Manchester - Boston Regional Airport
City of Manchester - Department of Aviation

TERMINAL APRON GATES 1-4 JOINT REPLACEMENT PROJECT

Bid # FY21-805-33

AS ADVERTISED
February 2021

PREPARED BY:
Jacobs
JACOBS ENGINEERING GROUP INC.
2 EXECUTIVE PARK DRIVE, SUITE 205
BEDFORD NH 03110
LEGAL NOTICE
CITY OF MANCHESTER DEPARTMENT OF AVIATION
MANCHESTER•BOSTON REGIONAL AIRPORT

REQUEST FOR BIDS

TERMINAL APRON GATES 1-4 JOINT REPLACEMENT
PROJECT
FEBRUARY 2021
FY21-805-33

NOTICE IS HEREBY GIVEN that sealed bids are sought and requested for performance of a contract, according to plans and specifications, by the City of Manchester, Department of Aviation for the Manchester•Boston Regional Airport as follows:

Manchester•Boston Regional Airport is seeking sealed bids from interested contractors to provide Concrete Joint Replacement Services which include localized repairs of the existing PCC apron slabs, joints and application of a joint sealer on the existing ramp near Gates 1-4 at Manchester•Boston Regional Airport. The work is intended to be before Fall 2021 subject to funding, and operational/weather dependencies.

The Bid Documents including the Contract Plans and Specifications will be available for free PDF download as posted on the Manchester•Boston Regional Airport website: https://www.flymanchester.com/doing-business-with-mht/procurement-services/ after 4:00 pm on Friday, February 26, 2021.

There will be a pre-bid conference and site walk held for this project on Thursday March 11, 2021 at 2:00 PM at the Airport Administration Offices on the 3rd floor of the Airport Terminal Building located at One Airport Road, Suite 300, Manchester, NH.

Bids must be received no later than 3:00pm on Thursday, March 25, 2021, at the Manchester•Boston Regional Airport Administration Office located at One Airport Rd. Suite 300, Manchester, New Hampshire 03103, Telephone (603) 624-6539. Bids must be in a sealed envelope plainly marked “TERMINAL APRON GATES 1-4 JOINT REPLACEMENT PROJECT FY21-805-33”, Attention: Mr. Carlton Braley, AAE. The bids will be publicly opened by the City of Manchester and read aloud at 3:00 P.M., on the same date.

All requests for information should be directed to Mr. Carlton Braley, AAE. Manchester•Boston Regional Airport by email: cboyle@flymanchester.com with cc to john.gorham@jacobs.com, or by fax: (603) 665-6801.

Manchester•Boston Regional Airport reserves the right to waive irregularities and to reject any and all bids on any basis and without a disclosure of reason.

Theodore S. Kitchens, A.A.E.
Airport Director
Bids Requested: The Owner, Manchester • Boston Regional Airport, (hereinafter called the Airport) hereby solicits bids from Contractors who are qualified, experienced, and able to provide and install PCC Apron Joint Sealer and Concrete Spall Repairs at the Manchester-Boston Regional Airport Manchester, NH. The City of Manchester (City), Manchester • Boston Regional Airport will accept and review Bids from interested Contractors.

Airport retains the right to choose a Contractor based solely upon the submitted bid. The submitted bids must provide sufficient detail and information in a clear and explicit manner. The purpose of the submission is to provide information that shall be evaluated in the selection of a Contractor to make necessary repairs and preparations to existing PCC apron concrete, and to provide and install joint sealer.

A Pre-Bid Conference will be held on Thursday March 11, 2021 at 2:00 PM. Please confirm your attendance in advance if possible by contacting the Airport Building Maintenance Superintendent, Carlton Braley, AAE, at cbraley@flymanchester.com with cc to john.gorham@jacobs.com. Participants will meet at the main conference room at 1 Airport Rd, Third Floor Administration, Suite 300, Manchester, NH at the designated time.

Additional job scopes, not specified in this document, may be required. Contractors should be aware that there is no guarantee that any work will result from this selection process and that if the assignment is undertaken, in whole or in part, there is no assurance of, nor should Contractors expect to receive further work or assignments.

City reserves the right to reject any and all bids for any reason, to waive information in any bid received, and to accept that bid which will, in its opinion, best serve the public interest.

II GENERAL PROVISIONS:

SCOPE OF SERVICES - The Contractor shall be required to repair and prepare existing PCC apron spalling as well as procure and apply joint sealer material in the joints between existing apron slabs. The Contractor shall also be required to verify work area and required material quantities. The Contractor shall ensure that all Federal and State Laws and Regulations and Local Ordinances and the Airport Rules and Regulations are adhered to and enforced.
The general scope of services includes, but is not limited to, the following:

1) The Contractor shall properly remove and prepare existing concrete found to be in unsatisfactory condition and dispose of such material in a safe and proper manner, off Airport property. Any disposal containers shall be covered to prevent material from being blown around in windy conditions. The Airport will provide a designated area for placement of the disposal container (dumpster) in the vicinity of the work site as directed by the Owner’s Representative for the duration of construction.

The contractor will be allowed storage/staging areas within the work site but must not obstruct any vehicle service roads. Gates 1 through 4 will be restricted and/or closed during construction operations and contractor personnel will be escorted to and from the site by airport escorts.

Care shall be taken during all phases of the work to prevent debris, materials, packaging, or other items from escaping the work area due to wind which could then become foreign object debris (FOD) on the airfield potentially causing hazard/risk to airfield operations. The Contractor could be held responsible for FOD-related issues caused by his work.

2) The Contractor shall verify all existing conditions prior to preparing the bid. Dimensions and quantities shown on the plans are approximate only and the Contractor shall make sufficient investigations and shall take sufficient measurements to satisfy that Contractor has all the required information for preparation of the bid. The Contractor shall perform a thorough inspection of the existing apron. The Contractor shall remove and replace damaged, spalling sections of existing PCC apron, clean and prepare for new concrete as specified in section P-610 of the technical specifications as attached and hereby incorporated into the bid documents and contract agreement.

3) The Contractor shall remove all existing joint sealer material within the project footprint. The contractor will install new joint sealer as specified in section P-605 of the technical specifications as attached and hereby incorporated into the bid documents and contract agreement.

4) The Contractor shall provide submittals for approval as required by the contract documents and attachments sufficiently in advance to allow a 3-day review period by the Owner’s Representative prior to procurement/construction.

5) The Contractor shall adhere to the plans for safety, site barricades, and other means of site protection.

6) The Contractor must supply all necessary labor, material, tools and equipment to complete the work. All materials and equipment used on the project are subject to prior approval by the Airport.
7) Signs, caution cones/barricades are required to capture and protect work areas and safety areas below from the public. Safety watch personnel may be necessary at certain times to ensure that safety areas are clear. Contractor shall be responsible to determine and provide all safety precaution measures as necessary and pre-coordinate with the Owner’s Representative to protect the public from hazards related to the Contractor’s work.

8) Contractor shall perform all work in accordance with and shall supply materials that meet or exceed all Federal, State and local regulations or requirements. MSDS sheets shall be kept on-site for all materials used.

9) Contractor shall provide a plan, methods, and schedule to accomplish said work. The said plan, method, and schedule are subject to prior approval by the Airport.

10) Contractor and Manufacturer of the joint sealer and spall repair shall provide a 1-year PERFORMANCE WARRANTY.

11) Refer to the notes and details on the Project Plans and in the Project Specifications for full definition of the Scope of Work.

B. PERSONNEL - The Contractor will provide workers in sufficient numbers to meet the requirements of the schedule agreed upon with the Airport. The Contractor shall also provide a list of work where a Sub-Contractor may be utilized. The Sub-contractor performance shall be the sole responsibility of the Contractor with whom the Airport has contracted. The Contractor shall be required to act in a user-friendly manner while performing the work, remembering always that they are, in effect, representing the Airport to its users.

C. INSURANCE - Contractor must supply Liability, Workers Compensation coverage, and all other insurance coverage necessary (see Exhibit “A”). Contractor must certify this requirement for any sub-contractor utilized on a project.

D. WARRANTY - Selected Contractor shall be responsible to supply a one-year material and labor warranty to the Airport.

E. DISSEMINATION OF INFORMATION - No statement, press release, plans or other information regarding the Airport, its operation, or this agreement, shall be released to the public without the express written consent in advance by the Airport Director.

F. EQUIPMENT - The Contractor shall supply all equipment necessary to perform the required work to meet the specifications.

G. PERFORMANCE AND PAYMENT BONDS – The successful bidder shall provide to the Airport, prior to execution of the contract, Performance Bond and Payment Bonds. Such Performance and Payment bonds shall be effective as of the starting date hereof and shall be maintained by Contractor throughout the term of this contract in the amount of the awarded contract amount. Such Performance and Payment Bonds shall
guarantee the contractor’s faithful performance of all its obligations under this contract. Any Performance and Payment Bonds provided by the contractor under this agreement shall be in the form provided or other form approved in advance in writing by the Airport and shall be written by a company licensed to do business in the State of New Hampshire. In the event any Performance and Payment Bonds provided hereunder shall be for a period of less than the full term of this contract, the contractor shall provide renewal or Replacement bonds which comply with the requirements of this section at least thirty (30) days prior to the date on which the previous bonds expire.

H. RESPONSIBILITY FOR BID: Each bidder is responsible for carefully examining each and every one of the terms and conditions set forth in this document and for making inspections of the work or otherwise judging for itself all the circumstances and conditions affecting the Bidder’s Bid. Such Bidder proprietary information only must be identified and marked accordingly. Submission of a Bid shall be conclusive evidence that the Bidder has made such examinations and investigations. Failure on the part of the Bidder to make such examination and to investigate fully and thoroughly shall not be grounds for any declaration that the Bidder did not understand the conditions of the Bid.

I. PROPRIETARY DATA: City requires that Bidders handle in confidence any information or data received from the Airport which may be construed as proprietary to the City’s ownership and management of the Airport. Additionally, such information or data may be security sensitive and should be viewed only by Bidder’s staff during Bid preparation and by workers during all phases of work, after award of the contract. No information or data may be forwarded to any person(s), without the written consent of the Airport unless necessary to prepare the Bid.

J. PRICING: The Contractor shall submit pricing to be inclusive of all requirements of the bid specifications based on items listed in the bid proposal.

K. PROHIBITED ACTS: The Contractor shall:

1) Conduct its activities in an orderly and proper manner so as not to annoy, disturb or be offensive to others;
2) Commit no nuisances while on Airport property, and shall not do or permit to be done anything which may result in the creation or commission or maintenance of a nuisance thereon;
3) Not conduct its activities in a manner that deprives the public of its rightful, equal and uniform use of the Airport;
4) Not conduct its operations so as to interfere with reasonable use by others of Manchester-Boston Regional Airport;
5) Not conduct its operations in such a way as to hinder police, fire fighting, or other emergency personnel in the discharge of their duties or so as to constitute a hazardous condition that would increase the risks normally attendant upon the activities contemplated in this Agreement.
L. SECURITY AND BACKGROUND INVESTIGATIONS

The Contractor will be responsible for any security related violations or penalties levied against the Contractor or Manchester • Boston Regional Airport by TSA or other agency, as a result of negligence on the part of the Contractor or its agents.

**Employee Identification Badges.** Full-time competent and responsible employees of the Contractor, such as superintendents and foremen, shall obtain an Airport SIDA badge. Additionally, employees who will be onsite for more than two continuous weeks shall obtain an Airport SIDA badge. The SIDA badge requires finger printing screening and a criminal history check. The badge application process may take up to fourteen (14) days, the Contractor shall plan accordingly. The Contractor shall have a minimum of 1/2 (50%) of on-site workers, including sub-contractors, submit to the badging process, unless otherwise approved by MHT Operations Management. Badged individuals must display their Airport issued badges on their outermost garment at all times while on the airfield. The costs associated with security access badges are the responsibility of the Contractor and shall not be paid for by the Owner. At all times while on the airfield, non-badged workers must be:

1. Within 100 ft of a badged worker
2. Within visual contact of a badged worker
3. Able to respond to the requests of a badged worker
4. Able to command the attention of a badged worker.

Any non-badged workers will not be allowed on the airfield without valid picture identification acceptable to the TSA (current and valid driver’s license, passport, etc.), and shall remain with a badged worker or Airport escort at all times. The Contractor shall provide the Owner with a list of employees on the job site and their badge number. The list shall include subcontractors and employees. The list shall be updated and submitted weekly.

**Upon completion of the contract the Contractor shall turn all the badges in to the owner for disposal.**

### III BID FORM:

Attached Proposal (Bid Form) Documents must be completed and submitted as a sealed bid package in accordance with the instructions herein.

### IV ACCEPTANCE OF CONTRACT TERMS:

A copy of the intended contract Agreement is attached to the Bid Documents.
V  QUESTIONS:

Questions regarding any aspect of the Invitation to Bid must be submitted in writing to Carlton Braley, AAE, Airport Building Maintenance Superintendent; Manchester Boston Regional Airport, at cbraley@flymanchester.com with cc to john.gorham@jacobs.com no later than 3:00 PM on Monday, March 22, 2021. No verbal questions will be addressed. Submitted questions and answers will be made available in written addendum via email to all potential bidders that provide an email address at the mandatory pre-bid meeting sign-in sheet.

VI  SUBMITTALS:

Bids must be received no later than 3:00pm on Thursday, March 25, 2021, at the Manchester•Boston Regional Airport Administration Office located at One Airport Rd. Suite 300, Manchester, New Hampshire 03103, Telephone (603) 624-6539. Bids must be in a sealed envelope plainly marked “BID – TERMINAL APRON GATES 1-4 JOINT REPLACEMENT PROJECT FY21-805-33”, Attention: Mr. Carlton Braley, AAE. The bids will be publicly opened by the City of Manchester and read aloud at 3:00 P.M., on the same date.
Manchester • Boston Regional Airport

TERMINAL APRON GATES 1-4
JOINT REPLACEMENT PROJECT

February 2021
FY21-805-33

AGREEMENT

This AGREEMENT made this ___ day of ____________, 2021, by and between the MANCHESTER-BOSTON REGIONAL AIRPORT/CITY OF MANCHESTER (hereinafter called the OWNER), and ______________________ (hereinafter called the CONTRACTOR).

1. The CONTRACTOR agrees to provide Joint replacement and Spall Repair in accordance with the Bid Specifications. The CONTRACTOR further agrees to perform this work in strict accordance to the following:

   A. The CONTRACTOR will supply and deliver all services and equipment as requested in strict accordance with the technical requirements, specifications and instructions contained in the Bid Specifications, and as set forth in the Bid and Contract Documents.

   B. CONTRACTOR shall supply manpower with the appropriate training, equipment, and material, to perform services as outlined within the Bid Specifications.

   C. The CONTRACTOR shall submit written certification attesting that the material being provided and installed meets or exceeds the required specifications.

   D. The OWNER shall not be responsible for supplies and equipment left on site by the CONTRACTOR.

   E. The CONTRACTOR shall immediately clean-up, store in appropriate containers and remove from the Owner’s premises any solvents, adhesives, or hazardous chemical spilled in the course of this contract.

   F. The CONTRACTOR shall be responsible for the storage and immediate removal of any hazardous material from the OWNERS property. The CONTRACTOR shall be responsible for proper and immediate cleanup of any materials. Materials must be disposed of in a manner consistent with good maintenance practices and in accordance with all applicable local, state, and/or federal guidelines and/or regulations.
G. The CONTRACTOR shall maintain a clean and obstruction free work area and comply with the OWNERS safety requirements at all times.

H. The contract may be terminated by the OWNER at any time upon written notice to the CONTRACTOR.

I. Payment shall be made by the OWNER to the CONTRACTOR when the CONTRACTOR has completed the required work and it has been inspected and accepted by the OWNER’s Representative. Provided an invoice for payment is received by the OWNER not later than the 20th day of a month, the OWNER shall make payment to the CONTRACTOR no later than the 16th day of the following month. If the OWNER receives the invoice after the invoice date fixed above, the OWNER shall make payment no later than 55 days after the OWNER received the invoice for payment.

J. The AGREEMENT consists of the Legal Notice, the Bid and General Requirements, Exhibit A, Exhibit B, Proposal (Bid Form) Documents (including the OWNER’s Contractor Company Questionnaire, and Contractor’s Schedule), Performance & Payment Bonds, Attachment-A: Project Plans, and Attachment-B: Technical Specifications, which all are incorporated herein by reference and made a part hereof, in addition to the Notice of Intent to Award, Notice to Proceed, and any other addenda attached hereto, issued before execution of this AGREEMENT, and any amendments duly executed by both parties.

*****************************************************************************

IN WITNESS WHEREOF, the parties hereto have executed this contract Agreement for Construction Services as of the year and day first mentioned.

Agreement Date: _____________________

City of Manchester, Department of Aviation:

By: ___________________________ By: ___________________________
   Airport Director                Contractor/CONTRACTOR

By: ___________________________ By: ___________________________
   Airport Witness                Contractor/CONTRACTOR Witness
CONTRACT AGREEMENT

INDEMNIFICATION AND INSURANCE REQUIREMENTS

In consideration of the utilization of Contractor's services by the City of Manchester and other valuable considerations, the receipt of which is hereby acknowledged, Contractor agrees that all persons furnished by Contractor shall be considered the Contractor's employees or agents and that Contractor shall be responsible for payment of all unemployment, social security and other payroll taxes including contributions from them when required by law.

CONTRACTOR hereby agrees to protect, defend, indemnify and hold the Owner, Authority, Architect/Engineer and Owner’s Representative and their respective employees, agents, officers and servants free and harmless from any and all losses, claims, liens, demands and causes of action of every kind and character including but not limited to, the amounts of judgments, penalties, interests, court costs, legal fees and all other expenses incurred by the Owner, Authority, Architect/Engineer or Owner’s Representative arising in favor of any party, including claims, liens, debts, personal injuries, including employees of the Owner, Authority, Architect/Engineer or Owner’s Representative, death or damages to property (including property of the Owner, Authority, /Engineer or Owner’s Representative) and without limitation by enumeration, all other claims or demands of every character occurring or in any way incident to, in connection with or arising or directly indirectly out of this Contractor Agreement. CONTRACTOR agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands or suits at the sole handle, of the CONTRACTOR. CONTRACTOR also agrees to bear all other costs and expense related thereto, even if the claim or claims alleged are groundless, false or fraudulent. This provision is not intended to create any cause of action in favor of any third party against Contractor or the City or to enlarge in any way the CONTRACTOR'S liability but is intended solely to provide for indemnification of the City from liability for damages or injuries to third persons or property arising from CONTRACTOR'S performancehereunder.

CONTRACTOR agrees to maintain in full force and effect:

a. General Liability insurance written on occurrence form, including completed operations coverage, personal injury liability coverage, broad form property damage liability coverage, and contractual liability coverage insuring the agreements contained herein. The minimum limits of liability carried on such insurance shall be $1,000,000 each occurrence and, where applicable, in the aggregate combined single limit for bodily injury and property damage liability; $1,000,000 annual aggregate personal injury liability.
b. Automobile liability insurance for owned, non-owned and hired vehicles. The minimum limit of liability carried on such insurance shall be $1,000,000 each accident, combined single limits for bodily injury and property damage.

c. Workers' Compensation insurance whether or not required by the New Hampshire Revised Statutes Annotated, with statutory coverage and including employer's liability insurance.

d. The Contractor will provide All-Risks Builder's Risk Insurance in an amount equal to 100% of the insurable value of the work, Completed Value Form including materials delivered and labor performed. This policy will be written in the name of the City of Manchester, Department of Aviation, the Contractor, Sub-Contractors, and Sub-subcontractors as their interests may appear. Such policy will also be endorsed so that loss, if any, shall be adjusted with and made payable to the Owner as Trustee for the insureds as their interests may appear; such insurance shall be specific as to coverage and not contributing insurance with any permanent insurance maintained as the present premises. The All-Risks insurance includes full flood and earthquake coverage. Materials stored off-site and materials in transit will be covered up to $100,000 per occurrence.

e. Any and all deductibles on the above described insurance policies shall be assumed by and be for the account of, and at the sole risk of Contractor.

f. Insurance companies utilized must be admitted to do business in New Hampshire or be on the Insurance Commissioner's list of approved non-admitted companies and shall have a rating of (A) or better in the current edition of Best's Key Rating Guide.

g. CONTRACTOR agrees to furnish certificate(s) of the above-mentioned insurance to the City of Manchester, Department of Aviation within five (5) days from the date of this agreement and, with respect to the renewals of the current insurance policies, at least thirty (30) days in advance of each renewal date. Such certificates shall, with respect to comprehensive general liability and auto liability insurance, name the City of Manchester, Department of Aviation, Manchester•Boston Regional Airport, City of Manchester Department of Risk Management, and the A/E Firm, Jacobs Engineering Group, Inc. (Jacobs) as an additional insured (except workers' compensation) and, with respect to all policies shall state that in the event of cancellation or material change, written notice shall be given to the City of Manchester, Office of Risk Management, 27 Market Street, Manchester, New Hampshire 03101 at least thirty (30) days in advance of such cancellation or change.

h. CONTRACTOR shall re-issue insurance certificates annually.

i. The purchase of the insurance required, or the furnishing of the aforesaid certificate shall not be a satisfaction of CONTRACTOR'S liability hereunder or in any way modify the CONTRACTOR'S indemnification responsibilities to the Owner, Authority or Owner’s Representative.

j. It shall be the responsibility of CONTRACTOR to ensure that all subcontractors comply with the same insurance requirements that he is required to meet.
SPECIAL HAZARDS

The Contractor's and Subcontractor's Public Liability, Property Damage, Vehicle Liability, and Vehicle Property Damage insurance coverage shall provide adequate protection against the following special hazards:

a. Damage or injury to automobiles or persons in automobiles operating on or near the project site, resulting from any operations under this Contract.

b. Damage or injury resulting from the use, storage, handling or transportation of materials in connection with the Contract work.
Manchester • Boston Regional Airport
TERMINAL APRON GATES 1-4
JOINT REPLACEMENT PROJECT
February 2021
FY21-805-33

Exhibit “B”
CONTRACT AGREEMENT TERMS & UNDERSTANDING

BIDDER understands, agrees, and warrants that:

1. Bidder has carefully read and fully understands all requirements of the Bid Documents and the form of the Agreement for providing Joint Replacement;

2. Bidder has full knowledge of the improvements and the rights and privileges and limitations covered by the Bid Documents and the Agreement for Joint Replacement;

3. Bidder does hereby certify that the services to be furnished to Manchester • Boston Regional Airport meet all requirements of the specifications;

4. Bidder has the capability to successfully undertake and complete the responsibilities and obligations of the Bid Documents and Agreement to provide Joint Replacement;

5. This Bid may be withdrawn at any time prior to the time and date of the bid opening as stated in these specifications, but it may not be withdrawn after such time.

6. After receipt of notification of the acceptance of this Bid by the Airport and receipt of the Agreement for Joint Replacement, Bidder will execute and return the said Agreement and supporting documents within five (5) working days. The work must be completed within thirty (30) calendar days from the date of the Airport’s Notice to Proceed for Joint Replacement.

7. Airport reserves the right to reject any and all bids for any reason, to waive information in any bid received, and to accept that bid which will, in its opinion, best serve the public interest.

8. It is understood that Bidder is bound by this Bid until the award of Joint Replacement by the Airport and execution of the Agreement for Joint Replacement, or until ninety (90) days after the actual date of opening bids.

Bidder's shall supply the Airport with required documents that guarantee the successful Bidder will:

a. Enter into an Agreement to provide Joint Replacement;

b. Furnish the Performance Bond or Letter of Credit, Payment Bond and proof of Insurance required by said Agreement

c. Apply for and obtain all applicable licenses and permits.
Manchester • Boston Regional Airport
TERMINAL APRON GATES 1-4
JOINT REPLACEMENT PROJECT

FY21-805-33
FEBRUARY 2021

PROPOSAL (BID FORM) DOCUMENTS

NOTE: The Bidder shall complete and submit the Proposal Documents (Bid Form) package in a sealed envelope in accordance with the instructions to bidders.

The UNDERSIGNED does hereby certify that the material to be furnished to the Manchester-Boston Regional Airport meets all of the specifications and stated and referenced requirements of the Contract Agreement Documents.

The UNDERSIGNED, hereby certifies that no employee, officer or agent of the City of Manchester NH, nor any member of their immediate family has any interest in the award of a contract herein; nor, is any such employee, officer or agent employed by or about to become an officer or employee of any person, firm, partnership or corporation which may benefit from the award of the contract herein.

The Bid submittal and resulting contract Agreement is based on the foregoing as well as the attached Legal Notice, the Bid and General Requirements, Exhibit A, Exhibit B, Proposal (Bid Form) Documents (including the Owner’s Contractor Company Questionnaire and Contractor’s Schedule), Performance & Payment Bonds, Attachment-A: Project Plans, and Attachment-B: Technical Specifications that will be issued before execution of the Agreement, and any amendments hereafter to be made.

This document is the Proposal of ____________________________hereinafter called "Bidder," a corporation*, organized under the laws of the State of __________, a partnership* or an individual* doing business as ________________________, to the City of Manchester, New Hampshire, Department of Aviation (hereinafter called "Owner").

* strike out inapplicable terms.

Gentlemen:

The (bidder), ____________________________in compliance with your invitation for bids for the construction of Airport improvements having examined the plans and specifications with related documents and the site of the proposed work, and having observed and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials, and labor, hereby proposes to furnish all, labor, materials, supplies,
equipment, services, and to construct the work in accordance with the Contract Documents, within the
time set forth therein, and within the total contract price stated below. This price is to cover all expenses
incurred in performing the work required under the Contract Documents, of which this proposal is a part.
Bidder hereby agrees to commence work under this Contract on or before the date to be specified in a written
"Notice to Proceed" of the Owner, and to fully complete the project within the specified contract period.

Bidder acknowledges receipt of the addenda as listed on the attached form entitled: ACKNOWLEDGMENT OF BID ADDENDA.

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<th>ITEM NO.</th>
<th>ESTIMATED QUANTITY/UNIT</th>
<th>DESCRIPTION AND UNIT PRICE (IN WORDS)</th>
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<td>19,450 LF</td>
<td>Rout and Seal PCC Pavement Joints</td>
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BASE BID SUMMARY

TOTAL BASE BID AMOUNT: _____________________________________________________ Dollars

__________________________________________________________ (Amount in words)

($ ___________________________). (Amount in figures)

The stated price shall include all plant, labor, materials, supplies, equipment, services, incidentals, expenses, overhead, profit, insurance, bonding, etc., to cover the finished work.

The bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The bidder understands that the Owner reserves the right to negotiate with the lowest two bidders.

The bidder agrees that this bid shall be good and may not be withdrawn for a period of 90 calendar days after the actual date of the bid opening.

Upon receipt of written notice of acceptance of this bid, bidder will execute and deliver the formal contract attached within 5 business days with accompanying Performance and Payment Surety Bonds and insurance certificates as required by the Agreement and related Exhibits.

The bid security (Bid Bond) attached in the sum of 5% of the bid amount is to become the property of the Owner in the event the contract and bonds are not executed within the time above set forth, as liquidated damages for the delay and additional expenses to the Owner caused thereby.

Respectfully submitted:

Name of Bidder: __________________________________________________________

By: __________________________________________________________

Name and Title: _________________________________________________________

Business Address: _______________________________________________________

__________________________________________________________

(Affix corporate seal if bid is by a corporation)

Provide Certificate as to Corporate Principal as attached to the Bid Form
CERTIFICATE AS TO CORPORATE PRINCIPAL PROPOSAL

I, ___________________________ certify that I am the ___________________________ of the corporation named as Bidder in the above Proposal; that ___________________________ who signed the said Proposal on behalf of the Bidder was then ___________________________ of said Corporation; that I know his/her signature and his/her signature thereto is genuine; and that said Proposal was duly signed, sealed and attested to for and in behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

_______________________________ (Corporate Seal)
**ACKNOWLEDGMENT OF BID ADDENDA**

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BID BOND

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THE UNDERSIGNED,

(Name of Principal)

as PRINCIPAL, and

(Name of Surety)

as SURETY, are held and are firmly bound unto The City of Manchester, New Hampshire, Department of Aviation hereinafter called the Owner, in the penal sum of

lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the accompanying Bid,____________________ for ____________________________

____________________

____________________

(Enter Title and Number of Contract/Project)

NOW, THEREFORE, if the Principal shall not withdraw said bid within 90 calendar days after the opening thereof, and shall within five (5) business days after the prescribed forms are presented to him/her for signature, enter into a written Contract with the Owner in accordance with the bid as accepted, and give bonds with good and sufficient Surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract; or in the event of the withdrawal of said bid within the period specified, or the failure to enter into such Contract and give such bonds within the time specified, if the Principal shall pay the Owner the difference between the amount specified in said bid and the amount for which the Owner may procure the required work or supplies or both, if the latter amount be in excess of the former, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.
IN WITNESS WHEREOF, the above-named Principal and Surety have executed this instrument under their several seals this_______day of___________________________, name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

In presence of:                     ____________________________SEAL
                                      Individual Principal
                                      ____________________________
                                      Business Address
                                      ____________________________
                                      Individual Principal
                                      ____________________________
                                      Business Address

Attest:                             ____________________________
                                      Corporate Principal
                                      ____________________________
                                      Business Address

Affix Corporate Seal

By:______________________________

Attest:                             ____________________________
                                      Corporate Surety
                                      ____________________________
                                      Business Address

Affix Corporate Seal

By:______________________________

Attorney-in-Fact

*Power-of-attorney for person(s) signing for surety company must be attached to this bond.
CERTIFICATE AS TO CORPORATE PRINCIPAL BID BOND

I, ________________________________, certify that I am the ________________________________ of the Corporation named as principal in the within bond; that ________________________________ ________, who signed the said bond on behalf of the Principal was then ________________________________ ________, of said Corporation; that I know his/her signature, and his/her signature thereto is genuine, and that said bond was duly signed, sealed, and attested to for and in behalf of said Corporation by authority of its governing body.

Affix
Corporate Seal
Manchester • Boston Regional Airport

TERMINAL APRON GATES 1-4
JOINT REPLACEMENT

FY21-805-33
FEBRUARY 2021

COMPANY QUESTIONNAIRE

A. REQUIRED INFORMATION:

1. Name of CONTRACTOR ________________________________
   Address ____________________________________________
   Telephone __________________________________________
   Company Website Address ______________________________

2. When Incorporated _________________________________
   In What State _______________________________________

3. Number of years CONTRACTOR has provided JOINT REPLACEMENT services:
   ________________________________________________

4. Names and experience of key personnel as listed:
   TITLE                      EXPERIENCE
   President/CEO              ____________________________
   Vice President             ____________________________
   CFO                        ____________________________
   COO                        ____________________________
   Sales Manager              ____________________________

5. Total number of local officer personnel: ____________________________
   Total of all other local personnel: ____________________________

6. Total number of Facilities where JOINT REPLACEMENT are provided by local office:
   ________________________________________________


7. Annual Gross Revenue by local office from JOINT REPLACEMENT:

8. List Banking References:

9. List Dunn & Bradstreet rating (if available).

B. BUSINESS EXPERIENCES:

List four (4) persons or firms with whom you have conducted business transactions during the past three (3) years.

Reference # 1

Name: ____________________________________________________________

Firm: _____________________________________________________________

Title: _____________________________________________________________

Address: __________________________________________________________

Telephone: _________________________________________________________

Nature and magnitude of purchase, sale, loan, business association, etc.:

_______________________________________________________________

Reference # 2

Name: ____________________________________________________________
Firm: 
Title: 
Address: 

Telephone: 

Nature and magnitude of purchase, sale, loan, business association, etc.: 

Reference # 3 
Name: 
Firm: 
Title: 
Address: 

Telephone: 

Nature and magnitude of purchase, sale, loan, business association, etc.: 

Reference # 4 
Name: 
Firm: 
Title: 

Address: 

Telephone: 

Nature and magnitude of purchase, sale, loan, business association, etc.: 

C. STATEMENT OF EXPERIENCE:

Describe the duration and scope of your experience in providing JOINT REPLACEMENT, to include: such things as number of years’ experience in providing such services; AIRPORT or other transportation facility locations where these services have been provided; number of large commercial or office customers, and other locations which would indicate your ability to provide JOINT REPLACEMENT at Manchester • Boston Regional Airport. Describe the organization that would be responsible for JOINT REPLACEMENT at Manchester • Boston Regional Airport. (Attach additional pages as necessary)
D. STATEMENT OF UNDERSTANDING OF THE SCOPE OF WORK:

Indicate here how CONTRACTOR proposes to carry out the terms of the proposal. Description should include, but not be limited to, the following: methodology for scheduling of personnel, level and degree of training personnel have received, safety, quality standards, equipment, etc. (Attach additional pages as necessary.)

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

E. SUBCONTRACT INFORMATION:

Please list any subcontract company/employee that will be used in the JOINT REPLACEMENT. Describe relevant experience in working with PCC and Joint Sealers and provide a minimum of (3) current references.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
F. OTHER INFORMATION:

Please provide any other information which you feel will be helpful in evaluating your ability to successfully provide JOINT REPLACEMENT at Manchester • Boston Regional Airport.
BIDDER’S (CONTRACTOR) PRELIMINARY PROPOSED SCHEDULE*
*subject to weather conditions and Airport operational dependencies

Bid Opening Date: March 25, 2021

Notice of Intent to Award to Apparent Low Bidder: Plan on 10 days from bid opening

Signed Contract/Agreement & supporting documents (includes Insurance Certificates, Bonds, etc) submitted to Airport by Contractor: Plan on 10 days from Notice of Intent to Award

Airport Executed (countersigned) Contract/Agreement and written Notice to Proceed issued to Contractor: Plan on 21 days from Submittal of Signed Contract & Documents

Submittals, Coordination, & Material Procurement: ______________________ to ________________ (assume 3-day review of submittals)

Mobilization: ______________________ to ________________

Anticipated Project Duration): 30 Calendar Days
PERFORMANCE AND PAYMENT BONDS

DESCRIPTION

FORM OF PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS

That we, ____________________________, an individual*, a partnership*, a corporation organized under the laws of the State of ____________________________,* having a usual place of business in the State of ____________________________, as Principal, and ____________________________, a corporation organized under the laws of the State of ____________________________, and having a usual place of business in the State of ____________________________, as Surety, are holden and stand firmly bound and obligated unto the City of Manchester, New Hampshire, Department of Aviation (hereinafter the Owner), its successors and assigns, in the sum of ____________________________ Dollars ($____________________) lawful money of the United States of America, to and for the true payment whereof, we bind ourselves and each of us, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has by means of a written agreement dated ____________, 2021, entered into a Contract with the Owner for:

The Manchester • Boston Regional Airport TERMINAL APRON GATES 1-4 JOINT REPLACEMENT PROJECT FY21-805-33

a copy of which Contract is attached hereto and by reference made a part hereon

*Strike out inapplicable terms.

NOW, THEREFORE, THE CONDITION of this obligation is such that if the said Principal and his/her subcontractors shall well and truly keep and perform all the agreements, terms and conditions in said Contract set forth and specified to be by said Principal kept and performed, and shall well and truly indemnify and save harmless the Owner against all counsel fees paid or incurred by the Owner as a result of a breach of any condition of this bond, and against all claims and suits for damage to person or property arising from carelessness or want of due care, or any act or omission on the part of said Principal during the performance of said Contract, then this obligation shall be void; otherwise, it shall remain in full force and virtue.

PROVIDED, FURTHER, that said Surety, for value received, hereby stipulates and agrees that no extension of time, or change in, alteration or addition to the terms of the Contract or to the work to be performed there under or the Contract Documents accompanying the same and no failure or refusal of the Owner to withhold any monies from the Principal shall in any way affect its obligations on this bond, and it does hereby waive notice of any such extension of time, change, alterations or addition to the terms of the Contract or the work or to the Contract Documents.

In the event that the Contract is abandoned by the Principal, or is terminated by the Owner under the provisions of said Contract, said Surety hereby further agrees that said Surety shall, if requested in writing by the Owner, take action as is necessary to complete said Contract.
This bond shall become effective at the same time as the Contract annexed hereto for the work hereinbefore mentioned.

IN WITNESS WHEREOF, we have set our hands and seals to this bond, this ________ day of ____________________, 20________ In presence of:

__________________________________

          Individual Principal

__________________________________

          Business Address

__________________________________

          Individual Principal

__________________________________

          Business Address

Attest:

__________________________________

          Corporate Principal

By: __________________________________

Attest:

__________________________________

          Corporate Surety

__________________________________

          Business Address

Countersigned: By: ________________________________

By: ___________________________________
CERTIFICATE AS TO CORPORATE
PRINCIPAL PERFORMANCE BOND

I, ________________________________, certify that I am the _______________________________ of the Corporation named as Principal in the within bond; that, ________________________________, who signed the said bond on behalf of the principal was then _______________________________ of said Corporation; that I know his/her signature and his/her signature thereto is genuine; and that said bond was duly signed, sealed and attested to for and in behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

_________________________ SEAL

(Power of attorney of person(s) signing Bond for Surety Company must be attached.)

NOTE: Date of Bond must not be prior to date of Contract. If Principal is Partnership, all partners must execute bond.)
FORM OF PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS

That we, ________________________________, an individual *, a partnership*, a corporation organized under the laws of the State of ______________, * having a usual place of business in the State of ______________, as Principal, and ________________________________, a corporation organized under the laws of the State of ______________, and having a usual place of business in the State of ______________, as Surety, are holden and stand firmly bound and obligated unto the City of Manchester, New Hampshire, Department of Aviation (hereinafter the Owner), its successors and assigns, in the sum of ________________________________, Dollars ($___________), lawful money of the United States of America, to and for the true payment whereof, we bind ourselves and each of us, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has by means of a written agreement dated ________________ , 2021 entered into a Contract with the Owner for: ________________________________

________________________________________

The Manchester • Boston Regional Airport TERMINAL APRON GATES 1-4 JOINT REPLACEMENT PROJECT FY21-805-33

a copy of which Contract is attached hereto and by reference made a part hereof.

* Strike out inapplicable terms
PROVIDED, FURTHER, that said Surety, for value received, hereby stipulates and agrees (1) that no extension of time, or change in, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Contract Documents accompanying the same and no failure or refusal of the Owner to withhold any monies from the Principal shall in any way affect its obligations on this bond, and it does hereby waive notice of any such extension of time, change, alterations, or addition to the terms of the Contract or the work or to the Contract Documents; (2) that in case of liabilities not covered by said Section 16 of Chapter 447 RSA, as amended, but covered by this bond, then the provisions of this bond shall control.

In addition to the obligations of the undersigned enumerated above, the bond is also made for the use and benefit of all persons, firms and corporations, who may furnish any material or perform any labor on account of said Contract, or rent or hire out any appliances or equipment used or employed in the execution of said Contract and they and each of them are hereby made Obligees hereunder the same as if their own proper respective names were written herein as such, and they and each of them may proceed or sue hereon, and in case of failure of said Principal to carry out the foregoing provisions made for the use and benefit of any said persons, firms and corporations, the Owner as an additional remedy may maintain an action against the undersigned in its own name, but in trust for and for the benefit of said persons, firms and corporations

This bond shall become effective at the same time as the Contract annexed hereto for the work hereinbefore mentioned.
IN WITNESS WHEREOF, we have set our hands and seals to this bond, this _______ day of
_________________________, 2021______ In presence of:

____________________________________ SEAL

Individual Principal

____________________________________

Business Address

____________________________________ SEAL

Individual Principal

____________________________________

Business Address

Attest:

____________________________________

Corporate Principal

By: __________________________________

____________________________________

Attest:

____________________________________ SEAL

Corporate Surety

____________________________________

Business Address

Countersigned By: __________________________

By: ____________________________________
CERTIFICATE AS TO CORPORATE

PRINCIPAL PAYMENT BOND

I, ________________________________, certify that I am the _______________________________ of the Corporation named as Principal in the within bond; that,

____________________________________

who signed the said bond on behalf of the principal was then ______________________,
of said Corporation; that I know his/her signature and his/her signature thereto is genuine;

and that said bond was duly signed, sealed and attested to for and in behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

_________________________ SEAL

(Power of attorney of person(s) signing Bond for Surety Company must be attached.)

NOTE: Date of Bond must not be prior to date of Contract. If Principal is Partnership, all partners must execute bond
ATTACHMENT A

PLANS
1.2

Overall phasing plan

Scale 1:200

1. The contractor shall comply with all airport security requirements at the time of issuance of this for the duration of the work. The contractor shall ensure that all personnel, tools, or equipment are secure and do not pose a risk to the airport operations or the public. The contractor shall not use any unapproved vehicles or equipment that are not suitable for use in the airport environment or that pose a risk to the airport operations.

2. No unauthorized vehicles beyond this point will be allowed.

3. Materials and equipment shall be stored and secured to prevent unauthorized access.

4. Temporary shall be provided for all personnel working on the project.

5. No smoking is allowed at access gate and at exit to project work area.
ATTACHMENT B

TECHNICAL SPECIFICATIONS
Item C-105 Mobilization

DESCRIPTION

105-1 Description. This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

105-2 Mobilization limit. Mobilization shall be limited to 5 percent of the total project cost.

105-3 Engineer/RPR field office. An Engineer/RPR field office is not required

METHOD OF MEASUREMENT

105-4 Basis of measurement and payment. Based upon the contract lump sum price for “Mobilization” partial payments will be allowed as follows:
   a. With first pay request, 25%.
   b. When 25% or more of the original contract is earned, an additional 25%.
   c. When 50% or more of the original contract is earned, an additional 40%.
   d. After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials, the final 10%.

BASIS OF PAYMENT

105-5.1 Mobilization. Mobilization shall be paid on a lump sum basis in accordance with the unit prices.

105-5.2 Payment will be made under:

| Item C-105 | Mobilization | Lump Sum |

END OF ITEM C-105
Item M-001 Joint Spall Repair

DESCRIPTION

001-1 This item shall consist of furnishing and installing suitable material to repair damaged concrete pavement. Spall repair shall consist of sawing concrete behind the spalled area, removing concrete pavement to expose sound pavement throughout the repair area, preparing and installing repair material and completion of the sawn joint. The work shall be accomplished in accordance with these specifications and the applicable plans.

EQUIPMENT AND MATERIALS

001-2.1 All equipment and materials shall be specified here and in the following paragraphs or approved by the Resident Project Representative (RPR). The equipment shall not cause damage to the pavement to remain in place.

001-2.2 Elastomeric Concrete. The product selected by the contractor shall have been previously, successfully used on airports. The elastomeric concrete shall contain a two-component polyurethane product mix with additives such as sand and fiberglass. The elastomeric concrete will consist of a fluid base or binder with suitable reinforcing agents to provide a product that mixes in minutes, flows readily, strongly adheres to concrete, requires no external application of heat for curing and cures within hours after mixing.

001-2.2 Properties. The material shall meet the following properties:

<table>
<thead>
<tr>
<th>Properties</th>
<th>Requirement</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strength</td>
<td>600 psi</td>
<td></td>
</tr>
<tr>
<td>Elongation</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Hardness, Durometer D</td>
<td>50</td>
<td>ASTM D2240</td>
</tr>
<tr>
<td>Compressive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress psi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5% Deflection</td>
<td>800min/1400max</td>
<td>ASTM D695</td>
</tr>
<tr>
<td>Resilience, %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5% Deflection</td>
<td>95 min</td>
<td></td>
</tr>
<tr>
<td>Impact</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ball Drop @ -20F (No cracking)</td>
<td>&gt;10 ft</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adhesion to Concrete (psi)</td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Dry Bond</strong></td>
<td>400 min</td>
<td></td>
</tr>
<tr>
<td><strong>Wet Bond</strong></td>
<td>250 min</td>
<td></td>
</tr>
</tbody>
</table>

**Fluid Immersion**

<table>
<thead>
<tr>
<th></th>
<th>% Wt, change after 70 hrs</th>
<th>ASTM D471</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room temp. Jet fuel</td>
<td>8% max</td>
<td></td>
</tr>
</tbody>
</table>

**CONSTRUCTION**

**001-3.1 Construction.** The Contractor’s operation shall be controlled to not damage adjacent pavement structure, and base material, cables, utility ducts, pipelines, or drainage structures which are to remain under the pavement.

**001-3.2 Weather Limitations.** Spall repair shall be performed only when the ambient air temperature is 45°F (7°C) and rising. The temperature of the concrete to be repaired shall be 45°F (7°C) or above.

**001-3.2 Preparation and Application of Elastomeric Concrete.**

a. Area Preparation - Saw cut area to be repaired to the dimensions indicated in the plans or as directed by the owner. Carefully sandblast all areas, which will be in contact with the elastomeric concrete material. Repair area must be clean and dry before placing elastomeric concrete.

b. Priming - Use a pump sprayer or brush to apply the primer. The primer shall be supplied as part of the elastomeric concrete system. Apply primer for concrete surfaces to all areas, which come in contact with the Elastomeric concrete. Allow primer to dry 30 minutes before pouring the spall repair material.

c. Mixing - Mix two-part polyurethane materials along with additives per the manufacturer's recommendations.

d. Pouring - The elastomeric concrete must be poured into the repair area in a manner that reduces the potential for delamination. Fill entire area to grade as you go rather than emptying the mix over the entire length of the repair area. Start at the low end of the repair area. The elastomeric concrete is self-leveling. As it cures, use a trowel to achieve a textured finish. For repairs along existing joints, the joints should be maintained by the use of forming materials or saw cutting method. Masking and forming materials should be removed immediately after troweling. Review the manufacture’s installation instructions prior to installing the repair material. Large patches requiring multiple mixes may require special procedures. This practice is common with joint and spall repair projects. Although it is always better to build the placement of material to grade as you go, layering of material may be necessary for large patches. When layering elastomeric material, follow the manufacturer's recommendations for the maximum time allowed between pours.

e. Accepting Traffic – Allow the material to cure two hours before opening to traffic.

f. A representative of the manufacturer shall be present during initial use to satisfy the owner the material is being used properly.
METHOD OF MEASUREMENT

001-4.1 Joint Spall Repair. The location and average depth of the patch shall be determined and agreed upon by the Owner and the Contractor. Joint Spall Repair material shall be measured by the square foot of material in-place, completed, and accepted.

BASIS OF PAYMENT

001-5.1 Joint Spall Repair. Payment for joint Spall Repair shall be made at the contract unit price per square foot. The price shall be full compensation for furnishing all materials, for all existing material removal and disposal, preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

| Item M-001-1 | Joint Spall Repair | per Square Foot |

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

ASTM International (ASTM)

END OF ITEM M-001
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Item P-101 Preparation/Removal of Existing Pavements

DESCRIPTION

101-1 This item shall consist of preparation of existing pavement surfaces for overlay, surface treatments, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable plans.

EQUIPMENT AND MATERIALS

101-2 All equipment and materials shall be specified here and in the following paragraphs or approved by the Resident Project Representative (RPR). The equipment shall not cause damage to the pavement to remain in place.

CONSTRUCTION

101-3.1 Removal of existing pavement.
The Contractor’s removal operation shall be controlled to not damage adjacent pavement structure, and base material, cables, utility ducts, pipelines, or drainage structures which are to remain under the pavement.

   a. Concrete pavement removal. Spall repair cuts shall be made perpendicular to the slab surface. The Contractor shall saw to the depth necessary for the repair of the slab, removing the pavement shown on the plans and per the specifications. Where the perimeter of the removal limits is not located on the joint and there are no dowels present, the perimeter shall be saw cut the necessary depth of the repair. The pavement inside the saw cut shall be removed by methods which will not cause distress in the pavement which is to remain in place. Material is to be taken offsite for removal. Sections of concrete that are damaged by under breaking shall be repaired or removed and replaced.

   The edge of existing concrete pavement against which new pavement abuts shall be protected from damage at all times. Spall and underbreak repair shall be in accordance with the plans. Any underlaying material that is to remain in place, shall be cleaned and prepared appropriately to receive the new material. Adjacent areas damaged during repair shall be repaired or replaced at the Contractor’s expense.

101-3.2 Preparation of joints and cracks prior to overlay/surface treatment.
Remove any vegetation and debris from cracks.

101-3.3 Concrete spall or failed asphaltic concrete pavement repair.

   a. Repair of concrete spalls. The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The perimeter of the repair shall be saw-cut a minimum of 2 inches (50 mm) outside the affected area and 2 inches (50 mm) deep. The deteriorated material shall be removed to a depth where the existing material is firm or cannot be easily removed with a geologist pick. Repair materials will be in accordance with specification M-001.

101-3.5 Maintenance. The Contractor shall perform all maintenance work necessary to keep the pavement in a satisfactory condition until the full section is complete and accepted by the RPR. The surface shall be kept clean and free from foreign material. The pavement shall be properly drained at all times. If cleaning is necessary or if the pavement becomes disturbed, any work repairs necessary shall be performed at the Contractor’s expense.
101-3.6 Preparation of Joints in Rigid Pavement prior to resealing. Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method used cleans the joint and does not damage the joint.

101-3.7 Removal of Existing Joint Sealant. All existing joint sealants will be removed by plowing or use of hand tools. Any remaining sealant and or debris will be removed by use of wire brushes or other tools as necessary. Immediately after removing sealant and debris, flush out joint with water and other tools as necessary to completely remove the slurry.

101-3.8 Cleaning prior to sealing. Immediately before sealing, joints shall be cleaned by removing any remaining laitance and other foreign material. Allow sufficient time to dry out joints prior to sealing. Joint surfaces will be surface-dry prior to installation of sealant.

101-3.9 Crack Sealant. Crack sealant material and installation will be in accordance with Item P-605.

METHOD OF MEASUREMENT

101-4.1 Concrete Spall Repair shall not be measured under this item for payment, rather it shall be measured under Specification “Item M-001-1 Joint Spall Repair”.

101-4.2 Joint and crack repair shall not be measured under this item for payment, rather it shall be measured under Specification “Item P-605-1 Rout and Seal PCC Pavements”

BASIS OF PAYMENT

101-5.1 Concrete Spall Repair shall not be paid under this item, rather it shall be paid under Specification “Item M-001-1 Joint Spall Repair”.

101-5.2 Joint and crack repair shall not be paid under this item, rather it shall be measured under Specification “Item P-605-1 Rout and Seal PCC Pavements”

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

ASTM International (ASTM)
   ASTM D6690 Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements

END OF ITEM P-101
Item P-605 Joint Sealants for Pavements

DESCRIPTION

605-1.1 This item shall consist of providing and installing a resilient and adhesive joint sealing material capable of effectively sealing joints in pavement; joints between different types of pavements; and cracks in existing pavement.

MATERIALS

605-2.1 Joint sealants. Joint sealant materials shall meet the requirements of ASTM D5893 Standard Specifications for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements. Sealant material shall also be jet fuel resistant. In areas where PCC abuts asphalt Joint sealant materials shall meet the requirements of ASTM D6690 Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.

Each lot or batch of sealant shall be delivered to the jobsite in the manufacturer’s original sealed container. Each container shall be marked with the manufacturer’s name, batch or lot number, the safe heating temperature, and shall be accompanied by the manufacturer’s certification stating that the sealant meets the requirements of this specification.

605-2.2 Backer rod. The material furnished shall be a compressible, non-shrinking, non-staining, non-absorbing material that is non-reactive with the joint sealant in accordance with ASTM D5249. The backer-rod material shall be 25% ± 5 % larger in diameter than the nominal width of the joint.

605-2.3 Bond breaking tapes. Provide a bond breaking tape or separating material that is a flexible, non-shrinkable, non-absorbing, non-staining, and non-reacting adhesive-backed tape. The material shall have a melting point at least 5°F (3°C) greater than the pouring temperature of the sealant being used when tested in accordance with ASTM D789. The bond breaker tape shall be approximately 1/8 inch (3 mm) wider than the nominal width of the joint and shall not bond to the joint sealant.

CONSTRUCTION METHODS

605-3.1 Time of application. The pavement temperature shall be 50°F (10°C) and rising at the time of application of the poured joint sealing material. Do not apply sealant if moisture is observed in the joint.

605-3.2 Equipment. Machines, tools, and equipment used in the performance of the work required by this section shall be approved before the work is started and maintained in satisfactory condition at all times. Submit a list of proposed equipment to be used in performance of construction work including descriptive data, 10 days prior to use on the project.

a. Tractor-mounted routing tool. Provide a routing tool, used for removing old sealant from the joints, of such shape and dimensions and so mounted on the tractor that it will not damage the sides of the joints. The tool shall be designed so that it can be adjusted to remove the old material to varying depths as required. The use of V-shaped tools or rotary impact routing devices will not be permitted. Hand-operated spindle routing devices may be used to clean and enlarge random cracks.

b. Concrete saw. Provide a self-propelled power saw, with water-cooled diamond or abrasive saw blades, for cutting joints to the depths and widths specified.
c. **Sandblasting equipment.** The Contractor must demonstrate sandblasting equipment including the air compressor, hose, guide and nozzle size, under job conditions, before approval in accordance with paragraph 605-3.3. The Contractor shall demonstrate, in the presence of the Resident Project Representative (RPR), that the method cleans the joint and does not damage the joint.

d. **Hand tools.** Hand tools may be used, when approved, for removing defective sealant from a crack and repairing or cleaning the crack faces. Hand tools should be carefully evaluated for potential spalling effects prior to approval for use.

e. **Hot-poured sealing equipment.** The unit applicators used for heating and installing ASTM D6690 joint sealant materials shall be mobile and shall be equipped with a double-boiler, agitator-type kettle with an oil medium in the outer space for heat transfer; a direct-connected pressure-type extruding device with a nozzle shaped for inserting in the joint to be filled; positive temperature devices for controlling the temperature of the transfer oil and sealant; and a recording type thermometer for indicating the temperature of the sealant. The applicator unit shall be designed so that the sealant will circulate through the delivery hose and return to the inner kettle when not in use.

f. **Cold-applied, single-component sealing equipment.** The equipment for installing ASTM D5893 single component joint sealants shall consist of an extrusion pump, air compressor, following plate, hoses, and nozzle for transferring the sealant from the storage container into the joint opening. The dimension of the nozzle shall be such that the tip of the nozzle will extend into the joint to allow sealing from the bottom of the joint to the top. Maintain the initially approved equipment in good working condition, serviced in accordance with the supplier’s instructions, and unaltered in any way without obtaining prior approval. Small hand-held air-powered equipment (i.e., caulking guns) may be used for small applications.

605-3.3 **Preparation of joints.** Pavement joints for application of material in this specification must be dry, clean of all scale, dirt, dust, curing compound, and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.

a. **Sawing.** In spall repair areas only, all joints shall be sawed in accordance with specifications and plan details. Immediately after sawing the joint, the resulting slurry shall be completely removed from joint and adjacent area by flushing with a jet of water, and by use of other tools as necessary.

b. **Sealing.** Immediately before sealing, the joints shall be thoroughly cleaned of all remaining laitance, curing compound, filler, protrusions of hardened concrete, old sealant and other foreign material from the sides and upper edges of the joint space to be sealed. Cleaning shall be accomplished by sandblasting, tractor-mounted routing equipment, and concrete saw as specified in paragraph 605-3.2. The newly exposed concrete joint faces and the pavement surface extending a minimum of 1/2 inch (12 mm) from the joint edge shall be sandblasted clean. Sandblasting shall be accomplished in a minimum of two passes. One pass per joint face with the nozzle held at an angle directly toward the joint face and not more than 3 inches (75 mm) from it. After final cleaning and immediately prior to sealing, blow out the joints with compressed air and leave them completely free of debris and water. The joint faces shall be surface dry when the seal is applied.

c. **Backer Rod.** Plug or seal off the lower portion of the joint opening using a backer rod in accordance with paragraph 605-2.2 to prevent the entrance of the sealant below the specified depth. Take care to ensure that the backer rod is placed at the specified depth and is not stretched or twisted during installation.

d. **Bond-breaking tape.** Where inserts or filler materials contain bitumen, or the depth of the joint opening does not allow for the use of a backup material, insert a bond-separating tape breaker in accordance with paragraph 605-2.3 to prevent incompatibility with the filler materials and three-sided
adhesion of the sealant. Securely bond the tape to the bottom of the joint opening so it will not float up into the new sealant.

605-3.4 Installation of sealants. Joints shall be inspected for proper width, depth, alignment, and preparation, and shall be approved by the RPR before sealing is allowed. Sealants shall be installed in accordance with the following requirements:

Immediately preceding, but not more than 50 feet (15 m) ahead of the joint sealing operations, perform a final cleaning with compressed air. Fill the joints from the bottom up to 1/4 inch (6 mm) ±1/16 inch (2 mm) below the top of pavement surface; or bottom of groove for grooved pavement. Remove and discard excess or spilled sealant from the pavement by approved methods. Install the sealant in such a manner as to prevent the formation of voids and entrapped air. In no case shall gravity methods or pouring pots be used to install the sealant material. Traffic shall not be permitted over newly sealed pavement until authorized by the Airport. When a primer is recommended by the manufacturer, apply it evenly to the joint faces in accordance with the manufacturer's instructions. Check the joints frequently to ensure that the newly installed sealant is cured to a tack-free condition within the time specified.

605-3.5 Inspection. The Contractor shall inspect the joint sealant for proper rate of cure and set, bonding to the joint walls, cohesive separation within the sealant, reversion to liquid, entrapped air and voids. Sealants exhibiting any of these deficiencies at any time prior to the final acceptance of the project shall be removed from the joint, wasted, and replaced as specified at no additional cost to the airport.

605-3.6 Clean-up. Upon completion of the project, remove all unused materials from the site and leave the pavement in a clean condition.

METHOD OF MEASUREMENT

605-4.1 Joint sealing material shall be measured by the linear foot of sealant in place, completed, and accepted.

BASIS OF PAYMENT

605-5.1 Payment for joint sealing material shall be made at the contract unit price per linear foot. The price shall be full compensation for furnishing all materials, for all existing joint material removal and disposal, preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Unit</th>
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<tr>
<td>P-605-1</td>
<td>Rout and Seal PCC Pavement Joints</td>
<td>per Linear Foot</td>
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REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
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<tr>
<td>ASTM D789</td>
<td>Standard Test Method for Determination of Relative Viscosity of Polyamide (PA)</td>
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</table>

ASTM D6690 Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt

Advisory Circulars (AC)

AC 150/5340-30 Design and Installation Details for Airport Visual Aids

END ITEM P-605