



**City of Manchester, New Hampshire,
Department of Aviation**

Manchester • Boston Regional Airport

BID DOCUMENTS

for

**PARKING GARAGE
HELIX RAMPS & STAIR TOWERS
ROOFING REHABILITATION**

**AUGUST 2019
FY20-805-12**

**LEGAL NOTICE
CITY OF MANCHESTER DEPARTMENT OF AVIATION
MANCHESTER•BOSTON REGIONAL AIRPORT**

REQUEST FOR BIDS

**PARKING GARAGE HELIX RAMPS & STAIR TOWERS
ROOFING REHABILITATION
AUGUST 2019
FY20-805-12**

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 Roofing Rehabilitation Services which include localized repairs of the existing PVC membrane roofing system and application of a fluid applied roofing membrane system over existing roofing materials, on the entrance and exit helix ramps and the stair towers at the Parking Garage at Manchester•Boston Regional Airport. The work is intended to be completed on or before October 15, 2019 subject to operational and 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/Airport-projects> after 4:00 pm on Monday, August 26, 2019.

There will be a mandatory pre-bid conference and site walk held for this project on Thursday, August 29, 2019 at 10:30 am, 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, September 5, 2019**, 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 - PARKING GARAGE - HELIX RAMPS & STAIR TOWERS - ROOFING REHABILITATION FY20-805-12”, Attention: Mr. John Adams. **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. John Adams, Manchester•Boston Regional Airport by email: jadams@flymanchester.com with cc to john.goudreault@aecom.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

Bid and General Requirements

Manchester • Boston Regional Airport

PARKING GARAGE HELIX RAMPS & STAIR TOWERS ROOFING REHABILITATION

**August 2019
FY20-805-12**

I 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 fluid applied roof membrane 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 roofing, and to provide and install fluid applied roofing membrane overtop thereof.

A **mandatory Pre-Bid Conference** will be held on **Thursday, August 29, 2019 at 10:30 AM.** Please confirm your attendance in advance if possible by contacting the Airport Building Maintenance Superintendent, John Adams, at jadams@flymanchester.com with cc to john.goudreault@aecom.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:

A. SCOPE OF SERVICES - The Contractor shall be required to repair and prepare existing fully-adhered PVC flat-roof membrane roofing system material as well as procure and apply a new fluid applied roofing membrane overtop of the specified roof

areas. 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 store existing roofing, insulation, and flashing 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 parking garage as directed by the Owner's Representative for the duration of construction.

The contractor will be allowed storage/staging areas in the northwest and southeast corners of the parking garage on level 6. Vehicular access to Level-5 and Level-6 of the garage will be restricted and/or closed during construction operations at the Entrance Helix Ramp and the Exit Helix Ramp as directed or approved by the Owner's Representative. Levels 1 through 4 of the parking garage will continue with normal operations throughout the construction duration.

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 roofing areas and verify thickness of existing materials. The Contractor shall remove and replace damaged sections of existing roofing system and areas which have lost adhesion with the original substrate. The contractor will install replacement roofing materials with proper pitch to facilitate the drainage of water from the roof.
- 3) The Contractor shall provide and install a fluid applied roofing membrane system as specified in section 075600 of the technical specifications as attached and hereby incorporated into the bid documents and contract agreement.

NOTE: The new fluid applied roofing membrane system must be compatible with the existing roofing material. Contractor shall verify proposed materials compatibility prior to bid.

- 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 provide the Airport with sketch-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, and caution tape are required to capture and protect work areas and safety areas below from the public. Safety watch personnel at grade level 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 approved fluid applied roofing membrane shall provide a 10-year JOINT PERFORMANCE WARRANTY as described in Article 3.7 of the attached Technical Specification 075600 (Attachment B).
- 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 ten-year material and labor warranty to the Airport. As described in the technical specifications section 075600.

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 a single Lump Sum.

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.

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 John Adams, Airport Building Maintenance Superintendent; Manchester Boston Regional Airport, at jadams@flymanchester.com with cc to john.goudreault@aecom.com no later than **3:00 PM on Tuesday, September 3, 2019**. 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, September 5, 2019**, 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 - PARKING GARAGE - HELIX RAMPS & STAIR TOWERS - ROOFING REHABILITATION FY20-805-12**”, Attention: Mr. John Adams. 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

PARKING GARAGE – HELIX RAMPS & STAIR TOWERS – ROOFING REHABILITATION

**August 2019
FY20-805-12**

AGREEMENT

This AGREEMENT made this _____ day of _____, 2019, 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 Roofing Rehabilitation 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 roofing 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 spilled. 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, Attachment-B: Technical Specifications, Attachment-C: Original Parking garage Roofing Specification, and Attachment-D: Photos, 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: _____
Airport Director

By: _____
Contractor/CONTRACTOR

By: _____
Airport Witness

By: _____
Contractor/CONTRACTOR Witness

Manchester • Boston Regional Airport
ROOFING REHABILITATION
August 2019
FY20-805-12

EXHIBIT "A"

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 performance hereunder.

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 , AECOM Technical Services, Inc. (AECOM) 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
Roofing Rehabilitation**

**August, 2019
FY19-805-11**

**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 Roofing Rehabilitation;
2. Bidder has full knowledge of the improvements and the rights and privileges and limitations covered by the Bid Documents and the Agreement for Roofing Rehabilitation;
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 Roofing Rehabilitation;
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 Roofing Rehabilitation, Bidder will execute and return the said Agreement and supporting documents within five (5) working days. The work must be completed within sixty (60) calendar days from the date of the Airport’s Notice to Proceed for Roofing Rehabilitation.
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 Roofing Rehabilitation by the Airport and execution of the Agreement for Roofing Rehabilitation, 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 Roofing Rehabilitation;
- 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

PARKING GARAGE HELIX RAMPS & STAIR TOWERS ROOFING REHABILITATION

**FY20-805-12
AUGUST 2019**

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, Attachment-B: Technical Specifications, Attachment-C: Original Parking garage Roofing Specification, and Attachment-D: Photos 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 BIDADDENDA.**

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 General Provisions.

The bid security (Bid Bond) attached in the sum of _____ 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

Addendum No. _____ Date: _____

Addendum No. _____ Date: _____

Addendum No. _____ Date: _____

Addendum No. _____ Date: _____

Addendum No. _____ Date: _____

Addendum No. _____ Date: _____

Addendum No. _____ Date: _____

Addendum No. _____ Date: _____

Addendum No. _____ Date: _____

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 seven (7) calendar 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.

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

PARKING GARAGE HELIX RAMPS & STAIR TOWERS ROOFING REHABILITATION

**FY20-805-12
AUGUST 2019**

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 SINGLE-PLY (PVC) MEMBRANE
ROOFING SYSTEMS INSTALLATION/REPAIRS AND FLUID APPLIED ROOF
MEMBRANE SERVICES/INSTALLATIONS:

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 SINGLE-PLY (PVC) MEMBRANE ROOFING
SYSTEMS INSTALLATION/REPAIRS AND FLUID APPLIED ROOF MEMBRANE
SERVICES/INSTALLATIONS are provided by local office:

7. Annual Gross Revenue by local office from SINGLE-PLY (PVC) MEMBRANE ROOFING SYSTEMS INSTALLATION/REPAIRS AND FLUID APPLIED ROOF MEMBRANE SERVICES/INSTALLATIONS:

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: _____

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.)

[illegible]

E. SUBCONTRACT INFORMATION:

Please list any subcontract company/employee that will be used in the SINGLE-PLY (PVC) MEMBRANE ROOFING SYSTEMS INSTALLATION/REPAIRS AND FLUID APPLIED ROOF MEMBRANE SERVICES/INSTALLATIONS. Describe relevant experience in working with FLUID APPLIED ROOF MEMBRANE and provide a minimum of (3) current references.

[illegible]

F. OTHER INFORMATION:

Please provide any other information which you feel will be helpful in evaluating your ability to successfully provide SINGLE-PLY (PVC) MEMBRANE ROOFING SYSTEMS INSTALLATION/REPAIRS AND FLUID APPLIED ROOF MEMBRANE SERVICES/INSTALLATIONS at Manchester • Boston Regional Airport.

BIDDER'S (CONTRACTOR) PRELIMINARY PROPOSED SCHEDULE*

*subject to weather conditions and Airport operational dependencies

Bid Opening Date: September 5, 2019

Notice of Intent to Award to Apparent Low Bidder: September 6, 2019

Signed Contract/Agreement & supporting documents (includes Insurance Certificates, Bonds, etc) submitted to Airport by Contractor: September 13, 2019

Airport Executed (countersigned) Contract/Agreement and written Notice To Proceed issued to Contractor: September 16, 2019

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

Mobilization & Existing Roofing Repairs: _____ to _____

Surface Preparation & Install Fluid-Applied Membrane: _____ to _____

Date of Substantial Completion (anticipated): _____

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 _____, 20____, entered into a Contract with the Owner for:

The Manchester • Boston Regional Airport Parking Garage Helix Ramps & Stair Towers Roofing Rehabilitation Project FY20-805-12

_____ 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 SEAL

Business Address

Individual Principal SEAL

Business Address

Attest:

Corporate Principal SEAL

By: _____

Attest:

SEAL

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 _____
_____, 2019 entered into a Contract with the Owner for: _____

The Manchester • Boston Regional Airport Parking Garage Helix Ramps & Stair
Towers Roofing Rehabilitation Project FY20-805-12

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 _____, 20_____. In presence of:

Individual Principal SEAL

Business Address

Individual Principal SEAL

Business Address

Attest:

Corporate Principal SEAL

By: _____

Attest:

Corporate Surety SEAL

Business Address

Countersigned

By: _____

By: _____

CERTIFICATE AS TO CORPORATE

PRINCIPAL PAYMENT BOND

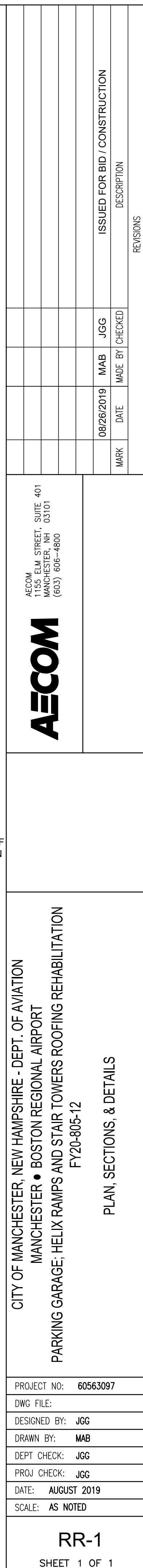
I, _____, certify that I
am the _____ of the Corporation
named as Principal in the within bond; that, _____ who
signed the said bond on behalf of the principal was then _____, of
said Corporation; that I know his/her signature and his/her signature thereto is genuine; and that
said bond was duly signed, 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
DRAWING RR-1
PARKING GARAGE; HELIX RAMPS, AND STAIR TOWERS ROOFING REHABILITATION
PLANS, SECTIONS, & DETAILS



ATTACHMENT B
TECHNICAL SPECIFICATION 075600
FLUID APPLIED ROOFING MEMBRANE

SECTION 075600

FLUID APPLIED ROOF MEMBRANE (Performance Specification)

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS AND RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.
- B. The Contractor shall coordinate work with that of other trades affecting or affected by the work included under this Section and shall cooperate with such trade, the Testing Agency, the Engineer, and the Owner to ensure steady and timely progress of the work.
- C. The Contractor agrees to accept the results of any tests performed by a qualified independent Testing Agency that may be procured by the Owner.
- D. Where referred to, Standard Specification of Technical Societies, Manufacturer's associations and federal agencies shall be the latest edition and include all amendments currently as of the date of the issue of these Specifications.

1.2 SUMMARY

- A. This Section specifies fluid applied roof membrane coatings including preparation, materials, application, and warranty.
- B. Related Sections include the following:
 - 1. Original garage construction (1999) Roofing Specification Section 07530 which has been provided as an attachment to the bid documents.

1.3 SUBMITTALS

- A. Product Data (Including Manufacturer's material specifications, installation procedures, surface preparation requirements, MSDS sheets, and product warranty information):
For each product indicated.
- B. Manufacturer's written site-specific substrate inspection, preparation, and application recommendations. Submit at least 10 days prior to product application.
- C. Quantity Calculations: Submit product quantity calculations for each material. Liquid materials are to be reported in gallons. Solid materials are to be reported in

pounds or square feet.

- D. Coverage Calculations: Submit product coverage calculations for the Manufacturer's specified application rate and DFT.
- E. Samples for Verification: If requested by the Owner or Engineer during the product submittal process, the Contractor shall provide a small sample (2" x 4" minimum) for each type of coating requested, prepared on a appropriate backing, and of same material as indicated for the Work.
- F. Material Certificates: Manufacturer certification identifying that coatings comply with requirements of the contract documents, based on comprehensive testing of current product formulations within the last three years.
- G. For each product indicated, submit color chart and identification to the Owner for color selection / approval.
- H. Applicator certification document from fluid applied roof membrane manufacturer.
- I. Maintenance Data: The product applied shall remain maintenance free for a period of 10 years following installation.
- J. Submit sample warranty certificate/documents as identified in Part 3, Section 3.7 and final signed warranty documents.

1.4 QUALITY ASSURANCE

- A. Installer (Applicator) Qualifications: An experienced applicator who has specialized in installing work similar in material, design, and extent to that indicated for this Project and who is certified/authorized by the product Manufacturer.
 - 1. Certification: Written approval or license of applicator by fluid applied roof membrane Manufacturer.
- B. Source Limitations: As follows:
 - 1. Use fluid applied roof membrane products of a single Manufacturer.
 - 2. Obtain primary fluid applied roof membrane materials, including primers, from the approved fluid applied roof membrane Manufacturer. Obtain secondary materials including substrate repair and/or cleaning materials of type and from source as recommended by fluid applied roof membrane Manufacturer.
- C. Before installing fluid applied roof membranes, notify representatives of authorities

having jurisdiction, Manufacturer's technical representative, Owner, Engineer, and other concerned entities at least 7 days in advance of installation.

- D. Before installing fluid applied roof membranes, if required by fluid applied roof membrane Manufacturer, Contractor shall perform an adhesion test of the selected material onto the prepared substrate. The adhesion test shall be carried out per the Manufacturer's recommendations. Adhesion test results shall be verified and approved by the Manufacturer's technical representative.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original undamaged packages and containers with seals unbroken and bearing Manufacturer's labels showing the following information:
 - 1. Manufacturer's brand name.
 - 2. Type of material.
 - 3. Directions for storage.
 - 4. Date of manufacture and shelf life.
 - 5. Lot or batch number.
 - 6. Mixing and application instructions.
 - 7. Color.
- B. Store materials in a clean, dry location on pallets and protected from exposure to direct sunlight. In storage areas, maintain environmental conditions within range recommended in writing by Manufacturer.

1.6 PROJECT CONDITIONS

- A. Perform all required repair work, cleaning, and substrate preparation work prior to beginning application of fluid applied roof membranes.
- B. Environmental Limitations: Apply fluid applied roof membranes within the range of ambient and substrate temperatures and humidity conditions recommended in writing by Manufacturer. Do not apply fluid applied roof membranes to damp or wet substrates.
 - 1. Do not apply fluid applied roof membranes in snow, rain, fog, or mist, or when such weather conditions are imminent during the application and curing period.
 - 2. Restrict all access/activity from application area per Manufacturer's recommendations, or 48 hours, whichever is greater.
 - 3. Prepared substrate conditions shall meet each product Manufacturer's standard requirements and any site-specific recommendations.

PART 2 - PRODUCTS

2.1 MATERIALS - GENERAL

- A. Physical Property Requirements: Provide fluid applied roof membranes in accordance with ASTM requirements for fluid/liquid applied roof coatings, and as additionally indicated for individual systems described in the subsequent product specification sections.
- B. Material Compatibility: Provide primers; fluid applied roofing membrane coatings; and miscellaneous materials that are compatible with one another and with substrate under conditions of service and application, as recommended and demonstrated by the Manufacturer based on testing and field experience.

2.2 FLUID APPLIED ROOF MEMBRANE MATERIALS:

- A. General: The intended use of the materials for the items noted above is as follows:
 - 1. All materials shall be chemically compatible to the existing roofing materials for adhesion thereto. The Manufacturer of the proposed supplementary fluid applied roof membrane material shall provide written site-specific recommendations for the preparation and application of their products over the existing and repaired/replaced roof materials, including a statement of compatibility to the existing system. The proposed fluid applied roof membrane Manufacturer and Installer shall warranty the system's adhesion to the existing roofing as prepared by the contractor.
- B. Available Products: Fluid applied roof membrane products shall have a documented proven performance record for the same type of application and exposure conditions in which it shall be used for this project. Fluid applied roof membrane system for this application shall consist of an approved coating which is high-solids, elastomeric, and provides excellent durability, weatherproofing, and is resistant to fire, UV, algae, and mildew.

The minimum physical properties for this fluid applied roof membrane system shall be determined by the fluid applied roof membrane Manufacturer to provide performance and warranty as described in the project specifications.
- C. Color of exposed fluid applied roof membrane: Light Gray as selected by Owner from color chart and/or system sample boards to be submitted by the Contractor prior to material procurement.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Manufacturer's representative shall examine substrates in person with applicator present or through documentation/photograph coordination with the application Contractor, for compliance with requirements and for other conditions affecting performance of fluid applied roof membranes.
 - 1. Verify compatibility with and suitability of substrates.
 - 2. Application of coating indicates Contractor's acceptance of surfaces and conditions for warranty purposes.

3.2 PREPARATION

- A. For fluid applied roof membrane: Clean and prepare substrates scheduled for fluid applied roof membrane application in accordance with the fluid applied roof membrane Manufacturer's requirements and site-specific recommendations.
 - 1. The Contractor shall coordinate his work and arrange for the Manufacturer's representative or the Owner's Representative to review prepared surfaces for any potential unacceptable conditions prior to fluid applied roof membrane application. The General Contractor and/or fluid applied roof membrane Installer shall correct any surface irregularities or deficiencies noted.
- B. For All Coating Applications: Mask adjoining surfaces not receiving fluid applied roof membranes to prevent migration of coatings.
- C. Adhere to Manufacturer's instructions.

3.3 TERMINATIONS AND PENETRATIONS

- A. Provide clean-cut (taped and/or masked) edge terminations in accordance with the Contract Drawings subsidiary to the corresponding fluid applied roof membrane Items.
- B. Prepare vertical and horizontal surfaces at terminations and penetrations through fluid applied roof membranes to Manufacturer's written recommendations.

3.4 JOINT AND TERMINATION TREATMENT

- A. Prepare and seal existing roofing and flashing terminations and replace failed joint sealant in substrates as required by the Contract Drawings, all applicable ASTM specifications, and the fluid applied roof membrane Manufacturer's written recommendations as well as the substrate roofing system manufacturer's recommendations.
 - 1. Before coating surfaces, remove dust and dirt from joints and cracks according to fluid applied roof membrane Manufacturer's requirements.

3.5 FLUID APPLIED ROOF MEMBRANE APPLICATION

- A. Apply fluid applied roof membrane material according to Manufacturer's written requirements.
 - 1. Start fluid applied roof membrane applications in presence of the Owner's Representative or Manufacturer's technical representative. Provide at least 2 days advanced notice to the Owner.
 - 2. Verify that wet film thickness of each component/coat complies with Manufacturer's requirements at a minimum of two places on each separate structure. The contractor shall provide film thickness gages for use during coating operations.

3.6 CURING AND PROTECTING

- A. Cure fluid applied roof membranes according to Manufacturer's written recommendations. Prevent contamination and damage during application and curing stages.
- B. Protect fluid applied roof membranes from damage and wear during remainder of construction period.
- C. Defects due to blistering, bubbling, contamination by dirt, debris or other disturbance shall be removed, the surface cleaned, and defects repaired. Limits of repair shall be reviewed with, and established by the Owner's Representative. All repair and associated work shall be completed at no cost to the Owner.

3.7 GUARANTEE/WARRANTY

- A. General Warranty: Special warranty specified in this Article shall not deprive

Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Special Warranty: The fluid applied roof membrane Manufacturer and Contractor shall furnish the Owner with a written JOINT PERFORMANCE WARRANTY, by Manufacturer and Applicator, agreeing to repair or replace fluid applied roof membranes that do not comply with requirements or that deteriorate during the specified warranty period.

1. Deterioration of fluid applied roof membranes includes, but is not limited to, the following:
 - a. Adhesive failures.
 - b. Surface cracking.
 - c. Intrusion of water into substrate due to membrane degradation or failure.
 - d. All other conditions deemed to be workmanship or material related deficiencies.
2. Full Warranty Period for fluid applied roofing membrane coating application: **Ten years** from date of Substantial Completion.

END OF SECTION 075600

ATTACHMENT C
ORIGINAL PARKING GARAGE ROOFING SPEC (1999)

SECTION 07530

SINGLE PLY MEMBRANE ROOFING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings, Contract Conditions, and other Technical Specifications Sections apply to work of this Section insofar as applicable.

1.02 WORK INCLUDED

- A. Provide thermoplastic sheet roofing work as indicated on the Drawings and as specified herein, including, but not limited to the following:

- 1. Fully adhered membrane.
- 2. Roof flashings.
- 3. Roof insulation.

1.03 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:

- 1. Section 05310, STEEL DECK.
- 2. Section 06100, ROUGH CARPENTRY; Sheathing and wood blocking, cants and nailers.
- 3. Division 15 - MECHANICAL; Roof penetrations and installation of roof-mounted equipment.

1.04 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirement shall govern.

- 1. American Society for Testing and Materials (ASTM):

D 1621 Compressive Properties of Rigid Cellular Plastics

D 4434 Poly (Vinyl Chloride) Sheet Roofing.

E 96 Water Vapor Transmission of Materials

- 2. Federal Specifications (Fed. Spec.):

HH-I-1972 Insulation Board, Thermal, Polyurethane and Polyisocyanurate Faced

1.05 SUBMITTALS

- A. Product Data: Submit manufacturer's printed product data, specifications, standard details, installation instructions, use limitations and recommendations for each material used. Provide certifications that materials and systems comply with specified requirements.

- B. Shop Drawings: Provide large scale shop drawings for installation of all parts of the work. Provide plans, and details of seams, connections and accessory items. Show layouts of

tapered insulation and locations of drains. Show interfaces and relationships to work of other trades.

- C. Test Reports: Provide certified reports for all specified tests.

1.06 QUALITY ASSURANCE

- A. Source: For each material type required for the work of this section, provide primary materials which are the product of one manufacturer. Provide secondary or accessory materials which are acceptable to manufacturers of primary materials.
- B. Installer: A firm with a minimum of three years experience in type of work required by this Section and that is acceptable to manufacturers of primary materials.
- C. UL Listing: Provide roof system that has been tested and listed by UL as Class A for roof deck, slope and application indicated.
- D. Manufacturer's Representative: Make arrangements and pay costs to have manufacturer's authorized representative on roof at beginning of roofing work to advise installer of proper procedures and quality control techniques.

1.07 WARRANTY

- A. Furnish manufacturer's warranty stating that manufacturer shall maintain roofing and thermoplastic membrane flashings in watertight condition at his own expense for fifteen years from date of Substantial Completion, provided that Owner gives manufacturer written notice of any leak within thirty days from the discovery of such leak. Warranty is solely intended to cover any condition caused by defective materials, installation, or ordinary wear and tear. Warranty shall not cover damage from lightning, full gales, hurricanes, or similar unusual natural occurrences or any condition caused by any deliberate act or by negligence in maintenance.

1.08 PROJECT CONDITIONS

- A. Weather: Perform work of this Section only when existing or forecasted weather conditions are within the limits established by manufacturers of the materials and products used.
- B. Substrates: Proceed with work only when substrate construction and penetration work is complete.

1.09 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials and products in unopened, factory labeled packages. Store and handle in strict compliance with manufacturer's instructions and recommendations. Store under cover and protect from weather damage.
- B. Sequence deliveries to avoid delays, but minimize on-site storage.
- C. Adhesives, cements, mastics and sealers shall be stored between 60°F and 80°F should they be exposed to lower temperatures, restore to room temperature for three to five days prior to use. Do not use materials damaged in handling or storage.
- D. Store insulation and provide full protection against dampness before laying. Insulation boards shall be dry when applied, and shall be protected from the weather during installation. Any materials damaged by exposure to the elements or other cause shall be rejected and removed promptly from site.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Provide materials and roofing systems from one of the following manufacturers that meet or exceed specified requirements:
 - a. Sarnafil Inc.
 - b. GenFlex Roofing Systems; GenCorp Polymer Products.
 - c. HPG Roofing Systems, div. of Johns-Manville

2.02 ROOF SYSTEM

- A. Materials and installation shall conform to manufacturer's standard specifications, and work of this Section shall be executed by roofing installer licensed by manufacturer.
- B. Provide thermoplastic roofing system consisting of adhered single-ply PVC sheet and mechanically-attached insulation over roof deck. Provide system conforming to UL Class A and Factory Mutual Class 1. Roof system shall conform to Factory Mutual Windstorm Resistance Classification 1-90.

2.03 MEMBRANE ROOFING MATERIAL

- A. General: Virgin polyvinyl chloride (PVC) with plasticizers and modifiers, formed into uniform flexible sheets, complying ASTM D 4434, Type to suit project.
 - 1. Thickness: 60 mils, nominal.
 - 2. Membrane Reinforcing: Manufacturer's standard polyester scrim.
 - 3. Exposed Face Color: Custom color as selected by the Architect.
- B. Mechanically Attached PVC Membrane: Manufacturer's standard installation.
- C. Flashing Material: Manufacturer's standard system compatible with single-ply membrane.
- D. Slip Sheet at Thermoplastic Flashing: Type recommended by membrane manufacturer for protecting membrane from incompatible substrates (thermoplastic flashing).

2.04 RIGID ISOCYANURATE INSULATION

- A. Isocyanurate Board Insulation: Provide indicated thickness of rigid isocyanurate foam roof insulation consisting of isocyanurate integrally laminated on top and bottom with non-reflective facer. Provide insulation conforming to Fed. Spec. HH-I-1972, and that is acceptable to roofing system manufacturer.
 - 1. Rigid isocyanurate shall have minimum density of 2 lb. cu. ft., minimum compressive strength (ASTM D 1621) of 25 psi, maximum moisture vapor transmission (ASTM E 96) of 2.0 perm, "C" factor of 0.16 (1 in.) or better, and "R" value of 6.67 (1 in.).
 - 2. Steel Decks: Insulation shall be approved by Factory Mutual (FM) for Class 1 Insulated Steel Deck Construction and shall be UL listed Class A.
 - 3. Provide tapered boards where indicated for sloping to drain. Fabricate with taper of 1/4 inch per foot, unless otherwise indicated.
- B. Anchors for Insulation: Provide mechanical anchors at metal decks. Provide corrosion-resistant type as recommended by insulation manufacturer for deck type and complying with fire and insurance wind-uplift rating requirements. Provide system tested and approved for FM 1-90 wind-uplift rating.

2.05 RECOVERY BOARD

- A. Barrier: Type X gypsum wall board, ASTM C 36, 5/8 inch thick.

2.06 VAPOR RETARDER

- A. Provide Vaporstop 398, manufactured by Fortifiber Corp., Attleboro, MA 02703, or Architect approved equal.
- B. Vapor Retarder Adhesive: Provide Pyro-Kure Roofing Adhesive 402, manufactured by Fortifiber Corp., Attleboro, MA 02703, or Architect approved equal.

2.07 RELATED MATERIALS

- A. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, seam caulk, termination reglets, and other accessories recommended by roofing system manufacturer for intended use.
- B. Bonding Adhesive: Provide bonding adhesive as recommended by manufacturer. Provide adhesive compatible with all materials and substrates.
- C. Splicing Cement: Provide splicing cement and splice cleaners as recommended by membrane manufacturer.
- D. Lap Sealant: Provide lap sealant for sealing exposed edge of splices of trowel on gun consistency, and as recommended by membrane manufacturer.
- E. Miscellaneous Materials: Provide water cutoff mastic, night sealer, and pourable sealer as recommended by membrane manufacturer.
- F. Prefabricated thermoplastic accessories (pipe seals, inside and outside corners, etc.) shall be as manufactured and recommended by membrane manufacturer.
- G. Nailing Strips and Fasteners: Nailing strips shall be extruded rubber and mechanical fasteners approved by system manufacturer.
- H. Roofing Nails: 11 gauge hot-dip galvanized, length to penetrate wood members at least 7/8 in., with 5/8 in. diameter heads, as recommended by membrane manufacturer.
- I. Restraining and Termination Bars: Provide system manufacturer's recommended galvanized metal bars in shapes and configurations required to secure insulation at edges and at slope. Provide fasteners as required.
- J. Reglets: Provide fabricated metal units of type and profile indicated, or if not indicated, as required to properly complete the work. Fabricate reglets from metal which is compatible with flashings used.

PART 3 EXECUTION

3.01 INSPECTION OF SURFACES TO RECEIVE MEMBRANE ROOFING

- A. Carefully check roof deck areas for conditions affecting application and performance. Report defects in writing to Construction Manager. Do not proceed with roofing work until defects have been corrected.
- B. Beginning work shall constitute acceptance of its conditions and any defects in roofing work resulting from such accepted surfaces shall be corrected without further expense to the

Authority.

3.02 MEMBRANE ROOFING, GENERAL

- A. Surfaces to receive roofing materials shall be rigid, tight, clean, dry, smooth, free of scale, dust, oil, or other foreign matter, and also free of frost or the effects of freezing. Thoroughly clean surfaces to remove loose particles immediately before application of subsequent materials. Do not apply roofing materials over wet subsurfaces.
- B. Where surface joints at roof and wall substrates exceed 1/4 in. width, fill flush with surface with pourable sealer before proceeding with the installation.
- C. Do not leave unfinished roof areas uncovered overnight or during inclement weather.
- D. Work shall conform to manufacturer's published specifications, and the published standards of UL. Roof shall be made permanently weatherproof in continuous operation, including connection to flashing and gravel stops.
- E. Comply with manufacturer's recommended details and adopt their principles of design. Provide manufacturer's recommended weatherproofing method at projections, connections to sheet metal gravel stops and flashings and at other special conditions.
- F. Do not damage or stain surrounding work. Remove stains and repair damage immediately, as work progresses, as part of work of this Section.
- G. Proceed with flashing work concurrently with roof installation to prevent water entry at flashing locations.
- H. Cutting and Patching: Provide all cutting and patching of roofing work as required to make way for new work.

3.03 ROOF INSULATION

- A. Install only as much insulation daily as can be covered with roofing by close of work. Do not expose materials to rain or snow, nor overnight. Replace material that becomes wet.
- B. Attach insulation to roof deck with spots of cold adhesive and mechanical fasteners spaced according to Factory Mutual Loss Prevention Data Sheet 1-28 for 1-90 Windstorm Resistance Classification. Cut insulation to fit around roof penetrations and projections. Trim edges of insulation boards so that no edge is left unsupported. Stagger transverse joints in insulation 2 ft. in adjacent rows and butt edges tightly. Joints between boards shall be less than 1/4 in. wide.
- C. Feather or taper insulation around drains for smooth transition between roof surface and drain clamp ring.

3.04 MEMBRANE ROOFING INSTALLATION

- A. Install thermoplastic sheet over area to receive roofing according to roofing system manufacturer's written instructions. Unroll sheet and allow to relax for a minimum of 30 minutes.
 - 1. Install sheet according to ASTM D 5082 and FM requirements.
- B. Start installation of sheet in presence of roofing system manufacturer's technical personnel.
- C. Accurately align sheets and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Fully Adhered Membrane: Adhere membrane to insulation, and plywood where indicated, in

conformance with approved submittals, including manufacturer's published instructions and details. Install membrane by unrolling over prepared substrate, lapping adjoining sheets as recommended by manufacturer. Apply adhesive to surfaces to be bonded and roll into place when adhesive has properly cured. Provide heat welded seams. Install mechanical fasteners, flashings and counterflashings, and accessories at locations and as recommended by manufacturer.

E. Elastomeric Flashings Which Are Part of Roofing System: Provide elastomeric sheet flashings at elastomeric sheet roofing work, as indicated.

1. Use longest practical lengths and widths of elastomeric sheet flashing material to eliminate or minimize joints. Complete splices between flashings and main roof sheet before bonding flashings to vertical surfaces. Splices shall be sealed 3 in. beyond fasteners that attach membrane to horizontal nailer in same manner as splices within roofing membrane. Flashings shall be bonded 100% to subsurfaces, except at coves where movement is anticipated, where flexible tube shall be installed.
2. Apply bonding adhesive to flashing and surface to which it is being bonded. When bonding adhesive has dried to the point where it does not string or stick to a dry finger touch, roll flashing into adhesive. Do not bridge flashing at changes of direction.
3. Nail top of flashing 12 in. on center under sheet metal copings, counterflashing, and other sheet metal work.
4. Pipe Flashing: Flash penetrating pipe, conduit, and duct penetrations with prefabricated pipe seals where possible and field-fabricated seals where necessary.
5. Expansion Joints: Treat expansion joints as indicated in expansion joint manufacturer's standard details and published instructions for specific conditions.
6. Unusual Penetrations: Seal clusters of pipes and unusually shaped penetrations with pourable sealer, 2 in. deep in pitch pocket seal, as indicated in manufacturer's standard details and published instructions for specific conditions.
7. Roof drains: Install membrane into drain flange and seal between membrane and drain base with water cut-off mastic, as indicated in manufacturer's standard details and published instructions for specific conditions.

3.05 CLEANING

- A. Keep surrounding surfaces clean as work progresses.

END OF SECTION

ATTACHMENT D
(PHOTOS)



PHOTO 1 GARAGE HELIX RAMP ROOF



PHOTO 2 STAIR TOWER AND ELEVATOR TOWER



PHOTO 3 HELIX ROOF

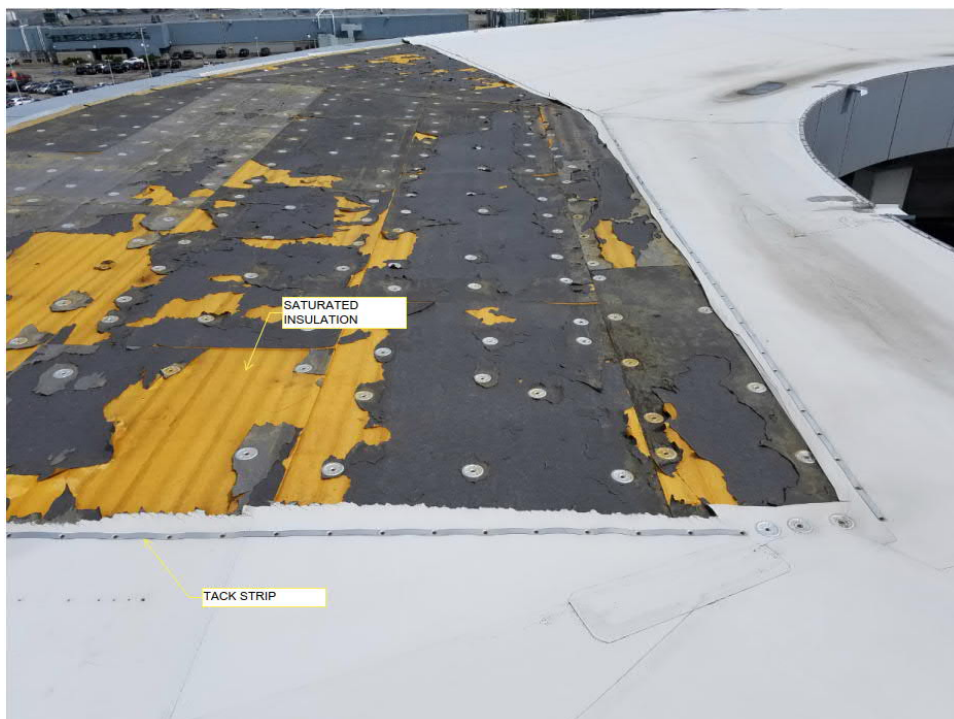


PHOTO 4 EXIT HELIX ROOF REPAIR AREA



PHOTO 5 EXIT HELIX ROOF REPAIR AREA

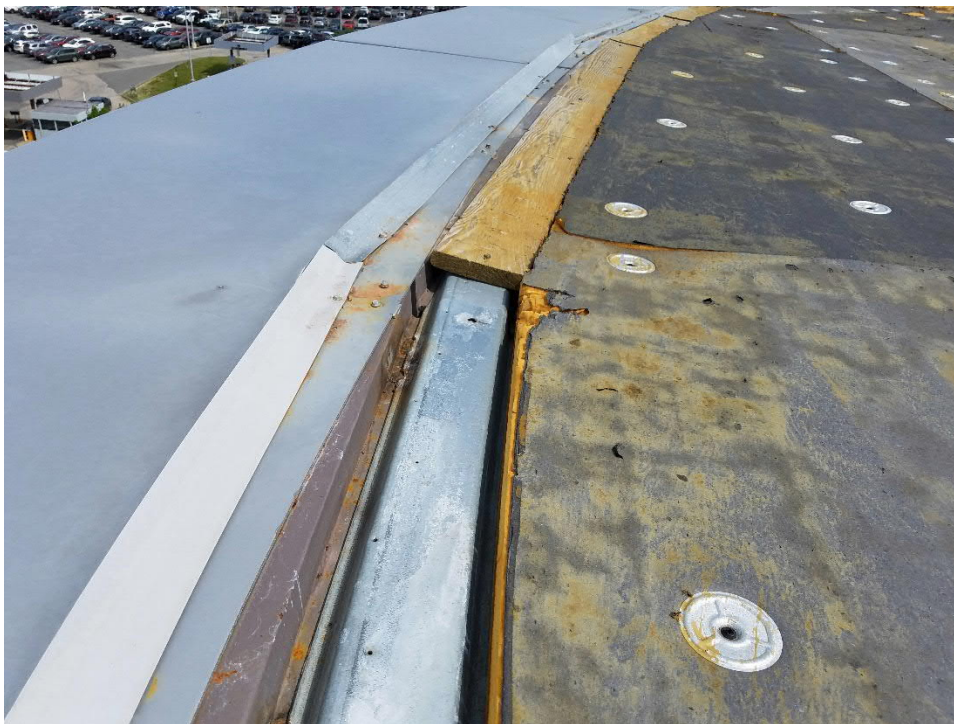


PHOTO 6 EXIT HELIX ROOF REPAIR AREA



PHOTO 7 HELIX ROOF FLASHING



PHOTO 8 HELIX ROOF



PHOTO 9 HELIX ROOF



PHOTO 10 HELIX ROOF SCUPPER



PHOTO 11 TYPICAL STAIR TOWER ROOF



PHOTO 12 STAIR TOWER ROOF CUPPER



PHOTO 13 ELEVATOR TOWER/STAIR TOWER 2

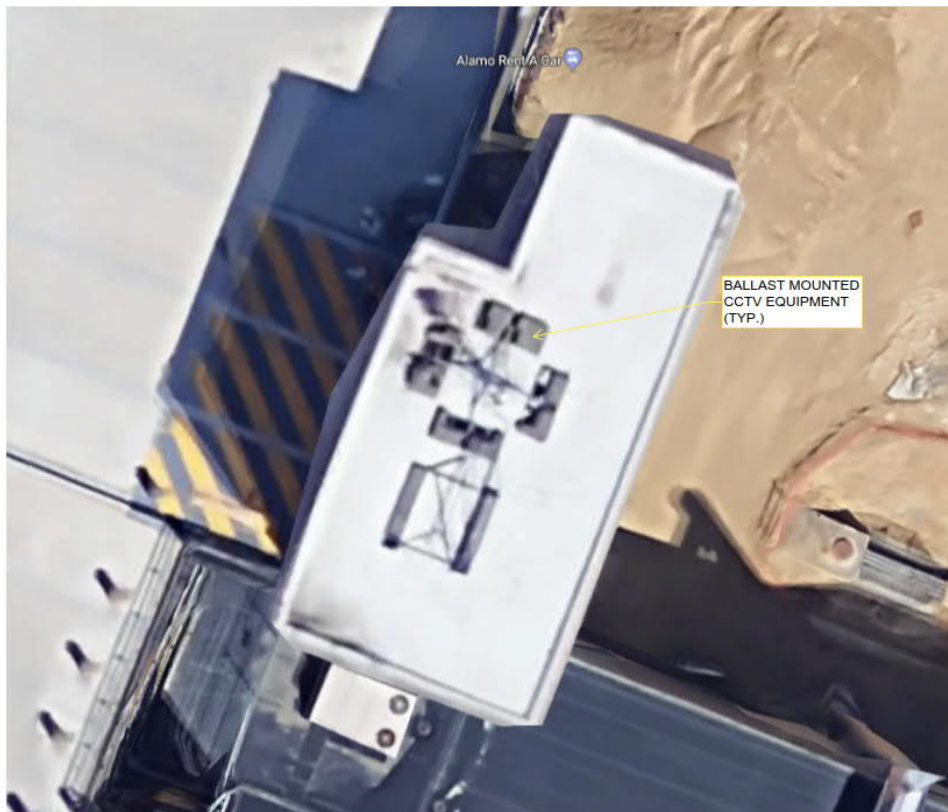


PHOTO 14 ELEVATOR TOWER/STAIR TOWER 2 (Courtesy Google Earth)