist as a recreational resource until the Project is complete), the portion of the trail to be constructed as part of this Project may need to be considered as a Section 4(f) property for any future project affecting the trail segment. The remaining, unbuilt portion of the trail would continue not to be considered a Section 4(f) property for the reasons enumerated in the footnote.

C.4.1.1 Corning Riverfront Park

Corning Riverfront Park, an 18-acre City of Albany-owned park, extends along Albany's Hudson River shoreline just south of the existing Livingston Avenue Bridge. It has a number of park amenities including playgrounds, walking and biking trails, and picnic areas. While construction activities associated with both Build Alternatives would occur close to this park, they would not physically affect the park. In addition, construction and operation of the Build Alternatives would not result in adverse impacts on this park because it is sufficiently distant from the Project site that construction activities and bridge operation would not disturb recreational use of the park. Consequently, there would be no use of Corning Riverfront Park.

C.4.1.2 Riverfront Preserve

The Riverfront Preserve is a public park and nature preserve that extends along Albany's Hudson River shoreline for approximately 1.5 miles beginning just north of the existing Livingston Avenue Bridge. The Riverfront Preserve has walking and biking trails and also contains a boat launch and boathouse for the Albany Rowing Center. Near the Project site, the Riverfront Preserve is located on NYSDOT-owned land but is operated by the City of Albany. While construction activities associated with both Build Alternatives would occur close to this park, they would not physically affect the park. In addition, construction and operation of the Build Alternatives would not result in adverse impacts on this park because it is sufficiently distant from the Project site that construction

[8] The City of Rensselaer is planning to construct a multi-use riverfront trail along its Hudson River waterfront from the esplanade at DeLaet's Landing on the south, which is south of the Livingston Avenue Bridge, to the City's boat launch north of Tracy Street on the north, which is north of the Livingston Avenue Bridge in Rensselaer's Riverfront Park. The trail would be a paved, off-road trail for pedestrians and cyclists. The City of Rensselaer owns an easement for the trail right-of-way up to approximately 70 feet south of the existing Livingston Avenue Bridge; the City has not yet acquired the proposed trail right-of-way beneath and to the north of the existing Livingston Avenue Bridge, although it proposes to acquire this portion in the near future. The trail project is being funded in part through the Transportation Alternatives Program (TAP) and Congestion Mitigation and Air Quality Improvement (CMAQ) Program that NYSDOT administers. Projects that receive funding through those two programs must have a focus on non-motorized transportation. Construction activities for the Build Alternative would affect the proposed right-of-way of the Rensselaer Riverfront Multi-Use Trail. However, the City of Rensselaer, which is the official with jurisdiction over this proposed trail, indicated during coordination with NYSDOT that it does not consider the future trail to be a Section 4(f) property, given its primary purpose for transportation. Considering this as well as the uncertainty regarding when the portion of the proposed trail that would remain unbuilt upon Project completion would be constructed and opened to the public and the lack of dedicated public ownership of a trail easement for the majority of the affected portion of the proposed trail right-of-way, FRA has determined that the Rensselaer Riverfront Multi-Use Trail is not a Section 4(f) property.

activities and bridge operation would not disturb recreational use of the park. Consequently, there would be no use of the Riverfront Preserve.

C.4.1.3 Mohawk–Hudson Bike–Hike Trail

The Mohawk–Hudson Bike–Hike Trail runs parallel to the west side of the Hudson River, including through the Corning Riverfront Park and the Riverfront Preserve. It is part of the larger Canalway Trail, which, when complete, will follow the Erie Canal from Buffalo to Albany. Near the Project site, the Mohawk–Hudson Bike–Hike Trail is a paved off-road trail that NYSDOT owns and the City of Albany maintains.[9] Short-term construction activities for the Livingston Avenue Bridge Project would occur at the Mohawk–Hudson Bike–Hike Trail for both Build Alternatives, where the trail passes beneath the existing Livingston Avenue Bridge and the right-of-way for the proposed replacement bridge. During brief periods when overhead work occurs, there may be temporary closures of a short segment of the trail. As necessary, detours would be clearly marked to divert pedestrians and cyclists around the construction zone to allow unimpeded continuity of the trail. Otherwise, the trail would remain open during construction of the new bridge under both Build Alternatives. The Project's impacts on the Mohawk–Hudson Bike–Hike Trail would be temporary; work affecting the trail would be minor; land ownership changes would not occur; and the trail would be returned to a condition at least as good as that which existed prior to construction. Therefore, this temporary occupancy would not constitute a Section 4(f) use as per the criteria in 23 CFR § 774.13(d). Instead, it would qualify for the exemption applied to temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f).

NYSDOT and the City of Albany are the officials with jurisdiction for the Mohawk-Hudson Bike-Hike Trail. FRA and NYSDOT coordinated with the City of Albany and in a letter dated January 8, 2021, the City of Albany concurred with this determination (see **Appendix** to this attachment).

C.4.1.4 Albany Skyway

The Albany Skyway is a paved, off-road, multi-use walking and cycling path on a former highway ramp that extends from Quay Street to Broadway. Near the Project site, NYSDOT owns and the City of Albany maintains the Skyway, which provides a connection between downtown Albany and the Corning Riverfront Park across I-787. The shared-use path on the new Livingston Avenue Bridge would connect directly to the Albany Skyway at the bridge's western terminus, where the two pathways will be at a similar elevation. This would not result in the physical incorporation of any portion of the Albany Skyway into the Project, nor would there be any proximity impact to the Albany Skyway that would constitute a constructive use. Short-term construction activities would occur at the tie-in point where the shared-use path meets the Albany Skyway. During a brief period when NYSDOT and its contractor are completing construction of this connection, there would be light construction activity to finalize surface finishes of the shared-use path at the point where it meets the Skyway. This would involve temporarily narrowing a short segment of the Albany Skyway. NYSDOT and its contractor would use cones or construction fencing to prevent the public from entering the work zone, and would stage the work to ensure no disruption to bidirectional traffic on the Albany Skyway, which would remain open throughout construction.

The Project's impacts on the Albany Skyway would be temporary; work affecting the trail would be minor; land ownership changes would not occur; and the trail would be returned to a condition at least as good as that which existed prior to construction. Therefore, this temporary occupancy would not constitute a Section 4(f) use as per the criteria in 23 CFR § 774.13(d). Instead, it would qualify for the exemption applied to temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f).

---

[9] https://www.cdtcmpo.org/mohhudns.pdf.

NYSDOT and the City of Albany are the officials with jurisdiction for the Albay Skyway. FRA and NYSDOT coordinated with the City of Albany and in a letter dated October 18, 2022, the City of Albany concurred with this determination (see **Appendix** to this attachment).

C.4.2 Historic Sites

Section 4(f) applies to historic sites that are NR-listed or NR-eligible, unless one of the exceptions defined in the regulations (23 CFR § 774.13) applies. Section 4(f) historic sites are identified through the consultation process established under Section 106 of the National Historic Preservation Act and its implementing regulation, 36 CFR Part 800. **Section 4.5, "Cultural Resources,"** of the Livingston Avenue Bridge Replacement Project EA describes the results of the Section 106 consultation process for the Project.

Section 4(f) applies to archeological sites that are NR-listed or NR-eligible, including those discovered during construction. However, Section 4(f) does not apply if FRA determines, after consultation with SHPO and Federally recognized tribes (as appropriate), and the ACHP (if participating) that the archaeological resource is important chiefly because of what can be learned by data recovery (even if it is agreed not to recover the resource) and has minimal value for preservation in place, and SHPO, Tribal Nation(s), and ACHP (if participating) do not object to this determination (23 CFR 774.13(b)).

Based on investigations conducted, FRA and NYSDOT have concluded that the Area of Potential Effects (APE) is not sensitive for archaeological resources (i.e., it does not have the potential to contain buried archaeological resources). Therefore, no Section 4(f)-protected archaeological properties have been identified to date. If any archaeological resources are discovered prior to or during construction, they would undergo Section 4(f) evaluation to determine their eligibility as protected properties under Section 4(f) and, if necessary, to evaluate any feasible and prudent avoidance alternatives.

Two historic architectural properties are within the Project's APE, the NR-eligible Albany Railroad Viaduct and the NR-eligible Livingston Avenue Bridge, discussed below. Another historic property, the Central Warehouse and Centre Street railroad spur bridge, is immediately adjacent to the APE and would not be affected by the Project.

C.4.2.1 Albany Railroad Viaduct

This rail viaduct west of the Livingston Avenue Bridge includes the Water Street Railroad Bridge and the Centre Street-Erie Boulevard Railroad Bridge within the APE, and the Montgomery Street Railroad Bridge just outside the APE.[10] The original viaduct was built as the western approach to an earlier Hudson River crossing built by the Hudson River Bridge Company according to designs by prominent engineer Julius W. Adams. The original viaduct approach structure in this location consisted of a wood trestle, which was replaced in the 1870s by an earthen causeway faced with limestone blocks and incorporating three trestle bridges. The spans were replaced in 1882, at which point the structure was raised in height and transformed to a viaduct. The superstructures of the viaduct were replaced once more in 1901-1902. The earlier masonry walls of the viaduct were retained but encased in concrete. The span over Water Street was replaced in 1947. Documentation notes that elements that embody the historic character of the viaduct include: the three spans over Water, Centre, and Montgomery Streets; the concrete-encased structure that connects them; and distinctive details such as early 20th century date plates in the concrete. The

[10] Two other bridges located outside of the APE (the North Pearl Street Bridge and the Broadway-Colonie Street Bridge) are commonly considered part of the Albany Railroad Viaduct structure; however, the Cultural Resources Survey for the Project did not identify these as part of the NR-eligible resource. The Broadway-Colonie Street Bridge is individually NR-listed and is a contributing element within the NR-listed Broadway- Livingston Avenue Historic District.

Albany Railroad Viaduct was determined NR-eligible under Criterion A,[11] due to the fact that its various construction episodes are associated with the development of early national freight travel and the consolidation and modernization of passenger and freight rail service.

Both Build Alternatives would require modifications to the Centre Street and Water Street bridges of the Albany Railroad Viaduct. The bridges would be rehabilitated and reconfigured to accommodate the shift in the track alignment. At each of those bridges, the beam seats of the bridge abutments that support the bridge girders (i.e., the beam seats and girder bearings) would be modified or replaced and several pairs of the existing deck girders (i.e., bridge beams) would be repositioned to support the new alignment. At the Water Street bridge, a set of existing deck girders would be removed to accommodate this shift.

The proposed modifications are designed to minimize the change in appearance of the bridges. At the Water Street bridge, an interior pair of girders would be removed, and an exterior pair would be shifted inward so that the appearance from the street would be maintained. This would leave an exposed portion of the bridge seats on the outside of the bridge abutments but would not otherwise change the appearance of the structure. At the Centre Street bridge, an interior pair of girders would be shifted, and the exterior girders would remain unchanged. No alterations to the Montgomery Street bridge (also part of the Albany Railroad Viaduct) would be required.

Although the proposed changes would directly affect the Water Street rail bridge and the Centre Street rail bridge, and therefore the Albany Railroad Viaduct as a whole, FRA and NYSDOT have concluded, and SHPO concurred, that the change would not constitute a Section 106 adverse effect under either Build Alternative. In both alternatives, the existing fascia girders would be retained (though sometimes shifted along the bridge seat). No new girders would be used. The existing reinforced concrete bridge seats and girder bearing pedestals would be repaired and/or reconstructed to conform to the new alignment of the girders above. The existing reinforced concrete abutments would be retained in their entirety. Some partial depth or surface repairs to the abutments may be necessary based on a full condition inspection of the abutments during final design. Changes in the appearance of the component bridges and the larger viaduct that would result from the proposed alterations would be relatively minor and would not change the characteristics of the viaduct that qualify it for inclusion on the NR. The integrity of the property's location, design, setting, materials, workmanship, feeling, or association would not be diminished to an extent that would disqualify the property for inclusion on the NR.

FRA is making a Section 4(f) finding of *de minimis* impact related to the Project's use of the Albany Railroad Viaduct. As defined in the Section 4(f) regulations, FRA may make a finding of *de minimis* impact on a historic site when FRA determines as part of the Section 106 process that the project would have no adverse effect on the historic site, or there would be no historic sites affected by the transportation project. SHPO and ACHP (if participating in the consultation process) must concur with this finding of no adverse effect in writing. In addition, FRA must consider the views of any consulting parties participating in Section 106 consultation. FRA must inform SHPO (and ACHP if participating) of its intent to make a *de minimis* impact determination based on their concurrence in the finding of "no adverse effect" or "no historic properties affected."

In a letter dated August 12, 2020, FRA notified SHPO of its finding of no adverse effect on the Albany Railroad Viaduct and its intention to make a *de minimis* impact finding to comply with Section 4(f) if SHPO concurred with the finding of no adverse effect. In a letter dated September 23, 2020, SHPO concurred with the finding of no adverse effect on the Albany Railroad Viaduct.

[11] NR Criterion A indicates that the property is associated with events that have made a significant contribution to the broad patterns of history.

C.4.2.2 Livingston Avenue Bridge

This railroad bridge was built for the New York Central Railroad in 1901-1903 by the American Bridge Company. It is the third successive bridge in this location, preceded by an iron truss bridge in 1872-1875 and the original wood truss bridge of 1864-1866. The current bridge was built on the abutments and piers of the original bridge, constructed in the 1860s. It is a riveted steel, Baltimore-truss swing bridge that is 1,272 feet long. A 260-foot continuous truss swing span and four fixed trusses span the navigable portion of the Hudson River. The piers are mortared cut limestone with continuous timber piles. The swing span pivots 90 degrees clockwise to open the navigation channel on each side of the pivot pier. The span is operated by electric motors from a control booth positioned on top of the swing span truss above the pivot pier. Electricity is provided to the booth by wires suspended from steel frame towers at the ends of the adjacent fixed spans. It is eligible under NR Criterion C.[12] Both Build Alternatives would require demolition of the Livingston Avenue Bridge, which would constitute the use of a Section 4(f) property. FRA is applying the Nationwide Historic Bridges Programmatic Evaluation to evaluate the use of the Livingston Avenue Bridge, as discussed below.

Historic bridges covered by the Nationwide Historic Bridges Programmatic Evaluation are unique because they are historic, yet also part of highway or railway systems that have continued to evolve over the years. Even though these structures are on or eligible for inclusion on the NR, they must perform as an integral part of a modern transportation system. When they do not or cannot, they must be rehabilitated or replaced in order to assure safety of the travelling public while maintaining system continuity and integrity. For the purpose of the Nationwide Historic Bridges Programmatic Evaluation, developed by FHWA and adopted by FRA in January 2021, a proposed action will "use" a bridge that is on or eligible for inclusion on the NR when the action will impair the historic integrity of the bridge either by rehabilitation or demolition. The programmatic evaluation applies when there are no feasible and prudent alternatives to the use of the historic bridge and the proposed rehabilitation or demolition project includes all possible planning to minimize harm resulting from such use. Additional information related to the applicability of this programmatic evaluation to the Livingston Avenue Bridge Project and FRA's reliance on the Nationwide Historic Bridges Programmatic Evaluation is provided in **Sections C.5 and C.6.**

C.5 Nationwide Historic Bridges Programmatic Section 4(f) Evaluation and Applicability to the Livingston Avenue Bridge

In order to apply the Nationwide Historic Bridges Programmatic Evaluation to a rail project, FRA must first determine that the project meets the following criteria:[13]

1. The bridge is to be replaced or rehabilitated with Federal funds.
2. The project will require the use of a historic bridge structure that is on or is eligible for listing on the NR.
3. The bridge is not a National Historic Landmark.
4. FRA conducted an evaluation of specific alternatives that would not affect the historic integrity of the bridge (a No Action Alternative, a new location alternative, and a rehabilitation alternative) and found that none of those alternatives would be feasible

[12] NR Criterion C indicates that the property embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or is otherwise distinguished.

[13] https://railroads.dot.gov/rail-network-development/environment/additional-information-section-4f-and-programmatic-evaluations

and prudent, and the Project includes specific measures to minimize harm set forth in the regulations.

5. FRA, SHPO, and ACHP have reached agreement through procedures pursuant to Section 106.

A summary of the applicability of each of these criteria to the Project is provided in **Sections C.5.1 to C.5.5** below.

C.5.1 Federal Funding

The Nationwide Historic Bridges Programmatic Evaluation may be applied only if the project would use Federal funds for the replacement or rehabilitation of the historic bridge. The Livingston Avenue Bridge Project would use Federal funding provided by the USDOT through FRA via the 2010 High Speed Intercity Passenger Rail Grant Program.

C.5.2 Use of a Historic Bridge Structure

To apply the Nationwide Historic Bridges Programmatic Evaluation, the project must require the use of a historic bridge structure that is on or eligible for listing on the NR. The New York State Museum completed a Cultural Resources Survey Report for the Project in June 2011 to identify historic properties in the area near the Livingston Avenue Bridge. Based on the recommendations of that report, FRA determined that the Livingston Avenue Bridge was eligible for NR listing under NR Criterion C as an intact example of an early 20th century swing bridge. The SHPO concurred with FRA's NR eligibility finding on May 8, 2012. Both Build Alternatives would require demolition of the NR-eligible Livingston Avenue Bridge.

C.5.3 Not a National Historic Landmark

The Nationwide Historic Bridges Programmatic Evaluation may not be applied if the historic bridge is a National Historic Landmark (NHL). NHLs are properties that have been identified by the Secretary of the Interior as being nationally significant and are of exceptional value in representing an important theme in the history of the nation. The Livingston Avenue Bridge has not been recognized as an NHL.

C.5.4 Alternatives, Findings, and Mitigation

Before applying the Nationwide Historic Bridges Programmatic Evaluation, FRA must consider and evaluate the following alternatives and reach a finding that they are not feasible and prudent:

1. Do Nothing
2. Build on a new location without affecting the historic integrity of the old bridge.
3. Rehabilitate the historic bridge without affecting the historic integrity of the structure.

FRA's evaluation and findings for each of these alternatives is provided in **Section C.5.6.**

Additionally, the project must include all possible planning to minimize harm. This occurs on projects involving the replacement of a historic bridge when:

1. FRA ensures that, in accordance with the Historic American Engineering Record (HAER) standards, or other suitable means developed through consultation, fully adequate records are made of the bridge.
2. The bridge is made available for an alternative use, provided a responsible party agrees to maintain and preserve the bridge; and
3. FRA, SHPO, and ACHP reach agreement through the Section 106 process on measures to minimize harm and those measures are incorporated into the project.

The incorporation of all possible planning to minimize harm into the Project is discussed in **Section C.5.5** below.

C.5.5 Agreement Through Section 106 on Measures to Minimize Harm

To apply the Nationwide Historic Bridges Programmatic Evaluation to the Livingston Avenue Bridge Project, FRA, SHPO, and ACHP must reach an agreement on measures to minimize harm through the Section 106 process and these measures must be incorporated into Project design and implementation. Through consultation pursuant to the Section 106 regulations at 36 CFR 800.6(c), FRA, NYSDOT, and SHPO have executed a Section 106 Memorandum of Agreement (MOA) to resolve the adverse effect of the Project on the NR-eligible Livingston Avenue Bridge (see **Attachment B** to the Finding of No Significant Impact). The MOA includes the following stipulations:

- Documentation of the Livingston Avenue Bridge following HAER standards;
- Interpretive signage in waterfront parks on both sides of the river that conveys the history of the bridge, the railroad, and the area;
- A requirement that the new bridge be a truss bridge that incorporates key visual elements relating to the existing Livingston Avenue Bridge, the pulley housing and operator's building, as requested by SHPO on April 14, 2021;
- A requirement that NYSDOT actively seek new ownership of the Livingston Avenue Bridge for adaptive reuse or partial reuse at a new location. NYSDOT undertook marketing efforts for the bridge in coordination with publication of the EA in May 2022. These marketing efforts consisted of a combination of print and web-based ads that included an advertisement in the Albany Times-Union, a local newspaper, for 14 days and an announcement posted on the internet[14] for 2 months. NYSDOT would have considered only viable offers consistent with the MOA stipulations. If ownership of the bridge were to be transferred for reuse, the transfer deed would have included a preservation covenant that required the new owner to retain the feature intact for a specified period of time. However, NYSDOT did not receive any offers of new ownership.

The MOA includes a more detailed description of the full list of stipulations and mitigations agreed upon by the parties. See **Attachment B**.

C.5.6 Avoidance Alternatives: Findings

Consistent with the alternatives listed in Section C.5.4, FRA and NYSDOT considered the following alternatives to avoid the use of the Livingston Avenue Bridge and reached a finding that they are not feasible and prudent:

- **No Action Alternative:** "Do nothing" alternative (**Section C.5.6.1**).
- **Build on a New Location Alternative:** FRA and NYSDOT considered two options for this alternative (**Section C.5.6.2**).
  - **Permanent Detour Option:** Take the Livingston Avenue Bridge out of service, route train service to alternate routes, and leave the existing bridge in place for a non-rail use or as an unused monument (**Section C.5.6.2.1**). FRA and NYSDOT determined that this is not a reasonable option.
  - **Replacement Bridge on New Alignment Option:** Build a new bridge at a location farther from the existing bridge and leave the existing bridge in place for a non-rail use or as an unused monument (**Section C.5.6.2.2**).

[14] Bridge marketing materials were posted on https://historicbridgefoundation.com and https://bridgehunter.com.

- **Rehabilitation Alternative/Bridge Repairs:** Rehabilitate through repairs to the existing Livingston Avenue Bridge and continue its use for rail traffic (**Section C.5.6.3**).

C.5.6.1 No Action Alternative

Under the No Action Alternative, the existing Livingston Avenue Bridge would not be removed and would remain in operation, with continued routine maintenance and upkeep. No major improvements to or replacement of the Livingston Avenue Bridge would occur. For reasons of maintenance and safety, as described below, this alternative is not prudent.

Maintenance

The No Action Alternative would not address the existing conditions that cause NYSDOT to consider the bridge to be structurally deficient and deteriorated. Normal, routine maintenance is not adequate.

The No Action Alternative would not include any changes to the existing track configuration, including the track configuration of the wye to the east of the bridge. The bridge's live load capacity would not be improved, existing geometric deficiencies and vertical and horizontal clearance deficiencies would not be corrected, and the wye at the east approach to the bridge would not be realigned. With these substandard conditions, operations across the bridge would remain limited to single-track operation at 15 mph.

In addition to operational limitations, the No Action Alternative would adversely affect river traffic. Existing horizontal clearance limitations would not be improved. The mechanical features of the swing span would continue to be subject to failure due to age and deterioration, limiting the reliability of the navigation channel.

Safety

While the Livingston Avenue Bridge is currently safe for rail use, the No Action Alternative would result in the continued deterioration of the structure, which eventually could result in the bridge becoming unsafe for continued rail operations.

The No Action Alternative would result in the continued deterioration of the structure which could require the structure to be closed to rail traffic due to safety concerns, resulting in substantial operational difficulties along the Empire Corridor. If the bridge were to close in the future, trains would have to cross the Hudson River via an inefficient, longer route. In that situation, passenger trains could be diverted to lower class track and across another Hudson River crossing, the Alfred H. Smith Memorial Bridge, on the CSX Castleton Subdivision, which spans the river between Castleton-on-Hudson and Selkirk. In this case, routes would be longer and trains would either have to bypass the Albany-Rensselaer and Schenectady Stations completely or make circuitous routes to reach them that would add to the required detour (see **Section C.5.6.2.1, "Permanent Detour Option"**), placing an intolerable restriction on transport and travel.

Summary

For the following reasons, the No Action Alternative would not be feasible and prudent. First, it would not meet the purpose and need for the Project or satisfy the Project goals and objectives of improving service reliability and operational flexibility, improving the load capacity and reducing the operational limitations, and minimizing conflicts with navigational traffic because it would not eliminate existing bridge and track deficiencies, nor would it meet modern passenger and freight rail standards, thereby causing significant safety concerns. Additionally, this approach could result in adverse social, economic, and environmental impacts related to the continued deterioration and, potentially, eventual closure of the bridge, with the associated deleterious impacts to

passenger and freight rail operations and induced shift to less energy-efficient transportation modes, such as automobiles and freight trucks.

The No Action Alternative also would not address the basic transportation need and would not correct the situation that causes the bridge to be considered structurally deficient and deteriorated. Because of these deficiencies the bridge places intolerable restriction on transport and travel.

C.5.6.2 Build on a New Location:

FRA and NYSDOT considered two options for building on a new location: a permanent detour option and a replacement bridge on new alignment option.

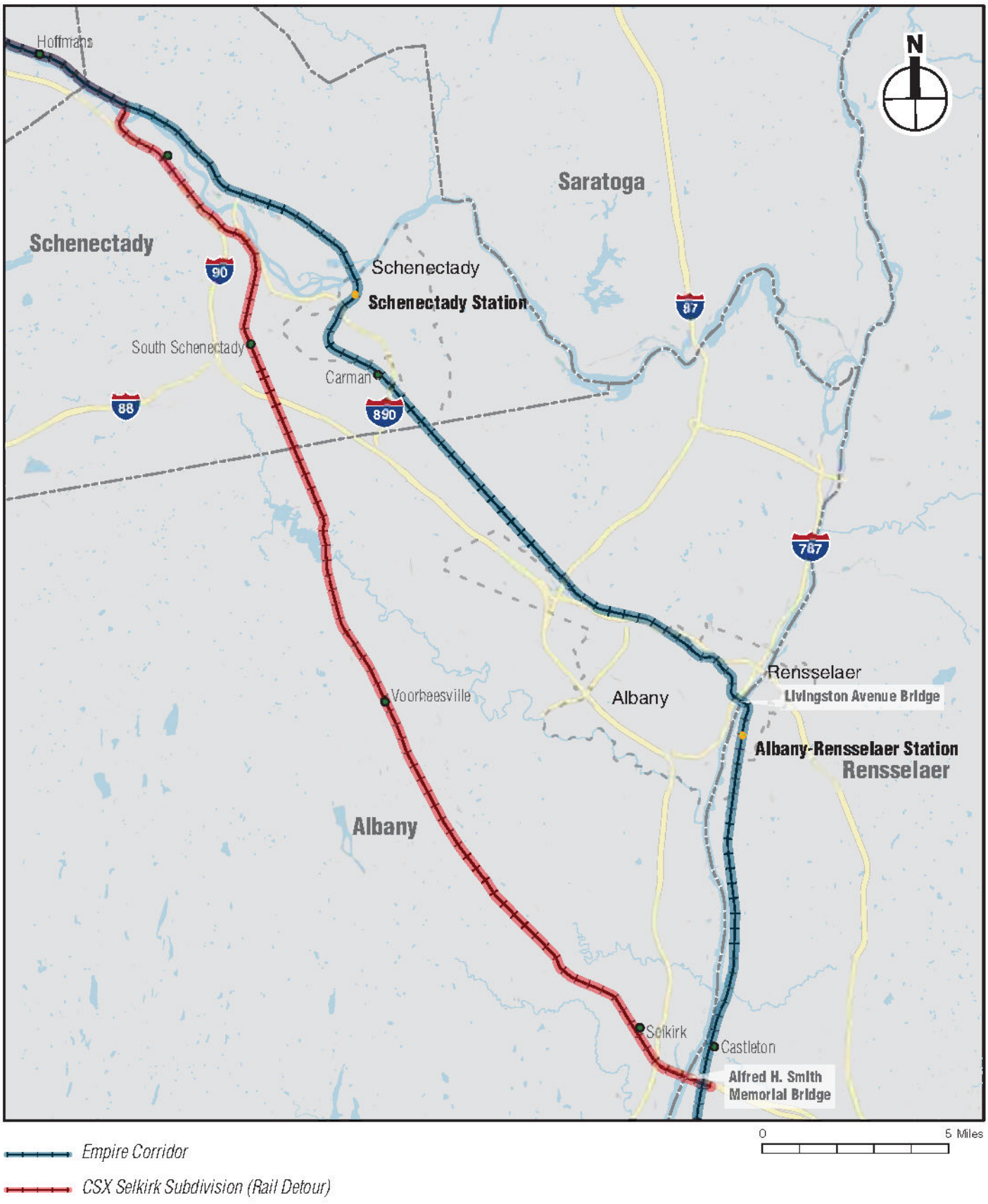
C.5.6.2.1 Permanent Detour Option

Because of limitations in design and function of railroad engineering, there are no alternative passenger or freight routes that would be reasonable as a permanent detour from the Livingston Avenue Bridge. For reasons of adverse social, economic, and environmental effects; engineering and economy; and preservation of the old bridge, as described below, this alternative is not prudent.

This alternative would seriously disrupt established travel patterns, resulting in adverse social, economic, and environmental effects. The Livingston Avenue Bridge is one of two rail crossings of the Hudson River near Albany. The second crossing is the Alfred H. Smith Memorial Bridge on the CSX Castleton Subdivision, which spans the river between Castleton-on-Hudson and Selkirk approximately 10 miles south of Livingston Avenue Bridge. As an alternative to the Livingston Avenue Bridge, rail traffic could cross the Hudson River by way of the CSX route across this bridge, continuing northward using the CSX Selkirk Subdivision (see **Figure C-5**). However, this routing would bypass Amtrak's Schenectady and Albany-Rensselaer Stations, which are important station stops for Amtrak (the Albany-Rensselaer Station is the ninth busiest Amtrak station in the country and serves the New York State capital at Albany). To route passenger trains in this manner would likely require new bypass track around the Selkirk Yard to avoid potential conflicts between passenger and freight train traffic. The diversion would increase travel times by roughly 2.5 hours for through passengers on the Empire Corridor due to restricted speeds through the yard and over the Alfred H. Smith Memorial Bridge, and would negatively affect ridership and Amtrak crew availability while requiring additional train sets. The cost of upgrading and placing new track within the existing rail right-of-way would be extensive. This routing would also make connections to CP's Canadian Mainline more difficult, thereby increasing travel times between New York City and points north of Albany, including Montreal and Vermont. For freight rail, this routing does not serve Schenectady, Rensselaer, and other communities currently served by CSX tracks crossing the Livingston Avenue Bridge.

Without a rail crossing at Albany, another alternative would be to reroute freight trains as noted above and eliminate passenger rail service north of Albany. Travelers could instead travel by passenger car using the New York State Thruway (I-87 and I-90), which is generally parallel to the Empire Corridor, and the Northway (I-87), which is generally parallel to Adirondack rail routes. Intercity buses are also available to most locations, but not all buses provide for the same point-to-point service as Amtrak. Travelers could also use airlines, which provide direct service between New York City and Albany, Syracuse, Rochester, and Buffalo. However, there is no direct air service between the upstate cities and many communities along Amtrak's Adirondack and Ethan Allen Express routes do not have commercial air service.

This alternative would result in the elimination of passenger rail services at some stations, including Albany-Rensselaer Station, one of the busiest stations in Amtrak's network. It would increase travel times and negatively affect ridership and crew availability on the Empire Corridor. This alternative would also result in the elimination of freight rail service to existing customers. Passenger and freight trips that could no longer be served would either be cancelled entirely, or would have to switch to other, less environmentally-friendly modes such as passenger car or truck,



Rail Detour if Livingston Avenue Bridge is Closed

Figure C-5

resulting in additional pollutant emissions and roadway congestion. By complicating or eliminating passenger and freight rail connections to communities on the Empire Corridor and connecting rail corridors, this alternative could result in additional adverse social and economic effects on these areas by suppressing travel to and between these areas.

As described above, this alternative would require substantial expense, including the cost to acquire land and construct new bypass track around the Selkirk Yard to avoid potential conflicts between passenger and freight rail traffic; costs associated with upgrading and placing new track within the existing freight rail right-of-way that would be converted for shared freight and passenger rail use; and the cost of purchasing additional train sets.

It is not feasible and prudent to preserve the existing bridge, even if a permanent detour were to be implemented. The bridge has a number of deteriorated components that would require replacement or rehabilitation to remain in sufficient state of repair. As such, its historic integrity would be compromised. Further, the bridge would need to be transferred to a new owner who would be responsible for maintaining the structure, and despite advertisement no alternate owner has been identified. Moreover, the United States Coast Guard (USCG) may require the swing span to remain in the open position to accommodate river vessels which limits the feasibility of maintaining the bridge for some alternative functional use.

Overall, directing trains to a route that is 2.5 hours longer or eliminating rail service north of Albany results in unacceptable rail service and operational problems; adverse social, economic, and environmental effects; and substantial added cost and is therefore not a reasonable option nor is it a prudent option. Furthermore, it would not necessarily avoid adverse effects on the existing Livingston Avenue Bridge. Finally, this alternative would not meet the Project's stated purpose and need. For these reasons, FRA and NYSDOT determined that a permanent detour from the Livingston Avenue Bridge is not a reasonable option and not viable for consideration under Section 4(f). Even under a Section 4(f) analysis this option would not be feasible or prudent for the reasons described above.

C.5.6.2.2 Replacement Bridge on New Alignment Option

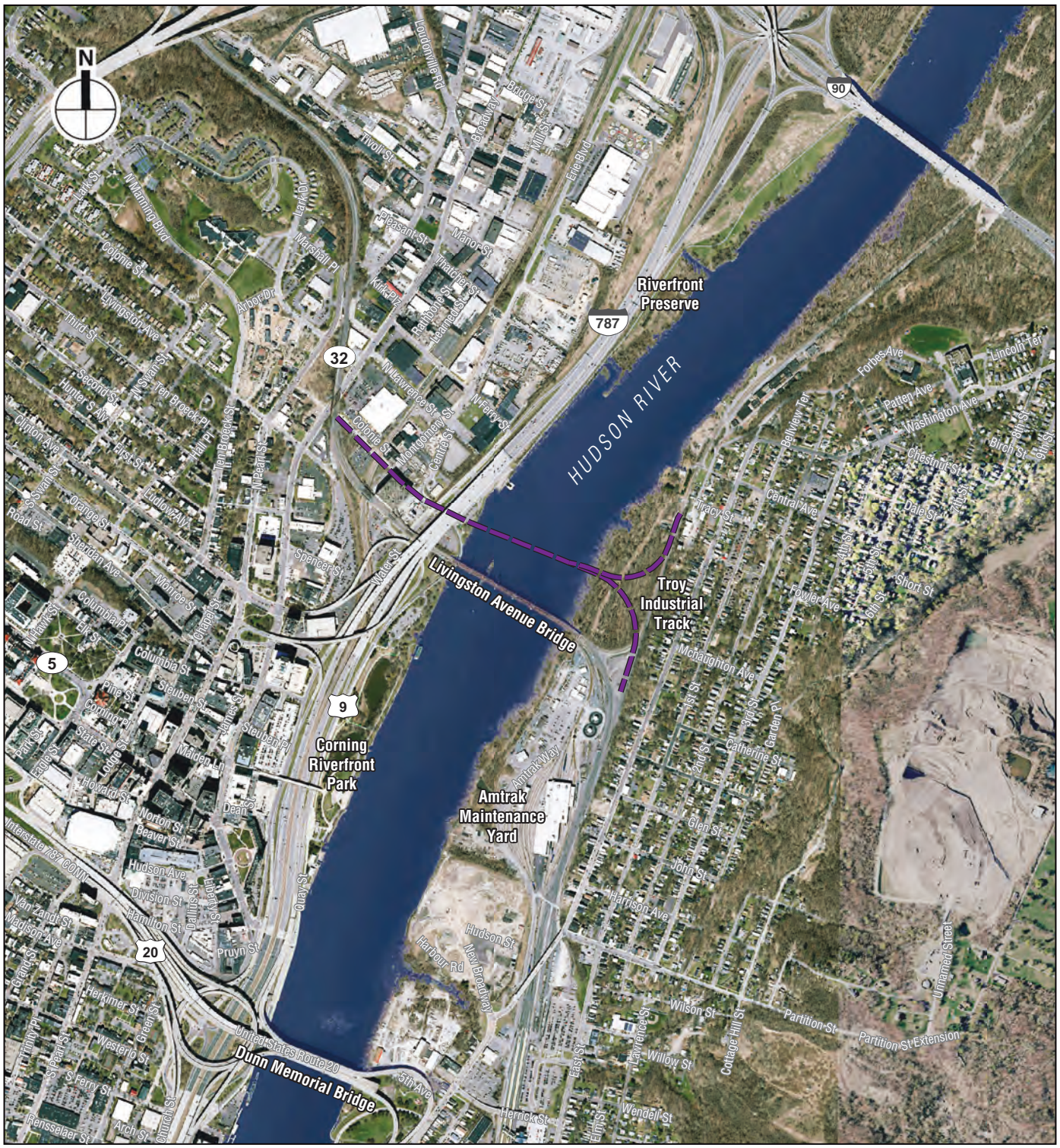
Construction of a new crossing on another alignment and retaining the existing bridge in a manner that would preserve its historic integrity would avoid a use of the Livingston Avenue Bridge. Any replacement alternative that would tie into the existing bridge approaches (e.g., Build Alternatives 1 and 2) would not allow the existing bridge to remain in place, as the existing swing span would not have enough clearance to remain open for river traffic; therefore, FRA and NYSDOT evaluated a replacement alternative farther away on an alignment with Colonie Street (see **Figure C-6**). With this alternative, a new rail crossing and approaches would be constructed approximately 500 feet north of the existing Livingston Avenue Bridge, aligned with Colonie Street in Albany. West of the Hudson River in Albany, the rail line would continue along present-day Colonie Street and tie in with the existing rail line between Montgomery Street and Broadway. On the east side of the Hudson River in Rensselaer, a new wye would be developed about 500 feet north of the existing wye to tie in with the existing north-south rail tracks.

For reasons of adverse social, economic, and environmental effects; engineering and economy; and preservation of the old bridge, as described below, this alternative is not prudent.

Adverse Social, Economic, and Environmental Effects

In Albany, this alternative would require new rail right-of-way through a developed urban area, displacing the existing Colonie Street right-of-way and requiring realignment of surrounding streets and affecting access to properties. The existing street right-of-way would need to be widened to accommodate the dual-track rail right-of-way and adequate safety standards, thereby requiring extensive property acquisition. This alternative would also affect access to publicly accessible recreational facilities such as the existing Mohawk-Hudson Bike-Hike Trail and the existing boat

7.22.22



Build at a New Location Alternative

Figure C-6

ramp at the Riverfront Preserve. The Broadway-Colonie Street Railroad Bridge (NR-listed) would be affected, potentially resulting in a Section 4(f) use of this property. In Rensselaer, the new alignment would require acquisition of vacant forested land, similar to the Build Alternatives.

A nearby southerly alignment providing sufficient clearance for the swing span of the existing bridge would have comparable challenges. West of the Hudson River, this alignment would require the crossing to pass over or through Corning Riverfront Park, potentially affecting the character and access to this park and potentially resulting in a Section 4(f) use of this property. Similar to the Colonie Street alignment discussed above, this alignment would require displacement of properties and structures within a densely developed urban environment and is further constrained by piers of the existing I-787–U.S. Route 9 interchange, which limit the ability to tie the new rail alignment to existing rail tracks. East of the Hudson River, this alignment would require realignment of numerous rail tracks in the Amtrak Maintenance Facility and would complicate tie-in with existing north-south rail tracks and the Albany-Rensselaer Station.

More remote realignments would have potentially extensive environmental impacts. These alignments would not be practical as they would not take advantage of the already established east-west rail right-of-way that serves this heavily traveled freight and passenger rail corridor, thereby requiring extensive property acquisition and substantial additional expenditures. In addition, maintaining the existing bridge would perpetuate existing horizontal and vertical clearance limitations.

Engineering and Economy

As described above, this alternative would not take advantage of the existing east-west rail right-of-way between Albany and Rensselaer, and would therefore require extensive expenditure associated with property acquisition to develop a new rail right-of-way through a densely developed urban area.

Preservation of the Existing Bridge

It is not feasible and prudent to preserve the existing bridge, even if a new bridge were to be built at a new location. The bridge has a number of deteriorated components that would require replacement or rehabilitation to remain in sufficient state of repair. As such, its historic integrity would be compromised. Further, the bridge would need to be transferred to a new owner who would be responsible for maintaining the structure, and despite advertisement no alternate owner has been identified. Moreover, the USCG may require the swing span to remain in the open position to accommodate river vessels which limits the feasibility of maintaining the bridge for some alternative functional use.

Summary

This alternative is not feasible and prudent. Even if the Project could avoid the use of a Section 4(f) property, it would fail to meet the Project objective of improving freight and passenger rail capacity in a cost-effective manner (part of Goal 1); or the goal of minimizing conflicts with river traffic through improved clearances (Goal 3). Therefore, it would not meet the Project's stated purpose and need. It would also have a greater cost, require substantially more property acquisition, and would have greater environmental, social, and construction impacts. Furthermore, it would not necessarily avoid adverse effects on the existing Livingston Avenue Bridge. Structure replacement alignments that use the existing railroad right-of–way, such as the two Build Alternatives identified above, would achieve the benefits of this alternative without the environmental impacts.

C.5.6.3 Rehabilitation Alternative/Bridge Repairs Without Affecting Historic Integrity

This alternative would repair deficiencies and restore the existing Livingston Avenue Bridge to an as-built condition. Rehabilitation would include miscellaneous superstructure repairs; floor system repairs; bridge painting; pier repairs; new steel sheeting around piers for scour prevention; new fenders for pier protection; upgrading electrical, mechanical, and track systems; and safety improvements.

Due to the structurally and geometrically deficient condition of the existing bridge, as described below, this alternative is not prudent.

Structural and Geometric Deficiencies

Because the bridge's alignment and portions of the substructure and superstructure would remain unchanged and intact, the bridge's live load capacity could not be improved and its existing geometric deficiencies and poor vertical and horizontal clearances could not be corrected. Also, because there would be no realignment of the bridge, the wye at the east approach to the bridge would not be realigned. With these substandard conditions, operations across the bridge would remain limited to single-track operation at 15 mph. In addition, the design life of this alternative would be only 15 years.

Even with such a limited rehabilitation, this alternative would not avoid adverse effects on the historic Livingston Avenue Bridge. The bridge has a number of deteriorated components that would require replacement or rehabilitation to remain in sufficient state of repair. As such, its historic integrity would be compromised.

Summary

This would not be a feasible and prudent alternative for the following reasons. First. the alternative would not meet the Project's stated purpose and need, because it would not eliminate existing bridge and track deficiencies nor would it meet modern passenger and freight rail standards. The bridge is so structurally and geometrically deficient that it cannot be rehabilitated to meet minimum acceptable engineering standards without affecting the historic integrity of the bridge. Therefore, this approach would also result in unacceptable operational problems.

C.6 Conclusions

In conclusion, FRA makes the following findings regarding the Project's use of Section 4(f) properties:

- **Mohawk–Hudson Bike–Hike Trail:** The Project's short-term construction activities would occur at the Mohawk–Hudson Bike–Hike Trail for both Build Alternatives, where the trail passes beneath the existing Livingston Avenue Bridge and the right-of-way for the proposed replacement bridge. This activity qualifies for the exemption applied to temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f).
- **Albany Skyway:** The Project's short-term construction activities would occur at the Albany Skyway for both Build Alternatives, where the shared-use path on the proposed replacement bridge would connect directly to the Albany Skyway. This activity qualifies for the exemption applied to temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f). The City of Albany concurred via letter dated October 18, 2022.
- **Albany Railroad Viaduct:** Both Build Alternatives would require modifications to the Centre Street and Water Street bridges of the Albany Railroad Viaduct, which is eligible for listing on the NR. The bridges would be rehabilitated and reconfigured to accommodate the shift in the track alignment. FRA determined, and SHPO concurred, that the change would not constitute

a Section 106 adverse effect under either Build Alternative. FRA therefore makes a Section 4(f) finding of *de minimis* impact related to the Project's use of the Albany Railroad Viaduct. In a letter dated August 12, 2020, FRA notified SHPO of its finding of no adverse effect on the Albany Railroad Viaduct and its intention to make a *de minimis* impact finding to comply with Section 4(f) if SHPO concurred with the finding of no adverse effect. In a letter dated September 23, 2020, SHPO concurred with the finding of no adverse effect on the Albany Railroad Viaduct.

- **Livingston Avenue Bridge:** Both Build Alternatives would require demolition of the Livingston Avenue Bridge, which is eligible for listing on the NR. FRA is applying the Nationwide Historic Bridges Programmatic Section 4(f) Evaluation to approve the Project's use of the Livingston Avenue Bridge. The Project qualifies for this evaluation because it would use a bridge that is eligible for the NR, there are no feasible and prudent alternatives to the use of the historic Livingston Avenue Bridge to be replaced as part of the Project, and the Project includes all possible planning to minimize harm resulting from such use.

FRA made the Draft Section 4(f) Evaluation available for public and agency review and comment on May 9, 2022, concurrent with the EA. FRA received no public comments regarding the Draft Section 4(f) Evaluation. Because the Nationwide Historic Bridges Programmatic Section 4(f) Evaluation is applicable to the replacement of the Livingston Avenue Bridge, concurrence from the U.S. Department of the Interior (USDOI) is not required.

Appendix to Attachment C
Section 4(f) Correspondence

U.S. Department
of Transportation

**Federal Railroad
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

January 8, 2021

Christopher P. Spencer
Planning Commissioner, City of Albany
Department of Development and Planning 200
Henry Johnson Boulevard
Albany, NY 12210

Re: Livingston Avenue Bridge Replacement
Section 4(f) Temporary Occupancy Determination

Dear Mr. Spencer:

The U.S. Department of Transportation's Federal Railroad Administration (FRA) seeks written concurrence from the City of Albany regarding potential effects to the Mohawk-Hudson Bike-Hike Trail that may occur during construction activities for the proposed replacement of the Livingston Avenue rail bridge over the Hudson River. As you know, the New York State Department of Transportation (NYSDOT) is proposing to replace the Livingston Avenue Bridge (the Project), which spans the Hudson River between the Cities of Albany and Rensselaer, providing a critical rail link on New York State's Empire Corridor rail route. The bridge, which CSX Transportation Inc. (CSX) owns and the National Railroad Passenger Corporation (Amtrak) maintains and operates, is nearing the end of its serviceable life. Amtrak uses the bridge for intercity passenger trains traveling on the Empire Corridor route and CSX and Canadian Pacific use the bridge for freight rail service.

NYSDOT is receiving Fiscal Year 2010 funding under FRA's High Speed Intercity Passenger Rail Grant Program for preliminary engineering and environmental review for the Project. FRA and NYSDOT are preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) to evaluate the potential environmental impacts of the Project. As part of the Federal environmental review process, FRA must also comply with the provisions of Section 4(f) of the U.S. Department of Transportation Act and related implementing regulations at 23 CFR Part 774, which require evaluation of the potential effects of transportation projects on public parks, recreation areas, wildlife and waterfowl refuges, and historic sites, and coordination with agencies with jurisdiction over those resources. The Project would temporarily affect the Mohawk-Hudson Bike Hike Trail during construction. NYSDOT owns the affected segment of the trail and the City of Albany maintains it. Therefore, NYSDOT and the City of Albany have been identified as the agencies with jurisdiction over the Mohawk-Hudson Bike-Hike Trail.

The Livingston Avenue Bridge's superstructure and substructure are in fair to poor condition, and the mechanical portions of the movable swing span are significantly deteriorated. The swing span frequently malfunctions, resulting in delays to passenger trains, freight trains, and boat traffic, and the bridge does not meet modern seismic codes or current Amtrak, CSX, or American Railway Engineering and Maintenance-of-Way Association design standards related to load, speed, and vertical clearance. The existing bridge contributes to delays in the movement of freight and passengers throughout New York State, and its replacement is essential to implementing future rail plans and improving state-wide

transport. The purpose of the Project is to improve reliability and reduce passenger and freight train delays along this segment of the Empire Corridor; achieve (at a minimum) a long-term state-of-good-repair for the bridge; eliminate existing bridge and track deficiencies; and maintain or improve navigation near the bridge. This will ensure that the Livingston Avenue Bridge meets modern passenger and freight rail capacity and load (weight) standards, maintains acceptable levels of safety, and supports the long-term utility and vitality of the Empire Corridor.

In the EA, FRA and NYSDOT are evaluating two Build Alternatives for replacement of the bridge: Replacement on an Adjacent North Alignment (Build Alternative 1) and Replacement on an Adjacent South Alignment (Build Alternative 2). Both Build Alternatives would require brief construction-related closures of a segment of the Mohawk-Hudson Bike-Hike Trail, where the trail passes beneath the existing Livingston Avenue Bridge and the right-of-way for the proposed replacement bridge. The Mohawk-Hudson Bike-Hike Trail runs along the Mohawk and Hudson Rivers between Rotterdam and Albany, New York. The trail provides connections and access to other biking and hiking trails in the Albany area and throughout New York State, and extends over more than 35 miles of trail (including both on- and off-road sections). Where the trail passes beneath the Livingston Avenue Bridge, it is a paved off-road trail.

Impacts to the Mohawk-Hudson Bike-Hike Trail from the Project would include the temporary closure of the trail segment that passes beneath the existing Livingston Avenue Bridge and the proposed replacement bridge for brief periods to accommodate overhead work during bridge construction and demolition. In general, pedestrian and cyclist access on the Mohawk-Hudson Hike-Bike Trail would be maintained during construction by erecting a pedestrian canopy through the work area under the railroad bridge. Access would only be interrupted during heavy lift operations or other operations that may present a risk to the public, including when there is active structural lifting overhead, most of which could be done at night. With the pedestrian canopy in place, the trail would only experience a few short closures lasting several hours each time. The exact magnitude of these closures would depend in part on the selected span arrangement and the placement of the new piers. The purpose of this letter is to request your concurrence, as the official with jurisdiction from the City of Albany, that, considering the limited and temporary nature of Project effects on this resource, the proposed temporary closures of the Mohawk-Hudson Bike-Hike Trail would not constitute a "use" of the trail as defined in Section 4(f) of the U.S. Department of Transportation Act and 23 CFR Part 774.17.

Per the Section 4(f) regulations, FRA may not approve the use of land from a publicly owned park, recreation area, or wildlife or waterfowl refuge, or a significant historic site unless a determination is made that: (i) there is no feasible and prudent alternative to the use of the land from the property; and (ii) the action includes all possible planning to minimize harm to the property resulting from such use, or (iii) the Section 4(f) use is *de minimis*. The Section 4(f) regulations identify various exceptions to the requirement for Section 4(f) approval, including temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f).

A temporary occupancy results when Section 4(f) property, in whole or in part, is required for project construction-related activities. Under the provisions of 23 CFR § 774.13(d), a temporary occupancy does not constitute a Section 4(f) use if the following conditions are met: (1) The duration is less than the time needed for the project's construction and there is no change in ownership of land; (2) The scope of work is minor, in that both the nature and magnitude of changes to the 4(f) property are minimal; (3) No permanent, adverse physical impacts are anticipated, and there will be no temporary or permanent

interference with the protected activities, features, or attributes of the property; (4) The land is fully restored, and returned to a condition at least as good as that which existed prior to the project; and (5) The agreement of the official(s) with jurisdiction over the Section 4(f) property regarding the above conditions is documented.

Under either Build Alternative, the Project would require a temporary occupancy of the Mohawk-Hudson Bike-Hike Trail, a Section 4(f) property, related to construction of the replacement bridge and demolition of the existing bridge. Neither Build Alternative would substantively alter the use or character of the trail. During construction of either alternative, the trail would largely remain open, except for brief periods when overhead work may require temporary closures of a short segment of the trail. As necessary, detours would be clearly marked to divert pedestrians and cyclists around the construction zone to allow unimpeded continuity of the trail. The Project's effects on the Mohawk-Hudson Bike-Hike Trail would be temporary; work affecting the trail would be minor; land ownership changes would not occur; and the trail would be fully restored, and returned to a condition at least as good as that which existed prior to construction. Therefore, FRA and NYSDOT have determined that this temporary occupancy meets the criteria in 23 CFR §774.13(d) and would not constitute a Section 4(f) use of the Mohawk-Hudson Bike-Hike Trail.

If you agree with FRA's determination, please indicate your concurrence on the signature line on the attached page. Should you have any questions or concerns regarding this request or the Project, please contact Brandon Bratcher, FRA Environmental Protection Specialist, at (202) 493-0844 or brandon.bratcher@dot.gov, or Mark Jakubiak, NYSDOT Project Manager, at (518) 485-9331 or mark.jakubiak@dot.ny.gov.

Sincerely,

Laura A. Shick

Laura Shick
Supervisory Environmental Protection Specialist
Environmental & Corridor Planning Division
Office of Railroad Policy & Development

Enclosures

cc: Brandon Bratcher, FRA
Mark Jakubiak, NYSDOT

Concurrence with FRA's determination that the temporary occupancy of the Mohawk-Hudson Bike-Hike Trail during construction of the Project is not a Section 4(f) use:

For City of Albany

Director of Planning
Title

2/10/21
Date

U.S. Department
of Transportation

**Federal Railroad
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

October 18, 2022
Bradley Glass
Director of Planning, City of Albany
Department of Planning and Development
200 Henry Johnson Boulevard
Albany, NY 12210

Dear Mr. Glass:

The purpose of this letter is to request your concurrence, as the official with jurisdiction from the City of Albany, that, considering the limited and temporary nature of Project effects on this resource, the proposed temporary construction work at the Albany Skyway would not constitute a "use" of the Skyway as defined in Section 4(f) of the U.S. Department of Transportation Act and 23 CFR Part 774.17

The New York State Department of Transportation (NYSDOT) proposes to replace the Livingston Avenue Bridge (the Project), which spans the Hudson River between the Cities of Albany and Rensselaer, providing a critical rail link on New York State's Empire Corridor rail route. The bridge, which CSX Transportation Inc. (CSX) owns and the National Railroad Passenger Corporation (Amtrak) maintains and operates, is nearing the end of its serviceable life. Amtrak uses the bridge for intercity passenger trains traveling on the Empire Corridor route and CSX and Canadian Pacific use the bridge for freight rail service. NYSDOT is requesting Federal funding for the Project from the U.S. Department of Transportation (USDOT), through the Federal Railroad Administration (FRA).

Prior to issuing permits or approvals for a project, including approval of funding, Federal agencies must consider the environmental effects of their actions in accordance with the National Environmental Policy Act (NEPA). FRA and NYSDOT prepared an Environmental Assessment (EA) in accordance with NEPA to evaluate the potential environmental impacts of the Project. The EA with project details was available for public review earlier this year. As part of the Federal environmental review process, FRA must also comply with the provisions of Section 4(f) of the U.S. Department of Transportation Act and related implementing regulations at 23 CFR Part 774, which require evaluation of the potential effects of transportation projects on public parks, recreation areas, wildlife and waterfowl refuges, and historic sites, and coordination with agencies with jurisdiction over those resources. In response to comments from the City on the EA, minor changes to the project would now have a connection to and therefore result in potential impacts to the Albany Skyway. This would result in a temporarily affect or use the Albany Skyway during construction. NYSDOT owns the affected segment of the Skyway, and the City of Albany maintains it. Therefore, NYSDOT and the City of Albany have been identified as the agencies with jurisdiction over the Albany Skyway.

Impacts to the Albany Skyway from the Project would occur at the tie-in point where the shared-use path meets the Albany Skyway. During a brief period when NYSDOT and its contractor are completing construction of this connection, there would be light construction activity to finalize surface finishes of the shared-use path at the point where it meets the Skyway. This would involve temporarily narrowing a short segment of the Albany Skyway. NYSDOT and its contractor would use cones or construction fencing to prevent the public from entering the work zone and would stage the work to ensure no disruption to bidirectional traffic on the Albany Skyway, which would remain open throughout construction.

Per the Section 4(f) regulations, FRA may not approve the use of land from a publicly owned public park, recreation area or wildlife and waterfowl refuge, or any significant historic site unless a determination is made that: (i) there is no feasible and prudent alternative to the use of the land from the property; and (ii) the action includes all possible planning to minimize harm to the property resulting from such use, or (iii) the Section 4(f) use is *de minimis*. The Section 4(f) regulations identify various exceptions to the requirement for Section 4(f) approval, including temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f).

A temporary occupancy results when Section 4(f) property, in whole or in part, is required for project construction-related activities. Under the provisions of 23 CFR § 774.13(d), a temporary occupancy does not constitute a Section 4(f) use if the following conditions are met:

> (1) The duration is less than the time needed for the project's construction and there is no change in ownership of land;
>
> (2) The scope of work is minor, in that both the nature and magnitude of changes to the 4(f) property are minimal;
>
> (3) No permanent, adverse physical impacts are anticipated, and there will be no temporary or permanent interference with the protected activities, features, or attributes of the property;
>
> (4) The land is fully restored, and returned to a condition at least as good as that which existed prior to the project; and
>
> (5) The agreement of the official(s) with jurisdiction over the Section 4(f) property regarding the above conditions is documented.

Under either Build Alternative, the Project would require a temporary occupancy of the Albany Skyway, a Section 4(f) property, related to construction of a direct connection between the shared-use path and the Albany Skyway. Neither Build Alternative would substantively alter the use or character of the Skyway. During construction of either alternative, the Skyway would remain open, and would only be narrowed for a brief period when NYSDOT and its contractor are completing construction of the tie-in. NYSDOT and its contractor would use cones or construction fencing to prevent the public from entering the work zone and would stage the work to ensure no disruption to bidirectional traffic on the Albany Skyway, which would remain open throughout construction. The Project's effects on the Albany Skyway would be temporary; work affecting the Skyway would be minor; land ownership changes would not occur; and the Skyway would be fully restored and returned to a condition at least as good as that which existed prior to construction. Therefore, FRA and NYSDOT have determined that this temporary occupancy meets the criteria in 23 CFR

§774.13(d) and would not constitute a Section 4(f) use of the Albany Skyway. We have consulted with NYDOT as the other agency with jurisdiction and have their concurrence.

If you agree with FRA's determination, please indicate your concurrence on the signature line on the attached page. Should you have any questions or concerns regarding this request or the Project, please contact Brandon Bratcher, FRA Environmental Protection Specialist, at (202) 493-0844 or brandon.bratcher@dot.gov, or Mark Jakubiak, NYSDOT Project Manager, at (518) 485-9331 or mark.jakubiak@dot.ny.gov.

Sincerely,

DEBORAH L SUCIU SMITH

Digitally signed by DEBORAH L SUCIU SMITH
Date: 2022.10.18 11:23:33 -04'00'

Deborah Suciu-Smith
Supervisory Environmental Protection Specialist
Environmental Review- Major Projects
Office of Environmental Program Development
Enclosures
cc: Brandon Bratcher, FRA
Mark Jakubiak, NYSDOT

Concurrence with FRA's determination that the temporary occupancy of the Albany Skyway is not a Section 4(f) use for the Livingston Avenue Bridge Project:

For City of Albany	Bradley Glass	10/18/22
	Printed Name	Date

Attachment D: Summary of and Responses to Comments Received on the Environmental Assessment

D.1 INTRODUCTION

This document summarizes and responds to substantive comments received during the public comment period for the Environmental Assessment (EA) for the Livingston Avenue Bridge Replacement Project (the Project). The U.S. Department of Transportation (USDOT) Federal Railroad Administration (FRA) and the New York State Department of Transportation (NYSDOT) made the EA available for review by agencies and the public on May 9, 2022.

The EA was made available for review by agencies and the public for a 38-day review and comment period between May 9, 2022 and June 15, 2022. A notice of availability of the EA was distributed via email and postcard to the Project mailing list and local residents in the Project area. The EA was available on FRA's website[1] and NYSDOT's website,[2] and its availability was advertised in the Albany Times-Union. Public informational meetings on the EA were held virtually on May 31, 2022 and in person at the Palace Theater in Albany on June 1, 2022. The comment period remained open until 5:00 PM on June 15, 2022.

Section D.2 lists the organizations and individuals providing comments relevant to the EA. The full text of all oral and written comments is included as **Attachment E** to the Finding of No Significant Impact (FONSI).

Section D.3 contains a summary of substantive comments on the EA, with a response to each. These summaries convey the substance of the comments made, but do not necessarily quote the comments verbatim. Comments are organized by subject matter and generally parallel the section and subsection structure of the EA. Where more than one commenter expressed similar views, those comments have been grouped and addressed together.

Where relevant, in response to comments on the EA, changes have been made and are noted in an Errata Sheet for the EA, which is included as **Attachment A** to the FONSI.

D.2 LIST OF ORGANIZATIONS AND INDIVIDUALS WHO COMMENTED ON THE ENVIRONMENTAL ASSESSMENT

D.2.1 ELECTED OFFICIALS

1. Common Council of the City of Albany, resolution dated May 23, 2022 (*CCA*)
2. Seth Harris, Deputy Mayor, Village of Menands, oral testimony delivered June 1, 2022 (*Harris*)
3. John McDonald, New York State Assembly, oral testimony delivered June 1, 2022 (*McDonald*)
4. Kathy Sheehan, Mayor, City of Albany, oral testimony delivered June 1, 2022 (*Sheehan*)

---

[1] https://railroads.dot.gov/environment/environmental-reviews/livingston-avenue-bridge-replacement-project.

[2] https://www.dot.ny.gov/livingstonavebridge.

5. Michael Stammel, Mayor, City of Rensselaer, letter dated May 27, 2022, oral testimony delivered May 31, 2022, and oral testimony delivered June 1, 2022 (*Stammel*)

D.2.2 GOVERNMENT AGENCIES

6. Mark Austin, Team Lead, Environmental Review Team, U.S. Environmental Protection Agency, letter dated June 8, 2022 (*USEPA-Austin*)
7. Christine Delorier, US Army Corps of Engineers, email dated June 6, 2022 (*USACE-Delorier*)
8. Sandra Misiewicz, Executive Director, Capital District Transportation Committee, letter dated June 15, 2022 (*CDTC-Misiewicz*)

D.2.3 BUSINESSES AND ORGANIZATIONS

9. Ed Brennan, President, Albany Bicycle Coalition, oral testimony delivered May 31, 2022 (*Brennan*)
10. Martin Daley Livingston Avenue Bridge Coalition, oral testimony delivered May 31, 2022 and email dated June 17, 2022 (*Daley*)
11. Robin Dropkin, Executive Director, Parks & Trails New York, letter dated June 14, 2022 (*Dropkin*)
12. Ashley Mohl, Vice President, Capitalize Albany Corporation, oral testimony delivered May 31, 2022 (*Mohl*)
13. Johann Moore, Rail Passengers Association, email dated May 14, 2022 and oral testimony delivered May 31, 2022 (*J. Moore*)
14. Gary Prophet, President, Empire State Passengers Association, oral testimony delivered June 1, 2022 (*Prophet*)
15. Carol Shobrook, Construction Business Development Director, Weeks Marine, Inc., email dated May 18, 2022 (*Shobrook*)
16. David Szyszka, Champion Fiberglass, email dated May 19, 2022 (*Szyszka*)
17. Ivan Vamos, New York State Bicycle Coalition, email dated May 28, 2022 and oral testimony delivered May 31, 2022 (*Vamos*)

D.2.4 GENERAL PUBLIC

18. Jacob Adams, oral testimony delivered May 31, 2022 (*Adams*)
19. Andrea J. Becker, emails dated June 9, 2022 and June 14, 2022 (*A. Becker*)
20. Bruce Becker, oral testimony delivered May 31, 2022 (*B. Becker*)
21. Pamela Bentien, email dated June 15, 2022 (*Bentien*)
22. Gregg Blaszak, email dated May 16, 2022 (*Blaszak*)
23. Peter Crasto-Donnelly, email dated June 4, 2022 (*Crasto-Donnelly*)
24. Virginia Hammer, email dated May 9, 2022 (*Hammer*)
25. Janet Hollocher, emails dated June 7, 2022 and letter dated June 7, 2022 (*Hollocher*)
26. Meghan Keegan, email dated May 10, 2022 (*Keegan*)
27. Charles Lomino, oral testimony delivered May 31, 2022 (*Lomino*)
28. Richard Marriott, comment sheet submitted June 1, 2022 and oral testimony delivered June 1, 2022 (*Marriott*)
29. Andrew Matrai, email dated June 15, 2022 (*Matrai*)
30. Greg Moore, email dated June 14, 2022 (*G. Moore*)
31. Nathanael, email dated June 14, 2022 (*Nathanael*)
32. Gary G. Nelson, email dated May 16, 2022 (*Nelson*)
33. Martin Robinson, email dated June 15, 2022 (*Robinson*)
34. Erica Schneider, comment sheet submitted June 1, 2022 (*Schneider*)
35. Bert Schou, oral testimony delivered June 1, 2022 (*Schou*)
36. Steve Strauss, letter dated June 14, 2022 (*Strauss*)
37. Carmela Triolo, email dated May 12, 2022 (*Triolo*)

38. Benjamin Turon, email dated May 31, 2022 (*Turon*)
39. John Van Raalte, comment sheet submitted June 1, 2022 (*Van Raalte*)
40. Daniel S. Wing, oral testimony delivered June 1, 2022 (*Wing*)

D.3 COMMENTS AND RESPONSES

D.3.1 GENERAL

Comment G-1: Commenters expressed support for the Project overall. Commenters noted that the Project is critical for passenger rail service in New York State as well as national and international passenger rail services, and will allow for better, faster, and more dependable service and the potential for additional future service to points west and north of Albany, including high-speed service. By improving access for pedestrians and cyclists as well as rail, the Project will support climate-friendly transportation options. The Project will also reduce delays to Hudson River shipping and improve public safety by replacing an old and deteriorated structure. Commenters noted that the Project fulfills a goal of regional planning efforts, including the *Hudson River Crossing Study* (CDTC, 2008), the *Regional Freight and Goods Movement Plan* (CDTC, 2016), and the *I-787/Hudson Waterfront Corridor Study* (CDTC, 2018), among others. Commenters stated that considering the age and condition of the existing bridge, the frequency of its use, and its key location in the Northeast transportation network, the need for a bridge replacement is clear, urgent, and a top priority for the region, and suggested that the Project should move forward as expeditiously as possible. (*Adams, B. Becker, CCA, CDTC-Misiewicz, Hammer, Hollocher, Lomino, McDonald, Mohl, G. Moore, J. Moore, Nathanael, Nelson, Prophet, Robinson, Sheehan, Stammel, Strauss*)

Response G-1: Comments noted. Recognizing the importance and urgency of this Project, NYSDOT is committed to moving forward in an expeditious manner.

Comment G-2: Commenters asked for details of the procurement process, including whether an engineering firm has been selected to design the new bridge, and whether the procurement method has been defined. Some commenters expressed interest in working in support of future phases of the Project. Commenters also recommended specific supply companies and vendors to be used in the construction. (*Blaszak, Shobrook, Szyszka*)

Response G-2: Following completion of environmental review for the Project, final design will begin, followed by construction. Specific details on the timing for the construction and the procurement are not yet available. Federal and New York State procurement regulations include requirements for competitive bidding. Proprietary products cannot be included in the specifications and specific manufacturers cannot be required to the exclusion of all other suppliers. Contract documents prepared for the Project will be based on

Federal and New York State procurement rules, NYSDOT procedures and requirements, and industry standards, performance characteristics of the products, and materials.

Comment G-3: A commenter noted that while NYSDOT has stated that there was inadequate Federal funding for this Project, that has been inaccurate for several years. Intercity passenger rail funding is available from the Federal government, and the Livingston Avenue Bridge should be the first in a pipeline of projects across the state to improve intercity passenger rail service. (*Strauss*)

Response G-3: The Governor has committed funding for the Project through a combination of state and federal funds. NYSDOT also intends to pursue competitive intercity passenger rail grant opportunities that the Project would qualify for under the federal infrastructure package later in 2022 to help offset the costs of the Project, as well as other potential funding sources.

D.3.2 CHAPTER 1: PURPOSE AND NEED

Comment 1-1: Several commenters requested that the Project goals and objectives be revised to include a new goal of reestablishing a safe and modern bicycle and pedestrian connection between Albany and Rensselaer in the form of a shared-use path across the new bridge. Historically, the Livingston Avenue Bridge provided this connection, but it was lost over time with lack of proper maintenance. (*CDTC-Misiewicz, Daley, Sheehan, Stammel*)

Response 1-1: The Project goals and objectives are meant to support the Project purpose, which is to improve reliability and reduce passenger and freight train delays along this segment of the Empire Corridor; achieve (at a minimum) a long-term state-of-good-repair for the bridge; eliminate existing bridge and track deficiencies; and maintain or improve navigation near the bridge. This will ensure that the Livingston Avenue Bridge meets modern passenger and freight rail capacity and load (weight) standards, maintains acceptable levels of safety, and supports the long-term utility and vitality of the Empire Corridor.

FRA and NYSDOT are committed to the inclusion of a shared-use path on the new bridge and will continue to work together with the Cities of Albany and Rensselaer, local organizations and stakeholders, and the public on the design of this critical element of the Project. The shared-use path was an integral part of both Build Alternatives evaluated in the EA, including the Preferred Alternative, and the impacts to the environment resulting from the shared-use path's inclusion in the Project are documented within the EA as written. At this time, adding the path to the Project purpose, goals, and objectives would not change the resulting environmental analysis and its inclusion would negatively impact the Project schedule by reopening the alternatives analysis which is based

on the purpose, need, goals, and objectives. That process is now complete, and the shared-use path is included in the design of the Preferred Alternative. For these reasons, it is not necessary to modify the Project goals and objectives.

D.3.3 CHAPTER 2: PROJECT ALTERNATIVES

SUPPORT FOR SELECTED PREFERRED ALTERNATIVE

Comment 2-1: Several commenters expressed support for the selection of Alternative 2 as the Preferred Alternative for the Project. Commenters noted that it would provide better connectivity between the local trail system and the shared-use path on the new bridge relative to Alternative 1. (*B. Becker, CDTC-Misiewicz, Dropkin, Hammer, Lomino, Schneider, Stammel, Vamos*)

Response 2-1: Comments noted.

PROJECT DEFINITION

Comment 2-2: Since the City of Rensselaer is coordinating with NYSDOT and agreeing to delay the completion of the Rensselaer Riverfront Trail until after the completion of the Livingston Avenue Bridge Project, the City would like to see NYSDOT formally include the completion of the trail through the Project Limits (DeLaet's Landing to Tracy Street) as part of the construction. As the Project contractor will have disturbed the majority of this area and would be mobilized to easily complete this minor construction as part of the restoration of the area, it would be a minor addition to the overall Project. Building the trail at the conclusion of the Project would also help keep pedestrians and bicyclists from accessing the construction area should the City continue with current plans to extend the existing trail towards the bridge. (*Stammel*)

We would like to have a path that runs both north and south of the bridge along the Rensselaer riverfront and I hope that this would be included in the Project. (*Marriott*)

Response 2-2: NYSDOT recognizes the benefits of connecting the shared-use path to the network of bicycle and pedestrian infrastructure in Rensselaer. NYSDOT has incorporated a portion of the Rensselaer Riverfront Trail into the Project. The portion to be included in the Project will extend from the existing northern limit of the trail at DeLaet's Landing to a point just north of the Livingston Avenue Bridge; updated design drawings illustrating this change are provided in **Attachment G** to the FONSI. NYSDOT will construct the trail segment at the conclusion of the Project. NYSDOT's ongoing coordination with the City of Rensselaer regarding the trail will continue.

Comment 2-3: Will the bridge be replaced in place? The website does not show the proposed footprint. How will the location, path, dimensions, and footprint of the current bridge differ from that of the proposed bridge (entrances and exits for rail, foot, and motor vehicle)? How will the height of the bridge over the water be different from the current bridge? How will traffic (rail, foot, water, and motor vehicle) patterns and daily loads projected to change (quantify)? Will the proposed bridge include a public walkway between Albany and Rensselaer? Will the proposed bridge include a roadway/railway for public transportation between Albany and Rensselaer? (*Triolo*)

Response 2-3: Information on the Project, including the details requested by the commenter, is provided in the EA, which is available on the Project website (https://www.dot.ny.gov/livingstonavebridge). In particular, see Chapter 2, "Project Alternatives," Section 2.4.2. The Preferred Alternative for the Project, as illustrated in the EA (which is available on the website), FRA and NYSDOT have identified Alternative 2 as the Preferred Alternative for the Project. Alternative 2 will replace the existing bridge on a parallel alignment just south of the existing alignment. The new bridge will provide two tracks for freight and passenger rail, and a shared-use path for pedestrians and cyclists; the path will connect to the Albany Skyway on the west and the Rensselaer Waterfront Trail on the east. The bridge will not include any facilities for motor vehicles. The height of the bridge over water at the fixed spans will be the same as the existing bridge (25 feet), while at the moveable span, it will provide a 60-foot clearance in the open position, the same as existing upstream and downstream highway bridges. There will be no projected change in rail, water, or motor vehicle traffic with the Project, although by eliminating existing deficiencies, the new bridge could allow for a future increase in passenger rail service as part of a separate project. There is currently no crossing for pedestrians or cyclists on the bridge.

Comment 2-4: Several commenters asked whether the bridge would be designed to accommodate potential future electrification of the Empire Corridor. In particular, commenters asked whether the new bridge would provide sufficient vertical clearance for future overhead catenary. (*Hollocher, G. Moore, Turon*)

Response 2-4: Coordination with Project stakeholders during the preliminary design phase determined that overhead electrification of this rail corridor is not planned or likely during the lifespan of the bridge due to other limitations on the corridor. However, design requirements do not preclude future electrification of the bridge using third rail. Amtrak's Empire Corridor rolling stock already have third rail capability, which is required for operation in the tunnels leading to Penn Station in New York City, and the Empire Corridor is currently supplied with third rail south of Croton-Harmon Station, so future electrification of the full Empire Corridor using third rail could build on this existing capability.

Comment 2-5: Renderings for the Project show cribwork and sheet piles around concrete for protecting the piers in the Hudson River. This design may be problematic, if it truly represents the bridge protection design. During ice flows and perhaps even during high current events, ice and debris would build up on and against such a surface. The existing piers on the old bridge are well armored stonework with a pointy design, somewhat resembling the prow of a ship. The newly built Crown Point to Chimney Point bridge crossing southern Lake Champlain has smooth, curved piers that allow ice to ride up and break, so the ice (or debris) will flow past the bridge (similar to the upside-down bottom design of an ice breaker). The US Army Cold Regions Research and Engineering Labs (CRREL) can help suggest similar design options. (*Vamos*)

Response 2-5: All NYSDOT bridges are designed and detailed with ice flow protection and nosing similar to the Lake Champlain bridge piers; the plans and renderings included in the EA show these nosings. The pier protection/dolphin/fender system for the Livingston Avenue Bridge will be designed to minimize the impact of ice flows and vessel collisions, but these incidents cannot be fully eliminated. NYSDOT will ensure that the design of the bridge piers and vessel collision fender system will comport with all applicable standards.

Comment 2-6: The proposed tower roofs are not as interesting as they could be. Some suggestions are an open steel tower with spires, similar to the lift bridge in Duluth, MN, or if that is not possible, use of black siding instead of white, since white will never look clean and is house-like. In addition, consider standing seam roofs and not using a shed roof - roof line. For a lighthouse look consider hip roofs and faux windows/lighting. (*A. Becker*)

Response 2-6: The architectural design of the bridge, including the tower roofs, will be coordinated with the Project stakeholders during final design of the structure. NYSDOT will consider the architectural elements proposed by the commenter on balance with the needs of the current Project, as well as cost and other factors. Note that the aerial lift bridge in Duluth is a unique structure with unique requirements different from those of the Livingston Avenue Bridge.

Comment 2-7: A commenter expressed concerns about the maintenance regimen on the new bridge and the cost of ongoing maintenance, noting that while it can be easy to fund a new project, funds for ongoing maintenance may not be available. The commenter noted that maintenance on the existing bridge was neglected in the past, leading to closure of the shared-use path, and also asserted that the Dunn Memorial Bridge's shared-use path has not been properly maintained, which presents a worrisome precedent for the new Livingston Avenue Bridge. (*Marriott*)

Response 2-7: NYSDOT will ensure that routine maintenance will be included as part of the operation and maintenance agreement of the shared-use path to ensure ongoing use for the full service life of the bridge. NYSDOT will

also ensure that durable materials are used in construction of the new bridge. Maintenance for the new bridge is provided for under the terms of existing agreements between NYSDOT and Amtrak. These agreements are funded with an annual appropriation in the New York State Budget.

Comment 2-8: A commenter asked how fast trains will travel through the Rensselaer train station and how much time will be saved due to increased speeds as a result of the Project on a trip from Rensselaer to Schenectady. The commenter suggested that resulting travel time savings would not be large enough to merit the investment in the Project and also that there is not enough traffic over the proposed bridge to justify two tracks. (*Marriott*)

Response 2-8: The Project will not change speeds through the Albany-Rensselaer Amtrak Station, as the station lies outside the Project area. The Project will increase speeds over the Livingston Avenue Bridge from 15 mph to 35 mph for freight trains and 40 mph for passenger trains.

Increasing speeds on a trip between Rensselaer and Schenectady is only one element of the Project's purpose and need. The purpose of the Project is to improve reliability and reduce passenger and freight train delays along this segment of the Empire Corridor; achieve (at a minimum) a long-term state-of-good-repair for the bridge; eliminate existing bridge and track deficiencies; and maintain or improve navigation near the bridge. This will ensure that the Livingston Avenue Bridge meets modern passenger and freight rail capacity and load (weight) standards, maintains acceptable levels of safety, and supports the long-term utility and vitality of the Empire Corridor.

The superstructure of the existing bridge was erected in 1901-1903 on a substructure that dates to the 1860s. Recent inspections have confirmed that the bridge has significant deterioration. The bridge was not designed for and does not meet modern seismic codes. The mechanical portions of the swing span are significantly worn and require near constant maintenance to remain operable. The swing span frequently malfunctions, resulting in delays to passenger trains, freight trains, and boat traffic using the Hudson River. In addition, the bridge does not meet current design standards related to load, speed, and vertical clearance; therefore, passenger and freight trains operating over the bridge must comply with restrictions related to weight and speed. The bridge also has non-standard vertical and horizontal clearances that limit the types of carriages and freight that can traverse the span. In addition to the obsolete design of the bridge, its current deteriorated state further limits train weight and speed on the crossing.

The existing Livingston Avenue Bridge contributes to delays in the movement of freight and passengers throughout New York State. The Project is essential to implementing future rail plans and improving state-wide rail transportation. The Livingston Avenue Bridge is at the end of its service life. This bridge provides a critical link for passenger rail service from New York City to Western New York. Should the condition of the

bridge cause closure, the detour for trains westbound from Albany-Rensselaer Station would add approximately 2.5 hours to the trip and would bypass the newly constructed Schenectady Station.

The new bridge will have two tracks in order to match the track arrangement of the existing bridge and adjacent rail segments on both sides of the bridge, and to accommodate two trains operating across the bridge at the same time.

Comment 2-9: A commenter asked about the number of weekly trips by freight trains between the existing bridge and Troy along the Troy Industrial Track, and the amount of time that would be saved by realigning the wye track in Rensselaer. The commenter noted that NYSDOT proposes to take property to realign that section of track, but there are too few trips on the industrial line to justify taking land and realigning the track. (*Marriott*)

Response 2-9: While freight service on the Troy Industrial Track is limited (approximately one train per day), the wye track is heavily used each weekday by Amtrak Empire Service trains. Trains that have completed a trip from New York City to Albany use the wye track to turn around for the return trip south to New York City; in 2019, there were approximately eight such movements on the wye track each weekday. The Project will only realign the wye track to the extent required to allow continued use of the track by these Amtrak turning operations.

SHARED-USE PATH

Comment 2-10: Commenters expressed support for the proposed shared-use path. They stated that the proposed path will reconnect the cities of Albany and Rensselaer and restore an important transportation link in the Capital District that is not well served by current infrastructure and has been missing for many years. Commenters noted that the nearby shared-use path on the Dunn Memorial Bridge is inadequate and does not offer safe standards for bicycling or meet ADA requirements, as it is too steep and not accessible to individuals who may be walking a bike or using a wheelchair. They supported including a shared use path with multimodal access for pedestrians and cyclists, including those with mobility impairments. Commenters also noted that the new shared-use path will be an important link in connecting components of regional alternative transportation routes, including the recently completed Empire State Trail and Albany Skyway, and creating a more walkable and bikeable Capital Region.

Commenters further expressed support for the proposed scenic overlooks on the shared-use path at both sides of the lift span.

Commenters noted that inclusion of the shared-use path on the new bridge would comport with the national “Reconnecting Communities” program and the FRA publication, Rails with Trails (FTA-MA-26-0052-04-

1, 2002). (*Bentien, Brennan, CCA, CDTC-Misiewicz, Crasto-Donnelly, Daley, Dropkin, Harris, Hollocher, Keegan, Lomino, McDonald, Matrai, G. Moore, Robinson, Schneider, Sheehan, Schou, Stammel, Vamos, Van Raalte*)

Response 2-10: Comments noted.

Comment 2-11: Commenters requested that the design of the shared-use path be modified to provide a direct connection to the Albany Skyway at the western end of the bridge in Albany, rather than touching down at the waterfront in the Corning Preserve. (*Brennan, CCA, CDTC-Misiewicz, Daley, Dropkin, Mohl, Schou, Vamos*)

Response 2-11: NYSDOT recognizes the benefits of connecting the shared-use path to the new Albany Skyway and the design of the shared-use path on the Albany side of the river will provide a direct connection to the Albany Skyway. Updated design drawings illustrating this change are provided in **Attachment G** to the FONSI.

Comment 2-12: Commenters expressed support for a direct connection from the Livingston Avenue Bridge shared-use path to the Rensselaer Waterfront Trail on the east side of the Hudson River. (*CDTC-Misiewicz*)

Response 2-12: Comment noted. As described in Section 2.4.2.9 of the EA, the Project will include a direct connection between the new shared-use path and the Rensselaer Waterfront Trail.

Comment 2-13: NYSDOT must build the shared-use path to a standard that ensures it will be a safe, functional part of the regional and statewide trails network. The width of the pathway must be at least 12 feet to provide bicyclists and pedestrians the full amount of space needed to safely accommodate bidirectional traffic on what is expected to be an incredibly popular amenity. (*Dropkin*)

The shared-use path should be made as wide as possible to accommodate bike/ped traffic in both directions. (*Schneider*)

Response 2-13: NYSDOT is committed to providing a safe and functional shared-use path on the Livingston Avenue Bridge. The proposed shared-use path will be a minimum of 12 feet wide for its entire length, which will safely accommodate bidirectional traffic.

Comment 2-14: Commenters requested that NYSDOT provide opening hours for the shared-use path. They noted that as a key community amenity and transportation link, the walkway is only effective if it is open for public use as much as possible and ideally at all times, 24 hours a day, 7 days a week, during all 12 months of the year, other than when the bridge must be opened for boat traffic. To ensure the shared-use path remains usable

in the winter months, snow clearance must be included in the maintenance plan for the path. (*Daley, Dropkin, Marriott, Schou*)

Response 2-14: Discussions between New York State, Amtrak, and the Cities of Albany and Rensselaer are ongoing regarding the operation and maintenance of the shared-use path. NYSDOT understands the community interest in a well-maintained path, and will endeavor to keep the path open as much as possible throughout the day and in all seasons.

Comment 2-15: We strongly encourage that attractive architectural and lighting features be incorporated into the bridge to make it both inviting and comfortable for cyclists and pedestrians. If the bridge is not attractive it may discourage use or give the incorrect impression that the bridge is somehow dangerous for pedestrians and cyclists. Some commenters felt that the shared-use path on the Dunn Memorial Bridge is unattractive, citing the chain link fencing along the side of the path as one feature that detracts from the experience of using the path. (*Brennan, Daley*)

Response 2-15: NYSDOT intends to provide an aesthetically pleasing final design of the bridge, including the shared-use path, that also provides necessary components related to safety and security. The safety and security of all users of the bridge, including pedestrians and cyclists on the path and railroad passengers and employees, will require fencing, gates at the moveable span, and security lighting; NYSDOT will make these features as attractive as possible while ensuring safety and security criteria are achieved.

Comment 2-16: A commenter requested that sitting areas be included at the scenic overlooks on both ends of the moveable span. (*Schou*)

Response 2-16: The design of the Preferred Alternative includes scenic overlooks on the shared-use path on either side of the moveable (lift) span. These will serve both aesthetic and practical purposes, as they will provide space for users of the shared-use path to wait while the bridge is open for navigational purposes. The exact size and shape of these areas is yet to be determined.

Comment 2-17: A commenter suggested that the Project include an amenity at the level of the river, on the south side of the new bridge with access from the shared-use path. This amenity could be located on the piers or dolphins at both ends of the navigation channel beneath the new bridge's moveable span. It could include benches so that visitors could sit and view the river or fish in the river. This would be a valuable new way for residents to experience their region and the river beyond what the shared-use path can offer. (*Wing*)

Response 2-17: Given the tidal nature of the Hudson River, a lower-level amenity at any of the bridge piers would likely be subject to frequent flooding. Access to such an amenity by maintenance equipment and personnel, or to repair

the amenity after damage from storms, flood conditions, or vessel strikes would be costly and difficult to achieve. It would be difficult for NYSDOT to ensure that safety of visitors to such an amenity, particularly during storm or flood conditions, and with regard to the potential for vessel strikes on the bridge piers. Access to such an amenity would be cumbersome, requiring vertical circulation from the shared-use path; providing full accessibility in compliance with the Americans with Disabilities Act would be complex and potentially infeasible. For these reasons, NYSDOT will not be able to provide an amenity at the level of the river as part of the Project. Please note, however, that the shared use path will include scenic overlooks on the shared-use path on either side of the moveable (lift) span. These will serve an aesthetic purpose similar to the amenity suggested by the commenter.

Comment 2-18: The shared use path must connect to existing pathways on the east end of the bridge. The current waterfront pathway in Rensselaer must be extended north to connect to the proposed shared use path. As part of completing the Project, wayfinding signage should be installed indicating the connections to other destinations along the regional trails network and on the Empire State Trail and indicating the availability of nearby amenities for trail users, including restaurants, lodging, restrooms, and drinking water. The new connection should be designated the official route of the Empire State Trail, and NYSDOT should work with the NYS Office of Parks, Recreation and Historic Preservation to ensure that all Empire State Trail trailblazes are updated accordingly, and that all digital Empire State Trail promotional resources are appropriately updated. (*Dropkin*)

Response 2-18: NYSDOT recognizes the benefits of connecting the shared-use path to the network of bicycle and pedestrian infrastructure in Rensselaer. NYSDOT has incorporated a portion of the Rensselaer Riverfront Trail into the Project. The portion to be included in the Project will extend from the existing northern limit of the trail at DeLaet's Landing to a point just north of the Livingston Avenue Bridge. NYSDOT will construct the trail at the conclusion of the Project. NYSDOT will coordinate with the Office of Parks, Recreation and Historic Preservation regarding the potential for designating the shared-use path as the official route of the Empire State Trail after the shared-use path and the portion of the Rensselaer Riverfront Trail to be built as part of the Project are complete.

D.3.4 CHAPTER 3: TRANSPORTATION IMPACTS

Comment 3-1: A commenter proposed that the Project accommodate the Troy Rensselaer Albany Commuter (TRAC) service, which would restore a regional rail passenger service that would emulate the former "Belt Line" service provided by the mainline railroads to the Albany and Troy areas, using existing track from Troy to Rensselaer and across to Albany and Schenectady. This proposal would provide continuity of rail to Troy;

alleviate the problem of parking and deficiency in transit access to the present Albany-Rensselaer Amtrak station; foster transit-oriented development in South Troy; and restore rail service among the three core cities as well as Rensselaer. The commenter suggested that the Project should reserve an area at the Albany bridgehead for a station location for future regional rail passenger service, or at a minimum, preserve the future possibility of a station at this location. Such a location would serve the North Albany area and interchange with frequent bus service to Albany and Menands/Watervliet. With a rail spine between Schenectady, Albany and Troy, the urban cores would restore the access they once had and facilitate inter-core trips and access to the intercity rail hub at Rensselaer. (*Nelson*)

Response 3-1: The Project will reconstruct the Livingston Avenue Bridge and wye track, restore double-track service across the Livingston Avenue Bridge, and establish signal-controlled use of the wye track. These improvements could support a future project to restore passenger rail service between Troy, Albany, and Schenectady, such as the proposal cited by the commenter. The Project will not reserve space at the Albany bridgehead for a new station location, but it will preserve the future possibility of such a station, as several large sites will remain adjacent to the rail corridor near the Albany bridgehead after implementation of the Livingston Avenue Bridge Project. The Project will not preclude future implementation of the proposed commuter service in any way.

Comment 3-2: Section 3.4 – The City of Rensselaer would like to suggest that the No Action Alternative identify the continued lack of pedestrian and bicycle accessibility as a negative impact for that alternative. (*Stammel*)

Response 3-2: The Errata Sheet for the EA includes a revision to Section 3.4 of the EA to identify this adverse existing condition as part of the baseline conditions represented by the No Action Alternative.

D.3.5 CHAPTER 4: SOCIAL, ECONOMIC, AND ENVIRONMENTAL CONSIDERATIONS

LAND USE AND COMMUNITY CHARACTER

Comment 4-1: Why is replacement of the bridge going to require use of eminent domain and purchase of property? Will the Project displace any residential units or require the use of properties currently zoned or utilized for residential use? How will any displaced residents be accommodated to ensure that they will be able to obtain comparable or better housing within the community? (*Triolo*)

Response 4-1: The Project will require purchase of vacant, wooded property in Rensselaer to accommodate the location of the new bridge and shared-use path and for the realignment of the wye track. Easements on Amtrak property will also be required for the shared-use path alignment in

Rensselaer. In Albany, NYSDOT may acquire portions along the north side of the rail corridor that are no longer useful for rail purposes once the bridge is realigned. Section 4.2.5 of the EA notes that the Project will not displace any existing residential units, and no relocation of residents will occur with the Project. Some of the parcels that will be acquired in Rensselaer are part of the proposed Kiliaen's Landing development, a development that would include construction of new residential uses. FRA and NYSDOT have chosen Alternative 2 as the Preferred Alternative in part because it will result in less property acquisition from the Kiliaen's Landing site than Alternative 1. NYSDOT will coordinate with the City of Rensselaer and the team chosen to develop the site to minimize the encroachment on the Kiliaen's Landing site and ensure seamless connectivity with the proposed riverfront trail system.

Comment 4-2: Section 4.2.3.1.2 – The City of Rensselaer suggests the EA acknowledge that although providing a staging area on the Rensselaer side of the river will delay completion of the Rensselaer Riverfront Trail for several years, it will be beneficial to maintain the existing recreational activities at the Corning Preserve on the Albany side and will eventually provide a long-term benefit on the Rensselaer side through completion of the trail through the Project limits. (*Stammel*)

Response 4-2: NYSDOT acknowledges the benefits of providing a staging area in Rensselaer that are described by the commenter. Construction staging for the Project will be coordinated with the respective municipalities and ongoing projects in the vicinity.

Comment 4-3: Section 4.2.5 – The City of Rensselaer would like to see acknowledgement that NYSDOT intends to secure a permanent easement (or Use & Occupancy Permit) for the Rensselaer Riverfront Trail through the lands occupied by the Livingston Avenue Bridge as part of the Project. In addition, the City would like to see acknowledgement that any required trail canopy is incorporated into the bridge design and construction as part of the Project. (*Stammel*)

Response 4-3: NYSDOT will coordinate connections in the vicinity of the Project area to create a logical terminus for pedestrian and bicycle traffic utilizing the shared-use path.

Note that NYSDOT design specifications do not require a trail canopy, and one will not be included in the design.

CULTURAL RESOURCES

Comment 4-4: Commenters suggested that the historic bridge be preserved in place and given new use as a pedestrian and bicycle connection, or reused elsewhere in the state as a pedestrian and bicycle bridge. A commenter suggested that NYSDOT reach out to local municipalities to coordinate

on such an effort and to seek funding for preservation and reuse of the bridge. (*Harris, Marriott, Schneider*)

Response 4-4: Section 2.3.3 of the EA describes Project alternatives that would preserve the historic bridge in place. FRA and NYSDOT determined that this would not be feasible, as any replacement alternatives that would tie into existing bridge approaches (i.e., Build Alternatives 1 and 2) would not allow the existing bridge to remain in place, as the existing swing span would not have enough clearance to remain open for river traffic. FRA and NYSDOT considered several alternative alignments for the new bridge that would allow the existing bridge to remain in place and found that they would fail to meet certain Project goals and objectives; increase Project cost; require extensive property acquisition; and have greater environmental, social, and construction impacts. In addition, such an alternative would not necessarily avoid adverse effects to the historic bridge or allow the bridge to be used as a bicycle and pedestrian crossing. The bridge could remain in place for future non-rail use, such as recreation or tourism, but the deteriorated components would need to be replaced or rehabilitated to meet safety requirements. As such, the historic integrity of the bridge could be compromised. FRA and NYSDOT would need to transfer the bridge to a new owner who would be responsible for maintaining the structure. The U.S. Coast Guard may require the swing span to remain in the open position to accommodate river vessels, which would limit the practicality of maintaining the bridge for some alternative functional use, such as a bicycle and pedestrian connection. For these reasons, FRA and NYSDOT have concluded that retaining the existing bridge is not feasible.

FRA, NYSDOT, and the New York State Historic Preservation Office (SHPO) have completed a Memorandum of Agreement (MOA) in accordance with Section 106 of the National Historic Preservation Act that details measures that NYSDOT will take to address the loss of the Livingston Avenue Bridge. The MOA includes a requirement that NYSDOT actively seek new ownership of the Livingston Avenue Bridge for adaptive reuse or partial reuse at a new location. Accordingly, NYSDOT undertook marketing efforts for the bridge in coordination with publication of the EA. These marketing efforts consisted of a combination of print and web-based ads that included an advertisement in the Albany *Times-Union*, a local newspaper of record, for 14 days and an announcement posted on the internet for 2 months. NYSDOT only considered viable offers that were consistent with the MOA stipulations. The MOA stipulates that if ownership of the bridge were to be transferred for reuse, the transfer deed would include a preservation covenant that requires the new owner to retain the feature intact for a specified period of time. However, NYSDOT did not receive any offers of new ownership.

The Preferred Alternative features a shared-use path for use by pedestrians and cyclists.

Comment 4-5: Commenters suggested that if the bridge cannot be reused in its entirety, either in-place or at a new location, that its components be reused for cultural or artistic purposes. One commenter proposed reuse of the bridge elements to design a gateway, trellis, faux truss, or art sculpture on each end of the new bridge, or along connecting local trails. Such a project could involve the community by soliciting submissions to a design competition for New York residents including artists, college students, ironworkers, and other makers. The resulting artwork could be lit at night for all to enjoy. (*A. Becker, Schneider*)

Response 4-5: NYSDOT will evaluate the feasibility of reuse for artistic purposes as part of final design.

Comment 4-6: The City of Rensselaer is supportive of the interpretive sign and agrees to take over the maintenance responsibility for it. We would like to suggest that the location be designed into the area where the multi-use path from the bridge ties into the Rensselaer Riverfront Trail as this is envisioned to be a gathering/meeting space for years to come. (*Stammel*)

Response 4-6: NYSDOT is committed to working with the City of Rensselaer during final design regarding the details of the design of the shared-use path and signage.

VISUAL RESOURCES AND AESTHETIC CONSIDERATIONS

Comment 4-7: The new bridge will be a centerpiece of the Albany skyline and its visual identity for a century. Thus, it is critical the bridge is as attractive as possible as it will be a prominent feature of marketing material, regional branding, and surely thousands of photos taken each year by residents and visitors. This is a bridge that NYSDOT can point to as a beautiful success story. Let's make sure it will look as good as its price-tag should command. (*Daley*)

Response 4-7: NYSDOT intends to provide an aesthetically pleasing final design of the bridge while ensuring the bridge meets the established design criteria and safety and security criteria. The visual characteristics of the new bridge are established by the Section 106 MOA, which includes a requirement that the new bridge be a truss bridge that incorporates key visual elements relating to the existing Livingston Avenue Bridge, the pulley housing and operator's building. These design elements are required by the SHPO as mitigation for the removal of the existing historic bridge. In addition, the Project will provide an enhancement for visual resources by providing new scenic overlooks of the Hudson River from the shared-use pathway on the new bridge.

WATER RESOURCES

Comment 4-8: The EA did not mention the required Section 408 review required for work in/affecting federal navigation channel. (*USACE-Delorier*)

Response 4-8: Exhibit S-3 of the EA states that NYSDOT will acquire and adhere to all requirements and conditions associated with the permits and approvals for the Project, including the USCG Section 9 and USACE Section 10/404 and Section 408 permits. Section 2.6 of the EA identifies the USACE Section 408 Permit in the list of potential permits and approvals required for the Project. The Errata Sheet for the EA notes that Sections 3.3.2, 3.5.2, and 4.7.6 of the EA should include reference to a need for permits in accordance with Section 14 of the Rivers and Harbors Act and Section 408.

Comment 4-9: The USACE considers the entire length of the Hudson River as a navigable waterway subject to Section 10 of the Rivers and Harbors Act (so all the way up to its source). The EA mentioned it's only navigable to the Troy Dam, so I'd recommend qualifying what that statement means. (*USACE-Delorier*)

Response 4-9: The Errata Sheet for the EA includes a revision to Section 3.3.2 of the EA to indicate that the Hudson River is navigable from the Battery in Manhattan to its source in the Adirondack Mountains.

Comment 4-10: It was noted that an ephemeral stream may be in the work area and that it may not be jurisdictional. That appears to meet an old definition of waters of the United States that is no longer in place. If it is actually ephemeral, it would either be presumed jurisdictional (if no jurisdictional determination [JD] or a preliminary JD is requested), or a significant nexus evaluation on the waterway reach would be needed to determine if it jurisdictional through an approved JD. (*USACE-Delorier*)

Response 4-10: Section 4.7.3.3.1 states that the FRA and NYSDOT will consider the ephemeral stream as jurisdictional Waters of the United States for permitting purposes.

Comment 4-11: Make sure that temporary and permanent impacts to waters of the United States will be addressed. (*USACE-Delorier*)

Response 4-11: The EA evaluates permanent impacts to waters of the United States in Section 4.7.5 and temporary impacts in Section 4.16.8.

GENERAL ECOLOGY AND WILDLIFE RESOURCES

Comment 4-12: USEPA appreciates coordination with various agencies including U.S. Fish and Wildlife Service, National Marine Fisheries Service and NYS Department of Environmental Conservation on the evaluation of wildlife

and terrestrial and aquatic resources. We commend implementation of time-of-year considerations to minimize any potential impacts to endangered, threatened or species of special concern.

USEPA recommends that the Final EA explain any potential measures to be implemented to minimize impacts to the various species and aquatic resources particularly during the construction phase, especially during the installation of bridge piers or other structural components which may include the need for vibration attenuation measures. (*USEPA-Austin*)

Response 4-12: Exhibits S-3 and S-4 of the EA describe mitigation measures that have been developed for operational and construction period effects to ecology and wildlife, and Section 4.16.9 provides a narrative discussion of the various measures that will be put in place during the construction period to minimize and mitigate effects on these resources. Exhibit 4 of the FONSI also provides a detailed description of mitigation measures.

AIR QUALITY

Comment 4-13: USEPA commented that the Project is within the New York-New Jersey-Long Island non-attainment area for the ozone National Ambient Air Quality Standard and maintenance area for the fine particulate matter standard. Any federal action within a non-attainment or maintenance area must undergo a general conformity applicability analysis (see 40 CFR 93.153) to ensure that the action will not (1) cause or contribute to any new violation of any air quality standard, (2) increase the frequency or severity of any existing violation of any air quality standard, or (3) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The Livingston Avenue Bridge Replacement Project DEA concludes that general conformity de minimis thresholds will not be exceeded during the construction phase of the Project; however, it does not provide any supporting information. FRA indicates that this conclusion was based on an analysis for the Portal Bridge Capacity Enhancement Project Final EIS using estimates based on emissions per dollar value of construction. USEPA does not agree with the use of dollar value of construction as a surrogate for emissions for a project of this size, cost, and construction duration.

This DEA should account for emissions from the construction equipment, dredging equipment and activities associated with the disposal of dredged material, increase in truck traffic through community, idling of construction equipment, and barge/tugboat activity.

We encourage FRA to commit to using clean diesel or low- or zero-emission equipment to reduce the emissions impact of the Project on nearby communities. (*USEPA-Austin*)

Response 4-13: Please see **Attachment F**, "General Conformity and Greenhouse Gas Analysis." In response to this comment, FRA and NYSDOT quantitatively

analyzed the Project's direct and indirect construction emissions and documented the results. The analysis shows that emissions associated with the Project's construction would be well below any of the *de minimis* levels specified in 40 CFR §93.153(b). Therefore, a conformity determination is not warranted.

Note that the Project is not within the New York-New Jersey-Long Island non-attainment area; it is within the Albany-Schenectady-Troy "orphan" non-attainment area for the revoked 1997 ozone standard.

Section 105-03 of the NYSDOT Standard Specifications, which apply to the Project, requires the use of ultra-low-sulfur diesel and low-emission equipment, and Section 107-11 of the standard specifications requires measures to control exposure to diesel exhaust.

ENERGY AND GREENHOUSE GAS EMISSIONS

Comment 4-14: The USEPA commented that the DEA states that detailed energy and greenhouse gas (GHG) analyses are only performed for regionally important projects. As it was determined that the Project is not regionally important, the DEA does not incorporate a thorough discussion of GHG emissions. Executive Order 13990 (E.O. 13990, 86 FR 7037; January 20, 2021) urges agencies to "consider all available tools and resources in assessing GHG emissions and climate change effects of their proposed actions, including as appropriate and relevant, the 2016 GHG Guidance". While USEPA acknowledges the policies referenced in Section 4.11.12, we urge FRA to expand the current discussion of impacts of the build alternatives to disclose the direct and indirect emissions associated with construction and operations. Estimated emissions serve as a useful proxy for assessing effects and comparing alternatives. Useful tools that can be applied to estimate GHG emissions can be found at https://ceq.doe.gov/guidance/ghg-accounting-tools.html.

The DEA indicates that there will be emissions associated with construction, but these emissions would be offset over the lifetime of the Project by increased efficiencies, newer equipment and reduction of emissions due to improving passage of boats beneath the bridge. Given the lack of quantitative information on GHG emissions provided, it is not clear how this determination was reached. Consistent with the previous comment, USEPA reiterates our recommendation to disclose GHG emissions quantitatively in the Final EA to further support these claims.

Additionally, Section 4.11.6 does not consider GHG emissions associated with construction of the bridge. GHG Emissions should be added to Table S-4, Summary of Temporary Construction-Period Impacts and Mitigation as section 4.11.5 explicitly indicates that there will be direct and indirect emissions associated with construction. (*USEPA-Austin*)

Response 4-14: Please see **Attachment F**, "General Conformity and Greenhouse Gas Analysis." In response to this comment, FRA and NYSDOT quantitatively

analyzed the Project's greenhouse gas emissions and energy consumption and documented the results. The analysis concludes that the Project would be consistent with the long-term federal and state goals of reducing GHG emissions.

Comment 4-15: The acceleration to achieve increased speed over the proposed bridge will burn more diesel fuel into CO_2. (*Marriott*)

Response 4-15: The Project will increase speeds over the Livingston Avenue Bridge from 15 mph to 35 mph for freight trains and 40 mph for passenger trains. As discussed in Section 4.11.5 of the EA, the ability to increase speed across the bridge could result in increased fuel used to power locomotives, and therefore, increased energy use and greenhouse gas emissions. However, the new bridge would substantially improve the reliability of the freight rail network, and freight rail is a much more efficient mode of transport than trucks or barges. A shift in the mode of transport from truck or barge to rail would likely represent reduced net energy use and greenhouse gas emissions. Overall, any changes in fuel consumption associated with the Build Alternatives would be small but beneficial.

Comment 4-16: Section 4.11.1 of the DEA references that FRA and NYSDOT considered Project resilience and the ability of the new infrastructure to withstand the impacts of future severe weather events. We were not able to identify this evaluation, or any discussion related to infrastructure resiliency in the DEA. Please rectify this discrepancy.

USEPA recommends that the DEA include a discussion of reasonably foreseeable effects that changes in the climate (for instance, sea level rise or increased precipitation) may have on the proposed Project and the Project area. This could help inform the development of measures to improve the resilience of the proposed Project. Climate change can make ecosystems, resources and communities more susceptible as well as lessen resilience to other environmental impacts apart from climate change. In some instances, this may exacerbate the environmental effects of the proposed action. If projected changes could notably exacerbate the environmental impacts of the Project, we recommend these impacts also be considered as part of the NEPA analysis. (*USEPA-Austin*)

Does the current proposed design of the new bridge take global warming climate induced sea-level rise into account, as the Hudson River is a tidal estuary to the federal lock in Troy? Studies predict that in a worst-case scenario that sea levels could rise by the end of this century by as much as seven feet, with a two-foot rise being the likely scenario if carbon emissions by human civilization are greatly reduced. Now even a seven-foot rise with the planned 25-foot vertical clearance above the water (same as the existing bridge) of the fixed spans would still leave over 15-foot of clearance, although the design of the piers should take this range of sea-level rise into account. However, this would be an issue for the

movable lift-span over the navigation channel. While the EA stated that the planned 60-foot vertical clearance of the planned lift span when open matched that of the bridges adjacent to the north and south, these highway bridges (which are less heavily built than railroad bridges and consequently have shorter service lives) and are likely to be replaced in the next several decades, and as such they will likely take sea-level rise into account for navigational clearance. I will also note that the vertical clearances for the bridges south of Albany are all well over 100 feet. It is therefore my opinion that a 70-foot vertical clearance for the lift span over the navigational channel would ensure that maritime shipping would not be adversely affected by even dramatic sea-level rise. (*Turon*)

Response 4-16: As presented in the Navigation Study included in Appendix D to the EA, the proposed replacement bridge structure requires a nominal 2-foot raise in the profile grade to accommodate the deeper structure required for larger trains and maintain the existing closed vertical clearance. Increasing the closed vertical clearance of the bridge would require an additional increase in the profile of the bridge, and therefore, increased height in the approach tracks connecting to the bridge on both sides of the Hudson River. Given the proximity of overhead obstructions in Albany and the Amtrak station in Rensselaer, any increase in profile beyond the 2-foot raise resulting from an increased bridge height was determined not to be feasible.

The Livingston Avenue Bridge design criteria include a design life of 100 years. Design calculations, specifications and material choices will be driven by the 100-year design lifespan criterion and will incorporate sea-level rise projections for the full design lifespan. 6 NYCRR Part 490 establishes projected sea-level rise within specific geographic regions of New York. In the mid-Hudson region, where the Project is located, projected sea level rise for the 2100s ranges from 11 inches to 71 inches. The new bridge foundations would not be affected by this projected sea level rise and the tracks would remain well above the water elevation. A review of the vessel data collected for the Navigation Study included in Appendix D to the EA shows that a 60-foot vertical clearance provides greater clearance than even the largest identified vessel requires. Even with a 71-inch increase due to sea level rise, there would be sufficient separation between mean high water and the bottom of the bridge to allow vessels to pass.

NYSDOT will continue to consider design elements that could add resiliency to the bridge during final design.

CONTAMINATED MATERIALS

Comment 4-17: USEPA notes that it is estimated that more than 90,000 bridges in the US are coated with lead paint (See Federal Highway Administration's Publication No. FHWA-RD-98-18, Lead Abatement on Bridges and Steel Structures), which may be mobilized during demolition and constitute a

source of exposure for workers and the adjacent community. USEPA recommends the Final EA address the potential exposure to lead in ambient dust that may result from demolition of the current bridge. This should include a discussion of containment and mitigation measures should lead-based paint be encountered. (*USEPA-Austin*)

Response 4-17: NYSDOT's lead paint standard is referenced in Section 4.16.13 of the EA. NYSDOT will ensure that construction is performed in accordance with Occupational Safety and Health Administration (OSHA) lead regulation (29 CFR 1926.62) and NYSDOT Standard Specifications, including Section 202 Demolition of Buildings and Structures, Section 570 Paint Removal Operations, and Section 571 Disposal of Paint Removal Waste. NYSDOT will ensure that the construction contractor will prepare a written Lead-Exposure Control Plan (LECP), with worker exposure assessment and engineering and work practice controls. NYSDOT will require the Project contractor to prepare a Demolition Plan detailing means and methods to control dust, contain and collect paint waste, and protect the environment from contamination.

Comment 4-18: Further discussion of demolition best management practices should be included in the Final EA. Possible plans to mitigate impacts of debris or hazardous dust released during demolition should be described. (*USEPA-Austin*)

Response 4-18: During final design, NYSDOT will require the Project contractor to prepare a Demolition Plan containing details of best management practices to be incorporated into Project construction. These best management practices may include environmental ground protection, environmental water protection, plans to contain and collect paint waste, dust control methods, and containment systems (such as cover panels, screens, tarps, scaffolds, supports, and shrouds). The types of protection will depend on the Project means and methods, such as the use of hydraulic shears or torch cutting.

Comment 4-19: USEPA would like the parties involved to be aware and consider that the Project is located (in part) within the National Priorities List (NPL) Hudson River PCBs Superfund Site which spans 200 miles of river between Hudson Falls and the Battery in New York City. As required by USEPA, General Electric (GE) is conducting ongoing extensive monitoring of fish, sediment, and water in the Hudson River. GE is also conducting investigations in the Upper Hudson River floodplain from Hudson Falls to the Federal Dam at Troy. PCBs and potential other contaminants are present throughout the Hudson River Superfund site. USEPA is overseeing all of GE's work. The New York State Environmental Conservation (NYSDEC) also conducts sampling in the Hudson River. USEPA is coordinating its work with NYSDEC.

Accordingly, any disturbance of the river bottom sediments or floodplain soils associated with the work should include the following:

- Appropriate sampling (as applicable) of sediment, soil, and/or water. Sampling may be needed prior to, during and/or following the work.
- Controls and Best Management Practices (BMPs) to prevent or minimize resuspension of contaminated sediment (including potential river resuspension monitoring during the work).
- Controls and BMPs to prevent or minimize floodplain soils from entering the river.
- Handling and disposal of any dredged materials or floodplain soils in accordance with the appropriate regulatory standards and pursuant to the conditions of any permits issued for the Project.

Environmental samples collected associated with any phase of the Project should be provided to USEPA following quality assurance/quality control (QA/QC) review. USEPA requests that advance notice be provided regarding the schedule of the proposed work, or any changes to the schedule of the proposed work, in part to ensure that such work does not conflict with the ongoing work being conducted under USEPA authority. Also please provide USEPA copies of documents relevant to the items mentioned above. (*USEPA-Austin*)

Response 4-19: Comment noted. The EA describes the presence of PCB contamination in the Hudson River and the river's listing on the NPL in Sections 4.7.3.2 and 4.14.3, and the analysis throughout the EA incorporates this information, where relevant. Section 4.16.13 notes that during construction, to prevent potential resuspension of PCBs or other sediment contaminants in the Hudson River during the installation of the bridge piers, dredged material would be collected onto a barge, dewatered, and then transported for disposal in compliance with applicable regulations. Dewatering effluent would be treated in accordance with NYSDEC requirements prior to being discharged back to the river.

NYSDOT is in the process of performing preliminary environmental sampling concurrently with geotechnical sampling, and the results of the preliminary sampling will be provided to USEPA. Additional sampling will likely be required during final design or before construction begins. NYSDOT will submit work plans for future environmental sampling to NYSDEC prior to undertaking the sampling work.

SAFETY AND SECURITY

Comment 4-20: Section 4.15.5.1 – The City of Rensselaer acknowledges the width of the multi-use path on the bridge as 12 feet, but would like to note that the Rensselaer Riverfront Trail is and will continue to be 10 feet wide; therefore, the Department may want to maintain the 12-foot width of the connector trail rather than widen it out to 14 feet on the Rensselaer side. (*Stammel*)

Response 4-20: Comment noted. NYSDOT will maintain a 14-foot width for the connector trail to conform with the American Association of State Highway and

Transportation Officials (AASHTO) Guide for the Development of Pedestrian Facilities and the Americans with Disabilities Act.

Comment 4-21: Not maintaining the walkway on the current bridge has created an unsafe avenue for people to still go across the bridge. One of the biggest problems we have is people still crossing the bridge along the railway tracks. This condition needs to be addressed. (*Stammel*)

Response 4-21: FRA and NYSDOT recognize the safety concern related to individuals trespassing on the existing bridge, which is closed to pedestrian traffic. The Project will address this condition by replacing the existing bridge with a new bridge that will include a safe, modern shared-use path designated for use by pedestrians and cyclists. As described in Section 2.4.2.9 of the EA, the shared-use path would have a bicycle-height railing on the outboard side and a pedestrian security fence and bicycle-height railing on the inboard side to prevent unauthorized access from the walkway onto the railroad tracks.

CONSTRUCTION IMPACTS

Comment 4-22: USEPA encourages FRA to use green construction practices whenever possible including recycling of construction material for both use and disposal, environmentally friendly landscaping, green infrastructure and incorporation of energy-efficient technologies. (*USEPA-Austin*)

Response 4-22: FRA and NYSDOT are committed to using green construction practices. The existing bridge will be recycled and reused to the fullest extent practical. In order to reduce diesel emissions, the contractor will be required to use Ultra Low Sulfur Diesel fuel in all non-road diesel construction equipment. Landscaping will include the use of low-maintenance native plant material. Green infrastructure techniques will be used to manage and treat stormwater and maintain natural hydrology and ecological function by infiltration, capture and reuse of stormwater, and establishment of natural vegetative features.

INDIRECT AND CUMULATIVE IMPACTS

Comment 4-23: The CEQ NEPA regulations (Section 1508.1 (g)) effective as of May 2022 define effects or impacts to mean “changes to the human environment from the proposed action or alternatives that are reasonably foreseeable.” This definition includes cumulative effects, which are “effects on the environment that result from the incremental effects of the action when added to the effects of other past, present and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such actions.”

Section 4.17 discusses additional development planned for the Rensselaer side of the river. Section 4.16 explains that one of the

properties to be developed would act as a staging area for construction during implementation of the preferred alternative if available for the duration of the Project construction. Coordination with the City of Rensselaer on the timing of this development should be continued so impacts from alternative staging areas can be minimized if necessary. (*USEPA-Austin*)

Response 4-23: Comment noted. NYSDOT continues to coordinate with the City of Rensselaer with regard to the referenced project (the Kiliaen's Landing development) to ensure that impacts from construction staging are minimized.

D.3.6 CHAPTER 5: ENVIRONMENTAL JUSTICE

Comment 5-1: The Council on Environmental Quality, which oversees implementation of the National Environmental Policy Act, has promulgated a guidance document to assist agencies in implementing environmental justice principles (See Environmental Justice Guidance under the National Environmental Policy Act, Council on Environmental Quality, December 10, 1997).

USEPA commends NYSDOT and FRA for conducting targeted outreach to the nearby communities. It is suggested that communication continue throughout project development and implementation to ensure that there are no adverse impacts to these nearby communities.

The report indicates "Although environmental justice communities are located on both sides of the bridge, the Project would not result in construction impacts on these communities which would be buffered from construction as stated above, and therefore, there would not be disproportionately high and adverse effects on environmental justice populations from the Project's construction." Descriptions of impacts in Section 4.16.4.3 – street closures, relocation of pedestrian walkways and paths as well as the vibrations from dredging and boring activities should be discussed in the EJ Section along with planned mitigation methods. Additionally changes in traffic patterns could reroute traffic through nearby communities, potential impacts to the affected communities should be discussed.

- Noise and vibration effects on communities with EJ concerns:
  - Noise pollution has been directly linked to health effects. Problems related to noise include stress-related illnesses, high blood pressure, speech interference, hearing loss, sleep disruption, and lost productivity (USEPA's Noise Effects Handbook, 1991). Discussion of the noise assessment conducted in Appendix B-3 should be included in the text of the EA to further support the statement that "Project would not result in construction impacts on these communities which would be buffered from construction."

  - Although the evaluation for the build alternatives concluded that there would be no impacts from noise and vibration to nearby receptors, noise levels are above thresholds for moderate impacts and in some cases severe impacts. Further discussion of how additional mitigation could be incorporated into the design should be included. Community feedback on the existing noise could be solicited for further consideration of actual impacts and future potential solutions.

- Linguistic Isolation within communities with EJ concerns:
  - USEPA recommends that translation services be made available in languages other than English to engage linguistically isolated populations. This should not be restricted to a translation request process prior to the meeting. (*USEPA-Austin*)

Response 5-1: The environmental justice analysis was prepared in accordance with the referenced CEQ guidance, as discussed in Section 5.1 of the EA. The Errata Sheet for the EA includes a revision to Section 5.5. of the EA to include information about street closures and construction noise that are relevant to the environmental justice analysis.

NYSDOT recognizes and supports the recommendation of translation services. New York State's language access policy requires Executive State agencies that provide direct public services to offer interpretation services in the language requested and provide important forms and documents in at least the top 12 most commonly spoken languages in New York State, in addition to English. This helps the State to overcome language barriers to public services and programs for people with Limited English Proficiency. At this time, the top twelve languages are Spanish, Chinese, Russian, Yiddish, Bengali, Korean, Haitian Creole, Italian, Arabic, Polish, French, and Urdu. NYSDOT offers language assistance services (live translation and interpretation that can be accessed on-demand without the need to make an appointment or prior request) to people with Limited English Proficiency.

Comment 5-2: I want to commend the environmental justice review that is contained in this document. I live in the environmental justice area that was studied, so it was of particular interest to me, and I think it addressed the concerns that residents would have. The analysis provides an opportunity for local elected officials to speak with our residents about their concerns and how they've been addressed. We truly appreciate that. (*Sheehan*)

Response 5-2: Comment noted.

D.3.7 CHAPTER 7: AGENCY COORDINATION AND PUBLIC INVOLVEMENT

Comment 7-1: The DEA discusses prior outreach conducted with Saint Regis Mohawk Tribe, the Stockbridge Munsee Community Band of Mohicans, and the Delaware Tribe. USEPA recommends continued outreach to the Indian Nations and notes that they were not listed as stakeholders in the Public

Involvement Plan. Notification as discussed on page 4-15 of Chapter 4 should be added to the Plan. (*USEPA-Austin*)

Response 7-1: FRA and NYSDOT note this omission from the Public Involvement Plan, and the Errata Sheet for the EA includes a revision to Appendix B-8 of the EA to identify these stakeholders. As noted by the commenter, the EA documents outreach to Native American tribes. FRA and NYSDOT are committed to continued outreach to tribes, and the MOA provides for ongoing coordination with tribes related to their areas of interest.

Comment 7-2: Commenters noted that documents, presentations, and other materials provided on the Project website and at the in-person public informational meeting held on June 1, 2022 were informative and easy to understand. A commenter thanked NYSDOT for holding the public informational meetings with the community and noted that such public engagement is very important to the community. (*Prophet, Sheehan, Stammel*)

Response 7-2: Comment noted.

Comment 7-3: A commenter requested that NYSDOT regularly update the Project website, add the Project to the State TIP and the Capital District TIP, publish a schedule and budget for the Project, and inform the public and legislative leaders which USDOT discretionary grant programs it will seek funding from. This will help prove to New Yorkers that NYSDOT can successfully complete the final design, seek desired federal construction funding, and award a construction contract. (*Strauss*)

Response 7-3: Comment noted. Section 2.4.2.11 of the EA provides information regarding the Project cost; Sections 1.7 and 4.16.3 provide preliminary information about the Project schedule. NYSDOT will continue to engage the public and provide information about Project cost and schedule as the project progresses through final design and construction. For New York State funded projects, NYSDOT apportions funding through the Passenger & Freight Rail Assistance Program (PFRAP), which distributes funding to projects through competitive grants. Federally funded projects are also selected for funding by FRA through competitive grants. Given these parameters, identifying specific projects that will be chosen to receive funding in advance of State and Federal Grant programs is not possible.

✴

Attachment E
Comments Received on the EA

Elected Officials

Council Members Adams, Balarin, Farrell, Hoey, Keegan, Zamer, Kimbrough, Love and Flynn introduced the following:

RESOLUTION 61.61.22R

A RESOLUTION OF THE COMMON COUNCIL OF THE CITY OF ALBANY IN SUPPORT OF THE INCLUSION OF MULTIMODAL ACCESS TO THE LIVINGSTON AVENUE BRIDGE AND CONNECTION OF THE LIVINGSTON AVENUE BRIDGE TO THE ALBANY SKYWAY

WHEREAS, the Livingston Avenue Bridge was constructed in 1902 with a pedestrian walkway that provided access to both sides of the Hudson River allowing people to cross on foot between the Cities of Albany and Rensselaer; and

WHEREAS, multimodal access to the Livingston Avenue Bridge has been closed for decades due to a lack of investment that lead to unsafe conditions for pedestrians and cyclists; and

WHEREAS, the City of Albany has affirmed its support for the reconstruction of the Livingston Avenue Bridge and the inclusion of pedestrian and cyclist access with the project in the Albany 2030 Comprehensive Plan and Albany Bicycle Master Plan; and

WHEREAS, the Capital Region Transportation Plan has included rehabilitating the Livingston Avenue Bridge, emphasizing the need for multimodal access to the Livingston Avenue Bridge; and

WHEREAS, numerous studies have supported the inclusion of multimodal access to the Livingston Avenue Bridge crossing; and

WHEREAS, the inclusion of multimodal access to the Livingston Avenue Bridge would enhance travel, tourism, and trail connection for communities on both sides of the Hudson River; and

WHEREAS, the Albany Common Council supported the rebuilding of the Livingston Avenue Bridge and the inclusion of multimodal access in 2014; and

WHEREAS, the current proposal from the New York State Department of Transportation includes multimodal access to the Livingston Avenue Bridge; and

WHEREAS, the current proposal from the New York State Department of Transportation connects multimodal access to the Livingston Avenue Bridge to the Albany Skyway;

NOW, THEREFORE, BE IT RESOLVED, that the Albany Common Council supports the current plan to invest in the Livingston Avenue Bridge and provide improved access for rail, pedestrians, and cyclists; and

BE IT FURTHER RESOLVED, that the Albany Common Council emphasizes the need for multimodal access that provides inclusive access for pedestrians and cyclists, including those with mobility impairments, to remain within the Livingston Avenue Bridge project; and

BE IT FURTHER RESOLVED, that the Albany Common Council supports connecting the Livingston Avenue Bridge to the Albany Skyway; and

BE IT FURTHER RESOLVED, that this resolution be sent to Governor Kathy Hochul; the New York State Department of Transportation Office of Design; Assemblyman William Magnarelli, Assembly Transportation Committee Chair; Assemblywoman Patricia Fahy; Assemblyman John McDonald; Senator Timothy Kennedy, Senate Transportation Committee Chair; Congressman Paul Tonko; Senator Charles Schumer; and Senator Kirsten Gillibrand.

To: **Danielle Gillespie, City Clerk**

From: **Council Member Meghan Keegan, 9th Ward**
John-Raphael Pichardo, Esq., Research Counsel

Re: **Common Council Legislation**
Supporting Memorandum

Date: **May 23, 2022**

SPONSOR **Council Members Keegan, Adams, Balarin, Farrell, Hoey, and Zamer**

RESOLUTION NUMBER 61.61.22R

TITLE
A RESOLUTION OF THE COMMON COUNCIL OF THE CITY OF ALBANY EXPRESSING ITS SUPPORT OF THE INCLUSION OF MULTIMODAL ACCESS TO THE LIVINGSTON AVENUE BRIDGE AND CONNECTION OF THE LIVINGSTON AVENUE BRIDGE TO THE ALBANY SKYWAY

GENERAL PURPOSE OF LEGISLATION
Expressing support for the inclusion of multimodal access to the Livingston Avenue Bridge and connection of the bridge to the Albany Skyway.

FISCAL IMPACT(S)
None.

MICHAEL STAMMEL
MAYOR

CITY OF RENSSELAER

OFFICE OF THE MAYOR
CITY HALL
62 WASHINGTON STREET
RENSSELAER, NEW YORK 12144

(518) 462-9511
Fax: (518) 462-9895

May 27, 2022

Mr. Mark Jakubiak
Project Manager
NYSDOT Main Office Rail Projects Group
50 Wolf Road, POD 2-4
Albany, NY 12232

RE: Livingston Avenue Bridge Project (PIN1935.49) – Comments on EA

Dear Mark,

The City of Rensselaer would like to thank the New York State Department of Transportation for continuing to coordinate with the City on the Livingston Avenue Bridge Replacement project. As noted in the Environmental Assessment (EA) and discussed as part of our ongoing meetings, although the bridge replacement project will have impacts to our Rensselaer Riverfront Multi-Use Trail (PIN 1760.84) project (currently under design and ROW incidentals/acquisitions), with careful coordination the project could also be a tremendous benefit to the City. Please accept the following comments as part of the record:

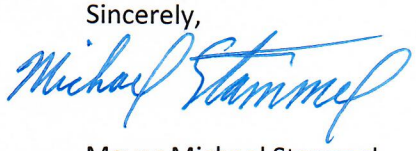
1) **Executive Summary –** the City is pleased to acknowledge the Department's commitment to the pedestrian and bicycle connections facilitated by this project. The City wholeheartedly supports the inclusion of the multi-use path alongside the new bridge and also the scenic overlooks at the junctions with the lift span for instances when the connection must be lifted. In addition, the City supports the Department's designation of Alternate 2 as the preferred alternative.
2) **Project Purpose & Need –** The City of Rensselaer would like to suggest consideration be given to formalizing the re-establishment of the pedestrian and bicycle connection between the two cities as an objective of the project. Historically, the Livingston Avenue Bridge had provided this connection but it has been lost through time with a lack of proper maintenance. The City cannot stress enough how important this vital non-motorized link between the two cities is to the success of the project.
3) **Draft Section 106 MOA –** The City is supportive of the interpretive sign and agrees to take over the maintenance responsibility for it. We would like to suggest that the location be designed into the area where the multi-use path from the bridge ties into the Rensselaer Riverfront Trail as this is envisioned to be a gathering/meeting space for years to come.
4) **Section 3.4 –** The City would like to suggest that the No Action Alternative identify the continued lack of pedestrian and bicycle accessibility be identified as a negative Impact for that alternative.
5) **Section 3.5.5 –** Since the City is coordinating with the NYSDOT and agreeing to delay the completion of the Rensselaer Riverfront Trail until after the completion of the Livingston Avenue

Bridge Project, the City would like to see the EA formally include the completion of the Trail through the Project Limits (DeLaet's Landing to Tracy Street) as part of the construction. As the Contractor will have disturbed the majority of this area and would be mobilized to easily complete this minor construction as part of the restoration of the area it would be a minor addition to the overall bridge project. Building the trail at the conclusion of the Bridge project would also help keep pedestrians and bicyclists from accessing the construction area should the City continue with current plans to extend the existing trail towards the bridge.

6) **Section 4.2.3.1.2 –** The City suggests the EA acknowledge that although providing a staging area on the Rensselaer side of the river will delay completion of the Rensselaer Riverfront Trail for several years, it will be beneficial to maintain the existing recreational activities at the Corning Preserve on the Albany side and will eventually provide a long-term benefit on the Rensselaer side through completion of the trail through the project limits.
7) **Section 4.2.5 –** The City would like to see acknowledgement the NYSDOT intends to secure a permanent easement (or Use & Occupancy Permit) for the Rensselaer Riverfront Trail through the lands occupied by the Livingston Avenue Bridge as part of this project. In addition, the City would like to see acknowledgement of any required trail canopy is incorporated into the bridge design and construction as part of this project.
8) **Section 4.15.5.1 –** The City acknowledges the width of the multi-use path on the bridge as 12 feet, but would like to note that the Rensselaer Riverfront Trail is and will continue to be 10 feet wide; therefore, the Department may want to maintain the 12 foot width of the connector trail rather than widen it out to 14 feet on the Rensselaer side.

With this coordination and mitigation in place, the City would like to offer our full support to the project as this coordination would eliminate any permanent negative environmental effects in the City of Rensselaer. We sincerely appreciate the opportunity to partner on this exciting, once in a lifetime project and look forward to its successful completion.

Sincerely,



Mayor Michael Stammel

Cc: Ketura Vics, Planning Director
William Smart, City Engineer
Tony Christian, Creighton Manning

Government Agencies

From: Delorier, Christine CIV USARMY CENAN (USA) <>
Sent: Monday, June 6, 2022 10:54 AM
To: Jakubiak, Mark (DOT) <Mark.Jakubiak@dot.ny.gov>
Subject: RE: Livingston Avenue Bridge Notice of Public Hearing and Notice of Availability of Environmental Assessment

Thank you for the reminders Mark. Wished I could have participated in the one of the meetings. So busy here as usual.
Hope they went well, and please let me know if you need anything from us as you progress this project.
I never received the full draft EA; only the beginning portion.
I did want to be sure to point out the following:

1. It did not mention the required Section 408 review required for work in/affecting federal navigation channel.
2. The USACE considers the entire length of the Hudson River as a navigable waterway subject to Section 10 of the Rivers and Harbors Act (so all the way up to it's source). The EA mentioned it's only navigable to the Troy Dam, so I'd recommend qualifying what that statement means.
3. It was noted that an ephemeral stream may be in the work area and that it may not be jurisdictional. That appears to meet an old definition of waters of the United States that is no longer in place. If it is actually ephemeral, it would either be presumed jurisdictional (if no JD or a preliminary JD is requested), or a significant nexus evaluation on the waterway reach would be needed to determine if it is jurisdictional through an approved jurisdictional determination (JD).
4. Make sure that temporary and permanent impacts to waters of the United States will be addressed.

Please let me know when you hear more from the USCG on the extent of their role in reviewing/approving this project.

Thanks again!

Sincerely,

Christine Delorier
Geologist/Sr. Project Manager
N.Y. District, U.S. Army Corps of Engineers

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

290 BROADWAY
NEW YORK, NY 10007-1866

June 8, 2022

VIA EMAIL

Brandon Bratcher
Environmental Protection Specialist
Federal Railroad Administration (FRA)

RE: Livingston Avenue Bridge Replacement

Dear Mr. Bratcher,

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Assessment (DEA) prepared by the Federal Railroad Administration (FRA) and New York State Department of Transportation (NYSDOT). This review was conducted in accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500 - 1508), and Section 309 of the Clean Air Act.

The DEA evaluated a range of alternatives including repairing, rehabilitating and replacing the Livingston Avenue Bridge. The DEA has been developed to address potential environmental impacts from the proposed action to replace the bridge to the south and parallel to the existing bridge. EPA understands that the project is necessary to improve reliability and eliminate deficiencies of passenger and freight train routes along this segment of the Empire Corridor as well as improving navigation in the area. EPA offers the attached comments on the DEA.

Thank you for the opportunity to provide comments on this DEA. EPA looks forward to the receipt and review of the Final EA, and we are committed to continuing to work with your team throughout the NEPA process and in the future, especially as full projects come to fruition. Should you have questions on our comments related to this project, please contact Anne Rosenblatt Schaffer at 212-637-4347 or rosenblatt.anne@epa.gov.

Sincerely,

Mark Austin

Mark Austin, Team Lead
Environmental Review Team

EPA Detailed Comments
Livingston Avenue Bridge Replacement
June 8, 2022

General Comments

EPA commends the clear layout of the report including how the potential impacts and mitigation measures are clearly identified in Exhibit S-4.

Air Quality

This project is within the New York-New Jersey-Long Island non-attainment area for the ozone National Ambient Air Quality Standard and maintenance area for the fine particulate matter standard. Any federal action within a non-attainment or maintenance area must undergo a general conformity applicability analysis (see 40 CFR 93.153) to ensure that the action will not (1) cause or contribute to any new violation of any air quality standard, (2) increase the frequency or severity of any existing violation of any air quality standard, or (3) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The Livingston Avenue Bridge Replacement Project DEA concludes that general conformity de minimis thresholds will not be exceeded during the construction phase of the project; however, it does not provide any supporting information. FRA indicates that this conclusion was based on an analysis for the Portal Bridge Capacity Enhancement Project Final EIS using estimates based on emissions per dollar value of construction. EPA does not agree with the use of dollar value of construction as a surrogate for emissions for a project of this size, cost, and construction duration.

This DEA should account for emissions from the construction equipment, dredging equipment and activities associated with the disposal of dredged material, increase in truck traffic through community, idling of construction equipment, and barge/tugboat activity.

We encourage FRA to commit to using clean diesel or low- or zero- emission equipment to reduce the emissions impact of the project on the near-by communities.

Greenhouse Gas (GHG) Emissions

The DEA states that detailed energy and GHG analyses are only performed for regionally important projects. As it was determined that the Project is not regionally important, the DEA does not incorporate a thorough discussion of GHG emissions. Executive Order 13990 (E.O. 13990, 86 FR 7037; January 20, 2021) urges agencies to "consider all available tools and resources in assessing GHG emissions and climate change effects of their proposed actions, including as appropriate and relevant, the 2016 GHG Guidance". While EPA acknowledges the policies referenced in Section 4.11.12, we urge FRA to expand the current discussion of impacts of the build alternatives to disclose the direct and indirect emissions associated with construction and operations. Estimated emissions serve as a useful proxy for assessing effects and comparing alternatives. Useful tools that can be applied to estimate GHG emissions can be found at https://ceq.doe.gov/guidance/ghg-accounting-tools.html.

The DEA indicates that there will be emissions associated with construction, but these emissions would be offset over the lifetime of the project by increased efficiencies, newer equipment and reduction of emissions due to improving passage of boats beneath the bridge. Given the lack of quantitative information on GHG emissions provided, it is not clear how this determination was

reached. Consistent with the previous comment, EPA reiterates our recommendation to disclose GHG emissions quantitatively in the Final EA to further support these claims.

Additionally, Section 4.11.6 does not consider GHG emissions associated with construction of the bridge. GHG Emissions should be added to Table S-4, Summary of Temporary Construction-Period Impacts and Mitigation as section 4.11.5 explicitly indicates that there will be direct and indirect emissions associated with construction.

Climate Change & Resiliency
Section 4.11.1 of the DEA references that FRA and NYSDOT considered project resilience and the ability of the new infrastructure to withstand the impacts of future severe weather events. We were not able to identify this evaluation, or any discussion related to infrastructure resiliency in the DEA. Please rectify this discrepancy.

EPA recommends that the DEA include a discussion of reasonably foreseeable effects that changes in the climate (for instance, sea level rise or increased precipitation) may have on the proposed project and the project area. This could help inform the development of measures to improve the resilience of the proposed project. Climate change can make ecosystems, resources and communities more susceptible as well as lessen resilience to other environmental impacts apart from climate change. In some instances, this may exacerbate the environmental effects of the proposed action. If projected changes could notably exacerbate the environmental impacts of the project, we recommend these impacts also be considered as part of the NEPA analysis.

General Ecology and Wildlife Resources
EPA appreciates coordination with various agencies including U.S. Fish and Wildlife Service, National Marine Fisheries Service and NYS Department of Environmental Conservation on the evaluation of wildlife and terrestrial and aquatic resources. We commend implementation of time-of-year considerations to minimize any potential impacts to engendered, threatened or species of special concern.

EPA recommends that the Final EA explain any potential measures to be implemented to minimize impacts to the various species and aquatic resources particularly during the construction phase, especially during the installation of bridge piers or other structural components which may include the need for vibration attenuation measures.

Construction Means & Methods
EPA encourages FRA to use green construction practices whenever possible including recycling of construction material for both use and disposal, environmentally friendly landscaping, green infrastructure and incorporation of energy-efficient technologies.

It is estimated that more than 90,000 bridges in the US are coated with lead paint (See Federal Highway Administration's Publication No. FHWA-RD-98-18, Lead Abatement on Bridges and Steel Structures), which may be mobilized during demolition and constitute a source of exposure for workers and the adjacent community. EPA recommends the Final EA address the potential exposure to lead in ambient dust that may result from demolition of the current bridge. This should include a discussion of containment and mitigation measures should lead-based paint be encountered.

Further discussion of demolition best management practices should be included in the Final EA. Possible plans to mitigate impacts of debris or hazardous dust released during demolition should be described.

Superfund/Contaminated Materials
The EPA Region 2 Superfund and Emergency Management Division (R2 SEMD) has the following comments related to Superfund and contaminated materials:

EPA would like the parties involved to be aware and consider that the project is located (in part) within the National Priorities List (NPL) Hudson River PCBs Superfund Site which spans 200 miles of river between Hudson Falls and the Battery in New York City. As required by EPA, General Electric (GE) is conducting ongoing extensive monitoring of fish, sediment, and water in the Hudson River. GE is also conducting investigations in the Upper Hudson River floodplain from Hudson Falls to the Federal Dam at Troy. PCBs and potential other contaminants are present throughout the Hudson River Superfund site. EPA is overseeing all of GE's work. The New York State Environmental Conservation (NYSDEC) also conducts sampling in the Hudson River. EPA is coordinating its work with NYSDEC.

Accordingly, any disturbance of the river bottom sediments or floodplain soils associated with the work should include the following:

- Appropriate sampling (as applicable) of sediment, soil, and/or water. Sampling may be needed prior to, during and/or following the work.
- Controls and Best Management Practices (BMPs) to prevent or minimize resuspension of contaminated sediment (including potential river resuspension monitoring during the work).
- Controls and BMPs to prevent or minimize floodplain soils from entering the river.
- Handling and disposal of any dredged materials or floodplain soils in accordance with the appropriate regulatory standards and pursuant to the conditions of any permits issued for the project.

Environmental samples collected associated with any phase of the project should be provided to EPA following quality assurance/quality control (QA/QC) review. EPA requests that advance notice be provided regarding the schedule of the proposed work, or any changes to the schedule of the proposed work, in part to ensure that such work does not conflict with the ongoing work being conducted under EPA authority. Also please provide EPA copies of documents relevant to the items mentioned above. Such documents and notifications should be provided to:

Gary Klawinski
Project Director
U.S. EPA Region 2
Superfund and Emergency Management Division

Hudson River Office
187 Wolf Rd
Albany, NY 12205
518-407-0400 (Office)
518-514-8571 (Cell)
klawinski.gary@epa.gov

Since EPA is not the lead agency for this project, EPA (R2 SEMD) does not plan to provide formal comments on this project and reserves its rights under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended. If you have any questions related to the Hudson River PCBs Superfund site, please contact Gary Klawinski.

Indian Nation Issues and Coordination
The DEA discusses prior outreach conducted with Saint Regis Mohawk Tribe, the Stockbridge Munsee Community Band of Mohicans, and the Delaware Tribe. EPA recommends continued outreach to the Indian Nations and notes that they were not listed as stakeholders in the Public Involvement Plan. Notification as discussed on page 4-15 of Chapter 4 should be added to the Plan.

Environmental Justice (EJ) and Impacted Communities
The Council on Environmental Quality, which oversees implementation of the National Environmental Policy Act, has promulgated a guidance document to assist agencies in implementing environmental justice principles (See Environmental Justice Guidance under the National Environmental Policy Act, Council on Environmental Quality, December 10, 1997).

EPA commends NYSDOT and FRA for conducting targeted outreach to the nearby communities. It is suggested that communication continue throughout project development and implementation to ensure that there are no adverse impacts to these nearby communities.

The report indicates "Although environmental justice communities are located on both sides of the bridge, the Project would not result in construction impacts on these communities which would be buffered from construction as stated above, and therefore, there would not be disproportionately high and adverse effects on environmental justice populations from the Project's construction." Descriptions of impacts in Section 4.16.4.3 – street closures, relocation of pedestrian walkways and paths as well as the vibrations from dredging and boring activities should be discussed in the EJ Section along with planned mitigation methods. Additionally changes in traffic patterns could reroute traffic through nearby communities, potential impacts to the affected communities should be discussed.

Noise and vibration effects on communities with EJ concerns:

- Noise pollution has been directly linked to health effects. Problems related to noise include stress-related illnesses, high blood pressure, speech interference, hearing loss, sleep disruption, and lost productivity (EPA's Noise Effects Handbook, 1991). Discussion of the noise assessment conducted in Appendix B-3 should be included in the text of the EA to further support the statement that "Project would not result in construction impacts on these communities which would be buffered from construction."
- Although the evaluation for the build alternatives concluded that there would be no impacts from noise and vibration to nearby receptors, noise levels are above thresholds for moderate impacts and in some cases severe impacts. Further discussion of how additional mitigation could be incorporated into the design should be included. Community feedback on the existing noise could be solicited for further consideration of actual impacts and future potential solutions.

Linguistic Isolation within communities with EJ concerns:

- EPA recommends that translation services be made available in languages other than English to engage linguistically isolated populations. This should not be restricted to a translation request process prior to the meeting.

Analysis of Indirect and Cumulative Impacts

The CEQ NEPA regulations (Section 1508.1 (g)) effective as of May 2022 define effects or impacts to mean "changes to the human environment from the proposed action or alternatives that are reasonably foreseeable." This definition includes cumulative effects, which are "effects on the environment that result from the incremental effects of the action when added to the effects of other past, present and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such actions."

Section 4.17 discusses additional development planned for the Rensselaer side of the river. Section 4.16 explains that one of the properties to be developed would act as a staging area for construction during implementation of the preferred alternative if available for the duration of the Project construction. Coordination with the City of Rensselaer on the timing of this development should be continued so impacts from alternative staging areas can be minimized if necessary.

CAPITAL DISTRICT TRANSPORTATION COMMITTEE

One Park Place, Main Floor · Albany, NY 12205-2676
www.cdtcmpo.org *e-mail:cdtc@cdtcmpo.org*
Phone: (518) 458-2161
Fax: (518) 729-5764

June 15, 2022

Livingston Avenue Bridge Project
New York State Department of Transportation
Office of Design
50 Wolf Road – POD-24
Albany, NY 12232

Subject: Livingston Avenue Bridge Project Public Comments

Dear Livingston Avenue Bridge Project Representatives:

The Capital District Transportation Committee (CDTC), the Metropolitan Planning Organization for the Capital Region, would like to thank the New York State Department of Transportation (NYSDOT) and the Federal Railroad Administration (FRA) for granting us the opportunity to review and comment on the Livingston Avenue Bridge Environmental Assessment and Section 106 Memorandum of Agreement as a Consulting Party.

CDTC has supported the replacement of the Livingston Avenue Bridge for decades, from the *Capital Region of New York's Regional Enterprise for a Vital Economy and Sustainable Transportation* (*REVEST*) project in 1998 through *New Visions 2050*, CDTC's current Metropolitan Transportation Plan (MTP). Many regional planning efforts including the *Hudson River Crossing Study* (CDTC, 2008), the *Regional Freight and Goods Movement Plan* (CDTC, 2016), and the *I-787/Hudson Waterfront Corridor Study* (CDTC, 2018), amongst several others, support the replacement of the Livingston Avenue Bridge.

CDTC would like to explicitly express support for:

1. An additional goal or objective that allows for bicycle and pedestrian movement across the bridge.
2. Alternative 2, Replacement on an Adjacent South Alignment, as the Preferred Alternative.
3. Inclusion of a shared-use path for bicycles and pedestrians as part of the bridge replacement project.
4. A direct connection from the Livingston Avenue Bridge shared-use path to the Albany Skyway on the west side of the Hudson River.
5. A direct connection from the Livingston Avenue Bridge shared-use path to the Rensselaer Waterfront Trail on the east side of the Hudson River.

The Livingston Avenue Bridge replacement has the potential to be a transformative multi-modal transportation project that will not only benefit the CDTC region but also benefit New York State and the northeastern United States. CDTC is ready and willing to partner with NYSDOT and the FRA as the project is developed.

Please do not hesitate to contact us if we can be of any assistance throughout the project. We are excited to see this priority project become reality and thank you again for the opportunity to comment.

Sincerely,

Sandra Misiewicz, AICP
Executive Director

Organizations and Businesses

From: Martin Daley <>
Sent: Friday, June 17, 2022 9:28 AM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Re: Livingston Ave. Bridge project comments from the Livingston Ave Bridge Coalition

Mark Jakubiak
Project Manager
NY State DOT
Main Office Rail Projects Group
livingstonavebridge@dot.ny.gov

Mr. Jakubiak,

Thank you for the opportunity to comment on the Livingston Ave. Bridge project. We want to emphasize, right from the top, that we could not be more proud of NYSDOT and we are grateful the agency supports a bike and pedestrian walkway on both design alternatives for the Livingston Ave bridge replacement. We commend NYSDOT for responding to public input and advancing a bridge replacement that will meet the needs of all New Yorkers for the next 100 years.

The Livingston Avenue Bridge Coalition, a truly grass roots effort that's been working since 2012, was formed to echo and amplify a unanimous public support for restoration of the walkway on a new or rebuilt bridge structure.

We stand firm that the walkway will pay enormous dividends for local businesses, residents, tourism and people that may commute on bike or by foot across the bridge. Development immediately adjacent to the bridge on both sides of the Hudson River is booming and we believe this bridge will be an enormous benefit to both communities as they grow. The reconstruction of the Livingston Avenue presents a once in a lifetime opportunity to provide enjoyable and cost-effective access for people, to cross the Hudson River safely and quickly on bike or foot. We cannot afford to waste this opportunity to rebuild a better bridge. The recent completion of the

Empire State Trail and opening of the new Skyway has only underscored the importance for a safe, accessible bike and pedestrian river crossing on a new bridge.

We could not be more pleased that both alternatives feature the walkway, however, the alignment of the connection of the walkway's western approach remains unclear. A new, curving structure east of I-787 is represented by single lines in the schematics, descending from the bridge to a section of open space, then crossing Quay Street to connect to the trail system in the Corning Preserve. In all likelihood these design options were proposed before the new "Skyway" multi-use trail was developed along the former Clinton St. northbound I-787 exit. ramp.

A better alternative for this west side bridge-trail connection would be located directly to the west of I-787. At this location the bridge and the new "Skyway" come within about 25' of each other and are at nearly the same elevation. This should replace the depicted new trail exit/entrance ramp and would facilitate a direct link into Albany and the Corning Preserve via the Skyway.

We want to see an operations plan for when the walkway is open – recognizing that as a critical transportation link, the walkway is only effective if it is open as much as possible, preferably 24/7 and year-round.

We strongly encourage that attractive architectural and lighting features be incorporated into the bridge to make it both inviting and comfortable for bike and pedestrian users. If the bridge is not attractive it may discourage use or give the incorrect impression that the bridge is somehow dangerous for pedestrians and cyclists. Furthermore, the new bridge will be a centerpiece of the Albany skyline and its visual identity for a century. Thus, it is critical the bridge is as attractive as possible as it will be a prominent feature of marketing material, regional branding, and surely 1000's of photos taken each year by residents and visitors. We're sure the agency would agree this is a bridge that DOT can point to as a beautiful success story. Let's make sure it will look as good as its price-tag should command.

Thank you again for the opportunity to provide comments and an enormous "thank you" to NYSDOT and everyone involved in this project.

-Martin Daley

Livingston Avenue Bridge Coalition

*(thanks for the opportunity to fix the typos!)

33 Elk Street
Albany, NY 12207
518.434.1583
www.ptny.org
ptny@ptny.org

June 14, 2022

Livingston Avenue Bridge Project
New York State Department of Transportation
Office of Design
50 Wolf Road – POD-24
Albany, NY 12232

Re: Livingston Avenue Bridge Project

To whom it may concern:

On behalf of Parks & Trails New York (PTNY), I write to express my support for a proposal to include a shared use path on the replacement for the Livingston Avenue Bridge between Albany and Rensselaer Counties, and specifically for Build Alternative Two as described in the environmental assessment, with specific caveats noted below.

PTNY is New York's leading statewide advocate for parks and trails, working to expand, protect and promote a network of open spaces for use and enjoyment by all. For more than 30 years, PTNY has focused on advocating for safe, accessible connections to the outdoors that enhance the positive impact parks and trails have on mental and physical health, eco-tourism, civic engagement, natural resource protection, the economy, and overall quality of life.

A walkway on the current Livingston Avenue Bridge provided a link between Albany and Rensselaer for nearly four generations before being allowed to deteriorate and being closed to the public. Creating a safe, accessible shared use path along the replacement bridge that serves both cyclists and pedestrians will add a critical transportation link between the two communities and the surrounding area and will contribute substantially to attracting new visitors and could serve as the designated crossing of the Hudson River for the Empire State Trail, the State's premier world-class recreational destination. The Livingston Avenue Bridge connection will improve access to the Capital region's waterfront at Corning Preserve, further enhance the relationship between both cities while providing access for Albany's reemerging downtown population to Rensselaer's greenway and the Rensselaer Rail Station.

In finalizing the plans for the bicycle and pedestrian access pathway over the bridge, we encourage NYSDOT to ensure that the pathway is built to a standard that ensures it will be a safe, functional part of the regional and statewide trails network. This will include ensuring that the width of the pathway is at least 12 feet to provide bicyclists and pedestrians the full amount of space needed to safely use what is expected to be an incredibly popular amenity.

As a key community amenity, it is also essential that the pathway is designed with the intent of having it remain open for public use at all times, other than when the bridge must be opened for marine traffic. A key connector for transportation and

for recreation, the shared use path should have 24 hour a day, 7 day a week access during all 12 months of the year when complete.

Of the two design alternatives presented in the environmental assessment, the preferred alignment, Build Alternative Two, also has a preferrable design for the shared use path, with a more direct descent on the eastern end of the bridge. However, in the preliminary drawings released as part of the environmental assessment, the western end of the bridge appears to connect down to the waterfront rather than directly connecting, roughly at level, to the newly opened Albany Skyway. We strongly encourage the final design drawings to include a direct connection to the Skyway, and not to include a duplicative parallel connection to the waterfront trail. The potential for a direct connection between the Livingston Avenue Bridge and the Albany Skyway was a significant factor supporting the investment in creating the Skyway. From that connection, users would have more direct access to the city of Albany and would retain the ability to connect to the Mohawk-Hudson Bike-Hike Trail in Corning Preserve and the northward route of the Empire State Trail.

Finally, the shared use path will be of no use if it does not connect to existing pathways on the east end of the bridge. The current waterfront pathway in Rensselaer must be extended north to connect to the proposed shared use path. As part of completing the project, wayfinding signage should be installed indicating the connections to other destinations along the regional trails network and on the Empire State Trail and indicating the availability of nearby amenities for trail users, including restaurants, lodging, restrooms, and drinking water. The new connection should be designated the official route of the Empire State Trail, and NYSDOT should work with the NYS Office of Parks, Recreation and Historic Preservation to ensure that all Empire State Trail trailblazes are updated accordingly, and that all digital Empire State Trail promotional resources are appropriately updated.

PTNY strongly believes that the inclusion of a shared use path will create and strengthen the local economy and offer added recreation and health benefits for area residents. The improvements would promote a better relationship between the two counties by enhancing the physical connection for pedestrians and cyclists that are not well served by current infrastructure. For many decades the walkway along the Livingston Avenue Bridge safely carried pedestrians from one side of the river to another. It's time to safely reconnect the cities of Albany and Rensselaer. We are excited to support this proposed project and urge NYSDOT to support Build Alterative Two as proposed in the draft environmental assessment, with the modifications noted above.

Sincerely,

Robin Dropkin
Executive Director

From: Johann Moore <>
Sent: Saturday, May 14, 2022 5:09 PM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: PUBLIC COMMENT

Re. PIN 1935.49

Please accept my submission in support of the replacement of the Albany-Rensselaer railroad bridge. I am a part-time resident of New Hamburg, NY and regularly travel by train, including to visit family in Oregon and Vermont as well as a frequent visitor by train to Canada. This bridge carries no fewer than four interstate/provincial passenger lines, two of which international and with imminent restoration of through-service from Rutland to Burlington, this bridge replacement project will not just permit faster speeds upon departing Albany-Rensselaer station northbound but will ensure this critical service remains unthreatened by interruptions due to age-related wear and damage to the current ancient span. The north and south alternatives each have apparent advantages but my support is not conditioned on the option chosen. The historic, archaeological and environmental impacts appear minimal with protections for the

Muhheakantuck/Hudson River and its aquatic fauna being provided for and as it appears that there are no issues withstanding, I urge that the project be approved and move forward expeditiously.

Johann Moore-Goldring(member Rail Passenger Association)

From: Carol Shobrook <>
Sent: Wednesday, May 18, 2022 10:20 AM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Question re Livingston Ave Bridge Replacement

Good morning,

Could you please tell me who to contact with a procurement-related question regarding the Livingston Ave Bridge Replacement?

I would like to know if the procurement method is defined.
Will it be Design-Bid-Build or Design-Build?
Will there be prequalification requirement(s), and will it be best value or low bid?

Thank you.

Best regards,

Carol Shobrook
Construction Business Development Director

Weeks Marine, Inc.

From: David Szyszka <>
Sent: Thursday, May 19, 2022 12:35 PM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Livingston Avenue Bridge Project

A good afternoon to you, hope your week has gone well. I was hoping I could get your assistance as I'm trying to gather information pertaining to the Livingston Avenue Bridge Project which has gradually been moving forward. Champion Fiberglass manufactures an electrical conduit system that is utilized within tunnels and along bridges all across the country so we are very interested in being a part of this project. With our products light weight yet rigid design, Champion Fiberglass could provide a substantial savings to not only material costs but also with installation and labor costs. I understand that the project is still in the early stages however I wanted to be diligent in making our interests in the project known.

Any information you could share at this time would be appreciated. Just to give you an idea of how our product is utilized on bridge applications, the image below is that of a bridge right outside of Atlanta, GA where our conduit and hangers are being used. Should you have any questions please don't hesitate to contact me.

I look forward to speaking with you further and hope you have a blessed Thursday.

From: ivan vamos <>
Sent: Saturday, May 28, 2022 3:34 PM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Cc: Jen Ceponis <jceponis@cdtcmpo.org>
Subject: Livingston Ave. Bridge project comments

Mark Jakubiak
Project Manager
NY State DOT
Main Office Rail Projects Group
livingstonavebridge@dot.ny.gov

Dear Mr. Jakubiak,

Thank you for the opportunity to comment on the Livingston Ave Bridge project. I have been involved in discussions regarding the replacement or rehabilitation of this important bridge and its walkway for decades. I attended an early meeting regarding the bridge replacement project at CDTC offices, including Richard Filkins DOT, Quentin Johnson from Modjeski and Masters and others on Sept. 30, 2010. I represented NY(State) Bicycling Coalition (NYBC) and also advocated for pedestrians.

Decades before this 2010 meeting, it became clear to us, as well as many at NYS DOT that closing the walkway component of the bridge because of its poor maintenance, closed off an important transportation link in the Capital District. The inadequate pedestrian route on the Dunn Memorial Bridge, regarded by some as an alternative route, did not offer safe standards for bicycling or meet ADA requirements. The recent completion of the Empire State Trail system has only made apparent the need for a safe, well designed crossing serving pedestrians, bicyclists and the handicapped at this strategic location. Recent national programs entitled “Reconnecting Communities” also would further support reestablishing this intercity transportation link. The FRA publication, Rails with Trails (FTA-MA-26-0052-04-1, 2002), also supports the trail facility on the rail bridge.

Consequently, we were delighted to see that the replacement of the trail component of the Livingston Ave Bridge will be a part of the options for replacing the century old Livingston Ave. Bridge. Both the north or south alignment options for the bridge would serve the river crossing multi use trail needs well.

We do have an important suggestion for the trail connection’s alignment shown on the west side of the bridge. A new curving structure east of I-787 is represented by single lines in the schematics,

descending from the bridge to a section of open space, then crossing Quay Street to connect to the trail system in the Corning Preserve. Probably these design options were proposed before the new “Skyway” multi-use trail was developed along the former Clinton St. northbound I-787 exit. ramp.

A better alternative for this west side bridge-trail connection would be located directly to the west of I-787. At this location the bridge and the new “Skyway” come within about 25’ of each other and are at nearly the same elevation. This would replace the depicted new trail exit/entrance ramp and would facilitate a direct link into Albany and the Corning Preserve via the Skyway. Fewer new structures would be needed in the park’s open space, only a single crossing of Quay Street would be needed, and perhaps this suggested option may even save some construction and maintenance costs.

Regarding an entirely different issue, I offer a personal observation: The cribwork and sheet piles around concrete is shown for protecting the piers in the Hudson River in the rendering representing the project. This design may be problematic, if it truly represents the bridge protection design. During ice flows and perhaps even during high current events ice and debris would build up on and against such a surface. The existing piers on the old bridge are well armored stonework with a pointy design, somewhat resembling the prow of a ship. The newly built Crown Point to Chimney Point bridge crossing southern Lake Champlain has smooth, curved pier designs that allows ice to ride up and break, so the ice (or debris) will flow past the bridge (similar to the upside-down bottom design of an ice breaker). The US Army Cold Regions Research and Engineering Labs (CRREL) can help suggest similar design options.

Thank you again for the opportunity to provide comments.

Ivan Vamos AICP
Board Member Emeritus NYBC

Individuals

From: no-reply@dot.ny.gov <no-reply@dot.ny.gov>
Sent: Thursday, June 9, 2022 9:14 AM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Livingston Ave. Bridge Project Comments

Name:
Andrea J Becker

Comment Topic:
Livingston Ave. Bridge Project Comments

Comments:
Reuse Idea:

Reuse of such a large historic structure is problematic. First its large, dismantling damages it, and no one can afford to move it or even maintain it. Then there is the fact that no one wants it.
If the structure cannot be used in its entirety (highly unlikely) reuse the steel or other parts to design a GATEWAY, TRELIS, FAUX TRUSS or ART SCULPTURE on each end of the bridge. Involve the community by having New York residents compete for the 2 spots. One for Albany and one for Rensselaer. It could be for artists, 2 college student(s), ironworkers, or other makers to design each bridge end?s creation. Detailed parameters of the design could be provided. This could be mainly for the pedestrian users and not so much for the train passengers but could be lit at night for all to enjoy.

From: no-reply@dot.ny.gov <no-reply@dot.ny.gov>
Sent: Tuesday, June 14, 2022 10:00 AM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Livingston Ave. Bridge Project Comments

Name:
Andrea J Becker

Comment Topic:
Livingston Ave. Bridge Project Comments

Comments:
The proposed tower roofs are not as interesting as they could be. Some suggestions are; Look at the lift bridge in DULUTH, MN that has an open steel tower with spires. OR if we can't have an open wheel house consider Black siding instead of White, white will never look clean and is house-like.
Consider standing seam roofs.
Consider not using a shed roof - roof line.
For a lighthouse look consider hip roofs and faux windows/lighting. Thank you for reading these ideas.

From: no-reply@ny.gov no-reply@ny.gov
Sent: Wednesday, June 5, 0 8 AM
To: dot.sm Livingston Ave Bridge livingstonavebridge@ny.gov
Subject: Livingston Ave. Bridge Project Comments

Name
Pamela Bentien

Comment Topic
Livingston Ave. Bridge Project Comments

Comments:
Public Comment on Livingston Ave Bridge project: I strongly support including a bike/pedestrian path on the new Livingston Ave Bridge. As a resident of Troy who rides on all the bike paths, this will be an important link in connecting components of regional alternative transportation routes. Looking forward to riding and walking this new structure!

From: no-reply@dot.ny.gov <no-reply@dot.ny.gov>
Sent: Monday, May 16, 2022 1:00 PM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Livingston Ave. Bridge Project Comments

Name:
Gregg Blaszak

Address:

Comment Topic:
Livingston Ave. Bridge Project Comments

Comments:
Has NYSDOT selected an engineering firm to design the new bridge?

From: Peter Crasto-Donnelly <>
Sent: Saturday, June 4, 2022 3:08 PM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Public Comment

To Whom It May Concern,

Thank you very much for all the work that was done for the options for the replacement of the Livingston Avenue Bridge. I wanted to add my voice in support of having a multi-use path for a biking and walking path included in the design of the bridge.

I am a cyclist that rides year round, including commuting to and from work. Having the ability to safely travel by bike is valuable to me for the following reasons:

- It keeps me active and healthy
- The money I would have spent on a car allows me to pay down other bills (student loans, mortgage) and save for retirement.
- I cause less wear and tear on the roads, meaning that there is less public maintenance costs to my travel when compared to a car.

I see the pedestrian multi-use path as another opportunity for me to be able to explore and get around the capital region. It would also be helpful to have another alternative for crossing the bridge into Rensselaer as the Memorial Bridge is rather steep.

I also want to note that when my friends visited Albany, they were amazed at how walkable the city was. We started our day at the Corning Preserve, walked downtown to enjoy the architecture, stopped by the NYS museum, ate on Lark Street, walked Washington Park, bought items from a shop on Lark Street, and took the Skyway back to the Corning Preserve. Out of all the cities in the region, Albany is the one they are most excited to return to. Having the walkway on the Livingston Ave Bridge would give another opportunity for my friends and I to start at the Corning Preserve and walk a loop to enjoy the day.

Thank you for your consideration.

Peter Crasto-Donnelly, Albany Resident

From: Virgina Hammer <>
Sent: Monday, May 9, 2022 6:17 PM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: PIN 1935.49

I support the Build 2 alternative for replacement of the Livingston Avenue Bridge. .
This project is way overdue.

Virginia Hammer

From: no-reply@ny.gov <no-reply@ny.gov>
Sent: Tuesday, June 7, [illegible] AM
To: dtsm Livingston Ave Bridge <livingstonavebridge@ny.gov>
Subject: Livingston Ave. Bridge Project Comments

Name
Janet Hubber

Comment Topic
Livingston Ave. Bridge Project Comments

Comments:
As a Schenectady County resident, and an Amtrak rider to Massachusetts and the Hudson Valley, I strongly support the replacement of the Livingston Avenue Bridge and the construction of bike and pedestrian access on the new bridge. Considering the age and condition of this bridge, the frequency of use, and its key location in the Northeast transportation network, replacement of this bridge is an urgent matter for rail transportation, public safety, and bike-friendly transportation options. Replacing this bridge is a top priority for our region! Thank you for the opportunity to comment.
Janet Hubber

From: no-reply@dot.ny.gov <no-reply@dot.ny.gov>
Sent: Tuesday, June 7, 2022 9:03 AM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Livingston Ave. Bridge Project Comments

Name:
Janet Hollocher

Comment Topic:
Livingston Ave. Bridge Project Comments

Comments:
Electrification of transport has the potential to reduce the climate impact of rail transport. Will the new Livingston Avenue Bridge be designed to accommodate trains that run on electricity, as these are introduced into the system?
I support bridge replacement with bike and pedestrian access.
Thank you.

Livingston Avenue Bridge Project
New York State Department of Transportation
Office of Design
50 Wolf Road – POD-24
Albany, NY 12232

7 June 2022

Esteemed NYSDOT Staff,

As a Schenectady County resident, AMTRAK rider, and pedestrian, I strongly urge replacement of the Livingston Avenue Bridge as an urgent matter. I also support including bike and pedestrian access along the new bridge.

Considering the age and condition of the bridge and its key role in the Northeast rail network, I encourage the NYSDOT to make replacement of the Livingston Avenue Bridge a top priority. A new bridge with bike and pedestrian access will

- greatly improve rail transportation for passengers and freight
- reduce delays in rail travel and in Hudson River shipping
- improve public safety, and
- assure future climate benefits from walking, bicycling, and transport by rail.

Thank you for the opportunity to comment on this important project, which will put taxpayers' money to work in a truly productive manner.

Sincerely yours,

Janet Hollocher

Janet Hollocher

[redacted]

From: no-reply@dot.ny.gov <no-reply@dot.ny.gov>
Sent: Tuesday, May 10, 2022 3:00 PM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Livingston Ave. Bridge Project Comments

Name:
Meghan Keegan

Address:

Comment Topic:
Livingston Ave. Bridge Project Comments

Comments:
I support the inclusion of a walking path in the Livingston Ave Bridge project. Allowing an accessible walking/cycling path o er the river in this location would be a game changer for both Albany and Rensselaer.

Livingston Avenue Railroad Bridge Project

Comment Form

Wednesday, June 1, 2022

Palace Theater | 19 Clinton Ave, Albany, NY 12207

Maintenance is very important. There has not been enough maintenance on the existing bridge. The walkway on the Dunn Memorial Bridge is not cleared often enough. You plan to spend a huge amount of money, but maintenance will be neglected. In how many years will replacement parts for the proposed lift bridge be no longer available? You are planning to spend a lot of money to have the same problem in the future.

If the existing bridge is historical, leave it there! Repair the existing walkway, so it can carry the bike etc. traffic one way.

The proposed walkway should go both north & south in the city of Rensselaer.

The increased speed over the proposed bridge (over)

Name: Richard Mawhott Email: no Zip Code: 12144

Please leave this form with project staff. Submit your additional comments by **June 15, 2022** to:

Comment via Email	Comment via Website	Comment via U.S. Mail
livingstonavebridge@dot.ny.gov Subject: Public Comment	https://www.dot.ny.gov/livingstonavebridge/contact Subject: Public Comment	Livingston Avenue Bridge Project New York State Department of Transportation Office of Design 50 Wolf Road – POD-24 Albany, NY 12232

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. Department of Transportation Federal Railroad Administration

will cut the travel time insignificantly. ~~By~~
The acceleration to achieve that speed will burn more diesel fuel into CO_2.

There are too few trips on the rail to South Troy to justify taking land and realigning the track. Increasing the speed on the turn will save an insignificant amount of time, and burn more fuel.

There is not enough traffic over the proposed bridge to justify two tracks.

Fomno-reply@nygvno-reply@nygv>
Snt:Wdesdy,June 5 0 2PM
T:dtsnlLngtonABg kingtonavbdg@nygv>
Sbjt:Lngton A.Bg Poj t Cmnts

alm
Ade wMrai

Cmnt Topic

Lngton A.Bg Poj t Cmnts

Cmnts:

I lve the idea of a mxed use pathway on the bdg! Lets gt mre wakablty in Abny!

From: no-reply@ny.gov <no-reply@ny.gov>
Sent: Tuesday, June 14, [illegible] PM
To: dot.sm.livingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Livingston Ave. Bridge Project Comments

Name:
Greg Moore

Comment Topic
Livingston Ave. Bridge Project Comments

Comments:
Make this happen as quickly as possible!
But do two things:

1) Make sure it's built with a pedestrian/bike path. The current Dunn walkway is a horrible solution for pedestrians and bicyclists.

2) Plan ahead and make sure there's room for catenary at some point! We need to electrify the Empire Route to cut emissions and increase acceleration curves.

From: no-reply@dot.ny.gov <no-reply@dot.ny.gov>
Sent: Tuesday, June 14, 2022 5:37 PM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Livingston Ave. Bridge Project Comments

Name:
Nathanael

Comment Topic:
Livingston Ave. Bridge Project Comments

Comments:
Good plan. EA looks thorough and complete. Build the bridge as described in the EA. Thank you.

From: no-reply@dot.ny.gov <no-reply@dot.ny.gov>
Sent: Monday, May 16, 2022 5:31 AM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Livingston Ave. Bridge Project Comments

Name:
Gary G. Nelson

Address:

Comment Topic:
Livingston Ave. Bridge Project Comments

Comments:

Dear NYSDOT,

I submit comment on reconstruction of the Livingstone Ave. railroad bridge.

I fully endorse structural renewal and functional enhancement of the bridge, including for pedestrian and bicyclist crossing. But the bridge is primarily an essential link in northeast rail passenger traffic.

I specifically comment on the possibility of restoring a regional rail passenger service that would emulate the former "Belt Line" service provided by the mainline railroads to the Albany and Troy areas.

The possibility of using existing track from Troy to Rensselaer and across to Albany and Schenectady has been mooted recently to the CDTC. Within the last few years a group of us have renewed this proposal as the Troy Rensselaer Albany Commuter (TRAC) service.

I point out the merit of this proposal to at least provide continuity of rail to Troy and so alleviating the problem of parking and deficiency in transit access to the present Rensselaer Amtrak station. However the service has greatest merit in terms of fostering transit oriented development in South Troy and restoring rail service among the three core cities as well as Rensselaer.

The role of the Bridge in such a service is critical. The immediate commitment of the Bridge reconstruction should be as follows:

Reserve an area at the Albany bridgehead for a station location for future regional rail passenger service. Such a location would serve the North Albany area and interchange with frequent bus service to Albany and Menands/Watervliet. With a rail spine between Schenectady, Albany and Troy, the urban cores would restore the access they once had and facilitate inter-core trips and access to the intercity rail hub at Rensselaer.

Any investment in the bridge should at least preserve the option for an Albany station stop to partly restore the error of moving the rail station out of the Albany downtown.

Sincerely,
Gary Nelson

From: no-reply@dot.ny.gov <no-reply@dot.ny.gov>
Sent: Wednesday, June 15, 2022 5:03 AM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Livingston Ave. Bridge Project Comments

Name:
Martin Robinson

Comment Topic:
Livingston Ave. Bridge Project Comments

Comments:
I support the rebuilding of the Livingston Avenue Bridge that includes pedestrian and bicycle access.

Comment #1

Name: Erica Schneider, 12208

The pedestrian/bicycle bridge as part of this project is so important. It should be made as wide as possible to accommodate bike/ped traffic in both directions. The southern alignment is preferable as it provides better access to both trails on either side. The connection to the Albany skyway in the renderings looks good and will provide easy access to the Empire State Trail. This will be a crucial connection and better bike/ped option and will be a great candidate for realignment of the Empire State Trail away from Dunn Memorial Bridge.

The old bridge should be uses as a bike/ped bridge somewhere else in the state, or the component used for local art along the riverfront/trail.

Steve Strauss
10 Holder Place, apt. 3D
Forest Hills, NY 11375

June 14, 2022

Livingston Avenue Bridge Project
New York State Department of Transportation
Office of Design
50 Wolf Road – POD-24
Albany, NY 12232

Dear NYS DOT:

I write to support the NYS Department of Transportation's proposed replacement option for the Livingston Avenue Bridge connecting Albany and Rensselaer, NY. After 13 years of start and stop work on this critical rail transportation project since the Federal Railroad Administration issued a grant to undertake the Environmental Assessment in 2009, the agency has finally put forward a positive plan for the bridge's replacement along with the inclusion of a pedestrian and bicycle path.

Going forward the agency needs to prove to New Yorkers that it can successfully complete the final design, seek desired federal construction funding and award a construction contract. The Department needs to regularly update the project website, add the project to the State TIP and the Capital District TIP, publish a schedule and budget for the project and inform the public and Legislative leaders which U.S. DOT discretionary grant programs it will seek funding from.

The Departments claim that there was inadequate federal funding for this project has been inaccurate for the last three years. Now, with $66 billion in intercity passenger rail funding available from the federal government over the next five years, the Livingston Avenue Bridge should only be the first of a pipeline of projects across the state to improve intercity passenger rail service.

Sincerely,

Steve Strauss

Steve Strauss

cc: Hon. William Magnarelli
Hon. Andrew Hevesi

From: no-reply@dot.ny.gov <no-reply@dot.ny.gov>
Sent: Thursday, May 12, 2022 11:28 PM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Livingston Ave. Bridge Project Comments

Name:
Carmela Triolo

Address:

Comment Topic:
Livingston Ave. Bridge Project Comments

Comments:

Will the bridge be replaced in place?

The website does not show the proposed footprint.

Why is replacement of the bridge going to require use of eminent domain and purchase of property?

Will the project displace any residential units or require the use of properties currently zoned or utilized for residential use?

How will any displaced residents be accommodated to ensure that will be able to obtain comparable or better housing within the community which they can afford.

How will the location, path, dimensions and footprint of the current bridge differ from that of the proposed bridge (entrances and exits for rail, foot, and motor vehicle)?

How will the height of the bridge over the water be different from the current bridge?

How will traffic (rail, foot, water, and motor vehicle) patterns and daily loads projected to change- quantify?

Will the proposed bridge include a public walkway between Albany and Rensselaer?

Will the proposed bridge include a roadway/railway for public transportation between Albany and Rensselaer?

From: Benjamin Turon
Sent: Tuesday, May 31, 2022 10:46 PM
To: dot.sm.r01.LivingstonAveBridge <livingstonavebridge@dot.ny.gov>
Subject: Subject: Public Comment

Overall, I'm very happy with what NYSDOT has come up with to replace the Livingston Ave Bridge, with only two points of concern to make about the current plans, both concerning future proofing the new structure which likely will serve well over a century, as the current bridge has done.

First is electrification: will the new bridge's superstructure have sufficient clearance over the rails for future overhead catenary? While electrification seems a remote possibility today due to the cost and complexity, it is the best way to move rail to a carbon neutral zero-emission mode of transportation.

The stated 23-foot clearance should be enough for installing catenary to power future electric passenger trains; however double-stack intermodal freight would require a much higher clearance. For example, India is building a new network of electrified long-distance freight railways to accommodate double-stack freight as catenary with a 26-foot clearance between the rails and the energized wires of the catenary.

Second is sea-level rise: does the current proposed design of the new bridge take global warming climate induced sea-level rise in account, as the Hudson River is a tidal estuary to the federal lock in Troy? Studies predict that in a worse case scenario that sea levels could rise by the end of this century by as much as seven feet, with a two-foot rise being the likely scenario if carbon emissions by human civilization is greatly reduced.

Now even a seven-foot rise with the planned 25-foot vertical clearance above the water (same as the existing bridge) of the fixed spans would still leave over 15-foot of clearance, although the design of the piers should take this range of sea-level rise into account. However, this would be an issue for the movable lift-span over the navigation channel.

While the EIS report stated that the planned 60-foot vertical clearance of the planned lift span when open matched that of the bridges adjacent to the north and south, these highway bridges (which are less heavily built than railroad bridges and consequently have shorter service lives) and are likely to be replaced in the next several decades, and as such they

will likely take sea-level rise into account for navigational clearance. I will also note that the vertical clearances for the bridges south of Albany are all well over 100-feet.

It is therefore my opinion that a 70-foot vertical clearance for the lift span over the navigational channel would ensure that maritime shipping would not be adversely affected by even dramatic sea-level rise.

Benjamin J Turon

Comment #2

Name: John Van Raalte, 12054

Please ensure ped/bike path is included on this bridge for the next 100 years of use/ connectivity. More bike routes needed, separated from traffic. Safety should not be used as an excuse not to include along with liability, see Portland, OR. Steel Bridge bike/ped crossing, with heavy traffic all day on lift bridge.

Public Informational Meeting Transcripts

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

STATE OF NEW YORK

DEPARTMENT OF TRANSPORTATION

IN COOPERATION WITH

THE FEDERAL RAILROAD ADMINISTRATION, F.R.A.

In compliance with the New York State D.O.T. Procedures for implementation of the State Environmental Quality Review Act at 17 New York Codes, Rules and Regulations, Part 15.

PUBLIC STATEMENT HEARING

DATE: May 31, 2022

TIME: 10:06 a.m.

BEFORE: MAURA FITZPATRICK

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

(The hearing commenced at 10:06 a.m.)

MS. FITZPATRICK: Okay. Well, welcome back and it's now time to begin the hearing for the State's Eminent Domain Procedure. And following the hearing all are invited to provide their verbal comments. The comments will be limited to three minutes, and we will be counting that. Speakers will be muted if they use inappropriate language. Substantive comments will be responded to as part of the NEPA, SECRA and E.D.P.L. processes, and this hearing is being recorded. And the official transcript of the hearing will become part of the project record.

And so before we begin the public comment portion, we're going to show you another video about the E.D.P.L.

The New York State Department of Transportation, New York State D.O.T., in cooperation with the Federal Railroad Administration, F.R.A. published an environmental assessment for the project on May 9th, 2022. The project has been advanced in accordance with the requirements of the National Environmental Policy Act, NEPA codified as Title 40 Code of Federal

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing Regulations, Parts 1500 to 1508, F.R.A.'s environmental regulations at 23 C.F.R. Part 771 and 774, the New York State D.O.T. procedures for implementation of the State Environmental Quality Review Act at 17 New York Codes Rules and Regulations Part 15.

And in accordance with the provision of Article 2 of the New York State Eminent Domain Procedure Law, E.D.P.L. The publication of the environmental assessment began the public comment period on the document which will extend until five p.m. eastern daylight time on June 15th, 2022. This public hearing is being conducted to obtain comments on the project's environmental assessment and the right-of-way acquisition process.

The environmental assessment is available for review at this hearing, on the project's website, www.dot.ny.gov/livingstonavebridge. And at the New York State D.O.T. Main Office, 50 Wolf Road, Albany, New York 12332 and at the Albany City Hall and the Rensselaer City hall. The environmental assessment documents compliance with other applicable federal, New York State and local environmental laws and

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing regulations including Section 106 of the National Historic Preservation Act, the conformity requirements of the Clean Air Act, the Clean Water Act, the Rivers and Harbors Act of 1899, Section 4F of the Department of Transportation Act of 1966, Section 4F, the Endangered Species Act, Executive Order 11988 and U.S. Department of Transportation Order 5650.2 on flood plain management.

Executive Order 11990 on protection of wetlands. The Magnuson-Stevens Act related to essential fish habitat, the Coastal Zone Management Act, and Executive Order 12898 on Environmental Justice. It describes the project, the consideration of social economic and environmental effects that would result from implementation of the project and measures to mitigate adverse effects.

This hearing provides the public an opportunity to make formal statements of positions before any final project decisions are made. The agencies will review and consider public comments submitted by the comment deadline. Substantial comments received will be addressed after the meeting as part of the NEPA and E.D.P.L. processes. The determinations and findings for the

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

public hearing will be published within ninety days of the hearing date.

This presentation will cover materials specific to the project as it relates to the eminent domain procedure law. We will discuss the hearing purpose and the project location, goals, description and impacts. Then we will discuss the right-of-way acquisition process and how to submit comments.

During the development of the project alternatives for the environmental analysis, several properties were identified that may be required for the construction of the preferred alternative. Property acquisition by New York State D.O.T. would occur in accordance with the New York State Eminent Domain Procedure Law. Today's hearing is a requirement under this law.

The Livingston Avenue Bridge is located in the Cities of Albany and Rensselaer, New York and spans the Hudson River. As a part of the rail network, this project is located on the Hudson line section of the Empire corridor. The current service across the bridge includes twelve Amtrak passenger trains and roughly two to six

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

freight trains, Canadian Pacific Railway and C.S.X. daily.

The bridge is a critical link for passenger rail service as no detour is available without creating substantial delays upwards of two and a half hours. The bridge has a movable swing span to allow larger ships to pass and opens about four hundred times each year. This mechanism has become unreliable and sticks in the open position causing delays to passenger rail service when the bridge cannot be closed in a timely manner.

This bridge is more than a hundred years old with the bridge piers built in 1865 and the bridge spans built in 1903. Due to its age, it is in a deteriorated state and trains are limited to crossing one at a time at only fifteen miles per hour. Also the clearances for height and width do not meet modern standards, and the bridge does not meet current seismic design codes.

The goals for this project relate to addressing substandard conditions and improving operations for rail and river traffic. As shown on the slide, the three goals are to, number one, improve passenger rail operations, service

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

reliability and operational flexibility. Number two, improve the load capacity of the corridor and remove existing structural operational limitations. And, number three, minimize conflicts with ship traffic.

The project goals were used to develop the alternatives evaluated in the environmental assessment. The environmental assessment for the project was prepared in accordance with the National Environmental Policy Act as well as related laws and regulations. It includes an evaluation of the potential permanent impacts of the project during operation and temporary impacts during construction.

It evaluates a full range of environmental topics covering issues related to the human and built environment such as land use, community character, social and economic conditions and historic resources and visual considerations. It also includes an evaluation of the project's effects on the natural environment including terrestrial resources and water resources.

As previously discussed, this document is available to the public for review and comment. Based on the analysis in the

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing
environmental assessment as well as operational and engineering considerations, the preferred alternative, a full replacement approximately sixty feet to the south of the existing bridge, was identified. Shown in the profile at the bottom of the slide, a lift span is proposed to accommodate ships instead of a swing span.

It will allow for a sixty foot vertical clearance when raised which matches the clearances at upstream and downstream bridges, and will be centrally located in the river channel. Also proposed is a shared use path for pedestrians and bicyclists to cross the Hudson River connecting local and regional trail networks in Albany and Rensselaer.

The construction costs for the proposed bridge are estimated at four hundred million dollars. This figure shows a view looking down from above the proposed bridge. The new track alignments are shown in red and the shared use path in green. On the Albany side, the rail bridges over Water and Center Streets will be rehabilitated to accommodate track alignments for the new Livingston Avenue Bridge.

On the Rensselaer side, the

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

Y tracks will be realigned to match the new Livingston Avenue Bridge alignment and facilitate train turning movements. These new alignments off the bridge and the new bridge structure will support increased speeds for passenger trains. Eastbound passenger trains heading toward Rensselaer will have a maximum speed of thirty miles per hour. And westbound passenger trains heading toward Albany will have a maximum speed of forty miles per hour.

In addition to higher speeds, the new bridge typical section will support two trains using the structure at the same time which is not possible today. The cross section shows updated vertical and horizontal train clearances and shows how the new shared use path will be accommodated across the bridge.

The next few slides will discuss the proposed right-of-way impacts of the preferred alternative on both the Albany and Rensselaer sides of the river. These acquisitions are necessitated by the new rail alignments to tie into the new bridge location and to construct the new shared use path. Property acquisitions would occur in accordance with the eminent domain procedures law,

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

a process that will be discussed at the end of this presentation.

This proposed acquisition area is on the Rensselaer side of the river just north of the bridge where the new tracks will tie into the lines running north. It includes one larger parcel owned by First Rensselaer Corporation that measures one point one four acres. There are also five smaller parcels owned by Pulcinella Realty Corporation that total zero point two seven acres in size.

South of the bridge on the Rensselaer side there is a triangular shaped property owned by New York Central or C.S.X. where the shared use path will diverge from bridge alignment and turn south. This property may need to be acquired as part of the project. After the shared use path turns south, it will gradually slope downward to connect with the proposed Rensselaer Riverfront Trail. The highlighted area is a permanent easement that may need to be acquired from Amtrak.

On the Albany side of the river there are three parcels that will no longer be needed for railroad use. These have the potential to

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

be acquired to facilitate future access to the tracks. After properties have been identified during the design process, the first step in the right-of-way acquisition process is sending out an introductory letter and a packet with a preliminary copy of the acquisition maps. A New York State D.O.T. representative will then set up an appointment by phone or in person to explain the acquisition process and the project in more detail.

The next step is the determination of compensation. New York State D.O.T.'s appraisal unit will send out a letter providing the property owners the opportunity to accompany the appraiser on their inspection of the property. The appraisal will establish fair market value for the subject lands. Once established, the offer of just compensation will be made. The offer may be made by mail or in person. The offer will include an agreement for the owner to review and sign.

A second contact will be made by New York State D.O.T. within two weeks of the offer to answer any questions the owner may have or address any concerns. Once contact has been made

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing with the property owner, the state proceeds to acquire title to the area depicted on the acquisition map by filing a copy of the map with the county clerks. Notice of this filing will be sent to the property owner via certified mail. Once an agreement and all required closing papers have been signed and have completed legal review, payment will be issued by the state comptroller within approximately eight weeks.

The next steps after the public hearing and the public comment period have ended will be for the Federal Railroad Administration to make their environmental determination. This will be based on the analysis presented in the environmental assessment and a review of the comments received. We expect the F.R.A. to make this determination later this fall. Real estate acquisitions will follow in the winter of 2022 and into early 2023. Construction will begin at the end of 2023 and is anticipated to be complete at the end of 2026.

I will now review how to comment on the environmental assessment. Comments will be accepted through June 15th, 2022. Comments

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing via e-mail may be sent to Livingstonavebridge@dot.ny.gov. Subject, public comment. Comment through the project website, wwww.dot.ny.gov/livingstonavebridge/contact. Subject, public comment. Comment via U.S. Mail. Livingston Avenue Bridge Project, New York State Department of Transportation, Office of Design, 50 Wolf Road, P.O.D.-24, Albany, New York 12232.

MS. FITZPATRICK: Okay. We will now begin the public comment portion of tonight's meeting, and I just have a few more instructions and then we'll get to the heart of the matter. My role as hearing moderator is to provide members of the public an opportunity to provide comments in an organized, fair, professional and orderly manner. Agency representatives will not be answering questions or responding to comments.

Responses to substantive comments will be addressed as part of the NEPA, SECRA and E.D.P.L. processes. As a reminder, if you have questions about Zoom webinar technology, please use the chat box to send a message to Kelsey Khan who is serving as our technical support this evening. You can also contact Kelsey at Kkhan, that's K-K-H-A-N @

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing F-H-I Studio. Com. Or you can call her at Nine one seven nine nine four eight two five five with any Zoom webinar technology questions. Again, do not put your comments in the chat as they will not be included in the project record.

If you are disconnected at any point during this meeting or having bandwidth issues with your Internet, there is an option to call into the meeting via phone. You can use the toll free number on your screen to access the meeting if you are disconnected or if joining by a phone is simply a better option for you. Call Six four six five five eight eight six five six when -- and when prompted enter the webinar I.D. which is Eight seven one three one one four seven four five three.

If you would like to make -- there you go. We're in the right slide. Okay. If you'd like to make a public statement, please use the raise hand function in the Zoom toolbar at the bottom of your screen. And or press Star Nine on your phone to alert the host that you would like to comment. If you're not seeing the raise hand in your Zoom toolbar you may need to click on participant in your Zoom toolbar.

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

The button will then show up at the bottom of the window in the participant's pane. On mobile devices you may need to click the three dots to access more features. When you are called on to speak, the host will give you permission to unmute yourself so all participants can hear you. If you log on by computer or the Zoom app you will receive a notification to unmute.

Speaker icons are located in the top left of Android and IOS -- I.O.S. devices. Please click the unmute button before you begin speaking. If you are dialing in by phone, when the moderator calls on you to speak, press Star Six. Press Star Six again to mute when you are done speaking.

A stenographer will record the proceedings of this meeting verbatim and a written transcript will be prepared. Please state and spell your name and identify any organization you represent. To ensure all are heard, comments will be limited to three minutes after introductions. There will be a countdown clock on the screen and I will provide a verbal warning when thirty seconds remain.

At this time we will hear

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing from those who wish to make oral statements. I remind you that if you would like to comment please use the raise hand function in Zoom or press Star Nine if participating by phone. In accordance with New York State D.O.T. policy, elected and appointed officials will be given the first opportunity to speak and we'll give them a few more minutes of time to speak.

Others will be called to make their statements in the order they are listed in the queue and you'll see that queue on the screen. I will call two names at a time so you are prepared when it is your turn to speak, and I apologize in advance if I mispronounce anyone's name. All right. So let's get started and we'll see on the screen the list of speakers.

So our first speaker is Mayor Mike Stammel from the City of Rensselaer followed by Mayor Kathy Sheehan from the City of Albany. So Mayor Stammel, if you will please unmute yourself and go right to your statement.

MS. VICS: Hi. Can you hear me?

MS. FITZPATRICK: Yes.

MS. VICS: Okay. This is Ketura Vics

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing
the director of planning from the City of Rensselaer speaking on behalf of Mayor Stammel.

MS. FITZPATRICK: Welcome. Thank you.

MS. VICS: Yes. So --.

MS. FITZPATRICK: Excuse me. If you wouldn't mind please stating and spelling your first and last name for the record please?

MS. VICS: Oh, sorry. Ketura Vics. K-E-T-U-R-A. Last name Vics V-I-C-S representing the City of Rensselaer on behalf of Mayor Stammel.

MS. FITZPATRICK: Thank you.

MS. VICS: Yes. So the City of Rensselaer would like to thank the New York State Department of Transportation for continuing to coordinate with the city on the Livingston Avenue Bridge replacement project. As noted as an environmental assessment or E.A. and discussed as part of our ongoing meetings, although the bridge replacement project will have impacts to our Rensselaer Riverfront Multiuse Trail Project, (PIN) One seven six zero point eight four, which is currently under design and right-of-way incidentals and acquisitions, with careful coordination the project could also be a tremendous benefit to the

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

city. Please accept the following comments as part of the record.

Regarding the executive summary, the city is pleased to acknowledge the department's commitment to the pedestrian and bicycle connections facilitated by this project. The city wholeheartedly supports the inclusion of the multiuse path alongside the new bridge and also the scenic overlooks at the junctions with the lift span for instances when the connection must be lifted.

In addition, the city supports the department's designation of alternate two as the preferred alternative. Regarding the project's purpose and need. The City of Rensselaer would like to suggest consideration be given to formalizing the reestablishment of the pedestrian and bicycle connection between the City of Rensselaer and the City of Albany as an objective of this project.

Historically the Livingston Avenue Bridge has provided this connection but it has been lost through time with lack of proper maintenance. The city cannot stress enough how important this vital, non-motorized link between these two cities is to the success of the project.

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

Regarding Draft Section 106 of the M.O.A. or memorandum of agreement, the city is supportive of the interpretive sign and agrees to take over the maintenance responsibility for it. We would like to suggest that the location be designed into the area where the multiuse path from the bridge ties into the Rensselaer Riverfront Trail. And this is envisioned to be a public gathering space for years to come.

Regarding Section 3.4. The city would like to suggest that the no action alternative identify the continued lack of pedestrian and bicycle accessibility identified as a negative impact for that alternative.

Regarding Section 3.5.5. Since the city is coordinating with the New York State D.O.T. and agreeing to delay the completion of the Rensselaer Riverfront Trail until after the completion of the Livingston Avenue Bridge Project, the city would like to see the E.A. formally include the completion of the trail through the project's limits from DeLaet's Landing to Tracy Street as part of the construction. As the contractor will have disturbed the majority of this area and would be

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing mobilized to easily complete this minor construction as part of the restoration of the area, it would be a minor addition to the overall bridge project.

Building the trail at the conclusion of the bridge project would also help keep pedestrians and cyclists from accessing the construction area should the city continue with current plan to extend the existing trail towards the bridge.

Regarding Section 4.2.3.1.2. The city suggests that E.A. acknowledge that although providing a staging area on the Rensselaer side of the river will delay completion of the Rensselaer Riverfront Trail for several years, it will be beneficial to maintain the existing recreational activities at the Corning Preserve on the Albany side and will eventually provide a long term benefit on the Rensselaer side through the completion of the trail through project limits.

Regarding Section 4.2.5. The city would like to see acknowledgement the New York State D.O.T. intends to secure a permanent easement or use an occupancy permit for the Rensselaer Riverfront Trail through the lands occupied by the

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

Livingston Avenue Bridge as part of this project. In addition, the city would like to see acknowledgement of any required trail canopy incorporated into the bridge design and construction as part of the project.

And finally regarding Section 4.15.5.1 the city acknowledges the width of the multiuse path on the bridge is twelve feet, but would like to note that the Rensselaer Riverfront Trail is and will continue to be ten feet wide. Therefore, the department may want to maintain the twelve foot width of the connector trail rather than widen it out to fourteen feet on the Rensselaer side.

MS. FITZPATRICK: And you have thirty seconds please.

MS. VICS: Thank you. Coordination and mitigation in place, the city would like to offer our full support to the project as this coordination would eliminate any permanent negative environmental effects in the City of Rensselaer. We sincerely appreciate the opportunity to partner on this exciting, once in a lifetime project, and look forward to its successful completion. On behalf of Mayor Stammel and the City of Rensselaer. Thank you.

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

MS. FITZPATRICK: Thank you. Three seconds to spare. Very good. Thank you so much. So our next speaker is Mayor Kathy Sheehan of the City of Albany followed by New York State Assembly Member Patricia Fahy. So, Mayor Sheehan, if -- you should be able to unmute yourself now. Mayor Sheehan, you may need to unmute yourself on your end.

UNIDENTIFIED SPEAKER: Does not appear that the mayor -- Mayor Sheehan is in the audience right now.

MS. FITZPATRICK: All right. Thank you, Nick. Okay. So we'll circle back. We'll leave the mayor on the list in case she joins us. So our next speaker will be New York State Assembly Member Patricia Fahy followed by Martin Daley. So Assembly Member Fahy you should be able to unmute yourself now.

UNIDENTIFIED SPEAKER: It also appears that we do not have Assembly Member Fahy at this time.

MS. FITZPATRICK: Okay. Thank you. Again, we'll leave them on the list and they might join -- be able to rejoin us. So our next speaker is Martin Daley followed by Ivan Famos. So Martin

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing
Daley, I know you're here because we have seen your -
- I've seen some of your chats. So if you wouldn't
please state and spell your first and last name for
us and any affiliation and then we'll begin the
timing. And you should be able to unmute yourself
now. Martin Daley, are you with us?

MR. DALEY: Hello.

MS. FITZPATRICK: Yes, hi, how are
you.

MR. DALEY: Okay. Sorry. Some
problems with my audio here. Thank you. I'll make
my comments brief. My first thought is I want to
recognize the department --.

MS. FITZPATRICK: At this point I'd
like you to please state your --.

MR. DALEY: Oh, I'm sorry, yes.
Martin Daley, M-A-R-T-I-N D-A-L-E-Y. Lead organizer
for the Livingston Avenue Bridge Coalition which is a
very grassroots coalition of more than fifty
community organizations that have been advocating for
the past ten years for the inclusion of the walkway
to be added to the -- the replacement Livingston
Avenue Bridge.

My -- my first comment is I want

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing to thank and commend the department for their vision, for including this walkway in the bridge. It has been several decades since this bridge has provided the opportunity for not only residents in the City of Albany but also from the City of Rensselaer and throughout the region to be able to use this as a crossing point.

I think this is an important opportunity to build a connection in New York State's Empire State Trail which crisscrosses the state and is a very significant draw for tourism for not only our region but our nation and world. So I'm excited that this could provide that opportunity and I wish that -- I -- I hope that the department acknowledges that in the environmental impact analysis.

My comments are I'd like the impact analysis to consider -- to communicate when the bridge will be -- the pathway will be open as far as hours of operation will be open all season. I think those are important questions as to the value of that resource. My second comment is that in the -- the site plan and in the renderings there are conflicting, I'll say, renderings, for lack of better term, on where the walkway will connect on the

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

western side of the bridge.

Some of the renderings have the walkway connecting into the Skyway and some of the rendering -- renderings have the walkway on a separated berm curving back into the waterfront trail. Believe that the better connection would be that the walkway connect directly into the Skyway that would optimize the use of the Skyway as a connection onto the bridge and eliminate the necessity for perhaps a costly and burdensome walkway that may not be accessible by people accessing the trail from the bridge.

So I would strongly encourage the department to look at the alternative that connects the bridge to the Skyway. But, again, I do want to underscore that residents of Albany County and Rensselaer County and both the City of Albany and City of Rensselaer along with both those cities and counties leadership have been steadfast in their support for the walkway and I'm very excited to see this project continue to advance.

And I cannot overstate how pleased I am that New York State has carried this vision forward. So a big pat on the back to everyone

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

involved in advancing this project with the walkway. So thank you very much.

MS. FITZPATRICK: Thank you. Okay. Terrific. So our next speaker is Ivan Vamos followed by Bruce Becker. So Ivan, again, you should be able to unmute yourself now and I'll ask you to state and spell your first and last name and to tell us your affiliation, and then we'll begin the timer.

MR. VAMOS: Thank you. My first name is Ivan, I-V-A-N. Second name is Vamos, V-A-M-O-S. I represent the New York State Bicycle Coalition a statewide organization of bicyclists and bicycle organizations. And we have had the opening of a multipurpose path across the Livingston Avenue Bridge as a primary goal since the N.Y.B.C. was first formulated for -- formed thirty years ago.

Other projects had been such as the current Mario Cuomo Bridge which does now have a bicycle pedestrian route. This is a needed route not only connecting the two cities, Albany and Rensselaer, but also because the current connection is -- does not meet standards for safe bicycling. The current connection being on the Dunn Memorial Bridge. It also does not meet A.D.A. standards for

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

people using wheelchairs.

So this would be the only safe connection if -- when it's established and I hope that it's soon. We support alternative two and we agree with Martin Daley that connection to the Skyway would make the connection more easily used not only for getting to the trails but in getting through Albany itself. I had been a bicycle commuter in the Albany area for about forty years, and the change of getting -- chance of getting across the river and the chance of getting into Albany center, for example, to going to the -- from a office in Albany to the railroad station would be a -- enhanced greatly by connection directly to the Skyway.

It may also save a little bit of money in the construction. Thank you. That -- that's the end of my suggestion -- suggestions.

MS. FITZPATRICK: Thank you very much. So next on our list is Bruce Becker followed by Johann Moore. So Bruce Becker, you should be able to unmute yourself now and I'll ask you to state and spell your first and last name and tell us your affiliation.

MR. BECKER: Thank you. First name

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing
Bruce, B-R-U-C-E. Last name Becker, B-E-C-K-E-R.
I'm immediate past president of the Empire State
Passengers Association. And in that role I have
helped advocate for improved ... of rail service
across New York State for over twenty-five years.
And I currently reside in the Buffalo area and use
Amtrak service east to New York -- east to Albany New
York City frequently.

In addition, I've had the
opportunity to ride over the Hudson River on trains
for sixty-four years on both the previous Maiden Lane
Bridge and now on the Livingston Avenue Bridge. The
need for a bridge replacement is clear. Certainly a
bridge the age of the Livingston Avenue Bridge prone
for a breakdown for both train traffic and marine
traffic demonstrates the need for that.

In addition, a new modern bridge
will allow for higher speeds and will allow for
additional service to be instituted in the future to
points west and north of Albany which is critical for
the movement of passengers into the future. Our
organization fully supports the preferred
alternative, the number two south of the current
bridge option.

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

And I want to conclude by thanking Governor Hochul for her leadership and for the entire staff including Commissioner Dominguez at New York State D.O.T. for advancing this project to this point. We look forward to partnering with the department as the bridge project continues and certainly look forward to riding across the new bridge as quickly as possible. Thank you.

MS. FITZPATRICK: Thank you very much. Okay. Our next speaker is Johann Moore followed by Jacob Adams. So, Johann Moore, you should be able to unmute yourself and, again, I'll ask you to state and spell your first and last name and tell us your affiliation and then we'll start the clock.

MR. MOORE: My name is Johann Moore. J-O-H-A-N-N. Last name M-O-O-R-E. I'm a member of Rail Passengers Association. I'm also a Miami Beach commissioner's appointee to the Miami Beach sustainability committee, and I'm a seasonal resident of Miami Beach and the mid-Hudson Valley.

I want to support this project and I want to point out that no fewer than four interstate and or interprovincial international rail lines go across this bridge including a route that

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing
we're much looking forward to the extension of namely to Burlington from Rutland. We also frequently travel to the west coast via the Empire builder and obviously -- or I shouldn't say obviously -- we prefer to go via the Lakeshore Limited.

This project will enable better, faster service and I was so taken by the specific reference to the alignment being appropriate for future high speed service. Imagine being able to walk or bike from downtown Albany across the bridge to the train station and getting on a high speed train. This is an excellent project and I want to urge everyone to support it. My support is not dependent on the preferred alignment but option two sounds quite well thought through. Thank you very much.

MS. FITZPATRICK: Thank you so much. Okay. Our next speaker is Jacob Adams followed by Ashley Mohl. So Jacob Adams, you should be able to unmute yourself and, again, please state and spell your first and last name and your affiliation and we will start the timer.

MR. ADAMS: So hi. I'm -- my name is Jacob Adams. I'm also a member of --.

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

MS. FITZPATRICK: And I'm going to ask you to spell it.

MR. ADAMS: Sorry. Jacob Adams, J-A-C-O-B, B as in boy, A-D as in David, A-M as in Mary S as in Sam.

MS. FITZPATRICK: Thank you.

MR. ADAMS: Again, my name is Jacob Adams. I -- I live in Rochester, New York. I also want to speak to the train part of this. I am a member of the Rail Passenger Association and the Empire State Passenger Association, but I do not speak on behalf of them. I speak as a private individual.

I also want to thank the D.O.T. and our government for advancing this project. This is a critical link, again, not only for cross state services but also services from Boston. And as someone who grew up in Chicago and frequently takes ... limited it's critical link to Chicago as well because it's unlikely if the service to -- if the train cannot continue to Boston or New York City that they would continue the train and more likely suspend the train. Amtrak that is.

I also want to make a friendly

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

amendment actually prepandemic. There were two international routes that crossed the bridge. One to the Adirondack to Montreal as well as the Toronto -- Toronto train to Maple Leaf as well as the Lakeshore Limited to Chicago or in Boston and New York City.

I -- finally I want to thank -- thank -- thank the government for planning not only to replace this clearly outdated bridge but to actually improve the capacity, to improve speed even if it doesn't include -- really improve running time it will certainly improve dependability which is very important. As someone who frequently took the -- the corridor is Lakeshore Limited there are enough other delays, so it's good to get -- get rid of another choke point. So thank you again for allowing me to speak and thank you for advancing this project.

MS. FITZPATRICK: Thank you. Okay. So our next speaker is Ashley Mohl followed by Charles Lomino. Ashley Mohl you should be able to unmute yourself and, again, I'll ask you to spell your first and last name for us and tell us your affiliation.

MS. MOHL: Hello.

MS. FITZPATRICK: Yes.

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

MS. MOHL: Okay. This is Ashley Mohl. My name is spelled A-S-H-L-E-Y M-O-H-L. And I am the vice president of Capitalize Albany Corporation. Capitalize Albany is the city's economic development (N.V.) for the City of Albany and I will keep my comments tonight brief, but I wanted to express our full support of this important project and thank the department for moving forward with this.

A project which creates a critical and multi modal connection from Albany to Rensselaer, amplifying the impacts of recent transformational projects through a direct connection to the Albany Skyway. So with that I wanted to echo the sentiments of the earlier statements from Martin Daley and another commenter I missed the name of. But the direct connection to the Skyway would be the preferred alternative or preferred option on the design so we would strongly encourage that alternative if possible.

In any event, it's great to see this wonderful project moving forward. And thank you for the opportunity to share our support of it and, again, for advancing this project. Thank you.

MS. FITZPATRICK: Thank you. So our

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing next speaker is Charles Lomino and then we'll check in again with the mayor and with the assembly member. But Charles Lomino, if you're here you should be able to unmute yourself now and, again, I'll ask you to spell your first and last name for us and your affiliation.

MR. LOMINO: Hi, my name is Charles Lomino spelled C-H-A-R-L-E-S L-O-M as in Mary I-N as in Nancy O, III. I am just a citizen of Albany County who finds it really important that we start investing in modes of transportation that aren't just motor vehicles. And I think the improvement of rail infrastructure and the inclusion of the pedestrian infrastructure this project was a great step in the right direction for Albany and New York State.

These are two forms of transportation that we should really be investing more time and money on. The current walkway on the Dunn Memorial Bridge does not meet A.D.A. standards as stated by Ivan from the Albany Biking Coalition. And it's not really a worthy link to take people over New York's longest river to its state capitol on the Empire State Trail.

I also think the improved rail

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

service will be an excellent asset to our public transportation. So, just once again, as a citizen of Albany County I just wholeheartedly support alternative number two in this project ... this hearing.

MS. FITZPATRICK: Thank you. So we're going to check back in if the -- if Mayor Sheehan or a representative of the mayor's office is with us, please use the raise hand that you'll see at the bottom of your Zoom bar to let us know that you're here. Similarly, if there's the assembly member is here or her representative is here, let us know. And otherwise if we don't hear from you we will assume that you have not joined us this evening and we'll look forward to the submission of comments through the other means that we've stated earlier in the meeting.

And it looks like we do not have any more speakers right now. We will be here until eight p.m. That's when this hearing is concluding. We have a speaker coming up. All right. Great. In real time you're watching. So we now have Ed Brennan on our list to speak. So, Ed Brennan, you should be able to unmute yourself now, and as usual, I'll ask

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

you to state and spell your first and last name for us.

MR. BRENNAN: Hello. Can you hear me?

MS. FITZPATRICK: Yes.

MR. BRENNAN: My name is Ed Brennan, E-D, Ed Brennan, B-R-E-N-N-A-N. I'm president of the Albany Bicycle Coalition. I just want to first just echo thank -- thank everybody for the -- for finally getting this -- this underway and including the -- the bicycle pedestrian trail. I personally -- I can't speak for the whole A.B.C. organization yet but I personally would like to see the connection to the Skyway.

I do want to say that, you know, I agree. The -- the Dunn Memorial it's unsafe and it -- it's just terrible esthetically. And I wanted to just say that I hope that esthetically we don't turn out a bicycle pedestrian trail across this bridge that looks like the bike -- the -- the pathway across the Dunn Memorial with the chain link fencing along the side.

I realize that that chain link fencing is there for security purposes, but I hope that -- that in an investment or, you know, you find

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

some way to do that that it's as -- that it's a -- that it contributes to the environment and the experience crossing the Hudson River rather than a detriment as we have now with the Dunn Memorial. Thank you very much.

MS. FITZPATRICK: Thank you. And we'll see if others have signed up to speak. And just to remind everyone, if you'd like to speak you can use the raise hand function or you can press Star Nine on your phone if you're participating by telephone.

And we will stay there until eight p.m. when we close down the hearing. So what we will do is I'm not seeing from the registrar that there's any other speakers right now. So what we're going to do is we're going to leave these instructions here on the screen. If anybody changes their mind we'll see the hand raised or we'll be notified that there's a phone only participant. And we'll come back on and I will call on them.

So with that I'm going to take off my video and my audio but I'm here and as is the rest of the team and the department. And we're happy to hear any additional comments. Otherwise, we'll be

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing back at about a few minutes before eight and to shut down the hearing. Okay. So thank you for everybody who spoke and participated but we'll be here till eight o'clock.

Okay. So it looks like we have no additional speakers so we will now end the public comment session. Thank you to everyone who attended and participated in these meetings today. We will be posting a recording of the meeting on the project website in the coming weeks. As a reminder, comments will be accepted through June 15th, 2022.

Comments via e-mail may be sent to Livingstonavebridge@dot.ny.gov with the subject public comment. Comments will be accepted through the project website at https://www.dot.ny.gov/livingstonavebridge/contact with the subject, public comment. Comments by U.S. Mail may be sent to Livingston Avenue Bridge Project, New York State Department of Transportation, Office of Design, 50 Wolf Road, P.O.D.-24, Albany, New York 12232.

And we will be closing this meeting at eight p.m. But I wanted to just thank everybody and we will leave this information up here

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing on the screen just for any last participants who want to take it down. And I just want to assure everyone that all comments are equally weighted so if you send it in by e-mail or by mail that's equally as important as if you said it to us tonight.

So thank you. We're just going to keep an eye on the clock until we get to eight p.m. But safe trip home for those of you who are still traveling, and thanks again for your participation.

Just -- we just got a question in the Q and A which I can respond to. So the comments that were made will be part of the transcript for this meeting that we will be sending it to a stenographer. And -- and a recording of the meeting will be posted on the project website. So there will be both the recording to view as well as the meeting transcript which will become part of the project record. So you'll have two ways to -- to have that information.

Okay. Thank you and good night. This hearing is officially closed.

(The hearing concluded.)

5/31/2022 - N.Y.S. D.O.T. Public Statement Hearing

STATE OF NEW YORK

I, Judith Spriggs, court approved Transcriber, certify that the foregoing is a correct transcription from the official electronic sound recording of the proceeding in the above-entitled matter.

IN WITNESS WHEREOF, I have hereunto subscribed my name, this the 16th day of June, 2022.

_____x

Judith Spriggs

Associated Reporters Int'l., Inc.

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

STATE OF NEW YORK

DEPARTMENT OF TRANSPORTATION

IN COOPERATION WITH

THE FEDERAL RAILROAD ADMINISTRATION, F.R.A.

In compliance with the New York State D.O.T. Procedures for implementation of the State Environmental Quality Review Act at 17 New York Codes, Rules and Regulations, Part 15, regarding the Livingston Avenue Railroad Bridge Project.

PUBLIC STATEMENT HEARING

DATE: June 1, 2022

TIME: 6:12 p.m.

BEFORE: MAURA FITZPATRICK, Hearing Administrator

LOCATION: Palace Theater
19 Clinton Avenue
Albany, New York

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

(The hearing commenced at 6:12 p.m.)

THE MODERATOR: Maura Fitzpatrick and I'm your moderator this evening. And we're going to make a little bit of adjustment because there's so many of you and we're all trying to watch a video, I'm having trouble hearing it.

So what we're going to do now is we're going to turn up the sound, start the video over again from the beginning. We'll go for about eighteen to twenty minutes, then we'll take a break, people can go back up and mingle with ... so you can ask questions and then we'll check ... video and then we start our formal hearing at seven p.m., how does that sound? Good. All right.

(Video played)

Well, Livingston Avenue Bridge spans the Hudson River, connecting the cities of Albany and Rensselaer, New York. As a part of the rail network, this project is located on the Empire Corridor. The Empire Corridor is one of the eleven federally designated high speed rail corridors in the United States.

The corridor accommodates passenger rail service between New York City and Niagara Falls.

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing With station stops in Poughkeepsie, Rhinecliff, Hudson, Rensselaer, Schenectady, Amsterdam, Utica, Syracuse, Rochester, and Buffalo. The Livingston Avenue Bridge is located on the Hudson line section of the Empire Corridor. It's the only Upstate passenger rail crossing of the Hudson River.

The current service across the bridge includes twelve Amtrak passenger trains and roughly two to six freight trains, Canadian Pacific Railway and CSX, daily. The bridge is the critical link for passenger rail service, as no detour is available without creating substantial delays, upwards of two-and-a-half hours.

The bridge has a movable swing span to allow ships to pass. This swing span opens about four hundred times each year. The bridge is more than a hundred years old with the bridge piers built in 1865 and the bridge spans built in 1903. Due to its age, the existing Livingston Avenue Bridge is in a deteriorated state and trains are limited to crossing one at a time at only fifteen miles per hour.

Also, the clearance for height and width do not meet modern standards and the bridge

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

does not meet current seismic design codes. This photo shows the existing bridge in the open position. The movable span has become unreliable and sticks at the open position. This causes delays to passenger rail service when the bridge cannot be closed in a timely manner.

The goals for this project which were used to guide development of the project relate to addressing substandard conditions and improving operations for rail and river traffic. As shown in the slide, the three goals are to, number one, improved passenger rail operations, service reliability and operational flexibility.

Number two, improve the load capacity of the corridor and remove existing structural operational limitations. And number three, minimize conflicts with ship traffic. For each of the three projects goals, F.R.A. and New York State D.O.T. also established objectives that help guide how the project should meet the goals.

For goal one, the objectives describe the specific improvements that should occur to rail operations across the bridge, including allowing use of the two-track bridge by two trains at the same

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing time, which cannot occur today due to its condition and increasing train speeds across the bridge.

For goal two, the objectives really primarily to design criteria that should be met for rail operations on the bridge, including objectives related to the loads that the bridge should support, the distance between the tracks and the vertical clearance for trains on the bridge.

For goal three, objectives relate to minimizing impacts to and improving operations for boats in the Hudson River that pass beneath the bridge is include providing at least the same clearance as the existing bridge and minimizing delays to boats during construction and after completion of the bridge.

This project will provide additional connections to regional trail systems by providing a new pedestrian bicycle crossing over the Hudson River, a new connection for which we recognize there is key community interest. The project will enhance connections with the Mohawk-Hudson bike-hike trail, the Albany Skyway, the Empire State Trail, and the future Rensselaer Riverfront Trail, which is being progressive by the City of Rensselaer under a

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

separate project as part of their master plan.

We will go over more information about the project sharing these paths and subsequent slides. The environmental review process that must be followed for the project, as well as the historic preservation laws that apply in the project require that New York State D.O.T. and F.R.A. consider a range of alternatives in developing the project.

This allows them to identify the approach for addressing the project need and goals and objectives that results in the smallest impact to the environment and to historic properties. There were several alternatives evaluated by New York State D.O.T. and the F.R.A.

They include the no action alternative which provides a baseline comparison for the other alternatives and represents conditions if no work was undertaken. A permanent detour using alternate routes was considered. But resulted in significant changes to the Empire Corridor routes and bypassed major stations, including Rensselaer and Schenectady, rehabilitating the existing bridge including minimal repairs, rehabilitating to accommodate freight and passenger rail and rehabilitation for passenger

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

trains only.

Replacing the existing bridge with a new bridge, using existing alignment on new alignment, on an adjacent alignment to the north of the existing bridge, and on an adjacent alignment to the south of the existing bridge. After this analysis, which is described in the environmental assessment, New York State D.O.T. and F.R.A. determined that only the replacement on adjacent alignment alternatives would meet the project purpose need, goals, and objectives.

There are two replacements on adjacent alignment alternatives that were further evaluated in the environmental assessment. Alternative one, as shown on the left, would construct a new bridge to the north of the existing bridge and alternative two, shown on the right, would construct a new bridge to the south of the existing bridge.

While the two replacement alternatives have different alignments, a number of design features are included in both alternatives. This includes the construction of a shared use path for pedestrians and bicyclists across the new bridge. Addressing the existing bridge deficiencies,

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing providing a one-hundred-year design life for the new bridge, using a lift span instead of a swing span, improving track geometry and providing fourteen feet tracks centers, which is the minimum spacing required between the tracks on the new bridge.

Both alternatives also include modifications to the railroad bridges over Water Street and Center Street in Albany to allow the tracks on these bridges to connect to the new track alignment of the replacement bridge. Both alternatives include the same improvements related to the navigational channel in the Hudson River, consisting of a one hundred- and ninety-feet wide channel opening, twenty-five feet vertical clearance within the navigation channel under the fixed new bridge spans and sixty feet of vertical clearance when the bridge is raised for ship traffic.

This would match the vertical clearance at the upstream and downstream bridges over the Hudson River. Both alternatives would require temporary easements on both riverbanks during construction for contractor access to the bridge construction site. The North alignment, alternative one, is located approximately two hundred feet north

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing of the existing bridge on the Rensselaer side and skews closer to the existing bridge on the Albany side.

The majority of the structure and approach work could be constructed offsite with this alternative. However, this alignment requires wider piers due to its skewed alignment across the Hudson River. The north alignment requires more approach work along the railroad tracks and more property acquisition along the north approach track in Rensselaer.

The estimated cost for the north alignment alternative one is four hundred and thirty million dollars in 2024 dollars. For alternative two, the south alignment, the new bridge would be located approximately sixty feet to the south of the existing bridge. Since the new bridge for this alignment would be perpendicular to the Hudson River.

All piers could be constructed parallel to river flow, making them narrower than the piers required for the north alignment. The south alignment would provide for superior access and connections to adjacent shared use paths and trails, including the Albany skyway, the Mohawk-Hudson bike-

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

hike trail and other elements of the Empire State Trail.

The estimated cost of the south alignment alternative two is four hundred million dollars in 2024 dollars. Based on the analysis of the environmental assessment, as well as operational and engineering considerations, alternative two has been identified as the preferred alternative.

The next few slides will discuss this alternative in more detail. This image shows an illustration of the profile view of the proposed new bridge. The proposed bridge will be approximately one thousand three hundred and seventy feet long and have multiple spans. Because of improved loading, it would remove the current risk speed limitations of fifty miles per hour for passenger trains.

Train speeds will be governed by the track geometry on either side of the bridge, with speeds up to thirty miles per hour achievable for traveling east into Rensselaer and speeds up to forty miles per hour for traveling west. In addition, the bridge could be used by two trains at the same time, which is not possible today due to its condition.

A new structure would also include a

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

lift span for ship traffic, showing you the center of the diagram, where the higher towers are located, the new lift span would be able to open and close more reliably than the existing bridge. Improving bridge operation and coordination with fewer delays between ship and train traffic.

This illustration shows the proposed cross section of the proposed new bridge is wider than the existing bridge with two tracks and a share used pedestrian and bicycle path, physically separated from the train traffic. The proposed bridge would also support heavier freight boats.

The taller and wider cross section will meet current railroad design standards and accommodate larger rail cars. This figure shows a view looking down from above the proposed bridge. The new track alignments are shown in red and the shared use path in green. On the Albany side, the rail bridges over Water and Center streets will be rehabilitated to accommodate track alignments for the new Livingston Avenue Bridge.

On the Rensselaer side, the Y tracks will be realigned to match the new Livingston Avenue Bridge alignment and facilitate train turning

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

movements. This slide shows the existing bridge profile as the top figure and the proposed bridge profile on the bottom. Both of these images are looking north with Albany on the left and Rensselaer on the right.

The images show that the proposed bridge, the movable span is located more toward the center of the Hudson River. This slide shows the map of the connections of the proposed shared use path on the new bridge to the existing and planned trail systems in the surrounding area. The path on the new bridge would connect the Albany skyway on the Albany side to the east side of the river, where the City of Rensselaer is currently developing a multi-use trail along the waterfront.

And now, let's look at some renderings of what the proposed bridge will look like when the project is complete. This first rendering shows a bird's-eye view of the proposed bridge over the Hudson River from the Albany side looking north. You can see the New Albany skyway on the left. This next rendering shows a close up of the moveable span for the proposed bridge and the raised position to allow for ship passage.

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

And finally, this rendering shows the proposed bridge from the Rensselaer side looking toward Albany. The shared used path can be seen diverging to the south from the bridge to connect with the proposed Riverfront Trail. The environmental assessment for the project was prepared in accordance with the National Environmental Policy Act, as well as related laws and regulations.

It includes an evaluation of the potential permanent impacts of the project during operation and temporary impacts during construction. It evaluates a full range of environmental topics, covering issues related to the human and built environment, such as land use, community character, social and economic conditions and historic resources and visual considerations.

It also includes an evaluation of the project's effects on the natural environment, including terrestrial resources and water resources. The E.A. evaluates the project's potential effects on historic resources to comply with NEPA. And also, with Section 106 of the National Historic Preservation Act.

There are three historic properties

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing within the study area for the project, including the bridge itself and two additional properties on the Albany side of the river. Two bridges and an adjacent warehouse structure on the rail spur. All of these properties have been determined to be eligible for the National Register of Historic Places.

The evaluation of historic resources was conducted in consultation with the New York State Historic Preservation Office and other consulting parties as part of the Section 106 process. The consultation determined that removal of the Livingston Avenue Bridge for this project would constitute an adverse effect to historic properties.

Mitigation for this effect has been developed through Section 106 consultation. There will be no adverse effect on the two other historic properties in the study area, the central warehouse and Center Street railroad spur and the Albany railroad viaduct.

To mitigate the adverse effect on the National Register Eligible Livingston Avenue Bridge, a memorandum of agreement M.O.A. among Federal Railroad Administration, New York State D.O.T. and

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing
New York State Historic Preservation Office was developed in accordance with Section 106 of the National Historic Preservation Act.

The proposed mitigation includes documentation of the bridge, following Historic American Engineering Record, H.A.E.R. standards, interpretive science related to the history of the bridge along public walkways nearby, use of truss spans for the replacement bridge and an active search for a new owner of the existing Livingston Avenue Bridge for adaptive reuse or partial reuse at a new location.

It should be noted that no new owner has been identified at this time. The mitigation would also include development of a construction protection plan to avoid accidental damage to nearby historic properties during construction. A draft M.O.A. is included in the E.A. It will be finalized following review of any public comments on the project and its effect on historic resources that are received during the public comment period on the E.A.

The E.A. documents the projects expected impacts on water resources and ecology. The analysis explores effects for both construction and

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

the proposed new permanent structure. The E.A. identified several potential effects from the new bridge, including effects on the floodplain, effects of the bridge piers on the bottom of the river and in the wetland area and effects due to construction activities on aquatic vegetation.

The evaluation was prepared in coordination with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. In compliance with the Endangered Species Act and other related laws and regulations. Construction crews will implement mitigation measures during construction to avoid adverse effects on water resources and ecology.

These will be finalized in consultation with the U.S. Coast Guard, U.S. Army Corps of Engineers, and New York State Department of Environmental Conservation, as part of the permitting process for the bridge. Based on completed consultation with the National Marine Fisheries Service, construction crews will comply with a number of requirements to limit adverse effects on protected species.

These will include limits to when

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing
construction activities can occur in the water and when tree clearing can occur. The E.A. also evaluates the potential for other impacts during construction and identifies measures to avoid adverse effects to neighbors and construction workers.

These include using best management practices to limit dust at the construction site, limiting nighttime construction work and using barriers to block transmission of noise as well as further environmental investigation and management to avoid exposure to contaminated materials, including on land and in the river.

The preferred alternative proposes some acquisitions of private property for the new track alignment. These acquisitions are necessitated by the new rail alignments to tie into the new bridge location and to construct a new shared ... path. New York State D.O.T. will discuss the real estate acquisition process further during the public hearing, following this NEPA information session.

The next step for the depot public comment period will be for the Federal Railroad Administration to make their environmental determination based on the analysis presented in the

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing environmental assessment and the review of the comments received. We expect the F.R.A. to make this determination later this fall.

A public hearing after this NEPA information session will review the real estate process. Construction will begin at the end of 2023. And is anticipated to be complete at the end of 2026. Comments on the environmental assessment will be accepted through June 15th, 2022. Comments will be accepted by email at livingstonavebridge@dot.ny.gov.

Please include the subject public comment, as well as, through the project website, www.dot.ny.gov/livingstonavebridge/contact. Comment via U.S. mail should be sent to Livingston Avenue Bridge Project, New York State Department of Transportation, Office of Design 50 Wolf Road, POD-24 Albany, New York 12232.

THE MODERATOR: Well, I have all of your attention, thank you. We are going to break and invite you to go back to the slide boards, ask your questions of the people with the badges. These conversations are not part of the record but they’re an opportunity for you to learn more than it's -- we're going to take a little bit break ... public

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing hearing starts and if any of you are interested in making a statement in front of the audience, please let me know at the desk.

We also have our stenographer here. She can take the live statement and as you saw at the front desk, we have ... to take with you and so we will read ...

(The hearing adjourned at 6:32 p.m.)

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

STATE OF NEW YORK

I, ANNETTE LAINSON, court approved Transcriber, certify that the foregoing is a correct transcription from the official electronic sound recording of the proceeding in the above-entitled matter.

IN WITNESS WHEREOF, I have hereunto subscribed my name, this the 23rd day of June, 2022.

_____x

ANNETTE LAINSON

Associated Reporters Int'l., Inc.

T

U

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

STATE OF NEW YORK

DEPARTMENT OF TRANSPORTATION

IN COOPERATION WITH

THE FEDERAL RAILROAD ADMINISTRATION, F.R.A.

In compliance with the New York State D.O.T. Procedures for implementation of the State Environmental Quality Review Act at 17 New York Codes, Rules and Regulations, Part 15, regarding the Livingston Avenue Railroad Bridge Project.

PUBLIC STATEMENT HEARING

DATE: June 1, 2022

TIME: 7:00 p.m.

BEFORE: MAURA FITZPATRICK, Hearing Administrator

LOCATION: Palace Theater
19 Clinton Avenue
Albany, New York

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

(The hearing commenced at 7:00 p.m.)

THE MODERATOR: And thank you for attending the Livingston Avenue Bridge Project public information meeting and public hearing. I think you've all met me. My name is Maura Fitzpatrick and I am serving as your host for this evening and this presentation.

On behalf of Marie Therese Dominguez, who is the Commissioner of the New York State Department of Transportation, and Amit Bose, the Administrator for the Federal Railroad Administration. I welcome you to this two-part public meeting and public hearing on Livingston Avenue Bridge Project.

Hopefully, everyone took advantage of the opportunity to speak with the staff and the project boards and the open house portion of this meeting was intended to answer any general project questions regarding the environmental assessment, the document that was prepared to present the project purpose, goals, and objectives to evaluate project alternatives and to evaluate the environmental impacts.

If anyone has a formal statement

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing regarding environmental assessment, that they have not already given to the stenographer, there will be a comment period following the eminent domain procedure law presentation to have this recorded for the project record and you'll see that presentation shortly.

The second portion of tonight that we are about to begin is a public hearing to satisfy Article 2 of the New York State Eminent Domain Procedure Law. This ... project summary, right of way impacts and D.O.T. deposition process. As mentioned, this will be followed by the formal comment session where attendees will have time to make public statement and will be recorded to public record.

During public testimony for formal comments session, comments will be accepted for anything project-related that could be material presented in the open house format tonight, the environmental assessment document or the E.D.P.L. hearing.

Substantive comments will be addressed as part of the NEPA, that’s the National Environmental Policy Act, and SEQRA, which is State

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing Environmental Quality Review Act processes, whereas part of the determinations and findings documented. All of these comments will become part of the project record.

Now I'd like to introduce the representatives from New York State Department of Transportation executive team in attendance for tonight's session. We have the New York State D.O.T. ... who is the chief engineer, who is not at the table with me and raising his hand ...

We have Stephanie Winkelhake, who is the deputy chief engineer. Stephanie is also -- there she is, hi Stephanie. And then the next ... is Pat Barnes, who is the Regional Director for Region One. Also with me at the table is part of the project's technical team and it's Susan Andrews P.E., who is the director of the rail projects group.

We also have with us Bryan Viggiani, who is the Public Information Officer for Region One. And ... who is the project manager for this effort. Corinne Miller is with the real estate liaison for Region One, and then we have several representatives from the consulting team with us as well.

... Johnson P.E. who is the

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing
engineering consultant with ... We have Tom Cole
(phonetic spelling) ... who is the project manager
... and we have Julie ... and -- who is the
environmental consultant with A.K.R.F. as well as ...
from A.K.R.F. And then we have several people here
from ...

So slide -- this project may require property acquisition by New York State Department of Transportation, which would ... in accordance with the New York State Eminent Domain Procedure Law. Today's hearing is a requirement within that law. So we're now going to show you a relatively short video about that process.

(Video played)

The New York State Department of Transportation, New York State D.O.T., in cooperation with the Federal Railroad Administration, F.R.A. published an environmental assessment for the project on May 9th, 2022. The project has been advanced in accordance with the requirements of the National Environmental Policy Act, NEPA codified as Title 40, Code of Federal Regulations, Parts 1500 to 1508.

F.R.A.s environmental regulations at 23CFR Parts 771 and 774, the New York State D.O.T.

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing procedures for implementation of the State Environmental Quality Review Act at 17 New York Codes, Rules and Regulations Part 15. And in accordance with the provision of Article 2 of the New York State Eminent Domain Procedure Law, E.D.P.L.

The publication of the environmental assessment began the public comment period on the document, which will extend until five p.m. Eastern Daylight Time on June 15th, 2022. This public hearing is being conducted to obtain comments on the project's environmental assessment and the right of way acquisition process.

The environmental assessment is available for review at this hearing on the project's website, www.dot.ny.gov/livingstonavebridge. And at the New York State D.O.T. main office 50 Wolf Road, Albany New York, 12332, and at the Albany City Hall and the Rensselaer City Hall. The environmental assessment documents compliance with other applicable federal, New York State, and local environmental laws and regulations.

Including Section 106 of the National Historic Preservation Act, the conformity requirements of the Clean Air Act, the Clean Water

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing Act, the Rivers and Harbors Act of 1899, Section 4(f) of the Department of Transportation Act of 1966, Section 4(f). The Endangered Species Act, Executive Order 11988. The U.S. Department of Transportation order 5650.2 on Floodplain Management, Executive Order 11990 on Protection of Wetlands.

The Magnuson-Stevens Act, related to Essential Fish Habitat, the Coastal Zone Management Act and Executive Order 12898 on environmental justice. It describes the project, the consideration of social, economic and environmental effects that would result from implementation of the project and measures to mitigate adverse effects.

This hearing provides the public an opportunity to make formal statements of positions before any final project decisions are made. The agencies will review and consider public comments submitted by the Comment Deadline. Substantial comments received will be addressed after the meeting as part of the NEPA and E.D.P.L. processes.

The determinations and findings for the public hearing will be published within ninety days of the hearing date. This presentation will cover material specific to the project as it relates

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing to the Eminent Domain Procedure Law. We will discuss the hearing purpose and the project location, goals, description and impacts. Then we will discuss the right of way acquisition process and how to submit comments.

During the development of the project alternatives for the environmental analysis, several properties were identified that may be required for the construction of the preferred alternative. Property acquisition by New York State D.O.T. would occur in accordance with the New York State Eminent Domain Procedure Law.

Today's hearing is a requirement under this law. The Livingston Avenue Bridge is located in the cities of Albany and Rensselaer, New York, and spans the Hudson River. As a part of the rail network, this project is located on the Hudson line section of the Empire Corridor. The current service across the bridge includes twelve Amtrak passenger trains and roughly two to six freight trains, Canadian Pacific Railway and C.S.X. daily.

The bridge is a critical link for passenger rail service as no detour is available without creating substantial delays, upwards of two-

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

and-a-half hours. The bridge has a moveable swing span to allow larger ships to pass and opens about four hundred times each year. This mechanism has become unreliable and sticks in the open position, causing delays to passenger rail service when the bridge cannot be closed in a timely manner.

This bridge is more than a hundred years old, with the bridge piers built in 1865 and the bridge spans built in 1903. Due to its age, it is in a deteriorated state and trains are limited to crossing one at a time, at only fifteen miles per hour. Also, the clearances for height and width do not meet modern standards and the bridge does not meet current seismic design codes.

The goals for this project relate to addressing substandard conditions and improving operations for rail and river traffic. As shown on the slide, the three goals are to, number one, improve passenger rail operations, service reliability and operational flexibility.

Number two, improve the load capacity of the corridor and remove existing structural operational limitations. And number three, minimize conflicts with ship traffic. The project goals were

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing used to develop the alternatives evaluated in the environmental assessment. The environmental assessment for the project was prepared in accordance with the National Environmental Policy Act, as well as related laws and regulations.

It includes an evaluation of the potential permanent impacts of the project during operation and temporary impacts during construction. It evaluates a full range of environmental topics, covering issues related to the human and built environment, such as land use, community character, social and economic conditions and historic resources and visual considerations.

It also includes an evaluation of the project's effects on the natural environment, including terrestrial resources and water resources. As previously discussed, this document is available to the public for review and comment. Based on the analysis of the environmental assessment, as well as operational and engineering considerations.

The preferred alternative, a full replacement approximately sixty feet to the south of the existing bridge, was identified. Shown in the profile at the bottom of the slide, a lift span is

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing proposed to accommodate ships instead of a swing span. It will allow for a sixty-foot vertical clearance when raised, which matches the clearances at upstream and downstream bridges and will be centrally located in the river channel.

Also proposed is a shared use path for pedestrians and bicyclists to cross the Hudson River, connecting local and regional trail networks in Albany and Rensselaer. The construction costs for the proposed bridge are estimated at four hundred million dollars. This figure shows a view looking down from above the proposed bridge.

The new track alignments are shown in red and the shared use path in green. On the Albany side, the rail bridges over Water and Center streets will be rehabilitated to accommodate track alignments for the new Livingston Avenue Bridge. On the Rensselaer side, the Y tracks we realign to match the new Livingston Avenue Bridge alignment and facilitate train turning minutes.

This new alignments off the bridge and the new bridge structure will support increased speeds for passenger trains. Eastbound passenger trains heading toward Rensselaer will have a maximum

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

speed of thirty miles per hour and westbound passenger trains heading toward Albany will have a maximum speed of forty miles per hour.

In addition to higher speeds, the new bridge typical sections will support two trains using the structure at the same time, which is not possible today. The cross section shows updated vertical and horizontal train clearances and shows how the new shared use path will be accommodated across the bridge.

The next few slides will discuss the proposed right of way impacts of the preferred alternative on both the Albany and Rensselaer sides of the river. These acquisitions are necessitated by the new railways to tie into the new bridge location and to construct the new shared use path.

Property acquisitions would occur in accordance with the Eminent Domain Procedure Law, a process that will be discussed at the end of this presentation. This proposed acquisition area is on the Rensselaer side of the river just north of the bridge where the new tracks will tie into the lines running north. It includes one larger parcel owned by First Rensselaer Corporation that measures one

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

point one four acres.

There are also five smaller parcels owned by ... Realty Corporation that totaled zero point two seven acres in size. South of the bridge on the Rensselaer side, there's a triangular shaped property owned by New York Central or C.S.X., where the shared use path will diverge from bridge alignment and turn south. This property may need to be acquired as part of the project.

After the shared used path turn south, it would gradually slope downward to connect with the proposed Rensselaer River front trial. The highlighted area is a permanent easement that may need to be acquired from Amtrak. On the Albany side of the river, there are three parcels that were no longer be needed for railroad use.

East have the potential to be acquired to facilitate future access to the tracks. After properties have been identified during the design process, the first step in the right of way acquisition process is sending out an introductory letter in a packet with a preliminary copy of the acquisition maps.

A New York State D.O.T. representative

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing will then set up an appointment by phone or in-person to explain the acquisition process and the project in more detail. The next step is the determination of compensation. New York State D.O.T.'s appraisal unit will send out a letter, providing the property owners the opportunity to accompany the appraisal on their inspection of the property.

The appraisal will establish fair market value for the subject lands, once established, the offer of just compensation will be made. The offer may be made by mail or in-person. The offer will include an agreement for the owner to review and sign. A second contact will be made by New York State D.O.T. within two weeks of the offer to answer any questions the owner may have or address any concerns.

Once contact has been made to the property owner, the state proceeds to acquire title to the area depicted on the acquisition map by filing a copy of the map with the county clerks. Notice of this filing would be sent to the property owner via certified mail. Once an agreement and all required closing papers have been signed and have completed legal review, payment will be issued by the state

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

comptroller within approximately eight weeks.

The next steps after the public hearing and the public comment period have ended, will be for the federal railroad administration to make their environmental determination. This will be based on the analysis presented in the environmental assessment and the review of the comments received.

We expect the F.R.A. to make this determination later this fall. Real estate acquisitions will follow in the winter of 2022 and into early 2023. Construction will begin at the end of 2023 and is anticipated to be complete at the end of 2026. I will now review how to comment on the environmental assessment.

Comments will be accepted through June 15, 2022. Comments via email may be sent to livingstonavebridge@dot.ny.gov. Subject to public comment. Comment through the project website www.dot.ny.gov/livingstonavebridge/contact, subject to public comment. Comment via U.S. mail, Livingston Avenue Bridge Project, New York State Department of Transportation Office of Design, 50 Wolf Road, POD-24 Albany, New York 12232.

THE MODERATOR: Okay. It's now time

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing to begin the public comment session. During this time, all are invited to provide verbal comments on any of the material for tonight's meeting, or previously available environmental assessment document. Comments will be limited to three minutes, substantive comments will be responded to as part of the NEPA and SEQRA processes and then the determination and finding documents is part of E.D.P.L.

The official transcript of the meeting will become part of the project record. My role as hearing moderator is to provide members of the public an opportunity to provide comments and organize, prepare in a professional manner. Agency representatives will not be answering your questions or responding to comments during this hearing.

Responses to substantive comments will be included in the project record in the determination confinements. Testimony is being recorded by our stenographer. So please state and spell your name and identify the organization you represent. To ensure all record, comments will be limited to three minutes after the introduction.

There will be a countdown clock on the

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing screen, and I will provide a verbal warning when thirty seconds remain. At this time, we will hear from those which make oral statements. And if you have not signed up and you change your mind, you can just go to the front desk and Marie will give you one of these cards just you -- you haven't filled this out for the record and ... take advantage of that. We also, as I said, we -- earlier we have a stenographer available to make comments.

And in accordance with agency policy elected and appointed officials will be given the first opportunity to speak ... Others will be called to make their statements in the order they're listed in the queue and I will call two names at a time ... to speak and I apologize in advance if I mispronounce any names.

When I call your name, I'd like you to come up to this microphone in the center of the room. If you have any concern about that or any difficulty, just raise your hand, and we'll bring the microphone to you ... I also wanted to state that all the comments are weighted the same, whether you've written us a comment form or you're speaking tonight or you've spoken with the stenographer. It's all ...

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

So with that, I'm going to call our first speaker who is New York State Assemblymember John McDonald and Assemblymember McDonald will be followed by Mayor Sheehan, the City of Albany. Thank you.

MR. MCDONALD: Well, good evening and thank you. This is such an exciting time. To be honest with you, I am representing the City of Albany and the City of Rensselaer for the last ten years and I ... Hopefully, the next year the funding will be there. Fortunately, the funding is there thanks in part, of course the federal government ... the state budget Governor Hochul ... What I'd like to just say ... Yes, obviously we know the importance of this area in regards to commerce, in regards to transportation in Upstate New York.

We know how busy the Rensselaer station is. We also know the importance of what's being transmitted. Obviously safety is our number one priority. At a hundred years old I get concerned every time. I drive by that bridge as we all should. At the same token this presents ... for both the City of Rensselaer and the City of Albany both Mayor Sheehan ... have worked hard on plans to liven up the

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing
waterfront. I do know the skyway was just opened up a couple weeks ago a project that has been years in the making. Rensselaer itself has been working on trails. And as transportation has demonstrated the past, it's important to continue the business transporting people and materials. But it also leads to one of the most important opportunities here is the legitimacy of putting in a true pedestrian, bike pedestrian trail across this bridge. Obviously, we support that and we're very excited. We thank the department for starting this process. And as one who's been through these processes before, it looks like it's a long process because everyone has the opportunity to contribute, to address any concerns that they have.

But at the same token 2026 will be here before we know it. So thank you.

THE MODERATOR: Thank you Assemblymember John. Next, Mayor Sheehan and followed by Mayor Stammel of Rensselaer.

MS. SHEEHAN: Thank you so much and we truly appreciate your coming here and talking about this project with the community. It's really important. I am also grateful to Senator Schumer for

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing
making this a priority project and Governor Hochul, to Commissioner Dominguez and to everyone at D.O.T. for all the work they put into this, as well as the applicants that we have here in the City of Albany and across the region, who have been working so hard diligently for decades, really, since the pedestrian access on this bridge is closed for safety reasons understandably.

I also want to commend the environmental justice review that is contained in this document, as somebody who lives in the environmental justice area that was studied, it was of particular interest to me and I think ... addressed the concerns that residents would have. this is an opportunity for us to be able to go back to our residents to Talk about what their concerns would be and how they've been addressed. So we truly appreciate that.

One of the things that was talked about that has been driving this process from the very beginning, is the reconnection and the pedestrian and bicycle access across the river. And all of the things that are in this report which I reviewed and that I commend, there was one thing that

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

I would love to see in this is you have -- you have articulated three goals.

And those goals understandably are related to improving passenger rail operations, improving the load capacity, and minimizing conflicts with navigational traffic. I would love to see a fourth goal as being the goal of reconnecting the -- the two sides of the river with safe and modern life and pedestrian assess.

As New York State Department of Transportation, you've been on the forefront of recognizing and acknowledging that when we think about our transportation infrastructure, we have to think about bikes, we have to think about people who are walking, it is an important part of who you are and what you've done and the investments that you've made.

And I see that this plan that includes the bike and pedestrian infrastructure, we are appreciative of it. And I think that New York State put itself on the map by taking us to the next level and actually having it be a goal of this project, that is laid out here so that we can lead the nation in acknowledging and recognizing the transformational

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing
power that this project can have when we include and think about walkers, bikers and people in wheelchairs and those who actually live in and work in and want to engage in this community.

So thank you so much for your hard work. I commend you. I commend the thoroughness of the review and I am so grateful that you're moving forward with this project and I fully support it. Thank you.

THE MODERATOR: Thank you, Mayor Sheehan. Mayor Stammel will be next followed by Gary Prophet.

UNIDENTIFIED SPEAKER: Yes, thank you very much. First of all, I'd like to congratulate and thank the D.O.T. for such a great project. As far as the presentation goes and the people you've brought with you in order to speak. We were looking at posterboards that are up, very informative. The presentation with the PowerPoint is very important as well.

And it just complements the efforts that you put forth in order to make this public hearing easy to understand, so I appreciate that. I want to say that I definitely support the comments

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing made by Mayor Sheehan and ... McDonald as well. I myself was part of Assemblymember McDonald over ten years ago and Senator Schumer was down here in Riverfront, speaking about doing something with this bridge.

And just after that we allocate fifteen -- allocated fifty thousand dollars, I think into D.O.T. where it was on paper but nobody could find the money. I'm glad to see now that there's -- there's money definitely dedicated to it. And I truly support it. As a youth I was able to walk over the bridge. To me it was thrilling to be able to get downtown Albany.

It was easier, easy to do from where I live and still live in the City of Rensselaer and it was a thrill to be on that bridge when -- when they opened it for the boats to go by and we still -- still let us sit on the bridge as long as we stayed where we were, they -- they moved the -- opened the bridge up. And you know we could watch the boats go by and then close it again. So it can be done safely. And at least with some of the illustrations that I've seen, it will be done safely with separation of the trail walkway, which I would hope

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

it would stay in the rail traffic.

What is happening with not maintaining the walkway that's on the current bridge is we created an unsafe avenue for people to still go across the bridge. I've worked with Amtrak, forty-one years recently before I retired and in safety, as well as emergency management. And one of the biggest problems we have is people still crossing the bridge, crossing the bridge by going over the railway track section.

And that needs to be addressed, for sure. And so -- so and I also want to see this bridge, obviously the trail to connect. But we're trying to do it with the riverfront trail and we want to have a complimentary type of trail in Rensselaer side that would complement as well what's going on in the Albany side.

And so that pedestrians can walk back and forth, Rensselaer city, Rensselaer get to Albany, which is a state capital and we -- we should have easy access to the capital. But you can't go over, you can't go over the I-90 bridge if you're walking a bike. And it's very difficult to go over the bridge to do the same thing, this would make access

so much easier and so much safer. So I wish you would consider that as well.

One of the other things is on the railroad, I know how unsafe it was, when we were changing the ties on that bridge years ago, both sections of track one and track two and very dangerous. And it's hard to get parts for that bridge as well now has to be manufacture or you just can't get anywhere. That's the bottom line so which makes it very difficult to -- to get parts of the bridge as well. So overall, I know the residents in the City of Rensselaer support this acquisition for property as well as the walkway and bridge being replaced.

And I look forward to its completion. I don't know if I'll still be an elected official at the time but I'll be sure to be happy when it's done. So I want to be a part of that as well. And again, I want to say I appreciate all your efforts. And I know my office will work with the office of D.O.T. and the other office as much as possible in order to continue the process of moving this thing forward.

So again, I want to thank you for this opportunity and continue the good work and we all

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing looking forward to the day when we can all walk across ... the same time and rejoin the river front with the City of Rensselaer. Thank you.

THE MODERATOR: Thank you, Mayor Stammel. Our next speaker is Gary Prophet followed by Seth Harris and I'd like to remind people to state and spell your first and last name, please for the record.

MR. PROPHET: So it's Gary Prophet. It's G-A-R-Y, last name is Prophet, P-R-O-P-H-E-T. And I'm the President of the Empire State Passengers Association or statewide organizations looking at improving both local, regional and city transportation, especially public transportation bus and Amtrak and local transit across all of New York State.

So first, I'd like to especially thank D.O.T. and Commissioner – Commissioner Dominguez and Governor Hochul for giving this project to the primary areas that should be to have hearings like this with the money aside for this. This is an absolutely critical to rail transportation across New York State, anybody traveling from the Hudson Valley or New York City to go to Schenectady, to go to

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

Saratoga, all the way to Buffalo or Chicago.

This bridge is the only way that you can have, inner city rail passenger space. The entire network depends on what is currently a hundred-year-old bridge. So replacing this bridge is absolutely critical and something that we've been pushing for for years and it's finally gotten to the level of funding the priority is what we can get this -- sorry, to get this done and get it funded, which is the most important thing to do.

So thanks for everybody at the Governor’s office and the D.O.T. which helped to finally do that. Also looking at all the materials earlier this week, I would say whoever put the information together on the website, everything is very clear, very understandable. So I want to thank anybody who was responsible for that, D.O.T. to obviously some ...

And as a bonus from our standpoint it also helps for the transit of pedestrians and bicyclists locally as we already heard from the prior speakers between Rensselaer and Albany. So being able to have one -- one bridge to take care of all these features needed for both local transit and

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing local pedestrian, along with inner city rail across all of New York state and in connecting New York and Chicago as the train that does go daily from New York to Chicago also uses this bridge.

So it's absolutely critical and I want to thank everybody for all the work they've done to get us to this level. And so we can get it done and completed and phased in as soon as possible based on the schedule that we saw earlier. So we're totally support of it, organization is support of it -- we're in support of it and it seems like the mayors and most other people are in support of it too.

So thank you for all your work to get everybody on the same page. Like nowadays, it's hard for everyone to agree on a project, this seems to be one project that everybody seems to agree on so far. Thank you.

THE MODERATOR: Okay. Seth Harris is next followed by Daniel S. Wing.

MR. HARRIS: My name is Seth Harris, S-E-T-H H-A-R-R-I-S. I'm the Deputy Mayor in the Village of Menands, our neighbor to the north. I again also wanted to say that I am representing the residents of the Village of Menands fully support

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

this project, especially recently, with other connections that D.O.T. has worked with our village to create, such as our bike path connector, I see residents from Menands all the time biking, ... reserve and even onto -- toward Delmore to Voorheesville.

I think these connections that you've worked with -- with local governments to create are fantastic. We need more of it. The fact that every day after work, I can go from my house and come all the way down in Albany and bike all the way to Voorheesville and only cross one street while doing that. That's pretty awesome.

As I said, I see -- I see the beautiful green bikes, from our bike stations in Menands down here all the time. And that tells you that because of the connection that D.O.T. has created, over seventy-seven our residents were using that, I know they would like to continue, they'd love to crossover into Rensselaer, continue biking down there.

I just think -- I think that's wonderful to talk about a healthy community that we're trying to create. One thing that I would like

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing to encourage -- encourage D.O.T. to do is to reach out more to some of the local municipalities to try to find a way for the old bridge to be repurposed maybe in creating more connections.

I know, for example, the Village of Menands, looking to do some projects. I have no idea whether it's in our budget but certainly there may be grant money and maybe it won't be the Village of Menands, maybe it will be another local government. But I would love to see the old bridge somehow preserved and repurposed for a pedestrian and mixed-use access.

I encourage you to reach out to the New York conference of mayors to see who might be looking at a project like this, trying to make these connections. But certainly, I would love to be part of that discussion. So thank you, please continue the great planning and I look forward to seeing it into fruition.

THE MODERATOR: Thank you. Daniel S. Wing next, followed by Richard Marriott.

MR. WING: So good evening. I'm Daniel S. Wing, W-I-N-G, I'm a resident of Delmore and I was wanting to advocate for not only design but

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing this consideration of on the Rensselaer side and the Albany side to the ship channel. There'll be some sort of on the river amenity for people to sit on benches or something. So that they can view the river from the river.

And so it turns and not just a very valuable charity's. It's obviously valuable but if there could be some sort of on the river amenity on both sides of the ship channel that would be a valuable new way to experience their region and the river in addition to just crossing the river.

And so I think that it could extend all the way to the end of those -- those bumpers for the barges or it could be some -- but something to make it on both sides of the river like ... channel if there could be some way to sit down on a bench or have a place to sit or -- to actually be on the river fishing maybe, I don't know if that’s possible. I don't fish myself but that might be something that other people might consider and that would be interesting addition to the shared use path.

They'd be able to not just go over it but to arrive at the river and experience the area from the river. And so that was my idea and on the

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing
south side obviously shared use. Thank you very much.

THE MODERATOR: Thank you. Thank you. Next is Richard Marriott followed by Bert Schou.

MR. MARRIOTT: It's capital R-I-C-H-A-R-D, Capital M-A-R-R-I-O-T-T. I hear you say you don't need question from us.

THE MODERATOR: Correct. ... not at this hearing.

MR. MARRIOTT: All right. So --.

THE MODERATOR: Your questions will be part of the record.

MR. MARRIOTT: Okay. I wanted to know how much has the railroad spent on maintenance of this bridge for the last few years, I'd like to know how fast through the Rensselaer train station do you expect trains to go. I'd like to know how much time you say ... increase speed on a trip from Rensselaer to Schenectady.

How many trips are there a week from the existing bridge to Troy and from Troy to this existing bridge because I live right near there and are you going to be taking property to realign that section of track. And the other question is how much

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing
time would be saved on the trip from Troy to this bridge based on minimal line.

Because we had it all ... property and ... saving only a few minutes per year, I think on that on -- on that new line having an increased speed but ... to supply that the existing track does match the proposed tracks. This whole -- I'm concerned about the maintenance that is so easy to have a big ... project, but when it comes to maintenance, the money is -- is usually missing.

The pedestrian access at the memorial bridge and fairly often and it's always pretty there, it looks like the sand from the winter snow and ice control is still on that path so that you really need to spend money on maintenance and they're suggesting bridge, bridge has a pedestrian path on it and it has not been maintained.

So we really need to have spent a lot of ... and likewise the electric trolley pad that goes over the bridge is not handicapped accessible. As Mayor Stammel said we would like to have – a path along the riverfront and I certainly hope that this would be appropriated into this project so that we don't have all the huge amounts of paperwork trying

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing to get being involved with -- with that other path going out to the boat launch to be a part of this project.

THE MODERATOR: Few more seconds. And our last speaker who signed up now is Bert Schou.

MR. SCHOU: Good evening. Bert Schou, S-C-H-O-U, first and foremost, thank you. I can't believe that ... years ago. I know it's argument that ... what's going to happen. And secondly ... not just to break it ... very, very important.

And ... comment about the sitting areas, like bridge ... but it needs to be oriented the city ... at least one of each side ... But again, I think New York State is heading the right direction ... new pathways and I just can't believe what was done and opened up as a member just ... New York State, I can't believe ...

THE MODERATOR: Okay. Thank you so much. So right now, we do not have any other speakers who have signed up. We will be here till eight p.m. when this hearing closes. But I encourage you to go back to our workstation, asking additional questions and -- and otherwise we will close this officially at eight p.m. but ...

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

MR. STAMMEL: ...

(The hearing concluded at 7:43 p.m.)

6/1/2022 - N.Y.S. D.O.T. Public Statement Hearing

STATE OF NEW YORK

I, ANNETTE LAINSON, court approved Transcriber, certify that the foregoing is a correct transcription from the official electronic sound recording of the proceeding in the above-entitled matter.

IN WITNESS WHEREOF, I have hereunto subscribed my name, this the 23rd day of June, 2022.

_____x

ANNETTE LAINSON

Associated Reporters Int'l., Inc.

D

Attachment F: General Conformity and Greenhouse Gas Analysis

A. INTRODUCTION

The New York State Department of Transportation (NYSDOT) is proposing to replace the existing rail bridge across the Hudson River between the Cities of Albany and Rensselaer. This bridge, known as the Livingston Avenue Bridge, is a critical link on the Empire Corridor passenger and freight rail route in New York State and in the state's wider freight rail network, and is nearing the end of its serviceable life. The U.S. Department of Transportation (USDOT) Federal Railroad Administration (FRA) and NYSDOT prepared an EA in accordance with the Council on Environmental Quality's (CEQ) regulations implementing the National Environmental Policy Act (40 CFR Parts 1500-1508), FRA's Procedures for Considering Environmental Impacts (64 FR 28545 [May 26, 1999] and 78 FR 2713 [January 14, 2013]), and NYSDOT's SEQRA regulations at 17 NYCRR Part 15.

On May 9, 2022, FRA and NYSDOT made the EA available for public review, and on June 8, 2022, the U.S. Environmental Protection Agency (USEPA) submitted comments on the EA, requesting a quantitative analysis of direct and indirect construction emissions. In response to USEPA's comment, FRA has prepared this General Conformity Evaluation and Greenhouse Gas Emissions Analysis as an attachment to the Finding of No Significant Impact (FONSI).

Emissions from stationary sources, mobile sources, and construction sources all have the potential to affect air quality. This attachment presents the analysis of the potential construction-related effects on air quality emissions in accordance with general conformity requirements of the Clean Air Act (CAA). The analysis shows that emissions associated with the construction of the project would be below *de minimis* levels specified in 40 CFR Part 93.153(b). Therefore, a general conformity determination is not required.

Additionally, this attachment estimates the effect that the Project will have on climate change by evaluating the energy consumption and greenhouse gas (GHG) emissions generated by construction.

B. REGULATORY CONTEXT

The CAA, as amended in 1990, defines non-attainment areas (NAA) as geographic regions that have been designated as not meeting one or more of the National Ambient Air Quality Standards (NAAQS). When an area is designated an NAA by USEPA, the state is required to develop and implement a State Implementation Plan (SIP), which delineates how a state plans to achieve air quality that meets the NAAQS under the deadlines established by the CAA, followed by a plan for maintaining attainment status once the area is in attainment. Both Albany and Rensselaer counties are currently in attainment for all standards of criteria pollutants.

Effective June 15, 2004, USEPA designated Albany and Rensselaer counties as a marginal NAA for the 1997 8-hour average ozone standard. In March 2008, USEPA strengthened the 8-hour ozone standards, but certain requirements remain in areas that were either NAAs or maintenance areas for the 1997 ozone standard ('anti-backsliding'). USEPA designated the same NAA as in attainment for the 2008 ozone NAAQS, effective July 20, 2012.

The general conformity requirements of the CAA and its implementing regulations (40 CFR Part 93 Subpart B) limit the ability of federal agencies to assist, fund, permit, and approve projects in

non-attainment and maintenance areas where the action's direct and indirect emissions have the potential to impact one or more of the six criteria air pollutants or their precursor pollutants at rates equal to or exceeding prescribed *de minimis* thresholds. For the Project, the prescribed annual rates are 50 tons of volatile organic compounds (VOCs) and 100 tons of nitrogen oxides (NO_x) (ozone precursors, for an ozone NAA within the ozone transport region).

The regulation assumes that a proposed federal action whose criteria pollutant emissions have already been included in the local SIP's attainment or maintenance demonstrations conforms to the SIP.

Each federal agency taking action is responsible, separately, for assessing and determining, if required, conformity of its action. General conformity applies to the Project. Therefore, region-wide emissions were calculated on an annual basis for each year of the Project's construction period.

GREENHOUSE GASES

GHGs are those gaseous constituents of the atmosphere, both natural and anthropogenic, which absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere, and clouds. This phenomenon causes the general warming of the Earth's atmosphere, also known as the "greenhouse effect." Water vapor, carbon dioxide (CO_2), nitrous oxide (N_2O), methane, and ozone are the primary greenhouse gases in the Earth's atmosphere.

CO_2 is the primary GHG of concern from anthropogenic sources. Although not the GHG with the strongest effect per molecule, CO_2 is by far the most abundant and, therefore, the most influential GHG. Methane and N_2O also play an important role since the removal processes for these compounds are limited and because they have a relatively high impact on global climate change as compared with an equal quantity of CO_2. Emissions of these compounds, therefore, are included in GHG emissions analyses when the potential for substantial emission of these gases exists.

To present a complete inventory of all GHGs, component emissions are added together and presented as carbon dioxide equivalent (CO_2e) emissions—a unit representing the quantity of each GHG weighted by its effectiveness in contributing to global warming, using CO_2 as a reference. This is achieved by multiplying the quantity of each GHG emitted by a factor called global warming potential (GWP). The GWPs for the main GHGs discussed here are presented in **Table 1**

Table 1
Global Warming Potential (GWP) for Major GHGs

Greenhouse Gas	100-year Horizon GWP
Carbon Dioxide (CO_2)	1
Methane (CH_4)	25
Nitrous Oxide (N_2O)	298

Source: USEPA. 2021.

C. METHODOLOGY

Emissions from on-site construction equipment, on-road construction vehicles, and marine vessels have the potential to affect air quality. The analysis of potential construction air quality impacts will include consideration of regional (mesoscale) construction period emissions for the Project for the combination of both on-site and on-road/marine sources of air emissions.

EQUIPMENT AND VEHICLE EMISSIONS

FRA estimated the sizes, types, and number of units of construction equipment based on the representative construction activity schedule developed for the Project (see **Appendix** to this attachment). Emission factors for NO_x and VOCs from on-site construction engines, which include exhaust and crankcase emissions, were developed using the NONROAD emission module included in the USEPA Motor Vehicle Emission Simulator (MOVES3) emission model.

GHG emissions from non-road construction engines were based on estimated total fuel consumption throughout the duration of construction activities using fuel consumption rate data from USEPA's MOVES3 model. FRA estimated that non-road construction engines would require approximately 44,000 gallons of diesel and 2,000 gallons of gasoline throughout the duration of construction. FRA then multiplied the quantity of fuel by emission factors of 10.36 kilograms CO_2e per gallon of diesel fuel and 9.18 kilograms CO_2e per gallon of gasoline fuel.[1]

Off-site vehicular engine emission factors were computed using the MOVES3 emission model. While construction vehicles would not run throughout an 8-hour work shift, the analysis conservatively assumed that concrete trucks and heavy trucks, such as dump trucks and tractors, would operate for the entire time they are on site. A total of 10,491 truck trips would occur during the construction period and would result in 83,926 hours of truck idle time and 584,486 miles traveled. Additionally, the analysis included 268,884 vehicle miles traveled by workers traveling to and from the site.

Barges are expected to be used during construction of the Project for the removal of dredged material from the Project Site. A maximum 19,500 cubic yards of dredged material is anticipated to be removed from the Project Site and would require approximately 2 barge trips per month during 1 year of the construction period. Barge trips were assumed to be performed by a representative 788 horsepower tugboat traveling a one-way distance of 30 miles. Therefore, tugboat emissions were estimated according to the latest emission factors and methodologies delineated by USEPA.[2]

EMBEDDED EMISSIONS

Emissions embedded in the extraction or recycling, production, and transport of materials, including upstream emissions from steel, rebar, aluminum, and cement used for construction were estimated based on quantity estimates for the Project and on carbon intensity information for steel and cement from available life-cycle analyses and other information as noted below.

Construction of the Project is estimated to require 7,153 metric tons of cement. An emission factor of 0.928 metric tons of CO_2e per metric ton of cement produced was used to estimate emissions associated with energy consumption and process emissions for cement production.[3]

Similarly, construction is estimated to require 5,347 metric tons of steel and other metals (e.g., structural, rebar, aluminum). Emission factors of 0.6 metric tons of CO_2e per metric ton of steel product produced (to estimate emissions associated with production energy consumption),[4] and

---

[1] USEPA. Emission Factors for Greenhouse Gas Inventories. April 2022.

[2] USEPA. Current Methodologies in Preparing Mobile Source Port-Related Emission Inventories. April 2022.

[3] The Portland Cement Association. Life Cycle Inventory of Portland Cement Manufacture. 2006.

[4] Arpad Horvath et al. Pavement Life-cycle Assessment Tool for Environmental and Economic Effects, Consortium on Green Design and Manufacturing. University of California, Berkeley. 2007.

0.65 metric tons of CO_2e per metric ton of steel product produced (for process emissions associated with steel production) were applied to estimate GHG emissions.[1]

D. RESULTS AND CONCLUSIONS

GENERAL CONFORMITY

FRA estimated the annual on-site and on-road construction-related emissions for the scheduled construction duration and are presented in **Table 2**. The values presented in the table are the total of direct and indirect emissions (including indirect emissions associated with construction truck and worker vehicle trips and the removal of dredged material by barge), consistent with general conformity requirements.

Table 2
Mesoscale Emissions from Construction Activities (ton/yr)

	NO_x	VOCs
De Minimis Criteria	*100*	*50*
Year 1	3.00	0.29
Year 2	9.82 *	0.97 *
Year 3	6.19	0.78
Year 4	1.83	0.19

Notes:

* Highest annual emissions

Construction of the Project would occur over a 3-year duration but span four calendar years.

The pollutant emissions associated with construction would be well below any of the *de minimis* criteria. Therefore, the Project would conform to the SIP and does not require a conformity determination.

GREENHOUSE GASES

A summary of GHG emissions by source type for the Preferred Alternative is presented in **Table 3**. Total GHG emissions associated with Project construction, including direct emissions and upstream emissions associated with construction materials, would be approximately 16,000 metric tons over the 3-year construction period.[2]

Table 3
Summary of GHG Emissions (metric tons CO_2e)

Use	Total
On-Site	479
On-Road Transportation	2,133
Marine Transportation	152
Embedded Emissions	13,298
Total	16

Note: Totals may not sum due to rounding.

The purpose of the Project is to improve reliability and reduce passenger and freight train delays along this segment of the Empire Corridor; achieve (at a minimum) a long-term state-of-good-repair for the bridge; eliminate existing bridge and track deficiencies; and maintain or improve

[1] Based on 42.3 teragrams of CO_2e emitted and 65,460,000 tons produced. Source: USEPA. *Inventory of U.S. Climate Change and Sinks: 1990–2009*. April 15, 2011.

[2] Note that construction of the Project would occur over a 3-year duration but span four calendar years.

navigation near the bridge. This will ensure that the Livingston Avenue Bridge meets modern passenger and freight rail capacity and load (weight) standards, maintains acceptable levels of safety, and supports the long-term utility and vitality of the Empire Corridor. The Project is essential to implementing future rail plans and improving state-wide rail transportation. The Project will also provide recreational and transportation benefits for pedestrians and bicyclists by creating new access across the Hudson River, consistent with long-term plans to better connect the east and west shoreline communities along the Hudson River.

Given that the Project would support efficient passenger and freight transportation by improving reliability and reducing delays along the affected segment of the Empire Corridor, operational GHG emissions from locomotives using the Livingston Avenue Bridge are anticipated to be reduced when compared to the No Action Alternative. Operational emission reductions would partially offset the GHG emissions during construction presented in **Table 3**. Therefore, the Project would be consistent with the long-term federal and state goals of reducing GHG emissions and would also support a variety of other federal and state public policy goals.

Appendix to Attachment F
Backup Assumptions and Calculations

Livingston Avenue Bridge

Regional Emission Analysis

General Conformity Summary

	Annual Totals			
	2024	2025	2026	2027
Nox	3.00	**9.82**	6.19	1.83
VOC	0.29	**0.97**	0.78	0.19

	On Site			
Nox	0.27	0.90	0.18	0.38
VOC	0.02	0.08	0.07	0.02

	Off Site			
Nox	2.09	7.02	6.01	1.45
VOC	0.25	0.84	0.72	0.17

	Barges			
Nox	0.63	1.90	0.00	0.00
VOC	0.02	0.05	0.00	0.00

Livingston Avenue Bridge

Regional Emission Analysis

Greenhouse Gas Summary

Greenhouse Gas Emissions (metric ton)

State	2023	2024	2025	2026	2027	2028	Total Duration
On Site	-	74	236	88	80	-	479
Marine	-	38	114	-	-	-	152
On Road	-	272	908	764	190	-	2,133
Embedded Material							13,298
Project Total	**-**	**384**	**1,258**	**852**	**270**	**-**	**16,063**

Livingston Avenue Bridge
Regional Emission Analysis
Equipment hp-hr (or veh)

	Start Date	Finish Date	Non Road Equipment	Equipment Type	Engine Type	Size (hp)	% Non-Road Equipment Usage (Long Term)	% Non-Road Equipment Usage (Short Term)	Number of Trucks per Day	2024												2025												2026												2027											
										31	28	31	30	31	30	31	31	30	31	30	31	31	28	31	30	31	30	31	31	30	31	30	31	31	28	31	30	31	30	31	31	30	31	30	31	31	28	31	30	31	30	31	31	30	31	30	31
										1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Bridge Piers	10/1/24	10/1/25	Sheetpile vibratory hammer	Cranes 300	Diesel	300	63%	100%		-	-	-	-	-	-	-	-	-	4,152	4,018	4,152	4,152	3,750	4,152	4,018	4,152	4,018	4,152	4,152	4,018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cofferdam	10/1/24	10/1/25	Barge mounted 500 Ton Ringer Crane	Cranes 600	Diesel	450	50%	100%		-	-	-	-	-	-	-	-	-	4,982	4,821	4,982	4,982	4,500	4,982	4,821	4,982	4,821	4,982	4,982	4,821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Pile vibratory hammer	Cranes 300	Diesel	300	50%	100%		-	-	-	-	-	-	-	-	-	3,321	3,214	3,321	3,321	3,000	3,321	3,214	3,321	3,214	3,321	3,321	3,214	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Pump - general, water	Light Commercial Pumps 11	Gasoline	8	100%	100%		-	-	-	-	-	-	-	-	-	177	171	177	177	160	177	171	177	171	177	177	171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Dredgers, Mechanical	Cranes 600	Diesel	600	75%	100%		-	-	-	-	-	-	-	-	-	9,964	9,643	9,964	9,964	9,000	9,964	9,643	9,964	9,643	9,964	9,964	9,643	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bridge Piers	10/1/24	10/1/25	Barge mounted 500 Ton Ringer Crane	Cranes 600	Diesel	450	50%	100%		-	-	-	-	-	-	-	-	-	4,982	4,821	4,982	4,982	4,500	4,982	4,821	4,982	4,821	4,982	4,982	4,821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Assembly	10/1/24	10/1/25	Barge mounted 200 Ton Crane	Cranes 600	Diesel	340	63%	100%		-	-	-	-	-	-	-	-	-	4,705	4,554	4,705	4,705	4,250	4,705	4,554	4,705	4,554	4,705	4,705	4,554	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Barge mounted 100 Ton Crane	Cranes 300	Diesel	230	75%	100%		-	-	-	-	-	-	-	-	-	3,820	3,696	3,820	3,820	3,450	3,820	3,696	3,820	3,696	3,820	3,820	3,696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Generator - large	Light Commercial Generator Sets 600	Diesel	426	100%	100%		-	-	-	-	-	-	-	-	-	9,433	9,129	9,433	9,433	8,520	9,433	9,129	9,433	9,129	9,433	9,433	9,129	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Generator - mid	Light Commercial Generator Sets 175	Diesel	110	100%	100%		-	-	-	-	-	-	-	-	-	2,436	2,357	2,436	2,436	2,200	2,436	2,357	2,436	2,357	2,436	2,436	2,357	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Pump - general, water	Light Commercial Pumps 11	Gasoline	8	100%	100%		-	-	-	-	-	-	-	-	-	177	171	177	177	160	177	171	177	171	177	177	171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bridge Piers	10/1/24	10/1/25	Pile vibratory hammer	Cranes 300	Diesel	300	50%	100%		-	-	-	-	-	-	-	-	-	3,321	3,214	3,321	3,321	3,000	3,321	3,214	3,321	3,214	3,321	3,321	3,214	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pile Installation	10/1/24	10/1/25	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	1000	50%	100%		-	-	-	-	-	-	-	-	-	11,071	10,714	11,071	11,071	10,000	11,071	10,714	11,071	10,714	11,071	11,071	10,714	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	1500	50%	100%		-	-	-	-	-	-	-	-	-	16,607	16,071	16,607	16,607	15,000	16,607	16,071	16,607	16,071	16,607	16,607	16,071	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	209	75%	100%		-	-	-	-	-	-	-	-	-	3,471	3,359	3,471	3,471	3,135	3,471	3,359	3,471	3,359	3,471	3,471	3,359	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	200	13%	100%		-	-	-	-	-	-	-	-	-	554	536	554	554	500	554	536	554	536	554	554	536	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Generator - large	Light Commercial Generator Sets 600	Diesel	426	100%	100%		-	-	-	-	-	-	-	-	-	9,433	9,129	9,433	9,433	8,520	9,433	9,129	9,433	9,129	9,433	9,433	9,129	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Generator - mid	Light Commercial Generator Sets 175	Diesel	110	100%	100%		-	-	-	-	-	-	-	-	-	2,436	2,357	2,436	2,436	2,200	2,436	2,357	2,436	2,357	2,436	2,436	2,357	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Pump - general, water	Light Commercial Pumps 11	Gasoline	8	100%	100%		-	-	-	-	-	-	-	-	-	177	171	177	177	160	177	171	177	171	177	177	171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bridge Piers	10/1/24	10/1/25	Compressors - surface tools	Light Commercial Air Compressors 3	Diesel	275	88%	100%		-	-	-	-	-	-	-	-	-	5,328	5,156	5,328	5,328	4,813	5,328	5,156	5,328	5,156	5,328	5,328	5,156	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pile Cap	10/1/24	10/1/25	Concrete pump - general	Other Construction Equipment 300	Diesel	250	50%	100%		-	-	-	-	-	-	-	-	-	2,768	2,679	2,768	2,768	2,500	2,768	2,679	2,768	2,679	2,768	2,768	2,679	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Generator - mid	Light Commercial Generator Sets 175	Diesel	110	100%	100%		-	-	-	-	-	-	-	-	-	2,436	2,357	2,436	2,436	2,200	2,436	2,357	2,436	2,357	2,436	2,436	2,357	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Compressors - surface tools	Light Commercial Air Compressors 3	Diesel	275	25%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,522	1,375	1,522	1,473	1,522	1,473	1,522	1,473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Concrete pump - general	Other Construction Equipment 300	Diesel	250	25%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,384	1,250	1,384	1,339	1,384	1,339	1,384	1,339	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Abutments & Track Work	1/1/26	10/1/26	Crane - all-terrain (800)	Cranes 175	Diesel	175	25%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	969	875	969	938	969	938	969	938	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Excavator - long reach, tracked	Excavators 300	Diesel	203	38%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,686	1,523	1,686	1,631	1,686	1,631	1,686	1,631	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Front-end loader - wheeled, large	Tractors/Loaders/Backhoes 300	Diesel	349	25%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,932	1,745	1,932	1,870	1,932	1,870	1,932	1,870	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Generator - large	Light Commercial Generator Sets 600	Diesel	426	13%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,179	1,065	1,179	1,141	1,179	1,141	1,179	1,141	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Pump - general, water	Light Commercial Pumps 11	Gasoline	8	25%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	40	44	43	44	43	44	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Telescopic forklift handler	Forklifts 175	Diesel	101	25%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	559	505	559	541	559	541	559	541	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Paver	Pavers 300	Diesel	224	50%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,480	2,240	2,480	2,400	2,480	2,400	2,480	2,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Vibratory Compactor Roller	Rollers 25	Diesel	18	50%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	199	180	199	193	199	193	199	193	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Superstructure	10/1/25	10/1/26	Compressors - surface tools	Light Commercial Air Compressors 3	Diesel	275	88%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,328	5,156	5,328	5,328	4,813	5,328	5,156	5,328	5,328	5,156	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Column	10/1/25	10/1/26	Generator - mid	Light Commercial Pumps 11	Gasoline	110	100%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,436	2,357	2,436	2,436	2,200	2,436	2,357	2,436	2,436	2,357	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Superstructure	10/1/25	10/1/26	Generator - mid	Light Commercial Generator Sets 175	Diesel	110	100%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,436	2,357	2,436	2,436	2,200	2,436	2,357	2,436	2,436	2,357	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Deck	10/1/25	10/1/26	Deck segment erection cantrv	Cranes 300	Diesel	194	75%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,222	3,118	3,222	3,118	2,910	3,222	3,118	3,222	3,222	3,118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/25	10/1/26	Jacking T-Cranes (pylons)	Cranes 300	Diesel	194	100%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,296	4,157	4,296	4,157	3,880	4,296	4,157	4,296	4,296	4,157	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/25	10/1/26	Telescopic boom - self-propelled	Aerial Lifts 75	Diesel	75	50%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	830	804	830	804	750	830	804	830	830	804	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/25	10/1/26	Telescopic forklift handler	Forklifts 175	Diesel	101	50%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,118	1,082	1,118	1,118	1,010	1,118	1,082	1,118	1,118	1,082	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Existing Bridge Decommissioning and Removal	10/1/26	4/1/27	Crane - crawler (1000)	Cranes 750	Diesel	603	38%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,007	4,846	5,007	5,007	4,684	5,007	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/26	4/1/27	Compressors - surface tools	Light Commercial Air Compressors 3	Diesel	275	75%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,567	4,420	4,567	4,567	4,272	4,567	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/26	4/1/27	Generator - large	Light Commercial Generator Sets 600	Diesel	426	75%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,075	6,846	7,075	7,075	6,618	7,075	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/26	4/1/27	Telescopic boom - self-propelled	Aerial Lifts 75	Diesel	75	38%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	623	603	623	623	583	623	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/26	4/1/27	Telescopic forklift handler	Forklifts 175	Diesel	101	25%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	559	541	559	559	523	559	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/26	4/1/27	Front-end loader - wheeled, mid	Tractors/Loaders/Backhoes 300	Diesel	197	63%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,726	2,638	2,726	2,726	2,550	2,726	-	-	-	-	-	-	-	-	-	-	-	-
Channels and Fenders	1/1/27	4/1/27	Pile vibratory hammer	Cranes 300	Diesel	300	50%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,321	3,107	3,321	-	-	-	-	-	-	-	-	-
	1/1/27	4/1/27	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	1000	50%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11,071	10,357	11,071	-	-	-	-	-	-	-	-	-
	1/1/27	4/1/27	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	1500	50%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16,607	15,536	16,607	-	-	-	-	-	-	-	-	-
	1/1/27	4/1/27	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	209	75%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,471	3,247	3,471	-	-	-	-	-	-	-	-	-
	1/1/27	4/1/27	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	200	13%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	554	518	554	-	-	-	-	-	-	-	-	-
	1/1/27	4/1/27	Generator - large	Light Commercial Generator Sets 600	Diesel	426	100%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9,433	8,824	9,433	-	-	-	-	-	-	-	-	-
	1/1/27	4/1/27	Generator - mid	Light Commercial Generator Sets 175	Diesel	110	100%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,436	2,279	2,436	-	-	-	-	-	-	-	-	-
	1/1/27	4/1/27	Pump - general, water	Light Commercial Pumps 11	Gasoline	8	100%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	177	166	177	-	-	-	-	-	-	-	-	-
	10/1/27	1/1/28	Pile vibratory hammer	Cranes 300	Diesel	300	50%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,321	3,214	3,321	-	-	-	-
	10/1/27	1/1/28	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	1000	50%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11,071	10,714	11,071	-	-	-	-
	10/1/27	1/1/28	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	1500	50%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16,607	16,071	16,607	-	-	-	-
	10/1/27	1/1/28	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	209	75%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,471	3,359	3,471	-	-	-	-
	10/1/27	1/1/28	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	200	13%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	554	536	554	-	-	-	-
	10/1/27	1/1/28	Generator - large	Light Commercial Generator Sets 600	Diesel	426	100%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9,433	9,129	9,433	-	-	-	-
	10/1/27	1/1/28	Generator - mid	Light Commercial Generator Sets 175	Diesel	110	100%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,436	2,357	2,436	-	-	-	-
	10/1/27	1/1/28	Pump - general, water	Light Commercial Pumps 11	Gasoline	8	100%	100%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	177	171	177	-	-	-	-
On-Site Trucks	10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck				2.0	-	-	-	-	-	-	-	-	-	44	43	44	44	40	44	43	44	43	44	44	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck				2.0	-	-	-	-	-	-	-	-	-	44	43	44	44	40	44	43	44	43	44	44	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Concrete Trucks	Truck 1	Truck				2.0	-	-	-	-	-	-	-	-	-	44	43	44	44	40	44	43	44	43	44	44	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	General Deliveries	Truck 1	Truck				2.0	-	-	-	-	-	-	-	-	-	44	43	44	44	40	44	43	44	43	44	44	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck				2.0	-	-	-	-	-	-	-	-	-	44	43	44	44	40	44	43	44	43	44	44	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Concrete Trucks	Truck 1	Truck				4.0	-	-	-	-	-	-	-	-	-	89	86	89	89	80	89	86	89	86	89	89	86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/24	10/1/25	Concrete Trucks	Truck 1	Truck				4.0	-	-	-	-	-	-	-	-	-	89	86	89	89	80	89	86	89	86	89	89	86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Muck Trucks	Truck 1	Truck				3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	60	66	64	66	64	66	66	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Raw Material Trucks	Truck 1	Truck				2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	20	22	21	22	21	22	22	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Concrete Trucks	Truck 1	Truck				2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	40	44	43	44	43	44	44	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	General Deliveries	Truck 1	Truck				1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	20	22	21	22	21	22	22	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Muck Trucks	Truck 1	Truck				1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	20	22	21	22	21	22	22	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Raw Material Trucks	Truck 1	Truck				1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	20	22	21	22	21	22	22	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	Concrete Trucks	Truck 1	Truck				1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	20	22	21	22	21	22	22	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/26	10/1/26	General Deliveries	Truck 1	Truck				1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	20	22	21	22	21	22	22	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/25	10/1/26	Concrete Trucks	Truck 1	Truck				4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89	86	89	89	80	89	86	89	86	89	89	86	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/25	10/1/26	Concrete Trucks	Truck 1	Truck				4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89	86	89	89	80	89	86	89	86	89	89	86	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/26	4/1/27	Muck Trucks	Truck 1	Truck				2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/27	4/1/27	Raw Material Trucks	Truck 1	Truck				2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/27	4/1/27	Concrete Trucks	Truck 1	Truck				2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/1/27	4/1/27	General Deliveries	Truck 1	Truck				2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/27	1/1/28	Raw Material Trucks	Truck 1	Truck				2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/27	1/1/28	Concrete Trucks	Truck 1	Truck				2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/1/27	1/1/28	General Deliveries	Truck 1	Truck				2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Livingston Avenue Bridge
Regional Emission Analysis
Nitrogen Dioxide Emissions

Start Date	Finish Date	Non Road Equipment	EF lookup	Engine Type	Emission Factors (g/hp-hr | **g/veh**) 2024	2025	2026	2027
10/1/24	10/1/25	Sheetpile vibratory hammer	Cranes 300	Diesel	0.164	0.158	0.130	0.103
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	Cranes 600	Diesel	0.420	0.409	0.345	0.300
10/1/24	10/1/25	Pile vibratory hammer	Cranes 300	Diesel	0.164	0.158	0.130	0.103
10/1/24	10/1/25	Pump - general, water	Light Commercial Pum	Gasoline	0.987	1.151	1.151	1.151
10/1/24	10/1/25	Dredgers, Mechanical	Cranes 600	Diesel	0.420	0.409	0.345	0.300
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	Cranes 600	Diesel	0.420	0.409	0.345	0.300
10/1/24	10/1/25	Barge mounted 200 Ton Crane	Cranes 600	Diesel	0.420	0.409	0.345	0.300
10/1/24	10/1/25	Barge mounted 100 Ton Crane	Cranes 300	Diesel	0.164	0.158	0.130	0.103
10/1/24	10/1/25	Generator - large	Light Commercial Gen	Diesel	0.993	1.076	0.999	0.912
10/1/24	10/1/25	Generator - mid	Light Commercial Gen	Diesel	1.121	1.223	1.140	1.045
10/1/24	10/1/25	Pump - general, water	Light Commercial Pum	Gasoline	0.987	1.151	1.151	1.151
10/1/24	10/1/25	Pile vibratory hammer	Cranes 300	Diesel	0.164	0.158	0.130	0.103
10/1/24	10/1/25	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	1.311	1.447	1.389	1.347
10/1/24	10/1/25	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	1.311	1.447	1.389	1.347
10/1/24	10/1/25	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	0.848	0.908	0.838	0.773
10/1/24	10/1/25	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	0.848	0.908	0.838	0.773
10/1/24	10/1/25	Generator - large	Light Commercial Gen	Diesel	0.993	1.076	0.999	0.912
10/1/24	10/1/25	Generator - mid	Light Commercial Gen	Diesel	1.121	1.223	1.140	1.045
10/1/24	10/1/25	Pump - general, water	Light Commercial Pum	Gasoline	0.987	1.151	1.151	1.151
10/1/24	10/1/25	Compressors - surface tools	Light Commercial Air (	Diesel	0.291	0.290	0.243	0.198
10/1/24	10/1/25	Concrete pump - general	Other Construction Eq	Diesel	0.249	0.239	0.207	0.174
10/1/24	10/1/25	Generator - mid	Light Commercial Gen	Diesel	1.121	1.223	1.140	1.045
1/1/26	10/1/26	Compressors - surface tools	Light Commercial Air (	Diesel	0.291	0.290	0.243	0.198
1/1/26	10/1/26	Concrete pump - general	Other Construction Eq	Diesel	0.249	0.239	0.207	0.174
1/1/26	10/1/26	Crane - all-terrain (80t)	Cranes 175	Diesel	0.204	0.201	0.170	0.135
1/1/26	10/1/26	Excavator - long reach, tracked	Excavators 300	Diesel	0.078	0.077	0.068	0.063
1/1/26	10/1/26	Front-end loader - wheeled, large	Tractors/Loaders/Bacl	Diesel	0.796	0.804	0.663	0.527
1/1/26	10/1/26	Generator - large	Light Commercial Gen	Diesel	0.993	1.076	0.999	0.912
1/1/26	10/1/26	Pump - general, water	Light Commercial Pum	Gasoline	0.987	1.151	1.151	1.151
1/1/26	10/1/26	Telescopic forklift handler	Forklifts 175	Diesel	0.075	0.085	0.084	0.084
1/1/26	10/1/26	Paver	Pavers 300	Diesel	0.127	0.118	0.093	0.078
1/1/26	10/1/26	Vibratory Compactor Roller	Rollers 25	Diesel	1.624	1.881	1.882	1.882
10/1/25	10/1/26	Compressors - surface tools	Light Commercial Air (	Diesel	0.291	0.290	0.243	0.198
10/1/25	10/1/26	Generator - mid	Light Commercial Pum	Gasoline	0.987	1.151	1.151	1.151
10/1/25	10/1/26	Generator - mid	Light Commercial Gen	Diesel	1.121	1.223	1.140	1.045
10/1/25	10/1/26	Deck segment erection gantry	Cranes 300	Diesel	0.164	0.158	0.130	0.103
10/1/25	10/1/26	Jacking T-Cranes (pylons)	Cranes 300	Diesel	0.164	0.158	0.130	0.103
10/1/25	10/1/26	Telescopic boom - self-propelled	Aerial Lifts 75	Diesel	1.546	1.743	1.698	1.650
10/1/25	10/1/26	Telescopic forklift handler	Forklifts 175	Diesel	0.075	0.085	0.084	0.084
10/1/26	4/1/27	Crane - crawler (100t)	Cranes 750	Diesel	0.422	0.411	0.347	0.301
10/1/26	4/1/27	Compressors - surface tools	Light Commercial Air (	Diesel	0.291	0.290	0.243	0.198
10/1/26	4/1/27	Generator - large	Light Commercial Gen	Diesel	0.993	1.076	0.999	0.912
10/1/26	4/1/27	Telescopic boom - self-propelled	Aerial Lifts 75	Diesel	1.546	1.743	1.698	1.650
10/1/26	4/1/27	Telescopic forklift handler	Forklifts 175	Diesel	0.075	0.085	0.084	0.084
10/1/26	4/1/27	Front-end loader - wheeled, mid	Tractors/Loaders/Bacl	Diesel	0.796	0.804	0.663	0.527
1/1/27	4/1/27	Pile vibratory hammer	Cranes 300	Diesel	0.164	0.158	0.130	0.103
1/1/27	4/1/27	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	1.311	1.447	1.389	1.347
1/1/27	4/1/27	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	1.311	1.447	1.389	1.347
1/1/27	4/1/27	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	0.848	0.908	0.838	0.773
1/1/27	4/1/27	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	0.848	0.908	0.838	0.773
1/1/27	4/1/27	Generator - large	Light Commercial Gen	Diesel	0.993	1.076	0.999	0.912
1/1/27	4/1/27	Generator - mid	Light Commercial Gen	Diesel	1.121	1.223	1.140	1.045
1/1/27	4/1/27	Pump - general, water	Light Commercial Pum	Gasoline	0.987	1.151	1.151	1.151
10/1/27	1/1/28	Pile vibratory hammer	Cranes 300	Diesel	0.164	0.158	0.130	0.103
10/1/27	1/1/28	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	1.311	1.447	1.389	1.347
10/1/27	1/1/28	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	1.311	1.447	1.389	1.347
10/1/27	1/1/28	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	0.848	0.908	0.838	0.773
10/1/27	1/1/28	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	0.848	0.908	0.838	0.773
10/1/27	1/1/28	Generator - large	Light Commercial Gen	Diesel	0.993	1.076	0.999	0.912
10/1/27	1/1/28	Generator - mid	Light Commercial Gen	Diesel	1.121	1.223	1.140	1.045
10/1/27	1/1/28	Pump - general, water	Light Commercial Pum	Gasoline	0.987	1.151	1.151	1.151
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
10/1/24	10/1/25	Concrete Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
10/1/24	10/1/25	General Deliveries	Truck 1	Truck	1.607	1.607	1.607	1.607
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
10/1/24	10/1/25	Concrete Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
10/1/24	10/1/25	Concrete Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
1/1/26	10/1/26	Muck Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
1/1/26	10/1/26	Raw Material Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
1/1/26	10/1/26	Concrete Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
1/1/26	10/1/26	General Deliveries	Truck 1	Truck	1.607	1.607	1.607	1.607
1/1/26	10/1/26	Muck Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
1/1/26	10/1/26	Raw Material Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
1/1/26	10/1/26	Concrete Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
1/1/26	10/1/26	General Deliveries	Truck 1	Truck	1.607	1.607	1.607	1.607
10/1/25	10/1/26	Concrete Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
10/1/25	10/1/26	Concrete Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
10/1/26	4/1/27	Muck Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
1/1/27	4/1/27	Raw Material Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
1/1/27	4/1/27	Concrete Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
1/1/27	4/1/27	General Deliveries	Truck 1	Truck	1.607	1.607	1.607	1.607
10/1/27	1/1/28	Raw Material Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
10/1/27	1/1/28	Concrete Trucks	Truck 1	Truck	1.607	1.607	1.607	1.607
10/1/27	1/1/28	General Deliveries	Truck 1	Truck	1.607	1.607	1.607	1.607

2024

Start Date	Finish Date	Non Road Equipment	1	2	3	4	5	6	7	8	9	10	11	12
			31	28	31	30	31	30	31	31	30	31	30	31
10/1/24	10/1/25	Sheetpile vibratory hammer	-	-	-	-	-	-	-	-	-	680	658	680
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	-	-	-	-	-	-	-	-	-	2,093	2,025	2,093
10/1/24	10/1/25	Pile vibratory hammer	-	-	-	-	-	-	-	-	-	544	527	544
10/1/24	10/1/25	Pump - general, water	-	-	-	-	-	-	-	-	-	175	169	175
10/1/24	10/1/25	Dredgers, Mechanical	-	-	-	-	-	-	-	-	-	4,186	4,051	4,186
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	-	-	-	-	-	-	-	-	-	2,093	2,025	2,093
10/1/24	10/1/25	Barge mounted 200 Ton Crane	-	-	-	-	-	-	-	-	-	1,977	1,913	1,977
10/1/24	10/1/25	Barge mounted 100 Ton Crane	-	-	-	-	-	-	-	-	-	626	606	626
10/1/24	10/1/25	Generator - large	-	-	-	-	-	-	-	-	-	9,365	9,063	9,365
10/1/24	10/1/25	Generator - mid	-	-	-	-	-	-	-	-	-	2,730	2,642	2,730
10/1/24	10/1/25	Pump - general, water	-	-	-	-	-	-	-	-	-	175	169	175
10/1/24	10/1/25	Pile vibratory hammer	-	-	-	-	-	-	-	-	-	544	527	544
10/1/24	10/1/25	Pile driving hammer – 500 kJ	-	-	-	-	-	-	-	-	-	14,517	14,049	14,517
10/1/24	10/1/25	Pile driving hammer – 800 kJ	-	-	-	-	-	-	-	-	-	21,776	21,074	21,776
10/1/24	10/1/25	Rock Socket Drilling Rig	-	-	-	-	-	-	-	-	-	2,943	2,848	2,943
10/1/24	10/1/25	Freeze pipe rotary drilling rig	-	-	-	-	-	-	-	-	-	469	454	469
10/1/24	10/1/25	Generator - large	-	-	-	-	-	-	-	-	-	9,365	9,063	9,365
10/1/24	10/1/25	Generator - mid	-	-	-	-	-	-	-	-	-	2,730	2,642	2,730
10/1/24	10/1/25	Pump - general, water	-	-	-	-	-	-	-	-	-	175	169	175
10/1/24	10/1/25	Compressors - surface tools	-	-	-	-	-	-	-	-	-	1,551	1,501	1,551
10/1/24	10/1/25	Concrete pump - general	-	-	-	-	-	-	-	-	-	689	667	689
10/1/24	10/1/25	Generator - mid	-	-	-	-	-	-	-	-	-	2,730	2,642	2,730
1/1/26	10/1/26	Compressors - surface tools	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete pump - general	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Crane - all-terrain (80t)	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Excavator - long reach, tracked	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Front-end loader - wheeled, large	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Telescopic forklift handler	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Paver	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Vibratory Compactor Roller	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Compressors - surface tools	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Deck segment erection gantry	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Jacking T-Cranes (pylons)	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Telescopic boom - self-propelled	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Telescopic forklift handler	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Crane - crawler (100t)	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Compressors - surface tools	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Telescopic boom - self-propelled	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Telescopic forklift handler	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Front-end loader - wheeled, mid	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile vibratory hammer	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile driving hammer – 500 kJ	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile driving hammer – 800 kJ	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Rock Socket Drilling Rig	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Freeze pipe rotary drilling rig	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pile vibratory hammer	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pile driving hammer – 500 kJ	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pile driving hammer – 800 kJ	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Rock Socket Drilling Rig	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Freeze pipe rotary drilling rig	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	-	-	-	-	-	-	-	-	-	71	69	71
10/1/24	10/1/25	Raw Material Trucks	-	-	-	-	-	-	-	-	-	71	69	71
10/1/24	10/1/25	Concrete Trucks	-	-	-	-	-	-	-	-	-	71	69	71
10/1/24	10/1/25	General Deliveries	-	-	-	-	-	-	-	-	-	71	69	71
10/1/24	10/1/25	Raw Material Trucks	-	-	-	-	-	-	-	-	-	71	69	71
10/1/24	10/1/25	Concrete Trucks	-	-	-	-	-	-	-	-	-	142	138	142
10/1/24	10/1/25	Raw Material Trucks	-	-	-	-	-	-	-	-	-	71	69	71
10/1/24	10/1/25	Concrete Trucks	-	-	-	-	-	-	-	-	-	142	138	142
1/1/26	10/1/26	Muck Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	General Deliveries	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Muck Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	General Deliveries	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Muck Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	General Deliveries	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	General Deliveries	-	-	-	-	-	-	-	-	-	-	-	-
			0	0	0	0	0	0	0	0	0	82844.05	80171.66	82844.05
			0	0	0	0	0	0	0	0	0	0.09132	0.088374	0.09132

2025

Start Date	Finish Date	Non Road Equipment	1	2	3	4	5	6	7	8	9	10	11	12
			31	28	31	30	31	30	31	31	30	31	30	31
10/1/24	10/1/25	Sheetpile vibratory hammer	657	594	657	636	657	636	657	657	636	-	-	-
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	2,038	1,841	2,038	1,973	2,038	1,973	2,038	2,038	1,973	-	-	-
10/1/24	10/1/25	Pile vibratory hammer	526	475	526	509	526	509	526	526	509	-	-	-
10/1/24	10/1/25	Pump - general, water	204	184	204	197	204	197	204	204	197	-	-	-
10/1/24	10/1/25	Dredgers, Mechanical	4,077	3,682	4,077	3,945	4,077	3,945	4,077	4,077	3,945	-	-	-
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	2,038	1,841	2,038	1,973	2,038	1,973	2,038	2,038	1,973	-	-	-
10/1/24	10/1/25	Barge mounted 200 Ton Crane	1,925	1,739	1,925	1,863	1,925	1,863	1,925	1,925	1,863	-	-	-
10/1/24	10/1/25	Barge mounted 100 Ton Crane	605	546	605	585	605	585	605	605	585	-	-	-
10/1/24	10/1/25	Generator - large	10,153	9,170	10,153	9,825	10,153	9,825	10,153	10,153	9,825	-	-	-
10/1/24	10/1/25	Generator - mid	2,978	2,690	2,978	2,882	2,978	2,882	2,978	2,978	2,882	-	-	-
10/1/24	10/1/25	Pump - general, water	204	184	204	197	204	197	204	204	197	-	-	-
10/1/24	10/1/25	Pile vibratory hammer	526	475	526	509	526	509	526	526	509	-	-	-
10/1/24	10/1/25	Pile driving hammer – 500 kJ	16,017	14,467	16,017	15,500	16,017	15,500	16,017	16,017	15,500	-	-	-
10/1/24	10/1/25	Pile driving hammer – 800 kJ	24,025	21,700	24,025	23,250	24,025	23,250	24,025	24,025	23,250	-	-	-
10/1/24	10/1/25	Rock Socket Drilling Rig	3,151	2,846	3,151	3,049	3,151	3,049	3,151	3,151	3,049	-	-	-
10/1/24	10/1/25	Freeze pipe rotary drilling rig	503	454	503	486	503	486	503	503	486	-	-	-
10/1/24	10/1/25	Generator - large	10,153	9,170	10,153	9,825	10,153	9,825	10,153	10,153	9,825	-	-	-
10/1/24	10/1/25	Generator - mid	2,978	2,690	2,978	2,882	2,978	2,882	2,978	2,978	2,882	-	-	-
10/1/24	10/1/25	Pump - general, water	204	184	204	197	204	197	204	204	197	-	-	-
10/1/24	10/1/25	Compressors - surface tools	1,547	1,397	1,547	1,497	1,547	1,497	1,547	1,547	1,497	-	-	-
10/1/24	10/1/25	Concrete pump - general	662	598	662	641	662	641	662	662	641	-	-	-
10/1/24	10/1/25	Generator - mid	2,978	2,690	2,978	2,882	2,978	2,882	2,978	2,978	2,882	-	-	-
1/1/26	10/1/26	Compressors - surface tools	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete pump - general	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Crane - all-terrain (80t)	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Excavator - long reach, tracked	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Front-end loader - wheeled, large	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Telescopic forklift handler	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Paver	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Vibratory Compactor Roller	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Compressors - surface tools	-	-	-	-	-	-	-	-	-	1,547	1,497	1,547
10/1/25	10/1/26	Generator - mid	-	-	-	-	-	-	-	-	-	2,803	2,712	2,803
10/1/25	10/1/26	Generator - mid	-	-	-	-	-	-	-	-	-	2,978	2,882	2,978
10/1/25	10/1/26	Deck segment erection gantry	-	-	-	-	-	-	-	-	-	510	494	510
10/1/25	10/1/26	Jacking T-Cranes (pylons)	-	-	-	-	-	-	-	-	-	680	658	680
10/1/25	10/1/26	Telescopic boom - self-propelled	-	-	-	-	-	-	-	-	-	1,447	1,401	1,447
10/1/25	10/1/26	Telescopic forklift handler	-	-	-	-	-	-	-	-	-	95	92	95
10/1/26	4/1/27	Crane - crawler (100t)	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Compressors - surface tools	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Telescopic boom - self-propelled	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Telescopic forklift handler	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Front-end loader - wheeled, mid	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile vibratory hammer	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile driving hammer – 500 kJ	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile driving hammer – 800 kJ	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Rock Socket Drilling Rig	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Freeze pipe rotary drilling rig	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pile vibratory hammer	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pile driving hammer – 500 kJ	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pile driving hammer – 800 kJ	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Rock Socket Drilling Rig	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Freeze pipe rotary drilling rig	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	71	64	71	69	71	69	71	71	69	-	-	-
10/1/24	10/1/25	Raw Material Trucks	71	64	71	69	71	69	71	71	69	-	-	-
10/1/24	10/1/25	Concrete Trucks	71	64	71	69	71	69	71	71	69	-	-	-
10/1/24	10/1/25	General Deliveries	71	64	71	69	71	69	71	71	69	-	-	-
10/1/24	10/1/25	Raw Material Trucks	71	64	71	69	71	69	71	71	69	-	-	-
10/1/24	10/1/25	Concrete Trucks	142	129	142	138	142	138	142	142	138	-	-	-
10/1/24	10/1/25	Raw Material Trucks	71	64	71	69	71	69	71	71	69	-	-	-
10/1/24	10/1/25	Concrete Trucks	142	129	142	138	142	138	142	142	138	-	-	-
1/1/26	10/1/26	Muck Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	General Deliveries	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Muck Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	General Deliveries	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Concrete Trucks	-	-	-	-	-	-	-	-	-	142	138	142
10/1/25	10/1/26	Concrete Trucks	-	-	-	-	-	-	-	-	-	142	138	142
10/1/26	4/1/27	Muck Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	General Deliveries	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	General Deliveries	-	-	-	-	-	-	-	-	-	-	-	-
			88858.27	80259.09	88858.27	85991.88	88858.27	85991.88	88858.27	88858.27	85991.88	10344.5	10010.81	10344.5
			0.097949	0.088471	0.097949	0.09479	0.097949	0.09479	0.097949	0.097949	0.09479	0.011403	0.011035	0.011403

2026

Start Date	Finish Date	Non Road Equipment	1	2	3	4	5	6	7	8	9	10	11	12
			31	28	31	30	31	30	31	31	30	31	30	31
10/1/24	10/1/25	Sheetpile vibratory hammer	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile vibratory hammer	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Dredgers, Mechanical	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 200 Ton Crane	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 100 Ton Crane	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile vibratory hammer	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile driving hammer – 500 kJ	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile driving hammer – 800 kJ	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Rock Socket Drilling Rig	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Freeze pipe rotary drilling rig	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Compressors - surface tools	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete pump - general	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Compressors - surface tools	370	334	370	358	370	358	370	370	358	-	-	-
1/1/26	10/1/26	Concrete pump - general	286	258	286	277	286	277	286	286	277	-	-	-
1/1/26	10/1/26	Crane - all-terrain (80t)	164	148	164	159	164	159	164	164	159	-	-	-
1/1/26	10/1/26	Excavator - long reach, tracked	115	104	115	111	115	111	115	115	111	-	-	-
1/1/26	10/1/26	Front-end loader - wheeled, large	1,281	1,157	1,281	1,239	1,281	1,239	1,281	1,281	1,239	-	-	-
1/1/26	10/1/26	Generator - large	1,177	1,064	1,177	1,140	1,177	1,140	1,177	1,177	1,140	-	-	-
1/1/26	10/1/26	Pump - general, water	51	46	51	49	51	49	51	51	49	-	-	-
1/1/26	10/1/26	Telescopic forklift handler	47	43	47	46	47	46	47	47	46	-	-	-
1/1/26	10/1/26	Paver	230	208	230	223	230	223	230	230	223	-	-	-
1/1/26	10/1/26	Vibratory Compactor Roller	375	339	375	363	375	363	375	375	363	-	-	-
10/1/25	10/1/26	Compressors - surface tools	1,294	1,169	1,294	1,252	1,294	1,252	1,294	1,294	1,252	-	-	-
10/1/25	10/1/26	Generator - mid	2,803	2,532	2,803	2,713	2,803	2,713	2,803	2,803	2,713	-	-	-
10/1/25	10/1/26	Generator - mid	2,777	2,509	2,777	2,688	2,777	2,688	2,777	2,777	2,688	-	-	-
10/1/25	10/1/26	Deck segment erection gantry	420	380	420	407	420	407	420	420	407	-	-	-
10/1/25	10/1/26	Jacking T-Cranes (pylons)	560	506	560	542	560	542	560	560	542	-	-	-
10/1/25	10/1/26	Telescopic boom - self-propelled	1,410	1,274	1,410	1,365	1,410	1,365	1,410	1,410	1,365	-	-	-
10/1/25	10/1/26	Telescopic forklift handler	94	85	94	91	94	91	94	94	91	-	-	-
10/1/26	4/1/27	Crane - crawler (100t)	-	-	-	-	-	-	-	-	-	1,736	1,680	1,736
10/1/26	4/1/27	Compressors - surface tools	-	-	-	-	-	-	-	-	-	1,109	1,073	1,109
10/1/26	4/1/27	Generator - large	-	-	-	-	-	-	-	-	-	7,065	6,837	7,065
10/1/26	4/1/27	Telescopic boom - self-propelled	-	-	-	-	-	-	-	-	-	1,057	1,023	1,057
10/1/26	4/1/27	Telescopic forklift handler	-	-	-	-	-	-	-	-	-	47	46	47
10/1/26	4/1/27	Front-end loader - wheeled, mid	-	-	-	-	-	-	-	-	-	1,807	1,749	1,807
1/1/27	4/1/27	Pile vibratory hammer	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile driving hammer – 500 kJ	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile driving hammer – 800 kJ	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Rock Socket Drilling Rig	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Freeze pipe rotary drilling rig	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pile vibratory hammer	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pile driving hammer – 500 kJ	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pile driving hammer – 800 kJ	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Rock Socket Drilling Rig	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Freeze pipe rotary drilling rig	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	General Deliveries	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Muck Trucks	107	96	107	103	107	103	107	107	103	-	-	-
1/1/26	10/1/26	Raw Material Trucks	36	32	36	34	36	34	36	36	34	-	-	-
1/1/26	10/1/26	Concrete Trucks	71	64	71	69	71	69	71	71	69	-	-	-
1/1/26	10/1/26	General Deliveries	36	32	36	34	36	34	36	36	34	-	-	-
1/1/26	10/1/26	Muck Trucks	36	32	36	34	36	34	36	36	34	-	-	-
1/1/26	10/1/26	Raw Material Trucks	36	32	36	34	36	34	36	36	34	-	-	-
1/1/26	10/1/26	Concrete Trucks	36	32	36	34	36	34	36	36	34	-	-	-
1/1/26	10/1/26	General Deliveries	36	32	36	34	36	34	36	36	34	-	-	-
10/1/25	10/1/26	Concrete Trucks	142	129	142	138	142	138	142	142	138	-	-	-
10/1/25	10/1/26	Concrete Trucks	142	129	142	138	142	138	142	142	138	-	-	-
10/1/26	4/1/27	Muck Trucks	-	-	-	-	-	-	-	-	-	71	69	71
1/1/27	4/1/27	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	General Deliveries	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	General Deliveries	-	-	-	-	-	-	-	-	-	-	-	-
			14131.4	12763.84	14131.4	13675.55	14131.4	13675.55	14131.4	14131.4	13675.55	12892.44	12476.56	12892.44
			0.015577	0.01407	0.015577	0.015075	0.015577	0.015075	0.015577	0.015577	0.015075	0.014211	0.013753	0.014211

2027

Start Date	Finish Date	Non Road Equipment	1	2	3	4	5	6	7	8	9	10	11	12
			31	29	31	30	31	30	31	31	30	31	30	31
10/1/24	10/1/25	Sheetpile vibratory hammer	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile vibratory hammer	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Dredgers, Mechanical	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 200 Ton Crane	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 100 Ton Crane	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile vibratory hammer	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile driving hammer – 500 kJ	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile driving hammer – 800 kJ	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Rock Socket Drilling Rig	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Freeze pipe rotary drilling rig	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Compressors - surface tools	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete pump - general	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Compressors - surface tools	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete pump - general	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Crane - all-terrain (80t)	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Excavator - long reach, tracked	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Front-end loader - wheeled, large	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Generator - large	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Pump - general, water	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Telescopic forklift handler	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Paver	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Vibratory Compactor Roller	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Compressors - surface tools	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Generator - mid	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Deck segment erection gantry	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Jacking T-Cranes (pylons)	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Telescopic boom - self-propelled	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Telescopic forklift handler	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Crane - crawler (100t)	1,506	1,409	1,506	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Compressors - surface tools	903	845	903	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Generator - large	6,449	6,033	6,449	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Telescopic boom - self-propelled	1,028	961	1,028	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Telescopic forklift handler	47	44	47	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Front-end loader - wheeled, mid	1,437	1,344	1,437	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile vibratory hammer	343	321	343	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile driving hammer – 500 kJ	14,909	13,948	14,909	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile driving hammer – 800 kJ	22,364	20,921	22,364	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Rock Socket Drilling Rig	2,683	2,510	2,683	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Freeze pipe rotary drilling rig	428	400	428	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Generator - large	8,598	8,043	8,598	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Generator - mid	2,545	2,381	2,545	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pump - general, water	204	191	204	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pile vibratory hammer	-	-	-	-	-	-	-	-	-	343	332	343
10/1/27	1/1/28	Pile driving hammer – 500 kJ	-	-	-	-	-	-	-	-	-	14,909	14,428	14,909
10/1/27	1/1/28	Pile driving hammer – 800 kJ	-	-	-	-	-	-	-	-	-	22,364	21,643	22,364
10/1/27	1/1/28	Rock Socket Drilling Rig	-	-	-	-	-	-	-	-	-	2,683	2,596	2,683
10/1/27	1/1/28	Freeze pipe rotary drilling rig	-	-	-	-	-	-	-	-	-	428	414	428
10/1/27	1/1/28	Generator - large	-	-	-	-	-	-	-	-	-	8,598	8,321	8,598
10/1/27	1/1/28	Generator - mid	-	-	-	-	-	-	-	-	-	2,545	2,463	2,545
10/1/27	1/1/28	Pump - general, water	-	-	-	-	-	-	-	-	-	204	197	204
10/1/24	10/1/25	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	General Deliveries	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Muck Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	General Deliveries	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Muck Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Raw Material Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	General Deliveries	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Concrete Trucks	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Muck Trucks	71	67	71	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Raw Material Trucks	71	67	71	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Concrete Trucks	71	67	71	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	General Deliveries	71	67	71	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Raw Material Trucks	-	-	-	-	-	-	-	-	-	71	69	71
10/1/27	1/1/28	Concrete Trucks	-	-	-	-	-	-	-	-	-	71	69	71
10/1/27	1/1/28	General Deliveries	-	-	-	-	-	-	-	-	-	71	69	71
			63728.11	59616.62	63728.11	0	0	0	0	0	0	52288.04	50601.33	52288.04
			0.070248	0.065716	0.070248	0	0	0	0	0	0	0.057638	0.055778	0.057638

2024	2025	2026	2027
245859.7	813225.9	162708.9	342250.3
0.271014	0.896428	0.179356	0.377266

Livingston Avenue Bridge
Regional Emission Analysis
Volatile Organix Compound Emissions

									31	28	31	30	31	30	31	31	30	31	30	31	31	28	31	30	31	30	31	31	30	31	30	31	31	28	31	30	31	30	31	31	30	31	30	31	31	29	31	30	31	30	31	31	30	31	30	31
					Emission Factors				2024												2025												2026												2027											
Start Date	Finish Date	Non Road Equipment	EF lookup	Engine Type	2024	2025	2026	2027	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
10/1/24	10/1/25	Sheetpile vibratory hammer	Cranes 300	Diesel	0.013	0.013	0.010	0.008	-	-	-	-	-	-	-	-	-	54	53	54	53	48	53	51	53	51	53	53	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	Cranes 600	Diesel	0.026	0.025	0.021	0.018	-	-	-	-	-	-	-	-	-	130	126	130	125	113	125	121	125	121	125	125	121	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile vibratory hammer	Cranes 300	Diesel	0.013	0.013	0.010	0.008	-	-	-	-	-	-	-	-	-	44	42	44	42	38	42	41	42	41	42	42	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	Light Commercial Pum	Gasoline	1.816	2.117	2.118	2.117	-	-	-	-	-	-	-	-	-	322	311	322	375	339	375	363	375	363	375	375	363	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Dredgers, Mechanical	Cranes 600	Diesel	0.026	0.025	0.021	0.018	-	-	-	-	-	-	-	-	-	260	251	260	250	226	250	242	250	242	250	250	242	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	Cranes 600	Diesel	0.026	0.025	0.021	0.018	-	-	-	-	-	-	-	-	-	130	126	130	125	113	125	121	125	121	125	125	121	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 200 Ton Crane	Cranes 600	Diesel	0.026	0.025	0.021	0.018	-	-	-	-	-	-	-	-	-	123	119	123	118	107	118	114	118	114	118	118	114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 100 Ton Crane	Cranes 300	Diesel	0.013	0.013	0.010	0.008	-	-	-	-	-	-	-	-	-	50	48	50	48	44	48	47	48	47	48	48	47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - large	Light Commercial Gen	Diesel	0.068	0.073	0.067	0.060	-	-	-	-	-	-	-	-	-	642	621	642	686	619	686	664	686	664	686	686	664	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	Light Commercial Gen	Diesel	0.096	0.103	0.095	0.087	-	-	-	-	-	-	-	-	-	233	226	233	252	227	252	244	252	244	252	252	244	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	Light Commercial Pum	Gasoline	1.816	2.117	2.118	2.117	-	-	-	-	-	-	-	-	-	322	311	322	375	339	375	363	375	363	375	375	363	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile vibratory hammer	Cranes 300	Diesel	0.013	0.013	0.010	0.008	-	-	-	-	-	-	-	-	-	44	42	44	42	38	42	41	42	41	42	42	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	0.048	0.049	0.044	0.040	-	-	-	-	-	-	-	-	-	534	516	534	544	491	544	527	544	527	544	544	527	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	0.048	0.049	0.044	0.040	-	-	-	-	-	-	-	-	-	800	775	800	816	737	816	790	816	790	816	816	790	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	0.069	0.074	0.068	0.063	-	-	-	-	-	-	-	-	-	241	233	241	257	232	257	249	257	249	257	257	249	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	0.069	0.074	0.068	0.063	-	-	-	-	-	-	-	-	-	38	37	38	41	37	41	40	41	40	41	41	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - large	Light Commercial Gen	Diesel	0.068	0.073	0.067	0.060	-	-	-	-	-	-	-	-	-	642	621	642	686	619	686	664	686	664	686	686	664	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	Light Commercial Gen	Diesel	0.096	0.103	0.095	0.087	-	-	-	-	-	-	-	-	-	233	226	233	252	227	252	244	252	244	252	252	244	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	Light Commercial Pum	Gasoline	1.816	2.117	2.118	2.117	-	-	-	-	-	-	-	-	-	322	311	322	375	339	375	363	375	363	375	375	363	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Compressors - surface tools	Light Commercial Air (	Diesel	0.020	0.020	0.017	0.015	-	-	-	-	-	-	-	-	-	108	105	108	108	98	108	105	108	105	108	108	105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete pump - general	Other Construction Eq	Diesel	0.018	0.018	0.016	0.014	-	-	-	-	-	-	-	-	-	51	50	51	50	45	50	49	50	49	50	50	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	Light Commercial Gen	Diesel	0.096	0.103	0.095	0.087	-	-	-	-	-	-	-	-	-	233	226	233	252	227	252	244	252	244	252	252	244	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Compressors - surface tools	Light Commercial Air (	Diesel	0.020	0.020	0.017	0.015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	24	27	26	27	26	27	27	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete pump - general	Other Construction Eq	Diesel	0.018	0.018	0.016	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	20	22	21	22	21	22	22	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Crane - all-terrain (80t)	Cranes 175	Diesel	0.014	0.014	0.011	0.008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	10	11	10	11	10	11	11	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Excavator - long reach, tracked	Excavators 300	Diesel	0.006	0.006	0.006	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	8	9	9	9	9	9	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Front-end loader - wheeled, large	Tractors/Loaders/Bacl	Diesel	0.124	0.123	0.100	0.078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	194	175	194	188	194	188	194	194	188	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Generator - large	Light Commercial Gen	Diesel	0.068	0.073	0.067	0.060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	71	78	76	78	76	78	78	76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Pump - general, water	Light Commercial Pum	Gasoline	1.816	2.117	2.118	2.117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	85	94	91	94	91	94	94	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Telescopic forklift handler	Forklifts 175	Diesel	0.004	0.004	0.004	0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Paver	Pavers 300	Diesel	0.010	0.009	0.007	0.006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	17	18	18	18	18	18	18	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Vibratory Compactor Roller	Rollers 25	Diesel	0.152	0.176	0.176	0.176	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	32	35	34	35	34	35	35	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Compressors - surface tools	Light Commercial Air (	Diesel	0.020	0.020	0.017	0.015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	105	108	93	84	93	90	93	90	93	93	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Generator - mid	Light Commercial Pum	Gasoline	1.816	2.117	2.118	2.117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,157	4,991	5,157	5,158	4,659	5,158	4,992	5,158	4,992	5,158	5,158	4,992	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Generator - mid	Light Commercial Gen	Diesel	0.096	0.103	0.095	0.087	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	252	244	252	232	210	232	225	232	225	232	232	225	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Deck segment erection gantry	Cranes 300	Diesel	0.013	0.013	0.010	0.008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	40	41	34	31	34	33	34	33	34	34	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Jacking T-Cranes (pylons)	Cranes 300	Diesel	0.013	0.013	0.010	0.008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	53	55	45	41	45	44	45	44	45	45	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Telescopic boom - self-propelled	Aerial Lifts 75	Diesel	0.176	0.188	0.173	0.156	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	156	151	156	143	130	143	139	143	139	143	143	139	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Telescopic forklift handler	Forklifts 175	Diesel	0.004	0.004	0.004	0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	4	5	5	4	5	4	5	4	5	5	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Crane - crawler (100t)	Cranes 750	Diesel	0.025	0.024	0.020	0.018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	101	98	101	88	83	88	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Compressors - surface tools	Light Commercial Air (	Diesel	0.020	0.020	0.017	0.015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	77	80	68	64	68	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Generator - large	Light Commercial Gen	Diesel	0.068	0.073	0.067	0.060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	470	455	470	426	398	426	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Telescopic boom - self-propelled	Aerial Lifts 75	Diesel	0.176	0.188	0.173	0.156	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	104	108	97	91	97	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Telescopic forklift handler	Forklifts 175	Diesel	0.004	0.004	0.004	0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Front-end loader - wheeled, mid	Tractors/Loaders/Bacl	Diesel	0.124	0.123	0.100	0.078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	274	265	274	214	200	214	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile vibratory hammer	Cranes 300	Diesel	0.013	0.013	0.010	0.008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	26	28	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	0.048	0.049	0.044	0.040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	439	410	439	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	0.048	0.049	0.044	0.040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	658	615	658	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	0.069	0.074	0.068	0.063	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	217	203	217	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	0.069	0.074	0.068	0.063	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	32	35	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Generator - large	Light Commercial Gen	Diesel	0.068	0.073	0.067	0.060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	568	531	568	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Generator - mid	Light Commercial Gen	Diesel	0.096	0.103	0.095	0.087	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	211	197	211	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pump - general, water	Light Commercial Pum	Gasoline	1.816	2.117	2.118	2.117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	375	351	375	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pile vibratory hammer	Cranes 300	Diesel	0.013	0.013	0.010	0.008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	27	28
10/1/27	1/1/28	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	0.048	0.049	0.044	0.040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	439	424	439
10/1/27	1/1/28	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	0.048	0.049	0.044	0.040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	658	637	658
10/1/27	1/1/28	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	0.069	0.074	0.068	0.063	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	217	210	217
10/1/27	1/1/28	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	0.069	0.074	0.068	0.063	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	34	35
10/1/27	1/1/28	Generator - large	Light Commercial Gen	Diesel	0.068	0.073	0.067	0.060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	568	550	568
10/1/27	1/1/28	Generator - mid	Light Commercial Gen	Diesel	0.096	0.103	0.095	0.087	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	211	204	211
10/1/27	1/1/28	Pump - general, water	Light Commercial Pum	Gasoline	1.816	2.117	2.118	2.117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	375	363	375
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	18	18	18	18	17	18	18	18	18	18	18	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	18	18	18	18	17	18	18	18	18	18	18	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	18	18	18	18	17	18	18	18	18	18	18	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	General Deliveries	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	18	18	18	18	17	18	18	18	18	18	18	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	18	18	18	18	17	18	18	18	18	18	18	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	37	35	37	37	33	37	35	37	35	37	37	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	18	18	18	18	17	18	18	18	18	18	18	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	37	35	37	37	33	37	35	37	35	37	37	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Muck Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	25	27	27	27	27	27	27	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Raw Material Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	8	9	9	9	9	9	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	17	18	18	18	18	18	18	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	General Deliveries	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	8	9	9	9	9	9	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Muck Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	8	9	9	9	9	9	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Raw Material Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	8	9	9	9	9	9	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	8	9	9	9	9	9	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	General Deliveries	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	8	9	9	9	9	9	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Concrete Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	35	37	37	33	37	35	37	35	37	37	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Concrete Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	35	37	37	33	37	35	37	35	37	37	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Muck Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	18	18	18	17	18	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Raw Material Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	17	18	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Concrete Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	17	18	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	General Deliveries	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	17	18	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Raw Material Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	18	18
10/1/27	1/1/28	Concrete Trucks	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	18	18
10/1/27	1/1/28	General Deliveries	Truck 1	Truck	0.414	0.414	0.414	0.414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	18	18
									0	0	0	0	0	0	0	0	0	5737.787	5552.697	5737.787	6054.78	5468.833	6054.78	5859.464	6054.78	5859.464	6054.78	6054.78	5859.464	5846.538	5657.94	5846.538	6374.132	5757.28	6374.132	6168.514	6374.132	6168.514	6374.132	6374.132	6168.514	1053.039	1019.07	1053.039	3498.499	3272.79	3498.499	0	0	0	0	0	0	2584.61	2501.235	2584.61
									0	0	0	0	0	0	0	0	0	0.006325	0.006121	0.006325	0.006674	0.006028	0.006674	0.006459	0.006674	0.006459	0.006674	0.006674	0.006459	0.006445	0.006237	0.006445	0.007026	0.006346	0.007026	0.0068	0.007026	0.0068	0.007026	0.007026	0.0068	0.001161	0.001123	0.001161	0.003856	0.003608	0.003856	0	0	0	0	0	0	0.002849	0.002757	0.002849
									2024												2025												2026												2027											
									17028.27												70672.14												59258.63												17940.24											
									0.01877												0.077903												0.065321												0.019776											

Livingston Avenue Bridge

Regional Emission Analysis

Fuel Consumption

									31	28	31	30	31	30	31	31	30	31	30	31	31	28	31	30	31	30	31	31	30	31	30	31	31	28	31	30	31	30	31	31	30	31	30	31	31	29	31	30	31	30	31	31	30	31	30	31
					Consumption Factors (gal/hp-hr)				2024												2025												2026												2027											
Start Date	Finish Date	Non Road Equipment	EF lookup	Engine Type	2024	2025	2026	2027	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
10/1/24	10/1/25	Sheetpile vibratory hammer	Cranes 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	94	91	94	94	85	94	91	94	91	94	94	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	Cranes 600	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	113	109	113	113	102	113	109	113	109	113	113	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile vibratory hammer	Cranes 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	75	73	75	75	68	75	73	75	73	75	75	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	Light Commercial Pum	Gasoline	0.051	0.051	0.051	0.051	-	-	-	-	-	-	-	-	-	9	9	9	9	8	9	9	9	9	9	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Dredgers, Mechanical	Cranes 600	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	225	218	225	225	203	225	218	225	218	225	225	218	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	Cranes 600	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	113	109	113	113	102	113	109	113	109	113	113	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 200 Ton Crane	Cranes 600	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	106	103	106	106	96	106	103	106	103	106	106	103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 100 Ton Crane	Cranes 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	86	84	86	86	78	86	84	86	84	86	86	84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - large	Light Commercial Gen	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	212	205	212	212	191	212	205	212	205	212	212	205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	Light Commercial Gen	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	55	53	55	55	49	55	53	55	53	55	55	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	Light Commercial Pum	Gasoline	0.051	0.051	0.051	0.051	-	-	-	-	-	-	-	-	-	9	9	9	9	8	9	9	9	9	9	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile vibratory hammer	Cranes 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	75	73	75	75	68	75	73	75	73	75	75	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	250	242	250	250	226	250	242	250	242	250	250	242	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	375	363	375	375	339	375	363	375	363	375	375	363	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	78	76	78	78	71	78	76	78	76	78	78	76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	13	12	13	13	11	13	12	13	12	13	13	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - large	Light Commercial Gen	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	212	205	212	212	191	212	205	212	205	212	212	205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	Light Commercial Gen	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	55	53	55	55	49	55	53	55	53	55	55	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	Light Commercial Pum	Gasoline	0.051	0.051	0.051	0.051	-	-	-	-	-	-	-	-	-	9	9	9	9	8	9	9	9	9	9	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Compressors - surface tools	Light Commercial Air (	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	120	116	120	120	108	120	116	120	116	120	120	116	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete pump - general	Other Construction Eq	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	63	61	63	63	57	63	61	63	61	63	63	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	Light Commercial Gen	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	55	53	55	55	49	55	53	55	53	55	55	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Compressors - surface tools	Light Commercial Air (	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	31	34	33	34	33	34	34	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete pump - general	Other Construction Eq	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	29	32	31	32	31	32	32	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Crane - all-terrain (80t)	Cranes 175	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	20	22	21	22	21	22	22	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Excavator - long reach, tracked	Excavators 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	35	38	37	38	37	38	38	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Front-end loader - wheeled, large	Tractors/Loaders/Back	Diesel	0.027	0.027	0.027	0.027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51	47	51	50	51	50	51	51	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Generator - large	Light Commercial Gen	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	24	26	26	26	26	26	26	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Pump - general, water	Light Commercial Pum	Gasoline	0.051	0.051	0.051	0.051	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Telescopic forklift handler	Forklifts 175	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	12	13	12	13	12	13	13	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Paver	Pavers 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	51	57	55	57	55	57	57	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Vibratory Compactor Roller	Rollers 25	Diesel	0.025	0.025	0.025	0.025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	5	5	5	5	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Compressors - surface tools	Light Commercial Air (	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	116	120	120	108	120	116	120	116	120	120	116	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Generator - mid	Light Commercial Pum	Gasoline	0.051	0.051	0.051	0.051	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	124	120	124	124	112	124	120	124	120	124	124	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Generator - mid	Light Commercial Gen	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	53	55	55	49	55	53	55	53	55	55	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Deck segment erection gantry	Cranes 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	70	73	73	66	73	70	73	70	73	73	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Jacking T-Cranes (pylons)	Cranes 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	97	94	97	97	88	97	94	97	94	97	97	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Telescopic boom - self-propelled	Aerial Lifts 75	Diesel	0.030	0.030	0.030	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	24	25	25	22	25	24	25	24	25	25	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Telescopic forklift handler	Forklifts 175	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	25	26	26	23	26	25	26	25	26	26	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Crane - crawler (100t)	Cranes 750	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	113	109	113	113	106	113	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Compressors - surface tools	Light Commercial Air (	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	103	99	103	103	96	103	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Generator - large	Light Commercial Gen	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	159	154	159	159	149	159	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Telescopic boom - self-propelled	Aerial Lifts 75	Diesel	0.030	0.030	0.030	0.030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	18	18	18	17	18	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Telescopic forklift handler	Forklifts 175	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	12	13	13	12	13	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Front-end loader - wheeled, mid	Tractors/Loaders/Back	Diesel	0.027	0.027	0.027	0.027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	70	73	73	68	73	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile vibratory hammer	Cranes 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75	70	75	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	250	234	250	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	375	351	375	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	73	78	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	12	13	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Generator - large	Light Commercial Gen	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	212	198	212	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Generator - mid	Light Commercial Gen	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	51	55	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Pump - general, water	Light Commercial Pum	Gasoline	0.051	0.051	0.051	0.051	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	8	9	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Pile vibratory hammer	Cranes 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75	73	75
10/1/27	1/1/28	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	250	242	250
10/1/27	1/1/28	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	375	363	375
10/1/27	1/1/28	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78	76	78
10/1/27	1/1/28	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	0.023	0.023	0.023	0.023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	12	13
10/1/27	1/1/28	Generator - large	Light Commercial Gen	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	212	205	212
10/1/27	1/1/28	Generator - mid	Light Commercial Gen	Diesel	0.022	0.022	0.022	0.022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	53	55
10/1/27	1/1/28	Pump - general, water	Light Commercial Pum	Gasoline	0.051	0.051	0.051	0.051	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	9	9
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	General Deliveries	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Muck Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Raw Material Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	General Deliveries	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Muck Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Raw Material Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	General Deliveries	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Concrete Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Concrete Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Muck Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Raw Material Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	Concrete Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/27	4/1/27	General Deliveries	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Raw Material Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	Concrete Trucks	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/27	1/1/28	General Deliveries	Truck 1	Truck	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

0	0	0	0	0	0	0	0	0	2400.431	2322.998	2400.431	2400.431	2168.132	2400.431	2322.998	2400.431	2322.998	2400.431	2400.431	2322.998	518.5718	501.8437	518.5718	799.4337	722.0691	799.4337	773.6455	799.4337	773.6455	799.4337	799.4337	773.6455	478.3473	462.9167	478.3473	1545.103	1445.419	1545.103	0	0	0	0	0	0	1066.756	1032.345	1066.756
0	0	0	0	0	0	0	0	0	2400.431	2322.998	2400.431	2400.431	2168.132	2400.431	2322.998	2400.431	2322.998	2400.431	2400.431	2322.998	518.5718	501.8437	518.5718	799.4337	722.0691	799.4337	773.6455	799.4337	773.6455	799.4337	799.4337	773.6455	478.3473	462.9167	478.3473	1545.103	1445.419	1545.103	0	0	0	0	0	0	1066.756	1032.345	1066.756

2024	2025	2026	2027
7123.86069	22678.27	8459.785	7701.482
7123.86069	22678.27	8459.785	7701.482

45,963.40

0	0	0	0	0	0	0	0	0	2373.312	2296.753	2373.312	2373.312	2143.636	2373.312	2296.753	2373.312	2296.753	2373.312	2373.312	2296.753	394.2742	381.5557	394.2742	672.8761	607.759	672.8761	651.1704	672.8761	651.1704	672.8761	672.8761	651.1704	478.3473	462.9167	478.3473	1536.063	1436.963	1536.063	0	0	0	0	0	0	1057.716	1023.596	1057.716
7043.37705												22070.56												7345.262												7648.118											

44,107.32

0	0	0	0	0	0	0	0	0	27.11949	26.24467	27.11949	27.11949	24.49502	27.11949	26.24467	27.11949	26.24467	27.11949	27.11949	26.24467	124.2977	120.288	124.2977	126.5576	114.3101	126.5576	122.4751	126.5576	122.4751	126.5576	126.5576	122.4751	0	0	0	9.039829	8.456614	9.039829	0	0	0	0	0	0	9.039829	8.748222	9.039829
80.4836405												607.7098												1114.523												53.36415											

1,856.08

Livingston Avenue Bridge
Regional Emission Analysis
Greenhouse Gas Emissions

Start Date	Finish Date	Non Road Equipment	EF lookup	Engine Type	Emission Factors (mt/gal)	2024												2025												2026												2027											
						1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
10/1/24	10/1/25	Sheetpile vibratory hammer	Cranes 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	Cranes 600	Diesel	0.010	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile vibratory hammer	Cranes 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	Light Commercial Pum	Gasoline	0.009	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Dredgers, Mechanical	Cranes 600	Diesel	0.010	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 500 Ton Ringer Cra	Cranes 600	Diesel	0.010	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 200 Ton Crane	Cranes 600	Diesel	0.010	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Barge mounted 100 Ton Crane	Cranes 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - large	Light Commercial Gen	Diesel	0.010	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	Light Commercial Gen	Diesel	0.010	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	Light Commercial Pum	Gasoline	0.009	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile vibratory hammer	Cranes 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	0.010	-	-	-	-	-	-	-	-	-	3	3	3	3	2	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	0.010	-	-	-	-	-	-	-	-	-	4	4	4	4	4	4	4	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - large	Light Commercial Gen	Diesel	0.010	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	Light Commercial Gen	Diesel	0.010	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Pump - general, water	Light Commercial Pum	Gasoline	0.009	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete pump - general	Other Construction Eq	Diesel	0.010	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Generator - mid	Light Commercial Gen	Diesel	0.010	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Compressors - surface tools	Light Commercial Air C	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete pump - general	Other Construction Eq	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Crane - all-terrain (80t)	Cranes 175	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Excavator - long reach, tracked	Excavators 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Front-end loader - wheeled, large	Tractors/Loaders/Back	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Generator - large	Light Commercial Gen	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Pump - general, water	Light Commercial Pum	Gasoline	0.009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Telescopic forklift handler	Forklifts 175	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Paver	Pavers 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Vibratory Compactor Roller	Rollers 25	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Compressors - surface tools	Light Commercial Air C	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Generator - mid	Light Commercial Pum	Gasoline	0.009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Generator - mid	Light Commercial Gen	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Deck segment erection gantry	Cranes 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Jacking T-Cranes (pylons)	Cranes 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Telescopic boom - self-propelled	Aerial Lifts 75	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Telescopic forklift handler	Forklifts 175	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Crane - crawler (100t)	Cranes 750	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1
10/1/26	4/1/27	Compressors - surface tools	Light Commercial Air C	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1
10/1/26	4/1/27	Generator - large	Light Commercial Gen	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2
10/1/26	4/1/27	Telescopic boom - self-propelled	Aerial Lifts 75	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0
10/1/26	4/1/27	Pile vibratory hammer	Cranes 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1
10/1/26	4/1/27	Front-end loader - wheeled, mid	Tractors/Loaders/Back	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1
1/1/27	4/1/27	Pile vibratory hammer	Cranes 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1
1/1/27	4/1/27	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	3	3	2	3	3	2	3
1/1/27	4/1/27	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	4	4	4	4	4	4	4
1/1/27	4/1/27	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1
1/1/27	4/1/27	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0
1/1/27	4/1/27	Generator - large	Light Commercial Gen	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2
1/1/27	4/1/27	Generator - mid	Light Commercial Gen	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1
1/1/27	4/1/27	Pump - general, water	Light Commercial Pum	Gasoline	0.009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	-	-	-	-	-	-
10/1/27	1/1/28	Pile vibratory hammer	Cranes 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
10/1/27	1/1/28	Pile driving hammer – 500 kJ	Cranes 1000	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3
10/1/27	1/1/28	Pile driving hammer – 800 kJ	Cranes 1200	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	4
10/1/27	1/1/28	Rock Socket Drilling Rig	Bore/Drill Rigs 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
10/1/27	1/1/28	Freeze pipe rotary drilling rig	Bore/Drill Rigs 300	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
10/1/27	1/1/28	Generator - large	Light Commercial Gen	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2
10/1/27	1/1/28	Generator - mid	Light Commercial Gen	Diesel	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
10/1/27	1/1/28	Pump - general, water	Light Commercial Pum	Gasoline	0.009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Muck Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Raw Material Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	General Deliveries	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Raw Material Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/24	10/1/25	Concrete Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Muck Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Raw Material Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	Concrete Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/1/26	10/1/26	General Deliveries	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/1/25	10/1/26	Concrete Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-
10/1/26	4/1/27	Muck Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	-	-	-	-	-	-
1/1/27	4/1/27	Raw Material Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	-	-	-	-	-	-
1/1/27	4/1/27	Concrete Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	-	-	-	-	-	-
1/1/27	4/1/27	General Deliveries	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	-	-	-	-	-	-
10/1/27	1/1/28	Raw Material Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
10/1/27	1/1/28	Concrete Trucks	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
10/1/27	1/1/28	General Deliveries	Truck 1	Truck	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0

						0	0	0	0	0	0	0	0	0	25.03275	24.22524	25.03275	25.03275	22.61023	25.03275	24.22524	25.03275	24.22524	25.03275	25.03275	24.22524	5.302144	5.131107	5.302144	8.312367	7.507944	8.312367	8.044226	8.312367	8.044226	8.312367	8.312367	8.044226	4.976409	4.815879	4.976409	16.07782	15.04054	16.07782	0	0	0	0	0	0	11.10141	10.7433	11.10141
						0	0	0	0	0	0	0	0	0	25.03275	24.22524	25.03275	25.03275	22.61023	25.03275	24.22524	25.03275	24.22524	25.03275	25.03275	24.22524	5.302144	5.131107	5.302144	8.312367	7.507944	8.312367	8.044226	8.312367	8.044226	8.312367	8.312367	8.044226	4.976409	4.815879	4.976409	16.07782	15.04054	16.07782	0	0	0	0	0	0	11.10141	10.7433	11.10141

2024	2025	2026	2027
74.29074	236.1851	87.97115	80.14231
74.29074	236.1851	87.97115	80.14231

Livingston Avenue Bridge

Regional Emission Analysis

Truck Trips

Location/Activity	Start Mo.	End Mo.	Truck Trip Category	Averge Daily Truck Number	2024 1	2	3	4	5	6	7	8	9	10	11	12
					31	28	31	30	31	30	31	31	30	31	30	31
Bridge Piers/Cofferdam	10/1/24	10/1/25	Raw Material Trucks	2	0	0	0	0	0	0	0	0	0	44	43	44
Bridge Piers/Assembly	10/1/24	10/1/25	Raw Material Trucks	2	0	0	0	0	0	0	0	0	0	44	43	44
Bridge Piers/Assembly	10/1/24	10/1/25	Concrete Trucks	2	0	0	0	0	0	0	0	0	0	44	43	44
Bridge Piers/Assembly	10/1/24	10/1/25	General Deliveries	2	0	0	0	0	0	0	0	0	0	44	43	44
Bridge Piers/Pile Installation	10/1/24	10/1/25	Raw Material Trucks	2	0	0	0	0	0	0	0	0	0	44	43	44
Bridge Piers/Pile Installation	10/1/24	10/1/25	Concrete Trucks	4	0	0	0	0	0	0	0	0	0	89	86	89
Bridge Piers/Pile Cap	10/1/24	10/1/25	Raw Material Trucks	2	0	0	0	0	0	0	0	0	0	44	43	44
Bridge Piers/Pile Cap	10/1/24	10/1/25	Concrete Trucks	4	0	0	0	0	0	0	0	0	0	89	86	89
Abutments & Track WorkSurface Work	1/1/26	10/1/26	Muck Trucks	3	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	1/1/26	10/1/26	Raw Material Trucks	1	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	1/1/26	10/1/26	Concrete Trucks	2	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	1/1/26	10/1/26	General Deliveries	1	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	1/1/26	10/1/26	Muck Trucks	1	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	1/1/26	10/1/26	Raw Material Trucks	1	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	1/1/26	10/1/26	Concrete Trucks	1	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	1/1/26	10/1/26	General Deliveries	1	0	0	0	0	0	0	0	0	0	0	0	0
Superstructure/Columns	10/1/25	10/1/26	Concrete Trucks	4	0	0	0	0	0	0	0	0	0	0	0	0
Superstructure/Deck	10/1/25	10/1/26	Concrete Trucks	4	0	0	0	0	0	0	0	0	0	0	0	0
Existing Bridge Decommissioning and Removal	10/1/26	4/1/27	Muck Trucks	2	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	1/1/27	4/1/27	Raw Material Trucks	2	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	1/1/27	4/1/27	Concrete Trucks	2	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	1/1/27	4/1/27	General Deliveries	2	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	10/1/27	1/1/28	Raw Material Trucks	2	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	10/1/27	1/1/28	Concrete Trucks	2	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	10/1/27	1/1/28	General Deliveries	2	0	0	0	0	0	0	0	0	0	0	0	0

Location/Activity	Truck Trip Category	2025 1	2	3	4	5	6	7	8	9	10	11	12
		31	28	31	30	31	30	31	31	30	31	30	31
Bridge Piers/Cofferdam	Raw Material Trucks	44	40	44	43	44	43	44	44	43	0	0	0
Bridge Piers/Assembly	Raw Material Trucks	44	40	44	43	44	43	44	44	43	0	0	0
Bridge Piers/Assembly	Concrete Trucks	44	40	44	43	44	43	44	44	43	0	0	0
Bridge Piers/Assembly	General Deliveries	44	40	44	43	44	43	44	44	43	0	0	0
Bridge Piers/Pile Installation	Raw Material Trucks	44	40	44	43	44	43	44	44	43	0	0	0
Bridge Piers/Pile Installation	Concrete Trucks	89	80	89	86	89	86	89	89	86	0	0	0
Bridge Piers/Pile Cap	Raw Material Trucks	44	40	44	43	44	43	44	44	43	0	0	0
Bridge Piers/Pile Cap	Concrete Trucks	89	80	89	86	89	86	89	89	86	0	0	0
Abutments & Track WorkSurface Work	Muck Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	General Deliveries	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	Muck Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	General Deliveries	0	0	0	0	0	0	0	0	0	0	0	0
Superstructure/Columns	Concrete Trucks	0	0	0	0	0	0	0	0	0	89	86	89
Superstructure/Deck	Concrete Trucks	0	0	0	0	0	0	0	0	0	89	86	89
Existing Bridge Decommissioning and Removal	Muck Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	General Deliveries	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	General Deliveries	0	0	0	0	0	0	0	0	0	0	0	0

Location/Activity	Truck Trip Category	2026 1	2	3	4	5	6	7	8	9	10	11	12
		31	28	31	30	31	30	31	31	30	31	30	31
Bridge Piers/Cofferdam	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Assembly	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Assembly	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Assembly	General Deliveries	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Pile Installation	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Pile Installation	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Pile Cap	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Pile Cap	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	Muck Trucks	66	60	66	64	66	64	66	66	64	0	0	0
Abutments & Track WorkSurface Work	Raw Material Trucks	22	20	22	21	22	21	22	22	21	0	0	0
Abutments & Track WorkSurface Work	Concrete Trucks	44	40	44	43	44	43	44	44	43	0	0	0
Abutments & Track WorkSurface Work	General Deliveries	22	20	22	21	22	21	22	22	21	0	0	0
Abutments & Track WorkTrack Work	Muck Trucks	22	20	22	21	22	21	22	22	21	0	0	0
Abutments & Track WorkTrack Work	Raw Material Trucks	22	20	22	21	22	21	22	22	21	0	0	0
Abutments & Track WorkTrack Work	Concrete Trucks	22	20	22	21	22	21	22	22	21	0	0	0
Abutments & Track WorkTrack Work	General Deliveries	22	20	22	21	22	21	22	22	21	0	0	0
Superstructure/Columns	Concrete Trucks	89	80	89	86	89	86	89	89	86	0	0	0
Superstructure/Deck	Concrete Trucks	89	80	89	86	89	86	89	89	86	0	0	0
Existing Bridge Decommissioning and Removal	Muck Trucks	0	0	0	0	0	0	0	0	0	44	43	44
Channels and Fenders	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	General Deliveries	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	General Deliveries	0	0	0	0	0	0	0	0	0	0	0	0

Location/Activity	Truck Trip Category	2027 1	2	3	4	5	6	7	8	9	10	11	12
		31	29	31	30	31	30	31	31	30	31	30	31
Bridge Piers/Cofferdam	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Assembly	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Assembly	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Assembly	General Deliveries	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Pile Installation	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Pile Installation	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Pile Cap	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Pile Cap	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	Muck Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	General Deliveries	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	Muck Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	Raw Material Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	General Deliveries	0	0	0	0	0	0	0	0	0	0	0	0
Superstructure/Columns	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Superstructure/Deck	Concrete Trucks	0	0	0	0	0	0	0	0	0	0	0	0
Existing Bridge Decommissioning and Removal	Muck Trucks	44	41	44	0	0	0	0	0	0	0	0	0
Channels and Fenders	Raw Material Trucks	44	41	44	0	0	0	0	0	0	0	0	0
Channels and Fenders	Concrete Trucks	44	41	44	0	0	0	0	0	0	0	0	0
Channels and Fenders	General Deliveries	44	41	44	0	0	0	0	0	0	0	0	0
Channels and Fenders	Raw Material Trucks	0	0	0	0	0	0	0	0	0	44	43	44
Channels and Fenders	Concrete Trucks	0	0	0	0	0	0	0	0	0	44	43	44
Channels and Fenders	General Deliveries	0	0	0	0	0	0	0	0	0	44	43	44

	2024 1	2	3	4	5	6	7	8	9	10	11	12	2025 1	2	3	4	5	6	7	8	9	10	11	12
Muck Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Raw Material Trucks	0	0	0	0	0	0	0	0	0	177	171	177	177	160	177	171	177	171	177	177	171	0	0	0
Concrete Trucks	0	0	0	0	0	0	0	0	0	221	214	221	221	200	221	214	221	214	221	221	214	177	171	177
General Deliveries	0	0	0	0	0	0	0	0	0	44	43	44	44	40	44	43	44	43	44	44	43	0	0	0

	2026 1	2	3	4	5	6	7	8	9	10	11	12	2027 1	2	3	4	5	6	7	8	9	10	11	12
Muck Trucks	89	80	89	86	89	86	89	89	86	44	43	44	44	41	44	0	0	0	0	0	0	0	0	0
Raw Material Trucks	44	40	44	43	44	43	44	44	43	0	0	0	44	41	44	0	0	0	0	0	0	44	43	44
Concrete Trucks	244	220	244	236	244	236	244	244	236	0	0	0	44	41	44	0	0	0	0	0	0	44	43	44
General Deliveries	44	40	44	43	44	43	44	44	43	0	0	0	44	41	44	0	0	0	0	0	0	44	43	44

Livingston Avenue Bridge
Regional Emission Analysis
Truck VMT

Location/Activity	Start Mo.	End Mo.	Average Deliveries Per Day	Truck Trip Category	Approximate Round Tip Distance (Miles)	2024												2025												2026												2027											
						31	28	31	30	31	30	31	31	30	31	30	31	31	28	31	30	31	30	31	31	30	31	30	31	31	28	31	30	31	30	31	31	30	31	30	31	31	29	31	30	31	30	31	31	30	31	30	31
						1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Bridge Piers/Cofferdam	10/1/24	10/1/25	2	Raw Material Trucks	70	0	0	0	0	0	0	0	0	0	3,100	3,000	3,100	3,100	2,800	3,100	3,000	3,100	3,000	3,100	3,100	3,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Assembly	10/1/24	10/1/25	2	Raw Material Trucks	70	0	0	0	0	0	0	0	0	0	3,100	3,000	3,100	3,100	2,800	3,100	3,000	3,100	3,000	3,100	3,100	3,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Assembly	10/1/24	10/1/25	2	Concrete Trucks	50	0	0	0	0	0	0	0	0	0	2,214	2,143	2,214	2,214	2,000	2,214	2,143	2,214	2,143	2,214	2,214	2,143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Assembly	10/1/24	10/1/25	2	General Deliveries	50	0	0	0	0	0	0	0	0	0	2,214	2,143	2,214	2,214	2,000	2,214	2,143	2,214	2,143	2,214	2,214	2,143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Pile Installation	10/1/24	10/1/25	2	Raw Material Trucks	70	0	0	0	0	0	0	0	0	0	3,100	3,000	3,100	3,100	2,800	3,100	3,000	3,100	3,000	3,100	3,100	3,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Pile Installation	10/1/24	10/1/25	4	Concrete Trucks	50	0	0	0	0	0	0	0	0	0	4,429	4,286	4,429	4,429	4,000	4,429	4,286	4,429	4,286	4,429	4,429	4,286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Pile Cap	10/1/24	10/1/25	2	Raw Material Trucks	70	0	0	0	0	0	0	0	0	0	3,100	3,000	3,100	3,100	2,800	3,100	3,000	3,100	3,000	3,100	3,100	3,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bridge Piers/Pile Cap	10/1/24	10/1/25	4	Concrete Trucks	50	0	0	0	0	0	0	0	0	0	4,429	4,286	4,429	4,429	4,000	4,429	4,286	4,429	4,286	4,429	4,429	4,286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	1/1/26	10/1/26	3	Muck Trucks	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,654	3,300	3,654	3,536	3,654	3,536	3,654	3,654	3,536	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	1/1/26	10/1/26	1	Raw Material Trucks	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,550	1,400	1,550	1,500	1,550	1,500	1,550	1,550	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	1/1/26	10/1/26	2	Concrete Trucks	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,214	2,000	2,214	2,143	2,214	2,143	2,214	2,214	2,143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkSurface Work	1/1/26	10/1/26	1	General Deliveries	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,107	1,000	1,107	1,071	1,107	1,071	1,107	1,107	1,071	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	1/1/26	10/1/26	1	Muck Trucks	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,218	1,100	1,218	1,179	1,218	1,179	1,218	1,218	1,179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	1/1/26	10/1/26	1	Raw Material Trucks	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,550	1,400	1,550	1,500	1,550	1,500	1,550	1,550	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	1/1/26	10/1/26	1	Concrete Trucks	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,107	1,000	1,107	1,071	1,107	1,071	1,107	1,107	1,071	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abutments & Track WorkTrack Work	1/1/26	10/1/26	1	General Deliveries	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,107	1,000	1,107	1,071	1,107	1,071	1,107	1,107	1,071	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Superstructure/Columns	10/1/25	10/1/26	4	Concrete Trucks	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,429	4,286	4,429	4,429	4,000	4,429	4,286	4,429	4,286	4,429	4,429	4,286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Superstructure/Deck	10/1/25	10/1/26	4	Concrete Trucks	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,429	4,286	4,429	4,429	4,000	4,429	4,286	4,429	4,286	4,429	4,429	4,286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Bridge Decommissioning and Removal	10/1/26	4/1/27	2	Muck Trucks	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	1/1/27	4/1/27	2	Raw Material Trucks	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	1/1/27	4/1/27	2	Concrete Trucks	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	1/1/27	4/1/27	2	General Deliveries	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	10/1/27	1/1/28	2	Raw Material Trucks	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	10/1/27	1/1/28	2	Concrete Trucks	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Channels and Fenders	10/1/27	1/1/28	2	General Deliveries	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Muck Trucks	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,871	4,400	4,871	4,714	4,871	4,714	4,871	4,871	4,714	2,436	2,357	2,436	2,436	2,279	2,436	0	0	0	0	0	0	0	0	0	0	0
Raw Material Trucks	70	0	0	0	0	0	0	0	0	0	12,400	12,000	12,400	12,400	11,200	12,400	12,000	12,400	12,000	12,400	12,400	12,000	0	0	0	3,100	2,800	3,100	3,000	3,100	3,000	3,100	3,100	3,000	0	0	0	3,100	2,900	3,100	0	0	0	0	0	0	0	3,100	3,000	3,100
Concrete Trucks	50	0	0	0	0	0	0	0	0	0	11,071	10,714	11,071	11,071	10,000	11,071	10,714	11,071	10,714	11,071	11,071	10,714	8,857	8,571	8,857	12,179	11,000	12,179	11,786	12,179	11,786	12,179	12,179	11,786	0	0	0	2,214	2,071	2,214	0	0	0	0	0	0	0	2,214	2,143	2,214
General Deliveries	50	0	0	0	0	0	0	0	0	0	2,214	2,143	2,214	2,214	2,000	2,214	2,143	2,214	2,143	2,214	2,214	2,143	0	0	0	2,214	2,000	2,214	2,143	2,214	2,143	2,214	2,214	2,143	0	0	0	2,214	2,071	2,214	0	0	0	0	0	0	0	2,214	2,143	2,214

584,486

Livingston Avenue Bridge
Regional Emission Analysis
Vehicle Activity

			31	28	31	30	31	30	31	31	30	31	30	31	31	28	31	30	31	30	31	31	30	31	30	31	31	30	31	30	31	31	30	31	30	31
			2024												2025												2026											
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Workforce																																				
	Trips																																			
		Daily Workers (Cofferdam)										8	8	8	8	8	8	8	8	8	8	8	8														
		Daily Workers (Assembly)										13	13	13	13	13	13	13	13	13	13	13	13														
		Daily Workers (Pile Installation)										15	15	15	15	15	15	15	15	15	15	15	15														
		Daily Workers (Pile Cap)										10	10	10	10	10	10	10	10	10	10	10	10														
		Daily Workers (Surface Work)																						18	18	18	18	18	18	18	18	18					
		Daily Workers (Track Work)																						10	10	10	10	10	10	10	10	10					
		Daily Workers (Columns)																					10	10	10	10	10	10	10	10	10	10					
		Daily Workers (Deck)																					16	16	16	16	16	16	16	16	16	16					
		Daily Workers (Decommissioning)																																			
		Daily Workers (Channels and Fenders)																																			
		Daily Workers (Total)	-	-	-	-	-	-	-	-	-	46	46	46	46	46	46	46	46	46	46	26	26	26	54	54	54	54	54	54	54	54	54	20	20	20	35	35
	1.30	*<-Average Vehicle Occupancy (US Census Data)*																																		
	48%	*<-Auto Share % (US Census Data)*																																		
	12.64	*<-Average One-Way Trip Distance in Miles*																																		
Total	Monthly VMT																																			
268,884		Daily Workers	-	-	-	-	-	-	-	-	-	9,508	9,201	9,508	9,508	8,587	9,508	9,201	9,508	9,201	9,508	9,508	9,201	5,374	5,200	5,374	11,161	10,081	11,161	10,801	11,161	10,801	11,161	11,161	10,801	4,134	4,000	4,134
Trucks																																				
Total	Trips																																			
10,491		Muck Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	89	80	89	86	89	86	89	89	86	44	43	44
		Raw Material Trucks	0	0	0	0	0	0	0	0	0	177	171	177	177	160	177	171	177	171	177	177	171	0	0	0	44	40	44	43	44	43	44	44	43	0	0	0
		Concrete Trucks	0	0	0	0	0	0	0	0	0	221	214	221	221	200	221	214	221	214	221	221	214	177	171	177	244	220	244	236	244	236	244	244	236	0	0	0
		General Deliveries	0	0	0	0	0	0	0	0	0	44	43	44	44	40	44	43	44	43	44	44	43	0	0	0	44	40	44	43	44	43	44	44	43	0	0	0
Total	Monthly Idle Hours																																			
83,926		Muck Trucks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	709	640	709	686	709	686	709	709	686	354	343	354
		Raw Material Trucks	-	-	-	-	-	-	-	-	-	1,417	1,371	1,417	1,417	1,280	1,417	1,371	1,417	1,371	1,417	1,417	1,371	-	-	-	354	320	354	343	354	343	354	354	343	-	-	-
		Concrete Trucks	-	-	-	-	-	-	-	-	-	1,771	1,714	1,771	1,771	1,600	1,771	1,714	1,771	1,714	1,771	1,771	1,714	1,417	1,371	1,417	1,949	1,760	1,949	1,886	1,949	1,886	1,949	1,949	1,886	-	-	-
		General Deliveries	-	-	-	-	-	-	-	-	-	354	343	354	354	320	354	343	354	343	354	354	343	-	-	-	354	320	354	343	354	343	354	354	343	-	-	-
Total	VMT																																			
584,486		Muck Trucks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,871	4,400	4,871	4,714	4,871	4,714	4,871	4,871	4,714	2,436	2,357	2,436
		Raw Material Trucks	-	-	-	-	-	-	-	-	-	12,400	12,000	12,400	12,400	11,200	12,400	12,000	12,400	12,000	12,400	12,400	12,000	-	-	-	3,100	2,800	3,100	3,000	3,100	3,000	3,100	3,100	3,000	-	-	-
		Concrete Trucks	-	-	-	-	-	-	-	-	-	11,071	10,714	11,071	11,071	10,000	11,071	10,714	11,071	10,714	11,071	11,071	10,714	8,857	8,571	8,857	12,179	11,000	12,179	11,786	12,179	11,786	12,179	12,179	11,786	-	-	-
		General Deliveries	-	-	-	-	-	-	-	-	-	2,214	2,143	2,214	2,214	2,000	2,214	2,143	2,214	2,143	2,214	2,214	2,143	-	-	-	2,214	2,000	2,214	2,143	2,214	2,143	2,214	2,214	2,143	-	-	-
	Nox		-	-	-	-	-	-	-	-	-	639,440	618,813	639,440	639,440	577,559	639,440	618,813	639,440	618,813	639,440	639,440	618,813	249,299	241,257	249,299	598,156	540,270	598,156	578,660	598,156	578,860	598,156	598,156	578,860	63,376	61,332	63,376
	VOC		-	-	-	-	-	-	-	-	-	77,121	74,633	77,121	77,121	69,658	77,121	74,633	77,121	74,633	77,121	77,121	74,633	29,305	28,359	29,305	71,032	64,158	71,032	68,741	71,032	68,741	71,032	71,032	68,741	7,886	7,632	7,886
	CO2e		-	-	-	-	-	-	-	-	-	91,547,228	88,594,092	91,547,228	91,547,228	82,687,819	91,547,228	88,594,092	91,547,228	88,594,092	91,547,228	91,547,228	88,594,092	34,199,550	33,096,339	34,199,550	83,448,385	75,372,735	83,448,385	80,756,502	83,448,385	80,756,502	83,448,385	83,448,385	80,756,502	9,954,352	9,633,243	9,954,352
	Nox		-	-	-	-	-	-	-	-	-	0.705	0.682	0.705	0.705	0.637	0.705	0.682	0.705	0.682	0.705	0.705	0.682	0.275	0.266	0.275	0.659	0.596	0.659	0.638	0.659	0.638	0.659	0.659	0.638	0.070	0.068	0.070
	VOC		-	-	-	-	-	-	-	-	-	0.085	0.082	0.085	0.085	0.077	0.085	0.082	0.085	0.082	0.085	0.085	0.082	0.032	0.031	0.032	0.078	0.071	0.078	0.076	0.078	0.076	0.078	0.078	0.076	0.009	0.008	0.009
	CO2e		-	-	-	-	-	-	-	-	-	91.547	88.594	91.547	91.547	82.688	91.547	88.594	91.547	88.594	91.547	91.547	88.594	34.200	33.096	34.200	83.448	75.373	83.448	80.757	83.448	80.757	83.448	83.448	80.757	9.954	9.633	9.954

	2024	2025	2026	2027
Nox	2.092	7.023	6.014	1.448
VOC	0.252	0.845	0.715	0.175
Co2e	271.689	907.702	764.426	189.666

Livingston Avenue Bridge
Regional Emission Analysis
Tugboat Emissions

30	Average one-way trip distance (miles)
8.1	Round Trip Travel Time per Tug (hr)

Alternative 3 Location/Activity	Start Mo.	End Mo.	Tugs	Monthly Tug / Barge Trips
In-Water	10/1/24	10/1/25	Tug Boat	2.08
Tug Boats (Total Monthly Hours)				

	31	28	31	30	31	30	31	31	30	31	30	31	31	28	31	30	31	30	31	31	30	31	30	31	31	28	31	30	31	30	31	31	30	31	30	31	31	29	31	30	31	30	31	31	30	31	30	31
	2024												2025												2026												2027											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
In-Water	0	0	0	0	0	0	0	0	0	17	17	17	17	17	17	17	17	17	17	17	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tug Boats (Total Monthly Hours)	0	0	0	0	0	0	0	0	0	17	17	17	17	17	17	17	17	17	17	17	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Emissions (ton)

Nox	0	0	0	0	0	0	0	0	0	0.211102	0.211102	0.211102	0.211102	0.211102	0.211102	0.211102	0.211102	0.211102	0.211102	0.211102	0.211102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOC	0	0	0	0	0	0	0	0	0	0.005799	0.005799	0.005799	0.005799	0.005799	0.005799	0.005799	0.005799	0.005799	0.005799	0.005799	0.005799	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CO2e	0	0	0	0	0	0	0	0	0	14.00645	14.00645	14.00645	14.00645	14.00645	14.00645	14.00645	14.00645	14.00645	14.00645	14.00645	14.00645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Emissions (mton)

CO2e	0	0	0	0	0	0	0	0	0	12.70644	12.70644	12.70644	12.70644	12.70644	12.70644	12.70644	12.70644	12.70644	12.70644	12.70644	12.70644	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Emissions (ton/yr)	2024	2025	2026	2027
Nox	0.633305	1.899914	0	0
VOC	0.017398	0.052193	0	0
CO2e	42.01934	126.058	0	0
Emissions (mton/yr)				
CO2e	38.11931	114.3579	0	0

Livingston Avenue Bridge

Regional Emission Analysis

Embedded Emissions

MATERIALS

Steel

42.3	TG CO2e emitted from iron and steel production proccess. US GHG Inventory, 2009 (EPA 2011)
65,460,000	tons of crude steel produced in 2009 (EPA, ibid)
0.65	tons direct (IP) CO2 per ton steel produced (2009)
0.6	tons CO2 per ton from energy used for production (Horvath, PaLATE model data, via TRB draft model)
1.25	**total tons CO2e per ton of steel**

Concrete

Portland cement lifecycle emissions (includes fuel, process, and transport):

927	kg CO2/mt cement
0.0395	kg CH4/mt cement
928	**kg CO2e/mt cement**
0.928	*mt CO2e/mt cement*

SOURCE: Life Cycle Inventory of Portland Cement Manufacture, PCA, 2006

Quantity Assumptions		Site 4A/4B	Emissions		
		Total	ton CO2e	kg CO2e	MT CO2e
Total Steel	**ton**	**4,851**	**6,043**	**---**	**6,661**
	mton	5,347			
Total Concrete	**CY**	35,795			
Assumes concrete density:	**kg/cu. m**	2371			
	metric tons/CY	1.81			
Assumes cement content:		10%			
Total Cement	**ton**	6,489			
Total Cement	**mton**	**7,153**	**---**	**6,637,566**	**6,638**

13,298.39

LAB Estimated Quantities		
Piles	64,170	LF
Steel	6,290,000	LB
Concrete	35,795	CY
Reinforcement	3,411,125	LB
Excavation	27,000	CY
Fill	52,500	CY
Track	6,433	LF
Duration	3	YR
Est Total Cost	$ 460,480,000	

Livingston Avenue Bridge

Regional Emission Analysis

Emission Factors

VOC Emission Factors (g/hp-hr)

ID	Equipment	Engine	SCC Code	HPmin	HPmax	Equipment	Load	2024	2025	2026	2027	
	Aerial Lifts 75	Diesel	2270003010	51	75	Aerial Lifts 75	21%	0.176	0.188	0.173	0.156	
	Bore/Drill Rigs 300	Diesel	2270002033	176	300	Bore/Drill Rigs 300	43%	0.069	0.074	0.068	0.063	
	Cranes 1000	Diesel	2270002045	751	1000	Cranes 1000	43%	0.048	0.049	0.044	0.040	
	Cranes 1200	Diesel	2270002045	1001	1200	Cranes 1200	43%	0.048	0.049	0.044	0.040	
	Cranes 175	Diesel	2270002045	101	175	Cranes 175	43%	0.014	0.014	0.011	0.008	
	Cranes 300	Diesel	2270002045	176	300	Cranes 300	43%	0.013	0.013	0.010	0.008	
	Cranes 600	Diesel	2270002045	301	600	Cranes 600	43%	0.026	0.025	0.021	0.018	
	Cranes 750	Diesel	2270002045	601	750	Cranes 750	43%	0.025	0.024	0.020	0.018	
	Excavators 300	Diesel	2270002036	176	300	Excavators 300	59%	0.006	0.006	0.006	0.005	
	Forklifts 175	Diesel	2270003020	101	175	Forklifts 175	59%	0.004	0.004	0.004	0.004	
	Light Commercial Air Compressors 300	Diesel	2270006015	176	300	Light Commercial Air Compress	43%	0.020	0.020	0.017	0.015	
	Light Commercial Generator Sets 175	Diesel	2270006005	101	175	Light Commercial Generator Set	43%	0.096	0.103	0.095	0.087	
	Light Commercial Generator Sets 600	Diesel	2270006005	301	600	Light Commercial Generator Set	43%	0.068	0.073	0.067	0.060	
	Light Commercial Pumps 11	Gasoline	2265006010	0	11	Light Commercial Pumps 11	69%	1.816	2.117	2.118	2.117	
	Other Construction Equipment 300	Diesel	2270002081	176	300	Other Construction Equipment :	59%	0.018	0.018	0.016	0.014	
	Pavers 300	Diesel	2270002003	176	300	Pavers 300	59%	0.010	0.009	0.007	0.006	
	Rollers 25	Diesel	2270002015	17	25	Rollers 25	59%	0.152	0.176	0.176	0.176	
	Tractors/Loaders/Backhoes 300	Diesel	2270002066	176	300	Tractors/Loaders/Backhoes 300	21%	0.124	0.123	0.100	0.078	
						Truck 1		0.414	**0.414**	**0.414**	**0.414**	g/veh

NOx Emission Factors (g/hp-hr)

ID	Equipment	Engine	SCC Code	HPmin	HPmax	Equipment	Load	2024	2025	2026	2027	
	Aerial Lifts 75	Diesel	2270003010	51	75	Aerial Lifts 75	21%	1.546	1.743	1.698	1.650	
	Bore/Drill Rigs 300	Diesel	2270002033	176	300	Bore/Drill Rigs 300	43%	0.848	0.908	0.838	0.773	
	Cranes 1000	Diesel	2270002045	751	1000	Cranes 1000	43%	1.311	1.447	1.389	1.347	
	Cranes 1200	Diesel	2270002045	1001	1200	Cranes 1200	43%	1.311	1.447	1.389	1.347	
	Cranes 175	Diesel	2270002045	101	175	Cranes 175	43%	0.204	0.201	0.170	0.135	
	Cranes 300	Diesel	2270002045	176	300	Cranes 300	43%	0.164	0.158	0.130	0.103	
	Cranes 600	Diesel	2270002045	301	600	Cranes 600	43%	0.420	0.409	0.345	0.300	
	Cranes 750	Diesel	2270002045	601	750	Cranes 750	43%	0.422	0.411	0.347	0.301	
	Excavators 300	Diesel	2270002036	176	300	Excavators 300	59%	0.078	0.077	0.068	0.063	
	Forklifts 175	Diesel	2270003020	101	175	Forklifts 175	59%	0.075	0.085	0.084	0.084	
	Light Commercial Air Compressors 300	Diesel	2270006015	176	300	Light Commercial Air Compress	43%	0.291	0.290	0.243	0.198	
	Light Commercial Generator Sets 175	Diesel	2270006005	101	175	Light Commercial Generator Set	43%	1.121	1.223	1.140	1.045	
	Light Commercial Generator Sets 600	Diesel	2270006005	301	600	Light Commercial Generator Set	43%	0.993	1.076	0.999	0.912	
	Light Commercial Pumps 11	Gasoline	2265006010	0	11	Light Commercial Pumps 11	69%	0.987	1.151	1.151	1.151	
	Other Construction Equipment 300	Diesel	2270002081	176	300	Other Construction Equipment :	59%	0.249	0.239	0.207	0.174	
	Pavers 300	Diesel	2270002003	176	300	Pavers 300	59%	0.127	0.118	0.093	0.078	
	Rollers 25	Diesel	2270002015	17	25	Rollers 25	59%	1.624	1.881	1.882	1.882	
	Tractors/Loaders/Backhoes 300	Diesel	2270002066	176	300	Tractors/Loaders/Backhoes 300	21%	0.796	0.804	0.663	0.527	
						Truck 1		1.607	**1.607**	**1.607**	**1.607**	g/veh

Fuel Consumption Factors (g/hp-hr)

ID	Equipment	Engine	SCC Code	HPmin	HPmax	Equipment	Load	2024	2025	2026	2027	
	Aerial Lifts 75	Diesel	2270003010	51	75	Aerial Lifts 75	21%	94.208	109.089	109.089	109.089	
	Bore/Drill Rigs 300	Diesel	2270002033	176	300	Bore/Drill Rigs 300	43%	71.839	83.234	83.234	83.234	
	Cranes 1000	Diesel	2270002045	751	1000	Cranes 1000	43%	71.839	83.234	83.234	83.234	
	Cranes 1200	Diesel	2270002045	1001	1200	Cranes 1200	43%	71.839	83.234	83.234	83.234	
	Cranes 175	Diesel	2270002045	101	175	Cranes 175	43%	71.839	83.234	83.234	83.234	
	Cranes 300	Diesel	2270002045	176	300	Cranes 300	43%	71.839	83.234	83.234	83.234	
	Cranes 600	Diesel	2270002045	301	600	Cranes 600	43%	71.839	83.234	83.234	83.234	
	Cranes 750	Diesel	2270002045	601	750	Cranes 750	43%	71.839	83.234	83.234	83.234	
	Excavators 300	Diesel	2270002036	176	300	Excavators 300	59%	72.622	84.141	84.141	84.141	
	Forklifts 175	Diesel	2270003020	101	175	Forklifts 175	59%	72.664	84.141	84.141	84.141	
	Light Commercial Air Compressors 300	Diesel	2270006015	176	300	Light Commercial Air Compress	43%	71.377	83.234	83.234	83.234	
	Light Commercial Generator Sets 175	Diesel	2270006005	101	175	Light Commercial Generator Set	43%	71.377	83.234	83.234	83.234	
	Light Commercial Generator Sets 600	Diesel	2270006005	301	600	Light Commercial Generator Set	43%	71.377	83.234	83.234	83.234	
	Light Commercial Pumps 11	Gasoline	2265006010	0	11	Light Commercial Pumps 11	69%	142.949	166.695	166.695	166.695	
	Other Construction Equipment 300	Diesel	2270002081	176	300	Other Construction Equipment :	59%	72.622	84.141	84.141	84.141	
	Pavers 300	Diesel	2270002003	176	300	Pavers 300	59%	72.622	84.141	84.141	84.141	
	Rollers 25	Diesel	2270002015	17	25	Rollers 25	59%	80.648	93.440	93.440	93.440	
	Tractors/Loaders/Backhoes 300	Diesel	2270002066	176	300	Tractors/Loaders/Backhoes 300	21%	84.758	98.203	98.203	98.203	
						Truck 1		0.000	**0.000**	**0.000**	**0.000**	g/veh

Fuel Consumption Factors (gal/hp-hr)

ID	Equipment	Engine	SCC Code	HPmin	HPmax	Equipment	HP	2024	2025	2026	2027	
	Aerial Lifts 75	Diesel	2270003010	51	75	Aerial Lifts 75		0.030	0.034	0.034	0.034	
	Bore/Drill Rigs 300	Diesel	2270002033	176	300	Bore/Drill Rigs 300		0.023	0.026	0.026	0.026	
	Cranes 1000	Diesel	2270002045	751	1000	Cranes 1000		0.023	0.026	0.026	0.026	
	Cranes 1200	Diesel	2270002045	1001	1200	Cranes 1200		0.023	0.026	0.026	0.026	
	Cranes 175	Diesel	2270002045	101	175	Cranes 175		0.023	0.026	0.026	0.026	
	Cranes 300	Diesel	2270002045	176	300	Cranes 300		0.023	0.026	0.026	0.026	
	Cranes 600	Diesel	2270002045	301	600	Cranes 600		0.023	0.026	0.026	0.026	
	Cranes 750	Diesel	2270002045	601	750	Cranes 750		0.023	0.026	0.026	0.026	
	Excavators 300	Diesel	2270002036	176	300	Excavators 300		0.023	0.026	0.026	0.026	
	Forklifts 175	Diesel	2270003020	101	175	Forklifts 175		0.023	0.026	0.026	0.026	
	Light Commercial Air Compressors 300	Diesel	2270006015	176	300	Light Commercial Air Compressors 300		0.022	0.026	0.026	0.026	
	Light Commercial Generator Sets 175	Diesel	2270006005	101	175	Light Commercial Generator Sets 175		0.022	0.026	0.026	0.026	
	Light Commercial Generator Sets 600	Diesel	2270006005	301	600	Light Commercial Generator Sets 600		0.022	0.026	0.026	0.026	
	Light Commercial Pumps 11	Gasoline	2265006010	0	11	Light Commercial Pumps 11		0.051	0.060	0.060	0.060	
	Other Construction Equipment 300	Diesel	2270002081	176	300	Other Construction Equipment 300		0.023	0.026	0.026	0.026	
	Pavers 300	Diesel	2270002003	176	300	Pavers 300		0.023	0.026	0.026	0.026	
	Rollers 25	Diesel	2270002015	17	25	Rollers 25		0.025	0.029	0.029	0.029	
	Tractors/Loaders/Backhoes 300	Diesel	2270002066	176	300	Tractors/Loaders/Backhoes 300		0.027	0.031	0.031	0.031	
						Truck 1		0.000	**0.000**	**0.000**	**0.000**	g/veh

MOVES TRUCKS FACTORS	NOx	VOC	CO2e
2024- Truck Idling (g/hr)	147.2117272	12.75	9838.17
2024 - Truck Cruising - 5mph (g/veh)	1.61	0.41	418.21
2024 - Truck Cruising - 5mph (g/mi)	16.07	4.14	4182.12
2024 - Truck Cruising - 25mph (g/mi)	4.58	1.21	2081.98
2024 - Auto Cruising - 25mph (g/mi)	0.01	0.10	338.13

Albany county level input data

Distance Traveled On-site: 0.10 mile per truck

	NOx	VOC	CO2e
Tug Boats ton/hr	**0.0124**	**0.0003**	**0.8253**

Fuel Properties

Densities	kg/L	g/gal	lb/gal
Diesel	0.84	3,179.75	7.01
Gasoline	0.74	2,801.21	6.18
LPG	0.54	2,044.12	4.51

GHG Emissions

https://www.epa.gov/system/files/documents/2022-04/ghg_emission_factors_hub.pdf

Diesel		
CO2	10.21	kg/gal
CH4	0.94	g/gal
N2O	0.44	g/gal
Gasoline		
CO2	8.78	kg/gal
CH4	12.11	g/gal
N2O	0.34	g/gal

	GWP
CO2	1
CH4	25
N2O	298

	Emission Factor					
	g/gal				mt/gal	
	CO2	CH4	N2O	CO2e	CO2e	
Diesel	10210	0.94	0.44	10364.62	0.01036462	10.36462
Gasoline	8780	12.11	0.34	9184.07	0.00918407	9.18407

Livingston Avenue Bridge

Regional Emission Analysis

Barge Parameters

Barge Parameters

				30	miles (one way) per trip
	hp	LF		Avg spd (knots)	Time [h per round trip]
Upland	**2091**	**0.68**		**6.4**	8.1
Auxiliary	**130**	**0.43**		**N/A**	**N/A**

	PM2.5	PM10	NOx	VOC	CO	SO2	CO2eq	
g/hp-hr	0.15	0.15	7.64	0.21	1.23	0.005	506.68	Tugboats Main Engine
	0.21	0.22	7.52	0.23	1.17	0.005	506.68	Tugboats Auxiliary Engine
g/hr	225.31	232.25	11283.62	309.97	1819.84	6.88	748660.38	Tugboats Main Engine
ton/hr	**0.0002**	**0.0003**	**0.0124**	**0.0003**	**0.0020**	**0.0000**	**0.8253**	Tugboats

EPA. *Ports Emissions Inventory Guidance: Methodologies for Estimating Port-Related and Goods Movement Mobile Source Emissions*
Table H.6. Average Harbor Craft Emission Factors by Engine Group, Power Range, and Model Year (Pre-1999 Engines Propulsion: 600 < kW ≤ 1000, Aux, 37 < kW ≤ 600)
assumed from Tappan Zee analysis

Dredged Material Summary

19,500	CY	Alternative 1
14,500	CY	Alternative 2
25	trips	Max Disposal Trips
		Trips would occur over a 1 year period

Attachment G
Design Drawings

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

GRID NORTH

C= 5NBL3
DELTA= 1°31'17.62"
Dc= 1°00'00.00"
L= 90.16'
R= 5729.65'
Ls= 62.00'
SUPER=0.5"
Vf=50, Vp=70
MAS=40

POE 34+67.08
ST 33+91.99
CS 33+29.99
SC 32+39.83
TS 31+77.83
CENTER ST.
WATER ST.
ST 29+84.80
I-787 SB
I-787 NB
CS 28+60.80
EXISTING COLUMN FOR I-787 (TYP.)
SC 26+63.73
TS 25+39.73

PROPOSED STAGING AREA

C= 5NBL-14-2
DELTA= 12°50'29.99"
Dc= 4°00'00.00"
L= 197.07'
R= 1432.69'
Ls= 124.00'
SUPER=2"
Vf=35, Vp=40

100'-0" GIRDER SPAN 6
75'-0" GIRDER SPAN 5
75'-0" GIRDER SPAN 4
235'-0" FIXED TRUSS SPAN 2
30'-0" TOWER SPAN 2
235'-0" LIFT SPAN
30'-0" TOWER SPAN 1
235'-0" FIXED TRUSS SPAN 1
80'-0" GIRDER SPAN 3
80'-0" GIRDER SPAN 2
100'-0" GIRDER SPAN 1

50'-10" OUT TO OUT
58'-4" OUT TO OUT
50'-10" OUT TO OUT

MAINTENANCE WALKWAY
TRACK 1
TRACK 2
EXISTING BRIDGE
196'-0" NAVIGATION CHANNEL

PROPOSED CONTRACTOR ACCESS ROAD ALONG EXISTING UTILITY CORRIDOR

PROPOSED STAGING AREA

OUT-TO-OUT WIDTH TAPERS FOR WYE TRACK

WYE TRACK SPANS

POE 17+60.07
LH NO. 10 TURNOUT
PT 17+29.07

C= 5W2
DELTA= 5°44'58.64"
Dc= 8°00'00.00"
L= 71.87'
R= 716.78'
SUPER=0.0000
Vf=10, Vp=15

PT 15+88.85
PC 15+16.98

ST 13+67.96
CS 13+05.96

C= 5W1
DELTA= 96°05'16.24"
Dc= 13°30'00.00"
L= 649.91'
R= 425.40'
Ls= 62.00'
SUPER=1"
Vf=15, Vp=20

POB 14+30.00
PI 13+73.23
LH NO. 10 TURNOUT

ST 14+17.77
CS 12+00.77

C= 5NBL1
DELTA= 79°23'17.64"
Dc= 10°00'00.00"
L= 577.16'
R= 573.69'
Ls= 217.00'
SUPER=3.5"
Vf=25, Vp=30

EAST ABUTMENT
11'-10" X 121'-4" PILE CAP

C= 5SBL1
DELTA= 79°23'17.65"
Dc= 10°00'00.00"
L= 577.16'
R= 573.69'
Ls= 217.00'
SUPER=3.5"
Vf=25, Vp=30

ST 11+08.22
CS 11+89.22

REALIGN AMTRAK YARD TRACK

MAINLINE SPANS

PIER 4
70'-6" X 91'-0"
PIER 3
19'-10" X 78'-8"
PIER 2
19'-10" X 79'-2"
PIER 1
19'-10" X 96'-8"

PIER 6
23'-4" X 85'-8"
PIER 7
23'-4" X 85'-8"
PIER 8
23'-4" X 85'-8"
PIER 5
70'-6" X 91'-0"

PROPOSED BRIDGE
BIN: 7092890

PROPOSED SHARED USE PATH (SUP)

FENDER SYSTEM

WEST ABUTMENT
11'-10" X 87'-0" PILE CAP

HUDSON RIVER

GOVERNMENT CHANNEL

BIN: 7709021
7709022
7709023

BIN: 770902A

BIN: 7092900

BIN: 1092881

BIN: 1092882

POE 34+35.66

ST 29+62.18

9'-0"

FACE OF PROPOSED RETAINING WALL (TYP.)

SKYWAY

QUAY ST.

C= 5SBL2
DELTA= 12°50'29.99"
Dc= 4°00'00.00"
L= 197.07'
R= 1432.69'
Ls= 124.00'
SUPER=2"
Vf=35, Vp=40

CITY OF ALBANY

CITY OF RENSSELAER

TO RENSSELAER STATION

SC 6+23.62
SC 6+12.06
TS 4+06.62
TS 3+95.06

MATCH TO DWG. NO. SA-2

100 0 100 200 300 400'
1" = 200'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49
MARCH 2021

BRIDGES
7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

CONTRACT NUMBER

REPLACEMENT ON ADJACENT ALIGNMENT TO THE SOUTH

DRAWING NO. SA-1
SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

FILE NAME =
DATE/TIME = 8/18/2022
USER = DNClescer1

CITY OF RENSSELAER

100 0 100 200 300 400'

1" = 200'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

REPLACEMENT ON ADJACENT ALIGNMENT TO THE SOUTH

CONTRACT NUMBER

DRAWING NO. SA-2

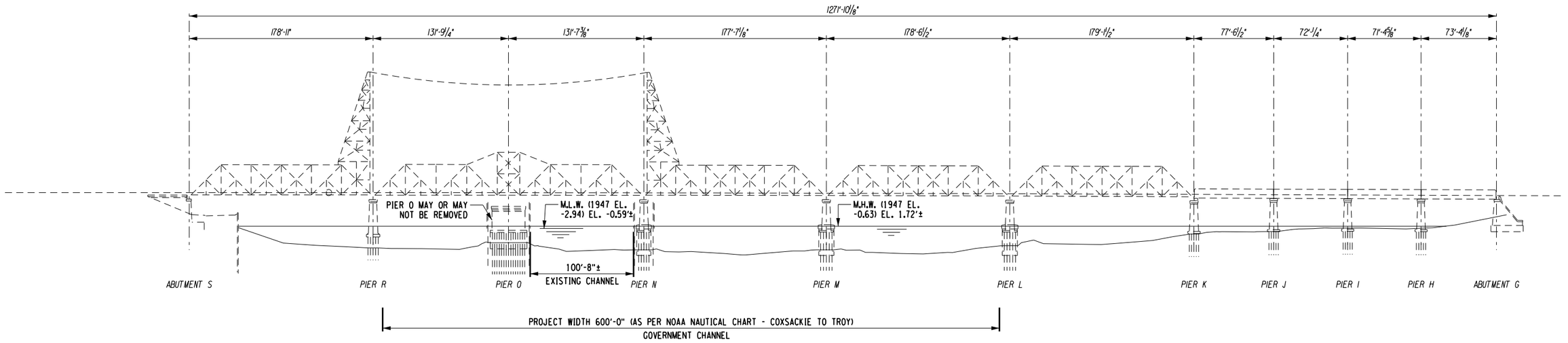
SHEET NO.

MODJESKI and MASTERS

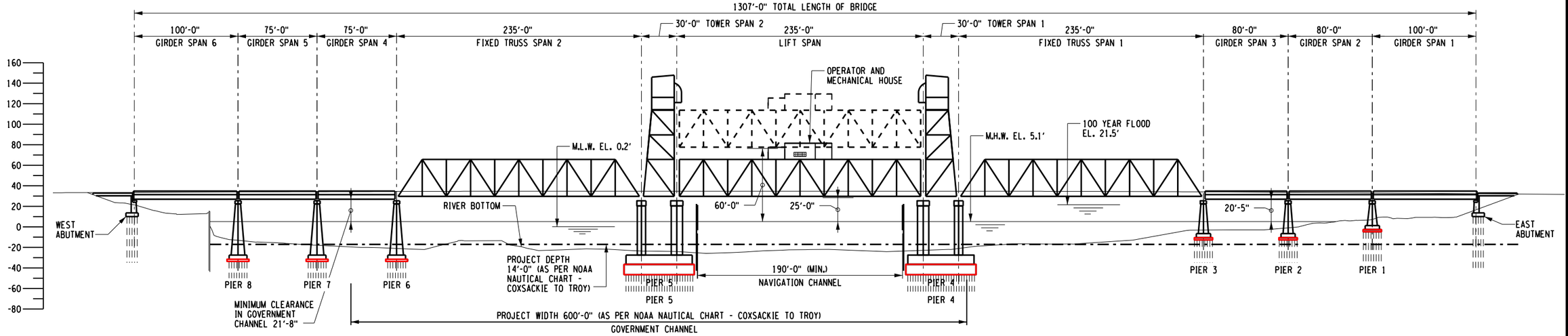
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME =
DATE/TIME = 8/18/2022
USER = DNCIescer1



EXISTING ELEVATION
LOOKING NORTH



BRIDGE ELEVATION
LOOKING NORTH

50 0 50 100 150 200'
1" = 100'

AFFIX SEAL: ON:	ALTERED BY: ON:	AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:		PIN 1935.49 MARCH 2021	BRIDGES 7092890	CULVERTS

COUNTY: ALBANY REGION: 1

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

REPLACEMENT ON ADJACENT ALIGNMENT TO THE SOUTH

CONTRACT NUMBER

DRAWING NO. SA-2

SHEET NO.

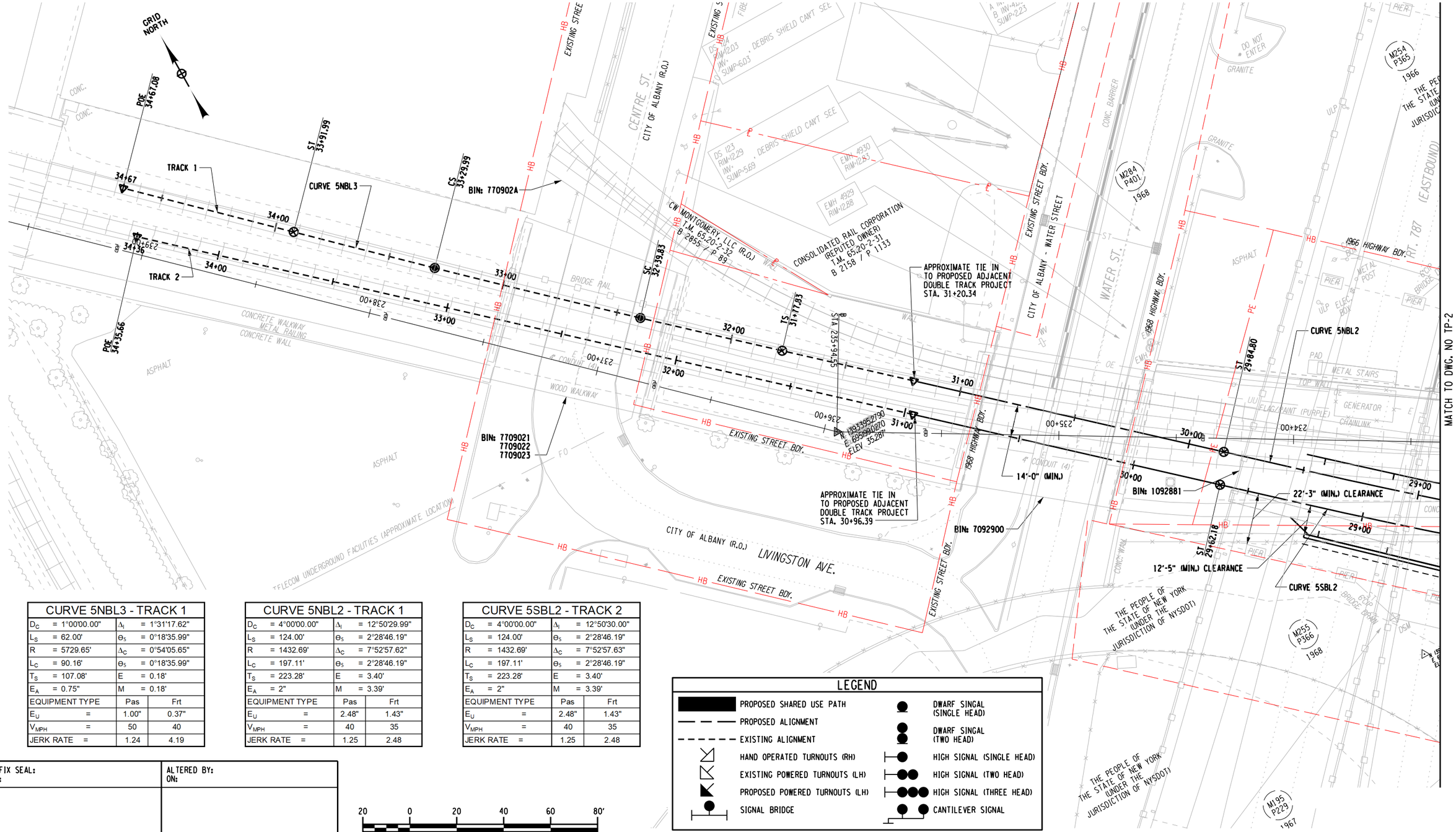
MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME =
DATE/TIME = 3/18/2021
USER = ONCIescer1

PROJECT MANAGER | CHECK | DRAFTING | CHECK | DESIGN | JOB MANAGER | DESIGN SUPERVISOR



CURVE 5NBL3 - TRACK 1			
D_C = 1°00'00.00"	Δ_I = 1°31'17.62"		
L_S = 62.00'	θ_S = 0°18'35.99"		
R = 5729.65'	Δ_C = 0°54'05.65"		
L_C = 90.16'	θ_S = 0°18'35.99"		
T_S = 107.08'	E = 0.18'		
E_A = 0.75"	M = 0.18'		
EQUIPMENT TYPE		Pas	Frt
E_U	=	1.00"	0.37"
V_{MPH}	=	50	40
JERK RATE	=	1.24	4.19

CURVE 5NBL2 - TRACK 1			
D_C = 4°00'00.00"	Δ_I = 12°50'29.99"		
L_S = 124.00'	θ_S = 2°28'46.19"		
R = 1432.69'	Δ_C = 7°52'57.62"		
L_C = 197.11'	θ_S = 2°28'46.19"		
T_S = 223.28'	E = 3.40'		
E_A = 2"	M = 3.39'		
EQUIPMENT TYPE		Pas	Frt
E_U	=	2.48"	1.43"
V_{MPH}	=	40	35
JERK RATE	=	1.25	2.48

CURVE 5SBL2 - TRACK 2			
D_C = 4°00'00.00"	Δ_I = 12°50'30.00"		
L_S = 124.00'	θ_S = 2°28'46.19"		
R = 1432.69'	Δ_C = 7°52'57.63"		
L_C = 197.11'	θ_S = 2°28'46.19"		
T_S = 223.28'	E = 3.40'		
E_A = 2"	M = 3.39'		
EQUIPMENT TYPE		Pas	Frt
E_U	=	2.48"	1.43"
V_{MPH}	=	40	35
JERK RATE	=	1.25	2.48

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80'

1" = 40'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PLAN
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TP-1

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

FILE NAME = 8/18/2022
DATE/TIME = 8/18/2022
USER = DNClescer1

PROJECT MANAGER | CHECK | DRAFTING | CHECK | DESIGN | JOB MANAGER | DESIGN SUPERVISOR

MATCH TO DWG. NO TP-1

MATCH TO DWG. NO TP-3

GRID NORTH

M228 P329
1965 P.E.
CSX TRANSPORTATION INC.
(REPUTED OWNER)
T.M. 65.20-4-1
B 51 / P 500

M228 P530
1965 P.E.

1965 HIGHWAY BDY.

1954 HIGHWAY BDY.

1965 HWY. BDY.

CURVE 5NBL2

CURVE 5SBL2

CS 28+60.83

CS 28+38.18

SC 26+63.73

TS 25+39.73

TS 25+11.11

BIN: 1092882

15'-3" (MIN.) CLEARANCE

14'-0" (MIN.)

30'-11" LIMITS OF EXISTING STRUCTURE

FACE OF TRUSS

12'-0"

MAINTENANCE WALKWAY

TRACK 1

TRACK 2

14'-0"

50'-10" OUT TO OUT

58'-4" OUT TO OUT

PIER 6

PIER 7

PIER 8

PROPOSED SHARED USE PATH (SUP)

NEW RETAINING WALL REQUIRED FOR SHARED-USE PATH

WEST ABUTMENT

TOE OF SLOPE (TYP.)

EXISTING STREET BDY.

EXISTING HIGHWAY BDY.

MOHAWK HUDSON HIKE BIKE TRAIL

U.S. GOVERMENT PIERHEAD LINE

LIVINGSTON AVENUE
CITY OF ALBANY
(UNOPENED)

BM 321
ELEV.=35.91
CUT 'X' ON SW
SIGNAL POLE BOLT

BM 'A' (*3045)
ELEV=45.76
TIDAL BM DISK (PID MZ1406)
SET IN CONCRETE
RETAINING WALL
STAMPED: 851 8995D 1982

THE PEOPLE OF THE STATE OF NEW YORK
(UNDER THE JURISDICTION OF NYSDOT)

RIVER FRONT ARTERIAL
CITY OF ALBANY
M 12 / P 16
1954

GIRDER SPAN 5

GIRDER SPAN 4

FIXED TRUSS SPAN 2

GIRDER SPAN 6

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

CURVE 5NBL2 - TRACK 1			
D_C	= 4°00'00.00"	Δ_I	= 12°50'29.99"
L_S	= 124.00'	θ_S	= 2°28'46.19"
R	= 1432.69'	Δ_C	= 7°52'57.62"
L_C	= 197.11'	θ_S	= 2°28'46.19"
T_S	= 223.28'	E	= 3.40'
E_A	= 2"	M	= 3.39'
EQUIPMENT TYPE		Pas	Frt
E_U	=	2.48"	1.43"
V_{MPH}	=	40	35
JERK RATE	=	1.25	2.48

CURVE 5SBL2 - TRACK 2			
D_C	= 4°00'00.00"	Δ_I	= 12°50'30.00"
L_S	= 124.00'	θ_S	= 2°28'46.19"
R	= 1432.69'	Δ_C	= 7°52'57.63"
L_C	= 197.11'	θ_S	= 2°28'46.19"
T_S	= 223.28'	E	= 3.40'
E_A	= 2"	M	= 3.39'
EQUIPMENT TYPE		Pas	Frt
E_U	=	2.48"	1.43"
V_{MPH}	=	40	35
JERK RATE	=	1.25	2.48

20 0 20 40 60 80'

1" = 40'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

CONTRACT NUMBER

TRACK PLAN
SOUTH ALTERNATIVE

DRAWING NO. TP-2

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

FILE NAME = 8/18/2022
DATE/TIME = ONCieseri
USER = ONCieseri

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

GRID NORTH

TIMBER

ALBA
RENSSL

FACE OF TRUSS

FACE OF TRUSS

FACE OF TRUSS

FACE OF TRUSS

227+00
226+00
225+00
224+00
223+00
222+00

12'-0"

30'-11" LIMITS OF EXISTING STRUCTURE

MAINTENANCE WALKWAY

FENDER SYSTEM

TRACK 1

TRACK 2

14'-0"

MATCH TO DWG. NO TP-2

MATCH TO DWG. NO TP-4

23+00
22+00
21+00
20+00
19+00
18+00
17+00

PIER 5

PIER 4

58'-4" OUT TO OUT

CITY OF ALBANY
CITY OF RENSSLELAER

PROPOSED SHARED USE PATH (SUP)

196'-0" NAVIGATION CHANNEL

FIXED TRUSS SPAN 2

TOWER SPAN 2

LIFT SPAN

TOWER SPAN 1

FIXED TRUSS SPAN 1

LANDS OF THE PEOPLE OF THE STATE OF NEW YORK ("THE WATERS OF THE HUDSON RIVER")

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80'

1" = 40'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PLAN
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TP-3

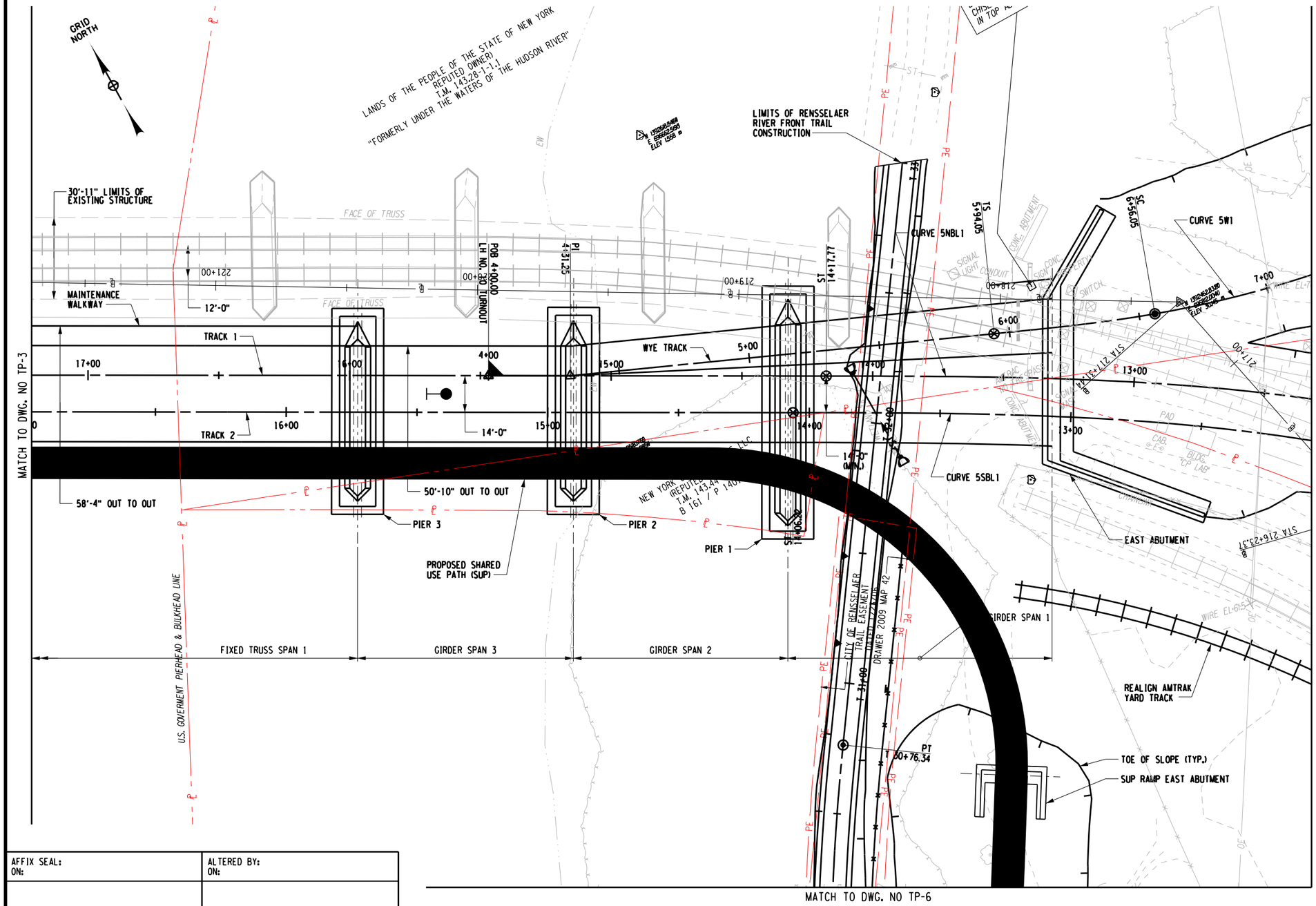
SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

FILE NAME =
DATE/TIME = 8/18/2022
USER = DNCleseri

PROJECT MANAGER | CHECK | DRAFTING | CHECK | DESIGN | JOB MANAGER | DESIGN SUPERVISOR



CURVE 5W1 - WYE TRACK			
D_C	= 13°30'00.00"	Δ_I	= 96°05'16.24"
L_S	= 62.00'	Θ_S	= 4°10'31.17"
R	= 425.40'	Δ_C	= 87°44'13.89"
L_C	= 651.41'	Θ_S	= 4°10'31.17"
T_S	= 504.59'	E	= 164.67'
E_A	= 0.75'	M	= 118.71'
EQUIPMENT TYPE		Pas	Frt
E_U	=	1.38"	0.20"
V_{MPH}	=	15	10
JERK RATE	=	2.99	31

CURVE 5NBL1 - TRACK 1			
D_C	= 10°00'00.00"	Δ_I	= 79°23'17.64"
L_S	= 217.00'	Θ_S	= 10°50'10.44"
R	= 573.69'	Δ_C	= 57°42'56.75"
L_C	= 577.89'	Θ_S	= 10°50'10.44"
T_S	= 587.39'	E	= 81.34'
E_A	= 3.5"	M	= 71.24'
EQUIPMENT TYPE		Pas	Frt
E_U	=	2.8"	0.875"
V_{MPH}	=	30	25
JERK RATE	=	2.58	9.92

CURVE 5SBL1 - TRACK 2			
D_C	= 10°00'00.00"	Δ_I	= 79°23'17.65"
L_S	= 217.00'	Θ_S	= 10°50'10.44"
R	= 573.69'	Δ_C	= 57°42'56.76"
L_C	= 577.89'	Θ_S	= 10°50'10.44"
T_S	= 587.39'	E	= 81.34'
E_A	= 3.5"	M	= 71.24'
EQUIPMENT TYPE		Pas	Frt
E_U	=	2.8"	0.875"
V_{MPH}	=	30	25
JERK RATE	=	2.58	9.92

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80'
1" = 40'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49
MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PLAN
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TP-4
SHEET NO.

MODJESKI and MASTERS

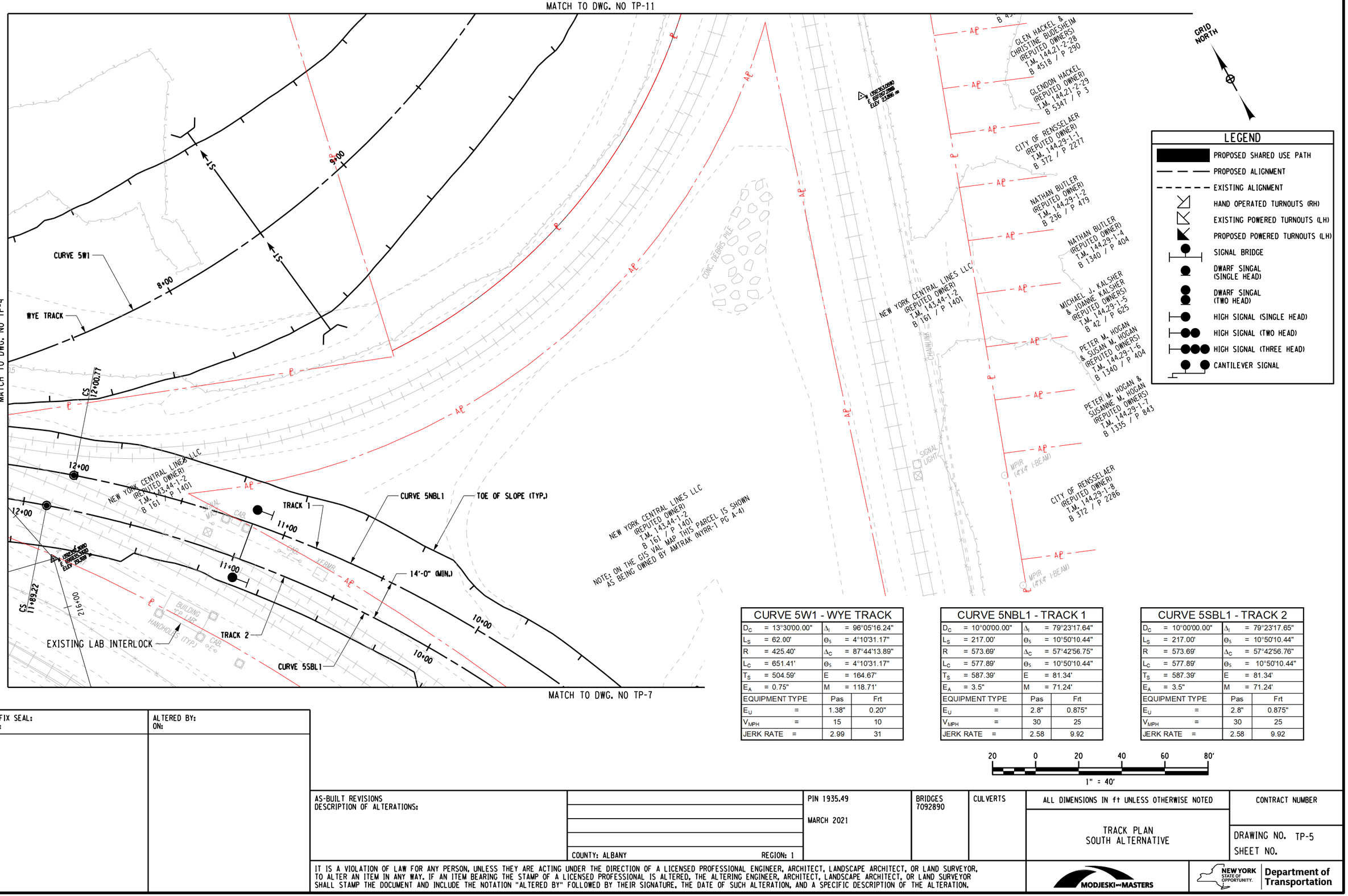
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

FILE NAME =
DATE/TIME = 8/25/2022
USER = DNCtescieri

MATCH TO DWG. NO TP-11

MATCH TO DWG. NO TP-4

MATCH TO DWG. NO TP-7



LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

CURVE 5W1 - WYE TRACK			
D_C	= 13°30'00.00"	Δ_I	= 96°05'16.24"
L_S	= 62.00'	Θ_S	= 4°10'31.17"
R	= 425.40'	Δ_C	= 87°44'13.89"
L_C	= 651.41'	Θ_S	= 4°10'31.17"
T_S	= 504.59'	E	= 164.67'
E_A	= 0.75"	M	= 118.71'
EQUIPMENT TYPE		Pas	Frt
E_U	=	1.38"	0.20"
V_{MPH}	=	15	10
JERK RATE	=	2.99	31

CURVE 5NBL1 - TRACK 1			
D_C	= 10°00'00.00"	Δ_I	= 79°23'17.64"
L_S	= 217.00'	Θ_S	= 10°50'10.44"
R	= 573.69'	Δ_C	= 57°42'56.75"
L_C	= 577.89'	Θ_S	= 10°50'10.44"
T_S	= 587.39'	E	= 81.34'
E_A	= 3.5"	M	= 71.24'
EQUIPMENT TYPE		Pas	Frt
E_U	=	2.8"	0.875"
V_{MPH}	=	30	25
JERK RATE	=	2.58	9.92

CURVE 5SBL1 - TRACK 2			
D_C	= 10°00'00.00"	Δ_I	= 79°23'17.65"
L_S	= 217.00'	Θ_S	= 10°50'10.44"
R	= 573.69'	Δ_C	= 57°42'56.76"
L_C	= 577.89'	Θ_S	= 10°50'10.44"
T_S	= 587.39'	E	= 81.34'
E_A	= 3.5"	M	= 71.24'
EQUIPMENT TYPE		Pas	Frt
E_U	=	2.8"	0.875"
V_{MPH}	=	30	25
JERK RATE	=	2.58	9.92

20 0 20 40 60 80'

1" = 40'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

CONTRACT NUMBER

TRACK PLAN
SOUTH ALTERNATIVE

DRAWING NO. TP-5

SHEET NO.

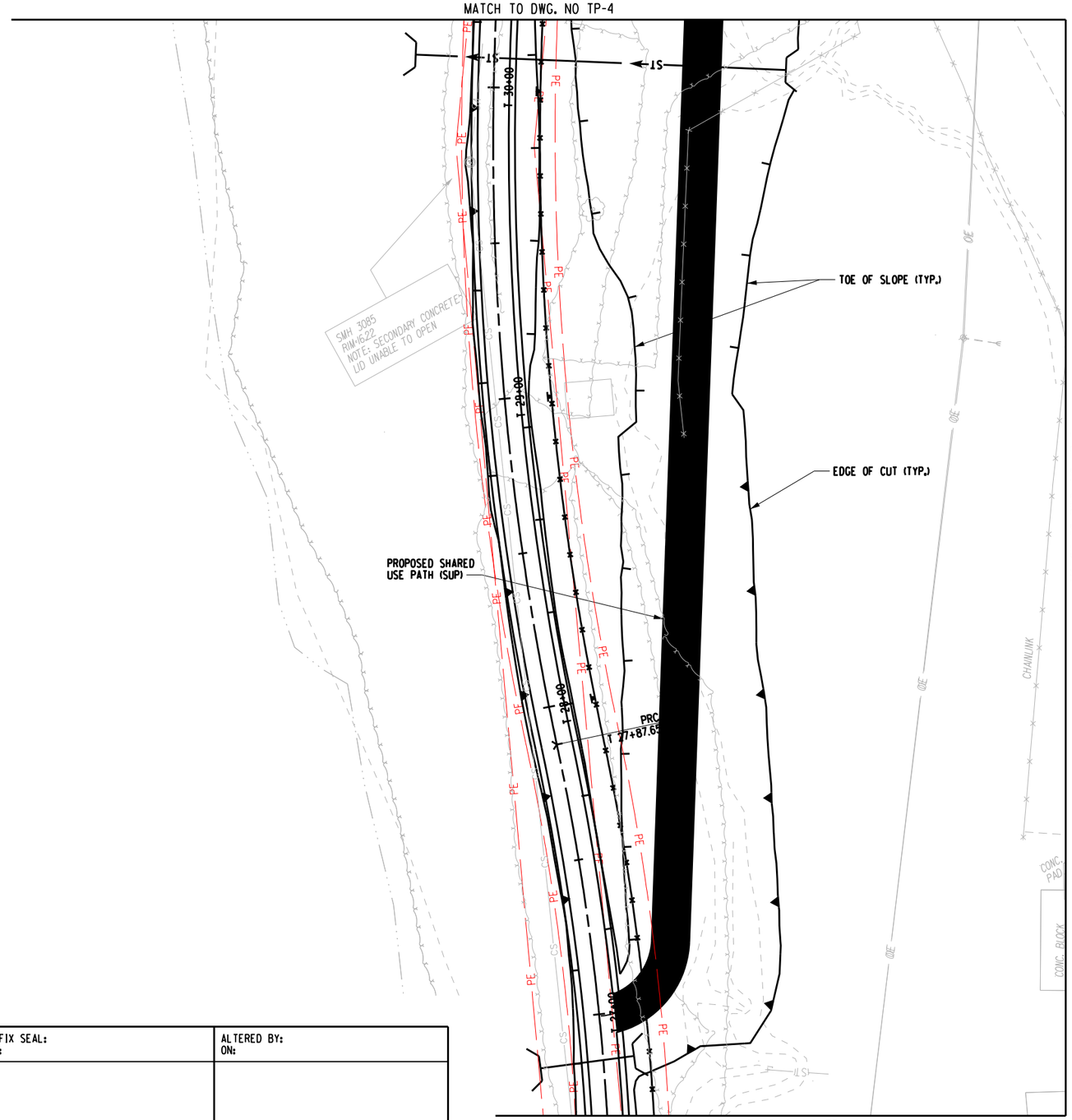
MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
CHECK
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 8/18/2022
DATE/TIME = 8/18/2022
USER = DNClescer1

MATCH TO DWG. NO TP-4



MATCH TO DWG. NO TP-7

MATCH TO DWG. NO TP-14

GRID NORTH

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80′

1" = 40′

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
CHECK
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME =
DATE/TIME = 8/18/2022
USER = DNCtescer1

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PLAN
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TP-6

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

MATCH TO DWG. NO TP-5

MATCH TO DWG. NO TP-7

MATCH TO DWG. NO TP-8

GRID NORTH

14'-0" (MIN.)

EDGE OF CUT (TYP.)

CURVE 5NBL1

TRACK 1

TRACK 2

CURVE 5SBL1

TOE OF SLOPE (TYP.)

9+00

8+00

7+00

6+00

SC 6+23.62

SC 6+12.06

CATHERINE ST.

BM A (3045)
ELEV=248.6
CUT SQUARE ON
OLD SIGN BASE

GLEN HACKEL &
CHRISTINE BUDESHEIM
(REPUTED OWNERS)
T.M. 144.21-2-28
B 4518 / P 290

MARK S. FAZEKAS
(REPUTED OWNER)
T.M. 144.29-1-10
B 1010 / P 113

CITY OF RENSSELAER
(REPUTED OWNER)
T.M. 144.29-1-11
B 372 / P 2292

CATHERINE STEWART
(REPUTED OWNER)
T.M. 144.29-1-12
B 1700 / P 105

NANCY WHITMORE
(REPUTED OWNER)
T.M. 144.29-1-13
B 997 / P 89

CITY OF RENSSELAER
(REPUTED OWNER)
T.M. 144.29-1-14
B 997 / P 89

CITY OF RENSSELAER
(REPUTED OWNER)
T.M. 144.29-1-15
B 1358 / P 484

CITY OF RENSSELAER
(REPUTED OWNER)
T.M. 144.29-1-16
B 1358 / P 484

DY-WANE BUTLER
& LAURA BUTLER
(REPUTED OWNERS)
T.M. 144.29-1-17
B 395 / P 710

CHERYLE L. WEBBER
(REPUTED OWNER)
T.M. 144.29-1-18
B 395 / P 29

GRAVEL PILE

GRAVEL

ASPHALT

WOOD STORAGE SHED

CHAINLINK

GATE

BOLLARDS

AHB

AP

P

STA 213+43.42

213+00

214+00

215+00

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

CURVE 5NBL1 - TRACK 1			
D_C	= 10°00'00.00"	Δ_I	= 79°23'17.64"
L_S	= 217.00'	Θ_S	= 10°50'10.44"
R	= 573.69'	Δ_C	= 57°42'56.75"
L_C	= 577.89'	Θ_S	= 10°50'10.44"
T_S	= 587.39'	E	= 81.34'
E_A	= 3.5"	M	= 71.24'
EQUIPMENT TYPE		Pas	Frt
E_U	=	2.8"	0.875"
V_{MPH}	=	30	25
JERK RATE	=	2.58	9.92

CURVE 5SBL1 - TRACK 2			
D_C	= 10°00'00.00"	Δ_I	= 79°23'17.65"
L_S	= 217.00'	Θ_S	= 10°50'10.44"
R	= 573.69'	Δ_C	= 57°42'56.76"
L_C	= 577.89'	Θ_S	= 10°50'10.44"
T_S	= 587.39'	E	= 81.34'
E_A	= 3.5"	M	= 71.24'
EQUIPMENT TYPE		Pas	Frt
E_U	=	2.8"	0.875"
V_{MPH}	=	30	25
JERK RATE	=	2.58	9.92

20 0 20 40 60 80'

1" = 40'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PLAN
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TP-7

SHEET NO.

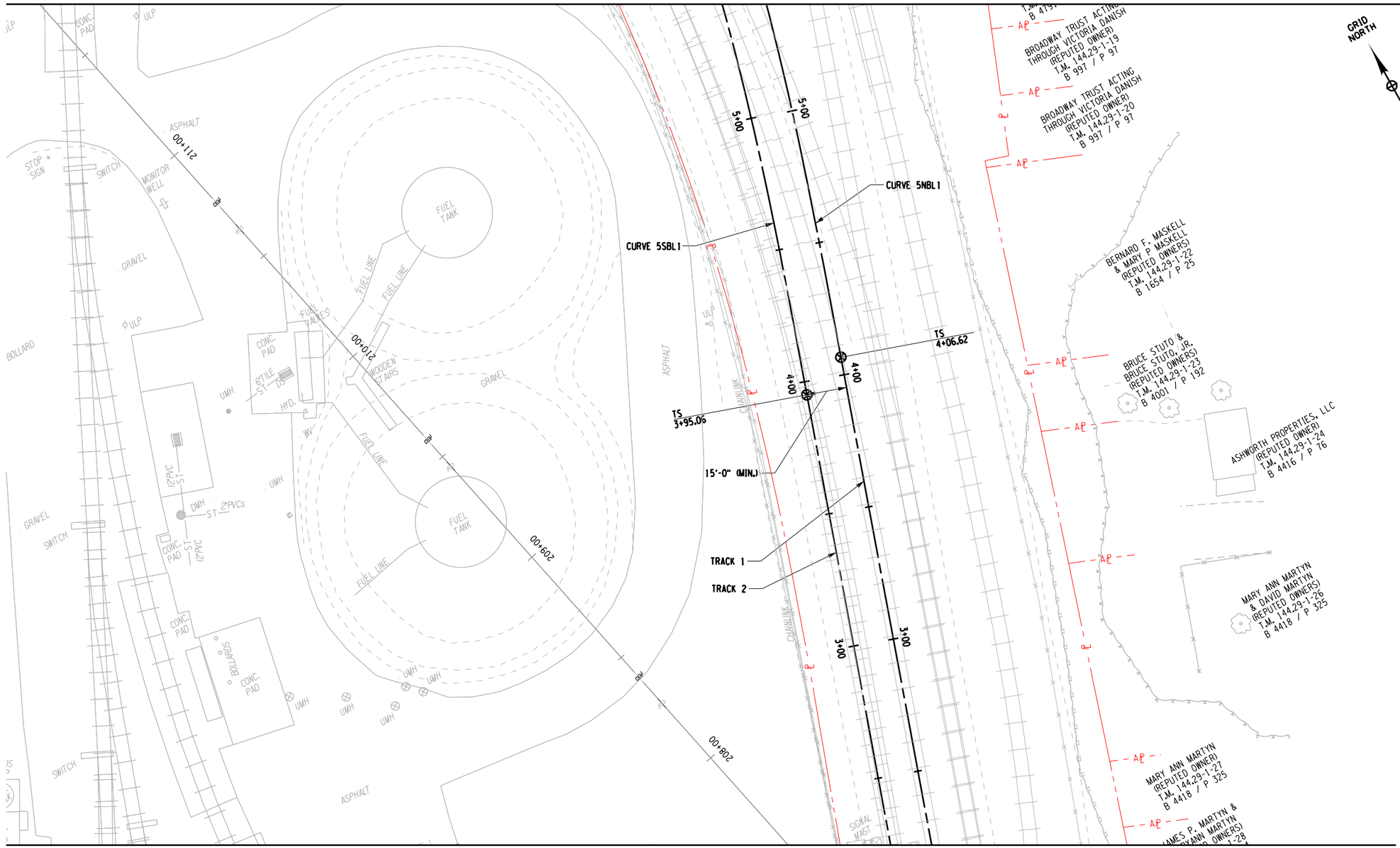
MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 8/18/2022
DATE/TIME = 8/18/2022
USER = ONCl escer1

MATCH TO DWG. NO TP-7



MATCH TO DWG. NO TP-9

CURVE 5NBL1 - TRACK 1			
D_C	= 10°00'00.00"	Δ_I	= 79°23'17.64"
L_S	= 217.00'	Θ_S	= 10°50'10.44"
R	= 573.69'	Δ_C	= 57°42'56.75"
L_C	= 577.89'	Θ_S	= 10°50'10.44"
T_S	= 587.39'	E	= 81.34'
E_A	= 3.5"	M	= 71.24'
EQUIPMENT TYPE		Pas	Frt
E_U	=	2.8"	0.875"
V_{MPH}	=	30	25
JERK RATE	=	2.58	9.92

CURVE 5SBL1 - TRACK 2			
D_C	= 10°00'00.00"	Δ_I	= 79°23'17.65"
L_S	= 217.00'	Θ_S	= 10°50'10.44"
R	= 573.69'	Δ_C	= 57°42'56.76"
L_C	= 577.89'	Θ_S	= 10°50'10.44"
T_S	= 587.39'	E	= 81.34'
E_A	= 3.5"	M	= 71.24'
EQUIPMENT TYPE		Pas	Frt
E_U	=	2.8"	0.875"
V_{MPH}	=	30	25
JERK RATE	=	2.58	9.92

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80'

1" = 40'

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 8/18/2022
DATE/TIME = USER = ONCIescer1

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PLAN
SOUTH ALTERNATIVE

CONTRACT NUMBER

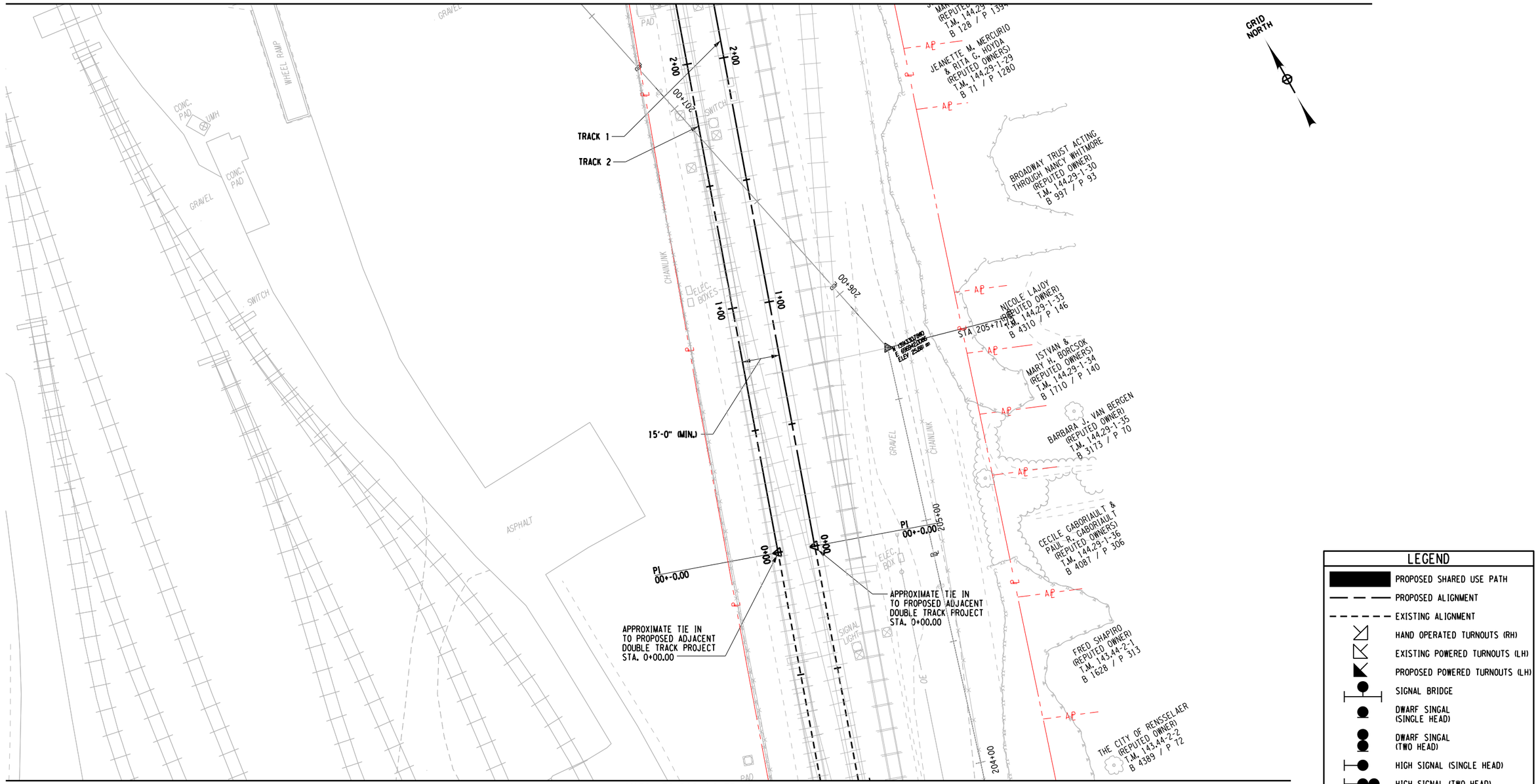
DRAWING NO. TP-8

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

MATCH TO DWG. NO TP-8



MATCH TO DWG. NO TP-10

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80′

1" = 40′

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 8/18/2022
DATE/TIME = USER = ONCiesceri

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

CONTRACT NUMBER

TRACK PLAN
SOUTH ALTERNATIVE

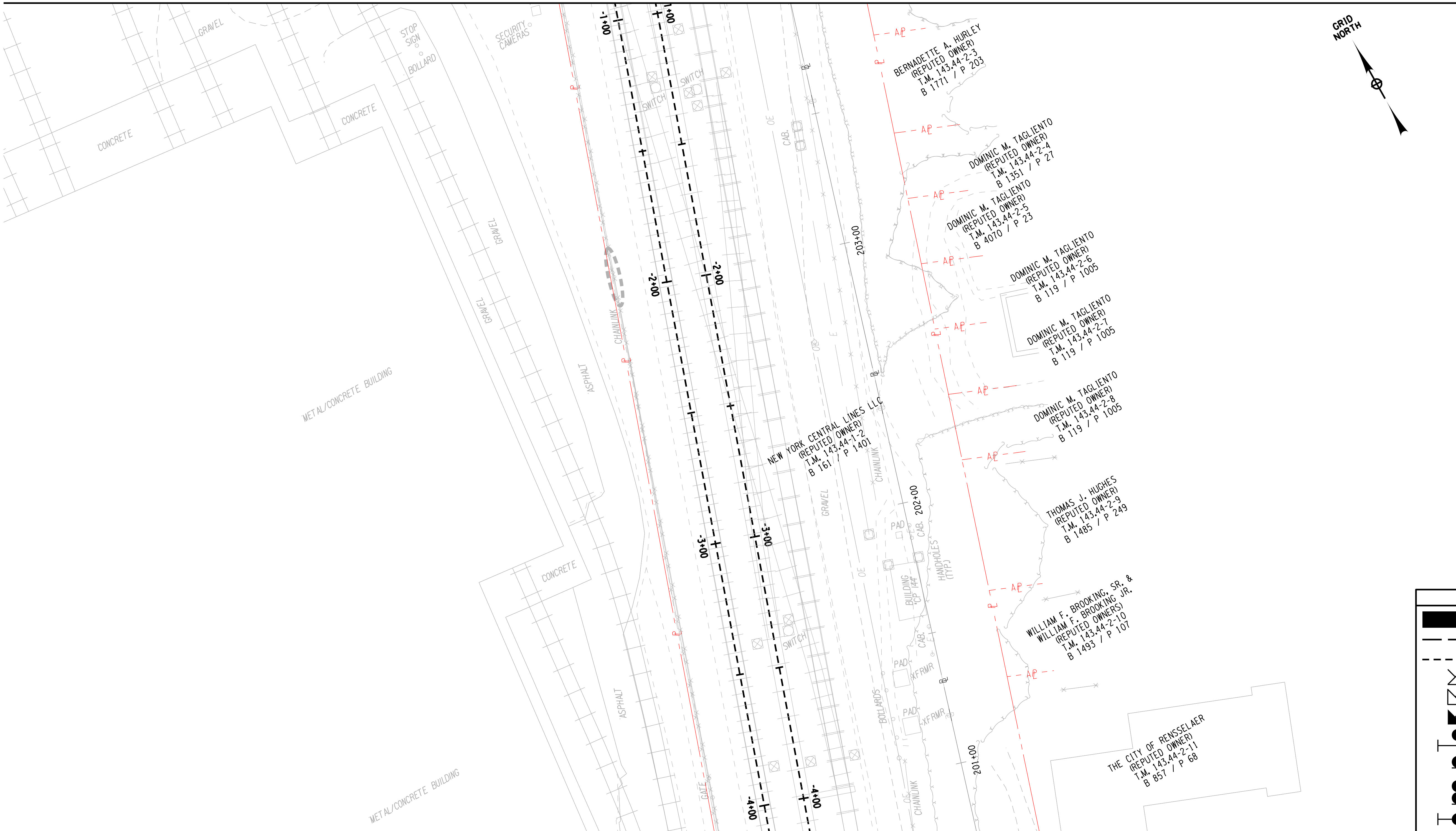
DRAWING NO. TP-9

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

MATCH TO DWG. NO TP-9



LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80'

1" = 40'

AFFIX SEAL:
ON:

ALTERED BY:
ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PLAN
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TP-10

SHEET NO.

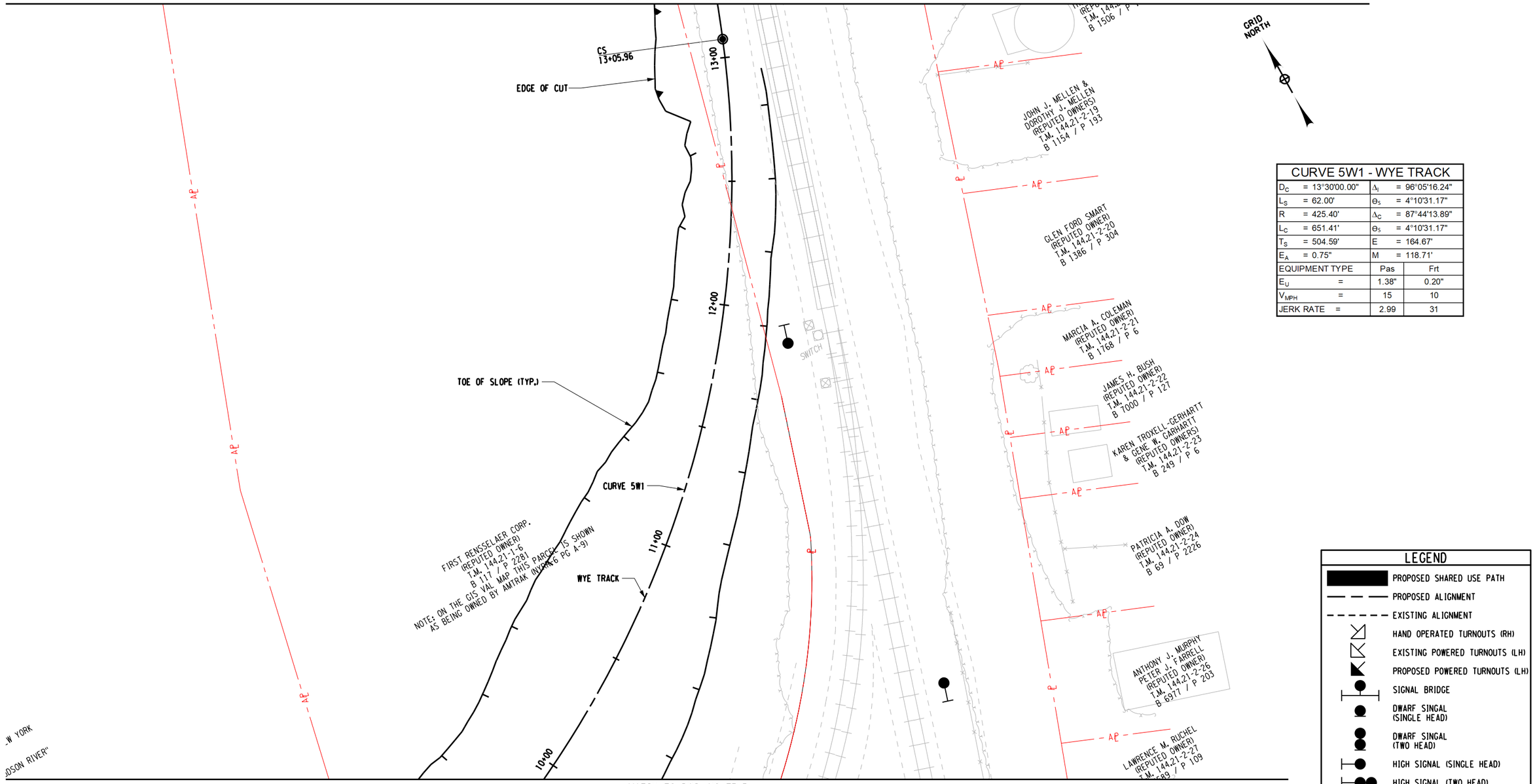
MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME =
DATE/TIME = 8/18/2022
USER = ONClescer

MATCH TO DWG. NO TP-12



MATCH TO DWG. NO TP-5

CURVE 5W1 - WYE TRACK			
D_C	= 13°30'00.00"	Δ_I	= 96°05'16.24"
L_S	= 62.00'	Θ_S	= 4°10'31.17"
R	= 425.40'	Δ_C	= 87°44'13.89"
L_C	= 651.41'	Θ_S	= 4°10'31.17"
T_S	= 504.59'	E	= 164.67'
E_A	= 0.75"	M	= 118.71'

EQUIPMENT TYPE		Pas	Frt
E_U	=	1.38"	0.20"
V_{MPH}	=	15	10
JERK RATE	=	2.99	31

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80'
1" = 40'

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 8/18/2022
DATE/TIME = 8/18/2022
USER = ONCIescer1

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PLAN
SOUTH ALTERNATIVE

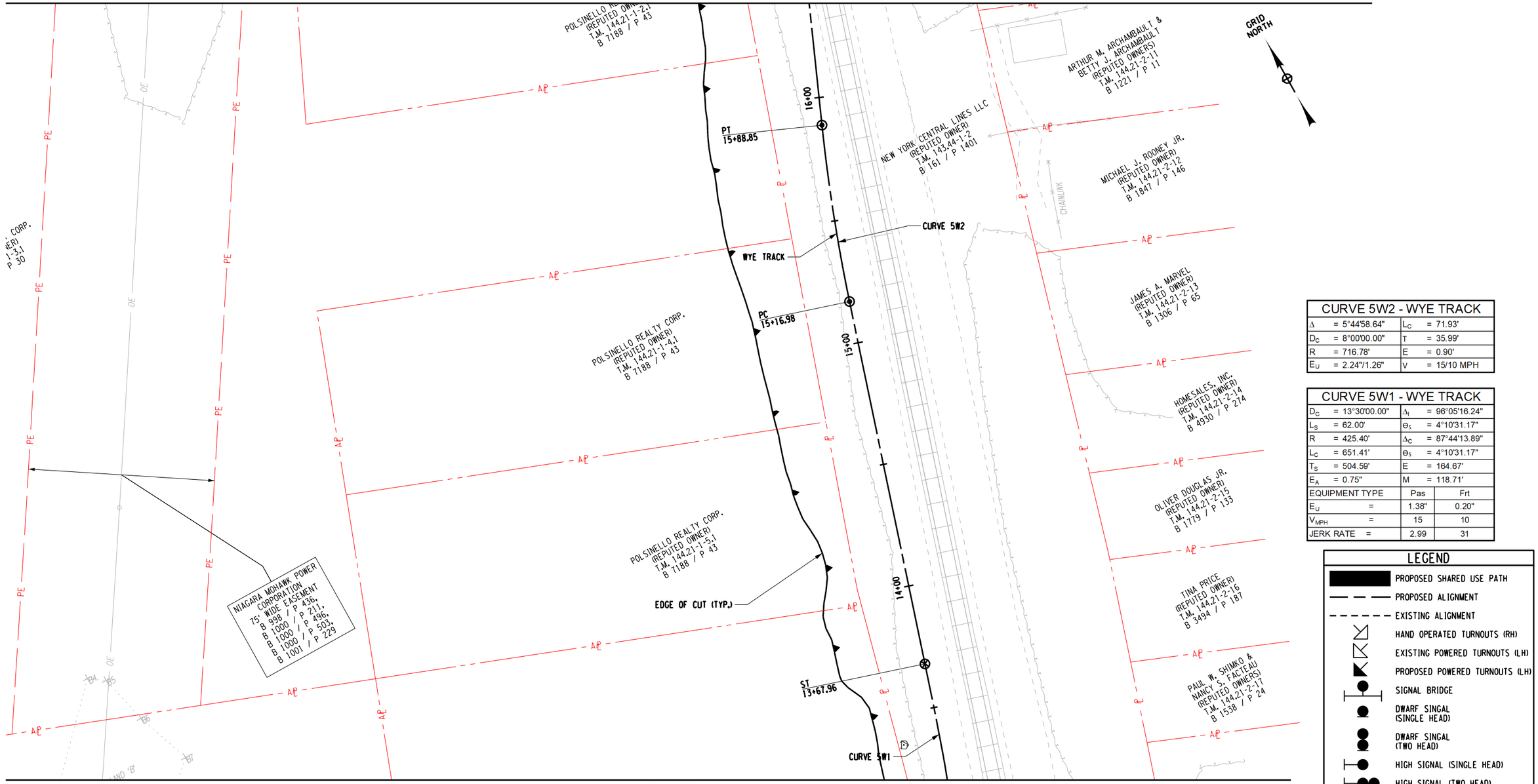
CONTRACT NUMBER

DRAWING NO. TP-11
SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

MATCH TO DWG. NO TP-13



MATCH TO DWG. NO TP-11

CURVE 5W2 - WYE TRACK			
Δ	= 5°44'58.64"	L_C	= 71.93'
D_C	= 8°00'00.00"	T	= 35.99'
R	= 716.78'	E	= 0.90'
E_U	= 2.24"/1.26"	V	= 15/10 MPH

CURVE 5W1 - WYE TRACK			
D_C	= 13°30'00.00"	Δ_I	= 96°05'16.24"
L_S	= 62.00'	Θ_S	= 4°10'31.17"
R	= 425.40'	Δ_C	= 87°44'13.89"
L_C	= 651.41'	Θ_S	= 4°10'31.17"
T_S	= 504.59'	E	= 164.67'
E_A	= 0.75"	M	= 118.71'

EQUIPMENT TYPE		Pas	Frt
E_U	=	1.38"	0.20"
V_{MPH}	=	15	10
JERK RATE	=	2.99	31

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80'

1" = 40'

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
CHECK
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 8/18/2022
DATE/TIME = DNClescer1
USER =

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

CONTRACT NUMBER

TRACK PLAN
SOUTH ALTERNATIVE

DRAWING NO. TP-12

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME =
DATE/TIME = 8/18/2022
USER = ONCIescer1

GRID NORTH

THE PEOPLE OF THE STATE OF NEW YORK
T.M. 133.77-1-6.2
FORMERLY UNDER THE WATERS OF THE HUDSON RIVER

POLSINELLO REALTY CORP.
(REPUTED OWNER)
T.M. 133.77-1-6.1
B 7147 / P 30

SMH
RIM=6.49

POLSINELLO REALTY CORP.
(REPUTED OWNER)
T.M. 133.77-1-7.1
B 7188 / P 43

SILOS

CHAINLINK

ELIZABETH HADER
(REPUTED OWNER)
T.M. 144.21-2-4
B 1064 / P 101

POE 17+60.07
LH NO. 10 TURNOUT

17+60

PI
17+29.07

WYE TRACK

17+00

JACKLYN NIXON
(REPUTED OWNER)
T.M. 144.21-2-5
B 206 / P 2370

POLSINELLO REALTY CORP.
(REPUTED OWNER)
T.M. 144.21-1-1.1
B 7188 / P 43

EDGE OF CUT

SHAYE H. HEINS
(REPUTED OWNERS)
T.M. 144.21-2-10
B 1049 / P 129

MATCH TO DWG. NO TP-12

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80'
1" = 40'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49
MARCH 2021

BRIDGES
7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PLAN
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TP-13
SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

MATCH TO DWG. NO TP-6

PER PLAN TITLED "RENSSELAER COUNTY SEWER DISTRICT NO. 1, INTERCEPTOR AND TRUNK SEWER, CONTRACT NO. 13" DATED JANUARY 1974 RECORDED IN DRAWER AA THERE IS A 25' WIDE SANITARY SEWER EASEMENT GRANTED TO RENSSELAER COUNTY SEWER DISTRICT (NO. 1) IN THIS AREA

EDGE OF CUT (TYP.)

TOE OF SLOPE (TYP.)

PC
T 25+45.21

1+25.00

1+24.00

GRID NORTH

MATCH TO DWG. NO TP-15

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80'
1" = 40'

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME =
DATE/TIME = 8/18/2022
USER = DNC1escer1

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

CONTRACT NUMBER

TRACK PLAN
SOUTH ALTERNATIVE

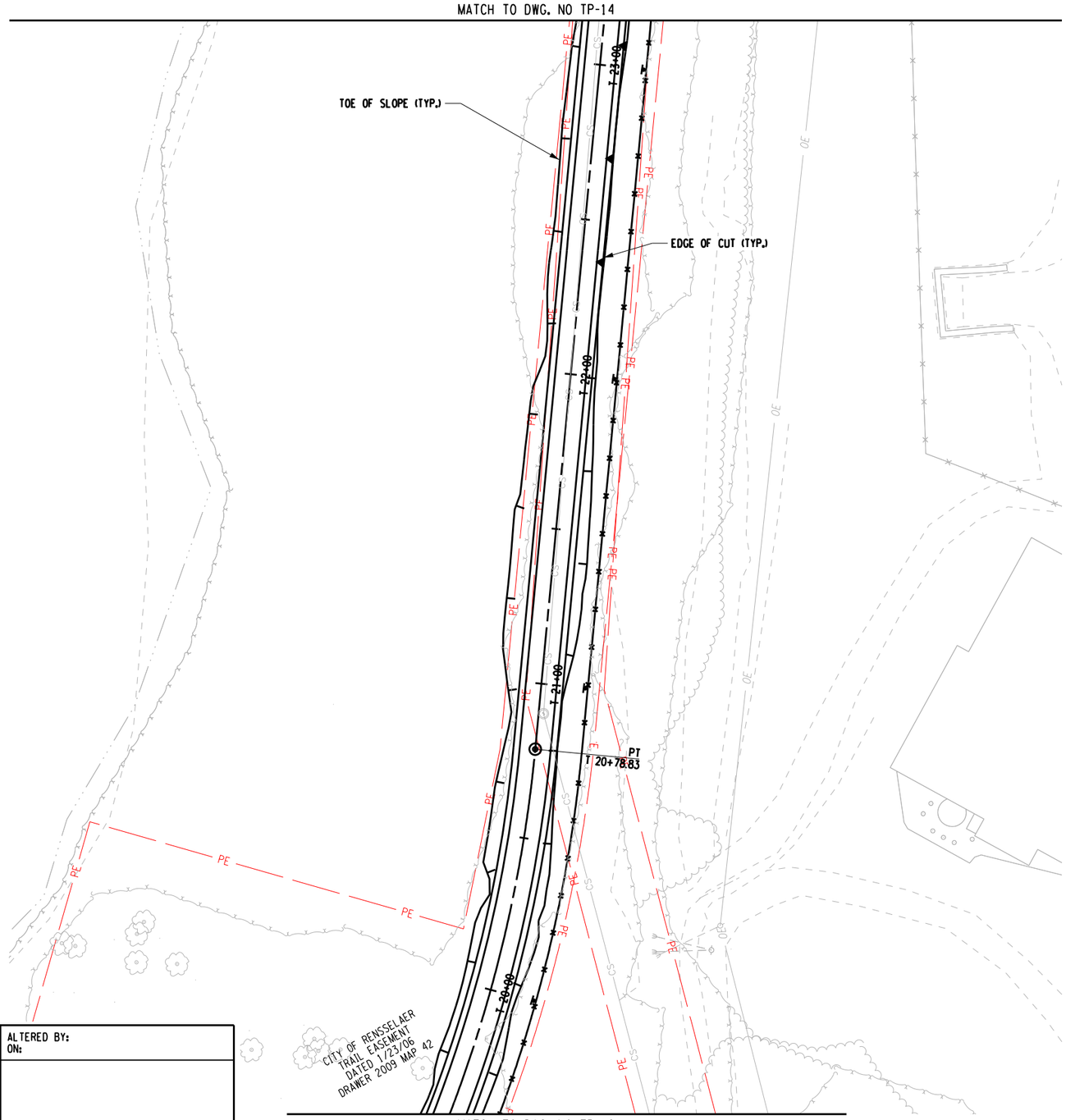
DRAWING NO. TP-14

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

MATCH TO DWG. NO TP-14



MATCH TO DWG. NO TP-16

GRID NORTH

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80'

1" = 40'

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
CHECK
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 8/18/2022
DATE/TIME = USER = ONCliescer1

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PLAN
SOUTH ALTERNATIVE

CONTRACT NUMBER

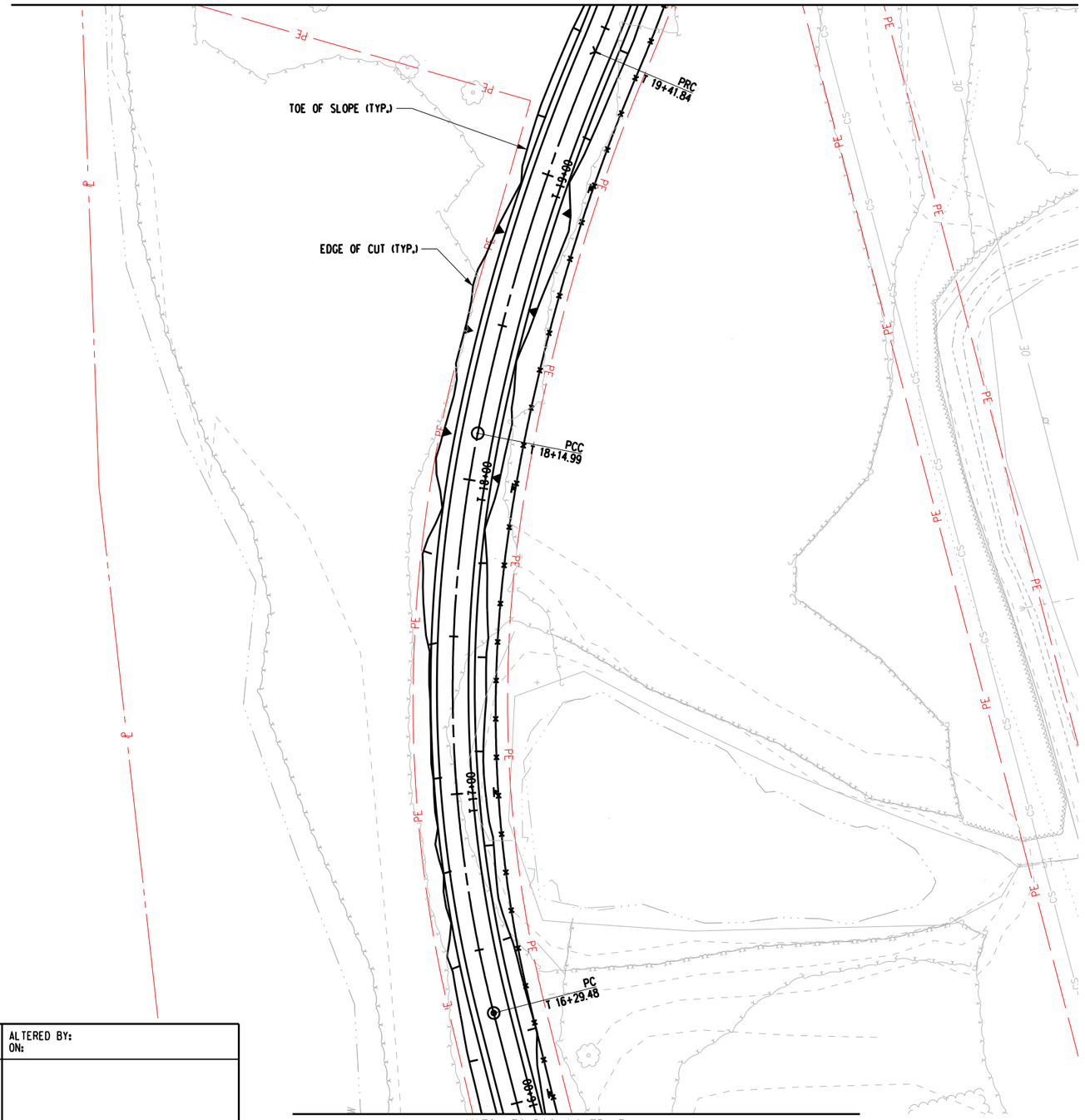
DRAWING NO. TP-15

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

MATCH TO DWG. NO TP-15



MATCH TO DWG. NO TP-17

GRID NORTH

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80′

1" = 40′

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PLAN
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TP-16

SHEET NO.

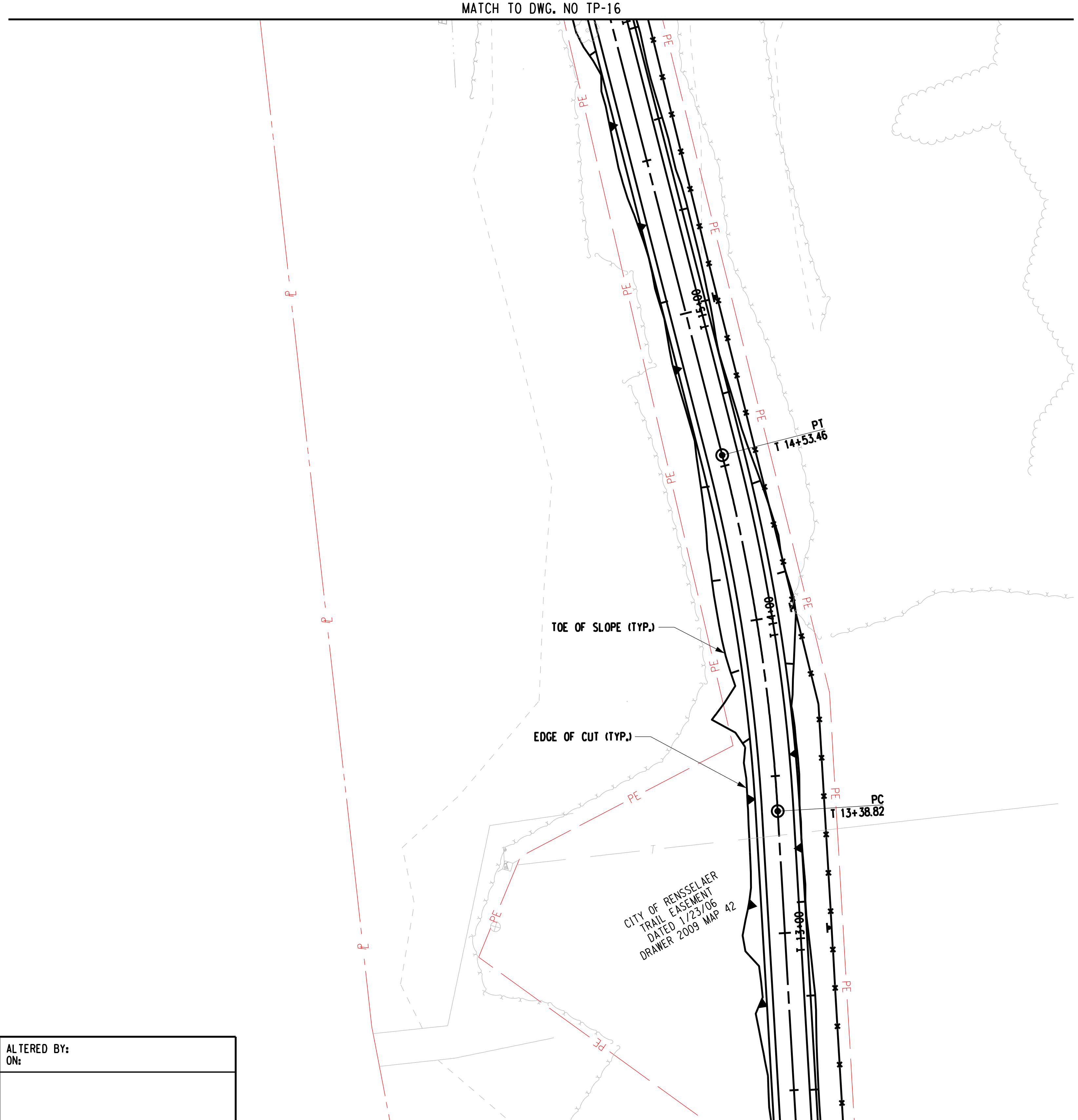
MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

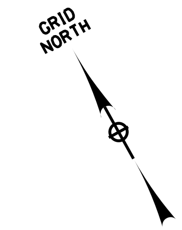
PROJECT MANAGER
CHECK
DRAFTING
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME =
DATE/TIME = 8/18/2022
USER = ONCIescer1

MATCH TO DWG. NO TP-16



MATCH TO DWG. NO TP-18



LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80'

1" = 40'

AFFIX SEAL:
ON:

ALTERED BY:
ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES
7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PLAN
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TP-17

SHEET NO.

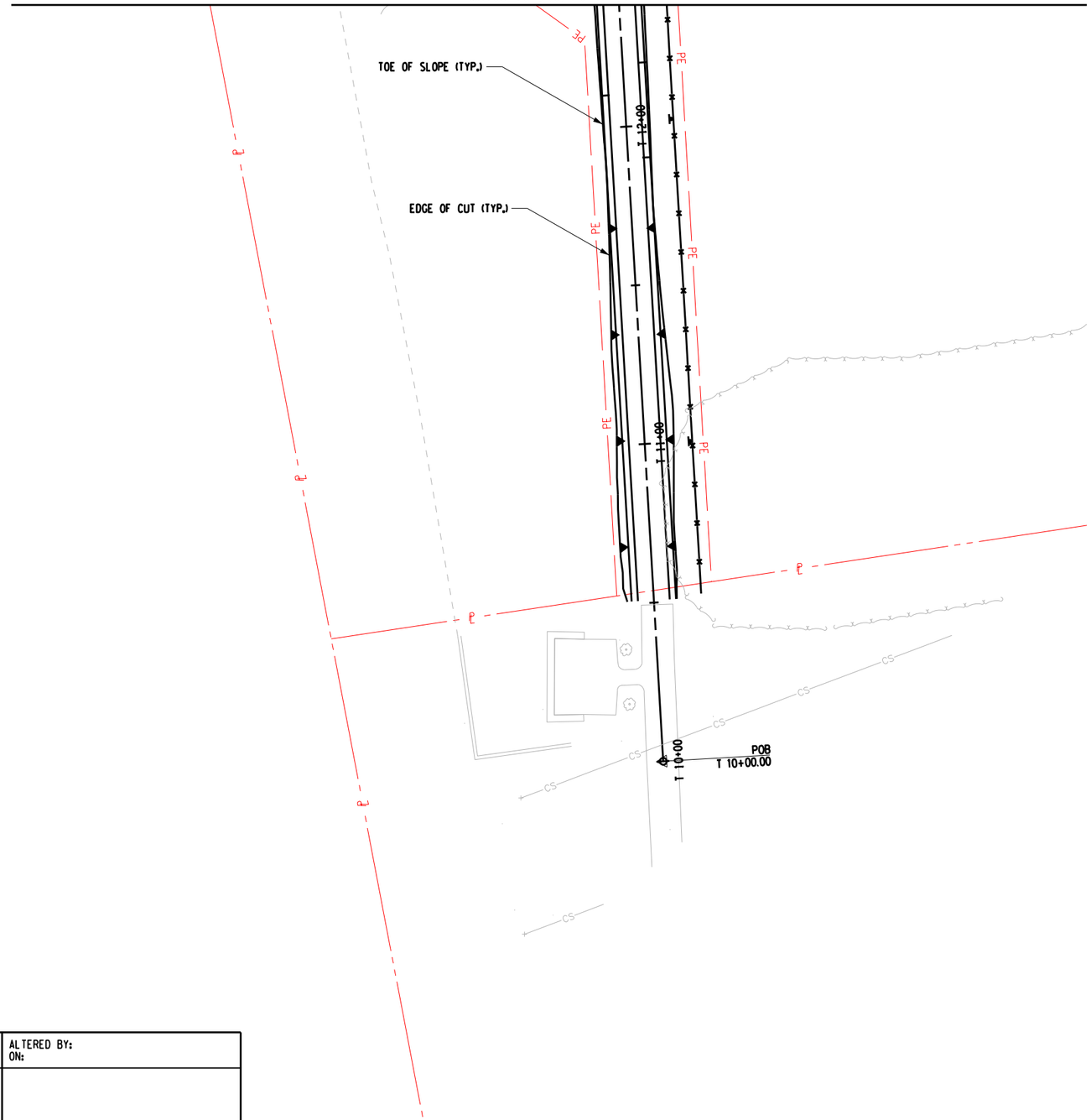
MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME =
DATE/TIME = 8/18/2022
USER = ONClesceri

MATCH TO DWG. NO TP-17



GRID NORTH

LEGEND

- PROPOSED SHARED USE PATH
- PROPOSED ALIGNMENT
- EXISTING ALIGNMENT
- HAND OPERATED TURNOUTS (RH)
- EXISTING POWERED TURNOUTS (LH)
- PROPOSED POWERED TURNOUTS (LH)
- SIGNAL BRIDGE
- DWARF SINGAL (SINGLE HEAD)
- DWARF SINGAL (TWO HEAD)
- HIGH SIGNAL (SINGLE HEAD)
- HIGH SIGNAL (TWO HEAD)
- HIGH SIGNAL (THREE HEAD)
- CANTILEVER SIGNAL

20 0 20 40 60 80'

1" = 40'

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 8/18/2022
DATE/TIME = ONCIescer1
USER =

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES
7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PLAN
SOUTH ALTERNATIVE

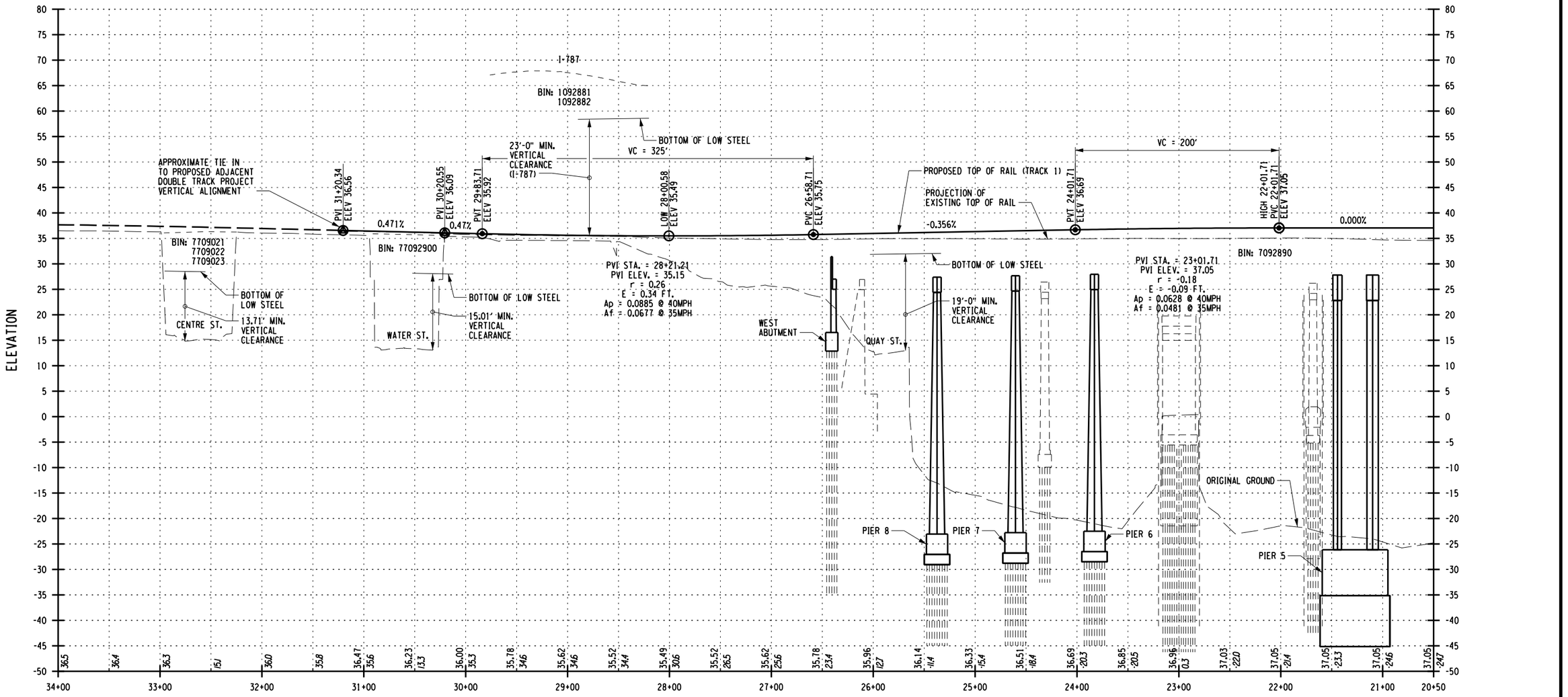
CONTRACT NUMBER

DRAWING NO. TP-18

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation



TRACK 1 PROFILE

VERTICAL SCALE 0 5 10'

HORIZONTAL SCALE 0 50 100 150 200'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PROFILE
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TPR-1

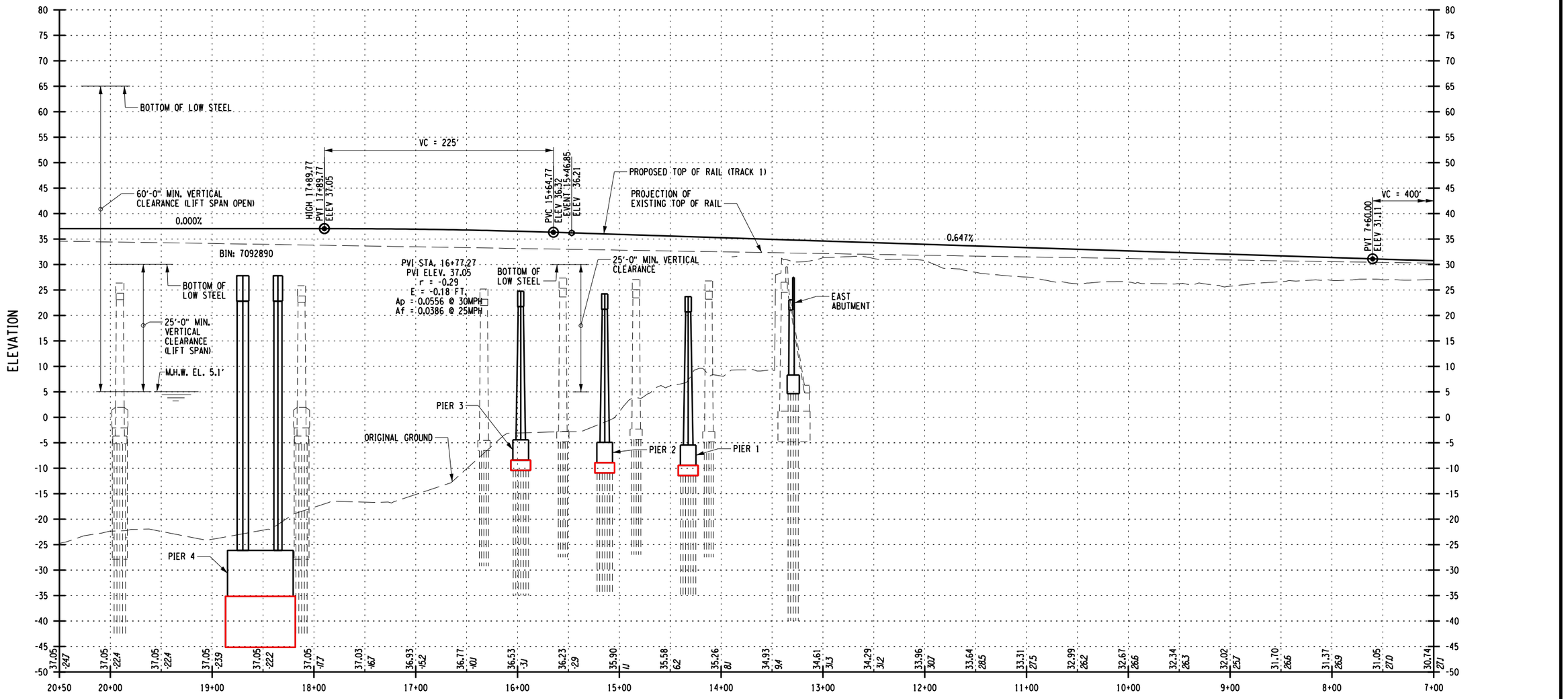
SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

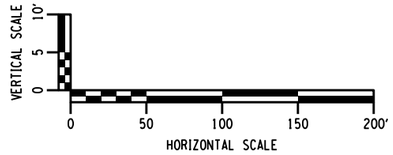
PROJECT MANAGER
CHECK
DRAFTING
DESIGN
CHECK
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME =
DATE/TIME = 3/18/2021
USER = DNClescer1



STATION

TRACK 1 PROFILE



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PROFILE
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TPR-2

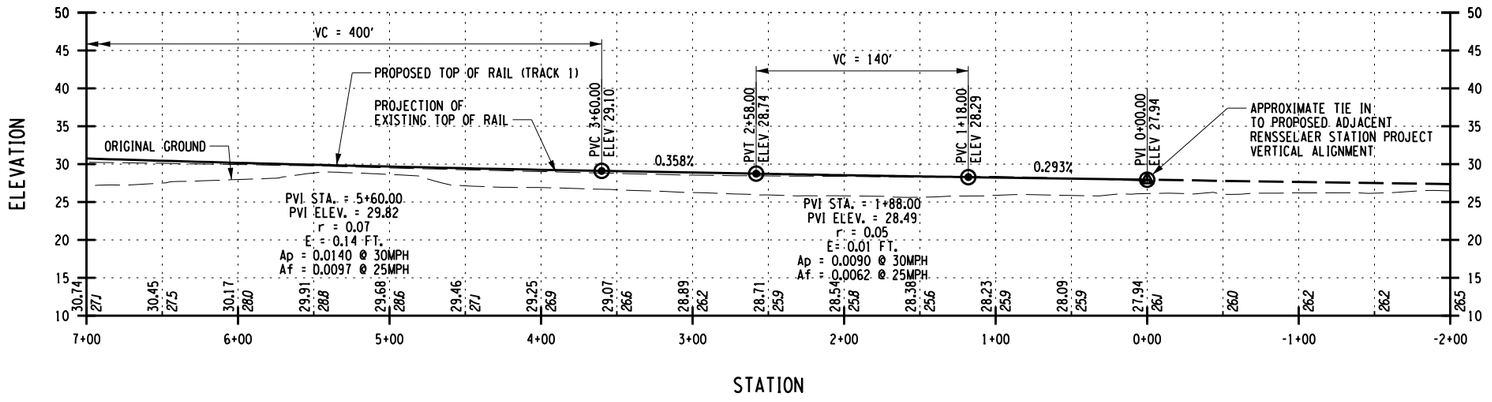
SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = 3/18/2021
USER = DNCliscer1



TRACK 1 PROFILE

VERTICAL SCALE 0 5 10'

HORIZONTAL SCALE 0 50 100 150 200'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

CONTRACT NUMBER

TRACK PROFILE
SOUTH ALTERNATIVE

DRAWING NO. TPR-3

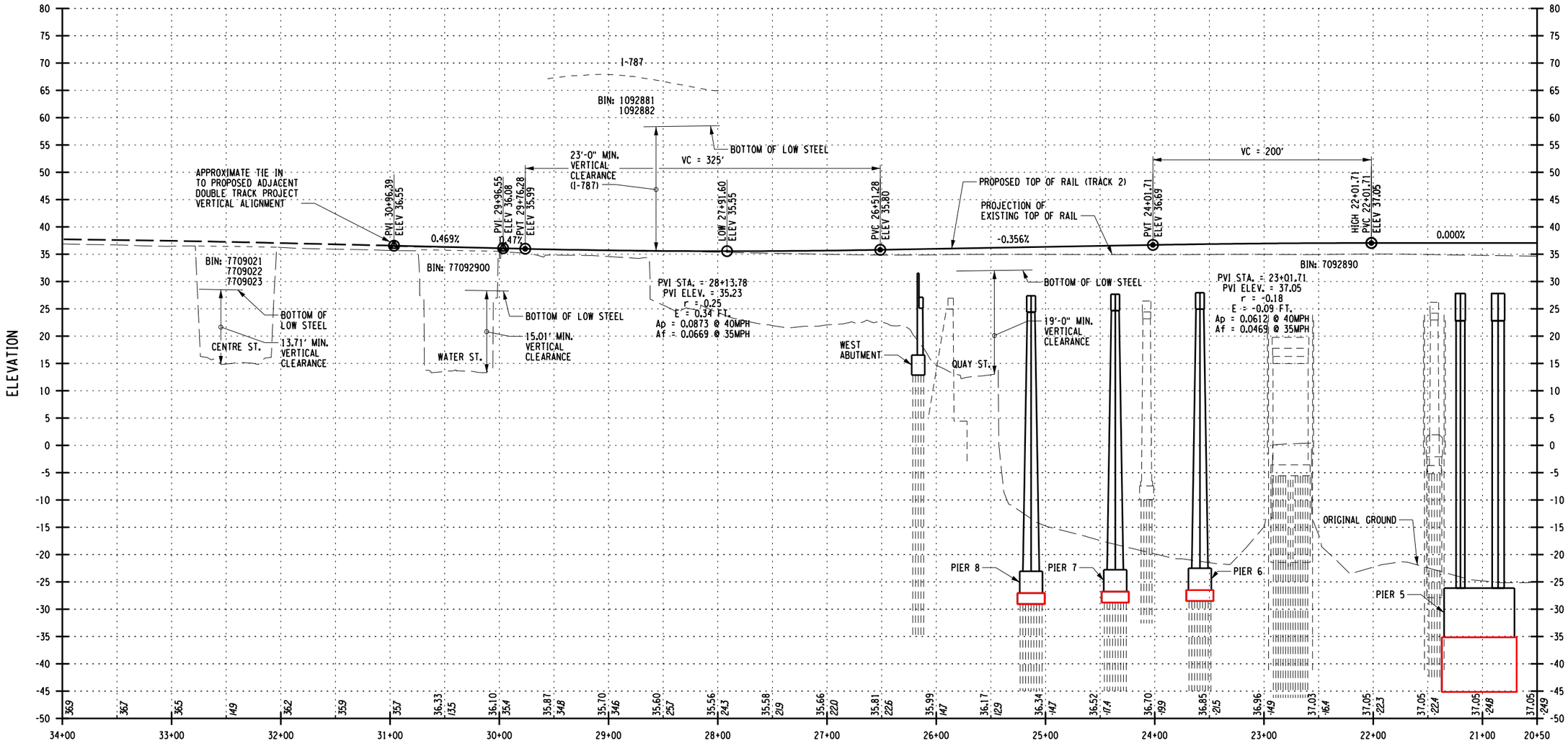
SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = 3/18/2021
USER = DNClescer1



STATION

TRACK 2 PROFILE

VERTICAL SCALE 0 5 10'

HORIZONTAL SCALE 0 50 100 150 200'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PROFILE
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TPR-4

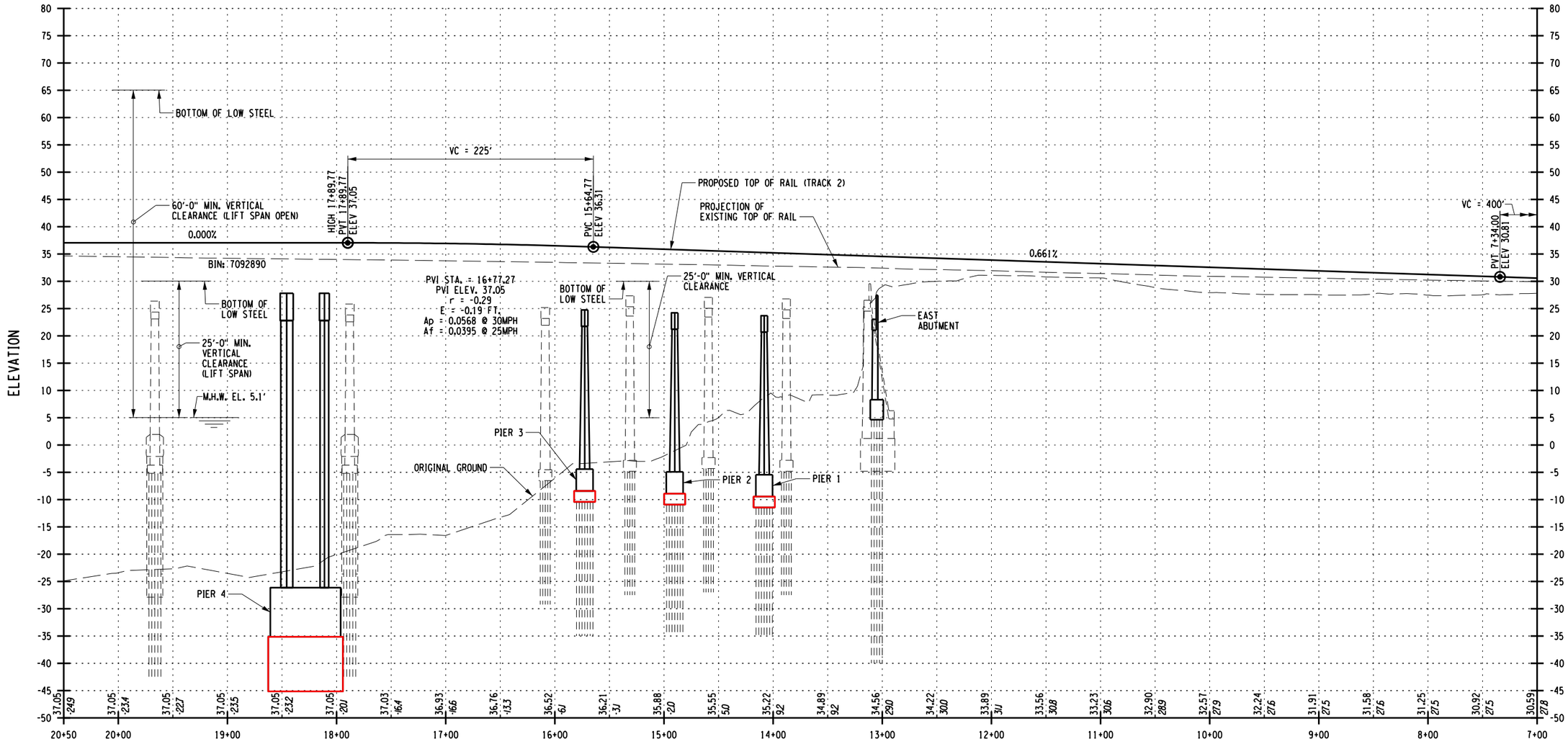
SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

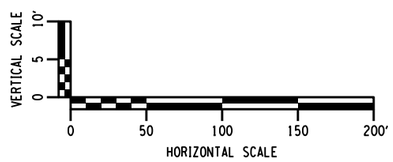
PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME =
DATE/TIME = 3/18/2021
USER = DNCliescer1



STATION

TRACK 2 PROFILE



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PROFILE
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TPR-5

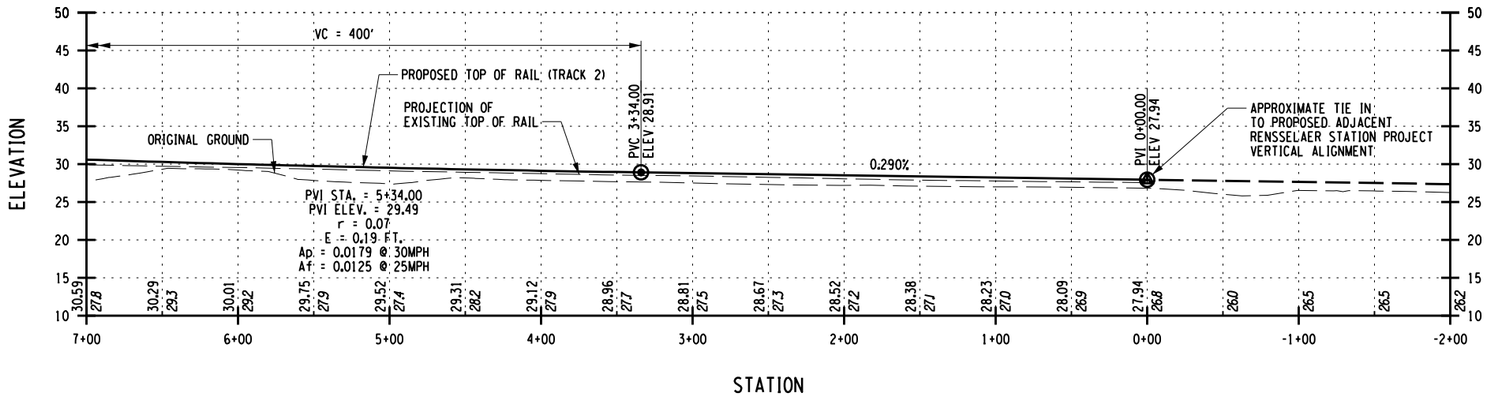
SHEET NO.

MODJESKI and MASTERS

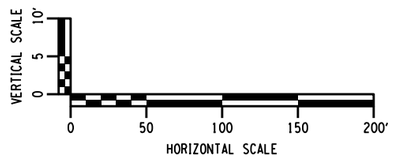
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME =
DATE/TIME = 3/18/2021
USER = DNClescer1



TRACK 2 PROFILE



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PROFILE
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TPR-6

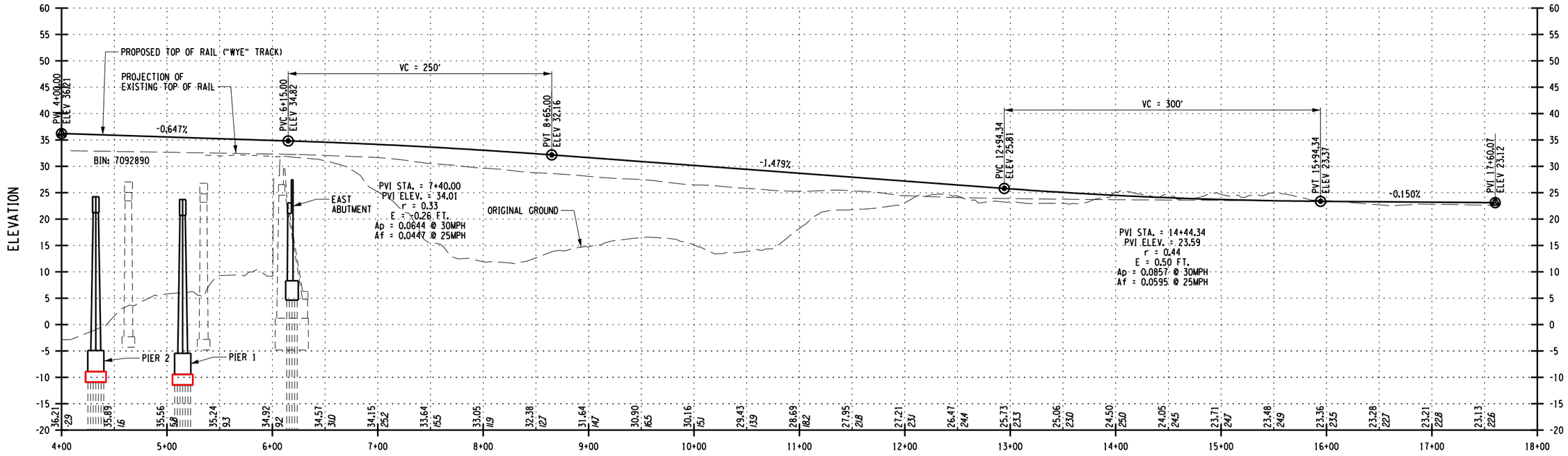
SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = 3/18/2021
USER = DNClescer1



"WYE" TRACK PROFILE

VERTICAL SCALE 0 5 10'

HORIZONTAL SCALE 0 50 100 150 200'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES
7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PROFILE
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TPR-7

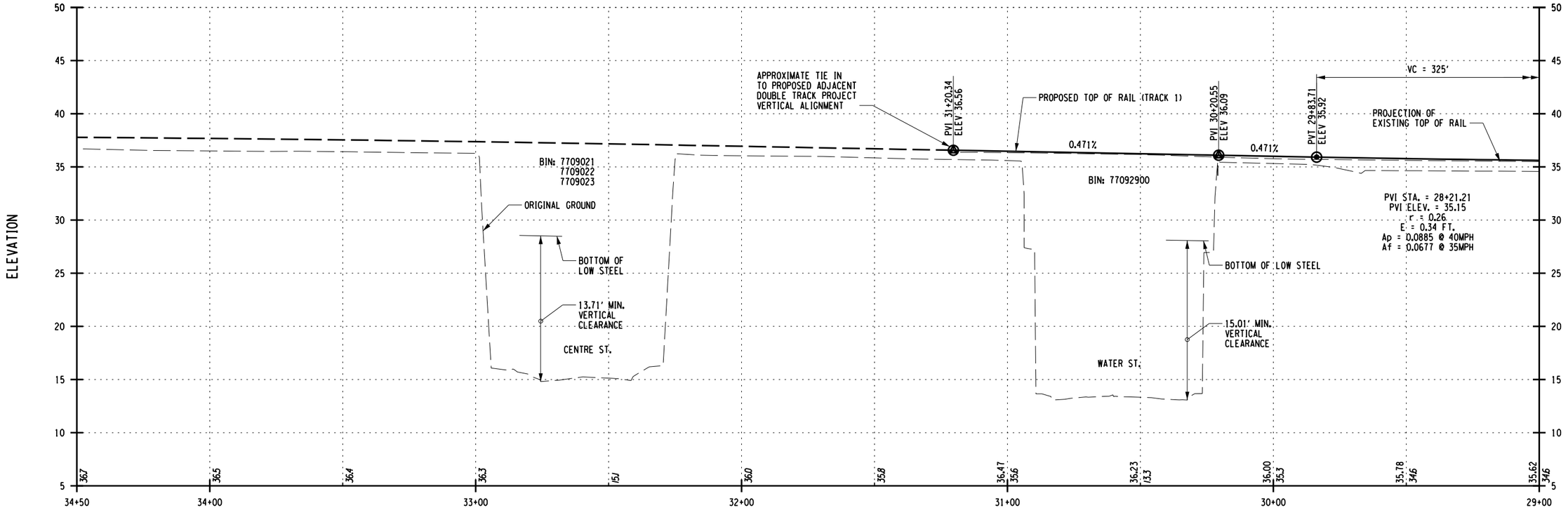
SHEET NO.

MODJESKI and MASTERS

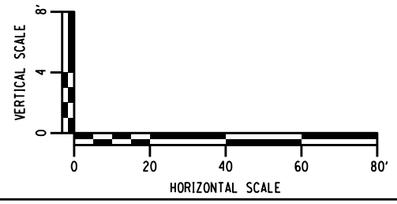
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
CHECK
JOB MANAGER
DESIGN
DESIGN SUPERVISOR

FILE NAME =
DATE/TIME = 3/18/2021
USER = DNClescer1



TRACK 1 PROFILE



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PROFILE
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TPR-1

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

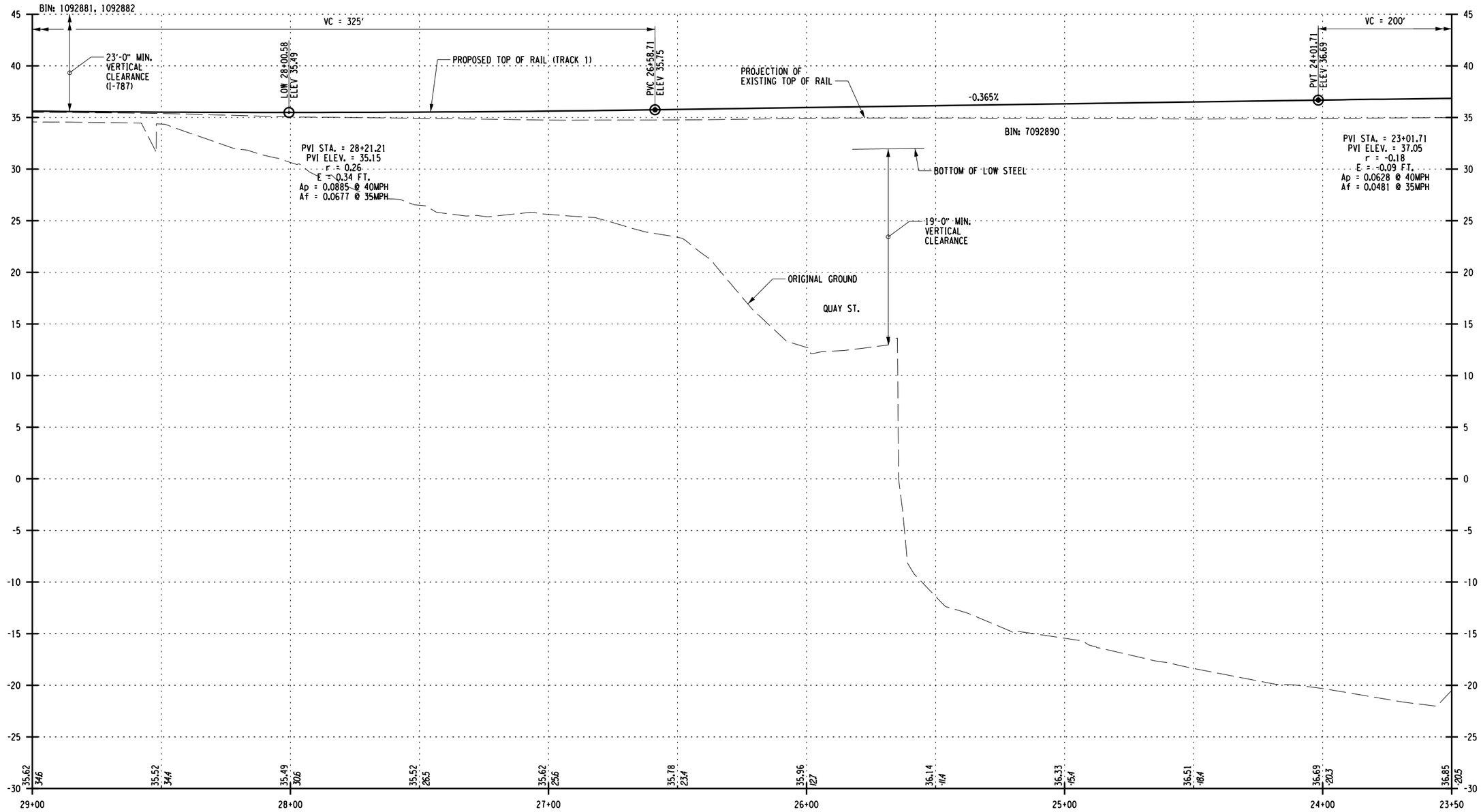
PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

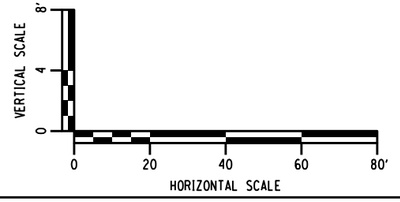
FILE NAME =
DATE/TIME = 3/18/2021
USER = DNCleser1

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = DNClescer1
USER =

ELEVATION





STATION

TRACK 1 PROFILE

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PROFILE
SOUTH ALTERNATIVE

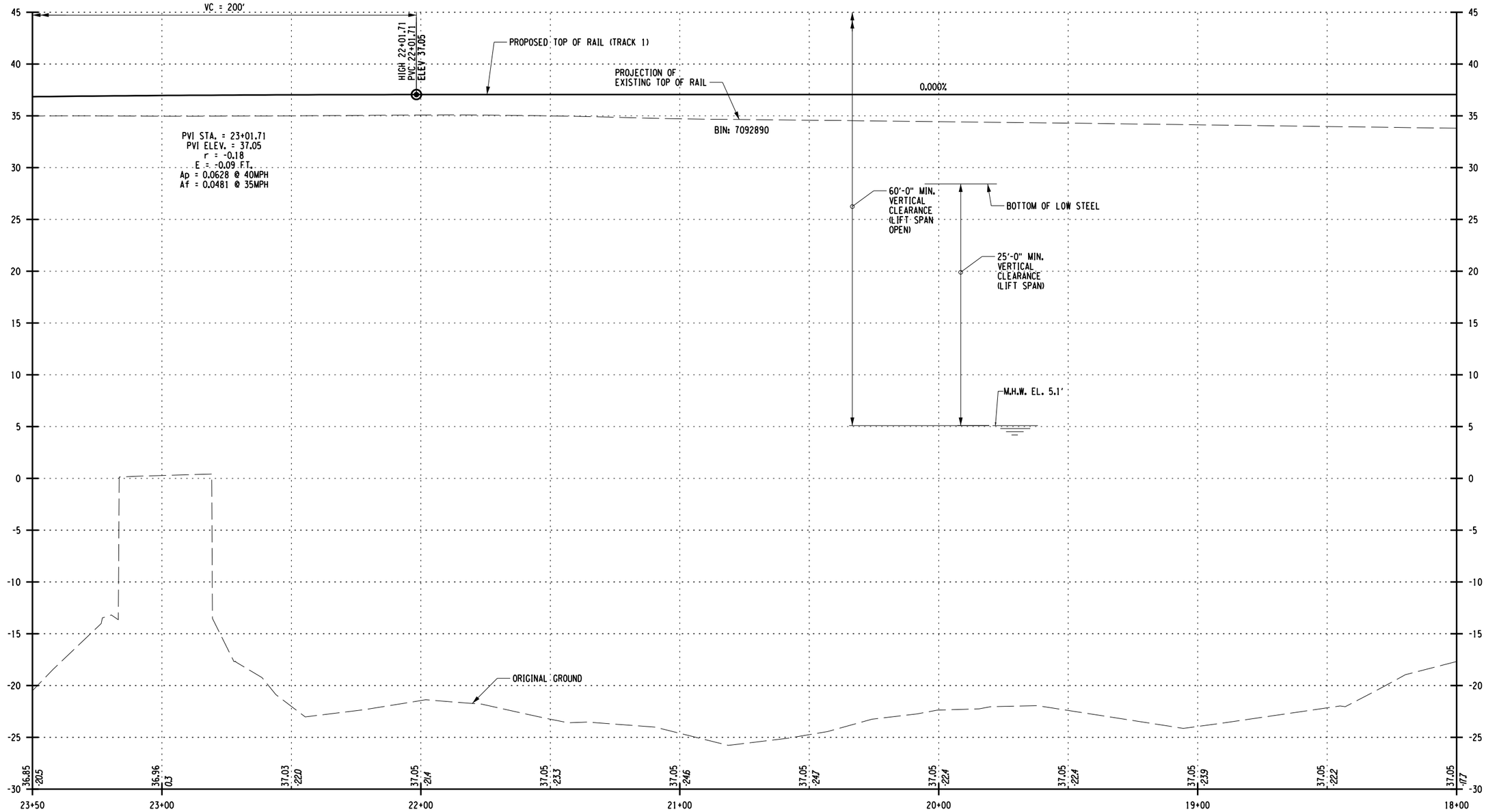
CONTRACT NUMBER

DRAWING NO. TPR-2

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation



TRACK 1 PROFILE

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

CONTRACT NUMBER

TRACK PROFILE
SOUTH ALTERNATIVE

DRAWING NO. TPR-3

SHEET NO.

MODJESKI and MASTERS

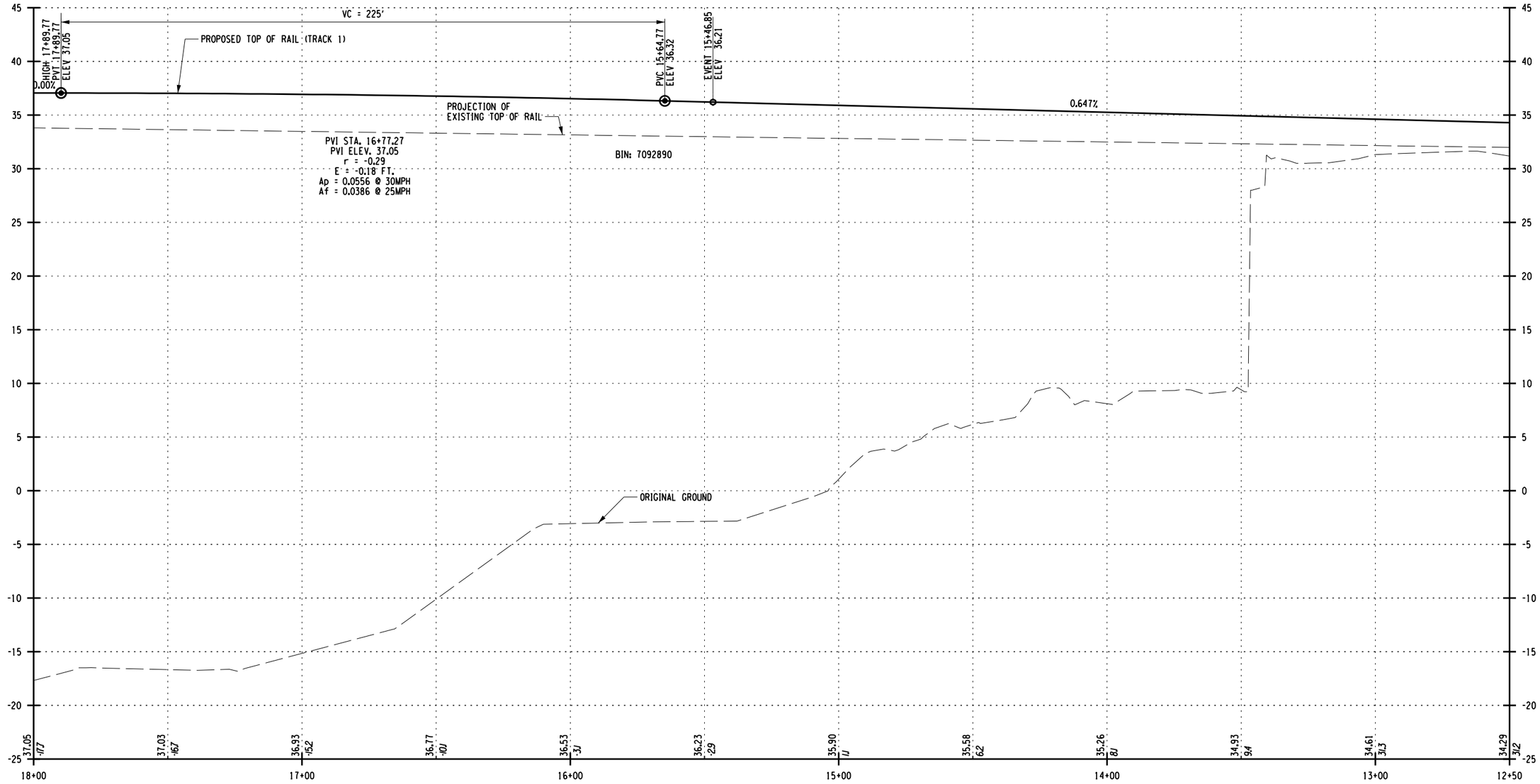
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

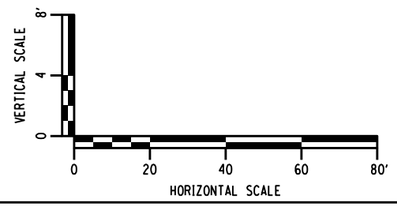
FILE NAME =
DATE/TIME = 3/18/2021
USER = DNCliescer1

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = USER = ONCIescer1



TRACK 1 PROFILE

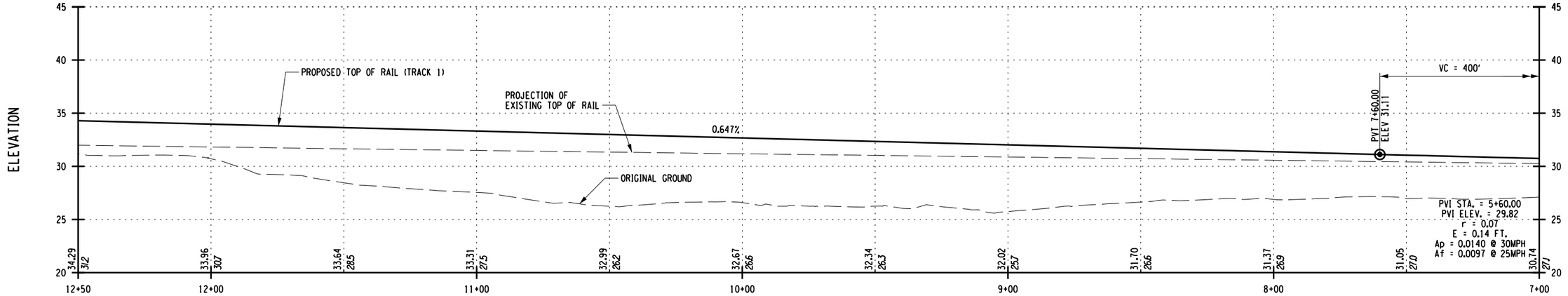


AFFIX SEAL: ON:	ALTERED BY: ON:

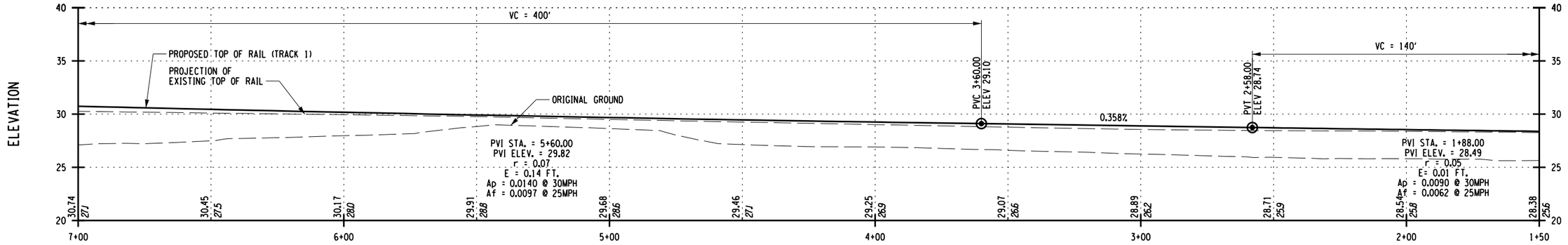
AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:		PIN 1935.49 MARCH 2021	BRIDGES 7092890	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED TRACK PROFILE SOUTH ALTERNATIVE
	COUNTY: ALBANY REGION: 1				CONTRACT NUMBER DRAWING NO. TPR-4 SHEET NO.

MODJESKI and MASTERS

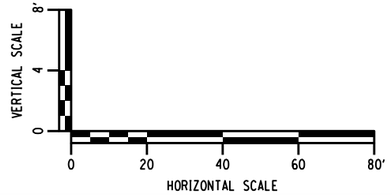
NEW YORK STATE OF OPPORTUNITY. Department of Transportation



TRACK 1 PROFILE



TRACK 1 PROFILE



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES
7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PROFILE
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TPR-5

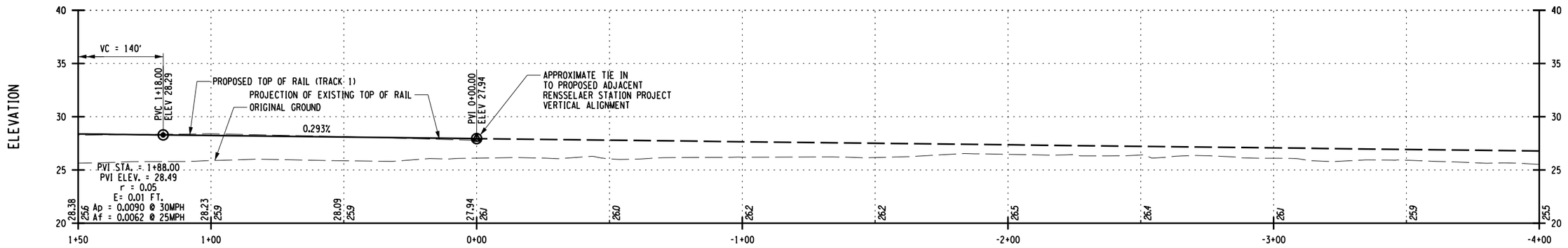
SHEET NO.

MODJESKI and MASTERS

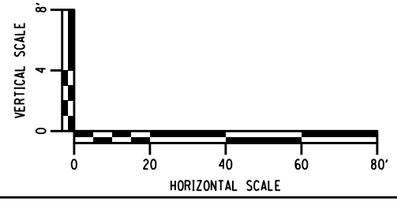
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
CHECK
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = 3/18/2021
USER = ONCiescer1



TRACK 1 PROFILE



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

CONTRACT NUMBER

TRACK PROFILE
SOUTH ALTERNATIVE

DRAWING NO. TPR-6

SHEET NO.

MODJESKI and MASTERS

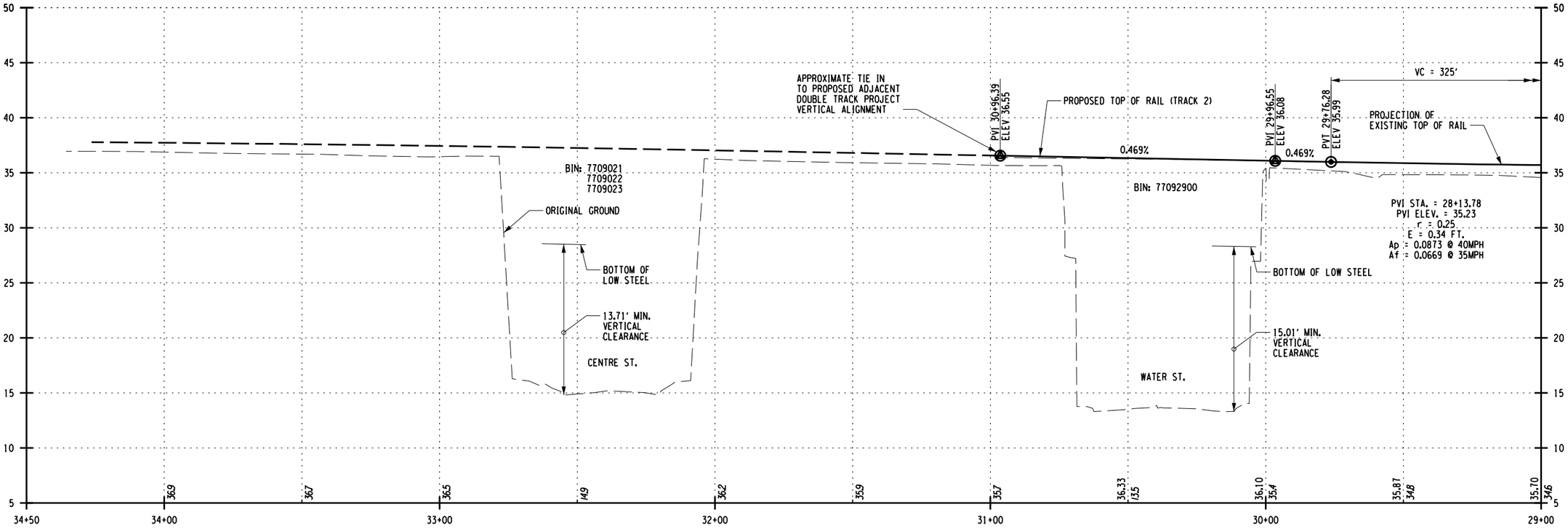
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
CHECK
JOB MANAGER
DESIGN
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = 3/18/2021
USER = DNClescer1

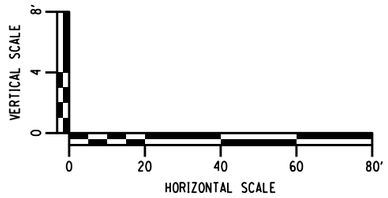
PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

ELEVATION



STATION

TRACK 2 PROFILE



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PROFILE
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TPR-7

SHEET NO.

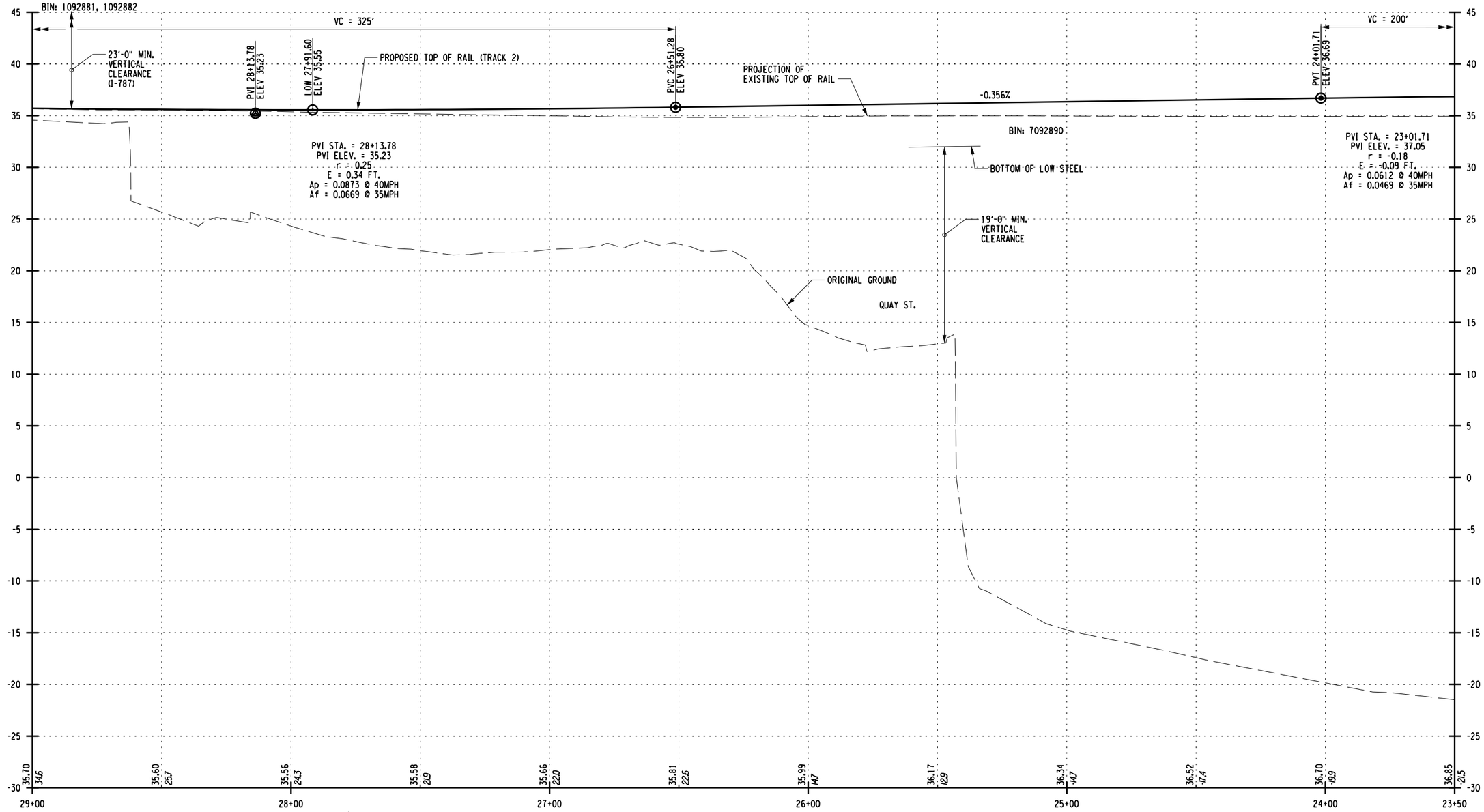
MODJESKI and MASTERS

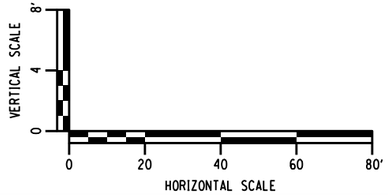
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

FILE NAME =
DATE/TIME = 3/18/2021
USER = DNCleser1

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

ELEVATION





STATION

TRACK 2 PROFILE

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:		PIN 1935.49 MARCH 2021	BRIDGES 7092890	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED
	COUNTY: ALBANY REGION: 1				TRACK PROFILE SOUTH ALTERNATIVE
					CONTRACT NUMBER
					DRAWING NO. TPR-8 SHEET NO.

MODJESKI and MASTERS

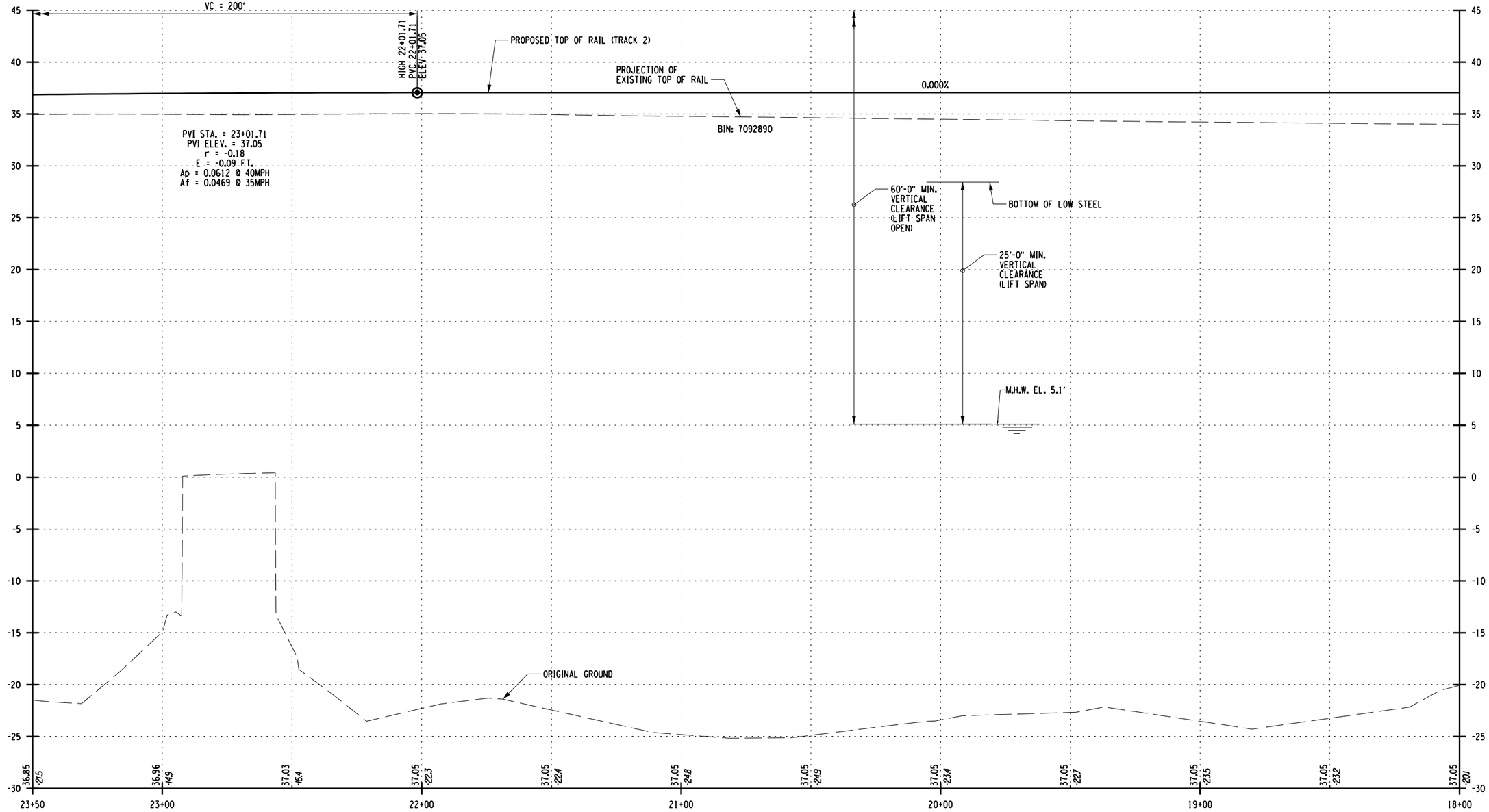
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

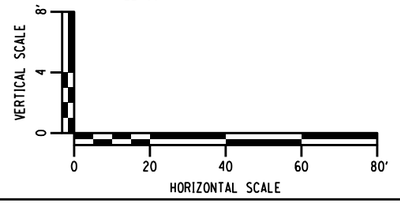
FILE NAME =
DATE/TIME = 3/18/2021
USER = ONCIescer1

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = 3/18/2021
USER = DNClescer1

ELEVATION





STATION

TRACK 2 PROFILE

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PROFILE
SOUTH ALTERNATIVE

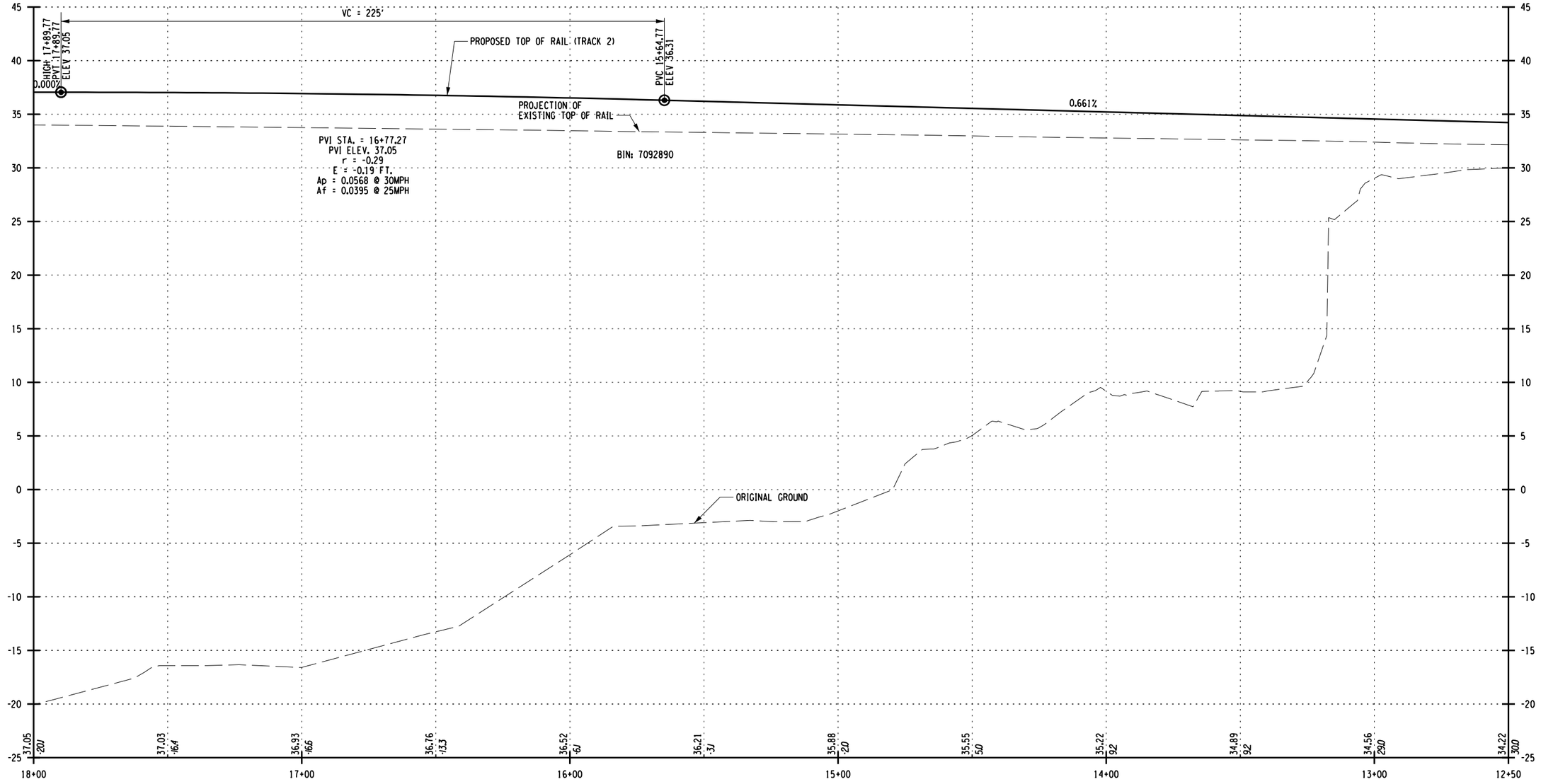
CONTRACT NUMBER

DRAWING NO. TPR-9

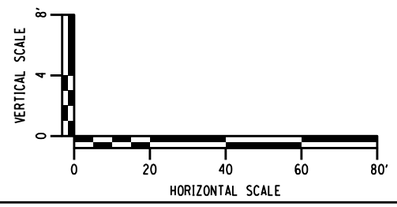
SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation



TRACK 2 PROFILE



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PROFILE
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TPR-10

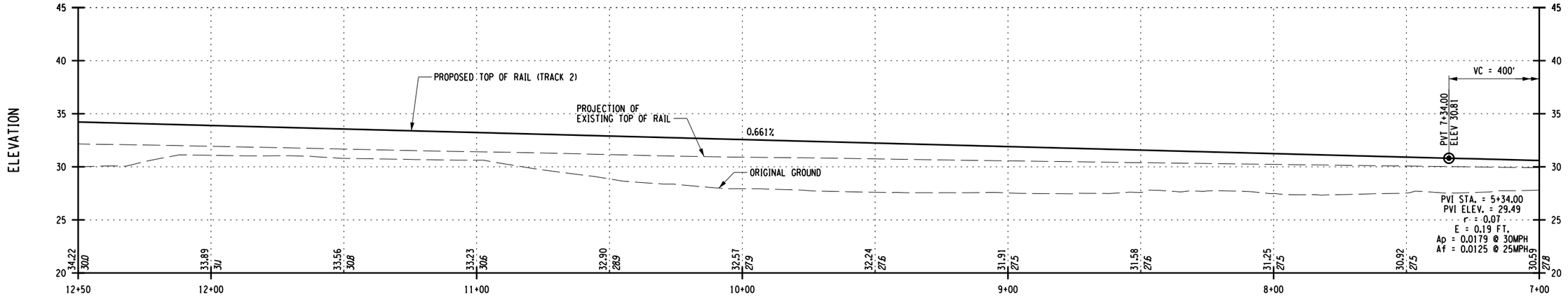
SHEET NO.

MODJESKI and MASTERS

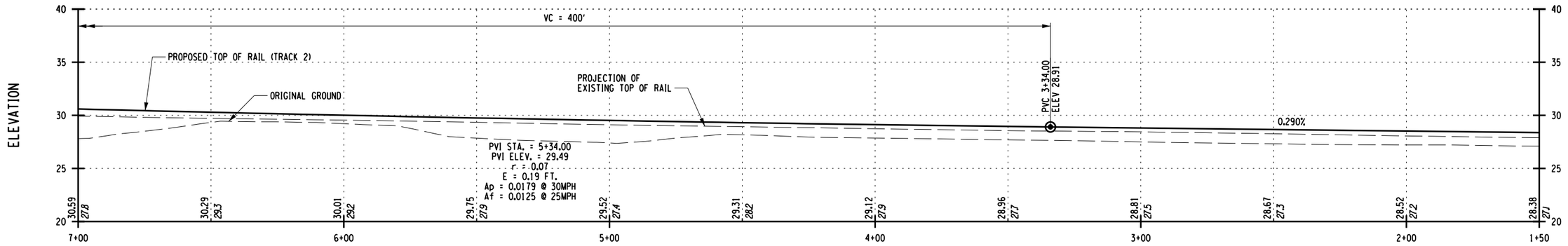
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

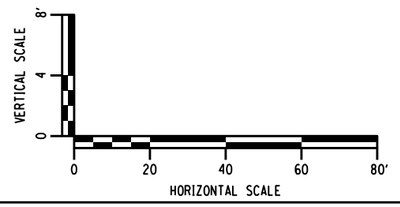
FILE NAME =
DATE/TIME = 3/18/2021
USER = DNClescer1



TRACK 2 PROFILE



TRACK 2 PROFILE



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PROFILE
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TPR-11

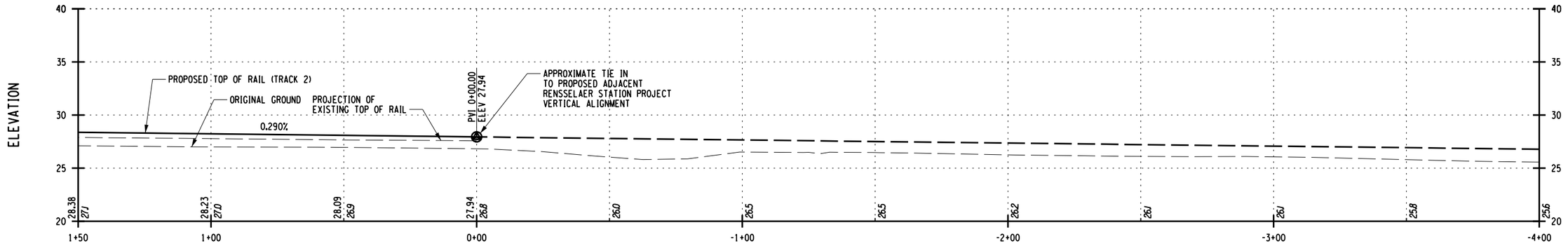
SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = 3/18/2021
USER = DNClescer1

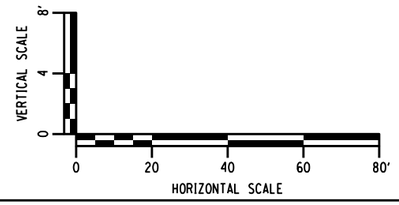


TRACK 2 PROFILE

PROJECT MANAGER
CHECK
DRAFTING
CHECK
JOB MANAGER
DESIGN
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = DNClescer1
USER =

AFFIX SEAL: ON:	ALTERED BY: ON:



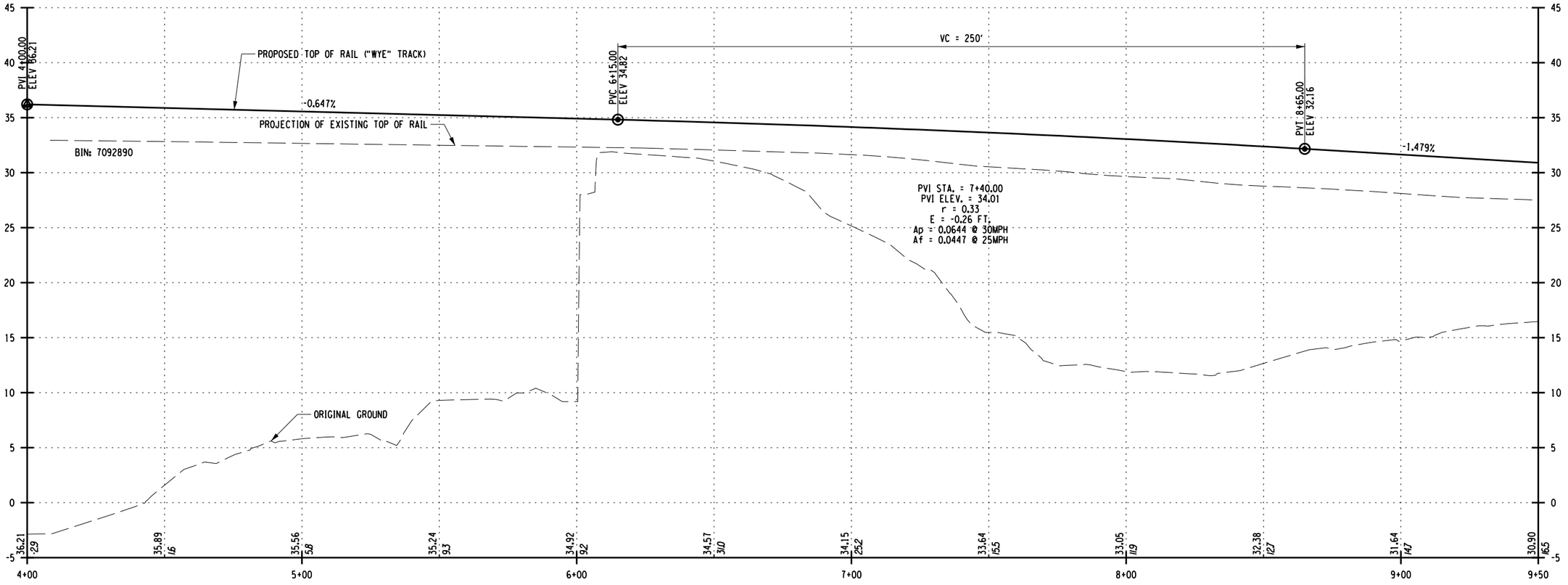
AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:		PIN 1935.49 MARCH 2021	BRIDGES 7092890	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED
	COUNTY: ALBANY REGION: 1				TRACK PROFILE SOUTH ALTERNATIVE

CONTRACT NUMBER

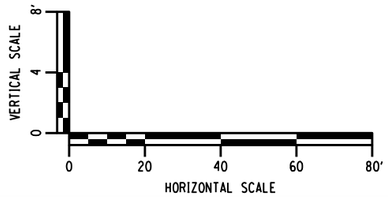
DRAWING NO. TPR-12
SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation



"WYE" TRACK PROFILE



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:		PIN 1935.49 MARCH 2021	BRIDGES 7092890	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED
	COUNTY: ALBANY REGION: 1				TRACK PROFILE SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TPR-13

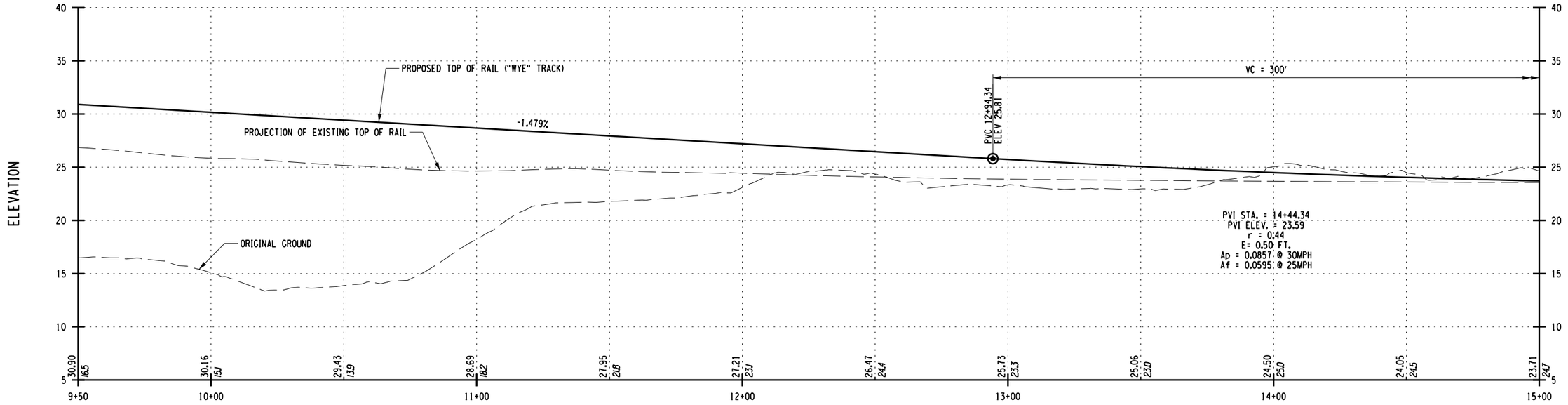
SHEET NO.

MODJESKI and MASTERS

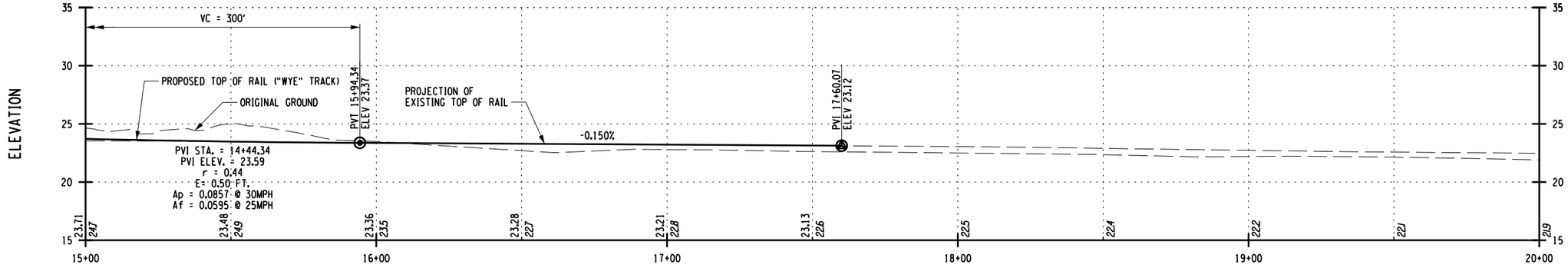
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

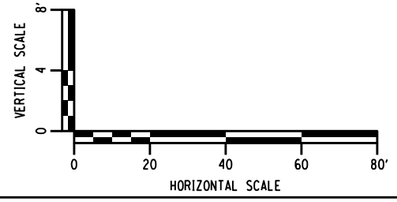
FILE NAME =
DATE/TIME = 3/18/2021
USER = DNCleser1



"WYE" TRACK PROFILE



"WYE" TRACK PROFILE



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49
MARCH 2021

BRIDGES
7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TRACK PROFILE
SOUTH ALTERNATIVE

CONTRACT NUMBER

DRAWING NO. TPR-14
SHEET NO.

MODJESKI and MASTERS

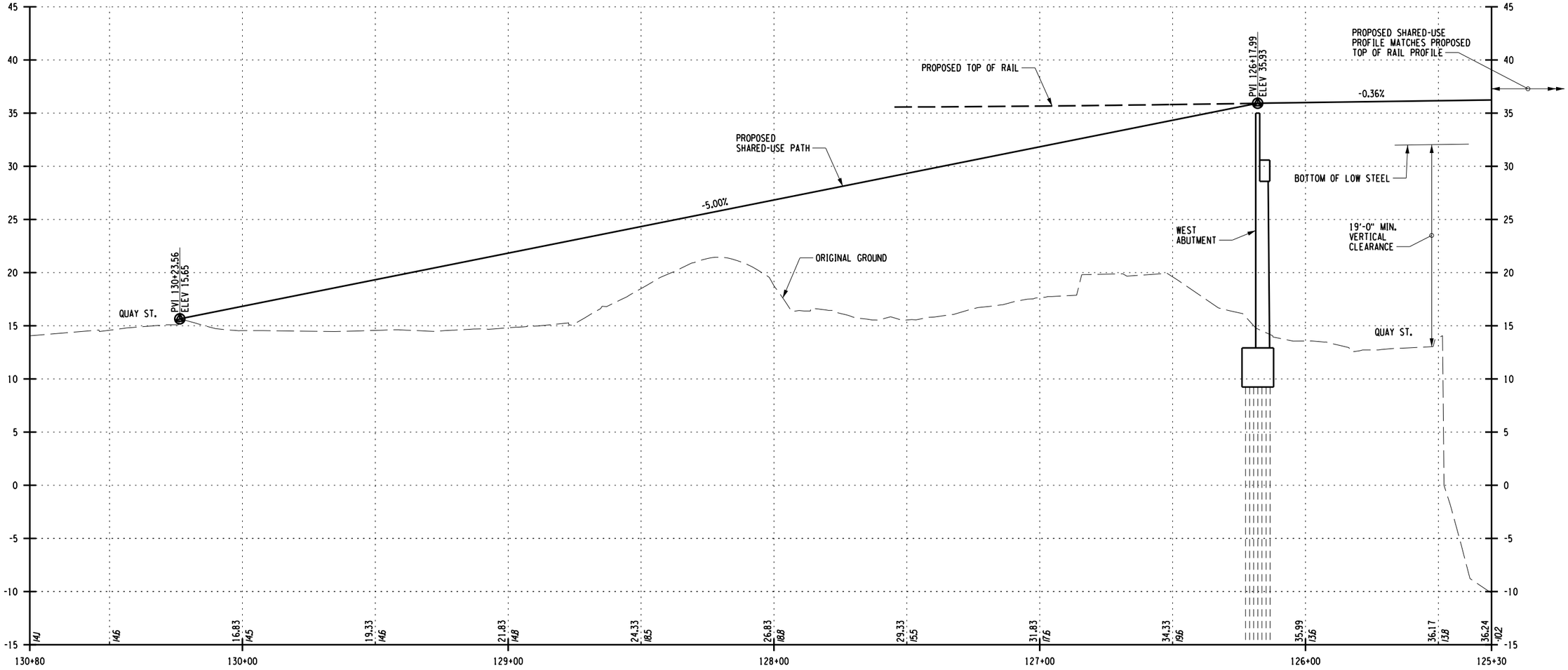
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME =
DATE/TIME = 3/18/2021
USER = DNClescer1

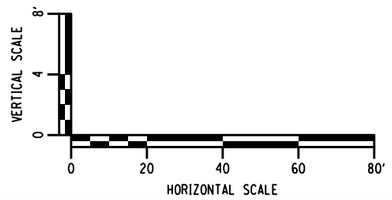
PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

ELEVATION



STATION

SHARED-USE PATH PROFILE



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:		PIN 1935.49 MARCH 2021	BRIDGES 7092890	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED
	COUNTY: ALBANY REGION: 1				SHARED-USE PATH PROFILE SOUTH ALTERNATIVE

CONTRACT NUMBER

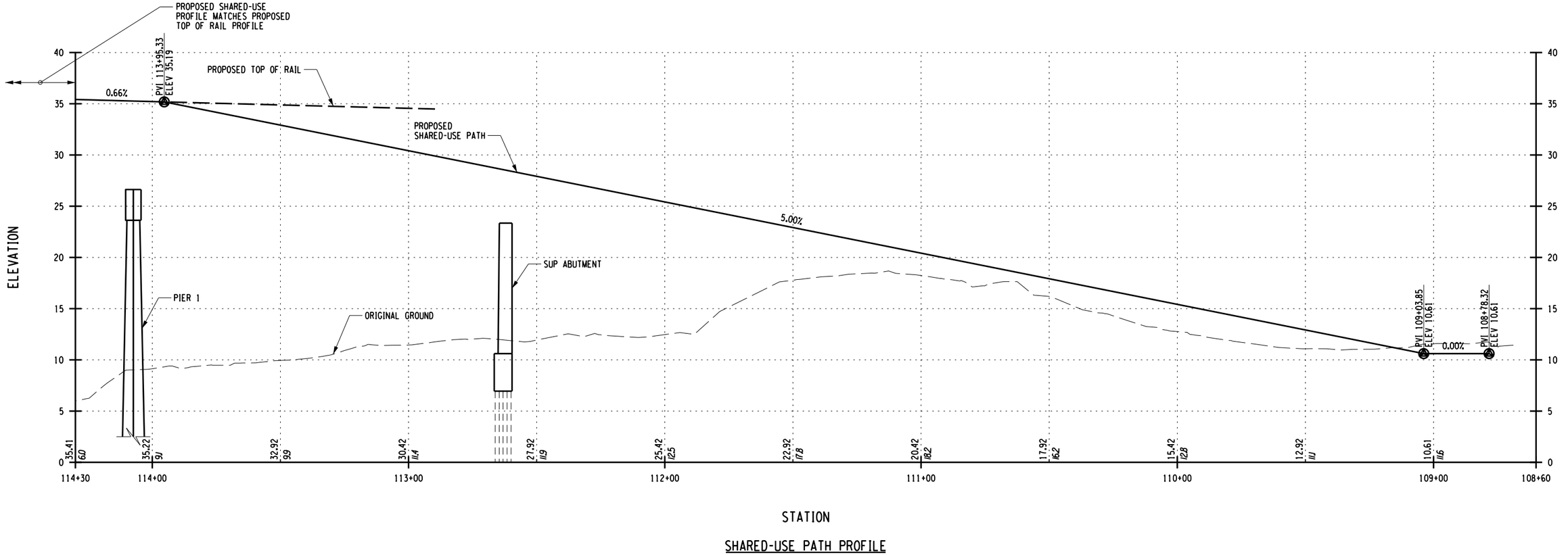
DRAWING NO. TPR-15

SHEET NO.

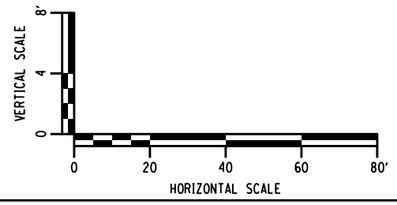
MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

FILE NAME = 3/18/2021
DATE/TIME = 3/18/2021
USER = DNClescere



SHARED-USE PATH PROFILE



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49
MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

SHARED-USE PATH PROFILE
SOUTH ALTERNATIVE

CONTRACT NUMBER

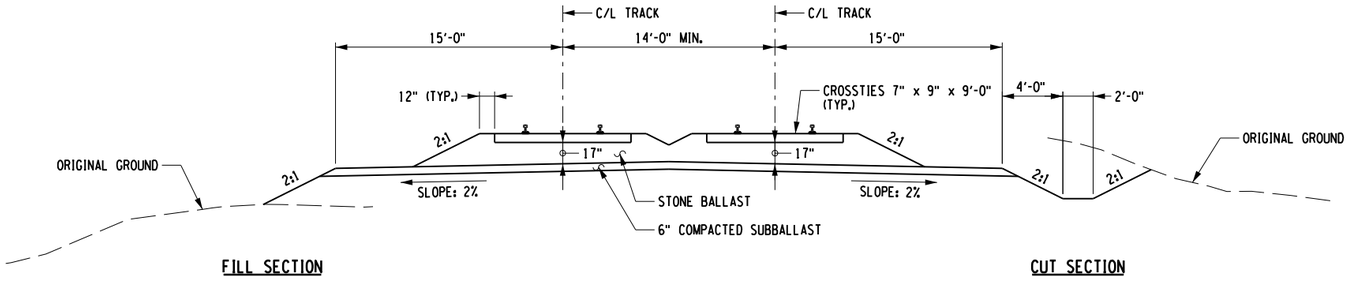
DRAWING NO. TPR-16
SHEET NO.

MODJESKI and MASTERS

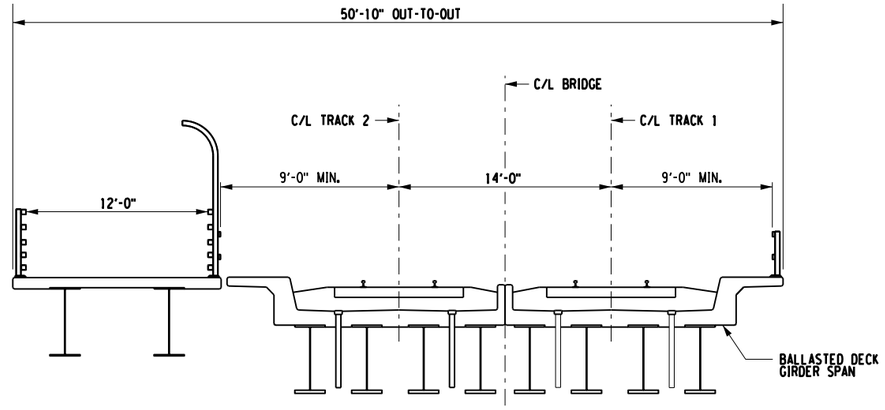
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
JOB MANAGER
DESIGN
CHECK
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = 3/18/2021
USER = DNClescer1

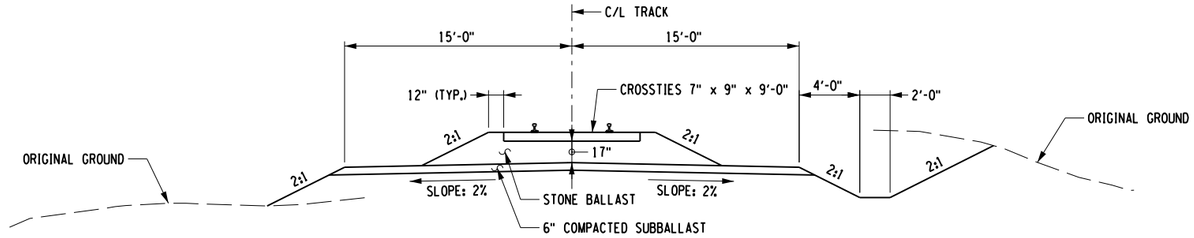


2 TRACK TANGENT SECTION



DECK GIRDER APPROACH SECTION

LOOKING WEST



TRACK TANGENT SECTION

5 0 5 10 15 20'

1" = 10'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TYPICAL SECTIONS

CONTRACT NUMBER

DRAWING NO. TS-1

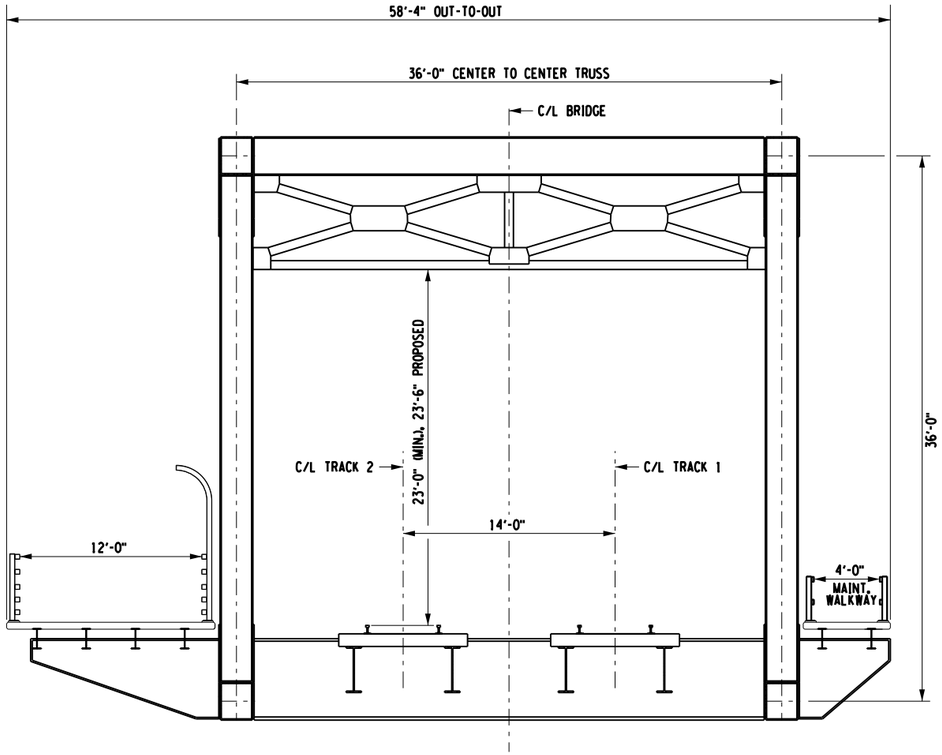
SHEET NO.

MODJESKI and MASTERS

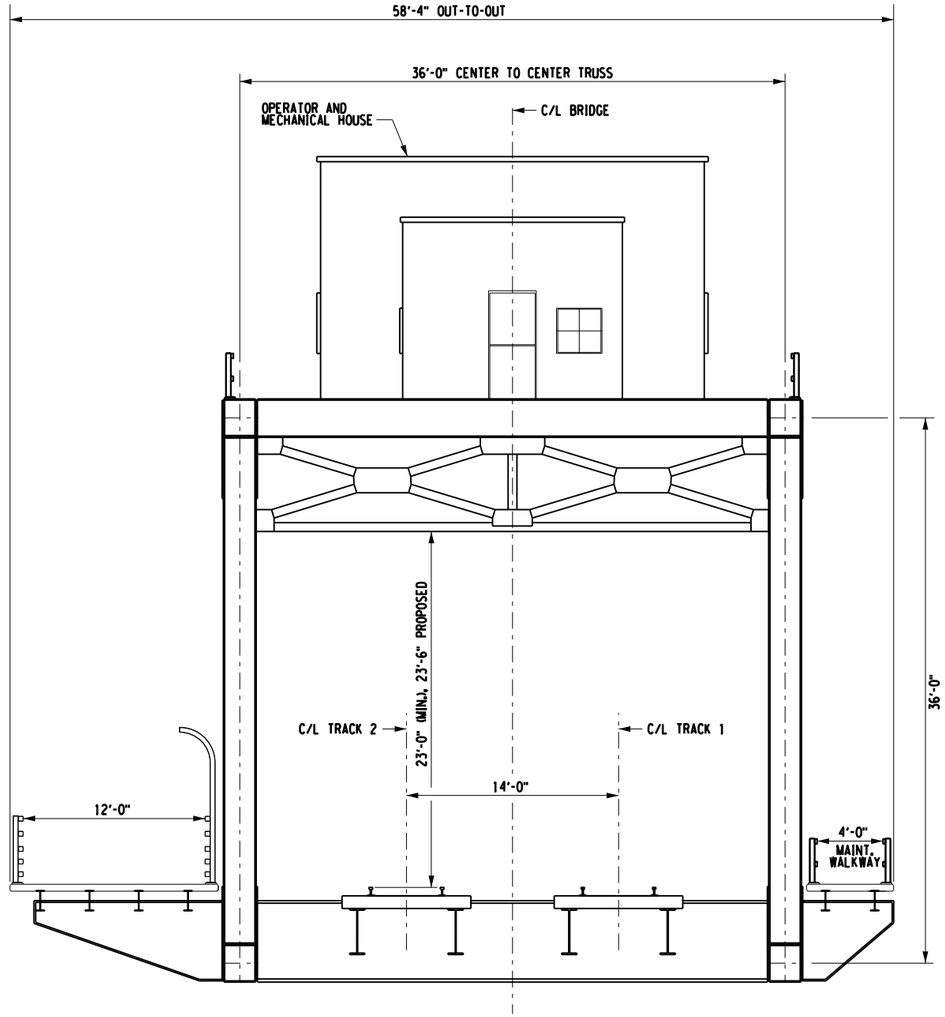
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = 3/18/2021
USER = DNClescer1



FIXED TRUSS SECTION
LOOKING WEST



LIFT SPAN SECTION
LOOKING WEST

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = 3/18/2021
USER = DNCtescer1

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES
7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TYPICAL SECTIONS

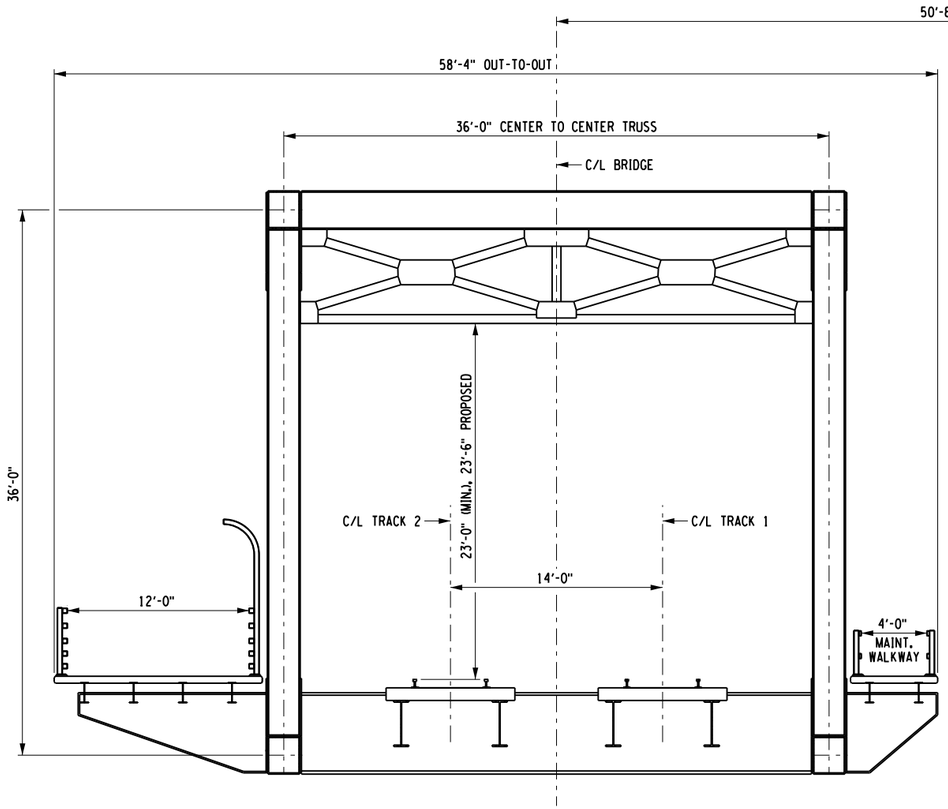
CONTRACT NUMBER

DRAWING NO. TS-2

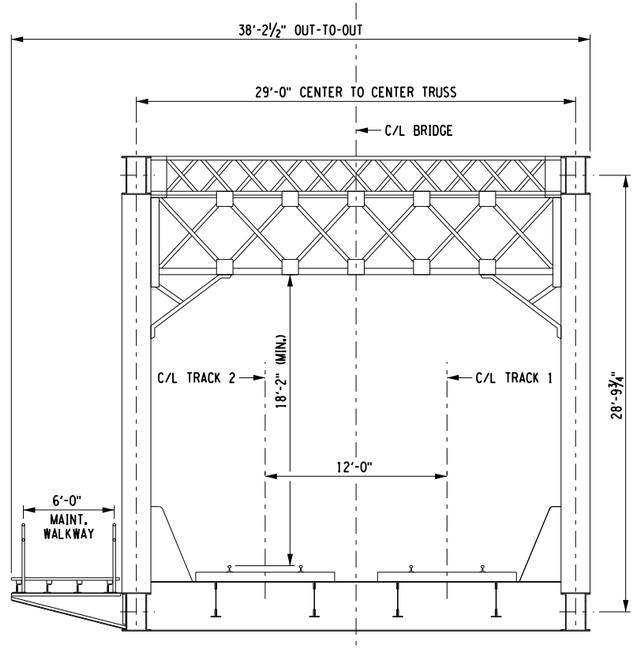
SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation



PROPOSED SECTION
LOOKING WEST



EXISTING SECTION
LOOKING WEST

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES
7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TYPICAL SECTIONS

CONTRACT NUMBER

DRAWING NO. TS-3

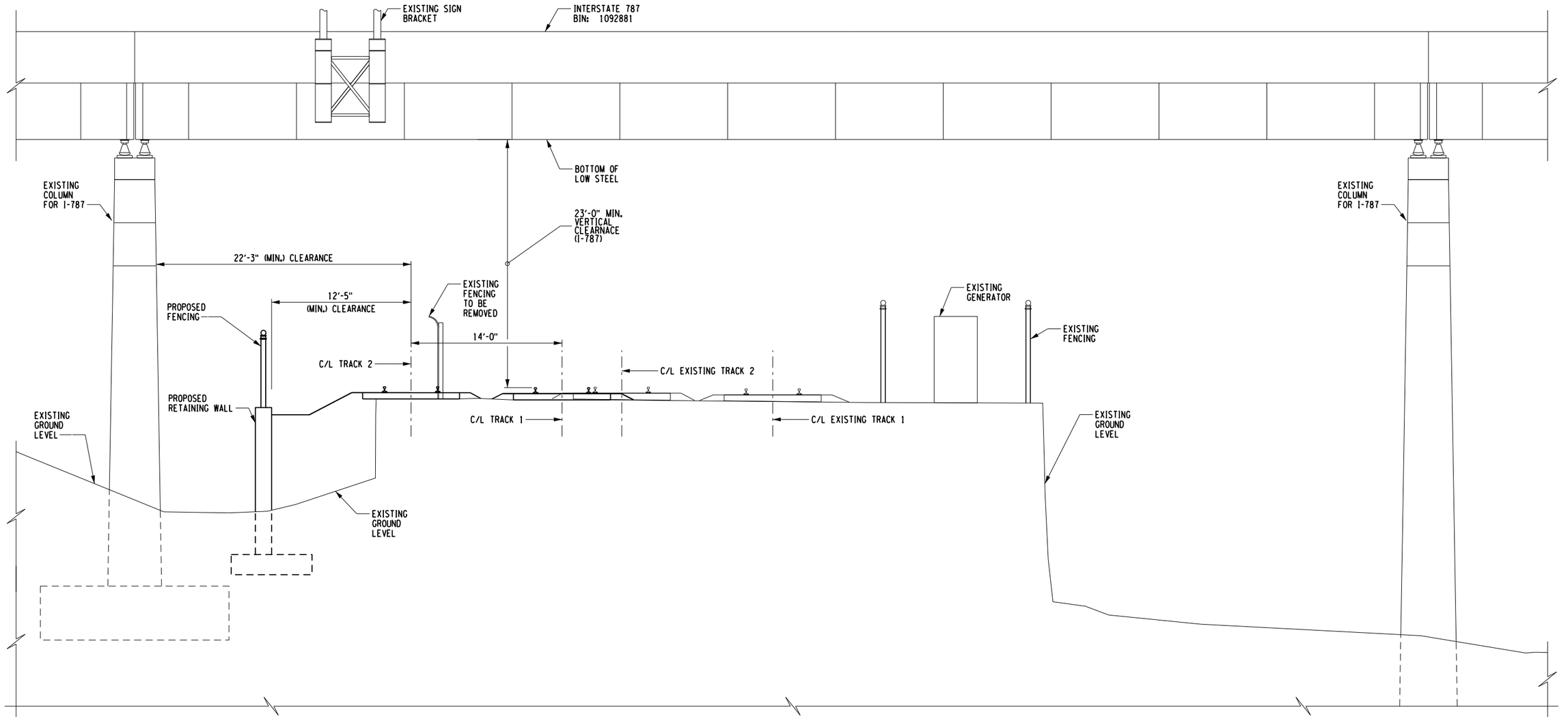
SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
CHECK
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = ONCiescer1
USER =



PROPOSED TRACK SECTION UNDER STA. 29+00

LOOKING WEST

(SOUTH ALTERNATIVE SHOWN)

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = ONCiescer1
USER = ONCiescer1

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TYPICAL SECTIONS

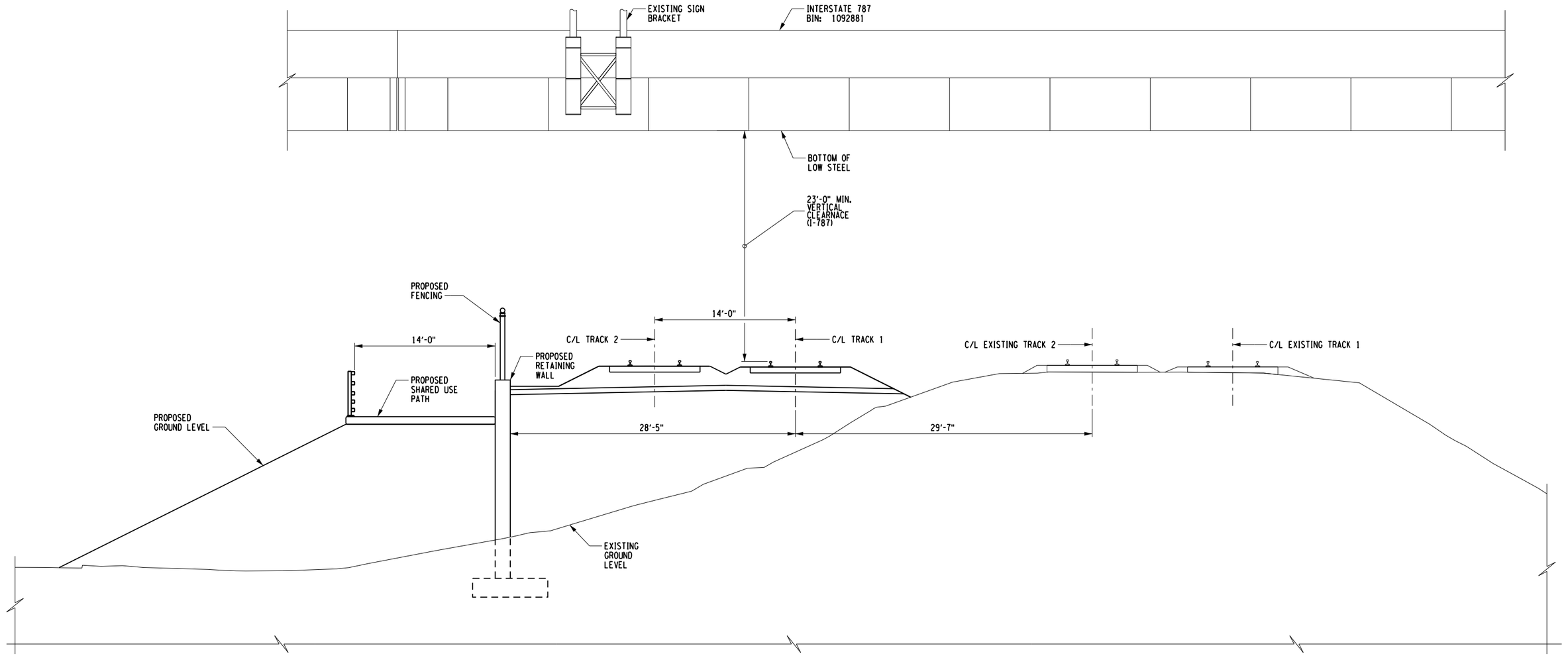
CONTRACT NUMBER

DRAWING NO. TS-4

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation



PROPOSED TRACK SECTION STA. 27+50

LOOKING WEST
(SOUTH ALTERNATIVE SHOWN)

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = 3/18/2021
USER = DNClescer1

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TYPICAL SECTIONS

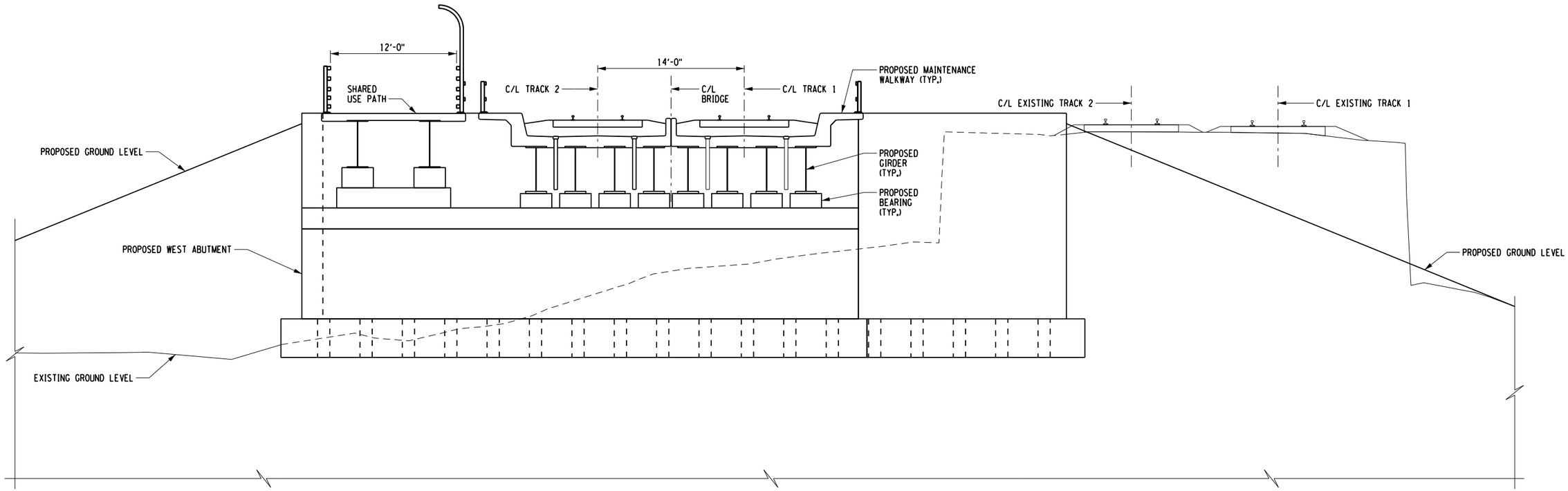
CONTRACT NUMBER

DRAWING NO. TS-5

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation



PROPOSED TRACK SECTION WEST ABUTMENT

LOOKING WEST
(SOUTH ALTERNATIVE SHOWN)

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = ONCiescer1
USER = ONCiescer1

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TYPICAL SECTIONS

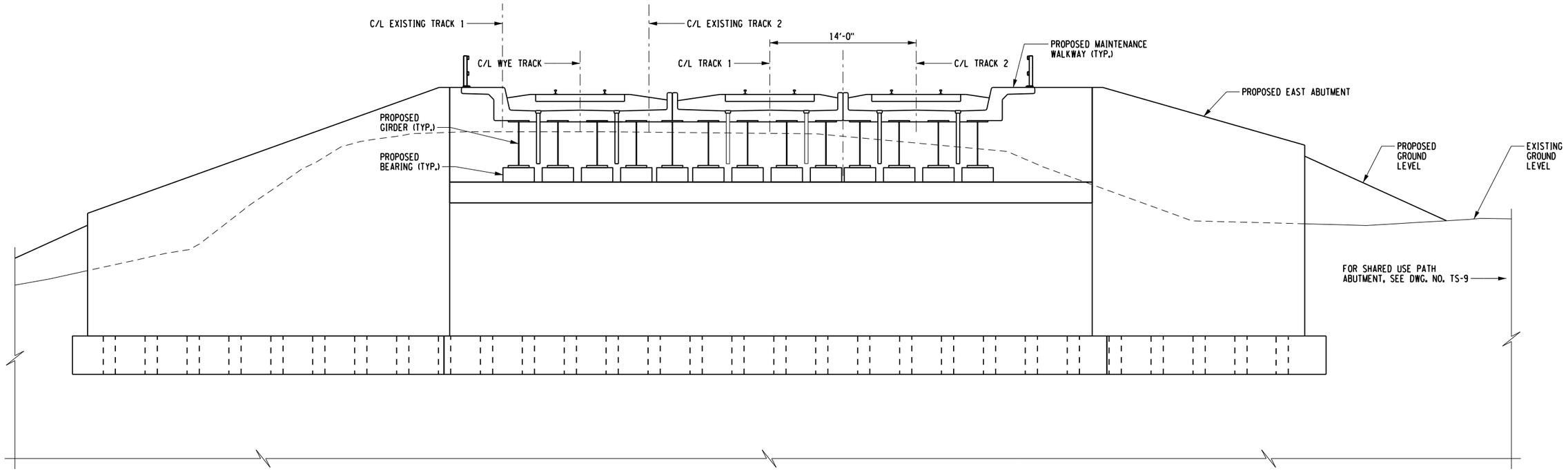
CONTRACT NUMBER

DRAWING NO. TS-6

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation



PROPOSED TRACK SECTION EAST ABUTMENT

LOOKING EAST

(SOUTH ALTERNATIVE SHOWN, EXISTING STRUCTURES NOT SHOWN FOR CLARITY)

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = 3/18/2021
USER = DNCIescer1

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES
7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TYPICAL SECTIONS

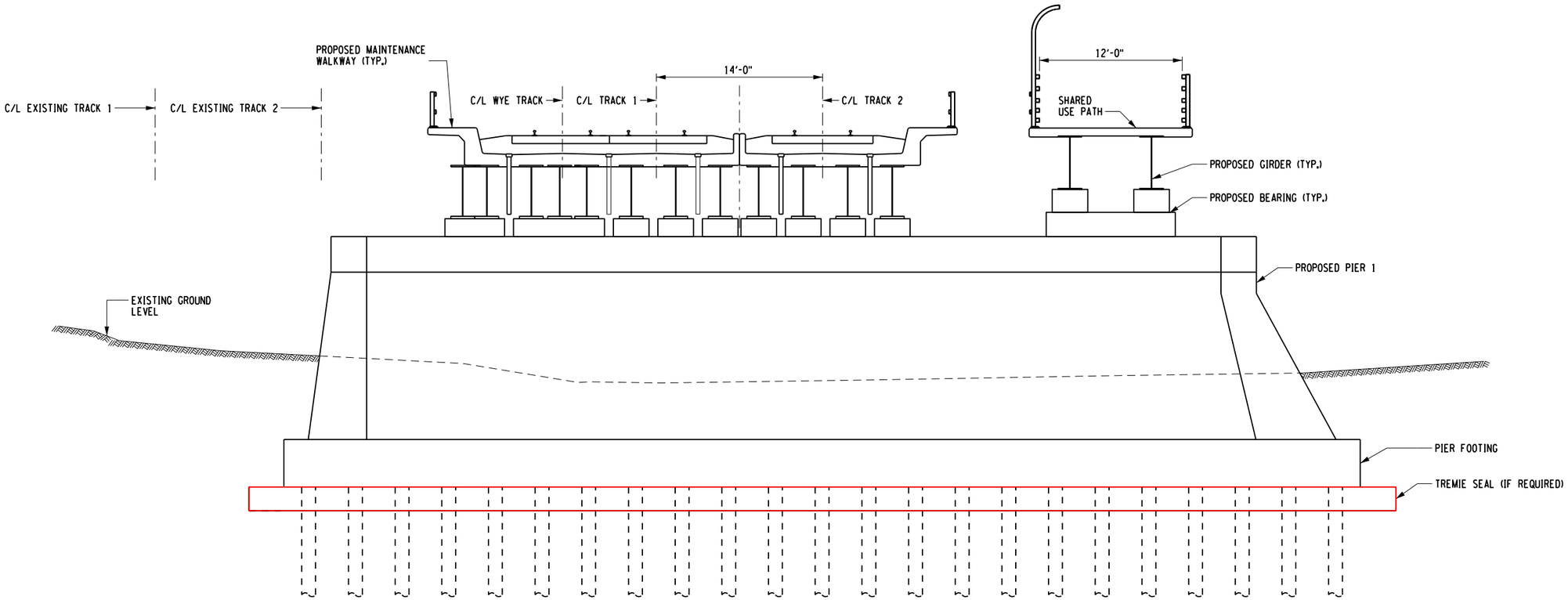
CONTRACT NUMBER

DRAWING NO. TS-7

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation



PROPOSED TRACK SECTION PIER 1

LOOKING EAST

(SOUTH ALTERNATIVE SHOWN, EXISTING STRUCTURES NOT SHOWN FOR CLARITY)

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 3/18/2021
DATE/TIME = 3/18/2021
USER = DNCIescer1

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

MARCH 2021

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TYPICAL SECTIONS

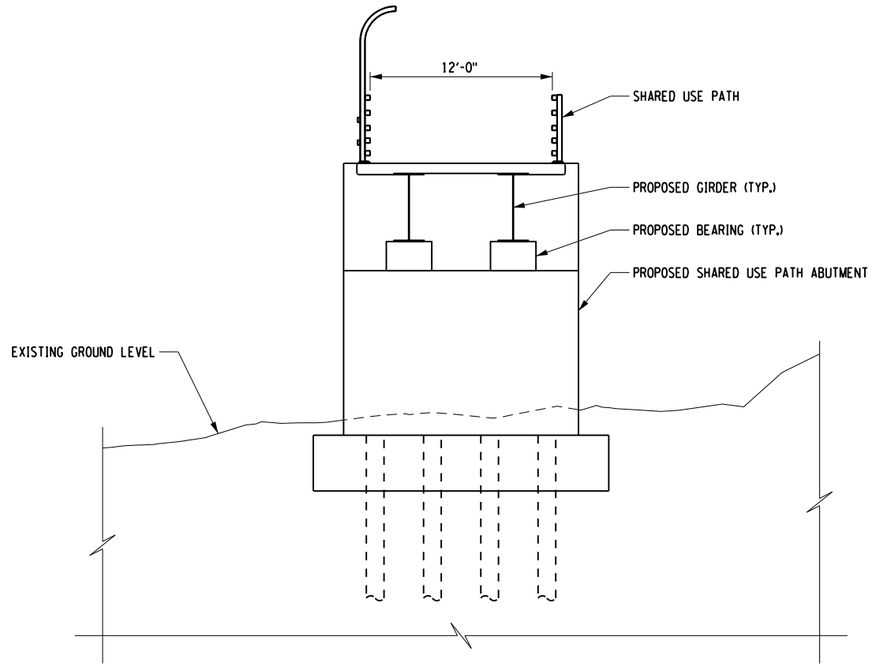
CONTRACT NUMBER

DRAWING NO. TS-8

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation



PROPOSED SECTION SUP ABUTMENT
LOOKING SOUTH
(SOUTH ALTERNATIVE SHOWN)

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

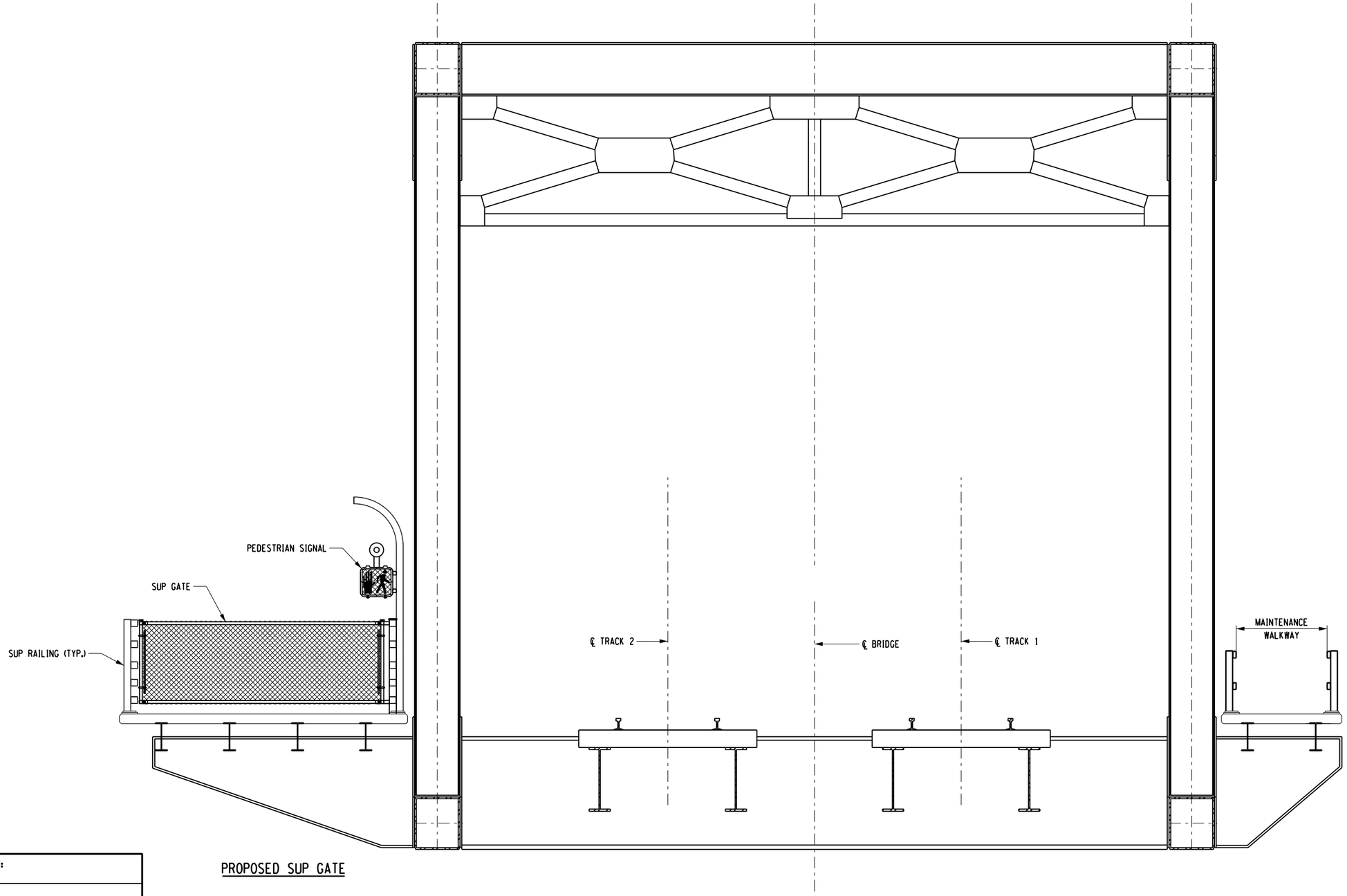
FILE NAME = 3/18/2021
DATE/TIME = ONCiescer1
USER =

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	COUNTY: ALBANY REGION: 1	PIN 1935.49 MARCH 2021	BRIDGES 7092890	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED TYPICAL SECTIONS	CONTRACT NUMBER DRAWING NO. TS-9 SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation



PROPOSED SUP GATE

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = 193549_cpb_sec_typ_bridge sections.dgn
DATE/TIME = 4/13/2022
USER = ONClescer1

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: ALBANY REGION: 1

PIN 1935.49

BRIDGES 7092890

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

PROPOSED SUP GATE

CONTRACT NUMBER

DRAWING NO. TS-10

SHEET NO.

MODJESKI and MASTERS

NEW YORK STATE OF OPPORTUNITY. Department of Transportation