

Appendix D
Navigation Study



Department of
Transportation

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LIVINGSTON AVENUE BRIDGE

over the Hudson River
Albany and Rensselaer Counties

B.I.N. 7092890

P.I.N. 1935.49

Navigation Study



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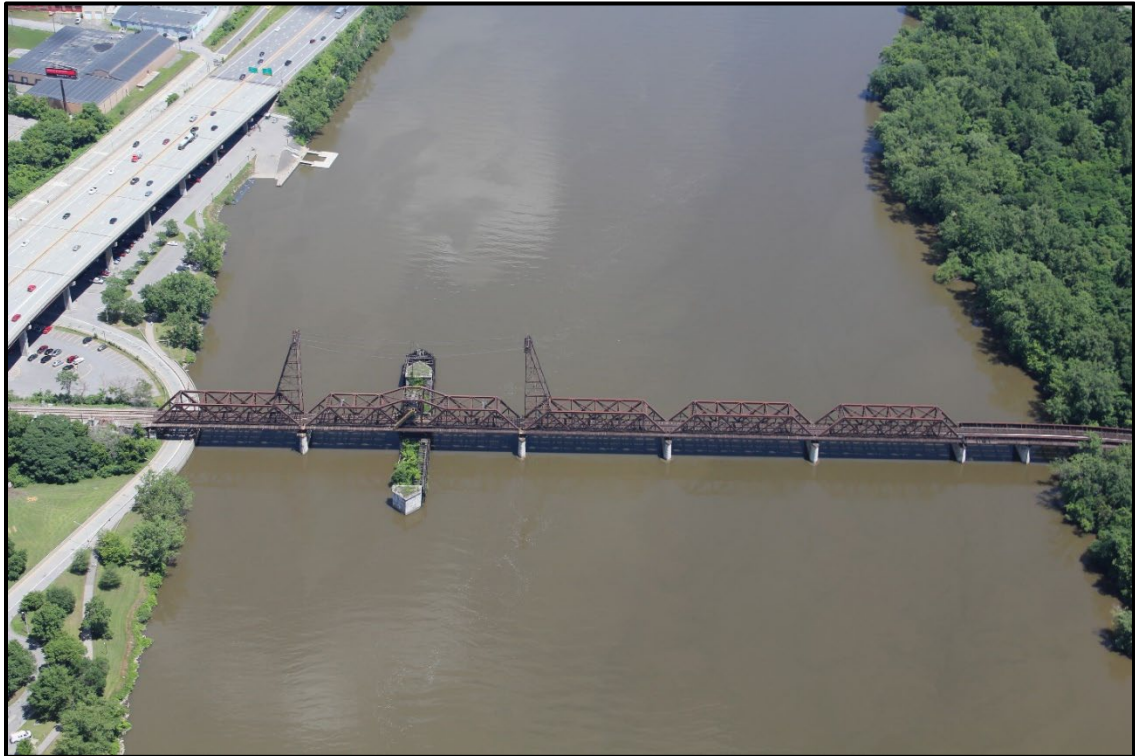
Livingston Avenue Bridge
Replacement Project
Navigation Study
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1.0 Executive Summary

The existing Livingston Avenue Bridge (LAB) is a double-track rail bridge crossing the Hudson River between the City of Rensselaer and the City of Albany at Hudson River Mile 146.38. The bridge is located at Milepost QC 143.1 on the CSX Hudson Subdivision of the Empire Corridor. A location map of the project is shown in Figure 1.

The bridge superstructure is 117 years old and the substructure is over 150 years old. In the closed position, the existing bridge provides a minimum of 25 feet of vertical clearance to low steel; when open, it allows approximately 135 feet of vertical clearance from Mean High Water to the overhead catenary cables. When the bridge is in the open position, there are two navigation channels, which provide 100 feet of clearance and 110 feet of clearance in the east and west channels, respectively. The bridge opens for maritime traffic approximately 300 times a year based on the latest information provided by Amtrak.



Recent inspections show that the bridge has significant deterioration. The superstructure and substructure are in fair to poor condition, and several piers are in critical condition. The mechanical portions of the swing span are significantly worn; the electrical portions of the bridge are outdated and obsolete. While all of the bridge components are in operable condition, they require near constant maintenance to keep the bridge in a state of acceptable operation. In the spring of 2016, Amtrak awarded a design contract to update/repair the electrical and mechanical systems of the existing bridge, which had experienced extensive outages over the preceding winter (2015-2016), leaving the bridge inoperable. Construction for this project is scheduled to start in spring 2019.



Basemap Source: World Street Map, ESRI/DeLorme, 2010

Figure 1: Project Location Map

As designed, the bridge fails to meet modern standards established by the American Railway Engineering and Maintenance-of-Way Association (AREMA). In its existing condition, the live load capacity rating is less than half of the value that would be required to meet modern design standards. As a result of the age and condition of the LAB, the New York State Department of Transportation (NYSDOT) applied for a grant from the U.S. Department of Transportation (USDOT) to study the rehabilitation or replacement of the bridge. USDOT initiated an \$8 billion nationwide program to develop America's first nationwide high-speed intercity passenger rail (HSIPR) service through the American Recovery and Reinvestment Act (ARRA). Additionally, the Federal Railroad Administration (FRA) has made awards to complement this program. Through one of these FRA FY 2010 awards, a grant that totals \$4 million, including a 50 percent State match, was awarded to New York State to conduct preliminary engineering and environmental work for the replacement of the LAB. NYSDOT selected Modjeski & Masters to conduct a Preliminary Engineering and Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) of 1970 to investigate rehabilitation or replacement of the existing structure.

Modjeski and Masters has been tasked by NYSDOT to perform a Navigation Study of the Hudson River at the existing LAB as part of the EA of the LAB rehabilitation/replacement. This study obtained and analyzed information related to present and future navigation uses and needs for the purposes of developing and evaluating alternatives for the new bridge. The data provided input into navigational considerations including vertical clearance over the water, horizontal clearance and bridge and channel alignment.

Data was collected from multiple sources including marinas, commercial users, contractors, federal agencies and local municipal employees.

General findings of the study include:

- Openings of the LAB are most frequently requested by sightseeing tour boats and by tug boats transporting construction materials and equipment.
- Commercial users of the bridge noted that requesting and obtaining a bridge opening has been unreliable, due to technical difficulties or due to the operator being unavailable.
- It was noted by multiple users that passage through the bridge can be difficult due to the limited horizontal clearance, pier skew and curvature of the river, as shown in Figure 2, a Hudson River navigation chart..

Recommendations to be considered include:

- If the bridge is to be replaced, it is recommended that the horizontal clearance of the navigable channel be increased. The increased channel width would make passage easier and faster for recreational and commercial users.
- Increasing the reliability of the bridge operations would be greatly beneficial to commercial users that require bridge openings.

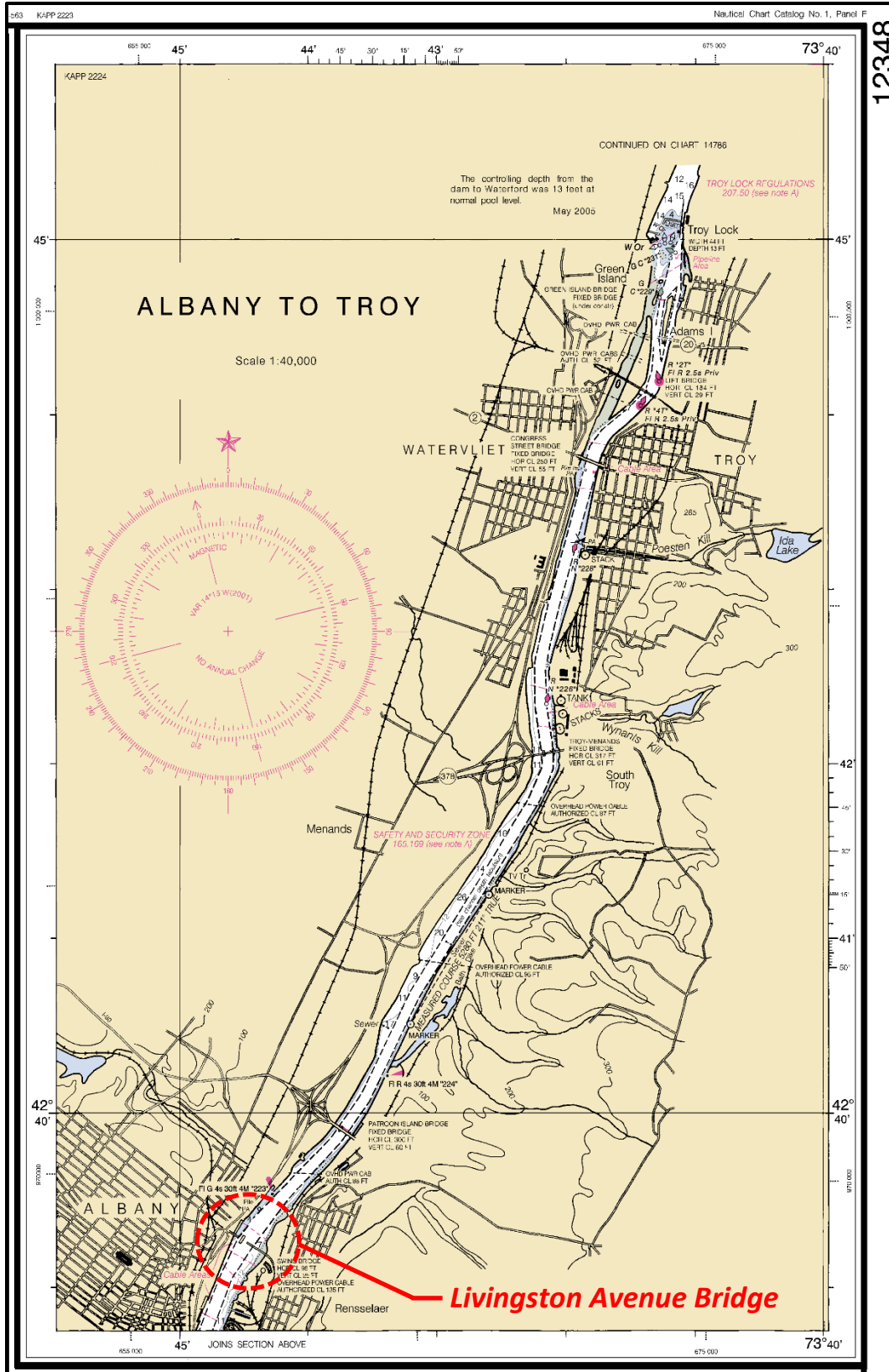


Figure 2: Navigation Chart 12348, Albany to Troy

2.0 Introduction

2.1 Existing Condition

The existing Livingston Avenue Bridge (BIN 7092890) is a rail bridge crossing the Hudson River between the City of Rensselaer in Rensselaer County, New York and the City of Albany in Albany County, New York. The bridge is located at Milepost QC 143.1 on the CSX Hudson Subdivision of the Empire Corridor. The Empire Corridor, shown in Figure 3, is the principal passenger and freight route in New York State. The United States Department of Transportation (USDOT) designated the Empire Corridor as a High-Speed Intercity Passenger Rail (HSIPR) corridor in 1998, based on its utility and its potential for future development.

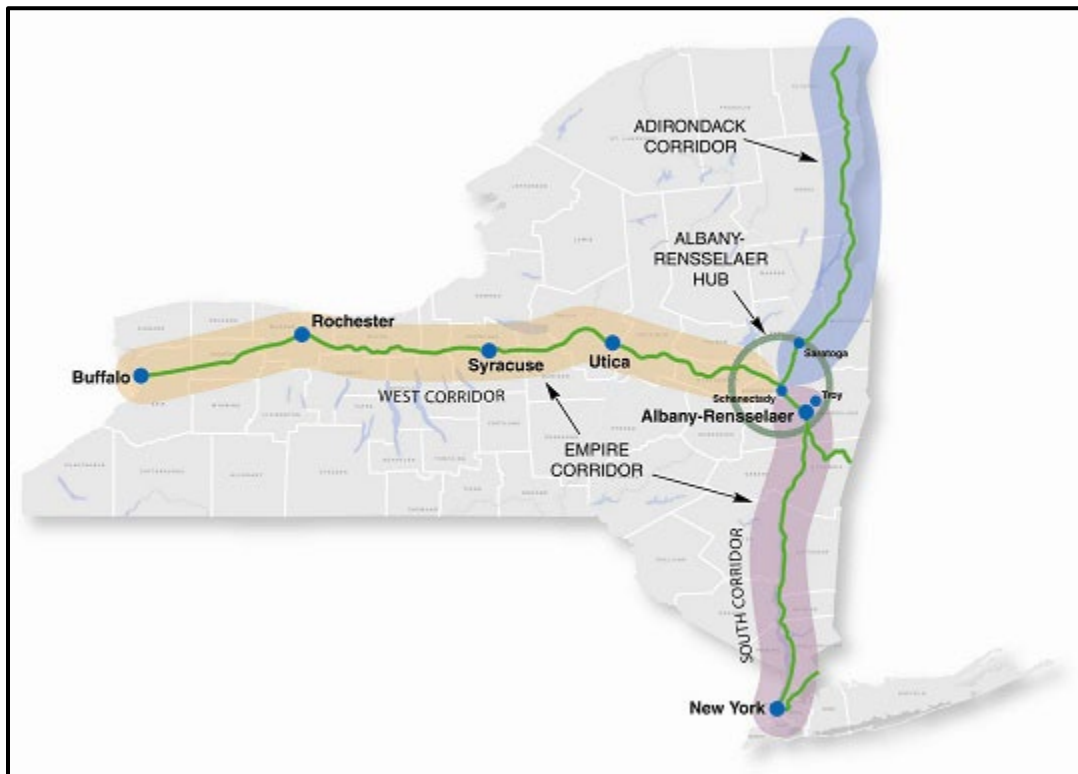


Figure 3: New York State Empire Corridor

and Toronto. CSX and Canadian Pacific Railway run occasional freight trains across the bridge.

The LAB is located along a navigable portion of the Hudson River; the bridge superstructure is 117 years old and the substructure is over 150 years old. The average number of bridge openings from 2002 to 2009 was 421 per year. The maximum number of openings during this eight-year period was 474 in 2005. The number of openings during the 2008 to 2010 period dropped to 380 or lower per year and continued to decline thereafter before stabilizing at just under 300 openings per year by 2016. The existing vertical clearance underneath the bridge, as listed in the United States Coast Guard (USCG) navigational charts, is 25 to 30 feet depending on the tide. The moveable swing span pivots open to allow approximately 135 feet of vertical clearance from Mean High Water (to overhead catenary cables) for maritime traffic. Although there are two channels when the bridge is in the open position, only the east channel has a fender system and is used for navigation. When the bridge is in the open position, the east channel provides 100 feet horizontal clearance and the west channel provides 110 feet; the east channel is narrower because of the fender system.

The existing structure consists of nine spans over nine piers, numbered from west to east. Spans 1 through 6 are simply supported steel through-trusses, with spans 1, 3, 4 and 5 being fixed spans approximately 178 feet long, from centerline pier to centerline pier. Spans 2A and 2B comprise the swing span; each is 132 feet. Spans 6 through 9 are simply-supported girder spans, approximately 76 feet long from centerline pier to centerline pier. The piers are all unreinforced masonry block supported by timber piles.

In its existing condition, the live load capacity rating of the bridge is less than half of the value that would be required to meet modern design standards. Passenger and freight trains operating over the bridge are subject to loading and speed restrictions: despite having two tracks, only one train may cross the bridge at a time, and the maximum authorized speed is 15 miles per hour (mph). This is substantially slower than the 40 mph maximum authorized speed on adjacent rail segments. The bridge vertical clearance is also substandard; the through-truss portion of the bridge provides 18 feet 2 inches of vertical clearance, nearly 5 feet less than the 23-foot vertical clearance standard established by the American Railway Engineering and Maintenance-of-Way Association (AREMA) [Sect. 28-1.2] and AMTRAK [Std. Dwg. AM70050G]. This clearance is for all overhead bridge obstructions for non-electrified rail sections. In addition, the swing span frequently malfunctions, resulting in delays to passenger trains, freight trains, and maritime traffic.

Based on the condition inspections of the bridge performed in September 2010 and December 2015, the structure is in overall fair to poor condition. Deterioration previously noted in the 1998 NYSDOT Inspection has continued. The bridge is near the end of its serviceable life.

The mechanical portions of the swing span are significantly worn. All components are operating but require near constant maintenance to keep the bridge in a state of acceptable operation. Long term reliability of the mechanical system is a serious concern. The electrical portions of the bridge are outdated and obsolete. All major electrical components are operable due to significant maintenance effort. Long term reliability of

the electrical system is also a serious concern. To mitigate some of these issues in the short term, Amtrak awarded a design contract in 2016 to update and repair the electrical and mechanical systems of the existing bridge. The design has been completed and a construction contract is anticipated to begin in spring 2019.

The metalwork in the truss spans is in fair condition. Section losses have worsened over time since the 1998 inspection, particularly in the floor system where corrosion holes and “knife edges” in floorbeam and stringer cover plates were noted. Heavy section losses were noted in the truss bottom chord lacing bars, batten plates and lateral bracing connection plates. The metalwork of the swing span is in fair condition with new areas of corrosion noted since the 1998 inspection. The wedge bearings allow vertical pumping with the passage of live load and are in overall poor condition. The girder spans are in fair to poor condition.

The existing masonry block piers stand on a two-layer mat of timber cribbing, which is supported by timber piles. The exposed portions of the substructure units are in generally fair condition with some localized areas in poor condition. Displaced stones have been noted at all piers.

The exposed surfaces of the unreinforced concrete abutments exhibit extensive spalling, map cracking and efflorescence.

The masonry block piers and unreinforced concrete abutments are seismically vulnerable and are not easily retrofitted to provide adequate seismic performance.

The 2004 underwater inspection report noted that the three swing span piers are in critical condition, with significant undermining and heavy rot; only half of piles are still load-bearing. The 2015 underwater inspection found that areas of undermining noted in 2004 have filled in making further inspection of the noted deteriorations not possible. Other piers exhibit similar underwater conditions. The timber fender system is in very poor condition and the 2015 inspection found that portions have collapsed, making inspection in those areas impossible.

2.2 Background

High-speed passenger rail service along the Empire Corridor is critical to New York State’s economic future and environmental sustainability. NYSDOT is seeking to improve intercity passenger rail service on this designated high-speed corridor while strengthening the freight rail system. The LAB is a restrictive bottleneck along the Empire Corridor, which is a vital transportation route of national significance that provides for the transport of goods and passengers that would otherwise be transported by air or highway.

In late 2017, there were twelve (12) weekday passenger trains that crossed the LAB. Six of these trains (three round trips) operate to/from points west via the Empire Corridor, extending to Niagara Falls and points beyond. Two trains (one round trip) operate between Boston/New York and Chicago. The remaining four trains (two round trips) operate to/from Montreal, Canada and Rutland, Vermont. There is a minor fluctuation in the schedule on Fridays.

NYSDOT's vision for intercity passenger rail is a reliable, frequent service that is competitive with the other intercity transportation modes for intermediate travel distances and is connected to local and regional transit services.

As part of a separate project, the FRA and NYSDOT are jointly preparing a tiered Environmental Impact Statement (EIS) for HSIPR Service Development on the Empire Corridor. That project is examining ways to introduce passenger train speeds of at least 110 mph between Schenectady and Niagara Falls and ways to improve reliability, travel times, and the frequency of passenger rail service. Improving the passenger rail system will alleviate congestion, petroleum dependence and improve air quality. It will also create broad economic opportunities, increase tourism and productivity, and help revitalize upstate cities. The speed restrictions and other limitations of the existing LAB add to the infrastructure constraints along the Empire Corridor and impede future HSIPR plans. 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.

The Livingston Avenue Bridge project is also included in the New York State Rail Plan 2009, which was developed through substantial agency and public involvement and articulates New York State's visions, goals, and objectives for its intercity passenger and freight rail systems. The intent of the plan is to serve as a blueprint to guide New York State's rail transportation investment strategies, with the overall goals of reducing highway and airport congestion, limiting fossil fuel use and greenhouse gas emissions, and furthering economic growth. The plan was prepared with the input and cooperation of New York's freight railroads, Amtrak, commuter railroads, transportation planners, and state residents.

The USDOT initiated an \$8 billion nationwide program to develop America's first nationwide high-speed intercity passenger rail (HSIPR) service through the American Recovery and Reinvestment Act (ARRA). Additionally, FRA has made awards to complement this program. Through one of these FRA FY 2010 awards, a grant that totals \$4 million including a 50 percent State match was awarded to New York State to conduct preliminary engineering and environmental work for the replacement of the LAB. As part of this preliminary work, the FRA has requested that NYSDOT perform a Navigation Study of the Hudson River near the existing LAB. This study obtained and analyzed information related to present and future navigation uses and needs for the purposes of developing and evaluating alternatives for the new bridge. The data provided input into navigational considerations including vertical clearance over the water, horizontal clearance and bridge and channel alignment.

2.3 Navigation Study Purpose

The Livingston Avenue Bridge project is being progressed as a Preliminary Engineering/NEPA project. When the significance of impacts of a transportation project proposal is uncertain, an environmental assessment (EA) is prepared to assist in making this determination. It has been determined that an EA would be the most appropriate class of action for the Livingston Avenue Bridge project. The Navigation Study is an important task to identify potential impacts to mariners that utilize the Hudson River near the project location.

The purpose of this navigation study is to gather and review available information regarding marine use and future needs. The collected data will be considered in developing and comparing technical alternatives. The information will provide insight regarding proposed vertical and horizontal bridge clearances and the alignment of the new bridge with the navigation channel.

2.4 Study Method

Data and information was collected through the following means:

- Telephone interviews with local marinas
- Contacting commercial users that frequently utilize the Hudson River
- Contacting local, state, and federal agencies, such as the Albany Fire Department, US Coast Guard and US Army Corps of Engineers
- Review of available existing plans and drawings
- Review of current bridge operating practices

Since the existing LAB provides 25 feet of vertical clearance above mean high water when closed, this study focused primarily on vessels in excess of 25 feet in height above the water.

3.0 Summary of Study Findings¹

3.1 Local Marinas and Boat Launches

UAlbany Boat House

The University of Albany Rowing and Crew Club Team launch out of this facility located downstream of the LAB on the west bank of the Hudson River at mile 144.86. The UAlbany Student Association de-recognized the team in 2013; as of 2017 the team still operates but is unaffiliated with the university. No contact was made with the UAlbany Boat House. The location of the UAlbany Boat House is shown in Figure 4.

C. Springer Welding Works & Marina (B.1)

Springer's marina has slips for over 50 boats. It is just north of the UAlbany Boat House, downstream of the LAB on the west bank of the Hudson River at mile 145.00. The marina stores private recreational boats, typically small craft (owners of larger yachts typically store them at the Albany Yacht Club, across the river). In general, the recreational users stay local to the marina and do not travel through the LAB. The location of C. Springer Marina is shown in Figure 4.

Albany Yacht Club

The Albany Yacht Club marina offers dock space for yachts up to 180' long. It is located on the east bank of the Hudson River, downstream of the LAB, at mile 145.13. No response was received from the Albany Yacht Club. The location of the Albany Yacht Club is shown in Figure 4.

Riverfront Park Dock

The Riverfront Park in Rensselaer, NY is part of the City of Rensselaer's Waterfront Redevelopment Plan, and is owned and maintained by the City of Rensselaer. The dock is located on the east bank of the Hudson, at mile 145.41. It is downstream from the LAB, and just south of the Dunn Memorial Bridge. It does not have any boat storage facilities. The location of the Riverfront Park Dock is shown in Figure 4.

Jennings Landing

Jennings Landing is part of the Corning Preserve in Albany, NY; it is owned and maintained by the City of Albany. The boat launch is on the west bank of the Hudson River, at mile 145.88. It is downstream from the LAB. It does not have any boat storage facilities. The location of Jennings Landing is shown in Figure 4.

Corning Preserve Boat Ramp

The Corning Preserve Boat Ramp is part of the Corning Preserve in Albany, NY, and it is located at the north end of the preserve. It is upstream of the LAB, on the west bank of the Hudson River at mile 146.50. It does not have any boat storage facilities. The location of the Corning Preserve Boat Ramp is shown in Figure 4.

¹ Records of Communication can be found in Appendix B

Albany Rowing Center Boat House (B.2, B.4)

The Albany Rowing Center (ARC) Boat House dock is located upstream of the LAB, on the west bank of the Hudson, adjacent to the Corning Preserve Boat Ramp at mile 146.52. In addition to the Albany Rowing Center team, the Albany Irish Rowing Club, Shaker Crew, and private shell owners store their boats and launch from the dock at this location. Due to the proximity of the boat house to the LAB, there are boats rowing through the bridge daily.

The ARC tends to primarily row north, however, they do travel under the bridge as part of their docking practices. If the tide and current are strong, it is safer for them to travel south under the bridge, then turn north to return to the dock through span 1, against the current.

Rowing shells and coaches' launches have a low profile and are not affected by the vertical clearance of the LAB. Due to the angle of approach and the horizontal clearance of the navigable waterway, at most two boats can row under the bridge together, and this is only for skilled rowers/coxswains. The preference for crews rowing out of this boat house would be to increase the horizontal clearance of the bridge.

Rowing shells and launches also have minimal draft. Shaker crew noted that crews are able to row through the six truss spans, and the typical traffic pattern used is northwards through spans 5 and 6, and southwards through spans 2A and 2B, except when docking.

The rowing clubs and teams typically run practices from April to November, multiple times a day. At maximum capacity, the ARC will have 15 to 20 boats on the water in addition to one to five coach launches and Shaker Crew typically has no more than eight shells and three or four coaches launches on the water at the same time. The ARC also holds a summer camp in June, a Learn2Row day in June, and hosts a regatta in September; significantly more boats will be on the water during these events.

The location of the ARC Dock is shown in Figure 4.

RPI Boat House (B.5)

The Rensselaer Polytechnic Institute (RPI) Rowing team dock is located upstream of the LAB on the west bank of the Hudson River, at mile 152.07. The boat house is within the Hudson Shores Park, in Watervliet, NY. During typical practice, they do not row sufficiently south to use the bridge, however there are several weeks in March and April where they do not have access to their boat house. During this time, the team shares space at the ARC boat house, and passes under the bridge daily. It was also noted that during races and regattas in Albany, the race course will pass under the LAB.

Like the ARC, the RPI rowing team noted issues regarding the limited horizontal clearance of the navigable channel.

Hilton Park and Boat Ramp

The Hilton Park and Boat Ramp is owned and maintained by the City of Rensselaer. It is located at mile 146.84, on the east bank of the Hudson River, upstream from the LAB. There are no boat storage facilities at this location. The location of the Hilton Park and Boat Ramp is shown in Figure 4.

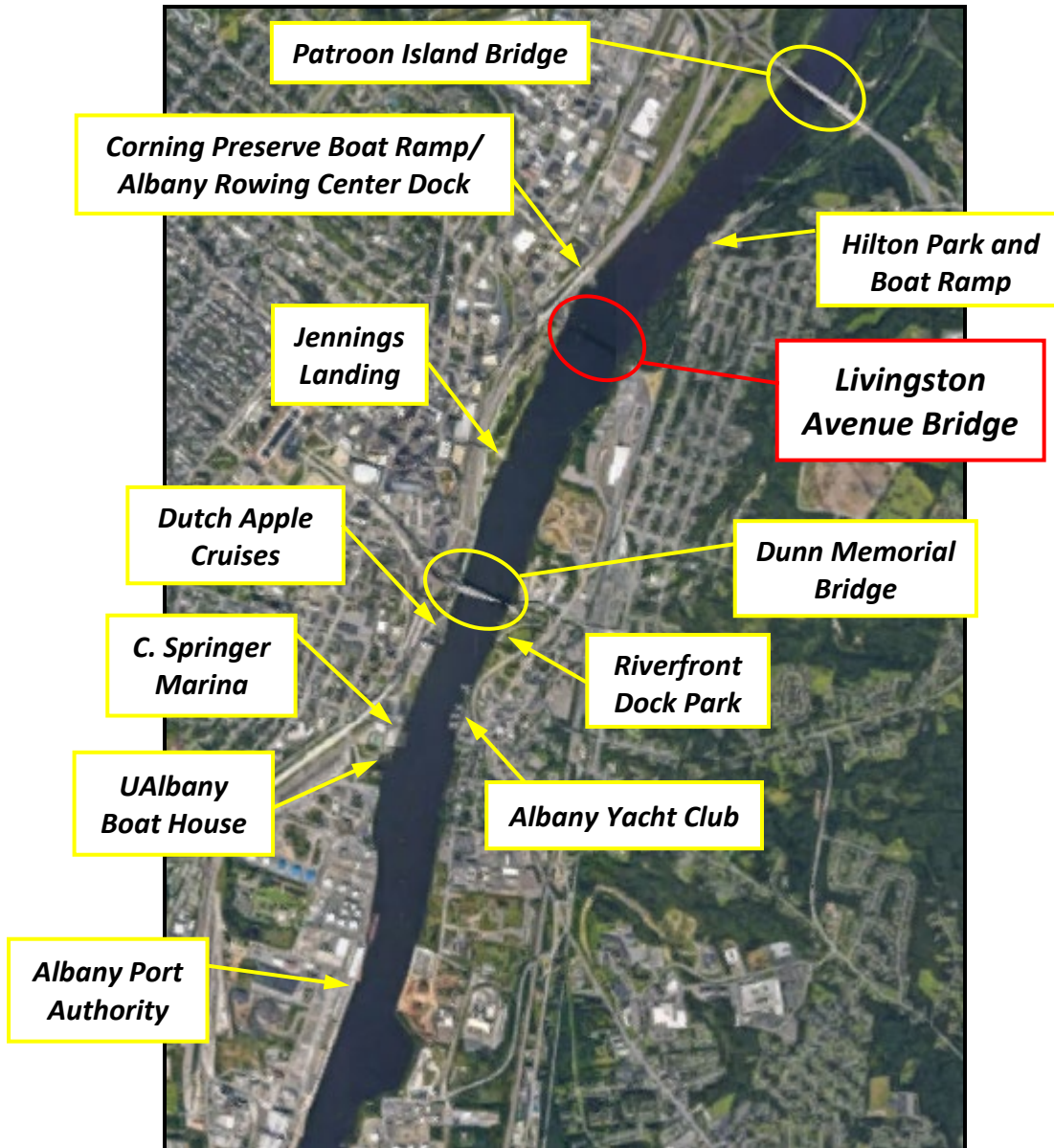


Figure 4: Location Map of Recreational and Commercial Users

3.2 Commercial Users

NYS Marine Transportation (B.6)

NYS Marine Transportation is likely the most frequent user of the LAB. The company docks at the Troy Town Dock and Marina, upstream of the LAB at Hudson River Mile 152.90. The company mainly transports stone from upstate quarries to New York City; the company's tug boats pass through the bridge daily.

The owner of the company has deliberately sized his fleet such that he does not have to rely on the LAB swing span, as he has had issues with the bridge opening in a timely manner. When passing through the bridge, the company leads its barges through the fixed span east of the swing spans. The fixed span has a wider channel opening because it does not have pier protection on the stone piers. The company noted that it was difficult to navigate through the piers, due to their skew in relation to the channel and stream flow (Note: the piers are parallel to the stream flow; this issue is likely derived from the bend in the river upstream of the LAB). The stone piers appear to be losing stones, as noted in the inspection report, and may cause damage to boats from falling masonry.

The company owner expressed interest in increasing the horizontal clearance of the bridge navigable opening.

Coeymans Marine Towing (B.9)

Coeymans Marine Towing operates out of the Port of Coeymans, a privately owned marine terminal; the company sends boats through the LAB approximately 20 times a year (10 round trips). The boats that travel north through the bridge also travel through the Eric Canal, which has more stringent horizontal and vertical restrictions than the LAB. As such, Coeymans Marine Towing does not have any issues with the existing bridge clearances.

Donjon Marine Co., Inc. (B.10)

Donjon Marine Co. Inc. works in many aspects of the marine industry, including transportation and towing. The company sends tugs and barges through the LAB approximately 12 times a year (six round trips). In addition to transporting cargo between Schenectady, NY and Albany, NY or New York City, the company also passes through the bridge when transporting new boats through the canal system from its ship yard on Lake Erie to points south of Albany.

Hudson River Pilots (B.11)

The Hudson River Pilots Association are both Federally and State Licensed Pilots employed to safely and efficiently guide vessels to the ports along the Hudson River. The company is based out of Staten Island and offers pilots for ships, tugs, and barges traveling between Yonkers and Albany. The Hudson River Pilots seldom travel north of the Port of Albany, and do not often pass through the LAB.

Captain JP Cruise Line (B.12)

The Captain JP Cruise Line docks at the Troy Town Dock and Marina, on the east bank of the Hudson River at mile 152.31. The ship used by the company, the Captain JP III, can accommodate 600 passengers and tours the Hudson River in the north and south

directions. The Capt JP III requires the swing span to open when it passes through the LAB; the LAB opens approximately 150 times a year to accommodate the Captain JP Cruise Line.

The Capt JP III has no issues with the existing horizontal clearance of the bridge. The company did note having issues in the past when the swing span would malfunction and become inoperable, resulting in delayed passage. In recent years, Amtrak has kept a maintenance team on site to address issues with the swing span; this has greatly reduced the delays.

Dutch Apple Cruises

Dutch Apple Cruises also takes customers on river tours south and north of its dock in Albany, NY. The boat terminal is located on the west bank of the Hudson, at mile 145.33. The company operates between April and October, and travels through the LAB approximately eight times per month (four round trips). Dutch Apple Cruises did not respond to requests for information. The location of the Dutch Apple Cruises boat terminal is shown in Figure 4.

Hudson Riverkeeper (B.13)

Riverkeeper's mission is to protect the environmental, recreational and commercial integrity of the Hudson River and its tributaries, and to safeguard the drinking water of nine million New York City and Hudson Valley residents. One of its methods of enforcement is through river patrols, which operate from New York Harbor to the Troy Federal Dam. For this purpose, Riverkeeper uses two boats: a 36' long wooden vessel, and a smaller launch, neither of which require the swing span to open to pass through the LAB.

3.3 Agency Contacts

Albany Port Authority (B.17)

The Port of Albany manages the publicly-owned maritime Port of Albany-Rensselaer. No ships from the Port of Albany go through the LAB due to the limited 60' vertical clearance of the Dunn Memorial Bridge (approximately 1 mile north of the Port); however, planned work on the Erie Canal would necessitate the passage of tugs and barges through the bridge. The planned work would be expected to require 40 openings a year. The location of the Albany Port Authority is shown in Figure 4.

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (USACE) operates and maintains the Troy Federal Lock and Dam. The dam is owned by the federal government and located at Hudson River Mile 153.90. It provides access to the Erie and Champlain Canal System. The location of the Hudson River Lock and Dam is shown in Figure 5.

City of Albany Fire and Emergency Services (B.18)

The Albany Fire Department has one fireboat, 36' long, which is docked at the Port of Albany. The fire boat does not require the bridge to open to pass through. The fire department has no plans to expand or acquire more fire boats.

3.4 Existing Upstream Structures

NYS Canals

North of the Troy Federal Lock (Hudson River Mile 153.90), commercial and recreational waterway users may access the Champlain Canal and the Eastern Erie Canal, both starting at Hudson River Mile 156.20. The canal locations are shown in Figure 5.

The Champlain Canal runs north, providing access to Lake Champlain. The canal is approximately 63 miles long, with a 12' minimum depth. The lowest overhead clearance is 17'; the horizontal clearance is typically 200', but narrows to 45' at the locks.

The Eastern Erie Canal leads west from the Hudson for about 160 miles, connecting to the Central Erie Canal and Oswego Canal in the Finger Lake region. The Eastern Erie Canal has a minimum depth of 14'; the lowest overhead clearance is 21'. The majority of the canal provides 200' of horizontal clearance, but is also limited to 45' at the locks.

Hudson River Lock and Dam

The Troy Federal Lock and Dam is owned by the federal government and operated and maintained by the U.S. Army Corps of Engineers. It is located at Hudson River Mile 153.90 and has a single chamber that is 45' wide, 520' long and 17' deep; it lifts boats 15'. The lock is in operation between May 1st and November 30th. The location of the Hudson River Lock and Dam is shown in Figure 5.

Collar City Bridge

The Collar City Bridge carries NYS Route 7 across the Hudson River, spanning between Green Island, NY and Troy, NY. The bridge opened to motor vehicle traffic in 1981. It consists of two parallel steel girder bridges, each carrying four lanes of traffic. Located at Hudson River Mile 153.10, the navigable channel width is 200', and it has an overhead clearance of 61'. The location of the Collar City Bridge is shown in Figure 5.

Green Island Bridge

The Green Island Bridge crosses the Hudson River, spanning between Green Island, NY and Troy, NY; it is located at Hudson River Mile 152.74. This is the third bridge at this location; the first bridge was a rail bridge that burned down, the second was a combination motor vehicle-rail bridge that was taken down after flooding resulted in the collapse of one of its piers. The existing bridge is a steel girder lift bridge that carries motor vehicle traffic only; the navigable channel is 184' wide, and it has a vertical clearance of 29' when closed and 60' when open. The location of the Green Island Bridge is shown in Figure 5.

Congress Street Bridge

The Congress Street Bridge carries NY-2 over the Hudson River between Watervliet, NY and Troy, NY. It is a steel girder bridge located at Hudson River Mile 152.13, with a navigable channel width of 250' and a vertical clearance of 55'. The location of the Congress Street Bridge is shown in Figure 5.

Troy-Menands Bridge

The Troy-Menands Bridge carries NY-378 across the Hudson River, and connects Menands, NY and Troy, NY. Built in 1933 and located at Hudson River Mile 150.18, the bridge consists of several through truss spans. The original construction included two lift towers, however the lifting mechanics were removed in 1966 and the towers were removed in 2000. The navigable channel is 300' wide, and the vertical clearance is 61'. The location of the Troy-Menands Bridge is shown in Figure 5.

Patroon Island Bridge

The Patroon Island Bridge carries six lanes of I-90 over the Hudson River between Albany, NY and Rensselaer, NY. The bridge is a deck truss, completed in 1968 and rehabilitated in 2016. The navigable channel is 200' wide, and the vertical clearance is 60'. It is located at Hudson River Mile 147.07. The location of the Patroon Island Bridge is shown in Figure 5.

3.5 Existing Downstream Structures

Private Parker F. Dunn Memorial Bridge

The Dunn Memorial Bridge carries eight lanes of US-9/US-20, and connects Albany, NY and Rensselaer, NY. The steel girder bridge is located at Hudson River Mile 145.46, and it has a navigable channel width of 300' and a vertical clearance of 60'. The location of the Dunn Memorial Bridge is shown in Figure 5.

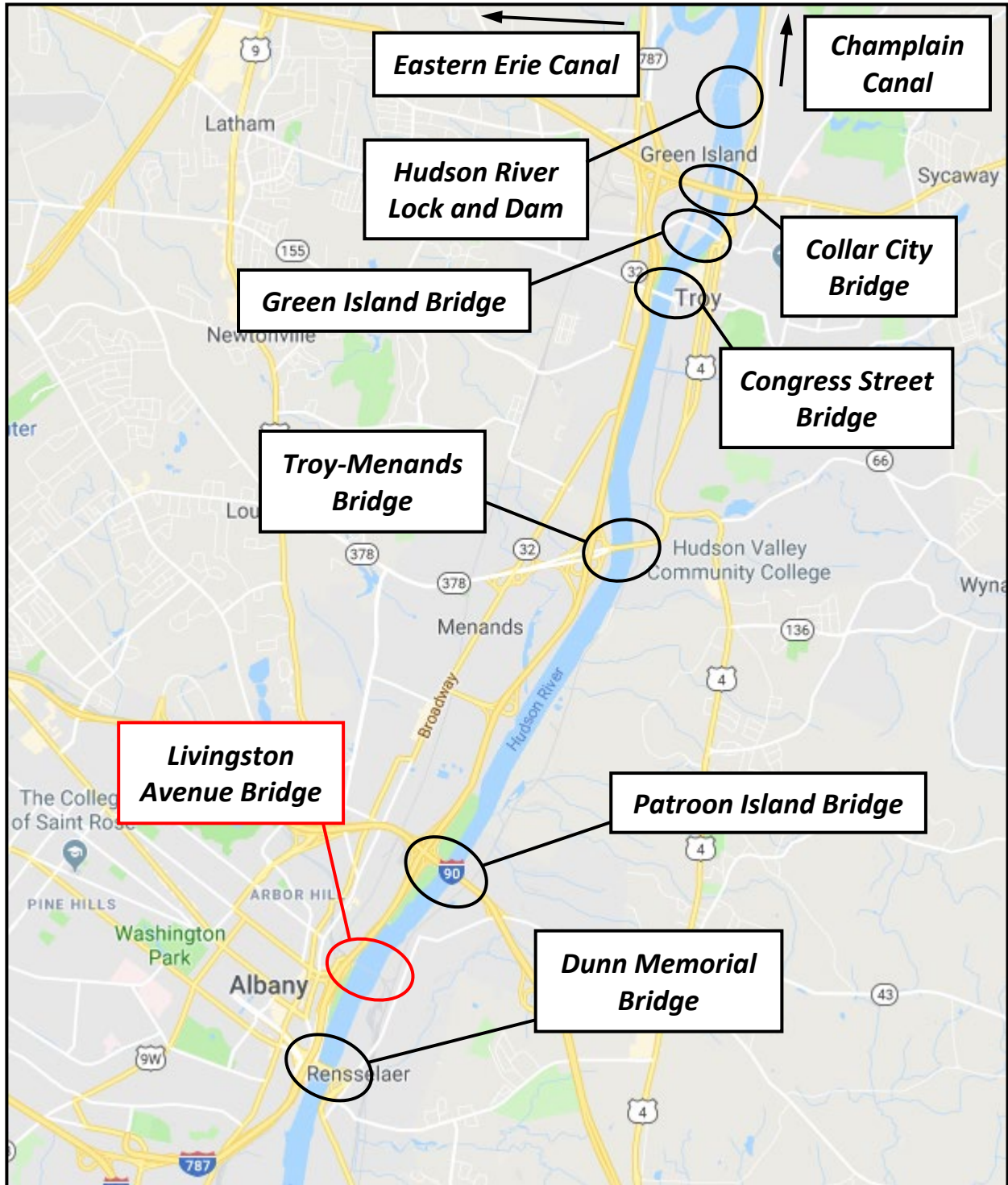


Figure 5: Upstream and Downstream Structure Map

4.0 Summary

4.1 Conclusions

The following conclusions were reached based on survey information and study findings:

- Vessel traffic in the study area of the Hudson River consists of both commercial and private recreational usage.
- The existing bridge opens approximately 300 times a year. The openings are generally during the boating season of April to November.
- Bridge openings of the existing swing span are primarily to accommodate
 - Sightseeing tours by Dutch Apple Cruises and Captain JP Cruise Lines
 - Transportation of construction materials and equipment
- Most recreational users heading north through the bridge, to the NYS Canal system, have already de-masted their boats due to the limited clearance within the canals.
- Private recreational and commercial users both expressed a desire to increase the horizontal clearance of the existing structure.
- Most commercial users avoid using the swing span unless necessary
 - Some commercial users noted that requesting an opening can be unreliable, due to bridge malfunctions or operator responsiveness
 - Many commercial users are traveling north of Rensselaer to work in the Erie or Champlain Canals, which have more stringent horizontal and vertical clearances restrictions than the existing bridge
- The majority of commercial tugs, boats, and barges operating on the Hudson River travel between New York City port and the Port of Albany, downstream of the LAB; they do not require passage through the LAB.
 - Commercial users did state that in previous years, companies did own boats specifically sized to travel through the LAB without requiring an opening.
 - The boats were sold as commercial activity north of Albany became less frequent

4.2 Recommendations

The following recommendations are made for further consideration in developing alternatives as part of Conceptual Design:

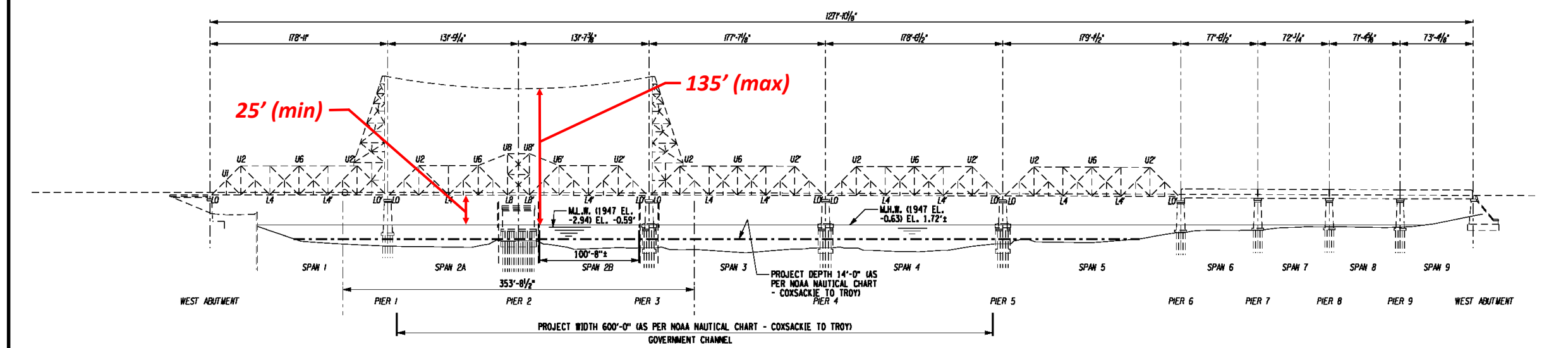
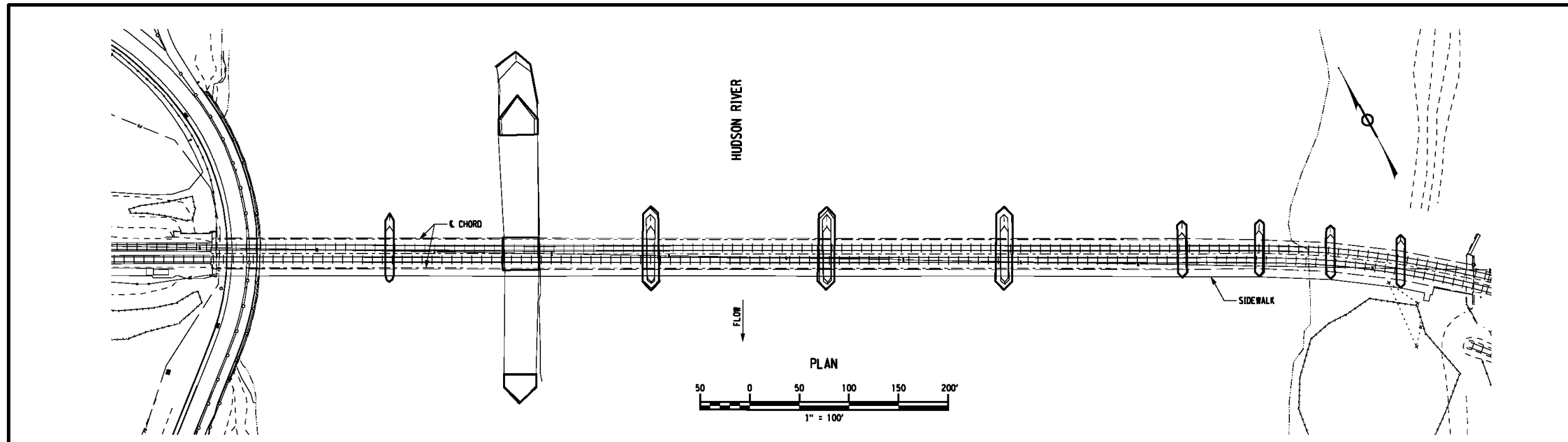
- Based on this study, the new railroad bridge should increase the horizontal clearance of the navigable channel to a minimum of 200 feet to match the existing horizontal clearance restrictions posed by the Patroon Island Bridge. Ideally, the horizontal clearance of the bridge would be increased to 300 feet to match the majority of the navigable channel. An increase in the channel width at the bridge would make passage easier and faster for recreational and commercial users.

- The proposed replacement 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 given the proximity of overhead obstructions in Albany and the station in Rensselaer the additional change in profile is not feasible. While it may not be feasible to provide increases to the closed vertical clearance of the bridge, any improvements to the vertical clearance would benefit commercial users of the bridge.
- Increasing the reliability of the bridge operations – both in regards to mechanical ability and in regard to operator availability – would be greatly beneficial to commercial users that require bridge openings.

Appendix A – Existing Bridge

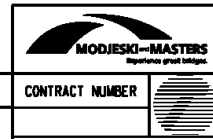
General Plan and Elevation.....A.1

PROJECT MANAGER
 CHECK
 DRAFTING
 CHECK
 DESIGN
 JOB MANAGER
 DESIGN SUPERVISOR
 FILE NAME = FILES
 DATE/TIME = DATE
 USER = ANTUSER



| | |
|--------------------|--------------------|
| AFFIX SEAL: ON: | ALTERED BY: ON: |
| | |

| | | | | | |
|--|----------------|---------|----------|---|-----------------|
| AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS: | PIN 1935.49 | BRIDGES | CULVERTS | ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED | CONTRACT NUMBER |
| | DATE: 02/27/15 | | | GENERAL PLAN AND ELEVATION | DRAWING NO. |
| | COUNTY: ALBANY | | | | SHEET NO. |
| IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION. | | | | NEW YORK STATE DEPARTMENT OF TRANSPORTATION DOCUMENT NAME: | |



Appendix B – Record of Communication

| | |
|--|------|
| C. Springer Welding Works and Marina | B.1 |
| Albany Rowing Center (ARC)..... | B.2 |
| Shaker Crew..... | B.4 |
| RPI Rowing Team..... | B.5 |
| NYS Marine Highway Transportation..... | B.6 |
| Moran Towing | B.8 |
| Coeymans Marine Towing..... | B.9 |
| Donjon Marine Co., Inc. | B.10 |
| Hudson River Pilots Association | B.11 |
| Captain JP Cruise Line..... | B.12 |
| Hudson Riverkeeper..... | B.13 |
| American Rock Salt | B.14 |
| R. J. Valente Gravel..... | B.15 |
| New Castle Paving, LLC | B.16 |
| Albany Port Authority..... | B.17 |
| City of Albany Fire Department | B.18 |

C. Springer Welding Works and Marina
RECORD OF COMMUNICATION



LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|--------------------|
| Job No.: | 1935.49 | Date: | 4/6/2018, 10:50AM |
| Between | Ellen Sweet | Copy: | |
| And | Emily | Of | C. Springer Marina |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

C. Springer Welding Works and Marina – 5 Broadway, Albany, NY
(518) 434-0390
<http://www.springersmarina.com/home.html>

Phone Call Summary:

C. Springer Marina houses mostly small recreational boats that seldom travel through the LAB. The boats kept there tend to be smaller, with larger boats and yachts being stored at the Albany Yacht Club, across the river. As such, they have no issues with the current horizontal or vertical clearance of the bridge.

It was also noted that even for larger yachts traveling north, their destination is typically the NYS canal system, which also has heavy restrictions on vertical clearances, and they are often demasted prior to setting sail.

Albany Rowing Center (ARC)
RECORD OF COMMUNICATION



LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|----------------------|
| Job No.: | 1935.49 | Date: | 4/3/2018, 10:17AM |
| Between | Ellen Sweet | Copy: | |
| And | Heather Evans (board member) | Of | Albany Rowing Center |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

Albany Rowing Center – 883 Broadway, Albany, NY

Albany Rowing Center Boat House – Corning Preserve, Albany, NY

<https://www.albanyrowingcenter.org/>

info@albanyrowingcenter.org

E-Mail Summary:

The Albany Rowing Center (ARC) season typically begins in April (weather dependent), and adults row continuously until mid-November. Juniors may have a week off between spring and summer and summer and fall, but there is activity on the water in some capacity from April through November. Practices run at 5:30AM, 4:00PM and 6:00PM on weekdays, and at 6:30AM and 8:00AM on Saturdays.

At maximum capacity, they may have 15 to 20 rowing shells on the water, with one to five coaches in launches during practice. Rowing shells may range from 8+s (about 60' long) to singles (about 30' long). Shells themselves may be only to 2'-6" wide, but with oars the boats range between 15' and 25' wide, depending on the rowing style. There may also be several independent rowers (in singles or doubles) on the water during practice times.

Rowing shells and coaches launches have a low profile and are not affected by the vertical clearance of the LAB.

It is possible that shells are moving under the bridge daily. The ARC tends to primarily row north, however, they do travel under the bridge as part of their docking practices. If the tide and current are strong, it is safer for them to travel south under the bridge, then turn north to return to the dock through span 1, against the current. Inexperienced rowers who attempt to turn in front of the bridge with a strong tide and current find themselves pulled in to the bridge.

The horizontal clearance on the north and south navigable channels is narrow for multiple crews to clear simultaneously. At most two boats can row under together, and this is only for skilled

rowers/coxswains. The same is true for the span closest to the Albany shore as the land curves toward the pier, causing the pathway to narrow and then widen.

The ARC also noted that they host a Learn2Row day on June 9th, and a regatta on September 22nd. The regatta race course runs through the bridge. In June they also have a Summer Youth Camp which operates between 8:00AM and 12:00PM.

Shaker Crew
RECORD OF COMMUNICATION



LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|---------------------------|
| Job No.: | 1935.49 | Date: | 4/11/2018, 9:28AM |
| Between | Ellen Sweet | Copy: | |
| And | Lisa Merolle (treasurer) | Of | Shaker Rowing Association |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

Shaker Rowing Association

Albany Rowing Center Boat House – Corning Preserve, Albany, NY

<http://www.shakercrew.org/>

info@shakercrew.org

E-Mail Summary:

Shaker Crew rows from April to early June during the spring season, and August to early November during the fall season. For both seasons, rowers are on the water from 4:00PM to 6:30PM on weekdays and 8:30AM to 11:00AM on Saturdays. Shaker Crew does not hold any major regattas that pass through the LAB.

Currently, the team has 30 rowers and 4 Coaches. Typically, no more than eight shells and three or four coaches launches on the water at the same time. They do not expect a significant change in size to the club or fleet in the near future.

Shaker Crew boats pass through the bridge a few times during each practice. At least once, but usually no more than four times. As rowing shells and launches have minimal draft, crews are able to row through the six truss spans. The typical traffic pattern used is northwards through spans 5 and 6, and southwards through spans 1, 2A and 2B, except when docking. To dock, boats travel south through the bridge, then turn and head northward through span 1 to better approach the dock on the west side of the Hudson.

Rowing shells and coaches launches have a low profile and are not affected by the vertical clearance of the LAB. The team does not have any problems with the current bridge, however a reduction in the horizontal clearance would make passage more difficult.

RPI Rowing Team
RECORD OF COMMUNICATION



LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|-------------------|
| Job No.: | 1935.49 | Date: | 4/3/2018, 11:02AM |
| Between | Ellen Sweet | Copy: | |
| And | Paul Neuman (team president) | Of | RPI Rowing Team |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

RPI Rowing Team
<http://crew.union.rpi.edu/>
crewcoaches@union.lists.rpi.edu

E-Mail Summary:

The RPI Crew boat house is located within the Hudson Shores Park in the city of Watervliet. They typically row between the Troy Locks and the I-90 bridge, and do not row far enough to travel through the LAB. However, during the year, races, events and regattas may require them to row through the bridge.

In addition, during late March and early April they do not have access to their boathouse in Watervliet and the team shares dock space with the Albany Rowing Center, which launches from the Corning Preserve. The Albany Rowing Center dock is located 750' north of the LAB; the team is required to pass through the bridge to dock.

RPI Crew has about ten boats, but there are never more than four on the water at one time. They practice between 5:00AM and 7:00AM and 5:00PM and 7:00PM on weekdays. Their seasons run from late August to early November, and late March to early May.

Rowing shells have a low profile and are not affected by the vertical clearance of the LAB.

The team would prefer that the horizontal clearances not be reduced. Decreasing the distances between the piers in the navigable channel would making rowing through the bridge more difficult, due to turbulence effects as water flows around and beyond the piers.

**NYS Marine Highway Transportation
RECORD OF COMMUNICATION**



LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|-----------------------------------|
| Job No.: | 1935.49 | Date: | 4/6/2018, 11:00AM |
| Between | Ellen Sweet | Copy: | |
| And | Rob Goldman | Of | NYS Marine Highway Transportation |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

NYS Marine Highway Transportation – 427 River Street, Troy, NY
(518) 272-5341
<https://nysmarinehighway.com/>
Rob Goldman, (518) 365 – 3305

Phone Call Summary:

NYS Marine Highway Transportation Company is possibly the most frequent commercial user of the LAB. The company transports granite, gravel, and concrete making materials from points north of Albany to New York City, and carries recyclable stone materials north on the return trip. They also transport project cargo from NYC to Troy, and onwards through the canal system. During the navigable season of the Hudson River, Mr. Goldman estimated they make two transits every other day.

The company owns 23 hopper barges and 9 tug boats, two of which are dedicated to river runs between NYC and Troy. At the time of the call, Mr. Goldman estimated that the company transports about 500,000 pounds of stone a year, with the goal for 2018 to be the transportation of 600,000 pounds. In the future he hopes to see the company moving upwards of one million pounds of stone from upstate quarries to New York City.

Mr. Goldman has deliberately sized his fleet such that he does not have to rely on the LAB span to make his runs. This is for two reasons: first, because vertical clearances are more restrictive in the NYS canal system, where he sends boats, and because he has had issues with the bridge opening in a timely manner. He mentioned that sometimes the bridge operators do not answer the phone, or will not open the bridge for him if it is within 45 minutes of a train passing, forcing him to hold his loaded barges upstream.

When passing through the bridge, the company leads its barges through the fixed span just east of the swing spans. The fixed span has a wider channel opening because it does not have pier protection on the stone piers. Mr. Goldman also mentioned having difficulty navigating through the piers, due to their skew in relation to the channel and stream flow. The stone piers are also

spalled and crumbling, and may cause damage to boats from falling masonry. When traveling southwards, he times his passage with the flood tide going south. Traveling northward through the bridge is less arduous.

Mr. Goldman would be very interested in increasing the horizontal clearance of the bridge. He mentioned that an easier passage through the LAB would reduce his shipping costs.

Moran Towing
RECORD OF COMMUNICATION



LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|-------------------|
| Job No.: | 1935.49 | Date: | 4/6/2018, 10:40AM |
| Between | Ellen Sweet | Copy: | |
| And | Brian (dispatch) | Of | Moran Towing |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

Moran New York/New Jersey – 50 Locust Avenue, New Canaan, CT
(203) 442 - 2800
<http://www.morantug.com/site/#/home>

Phone Call Summary:

Moran does not have business north of the Port of Albany. In previous years they did have work at point north of Albany, however in the past year they have not had to send any tugs or ships there.

Dispatch indicated that in previous years, the company owned boats with low profiles specifically for runs to points north of Albany. The boats were able to pass through the LAB when closed. As work north of Albany diminished they have no longer had reason to hold on to them. It was also noted that increases to the vertical or horizontal clearance of the bridge would make it “very possible” that Moran would do more business in Troy and other ports north of Albany.

Coeymans Marine Towing
RECORD OF COMMUNICATION



LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|------------------------|
| Job No.: | 1935.49 | Date: | 4/23/2018, 9:20AM |
| Between | Ellen Sweet | Copy: | |
| And | Michael Calamari | Of | Coeymans Marine Towing |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

Coeymans Marine Towing – 2170 River Road Coeymans, NY,
(518) 756-2164
<http://portofcoeymans.com/services/towing-services/>

Phone Call Summary:

Coeymans Marine Towing operates out of the Port of Coeymans, a privately owned marine terminal. The company mainly works south of the LAB, between Albany and New York City, however they do send boats through the bridge approximately 10 times a year.

Their work north of Rensselaer typically involves traveling through the Erie Canal. Because they must travel in the canal, which has more stringent horizontal and vertical restrictions than the LAB, Coeymans Marine Towing does not have any issues with the existing clearances of the bridge.



Donjon Marine Co., Inc.

RECORD OF COMMUNICATION

LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|-------------------------|
| Job No.: | 1935.49 | Date: | 4/20/2018, 10:15AM |
| Between | Ellen Sweet | Copy: | |
| And | Steven News | Of | Donjon Marine Co., Inc. |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

Donjon Marine Co., Inc. – 100 Central Avenue, Hillside, NJ
(908) 964-8812
<http://www.donjon.com/>

Phone Call Summary:

The Donjon Marine Co. sends tugs above Albany approximately 6 times a year, for a total of 12 trips through the LAB. The company owns 16 tugs and approximately 40 barges. Typically, only one tug boat travels north through the bridge: the Rebecca Ann.

Donjon Marine Co. also owns a ship yard on Lake Erie, and utilizes the canal system to transport newly constructed boats to New York City (if clearances allow). They also work in transporting cargo for General Electric from Schenectady, NY to Albany, NY or New York City.

The Rebecca Ann does require the swing span to open to pass through, and Mr. News had no recollection of difficulties with the bridge operation or requesting an opening. The company has no issues with the existing horizontal clearance.



Hudson River Pilots Association
RECORD OF COMMUNICATION

LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|---------------------------------|
| Job No.: | 1935.49 | Date: | 4/5/2018, 4:25PM |
| Between | Ellen Sweet | Copy: | |
| And | Ian Cochran | Of | Hudson River Pilots Association |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

Hudson River Pilots Association – 201 Edgewater Street, Staten Island, NY

(718) 815-4316

<http://www.hudsonriverpilots.com/index.html>

Ian Cochran – (845) 987 – 6673

Phone Call Summary:

Mr. Cochran noted that the Hudson River Pilots seldom travel upstream of the Port of Albany, which is located downstream of the LAB. As such, they do not often pass through the bridge.

Captain JP Cruise Line
RECORD OF COMMUNICATION



LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|------------------------|
| Job No.: | 1935.49 | Date: | 4/12/2018, 1:20PM |
| Between | Ellen Sweet | Copy: | |
| And | Jim Pledger | Of | Captain JP Cruise Line |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

Captain JP Cruise Line – 278 River Street, Troy NY
(518) 270-1901

Captain Jim Pledger – (518) 470 - 5208

<http://captainjpcruise.com/>

captjp@verizon.net

Phone Call Summary:

Captain JP Cruise Line operates sightseeing river tours in the Albany-Rensselaer stretch of the Hudson River. They currently have one boat in the company, the Capt JP III, which is 150' long with a 55' vertical clearance. The Capt JP III typically docks and launches out of the Troy Town Dock & Marina. The company offers cruises from May to October.

As the boat exceeds the vertical clearance of the bridge, LAB must swing open for the Capt JP III to pass. Mr. Pledger estimates the cruise line passes through the bridge up to 150 times during the summer. It is likely that Captain JP Cruise Line is one of the most frequent users of the swing span.

The Capt JP III has no issues with the existing horizontal clearance of the bridge. In the past, his cruises have been delayed by issues with the swing span, where the swing span was inoperable due to mechanical or electrical issues. This would result in long periods of waiting, as a maintenance crew would have to travel to the LAB. In recent years, Amtrak has maintained an on-site repair team, and the cruise line has not been hampered by bridge operation problems.



Hudson Riverkeeper
RECORD OF COMMUNICATION

LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|--------------------|
| Job No.: | 1935.49 | Date: | 4/6/2018, 12:50PM |
| Between | Ellen Sweet | Copy: | |
| And | Neil Gulley | Of | Hudson Riverkeeper |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

Hudson Riverkeeper – 20 Secor Road, Ossining, NY
(800) 217-4837
<https://www.riverkeeper.org/>

Phone Call Summary:

The Hudson Riverkeeper travels through the LAB as part of its monthly patrol, and therefore passes under the bridge a minimum of twice a month. Riverkeeper maintain two patrol boats, the R. Ian Fletcher, a 36' long wooden vessel, and a smaller launch. Neither boat requires the swing span to open to pass through the bridge. Riverkeeper has no current plans to expand the size of its patrol fleet.

American Rock Salt
RECORD OF COMMUNICATION



LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|--------------------|
| Job No.: | 1935.49 | Date: | 4/3/2018, 9:50AM |
| Between | Ellen Sweet | Copy: | |
| And | Jenny (HR) | Of | American Rock Salt |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

American Rock Salt Co., LLC

Marketing & Finance Office – 3846 Retsof Road, Retsof, NY

(585) 243-9510

Storage Lot – 7 Adams St, Troy, NY

<https://www.americanrocksalt.com/>

Phone Call Summary:

American Rock Salt Co. owns a lot on the east side of the Hudson River, which it uses for salt storage. The lot is approximately 5¼ miles upstream of the LAB (approximately ½ mile south of the Congress Street Bridge. All shipping through American Rock Salt is done via train; they do not ship materials on the Hudson River.

R. J. Valente Gravel
RECORD OF COMMUNICATION



LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | |
|---|-------------------------|
| Job No.: 1935.49 | Date: 4/11/2018, 3:00PM |
| Between Ellen Sweet | Copy: |
| And | Of RJ Valente Gravel |
| Subject: Livingston Avenue Railroad Bridge Navigation Study | |

Contact Information:

R. J. Valente Gravel, Inc. – 1 Madison Street Troy, NY
(518) 432-4470
<http://rjvalente.com/>

Phone Call Summary:

R. J. Valente Gravel owns a lot on the east side of the Hudson River, which is the location of their corporate offices, and is also used for material storage - gravel, sand and stone. The lot is approximately 5¼ miles upstream of the LAB, and approximately ½ mile south of the Congress Street Bridge. R. J. Valente Gravel does not ship via the Hudson River. The company ships via truck.

New Castle Paving, LLC
RECORD OF COMMUNICATION



LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|-------------------|
| Job No.: | 1935.49 | Date: | 4/2/2018, 3:15PM |
| Between | Ellen Sweet | Copy: | |
| And | | Of | New Castle Paving |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

New Castle Paving, LLC – 1 Madison Street Troy, NY
(518) 275-0226
newcastlepaving.com

Phone Call Summary:

New Castle Paving is owned by R.J. Valente Companies, and shares its location with R.J. Valente Gravel. The lot is approximately 5¼ miles upstream of the LAB, and approximately ½ mile south of the Congress Street Bridge. All shipping through New Castle Paving is done via truck; they do not ship materials on the Hudson River.

Albany Port Authority
RECORD OF COMMUNICATION



LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|-----------------------|
| Job No.: | 1935.49 | Date: | 4/2/2018, 1:45PM |
| Between | Ellen Sweet | Copy: | |
| And | Richard Hendrick (General Manager) | Of | Albany Port Authority |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

Albany Port Authority – 106 Smith Boulevard, Albany NY
518 – 463 – 8763
<http://www.portofalbany.us/index.php>

Phone Call Summary:

The Port of Albany/Rensselaer is located on the west bank of the Hudson River, approximately 2 miles south of the LAB. It is located at the crossroads of an extensive interstate highway network that provides access to major U.S. and Canadian industrial markets, and is in close proximity to multiple railroads.

No ships from the Port of Albany go through the LAB, due to the limited 60' vertical clearance of the Dunn Memorial Bridge (approximately 1 mile north of the Port). At the time of the call, no tugs or barges were scheduled to pass through the LAB. In the upcoming year, however, planned work on the Erie Canal, accessed through the Mohawk River, would necessitate the passage of tugs and barges through the bridge. Mr.Hendrick estimated that one opening a week would be required during the course of this planned work, or approximately 40 openings a year.

**City of Albany Fire Department
RECORD OF COMMUNICATION**



LIVINGSTON AVENUE BRIDGE REPLACEMENT/REHABILITATION PROJECT

| | | | |
|----------|--|-------|--------------------------------|
| Job No.: | 1935.49 | Date: | 4/3/2018, 3:50PM |
| Between | Ellen Sweet | Copy: | |
| And | Executive Deputy Chief Toomey | Of | City of Albany Fire Department |
| Subject: | Livingston Avenue Railroad Bridge Navigation Study | | |

Contact Information:

Albany Fire Department Headquarters

26 Broad Street, Albany, NY 12202

Joseph J. Toomey, Executive Deputy Chief, (518) 447-7879

<https://www.albanyny.org/Government/AlbanyNewYorkCityDirectory.aspx>

Phone Call Summary:

The Albany Fire Department has one fireboat, 36' long, which is docked at the Port of Albany. The fire boat passes below the LAB with "plenty" of clearance, and does not require the bridge to open to pass through. The fire department has no plans to expand or acquire more fire boats.

If necessary, the fire department can also launch a separate zodiac boat (a small, inflatable craft with an outboard motor). The zodiac boat is launched from the Corning Preserve.

The fire department has no issues with the existing bridge.

Appendix C – Site Photos



Photo C.1: LAB Swing Span Elevation, Looking South



Photo C.2: LAB Elevation, Looking South (Dunn Memorial Bridge in Background)



Photo C.3: LAB Looking East (Amtrak Maintenance Yard in Background)



Photo C.4: LAB Elevation, Looking North-West (Corning Preserve Boat Ramp and ARC Dock in Background)