MATANUSKA-SUSITNA BOROUGH ACTION MEMORANDUM **AM No. 25-059**

SUBJECT: Award of proposal number 25-140P to PND Engineers, Inc. for the contract amount of $264,572.00 to design a bridge replacement on Bradley road.

AGENDA OF: June 3, 2025

ASSEMBLY ACTION: Approved under the consent agenda 06/03/25 - BJH

AGENDA ACTION REQUESTED: Present to the Assembly for consideration.

Route To:	Signature
Purchasing Officer	X Rustin Krafft Signed by: Russ Krafft 5/15/2025
Public Works Director	Recoverable Signature X Tom Adams, PE Signed by: Tom Adams
Finance Director	Recoverable Signature X Cheyenne Heindel Signed by: Cheyenne Heindel
Borough Attorney	X Shannon Bodolay for NS Signed by: Shannon Bodolay 5/19/2025
Borough Manager	X Michael Brown Signed by: Mike Brown 5/19/2025
Borough Clerk	X Lonnie McKechnie Signed by: Lonnie McKechnie 5/20/2025

ATTACHMENT(S): Scope of Services (5p)

SUMMARY STATEMENT: On May 12, 2025, the Matanuska-Susitna Borough Purchasing Division issued a solicitation requesting Proposals from qualified firms for the design and construction administration services needed to replace the Bradley Road bridge in Trapper Creek, Alaska. The existing bridge, over 30 years old with limited documentation, crosses an anadromous fish stream and has deficiencies in its superstructure and scour protection. Temporary weight mitigation was added in 2020, but the bridge will be replaced with a new structure built to current design standards. Services purchased will support the Public Works Department in assembly district #7.

One proposal was received in response to the advertisement. Public Works staff conducted a single-point evaluation, which determined that PND Engineers has the capability to successfully complete the project and is the most advantageous firm for the Borough.

The completion date for this project is December 31, 2026.

In accordance with MSB 3.08.170(B), Administration requests authority to modify the resulting contract completion date by 90 days for unforeseen circumstances.

The Public Works Department, projects division will be administering the contract.

RECOMMENDATION OF ADMINISTRATION: Approve the subject action memorandum.

MATANUSKA-SUSITNA BOROUGH
FISCAL NOTE
Agenda Date: June 3, 2025

SUBJECT: Award of proposal number 25-140P to PND Engineers, Inc. for the contract amount of $264,572.00 to design a bridge replacement on Bradley Road.

FISCAL ACTION (TO BE COMPLETED BY FINANCE)	FISCAL IMPACT **YES** NO
AMOUNT REQUESTED $264,572.00	FUNDING SOURCE RSA Capital Projects
FROM ACCOUNT # 410.000.000 4xx.xxx	PROJECT# 30050-1800-1802
TO ACCOUNT :	PROJECT #
VERIFIED BY: Recoverable Signature X Liesel Zanto Signed by: Liesel Weiland	CERTIFIED BY:
DATE:	DATE:

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
Personnel Services						
Travel						
Contractual						
Supplies						
Equipment						
Land/Structures						
Grants, Claims						
Miscellaneous						
TOTAL OPERATING						
CAPITAL	264.6					
REVENUE						

FUNDING: (Thousands of Dollars)

General Fund						
State/Federal Funds						
Other	264.6					
TOTAL	264.6					

POSITIONS:

Full-Time						
Part-Time						
Temporary						

ANALYSIS: (Attach a separate page if necessary)

PREPARED BY: _____ PHONE: _____

DEPARTMENT: _____ DATE: _____

Recoverable Signature

X Cheyenne Heindel

APPROVED BY:

Signed by: Cheyenne Heindel DATE: _____

AM No. 25-059

ENGINEERS, INC.

April 23, 2025 PND 25A-043

Dustin Silva
Procurement Officer
Matanuska Susitna Borough
350 E. Dahlia Ave.
Palmer, AK 99645

SUBJECT: Engineering Fee Proposal – Bradley Bridge Replacement Rev 2

Dear Mr. Silva:

PND Engineers, Inc. (PND) is pleased to provide this engineering fee proposal for the Bradley Bridge Replacement Project. Engineering fees and the proposed design schedule are provided as attachments. PND understands the scope of the project includes performing site survey, a geotechnical investigation, complete design of the replacement bridge including approaches and foundations, bid support and construction administration services. PND's detailed scope and deliverables are further described below. Strikethrough items represent items removed from the scope during the previous round of fee negotiations with the Matanuska-Susitna Borough (MSB).

TASK 1 – Site Investigations

Task 1.1 Survey & Hydrology and Hydraulic Data Collection

PND will provide survey control, topographic, existing infrastructure as-built, and H&H survey support for the Bradley Road Bridge Replacement Project. The survey will be conducted utilizing NAD 83 Alaska State Plane Zone 4 (horizontal datum) and NAVD88, Geoid 12B (vertical datum). PND will recover existing or set new survey control monuments sufficient for design and construction. These will include horizontal control points and a minimum of two vertical control points which will be shown on a Survey Control Diagram compliant with MSB requirements. In addition, PND will:

- Perform sufficient boundary surveying to delineate the Right-of-Way extents and adjacent property boundaries for engineering design purposes.
- Perform a topographic survey to map existing site conditions to a 1-foot contour interval.
- As-built existing infrastructure including: full road sections (nominal 25 foot-interval), bridge deck, abutments, piers, and above/and below ground utilities extending a minimum of 350 feet either side of the bridge deck.
- Provide H&H survey support to provide additional stream gradient and profile information upstream of the bridge and the adjacent flood plain at the bridge site to facilitate HEC-RAS Modeling of the bridge site.

All survey services will be conducted by or under the direct supervision of Professional Land Surveyor

holding current registration in the State of Alaska.

Deliverables:

- Field Survey Report that includes survey base map, control data, ~~cross sections,~~ ACAD drawing files with surfaces and point files, and copies of survey field notes

TASK 1.2 – Geotechnical Investigation

PND will perform a geotechnical field investigation with drilling subcontractor GeoTek Alaska, Inc. (GeoTek). PND will characterize the subsurface at the site by advancing one borehole at the proposed location for each bridge abutment. Both boreholes will be advanced to 100 feet below the existing ground surface or until refusal occurs. Standard penetration tests (SPTs) will be performed according to ASTM D1586 at industry-standard intervals using a calibrated automatic trip hammer. If the soil conditions result in poor sample recovery with the SPT split spoon sampler, PND and GeoTek will adjust the penetration testing/sampling method to incorporate a larger diameter split spoon and a heavier automatic trip hammer. Both boreholes will be advanced using hollow stem auger (HSA) drilling methods and Geotek will field adjust the tooling as required for mud/wash rotary drilling methods in case heaving soils are encountered during drilling. A PND Engineer will direct the drilling activities, log the subsurface conditions encountered, and collect representative soil samples to be tested in PND's AASHTO-accredited laboratory after the field investigation is complete.

Upon completion of the field investigation and laboratory testing, PND will prepare a draft geotechnical report that will include at least the following: project location map, description of the project scope, description of the means and methods used during the field investigation, descriptions of the subsurface conditions encountered during the field investigation, laboratory test results, digital borehole logs, and foundation design recommendations. The design recommendations will include an idealized design soil profile at the location of each abutment, seismic design parameters, an assessment of the potential seismic hazards at the project site, the reusability of material that is likely to be excavated during construction, and any other geotechnical information that is pertinent to the design of the bridge. Any comments that the Matanuska Susitna Borough (MSB) has on the draft report will be addressed and incorporated into the final draft of the memorandum that will be attached to the design drawings as an appendix.

In addition to the abutment geotechnical investigation, PND will sample the river bed material and perform gradation testing to determine D50 value for an updated H&H scour analysis.

Subcontractor drilling costs – Due to potential unknowns and complications, GeoTek Alaska, Inc. conservatively estimated (4) of field drilling, see attached drilling proposal. It is likely that the drilling will be completed in less days than quoted, therefore PND proposes that PND field drilling labor over (2) days and all the subcontractor cost be a billable expense item at actual cost with a 5% markup.

Deliverables:

- Geotechnical Investigation Summary and Foundation Report

TASK 2 – Preliminary Engineering

~~**Bridge and Road Approach – Alternatives Analysis**~~

~~Our design process will start will the development of a detailed basis of design. PND will work with the MSB and other stakeholders to identify project needs and crossing criteria. PND will develop a minimum of (3) bridge alternatives that will vary in structure type, construction materials, and foundation elements. Cost estimates for each of the alternatives will be performed using PND's detailed estimating program and database called InEight (formerly HardDollar) developed for construction contractor planning, scheduling, and bidding. PND uses this program along with our historical cost data and metrics to develop highly accurate and detailed bottom-up construction cost estimates including equipment usage, fuel usage, and manpower curves. Cost estimate outputs will be exported to excel for project delivery.~~

Hydrology and Hydrualics

After determining the average river bed particle size (D50), PND will update the existing H&H scour analysis and update the recommended low chord criteria to match the current MSB bridge design criteria. In the event the final bridge crossing varies from the 2016 analysis (70' opening and 1.5:1 spill through abutment), PND will provide updates and additional H&H analysis as required for the project on a Time and Materials (T&M) basis.

~~PND will update our preliminary H&H analysis from 2016 with the additional field survey and newly proposed bridge crossing details. The flood information presented in the preliminary analysis used National Weather Service stream gauge data from nearby Moose Creek at Oilwell Road. The flood frequency analysis will be updated with the most recent flood data.~~

Bridge and Road Approach - 35% Design

PND will perform a basic bridge structure alternatives analysis that will compare the pro, cons, and costs of several potential bridge superstructure types. The alternatives analysis and recommendations will be summarized in a memorandum to the MSB. After concurrence on the preferred alternative, PND will advance the design 35% level. In the event that it is determined that additional concept analysis is desired by the MSB, PND can perform additional analysis on a T&M basis.

~~After submission of the draft design study (DSR) report and concurrence with the recommended alternative, PND with advance the preferred alternative to the 35% level. Lastly, the draft DSR will be updated with the preferred alternative 35% drawings, updated cost estimates, and all MSB draft comments will be addressed and/or incorporated into the final DSR.~~

Deliverables:

- ~~Draft and Final Design Study Report, to include~~:
  - ~~Detailed project description~~
  - ~~Project permitting requirements~~
  - Updated Hydrology and Hydraulics Report
  - Bridge Alternatives and Recommendations Memorandum
  - ~~Appendices: Geotechnical Investigation and Foundation Report, Bridge H&H Analysis Report, 35% drawings of recommended bridge alternative (35% drawing to be included in final report~~

~~only)~~

- 35% Design Package
    - Geotechnical Investigation and Foundations Report
    - 35% Design Drawings and Engineers Cost Estimate

TASK 3 – Permitting

PND will assist the owner in acquiring all permits necessary to construct the project. Permit application documents will be provided to MatSu Borough for review and comment, then updated as required before submission. Borough signatories will be required for the application submissions. Following submission, the permitting team will coordinate with the agencies to respond to any requests for additional information.

Anticipated permit requirements include:

1. USACE Department of the Army (DAP) Permit and Section 10 (Navigable Waters) compliance (as required).

   Following owner review and concurrence with 35% design documents, permitting specialists will coordinate with the project engineering and drafting team to develop a detailed description of the project, pertinent quantity calculations, and required permit drawing formats to accompany the applications. If needed, project engineers and permitting specialists will prepare an alternatives analysis, including detailed site and cost considerations.

   We are currently anticipating that the work can be performed under a Nationwide Permit and it will include the required Alaksa Department of Environmental Conversation (ADEC) Section 401 and antidegradation project review.

2. Alaska Department of Fish & Game (ADFG) Fish Habitat permit.
3. MatSu Borough Flood Hazard Development permit.

Deliverables:

- Final USACE permit with ADEC determination on water quality (Section 401)
- Final ADFG Fish Habitat Permit
- MatSu Borough Flood Hazard Development permit

There are additional potential regulatory requirements that we do not anticipate for this project and are not included within the scope. However, should conditions require it, PND can provide these services, or procure them from a subcontractor, under a separate agreement.

- NEPA assessment is not included within this scope as no Federal funding sources are anticipated.
- No permitting for geotech is included in this scope.
- Dredging is not anticipated within this project scope.
- Mitigation for impacts to waters of the U.S. may be required for new construction. Mitigation could take the form of a compensatory fee paid to a mitigation bank or a permittee-responsible mitigation project and will require additional agency coordination. This proposal does not

currently include a fee for compensatory mitigation planning, but one can be provided if preliminary research does not favor simple fee payment.

- Regulatory authorizations and site assessments not explicitly listed within the scope described above are not included in this proposal. Additional minor permits may be required as a result of specific design or project requirements. Proposals for those services can be provided as needed or will be the responsibility of the contractor.

TASK 4 – Final Design and Construction PS&E

PND will advance preliminary plans, specifications, and cost estimates for the project. Final plans and specification will include sufficient detail to show the full design intent and will provide adequate detailing and quantities to bid the project, fabricate the project elements, and install all project component. Each submittal shall include all items identified in the RFP and checklist items listed in the MSB Design Criteria Manual: Bridges & Crossing Culverts. Specifications for the project are to consist ADOT&PF Standard Specifications with MSB standard modification and special provisions. At this time, it is anticipated that there will no ROW impacts for the project and minimal approach road alignments modifications. PND will maintain a project comment resolution log and action item log throughout the project to ensure that all MSB comments, concerns, and general project coordination items are effectively addressed in a timely manner.

Deliverables:

- Plans in Hand Submittal (65% Design) - Includes: Final Design Study Memorandum, Engineers Estimate, Design Drawings, Specifications, and Comment-Response table
- Pre-PS&E Design (95% Design) – Includes: Engineers Estimate, Design Drawings, Specifications, and Comment-Response table
- Final PS&E Design (Stamped 100%) – Includes: Final engineer's estimate, Final Plans (11" x 17"), Project Specification Standard Modifications and Special Provisions, Comment-response table with written responses to address review comments on previous submittal, ACAD files of final design and survey drawings in 2023 Civil 3D format, Excel file for final quantities and cost estimates and Load Rating Analysis as required by Alaska Department of Transportation and Public Facilities.

TASK 5 – Bid Support: Time and Materials

PND will provide support to the MSB by assisting with the development of bid document and responding to bidder questions, attending bid meetings, and issuing bid addendums.

Deliverables: Draft Bidding documents (if requested by MSB), responses to bidder questions and all required addendums.

Task 6 – Construction Administration: Time and Materials

PND will provide construction administration services and support the MSB project manager from award of the construction contract to project closeout. Scope of services includes review and approval of all project submittals, review and response to project RFI's, review of contractor's pay requests or Change Orders, weekly site inspections of critical construction activities (fee estimates assumes (2) weekly visit consisting of (2) days of inspections), and project closeout (as-built development, turn over, coordination).