

GENERAL CONSULTING SERVICES

WORK ORDER No. 3

Runway/Taxiway Improvements, Obstruction Removal, and Replacement of Airfield Signage

BERLIN REGIONAL AIRPORT
CITY OF BERLIN, NEW HAMPSHIRE

THIS WORK ORDER is agreed to this ____ day of _____, 2017 by and between the City of Berlin, New Hampshire acting through the Berlin Airport Authority, hereinafter referred to as the OWNER, and the firm of HEB Engineers, Inc., hereinafter referred to as the ENGINEER, for professional engineering, planning, and administrative services in connection with improvements at the Berlin Regional Airport as hereinafter specified:

WITNESSETH THAT:

WHEREAS, the OWNER and the ENGINEER entered into an "Agreement for Professional Engineering Services for General Consulting Services," hereinafter referred to as the GENERAL CONSULTING AGREEMENT, on March 9, 2012, with an expiration of March 18, 2018.

WHEREAS, the OWNER now desires professional engineering services in connection with the proposed improvements to be provided in compliance with the terms and conditions of the GENERAL CONSULTING AGREEMENT; and

WHEREAS, this WORK ORDER will provide the project scope, schedule and fee for the work to be performed; and

NOW THEREFORE, the ENGINEER for the fees and reimbursements estimated to total **One Hundred Twenty-Eight Thousand Five Hundred Seventy-Four Dollars and Zero Cents (\$128,574.00)** for this WORK ORDER and not to exceed said amount unless a Supplemental Work Order is executed by both parties to the WORK ORDER with approval by the participating Agencies named above, agrees to furnish the agreed upon professional engineering, planning and administrative services to the OWNER in accordance with the following Articles:

PROJECT DESCRIPTION

This project includes Runway/Taxiway improvements, obstruction removal within Airport controlled property, and evaluation of airfield signage.

SCOPE OF WORK

The ENGINEER agrees to perform engineering services for the OWNER as described in Articles A through F, below, within the hours allotted for the services as listed in APPENDIX A - ITEMIZATION OF FEES – HEB ENGINEERS, INC.

ARTICLE A – DATA COLLECTION or PRE-PLANNING

I – Field Survey and Site Investigation: HEB Phase 001

The ENGINEER shall provide field survey and site investigation services in order to develop a base map suitable for design associated with the remaining phases of the project.

The work of the ENGINEER shall include:

Runway/Taxiway Improvements

- a) Determine field survey requirements and survey limits.
- b) Coordinate with Certified Wetland Scientist to delineate wetland boundaries within vicinity of Runway/Taxiway areas and obstruction removal areas.
- c) Field survey of runway/taxiway and associated wetland boundaries (if any). Survey limits to extend to the fenceline east of the runway.
- d) Preparation of basemap for use in design activities.
- e) Field investigation and documentation of pavement distress.
- f) Field identification of locations for geotechnical investigations.
- g) Coordinate geotechnical investigations to understand subsurface soil conditions in heavily distressed areas.
- h) Meet with Airport Manager to review project details.

Obstruction Removal within Airport Controlled Property

- i) Review airport boundaries and existing aviation easements to understand limits of Airport controlled property.
- j) Field survey to identify obstruction locations within Airport controlled property.
- k) Analyze data collected during field survey to determine limits of existing air space obstructions that can be removed with current Airport controlled property.

Evaluation of Airfield Signage

- l) Field survey to locate existing airfield signage.
- m) Complete field investigation and documentation of existing airfield signage.
- n) Coordinate with Electrical Engineer to perform field investigation to review existing airfield signage and electrical service.

Expenses for the ENGINEER shall include the cost of subconsultant services, mileage for site visits and meetings, miscellaneous reproduction costs, postage costs, as well as the other expenses as listed in APPENDIX A.

ARTICLE B – DESIGN, PERMITTING, AND REPROGRAPHICS or PLANNING

I – Design Development: HEB Phase 002

The ENGINEER shall provide design services to the OWNER to prepare 60-percent plans and specifications as well as a preliminary engineer's estimate of cost (EEOC) in accordance with the criteria discussed at the scoping meeting held on June 21, 2017. The work of the ENGINEER shall include:

Runway/Taxiway Improvements

- a) Review geotechnical investigation results and develop existing typical sections.
- b) Refine limits of Runway/Taxiway pavement improvements.
- c) Drainage system review to identify potential issues contributing to pavement deterioration.
- d) Identify pavement marking improvements.
- e) Preliminary design of pavement improvements and development of preliminary design plans for pavement improvements.

Obstruction Removal within Airport-Controlled Property

- f) Review details of field survey and identify obstructions to be removed within airport-controlled property.
- g) Develop preliminary design drawings for obstruction removal.

Evaluation of Airfield Signage

- h) Identify Airfield Signage needs and refine limits of improvements.
- i) Coordinate with Electrical Engineer for design and layout of new Airfield Signage and associated systems to incorporate electrical design elements into plans.

General and Plan Preparation

- j) Protected Surfaces Check through OE/AAA submission to FAA for temporary and permanent conditions for each project.
- k) Prepare Engineer's Opinion of Probable Construction Cost.
- l) Meet with Airport Manager to review project details.
- m) Prepare Engineer's Design Report documenting existing conditions, assumptions and design decisions. Report to be submitted to NHDOT for record in PDF format.
- n) Prepare and submit Construction Safety and Phasing Plan.
- o) Prepare outline of project manual.
- p) Prepare submission for Preliminary Design Review to NHDOT and FAA.

Expenses for the ENGINEER shall include the cost of subconsultant services, mileage for site visits and meetings, miscellaneous reproduction costs, postage costs, as well as the other expenses as listed in APPENDIX A.

II – Permitting: HEB Phase 003

The ENGINEER shall provide permitting services to the OWNER to prepare and submit applicable permit applications in connection with this work. The work of the ENGINEER shall include:

- a) NEPA Environmental Review
 - 1) It is anticipated that all elements of the project are considered to be categorically excluded from further review under NEPA. A categorical exclusion statement will be prepared for the project record.
- b) State Historic Preservation Office (SHPO) Section 106 Review:
 - 1) Conduct File Review at SHPO and submit Request for Project Review.
 - 2) Coordinate with NHDOT and State Historic Preservation Office for Section 106 review for all project elements.

Expenses for the ENGINEER shall include the cost of subconsultant services, mileage for site visits and meetings, miscellaneous reproduction costs, postage costs, as well as the other expenses as listed in APPENDIX A. **PERMITTING FEES WILL BE PAID DIRECTLY BY OWNER AND ARE NOT INCLUDED IN THE FEE SCHEDULE IN APPENDIX A.**

III – NHDES Wetland Permitting: HEB Phase 003A (IF NECESSARY)

The ENGINEER shall provide permitting services to the OWNER to prepare and submit applicable permit applications in connection with this work. This work will only be completed if necessary. The work of the ENGINEER shall include:

- a) Complete wetland application and submit to NHDES.
- b) Coordinate one (1) revision of design plans based on NHDES Wetland review.
- c) Coordination one (1) resubmission to NHDES for design review and approval.

Expenses for the ENGINEER shall include the cost of subconsultant services, mileage for site visits and meetings, miscellaneous reproduction costs, postage costs, as well as the other expenses as listed in APPENDIX A. **PERMITTING FEES WILL BE PAID DIRECTLY BY OWNER AND ARE NOT INCLUDED IN THE FEE SCHEDULE IN APPENDIX A.**

IV – Final Design: HEB Phase 004

The ENGINEER shall provide design services to the OWNER to prepare 95-percent plans and specifications as well as final plans, specifications, and an engineer's estimate of cost (EEOC) in accordance with the criteria discussed at the scoping meeting held on June 21, 2017. The work of the ENGINEER shall include:

- a) Prepare final construction plans and details based on comments received during the review of the Preliminary Design Review submission and permitting process.
- b) Prepare final specification book and bid package for the project including drafts of the following:
 - 1) Advertisement for Bids
 - 2) Proposal Documents
 - 3) Contract
 - 4) General Provisions
 - 5) Supplemental General Provisions
 - 6) Federal Wage Rates
 - 7) DBE Requirements
 - 8) Technical Specifications
 - 9) State and Federal Wage Rates
- c) Finalize Engineer's Opinion of Probable Construction Cost.
- d) Meet with Airport Manager to review final documents.
- e) Prepare Final Design Submission to NHDOT, FAA, Sponsor and other parties for final review and comment
- f) Respond to final review comments for incorporation into the final documents.
- g) Perform in-house quality control and quality assurance check on the final documents.

Expenses for the ENGINEER shall include the cost of subconsultant services, mileage for site visits and meetings, miscellaneous reproduction costs, postage costs, as well as the other expenses as listed in APPENDIX A.

V - Reprographics: HEB Phase 005

The ENGINEER will provide reprographics services to the OWNER. These services will include: reproduction of plan sets; photocopying and binding specifications, reports, and permit applications; and color copying as listed in APPENDIX A. Documents to be reproduced in this task shall include:

- a) 95% and Final (Bid) Specifications (6 and 15 respectively)
- b) 95% and Final (Bid) Plan Sets (9 and 15 respectively)
- c) Contract Plan Sets (6)
- d) Contract Specifications Sets (6)
- e) Contractor's/Resident Engineer's Plan Sets (6)
- f) Contractor's/Resident Engineer's Specifications Sets (6)
- g) As-built Plan Sets (6)
- h) As-built Electronic Files (4)
- i) Close Out Report (6)
- j) General Plan Printing for Alternatives and Reports

For the purposes of this contract, we have assumed the plan set will contain seventeen (17) sheets and the specifications will include approximately five hundred (500) pages.

Expenses for the ENGINEER shall include the cost of subconsultant services, mileage for site visits and meetings, miscellaneous reproduction costs, postage costs, as well as the other expenses as listed in APPENDIX A.

ARTICLE C – BIDDING & ARRANGEMENTS FOR CONSTRUCTION

I – Bidding and Arrangements for Construction: HEB Phase 006

The ENGINEER shall provide bidding and associated services to the OWNER to assist in the solicitation of bids, pre-proposal conference, and proposal review of this project. The work of the ENGINEER shall include:

- a) Finalizing an Advertisement for Bid and Legal Notice for the OWNER. Assisting the OWNER in advertising the bidding in publications of local circulation. The OWNER will be responsible to pay the local advertising costs.
- b) Distributing plans and specifications to plan viewing rooms for use by Contractors. It is assumed that two (2) sets will be distributed in this manner at no cost to the recipient.
- c) Assisting the OWNER in the distribution of Bidding Documents, (Bid Plans and Specifications) and the collection of bid deposits from potential bidders in person and by mail. Plan sets will be available at the ENGINEER'S office. The ENGINEER will distribute all plan sets requested by mail.
- d) Assisting the OWNER in the preparation and maintenance of a plan set holder's list.
- e) Scheduling, organizing, preparing an agenda, and attending and managing a Pre-Bid Conference at the Airport in conjunction with the OWNER.
- f) Answering Bidder's questions concerning bidding the project.
- g) Preparing and distributing an Addendum (1), for reason of clarification or administrative change in the bid documents. It is assumed that one (1) Addendum will be required.
- h) Scheduling, organizing, attending, and managing the bid opening in conjunction with the OWNER.
- i) Preparing a bid tabulation and distributing it to the OWNER, NHDOT/BA, and all bidders along with the return of bid bonds of all but the three lowest bidders.
- j) Reviewing the bids to help ensure the required documentation is present, checking references (two (2) lowest bidders) and verifying that the bonding company is listed on the appropriate list. Obtaining Disadvantaged Business Enterprise (DBE) information and any other known missing information from the low bidder.
- k) Providing a review of the bids to the OWNER and NHDOT/BA in the form of a recommendation of award letter.
- l) Assisting the OWNER in the refund of bid deposits to plan set holders.
- m) Preparing six (6) Contract Sets of plans and specifications, circulating them for execution, and distributing the executed copies.

Expenses for the ENGINEER shall include the cost of subconsultant services, mileage for site visits and meetings, miscellaneous reproduction costs, postage costs, as well as the other expenses as listed in APPENDIX A.

ARTICLE D – GRANT ADMINISTRATION

I – Grant Administration: HEB Phase 007

The ENGINEER shall provide general grant administration services to the OWNER. The work of the ENGINEER shall include:

- a) Scheduling, organizing, attending, and managing a Pre-Design Meeting at the Airport. This task includes the preparation of a project Pre-Design Meeting Agenda.
- b) Preparing a detailed project scope; draft engineering AGREEMENT, and final engineering AGREEMENT based on negotiations with the OWNER, NHDOT/BA and FAA.
- c) Preparing an FAA Grant Application, including Standard Form 424, FAA Forms 5100-100, program narrative, final engineer's estimates of costs, grant assurances, the previously prepared but not reproduced Exhibit A - Airport Property Plan (24 x 36-inch size), sponsor certifications, and transmittal letters. Eight (8) copies of the FAA Grant Application will be made for submittal to the FAA for distribution as follows: NHDOT/BA - four (4) copies), OWNER - (one (1) copy), and ENGINEER - (two (2) copies). Assisting the OWNER in processing the applications.
- d) Assisting the OWNER in the preparation and processing of FAA Requests for Reimbursement and NHDOT/BA Applications for AIP Grant Payment. This task is assumed to consist of four (4) Requests for Reimbursement and four (4) NHDOT/BA Applications for AIP Grant Payments.
- e) Assist Owner with Invoice Payments
- f) Update Estimated Project Expenditures

- g) Prepare DBE / Small Business Plan
- h) Calculating DBE project expenditures for projects anticipated to be funded under the AIP grant program, tracking DBE project expenditures for current projects being administered under FAA grant, and forwarding information to the NHDOT/BA.
- i) File DBE Accomplishments on behalf of Owner with FAA.
- j) Assisting the OWNER in preparation and filing of project close out documentation. Two (2) hardcopies and two (2) CDs will be submitted to NHDOT.
- k) Retaining records and a filing system for six (6) years after submission of the final payment request.

Expenses for the ENGINEER shall include the cost of subconsultant services, mileage for site visits and meetings, miscellaneous reproduction costs, postage costs, as well as the other expenses as listed in APPENDIX A.

ARTICLE E - CONSTRUCTION ADMINISTRATION

I – Construction Administration: HEB Phase 008

The duration of the construction contract will influence the time and level of effort required of the ENGINEER to provide construction administration services to the OWNER. As the exact contract duration is not known as of the date of execution of this AGREEMENT, it has been assumed that the duration is ninety (90) calendar days. The actual time may vary from these assumptions, and the level of effort, and compensation, will vary accordingly. Therefore the ENGINEER will perform construction administration services on an actual cost plus 15 percent profit basis as defined in Article I.2, "Actual Cost Plus Percent Profit." In no case shall the fees for construction administration exceed the total amount stated in Article I - BASIS OF PAYMENT, without the execution of a Supplemental Agreement.

The ENGINEER shall provide construction administration services to the OWNER to assist in the management of the construction phase of this project. This task will also include assistance from the soils and geotechnical subconsultant. The work of the ENGINEER shall include:

- a) Scheduling, organizing, attending and managing a Pre-Construction Conference at the Airport.
- b) Coordinating the construction activities with the OWNER.
- c) Processing shop drawings, certificates of compliance, and other Contractor submittals. This task assumes that the project will generate approximately five (5) submittals. Work under this task includes: preparation of project submittal logs, recording each submittal upon receipt from Contractor, distribution of submittal to third party (if required), review of each submittal for compliance to the applicable specifications, providing written justification for submittal revisions and/or rejection (if required), review of third party review comments (if required), recording review status of each submittal on the submittal log, and distribution of reviewed submittals to Contractor and Resident Engineer.
- d) Reviewing and processing Contractor's Pay Requests. This task assumes that the Contractor will submit six (6) Periodic Cost Estimates, four (4) over the course of construction, one (1) for punch list work and one (1) to release retainage. The task assumes that the Contractor and Resident Engineer have agreed to the payment quantities. The Project Manager (ENGINEER) will review Periodic Cost Estimates for completeness and compliance to specification requirements.
- e) Scheduling, organizing, attending and managing job meetings at the Airport. Eight (8) job meetings are anticipated during the course of the project.
- f) Processing two (2) Change Order if requested by the Contractor or required by the OWNER.
- g) Reviewing certified payrolls from the Contractor (and subcontractors, if applicable) and retaining for the OWNER'S records. Returning unacceptable certified payrolls to the Contractor and tracking certified payrolls to help ensure that payrolls are received for each work week.
- h) Providing assistance and support to the Resident Engineer and answering questions on plan interpretations and minor changes.
- i) Responding to Contractor's questions, requests for information, and proposed project changes.
- j) Preparing a final project punch list based on the site walk.
- k) Scheduling, organizing, attending, and managing a Final Inspection at the Airport.
- l) Preparing and signing "as-built" plans prepared from information and data provided by the Contractor, and input from the Resident Engineer.
- m) Providing electronic copies in AutoCAD and PDF format, of the "as-built" plans to the OWNER and NHDOT/BA.

Expenses for the ENGINEER shall include the cost of subconsultant services, mileage for site visits and meetings, miscellaneous reproduction costs, postage costs, as well as the other expenses as listed in APPENDIX A.

ARTICLE F - TECHNICAL OBSERVATION OF CONSTRUCTION

I - Resident Engineering (Part-Time): HEB Phase 009

The ENGINEER shall provide part-time, on-site Resident Engineering services to the OWNER to monitor construction for reasonable conformity with the contract documents to the extent of the customary practice of professional engineers for this work. It is assumed that the contract period for the construction of this project will be Ninety (90) calendar days in duration required for Resident Engineering Services, and that the Resident Engineer will require one (1) day prior to the start of construction for layout, project start-up, and to attend the pre-construction conference and one (1) day at the completion of construction for review of as-builts, record keeping, and project close-out documentation. Pursuant to Federal labor laws, we have assumed the first eight (8) hours of each weekday are paid at the Resident Engineer's normal pay rate and that all additional time is considered "overtime" and is at a higher pay rate. The Resident Engineer's responsibilities shall be as enumerated in the construction contract documents and shall include:

- a) Preparation of daily and monthly field reports
- b) Maintenance of estimates of construction quantities
- c) Review of pay requests and change order requests from the contractor and forwarding of acceptable requests to the ENGINEER for further processing
- d) Acting as the OWNER's representative on the construction site
- e) Coordination between the contractor and the OWNER, and other Airport users
- f) Attendance at all project meetings during construction
- g) Observation of construction

Expenses for the ENGINEER shall include the cost of subconsultant services, mileage for site visits and meetings, miscellaneous reproduction costs, postage costs, as well as the other expenses as listed in APPENDIX A.

ARTICLE G – SCHEDULE

A tentative schedule for the execution of the above-mentioned engineering services is established herein, and a final schedule shall be established upon issuance of a Notice to Proceed and shall be as established and agreed upon by the OWNER, ENGINEER, NHDOT/BA and FAA, and shall become part of this AGREEMENT. The ENGINEER shall not be required to start work until a completed, signed and approved AGREEMENT is received by all parties. If so ordered in writing by the OWNER, the ENGINEER may begin the AGREEMENT work prior to receiving a completed AGREEMENT. The tentative schedule follows:

PROJECT SCHEDULE

Scoping/Pre-Design Meeting -----	June 21, 2017
Contract Negotiations -----	October 17, 2017
Data Collection -----	December 1, 2017
Design Development -----	January 19, 2018
Permitting-----	April 13, 2018
95% and Final Design -----	May 9, 2018
NHDOT Review -----	June 15, 2018
Advertise for Bids-----	November 2, 2018
Bids Opened -----	November 30, 2018
NHDOT/BA – FAA Grant Applications -----	December 29, 2018
Construction Start -----	May 2019
Construction Complete-----	September 2019
Project Close Out-----	November 2019

ARTICLE H – DELIVERABLES

The following deliverables are to be provided by the ENGINEER in accordance with Articles A through F:

Article A - Data Collection

- Existing-Features Plan
- Geotechnical Investigation Results
- Runway/Taxiway PCI Value

Article B.I – Design Development

- 60% Plans and Specifications
- 60% Engineer's Opinion of Probable Cost
- Engineer's Opinion of Probable Cost
- Design Report
- Safety Plan

Article B.II – Permitting

- Copies of all permitting submissions.

Article B.III – NHDES Wetland Permitting

- Copies of permitting submission.

Article B.IV – 95% and Final Design

- 95% and Final Plans and Specifications
- Final Engineer's Opinion of Probable Cost

Article C. - Bidding and Arrangements for Construction

- Advertisement for Bid/Legal Notice
- Addenda (if required)
- Bid Tabulation
- Recommendation of Award Letter
- Bid Sets
- Contract Sets

Article D. – Grant Administration

- Pre-Design Meeting Agenda
- FAA Grant Application
- NHDOT/BA Applications for AIP Grant Payments (4)
- FAA Reimbursement Requests (4)
- DBE Goals and Expenditures Reports
- Project Close Out Documentation

Article E. - Construction Administration

- Pre-Construction Meeting Agenda
- Periodic Probable Cost Assessments (3)
- Change Order (potentially)
- Punch List

Article F. I - Resident Engineering

- Daily Reports
- Monthly Reports

Electronic copies of the As-Built plans in AutoCAD and .pdf format will be provided to the OWNER, NHDOT/BA and FAA upon completion of the project.

ARTICLE I – ESTIMATE OF FEE AND BASIS OF PAYMENT

1. LUMP SUM FEES

Lump Sum Fees shall be charged for all Articles under this WORK ORDER except those specifically enumerated in ARTICLE I - ESTIMATE OF FEE AND BASIS OF PAYMENT, Paragraph 2, "ACTUAL COST PLUS PERCENT PROFIT FEES." The Lump Sum Fees to be charged by the ENGINEER and paid by the OWNER are as follows:

- a) For work under Article A.I, "Field Survey and Site Investigation" a Lump Sum Fee of Fourteen Thousand Nine Hundred Ninety-Seven Dollars and No Cents (\$14,997.00).
- b) For work under Article B.I, "Design Development" a Lump Sum Fee of Nineteen Thousand Nine Hundred Thirty Dollars and No Cents (\$19,930.00).
- c) For work under Article B.II, "Permitting" a Lump Sum Fee of One Thousand Five Hundred Ninety-Two Dollars and No Cents (\$1,592.00).
- d) For work under Article B.III, "NHDES Wetland Permitting" a Lump Sum Fee of Four Thousand Three Hundred Seventy-Seven Dollars and No Cents (\$4,377.00) *if NHDES Wetland Permitting is required.*
- e) For work under Article B.IV, "Final Design" a Lump Sum Fee of Sixteen Thousand One Hundred Thirty-Eight Dollars and No Cents (\$16,138.00).
- f) For work under Article C.I, "Bidding & Arrangements for Construction" a Lump Sum Fee of Seven Thousand Eight Hundred Sixty-Nine Dollars and No Cents (\$7,869.00).
- g) For work under Article D.I, "Grant Administration" a Lump Sum Fee of Ten Thousand Nine Hundred Eighty-Eight Dollars and No Cents (\$10,988.00).

2. ACTUAL COST PLUS PERCENT PROFIT FEES

The ENGINEER's charges for the actual cost of providing services will be computed as the total of (1) Salary cost, (2) Overhead at the overhead factor of 155.85 and (3) Direct non-salary expenses, all as defined in the FAA's Advisory Circular No. 150/5100-14E entitled "Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects", a copy of which is on file in the offices of each of the parties hereto.

A profit factor of 15% will be added to the total actual cost, except where noted ("Reprographics").

The total of the ENGINEER's charges for providing these services shall not exceed the following amounts without the prior written approval of the OWNER, the FAA and the NHDOT:

- f) For work under Article B.V, "Reprographics" the amount of Two Thousand Nine Hundred Fifty Dollars and No Cents (\$2,950.00).
- g) For work under Article E.I, "Construction Administration" the amount of Seventeen Thousand Three Hundred Ninety-One Dollars and No Cents (\$17,391.00).
- h) For work under Article F.I, "Resident Engineering (Part-time)" the amount of Twenty-Six Thousand Five Hundred Ninety-Two Dollars and No Cents (\$26,592.00).
- i) For work under Article F.II, "Materials Testing" the amount of Five Thousand Seven Hundred Fifty Dollars and No Cents (\$5,750.00).

The basis for this amount is included in the breakdown of hours/task in APPENDIX A.

The ENGINEER has not given, offered or agreed to give any person, corporation or other entity any gift, contribution or offer of employment as an inducement for, or in connection with the award of this AGREEMENT.

No person, corporation or other entity other than the bona fide full-time employee of the ENGINEER has been retained or hired by the ENGINEER to solicit for or in any way assist the ENGINEER in obtaining this AGREEMENT for services upon an agreement or understanding that such person, corporation or other entity be paid a fee or other consideration contingent upon the award of the AGREEMENT.

HEB ENGINEERS, INC.

ATTEST

ATTEST

By: _____
Name: _____
Title: _____

Attached: Appendix A – Itemization of Fees, HEB Engineers, Inc.
Appendix B – Subconsultant Fee Proposal

APPENDIX A

ITEMIZATION OF FEES
HEB Engineers, Inc.

Section 1.0**Project Cost Summary:****1.1 HEB Engineers, Inc. Contract Amount**

Article	Description	Billing Type	Total
A.	Collection of Data		
I.	Field Survey and Site Investigation	LS	\$14,997
B.	Design, Permitting and Reprographics		
I.	Design Development	LS	\$19,930
II.	Permitting	LS	\$1,592
IV.	Final Design	LS	\$16,138
V.	Reprographics	AC +10%	\$2,950
C.	Bidding and Arrangements for Construction	LS	\$7,869
D.	Grant Administration	LS	\$10,988
E.	Construction Administration	AC +15%	\$17,391
F.	Technical Observation of Construction		
I.	Resident Engineering	AC +15%	\$26,592
II.	Materials Testing	AC +15%	\$5,750
Estimated Total Engineering Fee			\$124,197
<i>The following phase is to be completed only if necessary:</i>			
B.	Design, Permitting and Reprographics		
III.	NHDES Wetland Permitting (if necessary)	LS	\$4,377
Estimated Total Engineering Fee (if wetland permitting is necessary)			\$128,574
Abbreviations of Billing Type:		Total Hours	943
LS = Lump Sum			
AC + 15% = Actual Cost plus 15% profit			
<u>Fee Summary by FAA Grant App. Category</u>			
Category		Fee	
4 Architectural Engineering Basic Fees		\$78,841	
6 Project Inspection Fees		\$49,734	

ARTICLE A.I - COLLECTION OF DATA - Field Survey and Site Investigation																		
Article	Description	Lead Struct Eng	Sr. Struct Eng	Staff Struct Eng	Jr. Struct Eng	Res. Eng.	Lead Civil Eng	Sr. Civil Eng	Staff Civil Eng	Jr. Civil Eng	Princ. Surv.	Staff Surv. III	Staff Surv. II	Staff Surv I	Surv /Eng Tech.	CADD Tech.	Admin.	Total
Runway/Taxiway Improvements																		
a)	Determine field survey requirements and survey limits											3						3
b)	Coordinate with Certified Wetland Scientist to delineate wetland boundaries within vicinity of Runway/Taxiway areas and obstruction removal areas.								2									2
c)	Field survey of runway/taxiway and associated wetland boundaries (if any).											18		18				36
d)	Preparation of basemap for use in design activities.													8				8
e)	Field investigation and documentation of pavement distress.									8								8
f)	Field identification of locations for geotechnical investigations.								4									4
g)	Coordinate and perform geotechnical investigations to observe subsurface soil conditions.								2									2
h)	Meet with Airport Manager to review project details.								4									4
Obstruction Removal within Airport Controlled Property																		
i)	Review airport boundaries and existing avigation easements to understand limits of Airport controlled property.											4						4
j)	Field survey to identify obstruction locations.											4		4				8
k)	Analyze data collected during field survey to determine limits of existing air space obstructions that can be removed with current Airport controlled property.								8			2						10
Evaluation of Airfield Signage																		
l)	Field survey to locate existing airfield signage.											2		2				4
m)	Complete field investigation and documentation of existing airfield signage.								2									2
n)	Coordinate with Electrical Engineer to perform field investigation to review existing airfield signage and electrical service.								2									2
Total - Hours		0	0	0	0	0	0	0	24	8	0	33	0	32	0	0	0	97
Hourly Rate		\$47.00	\$36.00	\$30.00	\$27.00	\$30.00	\$46.00	\$44.00	\$38.00	\$25.00	\$47.00	\$31.00	\$27.00	\$24.00	\$19.00	\$25.00	\$25.00	
Direct Labor Cost		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$912.00	\$200.00	\$0.00	\$1,023.00	\$0.00	\$768.00	\$0.00	\$0.00	\$0.00	
Totals																	Expense Detail:	
Dir. Labor																	Travel	\$273
OH @ 151.32																	Phone	\$0
Total Labor																	Repro.	\$25
																	Postage	\$25
																	Total	\$323
15% Profit																	Subconsultant Detail:	
																	Wetlands	\$3,000
Subconsultants																	Geotech	\$2,784
Expenses																	Electrical	\$500
Total																		\$0
																	Total	\$6,284

ARTICLE B.I - DESIGN, PERMITTING AND REPROGRAPHICS - Design Development																		
Article	Description	Lead Struct Eng	Sr. Struct Eng	Staff Struct Eng	Jr. Struct Eng	Res. Eng.	Lead Civil Eng	Sr. Civil Eng	Staff Civil Eng	Jr. Civil Eng	Princ. Surv.	Staff Surv. III	Staff Surv. II	Staff Surv I	Surv /Eng Tech.	CADD Tech.	Admin.	Total
Runway/Taxiway Improvements																		
a)	Review geotechnical investigation results and develop existing typical sections.								2									2
b)	Refine limits of Runway/Taxiway pavement improvements.								10									10
c)	Drainage system review to identify potential issues contributing to pavement deterioration.								2	8								10
d)	Identify pavement marking improvements								2	4								
e)	Preliminary design of pavement improvements and development of preliminary design plans.						2		8	24								34
Obstruction Removal within Airport Controlled Property																		
f)	Review details of field survey and identify obstructions to be removed within airport-controlled property.									3								3
g)	Develop preliminary design drawings for obstruction removal.								4	12								16
Evaluation of Airfield Signage																		
h)	Identify Airfield Signage needs and refine limits of improvements.								2									2
i)	Coordinate with Electrical Engineer for design and layout of new Airfield Signage and associated systems to incorporate electrical design elements into plans.								4	8								12
General and Plan Preparation																		
j)	Protected Surfaces Check through OE/AAA submission to FAA for temporary and permanent conditions for each project.								2	6								8
k)	Prepare Engineer's Opinion of Probable Construction Cost.								2	8								10
l)	Meet with Airport Manager to review project details.								4									4
m)	Prepare Engineer's Design Report documenting existing conditions, assumptions and design decisions. Report to be submitted to NHDOT for record in PDF format.								4	14							3	21
n)	Prepare and submit Construction Safety and Phasing Plan.								8	16							4	28
o)	Prepare outline of project manual.								6									6
p)	Prepare submission for Preliminary Design Review to NHDOT and FAA.								2	4							6	12
q)	Project Management								8								4	
r)	Quality Control						4										4	8
Total - Hours		0	0	0	0	0	6	0	70	107	0	0	0	0	0	0	21	186
Hourly Rate		\$47.00	\$36.00	\$30.00	\$27.00	\$30.00	\$46.00	\$44.00	\$38.00	\$25.00	\$47.00	\$31.00	\$27.00	\$24.00	\$19.00	\$25.00	\$25.00	
Direct Labor Cost		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$276.00	\$0.00	\$2,660.00	\$2,675.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$525.00	
Totals																		
Dir. Labor			\$6,136															
OH @ 151.32			\$9,285															
Total Labor			\$15,421															
15% Profit			\$2,313															
Subconsultants			\$2,000															
Expenses			\$195															
Total			\$19,930															
Expense Detail:																	Travel	\$45
																	Phone	\$0
																	Repro.	\$50
																	Postage	\$100
																	Total	\$195
Subconsultant Detail:																	Elec. Eng.	\$2,000
																		\$0
																	Total	\$2,000

ARTICLE B.IV - DESIGN, PERMITTING AND REPROGRAPHICS - Final Design

Article	Description	Lead Struct Eng	Sr. Struct Eng	Staff Struct Eng	Jr. Struct Eng	Res. Eng.	Lead Civil Eng	Sr. Civil Eng	Staff Civil Eng	Jr. Civil Eng	Princ. Surv.	Staff Surv. III	Staff Surv. II	Staff Surv I	Surv /Eng Tech.	CADD Tech.	Admin.	Total
a)	Prepare final construction plans and details based on comments received during the review of the Preliminary Design Review submission and permitting process.						4		16	36								56
b)	Prepare final specification book and bid package for the project								8								16	24
c)	State and Federal Wage Rates																2	2
d)	Finalize Engineer's Opinion of Probable Construction Cost.								2	8							2	12
e)	Meet with Airport Manager to review final documents.								4									4
f)	Prepare Final Design Submission to NHDOT, FAA, Sponsor and other parties for final review and comment								2	4							8	14
g)	Respond to final review comments for incorporation into the final documents.								4	8							4	16
h)	Perform in-house quality control and quality assurance check on the final documents.								8								8	16
i)	Project Management						8										8	16
	Total - Hours	0	0	0	0	0	12	0	44	56	0	0	0	0	0	0	48	160
	Hourly Rate	\$47.00	\$36.00	\$30.00	\$27.00	\$30.00	\$46.00	\$44.00	\$38.00	\$25.00	\$47.00	\$31.00	\$27.00	\$24.00	\$19.00	\$25.00	\$25.00	
	Direct Labor Cost	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$552.00	\$0.00	\$1,672.00	\$1,400.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,200.00	
	Totals																	
	Dir. Labor	\$4,824															\$45	
	OH @151.32	\$7,300															\$0	
	Total Labor	\$12,124															\$50	
																	\$100	
	15% Profit	\$1,819															Total	\$195
	Subconsultants	\$2,000																
	Expenses	\$195																
	Total	\$16,138															Total	\$2,000

ARTICLE B.V - DESIGN, PERMITTING AND REPROGRAPHICS - Reprographics

Article	Description	Sets	Qty	Unit	Unit Cost	Total
a)	95% Specification Sets	6	3000	Pages	\$ 0.10	\$ 300.00
b)	95% Plan Sets	9	180	Sheets	\$ 1.00	\$ 180.00
c)	Bid Specifications Sets	15	7500	Pages	\$ 0.10	\$ 750.00
d)	Bid Plan Sets	15	300	Sheets	\$ 1.00	\$ 300.00
e)	Contract Plan Sets	6	120	Sheets	\$ 1.00	\$ 120.00
f)	Contract Specifications Sets	6	3000	Pages	\$ 0.10	\$ 300.00
g)	Contractor's/RE's Plan Sets	6	120	Sheets	\$ 1.00	\$ 120.00
h)	Contractor/RE's Specifications Sets	6	3000	Pages	\$ 0.10	\$ 300.00
i)	As-built Plan Sets	5	100	Sheets	\$ 1.00	\$ 100.00
j)	As-built Electronic Files	4	1	LS	\$ 100.00	\$ 100.00
k)	Close Out Report	6	120	Pages	\$ 0.10	\$ 12.00
l)	General Plan Printing for Alternatives & Reports	-	1	LS	\$ 100.00	\$ 100.00
					Subtotal	\$ 2,682
					10% Mark Up	\$ 268
					Total	\$ 2,950

Assume: Plan Set Sheet Count 20

Specification Page Count 500

Close Out Report Page Count 20

[illegible]

Article	Description	Lead Struct Eng	Sr. Struct Eng	Staff Struct Eng	Jr. Struct Eng	Res. Eng.	Lead Civil Eng	Sr. Civil Eng	Staff Civil Eng	Jr. Civil Eng	Princ. Surv.	Staff Surv. III	Staff Surv. II	Staff Surv I	Surv /Eng Tech.	CADD Tech.	Admin.	Total
a)	Pre-Design Meeting & Eligibility Determination						2		4									6
b)	Develop Project Scope						2		12								8	22
c)	FAA Grant Application						1		4			6					4	15
d)	NHDOT/FAA Reimb. Request (4-NHDOT, 4-FAA)								4								12	16
e)	Assist with Invoice Payments								4								2	6
f)	Update Est. Project Expenditures								4									4
g)	Prepare DBE / Small Business Plan						1		4								8	13
h)	Prepare DBE Goal Calculations						1		2								4	7
i)	File DBE Accomplishments								1								2	3
j)	Project Close Out Documentation						2		12								4	18
k)	Record Keeping (6 Years)								1								4	5
	Total - Hours	0	0	0	0	0	9	0	52	0	0	6	0		0	0	48	115
	Hourly Rate	\$47.00	\$36.00	\$30.00	\$27.00	\$30.00	\$46.00	\$44.00	\$38.00	\$25.00	\$47.00	\$31.00	\$27.00	\$24.00	\$19.00	\$25.00	\$25.00	
	Direct Labor Cost	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$414.00	\$0.00	\$1,976.00	\$0.00	\$0.00	\$186.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,200.00	
	Totals																	
	Dir. Labor	\$3,776															\$0	
	OH @151.32	\$5,714															\$0	
	Total Labor	\$9,490															\$25	
	15% Profit	\$1,423															\$50	
																	Total	\$75
	Subconsultants	\$0															\$0	
	Expenses	\$75															\$0	
	Total	\$10,988															\$0	
																	Total	\$0

ARTICLE E - CONSTRUCTION ADMINISTRATION																		
Article	Description	Lead Struct Eng	Sr. Struct Eng	Staff Struct Eng	Jr. Struct Eng	Res. Eng.	Lead Civil Eng	Sr. Civil Eng	Staff Civil Eng	Jr. Civil Eng	Princ. Surv.	Staff Surv. III	Staff Surv. II	Staff Surv I	Surv /Eng Tech.	CADD Tech.	Admin.	Total
a)	Pre-Construction Conference								4								2	6
b)	General Coordination with Owner						2		16									18
c)	Shop Drawing, Cert.'s, Submittals Review								4	8							4	16
d)	Pay Req. Review & Processing								6								6	12
e)	Job Meetings (8)								12								2	14
f)	Change Order (2)						2		4								2	8
g)	Payrolls Review								12								2	14
h)	Consultation with Resident Engineer								24									24
i)	Consultation with Contractor								12									12
j)	Final Punch List								2								4	6
k)	Final Inspection								6									6
l)	Prepare As-Builts								2							8		10
m)	Submit As-Builts								2								1	3
Total - Hours		0	0	0	0	0	4	0	106	8	0	0	0	0	0	8	23	149
Hourly Rate		\$47.00	\$36.00	\$30.00	\$27.00	\$30.00	\$46.00	\$44.00	\$38.00	\$25.00	\$47.00	\$31.00	\$27.00	\$24.00	\$19.00	\$25.00	\$25.00	
Direct Labor Cost		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$184.00	\$0.00	\$4,028.00	\$200.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$200.00	\$575.00	
Totals																		
Dir. Labor																Expense Detail: Travel		\$0
OH @151.32																Phone		\$0
Total Labor																Repro.		\$0
15% Profit																Postage		\$0
																Total		\$0
Subconsultants																Subconsultant Detail: Elec. Eng.		\$2,400
Expenses																		\$0
Total																Total		\$2,400

ARTICLE F.I - TECHNICAL OBSERVATION OF CONSTRUCTION - Resident Engineering									
Contract Period is 90 calendar days									
Part-Time Resident Engineering 12 weeks									
LABOR					EXPENSES				
Contract Period (days) 90					Per Diem 0 Days On-Site @ \$120/Day \$ -				
Part-Time RE (weeks) 12					0 Days On-Site @ \$20/Day \$ -				
Weekly RE Hours 24					Mileage = \$ -				
Part Time RE Hours 288 Hours					Plus Misc. Expenses = \$ 234				
Plus 1 Day Start Up 8 Hours									
Plus 1 Day Punch List and Project Close Out 8 Hours									
Total Straight Time Hrs. = 304 Hours									
Total Overtime Hrs. = 0 Hours									
Labor @ \$30/Hr. Straight Time = \$ 9,120.00									
x 1.3 for Overtime = \$ -									
Total Direct Labor = \$ 9,120.00									
Totals									
Dir. Labor \$9,120									
OH @151.32 \$13,800									
Total Labor \$22,920									
15% Profit \$3,438									
Subconsultants \$0									
Expenses \$ 234									
Total \$26,592									

ARTICLE F.II - TECHNICAL OBSERVATION OF CONSTRUCTION - Materials Testing						
Article	Description	Qty	Unit		Unit Cost	Total
	Materials Testing					
a)	Materials Testing	1	Estimate		\$ 5,000.00	\$ 5,000.00
Subtotal		\$5,000.00				
15% Profit		\$ 750.00				
Total		\$5,750				
This value is an estimate. Once design is complete, a more accurate testing fee can be determined.						

APPENDIX B

SUBCONSULTANT FEE PROPOSAL

LEE F. CARROLL, PE

Electrical Consultant

PO BOX 357 • 1 MADISON AVENUE
GORHAM, NEW HAMPSHIRE 03581
TEL. 603-466-5065 - OFFICE
TEL. 603-466-3680 - HOME
E-mail: lcarroll@nc.rr.com

July 28, 2017

H E Bergeron Engineers, Inc.
2605 White Mountain Highway
P O Box 440
North Conway, NH 03860

Attn: Eric Grenier, PE

RE: Berlin Municipal Airport, Berlin, NH
Upgrade Runway and Taxiway Illuminated Signage

Subject: Electrical Engineering Design Fee Proposal

Dear Sir:

The following fee proposal for electrical engineering design services for the referenced project is submitted per your email of 26 July.

The project consists of electrical design and specifications for the installation of upgrades to the existing runway signage that is powered from the present constant current regulator and the addition of more illuminated signage. Our telephone conversation to clarify the scope of this firm's work resulted in your indication that there would likely not be in excess of a total of three (3) illuminated signs when the proposed project is completed and that this project would not result in the installation of a second constant current regulator to separate the present taxiway lights from the existing, single regulator that presently powers all runway and taxiway lights plus the existing signage. You also indicated that HEB would provide all civil design, including the design of bases for the signage to be installed, and that HEB would also confirm with the FAA which sign type will be required for each sign and the sign size and number of modules. I will not here that I strongly recommend that the signs utilize LED lighting (to minimize power use and ongoing maintenance costs for the Owner).

The proposal is based on CAD services by our CAD subcontractor. All needed base CAD files, including site plans, data/files, etc. will be provided by your firm electronically to our CAD subcontractor for our use. Progress plans will be provided as electronic files for your use as/if requested. Final deliverable electrical plans will be a copy of the electronic file plus one stamped and signed reproducible set of electrical plans developed for the project. Electrical specifications will be provided in our standard format in MS Word.

Construction administration services would be limited to shop drawing reviews and site reviews during construction, and they are noted as separate fee amounts for this project.

This proposal is based on this firm's standard insurance coverage being acceptable with no added coverage and/or increased limits.

Site trips are to be scheduled at mutually convenient times.

Involvement in any permits by any agency are NOT included in this proposal.

In preparing this fee proposal the following assumptions have been made:

1) It is assumed that with LED illuminated signs that the existing constant current regulator will not have to be upgraded. This will need to be confirmed, and if regulator upgrade or provision of a second, new, taxiway regulator becomes necessary, there will need to be an increase in the fee noted herein.

2) Drawings of the existing circuiting of the constant current regulator to existing runway and taxiway lights and existing signage will be provided for our use.

3) That the project does not involve modifications to any existing runway and/or taxiway lighting fixtures or circuit wiring beyond that required for the signage modifications.

Based on the information provided and the above noted assumptions, the fee for each of the three work items is as follows:

Upgrades to Runway and Taxiway Illuminated Signage

Electrical engineering design	\$4,000.00
Shop drawing reviews	350.00
Site reviews during construction (cost per site review)	1,000.00

The fee noted does not include this firm's provision of multiple copies of plans or specification for review or bidding purposes.

Your consideration of this firm to assist you with this project is appreciated and we look forward to serving you.

If you have any questions regarding this proposal, please let me know.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Lee F. Carroll, PE', with a stylized flourish at the end.

Lee F. Carroll, PE

17-0824 M

July 27, 2017

HEB Engineers
Attn: Eric Grenier
2605 White Mountain Highway
North Conway, New Hampshire 03860

Subject: Proposal
Berlin Regional Airport
Proposed Runway Rehabilitation
Berlin, New Hampshire

Dear Eric:

As requested, we have prepared this Proposal to provide asphalt coring services and base gravel sampling for the above referenced project in Berlin, New Hampshire.

SCOPE OF SERVICES: S. W. Cole Engineering, Inc. (S.W.COLE) will provide services as coordinated and directed by the HEB Engineers. We understand that our scope of services includes the following materials testing services:

Cut cores in locations provided to us by HEB Engineers on the existing runway and obtain pavement base material samples in 4 locations to perform grain size analysis tests. We will record the thickness of all of the cores obtained and provide a summary of our findings.

The project will be serviced from our Manchester, New Hampshire office. Our project manager will be Andrew Michaud and can be reached at 603-716-2111 or Andrew.Michaud@swcole.com.

SCHEDULE

We anticipate that our services will likely be needed on a part-time, as scheduled basis. We generally request 48 hours notice for scheduling of field services.



15-0824 M
July 27, 2017

BUDGET AND COMPENSATION

S.W.COLE will charge for our services on a unit rate basis in accordance with Attachment A. The estimated cost for our services is included in Attachment A-1.

TERMS AND CONDITIONS

It is understood that services provided by S.W.COLE are subject to our Terms and Conditions in Attachment B. If this Agreement meets with your approval, please sign two copies in the space provided below and return one for our files. The signed Proposal will constitute our agreement for the work.

We look forward to being of further assistance to you with this project.

Very truly yours,

S. W. COLE ENGINEERING, INC.

A handwritten signature in black ink, appearing to read 'A. Michaud', is written over a horizontal line.

Andrew A. Michaud
Construction Services Manager

CONTRACT ACCPETANCE:

BY:_____

TITLE:_____

FIRM:_____

PHONE:_____

DATE:_____



17-0824 M
July 11, 2017

**Charge Rate Schedule
Berlin Regional Airport
Proposed Runway Rehabilitation
Berlin, New Hampshire**

<u>ITEM</u>	<u>UNIT</u>	<u>RATE</u>
<u>Personnel</u>		
Sr. Field Technician	Hour	\$65*
Assistant Technician	Hour	\$55*
<u>Equipment</u>		
Asphalt Coring Equipment	Day	\$250
Cold Patch	Bag	\$25
<u>Other Direct Charges</u>		
Mileage	cost plus 5% (currently \$0.56/mile)	

* Note: Hourly rates are billed in 1/4 hour increments with no minimum half-day/full-day or overtime rates.

ATTACHMENT A



COST ESTIMATE
Attachment A-1

PROJECT NAME:	Berlin Regional Airport - Runway Rehabilitaion												
CLIENT:	HEB Engineers												
PROJECT NO:	17-0824												
DATE:	7/27/2017												
PROJECT MANAGER:	A. Michaud												
	ESTIMATED SUBTOTAL											\$ 2,784	
TASK	Miles (RND)	Travel Time (RND)	Time On site	Hourly Rate	Trips/v isits *	Mileag e	No. of Tests/ Equip. Days *	Unit Cost/test	TEST TOTAL	COST PER TRIP	TOTAL TRIPS COST	FIELD TOTAL	SUBTOTAL (including travel)
FIELD SERVICES													
Lead Technician	280	4.5	8	\$ 65	1	\$ 0.56				\$ 449	\$ 449	\$ 520	\$ 969
Assistant Technician		4.5	8	\$ 58	1	\$ 0.56				\$ 261	\$ 261	\$ 464	\$ 725
Core Drilling equipment							1	\$ 250.00	\$ 250.00				\$ 250
Cold Patch							5	\$ 20.00	\$ 100.00				\$ 100
Grain Size Analysis							4	\$ 95.00	\$ 380.00				\$ 380
Report			4	\$ 90	1							\$ 360	\$ 360
* ASSUMED VALUES													