Q1, March 2021

Civil Engineering Alaska

The Quarterly Newsletter of the American Society of Civil Engineers Alaska Section

Quarterly Highlights

* Recognizing a new National Historic Civil Engineering Landmark in Juneau
* Future Engineer from University of Alaska
* Life Member Recognition
* Anchorage Branch ASCE Engineer of the Year
* Motor Fuel Taxes and Special Registration Fees
* Alaska Highway 80th Anniversary
* Job Opportunities

Recognizing Engineer's Week

Every year we celebrate the contributions of Engineer's with a week dedicated to you every February. This year was a little different, with most events being virtual. We would like to thank all those who participated in putting on the events this year and would also like to recognize the outstanding engineers and projects who received recognition this year. It is amazing to hear about the amazing contributions to the profession and the community by ASCE members and the Engineers recognized from the various professional societies.

As we move through 2021 we are seeing signs of a return to normalcy. The engineers who serve on our Branch Boards are dedicated to providing virtual presentations for the foreseeable future, though a transition to in-person luncheon presentations and activities looks like it may be within grasp later this year. We continue to monitor the situation and take direction from society, and state and local mandates. Our branches look forward to transitioning to regular activities as soon as allowable.

Thank you for your continued participation during this challenging time, and we look forward to seeing you in-person again soon.

Sincerely,

2021 ASCE Alaska Section Board

Salmon Creek Dam—See Page 2

Photo: DOT&PF

Infrastructure Spotlight

Salmon Creek Dam—Juneau

A National Historic Civil Engineering Landmark

In Memory of Scott Willis, P.E., M.ASCE

The Salmon Creek Dam was nominated by the ASCE Alaska Section and received the honor of National Historic Civil Engineering Landmark in 2020. Several members from the Alaska Section worked diligently for nearly a decade on compiling and presenting historical information to submit to ASCE for this nomination. Their efforts have led to this high designation. The Alaska Section is planning in a dedication ceremony in 2021.

The following narrative was authored in 2012 by Scott Willis, P.E. who championed this National Historic Landmark nomination.

Constructing the Salmon Creek Hydroelectric Project

By Scott Willis, P.E. M.ASCE

Alaska Electric Light and Power

March, 2012

The history of the Salmon Creek Project is really the history of gold mining in Juneau. By the early 1900's the placer deposits that were initially mined in area had played out. The remaining gold was lode, or hard rock gold. The hard rock gold in Juneau was a very low grade. To mine it profitably required a very large, very efficient operation. By the early 1910's there were three big mines in the Juneau area, and one of these, the Alaska Gastineau Mine, was responsible for the Salmon Creek Project.

In 1911 Bart Thane, a mining engineer and manager of several mines in the area, gained control of Perseverance Mine, which had 100 stamp mill in Silver Bow Basin. The Perseverance was a seasonal operation. They mined and milled in the summer, when they had water power to operate their equipment and could haul ore down the valley. They shut down in the winter when the water froze and deep snow made transportation impossible. Thane's plan for the Perseverance was to mine and mill year round. To do this he planned to drive tunnel to Sheep Creek and build large new mill there. To operate this new mill, he would need a large amount of inexpensive, year round power.

Need for Power

Hydro was a popular source of power for the mines in Juneau. Many of the mines in Juneau used hydro for summer power then shut down, or switched to oil-fired steam generation for winter power. The Alaska Gastineau planned to mill 6,000 tons per day and figured they would need 6,000 hp of year round energy. Thane had Alaska Gastineau's chief engineer, Harry Wollenberg, look for hydro sites. At this time, Wollenberg, with a degree in mining engineering from U. C. Berkeley, was just 25 years old. He authored a report in 1909 evaluating Salmon Creek as year around power source. Salmon Creek had a steep slope (350 feet to the mile for first 3 miles), then broad, relatively flat valley (slope of 100 feet per mile). Wollenberg wrote, "In the opinion of the writer Salmon Creek is unique among the water powers of the Juneau District in being located so near to an already well developed power market, and in possessing a reservoir site at an elevation of over 1,000 feet above sea level, only three miles from tidewater."

Preliminary Investigation and Design

Investigations at the site started in summer 1911 and by 1912 Wollenberg had 6 months of precipitation and flow data which could be correlated with the 10 years of record available for Juneau. During this time they also investigate the foundation material and discovered a relatively thin rim of bed rock about 75 feet wide. The also investigated gravel in basin for use in the dam. By early 1912, Wollenberg had developed a plan for the project that included two power plants. Water would flow from the dam through a steel penstock about 4,000 feet long to the upper plant. Discharge from that plant would conveyed in a wooden flume for about 10,000 feet to the mouth of the valley, then into a penstock to the lower plant. Wollenberg explained that while two plants were more expensive than one, this scheme allowed the lower plant to come on line early on as a run-of-the-river project for construction power. They could also produce more energy with two plants since they could intercept flow from side channels downstream of the dam and divert it into the flume for additional generation at the lower plant. There were also cost savings replacing 10,000 feet of steel penstock with a wooden flume. Operations expense for two plants would be greater than one, but as Wollenberg calculated, it would be less than the interest on a more expensive penstock. During the 1912 construction season, Wollenberg and consulting engineers were also busy studying the size and type of dam for the project. The lead consultant was F.G. Baum of F. G. Baum and Company, San Francisco. Baum employed an engineer named Lars Jorgensen, and together these two owned a patent for the design of the constant angle arch dam. Other consulting engineers involved in the project were C. L. Cory, F. C. Hermann, and Arthur P. Davis. By January 1913, the consultants recommended Salmon Creek Dam be constructed as a constant angle concrete arch dam. An arch dam design was attractive due to the relatively thin, curved dike of bedrock at the site. The constant angle design was finally selected since it could be constructed with 20% to 25% less concrete than the more common constant radius arch dam. The savings in concrete for the constant angle structure as opposed to the more common

National Historic Civil Engineering Landmark

Owner
Alaska Electric Light & Power

Construction Year
1913

Nomination Champions
Scott Willis, P.E., M.ASCE
Greg Kinney, P.E., M.ASCE

constant radius structure comes from the fact that near the bottom of a V-shaped valley, the angle of a constant radius dam is very small. The section needed to resist the forces on the structure approximates a beam. A constant angle structure, on the other hand, maintains its true arch shape even at the bottom of the structure, and is as strong as the beam but with a smaller section. Correspondence between F. G. Baum and mine managers indicate that Salmon Creek dam would be the first constant angle arch dam constructed, and media and journal reports of the time refer to it as such. Some reports call it the first "true" constant angle arch dam, apparently with reference to Lake Spaulding Dam constructed from 1912 – 1913. This dam was originally designed as a curved gravity dam and the first 60 feet was constructed that way before the design was changed to a constant angle arch for the rest of the structure. One other factor confusing Salmon Creek Dam's claim to be the first constant angle arch dam is the fact that Lars Jorgensen, in a paper published by ASCE in May, 1914, mentions two other smaller constant angle structures, one in the Philippines and one in Peru. Jorgensen writes that he designed Salmon Creek dam, while Wollenberg writes, "This dam was designed (but not invented) in this office and was checked by F. G. Baum & Company, of San Francisco. This type of dam was first designed and invented by Mr. L. Jorgensen working with Mr. F. G. Baum. The multiple radii arch type of dam gives the minimum amount of material required for a given safety factor." Jorgensen demonstrated in his ASCE paper that the optimal angle for a constant angle arch dam was 133 degrees. Salmon Creek dam was designed with an angle of 119 degrees mainly because that was the angle of the curved bedrock dike that would be the foundation of the dam.

Construction Season One

Work started on the project in June, 1912 and was focused mainly on logistical and transportation support as well as construction of the flume and lower power house. By the end of 1912 workers had constructed and put in service about 15,000 feet of horse drawn tramways and almost 3,000 feet of inclined trams with steam hoists. They constructed a beach camp for 30 men, a freight dock, and a lower dam camp for 40 men near the upper power house. A sawmill was put in service and lumber was produced from local wood to build the flume, rail ties, forms and buildings. The flume and lower penstock were completed and the lower power house was placed in operation in January 1913.

Construction Season Two

Construction of the dam started in the 1913 construction season. Since there was over 50,000 cubic yards of concrete

Figure 8 – Base formwork and early construction. Insley tower in place. (August 8, 1913)

to place to construct the dam, Chief Engineer Wollenberg knew that work would have to proceed as efficiently as possible to economically construct such a large structure, so he designed a very efficient transportation system and construction plant. The horse tram railway and bridges were upgraded to carry heavier loads pulled by steam locomotives. The dock at tidewater was upgraded and the man camps were expanded. The greatest amount of freight to be delivered was the cement for the dam. Cement for the project was shipped from Seattle to Juneau. Sacks of cement were placed on rail cars designed by Wollenberg to hold 4 tons of cement. The cars were offloaded from the ship directly on to barges, also designed by Alaska Gastineau engineers. The barges were towed to the dock at Salmon Creek where a matching set of rails was installed. Ten rail cars at a time were pulled off the barge by an electric hoist, then each car was individually tugged up the first incline by a steam hoist. At the top a string of 10 cars was pulled by the Shay locomotive to the base of the incline near the dam, where cars were again hoisted up one at a time. A tunnel was left in the dam and the cement cars were unloaded in the cement shed upstream of the dam. If more cement arrived than workers were ready for, two more cement storages sheds held it until needed. The construction plant was also designed by Wollenberg, and was located on the upstream side of the dam. Sand and gravel was excavated by drag line from the valley floor and sent through a crusher and screens where it was graded, washed, and separated into a stockpiles of coarse and fine aggregate. Conveyors hauled the sand, gravel and cement to a batch plant where the concrete was mixed. The concrete was place in skips and hoisted up a central wooden tower. Once above the dam, the concrete was dumped into chutes known as an Insley Spouting System. The chutes could be moved to direct the concrete to nearly every part of the dam. As the dam increased in height, the tower was raised. Of this construction system Wollenberg wrote, "It is significant that neither a pick nor shovel is used in any feature of the work from the time the gravel leaves the bank until it is deposited in the forms. Also that the entire transportation system is mechanical, with the exception of the carring or wheeling of the small volume of concrete in the outer fringe of the dam." The design mix for the concrete consisted of 1 part cement, 3 parts sand, and 5 to 6 parts gravel. No mention is made of the amount of water used in the mix, but was likely based on the amount of water necessary for the concrete to run down long chutes. Diversion of Salmon Creek during construction was made by a 180 foot long tunnel through the foundation rock under the dam. The foundation was cleared and stripped and the construction plant was completed by late July 24, 1913 when the first concrete was placed. While the construction plant was a very efficient design, there was more sand and less coarse aggregate than expected in the borrow area which required handling more material than originally estimated. The last concrete of the 1913 construction season was placed on November 1. A total of 22,000 cy, or about 40 percent of the total in the dam was placed and the dam was 66 feet high at that time. An average of 330 cy per day were place. Even after concrete work shut down for the season, crews were able to continue to process and stockpile sand and gravel for a few more weeks, which would allow an earlier start the following season. Also during 1913, the upper penstock from the dam to the upper power house was constructed. Once the upper power house was complete, a small diversion dam upstream of the main dam was constructed to divert creek water into the penstock allowing power to be generated from the upper power house as well as the lower one.

Figure 13 – Dam construction from upstream side. Final conveyor to concrete mix house and Insley tower shown (September 25, 1913)

Construction Season Three

The Upper Dam Camp was re-opened on April 5, 1914, and crews started placing concrete on April 24. To aid in the production of coarse aggregate a quarry was opened in the valley where rock could be crushed. As the dam got taller, the central tower for distributing the concrete was raised to allow "spouting" of concrete. By June the tower was at its maximum height. Most of the concrete was still delivered through the spouting chutes, except for that at the extreme far edges where the spouts couldn't reach. By August 1, 1914, the concrete was complete in the main portion of the dam, with only the spillway and tunnel plug remaining. The construction plant was dismantled and removed through the tunnel through the dam. This tunnel plug was completed and on August 24, 1914 the diversion gate was closed and the reservoir started to fill. Salmon Creek reservoir rose 135 feet that fall, to within about 35 feet from the crest of the spillway, and the Salmon Creek project was able to provide power to Alaska Gastineau's new mill which came on line in February, 1915. The Salmon Creek hydroelectric project was constructed for a cost of about $1.2 million. Wollenberg reported, "No fatalities occurred and no permanent injuries which would prevent the injured from resuming his occupation after a time. Much of the work, especially about the dam, was hazardous." The Salmon Creek hydro project was successful, but the Alaska Gastineau Mine was not. Estimated mining and milling expenses of $0.75 per ton to projected to recover $2.00 in gold per ton, resulting in very healthy profit. Actual costs of mining and milling were pretty close to estimates, varying from 71 to 77 cents per ton. Unfortunately the ore was lower grade than expected. The actual value of gold recovered in 1915 $1.16 per ton and the value continued to fall to a low of $0.83 per ton. At that price the Alaska Gastineau couldn't recover all their costs. The Alaska Gastineau Mine ceased operations in June, 1921. But even though the mine had closed, the Alaska Gastineau hydroelectric plants, Salmon Creek and Annex Creek (constructed the year after Salmon Creek) were still functional. These plants continued to operate with power being sold to the AJ Mine, another mine in the Juneau area. The Salmon Creek lower power plant burned down in October 1922, and the company did not rebuild it. In 1933, the assets of the Alaska Gastineau Mine, including the hydro plants, mining claims, and other facilities were purchased by the AJ Mine. The new owners rebuilt the Lower Salmon Creek power house in 1936. The AJ Mine continued to operate until 1944, when it ceased operation due to high costs and low gold prices. But even though the mine had closed, the hydro plants, Salmon Creek and Annex Creek, were still functional. The AJ Mine continued to operate these plants and sell the power to AEL&P, the local electric utility. In 1973 the assets of the AJ Mine, including the hydro plants, mining claims, and other facilities were purchased by AEL&P. In 1984 AEL&P rehabilitated the Salmon Creek project by decommissioning the old upper and lower power houses, and replacing the old flume with a new penstock connected to the end of the old upper penstock. The new penstock ran to a new lower power house. Today AEL&P continues to operate the Salmon Creek hydro project. It provides about 7% of Juneau's electric power. Water from the project also provides about a third of the City's municipal water supply as well as water to operate a salmon hatchery.

Student Member Spotlight

Future Engineer from the University of Alaska—Anchorage

Name: Hailey Swirbul

Age: 22

Grade: Senior

Hometown, State: Carbondale, CO

Year you became a member of ASCE: 2019

Describe why you joined ASCE: I joined ASCE to connect with other civil engineering students as friends and peers, learn from professionals in the Anchorage community, and take part in the activities associated with ASCE, like the Student Steel Bridge competition.

Describe a little bit about yourself and why you chose Civil Engineering as a major: I didn't grow up dreaming about becoming a civil engineer, but during my senior year in high school, I realized that it could be a wonderful career path for me. I was drawn to the diversity of careers within the field, large-scale projects, and the concept of working with a team to accomplish a goal. I moved to Alaska in 2016 to cross country ski for the University of Alaska Anchorage Ski Team, and fell in love with the state. I continue to ski—professionally now—with the APU Nordic Ski Center and US Ski Team while completing my engineering degree at UAA.

Describe your involvement in the community: Because of skiing, I have become more involved with the Anchorage ski and outdoor communities rather than the engineering community. I have enjoyed volunteering with Healthy Futures AK, Fast and Female, and Ski for Kids, but have also loved academically working on research under Dr. Scott Hamel at the UAA Structures Lab and being part of the Student Steel Bridge Team.

My favorite community/ASCE project was:_the Steel Bridge Team, for the following reason:

I have met kind, dedicated, unique friends through our shared experiences designing our bridge. It has been special to see our bridge come to life as a 20-foot long steel structure!

I have set the following goals for myself for the next

1 year: Represent the USA at the Winter Olympic Games, become more networked in the Anchorage engineering community, begin part-time work as an intern and then EIT, contribute to the teams around me (engineering and ski-wise).

5 years: Reach a balance and equilibrium between my ski and engineering careers, working toward that PE license!

My parents (or other individual) have inspired me to: Commit to things that matter to me and dedicate myself to them fearlessly.

My favorite civil engineering course is, or has been (also describe why): Design of Civil Engineering Systems, the Senior Design course. I loved working in a project type environment with a great team of fellow students and helpful professional mentors. It was awesome to be able to see our ideas come to life to meet the client's requests and use knowledge we had learned throughout our college careers.

My favorite extra-curricular activity is, or has been (also describe why): Cross country skiing! It has taken me around the world, provided structure and opportunities, and lets me connect with the outdoors every day.

The most challenging thing I have ever experienced is (also describe why): Working toward overcoming mental health struggles. Though I believe improving one's mental health is a lifelong journey, I have made giant steps in managing anxiety and situational depression over the past few years. Onward and upward!

My greatest accomplishment to date has been (also describe why): Managing being a full-time athlete with my engineering studies. However, I could not have accomplished this without tons of support and flexibility from my professors, coaches, and parents to help me chase my dreams academically and athletically.

My ideal 1st Job in Civil Engineering will be (also describe why): Fulfilling and interesting! I am interested in many aspects of civil engineering at this point, so I look forward to finding a good fit for my skillset in the workplace. I am most interested in designing structures like ports and harbors at this point, but I could see myself being happy doing many things in civil engineering.

Life Member Spotlight

Name: Bob Carlson, PhD, PE
Hometown: Fairbanks, AK

Education

University of Wisconsin – Madison 1961 BS, 1963 MS, 1967 PhD in Civil Engineering

Background

Bob grew up in Wisconsin on a farm with his German mother, Swedish father, two siblings and many relatives in the area. While in high school he had to give a speech about a profession. He picked civil engineering which planted the seed for his eventual career. While at UW- Madison he met and married his wife Cam.

Coming to Alaska

Bob came to University of Alaska - Fairbanks in 1965 as part of his PhD. He and his wife drove up the ALCAN highway in a new Jeep and lived in a men's dormitory where they were residence councilors. He left Alaska to complete his dissertation but returned to UAF in 1968.

Work/Professional Experience

Dr. Carlson was an educator and researcher at UAF from 1965 to 2005 with a focus on cold-region engineering. He served as Director of Institute of Water Resources (what is now the Water and Environmental Research Center) and served three terms as Engineering Department head. He is modest about his career in academia but was awarded the 2001 Emil Usibelli Distinguished Service Award for his dedication to students and the engineering community and appointed Professor of Civil Engineering, Emeritus at UAF in 2005.

Involvement in ASCE

Bob joined ASCE in 1966. As a member of the UAF faculty, he participated in many local member meetings. He served on the ASCE Fairbanks Branch and Alaska Section board. He encourage student participation in ASCE and fostered networking between students and the engineering community. He aided in the success of the steel bridge competitions and Engineer's Week at the University during his tenure.

Advice for young engineering professionals

He doesn't think one will have much luck looking for a job in the newspaper. Bob recommended joining ASCE and making personal connections! Over the years, he has recommended his students utilize the networks in ASCE and other professional organizations to talk to people, learn what they do, and understand how to prepare for a job in that field. He also emphasized the importance of getting hands on job experience such as construction that would enhance an engineering career.

Hobbies, interests or organizations

Bob and his wife Cam have three children and four grandchildren that keep them traveling. They built their Fairbanks home along with other structures on their property. They also have built or supervised construction of church buildings and remain very involved in the community. Bob stays busy with MATLAB computer courses, woodworking, building, and operating his backhoe and other mid-sized equipment. He said that in another life he might like to have been a machinist, but his current dream job might be a grader operator…DOT look out!

2021 Anchorage Engineer's Week

ASCE Anchorage Branch Engineer of the Year: VIRGINIA GROESCHEL, EIT

Virginia J. Groeschel is a consultant coordinator and specifications engineer for the DOT&PF-Central Region (CR) Aviation Design Section. She is also the CR-Design & Engineering Services Internship Program manager. Some of her notable airport projects (Bethel, Togiak, and Newtok Airports) encompass unique design challenges, such as remote locations, permafrost, and a rare new airport construction. As specifications engineer, she is working primarily on updating the 117 airport specifications for FAA approval. As the Internship Program manager, Virginia mentors up to 12 engineering and survey students. Virginia has 15 years of experience in aviation and highway design, water and sewer design, utility coordination, and construction management.

Born in the Philippines, Virginia grew up on Kodiak Island, Alaska after her father was transferred to the U.S. Coast Guard Air Station Base. She holds two degrees from UAA; a bachelor's degree in civil engineering (2006) and a master's degree in project management (2020). Virginia was recently selected as the 2020 Student Commencement Speaker for the UAA Graduate Hooding Ceremony. Her master's thesis focused on developing an innovative process management model for streamlining the complex task of updating DOT&PF airport specifications, requiring both statewide concurrence and FAA approval.

Virginia's extensive volunteer work exemplifies her passion to make a positive impact in her community, while promoting STEAM education and advocacy. She is a member and past-president of the American Society of Civil Engineers (ASCE) Anchorage Branch, and Alaska Section. She is also a member of the Society of Women Engineers. Virginia co-founded and is currently president of the UAA College of Engineering (CoEng) Alumni Chapter, where she partners with ASCE, UAA, UAA student chapters, and other local organizations to help organize events and programs like, UAA Engineer's Night, UAA Alumni Hall of Fame, the Turnagain Elementary PTA STEAM Expo, UAA SWE Student Chapter Women in Engineering Night, UAA EWeek Student Tour, and help develop the UAA CoEng Undergraduate Mentorship Pilot Program among others.

ASCE Supports Raising Motor Fuel Taxes and Special Vehicle Registration Fees

House Bill 104 (HB104) was recently introduced into the Alaska Legislature as a means to bridge the gap between revenue vs. expenditures for roadway capital and maintenance expenditures. The bill would double Alaska's gas tax, the lowest in the nation, from 8 cents per gallon to 16 cents per gallon, and would implement a special biennial registration fee for Electric Vehicles and Plug-In Hybrids of $100. Alaska's motor fuel tax at 8 cents, was last changed in 1970, 51 years ago. If the tax were indexed for inflation over those 51 years, the tax would be around 51 cents today, which means that it has lost nearly 80 percent of it's purchasing power. On top of the inflation the ever increasing fuel efficiency, and the major strides in the electrification of vehicles has greatly diminished the revenue collected from motor fuel taxes. In 2018 ASCE adopted **Policy Statement 382** which states the following:

The American Society of Civil Engineers (ASCE) recommends that adequate funding for planning, designing, operating, maintaining, and improving the nation's transportation system be provided by a comprehensive program with sustainable dedicated revenue sources at the federal, state, regional, and local levels, including:

User fees such as existing motor fuel tax, ad-valorem motor fuel sales tax, mileage-based user fees, alternative vehicle fees, freight waybill tax, carbon tax, barge taxes, container fees, airline passenger ticket tax; aviation fuel tax; passenger facility charges; and other relevant charges;

Tolling as a funding mechanism to repair, reconstruct, and expand the Interstate Highway System and roadways as well as invest in public transportation systems, bicycle infrastructure, and pedestrian infrastructure to reduce single occupancy vehicles;

Indexing user fees to the Consumer Price Index (CPI) or other appropriate indices;

General treasury funds, oil surcharges, state, regional, and/or local sales tax; income, payroll and/or property taxes, corporate taxes and/or repatriation, impact fees, and other development-related fees, transportation management and improvement districts, vehicle registration fees; parking revenues, and dynamic pricing;

Value capture from transit-oriented development to invest in public transportation systems and accessibility to public transportation for people walking, biking, and vulnerable users; and

Public-private partnerships, infrastructure banks, bonding, naming rights, marketing/advertisement sales, and other innovative financing mechanisms used as appropriate to leverage available transportation funding.

ASCE further recommends that these funds be managed efficiently through dedicated trust funds with budgetary firewalls to eliminate the diversion of transportation revenues for non-transportation purposes.

ISSUE

Funding programs for transportation systems, i.e., highways, roadways, public transportation, rail, airports, harbors, and waterways, need to be substantially increased to provide orderly, predictable and sufficient revenues to meet current and future demand. The 2017 Infrastructure Report Card documents a transportation investment shortfall by 2025 of $1.1 trillion. This funding, from federal, state, regional, and local sources, is needed to bring America's transportation infrastructure up to a good condition.

The ASCE Report Failure to Act -Closing the Infrastructure Investment Gap for America's Economic Future, showed that in 2015, deficiencies in America's roads, bridges, and transit systems cost American households and businesses roughly $147 billion, including approximately $109 billion in vehicle operating costs, $36 billion in delays in travel time, $1.4 billion in safety costs, and $700 million in environmental costs.

If investment in surface transportation infrastructure are not made soon, those costs are expected to grow exponentially. According to the ASCE Failure to Act study, by 2025, the nation will have lost almost $800 billion in GDP and have 440,000 fewer jobs due to transportation system deficiencies.

RATIONALE

Adequate revenues must be collected and allocated to maintain and improve the nation's transportation systems and to be consistent with the nation's environmental and energy conservation goals. A sustainable source or sources of revenue is essential to achieve these goals.

If you are interested in getting involved in advocacy efforts in support of HB104 please reach out to David Gamez at d.gamez@lounsburyinc.com

Alaska Highway—80th Anniversary in 2022

Request for Information

The Alaska Highway was constructed in 1942 following the attacks on Pearl Harbor to provide military access to aid in the war efforts in the Pacific during World War II. The 1500-mile highway stretching from Dawson Creek, BC to Fairbanks is turning 80 years old in 2022.

As part of this anniversary, the ASCE Alaska Section in partnership with the Canadian Society of Civil Engineers (CSCE) will be participating in an event to recognize the highway's long history.

If you would like to be involved with these efforts or have any historic records or photos to contribute, please reach out to Tor Anderzen at tjanderz@mtu.edu

Photo Credit: Wired.com

SUSTAINING SUPPORTERS

Opportunity to become a sustaining support of the ASCE Alaska Section is open to become a sustaining supporter of Civil Engineer Alaska. Your support will help advance the following activities:

- **Dale Nelson Memorial Civil Engineering Scholarship**
- **Alaska Infrastructure Report Card**
- **Recognizing Civil Engineering Projects of Historical Significance**
- **Dream Big—Engineering Our World K-12 Outreach Efforts**
- **Annual Legislative Fly-In**

Your company logo and job opportunities with your company will be featured in this newsletter, which will be shared with our statewide membership, industry leadership, and our partner organizations via digital and social media.

Interested in supporting State-Wide ASCE efforts?

Email AlaskaASCE@gmail.com for more Information

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SUSTAINING SUPPORTERS

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