

CCE AWARDS 2020

Highway 15 Twinning: North Saskatchewan River Bridge

Twinning of Highway 15 in Fort Saskatchewan includes a new highway bridge and architectural underslung pedestrian bridge over the North Saskatchewan River. Roadway and bridge planning, as well as detailed design, was fast-tracked for this project to address heavy congestion and safety issues for this strategically important corridor between Edmonton and Alberta's Industrial Heartland region. AECOM delivered this Quality Based Selection project within just 14 months by working collaboratively and innovatively with multiple stakeholders.

Innovation

Project Overview

Highway 15 leading into and within the City of Fort Saskatchewan is used daily by thousands of Albertans. Alleviating the heavy congestion on this section of roadway over the North Saskatchewan River will support local and provincial economic development by improving access to existing and planned developments and will allow for safe and efficient movement of goods and people. As such, in the Fall of 2017, the Alberta Government announced their commitment to twin this section of highway, which includes a new river crossing connecting Edmonton and Alberta's Industrial Heartland region.

Shortly thereafter, Alberta Transportation (AT) issued a Qualifications Based Selection (QBS) RFP to pre-qualified consultant firms to twin Highway 15 over the North Saskatchewan River. This complex and fast-tracked project was an ideal candidate for QBS delivery. Awarding based on qualifications allowed AT to ensure the selected firm had the necessary skill set to tackle the project's extremely demanding schedule and technical challenges. The ability to collaborate on scope prior to negotiating fees and to fully understand the goals of the project was instrumental to getting the project started off in the right direction.

The Highway 15 Twinning project involves a new 330 m long bridge over the North Saskatchewan River with an innovative underslung pedestrian bridge that connects to trails on both riverbanks, as well as roadway, retaining wall and other bridge work on both sides of the river. Planning studies, stakeholder and utility coordination, architectural design, geotechnical investigations, hydrotechnical design, drainage design, environmental permitting, lighting design and prequalification of contractors were all key components of the project during the design phase.

AECOM Canada Ltd. was responsible for the design and management of the entire project. Subconsultants on the AECOM team included Tetra Tech Canada Inc. who provided extensive geotechnical input, Terrace Engineering Ltd. for bridge planning, HFKS Architects Inc. for architectural input and Great Northern Engineering Consultants Inc. for lighting design. AT, in their role as the Client, provided valuable input and feedback during the entire design process. Other major stakeholders who had significant contributions included the City of Fort Saskatchewan, Sturgeon County and the River Valley Alliance (RVA).

"QBS resulted in a collaborative agreement in scope, effort, and fees. This greatly helped in avoiding design change requests and provided a firm and consistent funding forecast model for Alberta Transportation." | Dr. Ashfaq Khan | Construction Section, Alberta Transportation



>> East End of New Bridge in Foreground and Existing Truss Bridge Behind





This project is being submitted for a CEA Showcase Award for successfully delivering a complex quality design under an extremely demanding schedule while excelling in the areas of innovation, project management, safety, client satisfaction and environmental stewardship. This project, with a tagline of "Getting Albertans Home Faster," is one step closer to the finish line because of the team's innovative approach and commitment to delivering a high quality design in just over 1 year; when historically projects of this magnitude typically take upwards of 3 or 4 years to plan and design.

The construction contract was awarded to Alberco earlier this year, with the Year 1 berm fully constructed by September and piling and cofferdam construction

well-progressed. Construction is scheduled to be completed in 2022, at a total cost of approximately \$60 Million.

Technical Innovation

Alberta Transportation recognized the significant number of milestones that needed to be met to achieve the aggressive schedule and challenged AECOM to be innovative in their approach to managing the project such that it could progress as quickly as practicable. Both parties realized that the traditional planning and design process needed to be modified to reduce the project timelines while not compromising on the technical attention to detail and reporting requirements. Key decisions were made by preparing technical





>> One of Two 10m Wide x 10m Long Lookouts along the Length of the Pedestrian Bridge

memorandums and presentations, and holding lengthy meetings in a working group format with all of the AT and AECOM staff in attendance that were required to contribute to the technical discussion and make these decisions. This was followed-up by documenting the background and decisions in the usual reports and reduced the schedule by many months because the reports were not required prior to decisions being made. These meetings relied upon working collaboratively and evaluating the risk of making decisions too prematurely, and were used to decide on key items such as the side of twinning, the span arrangement of the river bridge and the type of foundations.

The roadway vertical alignment design was very challenging to meet all of the site constraints and was another aspect of the project that was explored and decided upon between AT and AECOM as part of meetings during the design process. The existing bridge is on a large radius crest curve with a large portion of the bridge on a very flat grade and both abutments at the same elevation. AT practice for new bridges is to provide a minimum 1% grade along the entire length of the bridge to provide a minimum standard for deck drainage for safety purposes and to reduce the amount of salt-laden water that can eventually permeate through the deck protection system to cause structural deterioration. This resulted in bridge profile options with one or both abutments at a significantly different elevation from the existing bridge. It would have been preferred to keep both abutments as low as possible in order to pass beneath the CN and Jail Road Bridges on the west and east sides of the river, respectively. However, the roadway elevation needed to be high enough to allow for adequate structure depth and to provide sufficient headroom over Lamoureux Drive and sufficient freeboard above the design high water level. An

innovative solution was reached whereby the girders taper in height over a large portion of the bridge length and, while the deck elevation drops towards the west end of the bridge at 1%, the underside of the highway bridge and the underslung pedestrian bridge maintains a constant elevation. As well as allowing for all of the geometric requirements and safety standards to be met, the position of the piers (span arrangement) that was required to optimize the structural efficiency of the tapered superstructure also had significant benefits. The deeper structure at the east end of the bridge allowed the piers to be positioned further apart within the river itself and away from the deepest portion of the river entirely. This resulted in less in-stream work and reduced construction risk, schedule and cost, as well as a smaller environmental footprint.

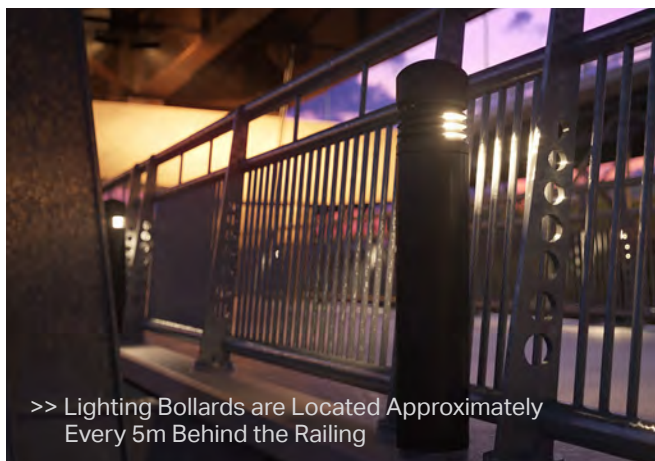
As a result of the differences in gradeline between the existing highway, which will become the westbound lanes, and the twinned alignment for the new eastbound lanes, it was very important to visualize the roadway geometry. This was achieved by creating a video animation of the entire design to show the design from a motorist's perspective.

Funding for the underslung portion of the bridge is coming from the River Valley Alliance (RVA) and they required a high level of architectural appeal to enhance the user experience. We feel that innovation and technical excellence extends to this aspect of the project as the architectural elements will be impactful using only simple and cost-effective measures that are already familiar to bridge Contractors using standard construction methods and materials. Concrete reveals are used extensively to break up large concrete faces



>> Typical Pier and Walkway Lighting

and the truss-shape theme chosen compliments the adjacent truss bridge and recognizes the historically significant railway truss bridge that used to be carried by the abandoned piers that are visible just upstream from the new bridge. Large bronze plaques are incorporated into the architectural elements of the bridge, some of which show an image of the old railway river bridge, as well as others that give recognition to the RVA, the City of Fort Saskatchewan, Sturgeon County and Alberta Transportation. An impactful railing with anti-climb geometry and two large lookouts with custom precast concrete benches add to the bridge's appeal and functionality. Lighting has been carefully designed to enhance the curb appeal of the bridge, with soft, low-level lighting from bollards creating an interesting shadow pattern of the railing on the deck and floodlights used to highlight the reveal patterns on the pier caps and to light up the opening through the piers. AECOM added contract requirements such as the use of polyurethane form liners and the fabrication of a sample railing section, bench and plaque to help ensure the quality of execution of these architectural elements.



>> Lighting Bollards are Located Approximately Every 5m Behind the Railing

The design of the bridge incorporates a number of new details that will provide added value and benefits for

future bridge projects in Alberta. The deck expansion joint is cast into position after all joint rotations have occurred due to superimposed dead loads. This requires heavy vehicles including concrete trucks and paving vehicles to drive onto the bridge over a temporary support at the joint locations. The advantage of this approach is that the tight gap tolerances between the finger joint plates can be more easily achieved to reduce structural fatigue of the fingers. The design also allows the two halves of the joint to articulate when they are cast into place compared to the current design standard where the joint is not free to move until the concrete has achieved 'initial set'. This prevents a previous issue of thermal movements causing cracks and gaps within freshly poured joint blockout concrete which becomes a location for premature joint deterioration and failure. This new joint design is being standardized by AECOM for use on all future AT projects using cover-plated deck joints.

The west end of the pedestrian bridge has an access ramp that extends beneath the existing bridge. Micropiles were designed to allow for cased pile installation within the restricted headroom and specifications were developed to cover all aspects of their construction. This foundation type is not covered by AT's standard specifications and this project will be a useful reference for future projects where there are benefits of using micropiles.

Project Management Innovation

Managing risk started prior to AECOM getting involved with the project. Due to the expected complexity and demanding schedule that the Highway 15 Twinning project entailed in order to have a design ready for construction in 2019, AT procured engineering services through a Qualifications Based Selection (QBS) process. This enabled the Client to award the project based on qualifications to ensure the preferred proponent had the necessary experience and skill set required to perform

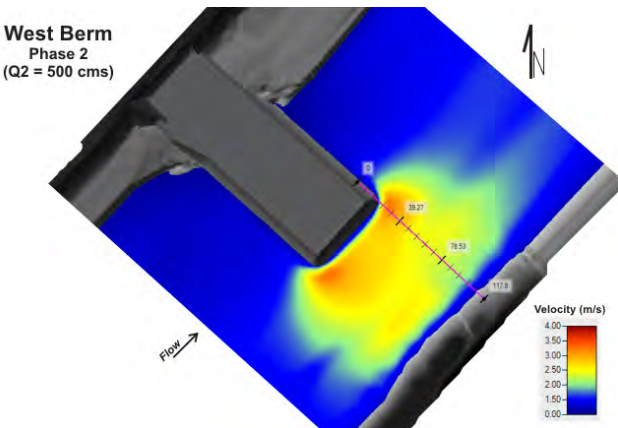
the work. In addition, the QBS process allowed for detailed discussions on scope and project components prior to setting fees. It also allowed both AECOM and AT to become knowledgeable with project requirements prior to project kickoff, which supported a quick start.

After project award, AECOM took over project execution. From the outset, the key to successfully delivering the design of this complex, multi-disciplined, fast-tracked project was a well-executed Project Management Plan (PMP) that fostered trust between AECOM's team, AT and other major stakeholders. Examples of the overall approach to management included:

- A team approach to project management, with an experienced bridge project manager as overall PM supported by an experienced roadway project manager as Deputy PM, allowed multiple actions to be handled concurrently;
- Early engagement of all stakeholders with regular communications resulted in early input and successful 'buy-in' at the beginning of the project;
- Effective communication through regular progress meetings and fast-track decision meetings with AT and external stakeholders allowed key actions and decisions to be made in a timely manner. Fast-track meetings included technical presentations to provide overviews of the topic, then a round table discussion, followed by a decision-making process by the main decision makers from each group to come to an agreement on the way forward. Examples of major fast track decisions that had significant schedule benefits included selection of which side of the existing river bridge to twin Highway 15, the bridge span arrangement, the preferred highway gradeline and the bridge foundation type; and
- Monthly project management reports summarizing work both completed and forecasted, listing outstanding issues and providing detailed overviews of project finances and schedule. Maintaining a project action log kept the team accountable and the project on track.

Managing and documenting project risks was also critical for the team's ability to discuss and make key decisions. A project risk register was utilized and updated regularly to help guide the team in making informed risk-based decisions. Over 30 major risks were identified and mitigated during the design phase. Key examples included:

- Identifying the need to prequalify general contractors, based on the specific attributes required for this project, to help reduce project risks during construction. AECOM developed a Request for Qualifications (RFQ) document for AT to solicit submissions.



>> Berm Construction Velocity Modelling



>> Image from One of Three Construction and Traffic Monitoring Cameras

Hwy 15B Twinning - CON0019236							AECOM
Action Log - Revised 11-Sept-2018							
ACTION REQUIRED	RAISED BY	DATE RAISED	ACTIONEE	REQUIRED BY WHEN?	ACTUAL DATE PROVIDED	Status	RESOLUTION
RMA detailed design - AT to approve.	AECOM Progress Meeting 5	7-Sep-18	Andrew Khan	16-Sep-18		Pending	
AECOM to submit a revised baseline schedule to AT	AT PM Meeting	7-Dec-17	Don	ASAP	18-Dec-17	Closed	Revised baseline submitted 14-Dec-17
AECOM to print AT threat copies of the proposal	AT PM Meeting	7-Dec-17	Don	Jan-2018	16-Jan-18	Closed	3 Proposal copies provided to AT in January 2018.
AECOM to contact WSP (Craig) to review CADD files for the Hwy15/15B intersection project and info on ROW/land requirements	AT PM Meeting	7-Dec-17	Don	8-Aug-13	Jan-2018	Closed	Clear Corridor received from WSP in January 2018.
AECOM to circulate a "Stakeholder" document in latest one day prior to the LPS meeting	AECOM B-stations	5-Jan-18	Don	11-Jan-18	11-Jan-18	Closed	Sent via e-mail on 11-Jan-18
AECOM to submit an approved schedule to AT	AT e-mail	13-Jan-18	Don	May 2018	11-May-18	Closed	
AECOM to finalize and document the LPS discussions including discussions with the City of TS and CH into the LPS Report and submit to AT for documentation	AECOM LPS Meeting	15-Jan-18	Don	Feb-2018	5-Apr-18	Closed	AECOM submitted draft to AT Feb 27. Meeting to review comments on Mar 2. AECOM to finalize by March 16th. Waiting on any further comments from AT. AECOM sent signed version 4/2/18.
AECOM to forward RMA Highway plans to the City of TS	City Meeting	16-Jan-18	Don	April 2018	16-May-18	Closed	Proton sent to AT in April for comments. AT provided comments May 9. AECOM responded May 10. Discussion needed.
AECOM to forward design AECOM to consider amount of base layer in bridge to remove and replace. Let City know.	AECOM City Meeting	16-Jan-18	Don/Don	April 2018	11-May-18	Closed	AECOM met meeting with City 19 April 11 to keep them updated on Project Design concepts. Proton design sent to AT for review, all box beam needs to be reviewed for design. AT reviewed. Steps to be sent to City.
AECOM to forward standard B1 plan to the City in Twinning	AECOM City Meeting	16-Jan-18	Don	31-Jan-16	7-Feb-18	Closed	Don forwarded updated B1 information to Grant / City Public Works.
City related preferences in understanding MJT Bridge. Grant going to bring this item up with Council and provide confirmation to AECOM the week of January 22nd, 2018 that the City's complete preference and agreement to the understanding and... Grant to coordinate meeting with Sturgeon County and the RMA to discuss MJT.	AECOM City Meeting	16-Jan-18	Grant	ASAP	2-Feb-18	Closed	Grant confirmed via e-mail on 23-Feb-18. Grant scheduled meeting at Twin.

>> Project Action Log



>> Access Ramp at West End of Pedestrian Bridge

- Recognizing possible scour risks on the existing bridge spread footings during construction as a result of restricting the river with berms that are required for constructing the new river bridge foundations. Risk mitigations included conducting additional velocity analyses and comparing scour potential with and without berms in the river to come up with risk responses to reduce scour impacts. These included restricting instream works to times of the year with lower water levels and adding a scour monitoring program during construction.
- Early identification of over 40 potential utility conflicts including high pressure gas pipelines, critical water commission supply lines, sanitary lines, power lines and telecommunications lines allowed the team to engage with utility companies early and create and maintain a utility tracking matrix. This helped secure the necessary crossing agreements and utility relocation agreements ahead of construction.
- Geotechnical investigations for the river bridge required construction of an ice bridge in the river. Careful risk management related to ice thicknesses and ice breakup mechanisms were needed to safely perform the operation. Obtaining the test hole information out in the river was critical for the bridge design schedule. The team executed the drilling within a narrow timeframe when temperatures were cold enough to construct and maintain the ice bridge.



>> Ice Bridge for Geotechnical Investigations, February 2018

- Construction monitoring cameras were identified as a risk management tool for the construction phase of the project. The cameras monitor site activities for the North Saskatchewan River Bridge and along the busy Highway 15 corridor leading into the City of Fort Saskatchewan. This will help with risk identification during construction and provide a detailed record of site activities.

As a result of implementing a comprehensive PMP, communicating effectively and in a timely manner with AT and external stakeholders, and proactively managing project risks, the project team delivered the Highway 15 Twinning design in just over 1 year.

"AECOM successfully delivered the tender package for this complex, multi-disciplined, fast-tracked project. Early and continual communication with stakeholders, timely response to identified project risks, and excellent execution of Project Management Plan were the keys to successfully completing the tender package". | Dr. Ashfaq Khan | Construction Section, Alberta Transportation



Environmental Benefits

The project team had two environmental goals at the outset of the project. The first, to minimize environmental impacts during construction and secure all required permits/approvals, and the second, to leave a long-lasting environmental benefit.

Minimizing environmental impacts / securing all required permits / approvals:

Prior to the start of design, AT conducted an Environmental Evaluation, which allowed the design team to consider environmental constraints and impacts in the planning phase when determining on which side of the existing highway to twin.

The most significant environmental impact identified was constructing the new river bridge piers, which

utilize earthen berms for access. The design team was conscious to minimize the number of permanent piers in the river compared to the existing bridge to reduce permanent habitat loss for fish. To limit environmental risks with constructing the earthen berms in the river, the team mandated instream work timelines between August and March of the following year for each year of construction when river flows are lower to reduce the probability of the berms being overtopped. The team also specified minimum construction and material specifications to limit turbidity during berm installation.

Semi-permanent marsh land (wetlands) exist on both sides of the existing highway east of the river, so the team took extra precaution to minimize the amount of temporary and permanent wetland disturbance during the twinning design.

The project team's approach to securing regulatory permits prior to tendering involved proactive, early engagement with each regulator along with the development and maintenance of an environmental tracking matrix. This allowed AECOM to discuss the project and incorporate feedback from the regulators during the design and in application submissions to speed up review periods. In addition, these steps allowed contractors bidding on the work to become familiar with the requirements and conditions laid out in the permits.

The team secured all required environmental permits prior to construction including the Fisheries Act Authorization, the Navigable Protection Act Approval, the Historical Resources Act Approval, the Water Act Approval for the bridge and wetland disturbances, the Public Lands Act Approval for the river crossing and the Code of Practice Notification for instream works.

Lasting environmental benefits:

Long traffic jams with idling vehicles are a common occurrence on the existing bridge as thousands of people make their way to and from Alberta's Industrial Heartland region. By building a new river bridge, traffic will keep moving, which will reduce carbon emissions and improve the well-being of Albertans by reducing the length of time they spend in their vehicles and allowing them to spend more time with their families.

The underslung pedestrian bridge will provide a sustainable transportation option over the river for cyclists and pedestrians in the Fort Saskatchewan area. Currently, the only option is to drive across the river.

When complete, the underslung pedestrian bridge will also

provide one of the key connections for the River Valley Alliance's "Ribbon of Green" vision, which is for a continuous network of river valley trails from Devon to Fort Saskatchewan.



>> West Berm Construction, September 2019

Meeting Client's Needs

Highway 15 leading into and within the City of Fort Saskatchewan is used daily by thousands of Albertans. Alleviating the heavy congestion on this section of roadway will support local and provincial economic development by improving access to existing and planned developments and will allow for safe and efficient movement of goods and people. As such, in the Fall of 2017, the Alberta Government announced their commitment to twin this section of highway, which includes a new river crossing connecting Edmonton and Alberta's Industrial Heartland region. As part of this announcement, the government advised the public that construction could start as early as 2019. Meeting the aggressive design schedule that was required for construction in 2019 was the Client's main project goal. In order to achieve the overall design schedule, it was very important to make sure that the multiple stakeholders signed off on the initial bridge and roadway planning phase of the project. The planning phase included negotiations with CN Rail to lengthen one of their bridges, coordination with several utility companies and agreement with the City of Fort Saskatchewan on the urban roadway portion of the project.

Reducing construction risk was another key project goal. This was achieved by prequalifying general contractors, based on the specific attributes required for this project. In addition, AECOM made sure that utility crossing agreements and environmental permits were in place prior to construction award and that mitigations were in place for risks such as scour of the existing bridge piers during construction.

Complexity

Delivering the entire scope of the project within the compressed schedule with so many inter-dependencies presented a considerable challenge that was overcome by focussing on regular communication and active engagement with all stakeholders to get their vested interest and participation in the project. The project relied upon regular approvals to move the project forward from the City of Fort Saskatchewan, Sturgeon County and the River Valley Alliance, utility companies including ATCO, Fortis, TELUS, the Water Commission, regulatory agencies including Transport Canada, Fisheries and Oceans Canada, Alberta Environment, Alberta Culture, and other stakeholders such as CN Rail and private landowners.

While the focal point of the project is the new river bridge, the overall project included the following aspects, which added considerably to the degree of difficulty:

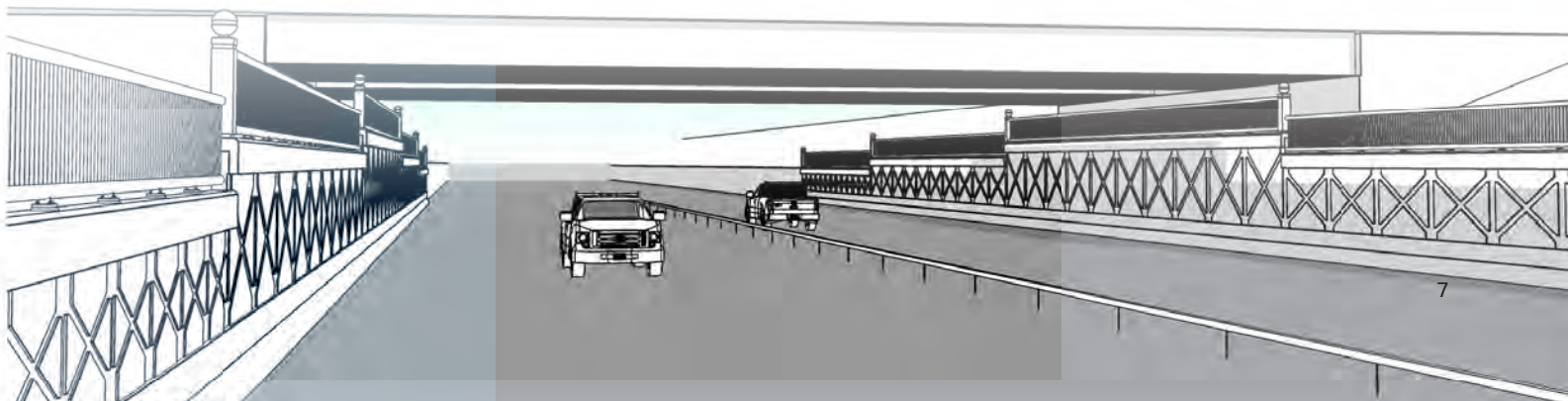
- Highway twinning to the west of the river ties into a portion of Highway 15 that is currently being twinned under a separate project requiring additional design coordination;
- Highway twinning beneath an existing CN Rail bridge required AECOM to design two additional bridge lengthening spans. The design allows for CN to maintain their operations throughout construction and this bridge will be constructed under a separate contract, but within the same timeframe as the highway twinning, which required careful coordination planning; and
- Highway widening from 2 lanes to 4 lanes on the east side of the river within a constrained urban corridor, which required the design of soil nail retaining walls that will be constructed from the top down in order to retain the fills at the abutments of two City of Fort Saskatchewan bridges. This design concept has allowed these bridges to be kept rather than replaced, thus reducing project costs and public impacts.

The underslung pedestrian bridge design was technically very challenging. The relatively narrow roadway bridge above limited the inclination of the hanger supports to close to vertical and therefore limited the lateral support that they provide. The shallow structure depth resulting from vertical geometric constraints, coupled with the need to eliminate deck edge curbs for drainage purposes along the flat grade of the pedestrian bridge deck, results in a structure that has limited lateral stiffness. These factors, combined with a considerably long span of 95 m between two of the piers, made for a challenging design to satisfy wind and pedestrian induced vibration limitations. Rigid sway frames were added at intervals along the length of the bridge to help transfer the lateral loads to the comparatively stiff roadway bridge above, and in-depth analysis was performed to make sure that resonance would not occur and that the amplitude of vibrations will not cause user discomfort. Confidence in the accuracy of this analysis was important because of the difficulty in implementing any retroactive modifications. A retroactive approach is common in these situations due to the difficulty of accurately modelling the vibration behaviour of slender bridges.

The underslung bridge arrangement, whereby the lateral stiffness is much lower than the vertical stiffness, is uncommon and all of the design requirements are not covered by design code provisions. This added to the effort required to formulate the design approach and the level of checks performed.

The river cross-section at the bridge location is wide, which results in a relatively small elevation difference between the design high water level on which the elevation of the pedestrian bridge was established and the 1:2 year water level that provides a reference elevation for watercraft navigation. The navigation height of 6.8 m is lower than any nearby bridges and therefore made it all the more important to design the pedestrian bridge for ship impact loading. Designing for ship impact loading governed the sizing of some structural steel members and the design of the pedestrian bridge bearings.

>> New Retaining Walls at 99 Avenue Bridge



Social and/or Economic Benefits

The twinning of Highway 15 will provide wide-reaching and long-lasting benefits for Alberta and its residents. The highway is a primary route between Edmonton and Alberta's Industrial Heartland region, which is Canada's largest hydrocarbon processing region. Improved accessibility will help support the economic growth of this region; with planned development that includes two multi-billion dollar petrochemical facilities. The reduced travel times and improved access will not only benefit commuters to the Industrial Heartland, but also agricultural producers and businesses in the City of Fort Saskatchewan, Sturgeon County and Strathcona County. Indeed, the project is recognized to be of strategic importance to allow for efficient movement of goods and people throughout the entire Capital Region and beyond. It is for these reasons that the government has focused on fast-tracking the delivery of this project.

Another significant benefit of twinning this portion of the highway and providing another bridge across the North Saskatchewan River is the safety improvements for roadway users. The existing bridge carries just one lane of undivided traffic in each direction, which results in a significantly substandard Level of Service based on the 23,000+ vehicles per day. This volume of traffic is over 50% higher than in 2009 and continues to grow. Collisions often result in the entire bridge being closed to vehicles, which makes for long lines of traffic with no nearby alternative for crossing the river and restricted access for emergency services. The highway twinning will improve safety and reduce the disruption caused by any accidents.

"The City of Fort Saskatchewan has been waiting for this project for many years. Our residents know all too well about congestion, in particular over the bridge, and they're looking forward to completion of this twinning project to make their daily commute easier and safer." | Gale Katchur, Mayor | City of Fort Saskatchewan on the Highway 15 Twinning project



Incorporating safety into the twinning design was a key component of the project, requiring Road Safety Audits at the planning and design phases, and resulting in glare screens placed in the median at curve locations and a 1% grade on the river bridge deck to improve drainage and



>> 3D Pedestrian Bridge Modelling using Frame and Shell Elements and Dynamic Load Cases

help prevent ice patches from forming. Concrete barriers were also integrated with the piers of existing bridges to meet current safety standards in lieu of costly replacement of these structures to allow for a greater setback of new bridge piers from the roadway.

The bridges piers are designed for future widening of the roadway from 2 lanes to 4 lanes. This will have significant benefits in the future when widening can be completed relatively quickly and without the regulatory and environmental impacts of instream work.

The underslung pedestrian bridge will provide an important link for pedestrians and cyclists between an existing trail network within the City of Fort Saskatchewan and a recently constructed trail that runs along the west side of the river in Sturgeon County. There is currently no pedestrian and cyclist access across the river from either the City of Fort Saskatchewan or Sturgeon County and therefore the new pedestrian bridge represents a significant milestone for sustainable transportation for these municipalities.

The River Valley Alliance (RVA) is an organization with representation from seven municipality shareholders (Town of Devon, Parkland County, County of Leduc, City of Edmonton, Strathcona County, City of Fort Saskatchewan and Sturgeon County) whose goal it is to coordinate planning, funding and development of a world-class, fully connected trail system along the North Saskatchewan River Valley from Devon to Fort Saskatchewan. A pedestrian bridge at this location is one of the key projects identified in the River Valley Alliance's 2018 to 2022 Capital Program that is required to fulfil this goal of connecting people to the river valley and improving their standard of living. The RVA had been planning a standalone bridge or utilizing the abandoned piers of

the old railway bridge just upstream, but AECOM was able to work with the RVA and Alberta Transportation to accommodate the underslung pedestrian bridge and, in doing so, saved the RVA over 50% of the cost of the alternatives.

The underslung bridge will be accessible to users with limited mobility owing to its west access directly from the roadside of Lamoureux Drive. To take advantage of this, it was important for the design to accommodate an access ramp onto the west end of the bridge with a shallow gradient and landings that meet Alberta Building Code requirements for disabled user access.

"The vision of the River Valley Alliance (RVA) is to connect metro Edmonton's river valley with one trail from Parkland County to Sturgeon County. The addition of the Highway 15 underslung pedestrian bridge is a key piece of infrastructure that will help achieve this connectivity, not only for the benefit of Sturgeon County and Fort Saskatchewan residents, but also for the development of regional and national tourism to showcase our beautiful river valley.

Because of this bridge, over 70 km of trail will be connected and bring the RVA one step closer to reaching its goal." Brent A. Collingwood, Executive Director, River Valley Alliance



"Our government is committed to delivering infrastructure projects that support our economy and get Albertans back to work. Highway 15 is a key corridor for the residents and businesses of Fort Saskatchewan and throughout Alberta's Industrial Heartland, and twinning will reduce congestion, improve travel times and increase safety. Our government promised to build infrastructure projects that help grow Alberta's economy and this announcement demonstrates our commitment to creating jobs." | Ric McIver | Minister of Transportation



About AECOM

AECOM is the world's premier infrastructure firm, delivering professional services throughout the project lifecycle – from planning, design and engineering to consulting and construction management. We partner with our clients in the public and private sectors to solve their most complex challenges and build legacies for generations to come. On projects spanning transportation, buildings, water, governments, energy and the environment, our teams are driven by a common purpose to deliver a better world. AECOM is a Fortune 500 firm with revenue of approximately \$20.2 billion during fiscal year 2019. See how we deliver what others can only imagine at [aecom.com](https://www.aecom.com) and [@AECOM](https://twitter.com/AECOM).