

January 31, 2024

Chris Bydlon, PE
c/o ASCE Branch
PO Box 33322
Juneau, AK 99803

Re: 2023 ASCE Juneau Branch Engineer of the Year Nomination - Lucas Chambers, PE, M.ASCE

Dear ASCE Juneau Branch Leadership,

Please consider this correspondence my formal nomination of Mr. Lucas M. Chambers, PE, M.ASCE for the 2023 Engineer of the Year Award. Lucas is a life-long Southeast Alaska resident, first born and raised in Sitka and now a resident of Juneau who has been practicing engineering in the region for the last 13 years. He is an Alaska Registered Professional Civil Engineer (#106593) who has been a Principal Engineer and Owner of proHNS LLC since joining the upstart firm in 2017.

Before proHNS, Lucas spent six years with AK DOT&PF ushering Southeast transportation projects through the complete planning, design, and construction lifecycle. Since coming on board with proHNS, Lucas has led the development of company standards and best practices for design procedures, software fluency, and reporting. He is responsible for management of the Juneau branch of proHNS, as well as the company's engineering team responsible for performing design, permitting, management, and inspection of Juneau projects for local agencies and private clients.



Lucas M. Chambers, PE

I believe Lucas deserves this recognition for his many contributions to the Juneau engineering community, including his role in civil infrastructure improvements, emergency response efforts, economic development initiatives, and mentorship of future professional engineers.

Engineering Achievements in 2023

The work listed below is not nearly comprehensive of Lucas' achievements in the past year, but has been selected to represent the services and projects that have most benefited Juneau and its residents.

Mendenhall River Streambank Stabilizations

As glacial outburst flooding has unfortunately become a regular occurrence in Juneau, Lucas has emerged as the go-to civil engineer for bank stabilization design and permitting assistance for homeowners living along the Mendenhall River. Prior to 2023, Lucas worked with nearly a dozen homeowners through the design, permitting, and construction process to protect their property from future events. So when an especially severe flood caused widespread damage in August 2023, Lucas' phone started ringing off the hook as people scrambled for advice and guidance on how to respond to this devastating event.

In addition to fielding phone calls and emails, Lucas met on-site with residents of multiple neighborhoods to answer questions and provide insight into the process for making emergency repairs. To manage the sheer amount of inquiries he was receiving, Lucas started five email chains complete with maps and contact lists to keep each affected neighborhood (Marion Drive, Meander Way, River Road, View Drive, Radcliffe Road) aware of updates, such as which

permitting agencies were simplifying or waiving requirements due to the emergency. He did not charge for this time, and only went on the clock if a resident requested he fill out permitting documents, develop bank stabilization design plans, or perform inspection of the stabilization work.

Steve Bradford, Board Vice President of the Riverside Condominiums Homeowners Association, was one of the individuals who decided to bring Lucas on board after informally consulting with him after the initial disaster. Lucas ultimately provided bank stabilization design, permitting support, and construction inspection for the Riverside Condos emergency repairs (shown at right). Bradford praised Lucas' role on the condo project, but also his service as coordinator and facilitator for the whole community up and down the river.

"He was very responsive, especially considering the number of phone calls he was getting. He returned texts after hours responding to questions," Bradford said. "His knowledge and his relationship with the City, with the Corps (US Army Corps of Engineers), with Fish and Game: that was key, that he had the relationships with these agencies. He made the whole process go smoothly."



"Lucas was readily sharing his knowledge with citizens up and down the river who desperately needed this information... He was instrumental in the whole process for successfully building our bank protection."

— Steve Bradford
Riverside Condominiums HOA Board Vice President

35 Mile Off-Road Vehicle Park Design

Lucas has been integral to the development of Juneau's first off-road vehicle park. In January 2023, Juneau-based nonprofit Trail Mix hired proHNS to design a mudpit and bridge layout for the new off-road vehicle park near 35 Mile. By June, through proHNS' term contract with the City and Borough of Juneau, Lucas' role expanded to design and permitting for the facility's 1.5-acre parking lot.

Lucas' first order of business was layout and modeling of the lot that will provide trailer parking stalls, a loading ramp, picnic area, restrooms, and caretaker's lot. Lucas worked closely with CBJ's Parks and Recreation Department and other stakeholders to develop a layout that meets user needs and maximizes use of existing site features. Construction of the park itself, handled by Trail Mix and CBJ, began in late summer and will start up again this spring. The parking lot design was finalized in November and construction should begin in Spring 2024.

Hank Harmon Public Range Improvements

In 2022, Lucas worked with CBJ and the Hank Harmon Public Range Board of Directors to complete preliminary design, cost estimating, and a ADF&G Hunter Access Grant application for safety and accessibility improvements to the no-cost community facility. The application was one of the highest scored and earned CBJ more than \$830,000. Following notification of the successful application, ADF&G reached out to CBJ and asked if the municipality would like to propose additional improvements. Though the proHNS contract was complete at that point, Lucas helped develop cost estimates and amendments to enable CBJ to access more funding, bringing the grant total to nearly \$1 million.



proHNS subcontractor North 57 Land Surveying gathers data at the HHPR in Summer 2023.

In 2023, proHNS was brought on board to expand the preliminary design to develop bid-ready plans for the improvements, which will include replacing deteriorated barrier walls, upgrading aging shooting shelters, installing a new safety control system, and more. These improvements, led by Lucas and currently at the 65% design stage, will ensure all Juneau-area hunters, outdoorsmen, and recreational shooters have safe year-round access to this free facility.

Engineering Achievements Prior to 2023

Since joining proHNS, Lucas has managed municipal and private projects, supervised and trained staff, provided high-level design engineering, inspected complex infrastructure improvements, and navigated the complex relationships between members of the public, government agencies, and private industry. His achievements are simply too numerous to list here, so I have **attached a resume** to this nomination outlining his project accomplishments over the past several years. Some major contributions of note include:

Pump Station Design: Under mentorship from Juneau water/wastewater engineering expert Jim Dorn, Lucas has developed a strong understanding of pump stations and added this service to the proHNS repertoire. He has successfully designed several CBJ pump station upgrades, including Bonnie Brae and Lee Street, and is currently leading the design for improvements to the Cedar Park and Cope Park pump stations.

Private Subdivision Design: Lucas has designed several of Juneau's more recent subdivision developments, including Chilkat Vistas, Lee Street, Thatcher, Merritt, Mountain Meadows, and Calvary Fellowship. These residential developments will ideally help address Juneau's housing shortage.

Fish Passage Design: Lucas is always looking to learn new skills and expand proHNS' service offerings. He recently familiarized himself with fish passage design standards and methods, including the USFWS Geomorphic Analog Method and the USFS Stream Simulation Method. He has since designed two aluminum box culverts to improve fish passage at Hendrickson Creek in North Douglas and along Jordan Creek near the Juneau Airport.

Professional Organizations and Community Service

Community Giving: proHNS encourages its employees to identify organizations, events, and charities they are personally passionate about, and annually distributes donations based on these suggestions. Lucas worked to establish this "spirit of giving" program, and the company has donated to causes throughout Southeast Alaska. Juneau recipients in 2023 included the Juneau Economic Development Council, Juneau Moose Lodge, JDHS Hockey Blue Line Club, Alaska Folk Festival, Golden North Salmon Derby, Alaska Science and Engineering Fair, and more. Lucas has also championed company donations to the ASCE scholarship fund to benefit Juneau students.

Professional Mentoring: proHNS makes a point of providing paid summer internships to young aspiring engineers, focusing on hiring local as much as possible. During the 2019, 2020, and 2021 seasons, Lucas intensively mentored Juneau residents pursuing undergraduate degrees in civil engineering. Lucas not only provides guidance, answers questions, and helps interns discover where their areas of interest or expertise lie, he offers them countless hands-on learning opportunities as functioning members of the proHNS team.

Board and Committee Service: Lucas is a very active member of the ASCE Juneau Branch: he has served on the Board as Treasurer (2018-2019), Vice President (2019-2020), President (2020-2021), and Past President (2021-2022). He also sat on the CBJ Wetlands Review Board from 2019 until 2022.

In closing, I believe Lucas Chambers has earned the 2023 Engineer of the Year Award for the passion, professionalism, and commitment he brings to both the local engineering community and Juneau at large.

Thank you for your consideration,

A handwritten signature in blue ink, appearing to read "Garret K. Gladsjo".

Garret K. Gladsjo, PE - proHNS Principal Engineer
907-780-4004
garret@proHNS.com



Lucas M. Chambers, PE

Principal Engineer

Juneau, AK

Professional Experience

Lucas was born and raised in Sitka and worked for AK DOT&PF's Southcoast Region as a civil engineer for more than six years. Since joining proHNS as a Principal Engineer and part-owner in 2017, he has established the firm's design best management practices and processes, and has grown into a skilled personnel manager. Lucas handles all of proHNS' City & Borough of Juneau projects, regularly working alongside municipal employees and engineers, utility companies, and the public. He is a former President of the American Society of Civil Engineers' Juneau Branch and former Chair of the City and Borough of Juneau's Wetlands Review Board.

Skills and Expertise

Utility Design and Inspection: Lucas has designed and inspected the installation of thousands of feet of HDPE water line in Juneau, and has successfully managed, designed, and/or inspected numerous projects with significant sewer and storm drain improvements. He is a high-level AutoCAD Civil 3D user, and also particularly prides himself on his pavement design, urban drainage design hydrology and hydraulic analysis, underground utility layout/sizing, and geometric roadway design skills.

Project Management: Lucas uses weekly budget and schedule tracking tools to keep projects moving forward at the requisite pace without overspending. He frequently manages projects involving multiple subconsultants, and has developed an internal QA/QC program for ensuring the quality of external deliverables before incorporating them into proHNS plans.

Recent Project Experience

Cope Park Pump Station Upgrades

City and Borough of Juneau • Juneau, AK • 2023 - Present

Lucas is serving as the Project/Contract Manager and Civil/Mechanical Designer of Record on this project that will upgrade the existing water pump station at Cope Park. Design elements include new flow meters, valves, pumps and motors, mechanical piping, pressure sensors, variable frequency drives, instrumentation controls, and modifications to the pump station building. Two subconsultants, who Lucas is responsible for managing, are also providing electrical and structural engineering design support.

Calhoun Avenue Reconstruction Phases I and II

City and Borough of Juneau • Juneau, AK • 2021 - 2023

As the Designer-of-Record and CM/PM for both project phases, Lucas worked closely with neighborhood residents, the CBJ Planning Commission, and other stakeholders to identify reconstruction priorities for this high-profile road and utility improvement project. Priorities included maintaining two-way vehicle access, providing bicycle facilities, and ensuring ADA-compliant access throughout the corridor. By implementing some creative design solutions, the proHNS team was able to address these primary priorities in the approved design. Lucas also managed the CA&I contract for both phases of the project construction, and served as a sounding board for the Project Engineer to make quick, cost-effective decisions in the field.

N. Douglas Driveway Fish Passage Crossing

Southeast Alaska Watershed Coalition • Juneau, AK • 2021 - 2023

Lucas had many responsibilities on this fish passage improvement project, including evaluating stream reach, performing a geomorphic assessment, conducting a pebble count, and developing a comprehensive Hydrologic and Hydraulic (H&H) report. Using USFWS, NRCS, and USFS methods and standards, Lucas designed a new aluminum bottomless box culvert to replace the two existing 30-foot metal culverts and delivered a 100% bid-ready package in early 2023. Over the summer, he supported construction efforts via consultation and approval of minor design modifications.

Education

Bachelor of Science
Civil Engineering and Minor
in Mechanical Engineering
Northern Arizona University

Registration

AK Professional Civil Engineer
AELC #106593

Alaska Certified Erosion and
Sediment Control Lead
#ASA-21-0121

References

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Project Manager
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Douglas 4th Street D to F Streets Reconstruction

City and Borough of Juneau • Juneau, AK • 2023 - Present

Lucas designed this CBJ street reconstruction project that will install new HDPE water main and PVC sewer main, replace all water/sewer services, reconstruct the roadway prism, and lay new AC pavement. To address existing drainage issues, his design also calls for removal of non-functioning slotted storm drains and installation of new CPP drain pipe, storm drain services, underdrains, and associated structures. Lucas will manage also manage proHNS' CA&I contract when the project is constructed in 2024.

W. Third and Dixon Street Reconstruction

City and Borough of Juneau • Juneau, AK • 2022

proHNS provided CA&I services on this downtown reconstruction project that involved water line and sewer service replacement, storm drain installation, sidewalk/curb/gutter installation, and new asphalt pavement. This project, which Lucas managed, also involved navigating underground utility unknowns (including several undocumented water and sewer service lines and unlocated electrical conduits) and coordinating with both residential and commercial stakeholders impacted by construction.

Misty Lane Reconstruction

City and Borough of Juneau • Juneau, AK • 2021 - 2023

As the CM/PM on this North Douglas project, Lucas performed QA/QC of all design deliverables and assisted the Project Engineer with high-level design duties. The project will reconstruct the roadway, replace the existing 8" ductile iron water main line with a new 10" HDPE water line, and replace the sanitary sewer lift station pumping, piping, and electrical components. Part of Lucas' responsibilities during the design phase including managing the electrical subconsultant and ensuring the quality of their deliverables. Lucas also served as the CM/PM for the project's construction in Spring 2023.

Douglas Area Utilities Evaluation and Project Scoping

City and Borough of Juneau • Juneau, AK • 2022

proHNS and our subcontractor StephI Engineering assessed the condition of water and sewer utilities for a segment of downtown South Douglas, and used assessment data to prioritize the improvement or replacement of CBJ's at-risk assets. In addition to coordinating with the CBJ Project Manager and utility staff, analyzing data, and managing cost/schedule control, Lucas provided QA/QC for technical memos and other deliverables developed by proHNS staff detailing recommended future project scopes and phasing (with cost estimates).

Chilkat Vistas Subdivision

Private • Juneau, AK • 2019 - 2023

proHNS designed and inspected the both phases of this residential subdivision development: the first constructed a 1,000-foot access road and sewer main from Hooter Lane to the project site, and the second paved the roadway and installed a water line, storm drain network, curb and gutter, and sidewalk. Lucas was responsible for managing both the design and construction contracts, and also served as Designer of Record.

Goodwin Road Reconstruction

City and Borough of Juneau • Juneau, AK • 2022

Lucas served as the CM/PM on the CA&I portion of this project, the final phase in a series of improvements to Juneau's Blueberry Hills subdivision. Lucas mentored and trained a new proHNS construction inspector on this project, which replaced the roadway subbase to a depth of 18-inches, installed new curb and gutter, and resurfaced with asphalt cement pavement. It also replaced the water main and services, the sanitary sewer force main, a segment of gravity sewer main, and installed new sanitary sewer services, new sewer cleanouts, and a refurbished storm drain system.

Lee Street Pump Station Upgrades

City and Borough of Juneau • Juneau, AK • 2022

Lucas provided civil engineering design for this project that upgraded an existing pump station to maintain operating pressure and provide fire flow to a nearby subdivision. Lucas was responsible for locating prior hydraulic analyses, collecting flow data at existing fire hydrants, determining system pressure requirements for minimum and maximum curb pressures and fire flows, and assessing pump station components for potential reuse. proHNS partnered with an electrical subconsultant who provided designs for pump station controls and subsequently assisted with construction inspection, which Lucas also handled.

Bonnie Brae Pump Station Upgrades

City and Borough of Juneau • Juneau, AK • 2022

As the CM/PM and Designer of Record on this project, Lucas was responsible for all management activities (including electrical subconsultant management), civil mechanical modeling and design, contract administration, and construction inspection. Renovations to the pump station included replacing all interior water piping, valves, and meters, as well all interior electrical components including lighting, sensors, and pump controls.

Douglas 4th Street Utilities and Drainage Improvements

City and Borough of Juneau • Juneau, AK • 2021 - 2022

Lucas served as the Designer of Record and CM/PM on this project that replaced aging utilities, including water, sewer, and storm drain networks. As part of the design, Lucas developed and analyzed several replacement size and location options for the multiple pressure zone water services. To minimize sediment accumulation and handle future storm flows, Lucas completely redesigned roadway grades, relocated structures, and up-sized existing pipes where necessary. He also managed the C&I portion of the project.

2020 Area Wide Paving

City and Borough of Juneau • Juneau, AK • 2020

Though the Contractor's schedule was irregular and unpredictable, Lucas successfully managed the CA&I portion of this project that improved seven CBJ roadways to varying degrees. He was able to deploy staff resources at the drop of a hat, ensuring the project was completed on schedule. He also used this project as a learning opportunity for the proHNS Lead Inspector, letting him take the lead on higher-level administrative responsibilities while checking all deliverables for accuracy and completeness.

Savikko Road Improvements

City and Borough of Juneau • Juneau, AK • 2020

Lucas conducted multiple site visits and an on-site scoping meeting to document utility locates, evaluate drainage patterns, confirm storm drain network locations, and create a basemap layout for this project that replaced a failing water line, replaced the road base and pavement, and upgraded drainage and sewer utilities. As the Lead Designer, Lucas led a meeting to present the design to the public, and worked with the CBJ PM to select the most appropriate alternative. He also managed the CA&I contract during construction.

Sitka Street Reconstruction

City and Borough of Juneau • Juneau, AK • 2019

As the Lead Designer on this CBJ project, Lucas handled primary engineering design, research, analysis and technical specification writing on this project that replaced Sitka Street's dilapidated and failing water main, with secondary improvements involving storm drainage collection upgrades and replacement of the aging pavement section between North Douglas Highway and Nowell Avenue. He also inspected the project's construction to ensure the Contractor completed work in compliance with the project plans and specifications.

Kaxdigoowu Héen Dei Trail Relocation

City and Borough of Juneau • Juneau, AK • 2019

Lucas provided overall project and contract management of the CA&I portion of this trail relocation project that took place amid protected wetlands. Work included installation of an aggregate base, storm drain culverts, hydroseeding of the old trail area, and asphalt paving of the new trail. proHNS worked with the contractor to administer and inspect the project's construction, ensuring erosion and sediment control measures remained in compliance with the project's SWPPP and all contract documents.

D & H Street Douglas Pavement and Drainage Improvements

City and Borough of Juneau • Juneau, AK • 2018

Lucas designed improvements for this project that encompassed over five blocks of two city streets. In addition to water, sewer, and storm drainage improvements, the project also involved replacement of concrete curb and gutter, ADA curb ramps, and new asphalt pavement. Lucas also served as the CM/PM when proHNS was contracted to provide CA&I work on the construction phase. Project challenges, aside from the quick design turnaround, included managing steep grades and locating/tying into old existing utilities.

Calvary Fellowship Subdivision

Southeast Endeavors LLC • Juneau, AK • 2018

Located near Auke Lake, the 9-lot Calvary Fellowship Subdivision is accessed from Glacier Highway by 300 feet of new road ending in a cul-de-sac. Lucas designed and modeled the new road, lot layout, driveways and water and sewer facilities servicing the new lots. The design extended an existing ductile iron water main with new HDPE water main to service all lots, with the sewer extending up the new road and tying into the existing system running along Glacier Highway.

Merritt Subdivision

Creative Development Inc. • Juneau, AK • 2018

To ensure CBJ development standards were met, Lucas performed on-site construction inspection on behalf of a private developer for this 13-lot subdivision on Douglas Island. The subdivision connects into existing Jackson Road facilities and includes 1,100 feet of new roadway, water and sewer facilities. Lucas worked closely with the subdivision designer to address site-specific design conflicts as they arose during construction.