

**Virginia Military Institute**  
Lexington, Virginia 24450-0304

REQUEST FOR QUALIFICATION

RFQ 23-01-011

Title: On-Demand Trades Pool for Renovation and Repair Services  
SET-ASIDE FOR SBSB Certified SWaM VENDORS ONLY -- Limited to Area 103

Questions Due: 2 November 2023 at 2:00 PM EST

Due Date: 16 November 2023 at 2:00 PM EST (mailed or hand-delivered to VMI Procurement)

Services) Commodity Code: 91200 – Construction Services, General

Issuing Agency: Virginia Military Institute  
Procurement Services  
330 Parade, Avenue  
Smith Hall, Room 314  
Lexington, VA 24450

Period of Contract: Date of Award through 31 December 2024, with four (4) optional renewals. VMI will also solicit for new vendors to add to the contract annually during an open enrollment period.

Proposals should be mailed or hand-delivered directly to the Issuing Agency shown above.

IDENTIFICATION OF BID ENVELOPE: The signed bid should be returned in a separate envelope or package, sealed and identified as instructed in Section XII, paragraph H. The envelope should be addressed as directed in the heading of this Page of the solicitation. No other correspondence or other bids should be placed in the envelope.

PRE-PROPOSAL CONFERENCE: No pre-proposal conference will be held for this solicitation.

All Inquiries for Information Should Be Directed To: LTC Lynn W. Carmack, VMI Procurement Services at [lcarmacklw@vmi.edu](mailto:lcarmacklw@vmi.edu). The Understanding of Requirement Form (Attachment A) must be used for questions concerning specifications or statement of needs.

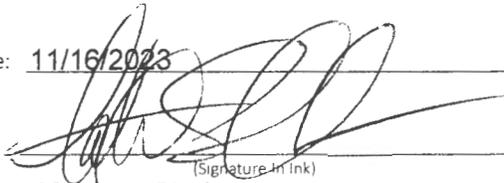
In Compliance With This Request for Qualifications And To All The Conditions Imposed Therein And Hereby Incorporated By Reference, The Undersigned Offers And Agrees To Furnish The Goods/Services In Accordance With The Attached Signed Proposal Or As Mutually Agreed Upon By Subsequent Negotiation.

Name and Address Of Firm:

John T. Morgan Roofing & Sheet Metal

Date: 11/16/2023

Company, Inc.

By: 

1620 6th Street NE

Name: Matthew Shelor  
(Please Print)

Roanoke, VA Zip Code: 24012

Title: President

EVA Vendor ID or DUNS number E49272

Phone: ( 540 ) 342-7498

E-mail: ber@johntmorganroofing.com

Fax: ( 540 ) 345-2959

Note: This public body does not discriminate against faith-based organizations in accordance with the *Code of Virginia*, § 2.2-4343.1 or against a bidder or offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment.

**COPY**

## INTRODUCTION

### ABOUT JOHN T. MORGAN ROOFING & SHEET METAL COMPANY

John T. Morgan Roofing was founded in 1933 by Mr. John T. Morgan in Roanoke, Virginia. Our first location was on Rorer Avenue which is now a vacant lot. The company later moved to Salem Avenue where that building remains today.

Back then, we were a residential roofing contractor and sheet metal company. Our primary focus was on installing roofs as well as leak repairs on homes. In addition, we fabricated sheet metal and duct work for HVAC contractors.

Years later, his son and daughter-in-law came in to the business and eventually took over the company. Mr. & Mrs. Morgan helped grow the business and expanded into the commercial and industrial low-slope roofing segment. In addition, the company built its current location in 1986 on 6th Street NE in Roanoke, Virginia.

Their daughter, Mrs. Cynthia Morgan Shelor, bought the company upon their retirement in the early 1990's. This signified the third generation of family to own the business. In 2011, the fourth generation entered the business as Matthew Morgan Shelor came on board. The company has grown considerably in recent years and is predominantly a commercial and industrial roofing contractor today. We continue to have our single location in Roanoke, VA.

John T. Morgan Roofing has come a long way since 1933 with expanded services as well as, an expanded coverage area. On a daily basis we serve the roofing needs for The Roanoke Valley, New River Valley and greater Southwest Virginia. We are excited about the future and the opportunity to serve your roofing needs.

### VARIOUS AWARDS AND HONORS

*Roanoke Regional Chamber of Commerce: 2017 & 2014 Small Business of the Year Nominee*

*Carlisle: 2022, 2020, 2019, 2018 & 2017 Perfection Award*

Carlisle SynTec Systems' Perfection Award and Perfection Council were established in 2011 as a way to recognize those authorized applicators who demonstrate a commitment to perfection on every Carlisle installation. Each year, the Perfection Award honors contractors whose exceptional installation quality results in a warranty claim performance that ranks in the top 5% of all U.S. and Canadian applicators.

*Carlisle: Hall of Fame Contractor*

A Carlisle Authorized Applicator qualifies as a Hall of Fame 250 member when their firm completes at least 250 'Perfect 10' roofing installations. This category recognizes superior workmanship, consistency and continued dedication to perfection.

*Carlisle: Centurion Contractor*

Each roof system that we install is inspected by the manufacturer prior to obtaining the roof system warranty. Centurion contractors have achieved 100 'Perfect 10' roof installations.

*Firestone Partner in Quality: 2023, 2018, 2017, 2016, 2015, 2014 & 2007*

“The Firestone Building Products Red Shield Licensed Roofing Contractors are some of the top roofing professionals in the industry. This is evident when looking at the number of warranted jobs the firm has completed in the last calendar year, but more importantly, the superior level of craftsmanship demonstrated in each project. We’re pleased to recognize the quality of work with our Partner in Quality Award.” –Tim Dunn, President, Firestone Building Products

*Beacon Roofing Supply Lighthouse Award: 2014*

Recognizes contractors that operate with Honesty and Integrity

*The Roanoker Magazine 2012 Best Roofing Company: Gold*

Voted on by readers of The Roanoker Magazine

## QUALIFICATIONS

RFP Section VIII. Paragraph B. Sub Paragraph 1 a.

*“Provide an organizational chart indicating which individuals or positions would have knowledge of an agreement with the Institute, and the degree to which each person would be responsible to an Institute account, including names of project managers and construction superintendents. Include proof of required trade certifications.”*

### PERSONNEL

#### A. Cynthia Shelor

Mrs. Cynthia Shelor is the CEO of John T. Morgan Roofing and has 39 years of experience in the roofing industry.

#### B. Matthew Shelor

Mr. Matthew Shelor is the President of John T. Morgan Roofing. He joined our company after graduating from Virginia Tech and has been with our company for 11 years.

#### C. Brandon Ratliff

Mr. Brandon Ratliff is Vice President and Commercial Roofing Estimator for John T. Morgan Roofing. Brandon has 19 years of experience in the roofing industry. He will hold the role of Project Manager as well as Estimator for any Virginia Military Institute projects. He will oversee various activities including but not limited to Site Visits, Field Measuring, Estimating, Proposals, Submittal Process, Material Ordering, Progress Reports and Planning.

#### D. Cory Hale

Mr. Cory Hale is the Commercial Roofing Manager for John T. Morgan Roofing. Cory has been with our company for over 6 years. He will oversee day-to-day activities. The job foreman will report to Cory on a daily basis. He will make numerous job site visits throughout any projects.

#### D. David Burnette

Mr. David Burnette is the Sheet Metal Manager for John T. Morgan Roofing. David has over 25 years of experience in the roof industry. He will oversee any Steep Slope and Sheet Metal related activities including but not limited to Slate, Shingle, Metal Copings, Metal Flashings and Metal Roofing.

## QUALIFICATIONS

RFP Section VIII. Paragraph B. Sub Paragraph 1 b.

*“Describe the offerors general experience in providing construction of the nature the Institute seeks.”*

### GENERAL EXPERIENCE

John T. Morgan Roofing is a certified and licensed installer for both Carlisle and Elevate (Formerly Firestone) roof systems. Additionally, we install multiple types of roof systems including (but not limited to) Slate, Standing Seam Metal, Cedar Shake, Metal Flashings and more.

RFP Section VIII. Paragraph B. Sub Paragraph 1 a.

*“Provide a list of all the offeror’s clients comparable to the Institute’s indicating length of contract and the nature of each project. The Institute may contact and/or visit any of these clients.”*

### ON DEMAND CLIENT LIST

John T. Morgan Roofing has a long list of clients for which we perform regular maintenance, these include but are not limited to several colleges, school systems and government agencies. We have regular inspection and maintenance contracts with several private sector property owners as well. We are not, however, under any current On-Demand contracts.

RFP Section VIII. Paragraph B. Sub Paragraph 1 a.

*“Provide a list of all clients lost within the last three years which includes: a) a contact name and telephone number, b) length of contract and c) reason for the loss.”*

### LOST CLIENT LIST

We have no lost contracts to report.

RFP Section VIII. Paragraph B. Sub Paragraph 2 a.

*“Provide a complete and detailed description of the offeror’s methodology and plan for providing the services described herein.”*

**METHODOLOGY AND PLAN**

STEP 1:

Provide Virginia Military Institute (VMI) with all necessary personnel contact information, including emergency contact information.

STEP 2:

Upon contact from VMI a site visit will be scheduled to observe, diagnose, and field measure (where required).

STEP 3:

A formal proposal (as requested) will be promptly returned to the contacting person and/or facilities management as deemed necessary.

STEP 4:

John T. Morgan Roofing will provide answers to any questions that may arise in regard to the above proposal, provide any requested samples and/or additional information needed.

STEP 5:

Upon approval and issuance of a PO (as specified within the contract documents) an internal work order will be produced. All necessary materials will be ordered. John T. Morgan Roofing superintendent will be introduced to the project.

STEP 6:

If necessary, an onsite preconstruction will be arranged by John T. Morgan Roofing. This preconstruction meeting will include all VMI personnel to be involved in the project, the John T. Morgan Roofing Project manager, superintendent, and foreman. The material manufacturer representative will be included if necessary. This preconstruction meeting will establish project specific details including but not limited to Safety, Access, Acceptable Work Hours, Scope, Etc.

STEP 7:

Project scope will be executed in a safe manner and as per the agreed upon proposal, with quality installation.

STEP 8:

After project completion, the grounds will be cleaned, and the roof/repair will be inspected by John T. Morgan and/or the Roofing Manufacturer's Representative.

STEP 9:

All warranties will be provided to VMI.

**RFP Section VIII. Paragraph B. Sub Paragraph 2 b.**

***“Describe the offeror’s commitment to the Institute in terms of resources, personnel, investment, etc.”***

**COMMITMENT**

John T. Morgan Roofing will be dedicated to providing the same level of customer service to the Virginia Military Institute that our clients have come to expect over our 90 years in the Roofing and Sheet Metal Industry.

All necessary resources will be provided in order to complete each project in a professional and high-quality manner.

John T. Morgan Roofing takes pride in its employees. All employees dispatched to VMI will be expected to adhere to all OSHA requirements, industry standards and institution guidelines.

**RFP Section VIII. Paragraph B. Sub Paragraph 2 c.**

***“Provide a list of the subcontractors the offeror would use to provide subcontracting.”***

**SUBCONTRACTORS**

John T. Morgan Roofing intends to perform all work with our own employees.

RFP Section VIII. Paragraph B. Sub Paragraph 2 d.

*“Provide representation that the prices, terms, warranties and benefits specified in the proposal are comparable to or better than the equivalent terms being offered by the offeror to any present customer.”*

#### **CURRENT TERMS**

John T. Morgan is long committed to providing cost effective installations that make for repeat business. The prices/proposals we provide are equal among all customers. John T. Morgan provides the same terms, warranties and benefits to all of our customers.

RFP Section VIII. Paragraph B. Sub Paragraph 2 e.

*“Comment on your willingness to furnish Commonwealth of Virginia Standard Performance and Labor and Material Payment Bonds for some projects when requested by the Institute.”*

#### **BONDING**

John T. Morgan Roofing can provide any requested VA Standard Performance and Labor and Material Payment Bonds. A letter from our bonding company is available upon request.

RFP Section VIII. Paragraph B. Sub Paragraph 3.

*“This solicitation is SET-ASIDE for certified Small, Woman-owned, and/or Minority-owned businesses. Only those businesses certified by the Virginia Department of Small Business and Supplier Diversity are eligible to respond to this solicitation.”*

#### **SWAM PARTICIPATION**

John T. Morgan Roofing and Sheet Metal is a registered SWaM business. Our state issued SWAM number is 655657.

**RFP Section VIII. Paragraph B. Sub Paragraph 4.**

*“Four (4) recent references, either educational or governmental, for whom you have provided the type services described herein. Include the date(s) the services were furnished, the client name, address and the name and phone number of the individual the institute has your permission to contact. (See Attachment D)”*

**REFERENCES**

1. Virginia Polytechnic Institute and State University  
Sterrett Facility Complex, Blacksburg, VA 24060  
Anthony Watkins – 540.231.6852  
Various Repairs, Reroofs, and Coatings
  
2. Roanoke County General Maintenance  
1216 Kessler Mill Road, Salem, VA 24153  
Joshua Campbell – 540.283.6533  
Various Repairs and Reroofs
  
3. Henry County Public Schools  
3300 Kings Mountain Rd, Martinsville, VA 24112  
Keith Scott – 276.634.4700  
Various Repairs and Reroofs
  
4. Carroll County Public Schools  
605-9 Pine Street, Hillsville, VA 24343  
Stephen Puckett – 276.730.3200  
Various Repairs and Reroofs

**RFP Section VIII. Paragraph B. Sub Paragraph 5.**

*“Submit a copy of the offeror’s most recent financial statements or other evidence of financial stability”*

**REFERENCES**

In lieu of our Financial States we have elected to provide Bank and Trade References. Please see below.

**BANK:**

American National

202 South Jefferson Street

Roanoke, VA 24011

Phone: (540) 278-1968

Fax: (540) 342-5626

First Citizens Bank

110 Church Avenue SW

Roanoke, VA 24011

Phone: 540-985-3334

**TRADE:**

ABC SUPPLY

3525 AERIAL WAY DRIVE

ROANOKE, VA 24018

540-342-6060 PHONE

540-342-6277 FAX

BEST DISTRIBUTING

1830 BLUE HILLS DRIVE

ROANOKE, VA 24012

540-265-4241

540-265-7866

N B HANDY

2836 MARY LINDA AVENUE NE

ROANOKE, VA 24012

800-289-6242 PHONE

540-345-9655 FAX

WHOLESALE SIDING SUPPLY, INC.

2131 PLANTATION ROAD, NE

ROANOKE, VA 24012

540-265-1835 PHONE

540-362-9003 FAX

**RFP Section VIII. Paragraph B. Sub Paragraph 6.**

*“Provide information regarding the locations of company offices relative to this proposal.”*

**LOCATION**

Our office is located at 1620 6<sup>th</sup> Street NE, Roanoke, VA 24012. We would access the Institute via Interstate 81 with a distance of only 54.8 miles and approximate travel time of 56 minutes.

**RFP Section VIII. Paragraph B. Sub Paragraph 7.**

*“The return of the General Information Form and addenda, if any, signed and filled out as required.”*

GENERAL FORMS AND ADDENDA TO FOLLOW:

Attachment B – Conflict of Interest Statement

Attachment C – Contractor Data Sheet

Attachment D – References

Attachment E – Small Business Certification

Attachment F – VMI Contractor / Vendor Standards of Conduct

Attachment G – Trade Consideration

Addendum 1 (includes Revised Attachment G)

CONFLICT OF INTEREST STATEMENT

Ensure that the solicitation is thoroughly read and completed. Complete, sign and return the information requested below with your proposal. FAILURE TO FURNISH THIS DATA MAY RESULT IN REJECTING YOUR PROPOSAL.

NAME: John T. Morgan Roofing & Sheet Metal Company, Inc.

ADDRESS: 1620 6th Street NE

CITY/STATE: Roanoke, VA 24012

TELEPHONE NUMBER: 540-342-7498

FEDERAL ID NUMBER(FIN): 54-0701042

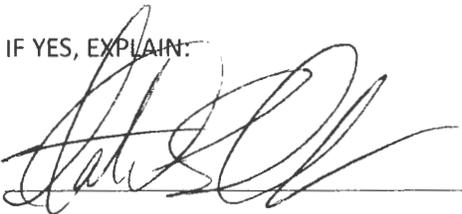
THE ABOVE FIRM IS A: (CHECK, AS APPLICABLE)

- SMALL BUSINESS
- WOMAN-OWNED BUSINESS
- MINORITY-OWNED BUSINESS
- SHELTERED WORKSHOP
- INDIVIDUAL BUSINESS
- SOLE PROPRIETORSHIP
- PARTNERSHIP
- CORPORATION

RELATIONSHIP WITH THE COMMONWEALTH OF VIRGINIA:

IS ANY MEMBER OF THE FIRM AN EMPLOYEE OF THE COMMONWEALTH OF VIRGINIA WHO HAS A PERSONAL INTEREST IN THIS CONTRACT PURSUANT TO THE CODE OF VIRGINIA, SECTION 2.1-639.1-639.24?  YES  NO

IF YES, EXPLAIN:



11/16/2023

SIGNATURE OF OFFEROR

DATE

Please tell us how you received this solicitation:

- It was mailed to you directly.
- You requested a copy through the Virginia Business Opportunities.
- You obtained a copy from the Virginia Department of Small Business and Supplier Diversity
- Other (please specify) eVA

QUALIFICATIONS OF OFFEROR: Offerors must have the capability and capacity in all respects to fully satisfy the contractual requirement.

Indicate the length of time you have been in business providing this type of service. 90 Years  
\_\_\_\_\_ Months

Provide a list of current references, either college, Educational Institutions, and/or other companies that your firm is servicing. Include the length of service, dollar volume, year contract was entered into, and the name and address of the person the State has your permission to contact. Such listing shall be comprehensive of your firm's customer base and can be formatted as follows:

CURRENT ACCOUNTS:

Account Name, Address & Phone #	Length of Service	\$ Volume/Year
<u>Please see information in our attached RFP.</u>		
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LOST ACCOUNTS:

Account Name, Address & Phone #	Length of Service	\$ Volume/Year
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

REFERENCES

Please list at least three references for whom you have performed each applicable category of service specified herein and within the past five years.

CLIENT: PLEASE SEE INFORMATION PROVIDED IN OUR ATTACHED RFP

ADDRESS: \_\_\_\_\_

CONTACT PERSON/PHONE#: \_\_\_\_\_

APPROXIMATE DOLLAR VOLUME PER YEAR: \_\_\_\_\_

PROJECTS/DATES/DESCRIPTION: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

CLIENT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CONTACT PERSON/PHONE#: \_\_\_\_\_

APPROXIMATE DOLLAR VOLUME PER YEAR: \_\_\_\_\_

PROJECTS/DATES/DESCRIPTION: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

CLIENT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CONTACT PERSON/PHONE#: \_\_\_\_\_

APPROXIMATE DOLLAR VOLUME PER YEAR: \_\_\_\_\_

PROJECTS/DATES/DESCRIPTION: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Please use a separate sheet of paper for additional references.

## Definitions

Small Business: "Small business " means an independently owned and operated business which, together with affiliates, has 250 or fewer employees, or average annual gross receipts of \$10 million or less averaged over the previous three years. Note: This shall not exclude SBSB-certified women- and minority-owned businesses when they have received SBSB small business certification.

Women-Owned Business: Women-owned business means a business concern that is at least 51% owned by one or more women who are citizens of the United States or non-citizens who are in full compliance with United States immigration law, or in the case of a corporation, partnership or limited liability company or other entity, at least 51% of the equity ownership interest is owned by one or more women who are citizens of the United States or non-citizens who are in full compliance with United States immigration law, and both the management and daily business operations are controlled by one or more women who are citizens of the United States or non-citizens who are in full compliance with the United States immigration law.

Minority-Owned Business: Minority-owned business means a business concern that is at least 51% owned by one or more minority individuals or in the case of a corporation, partnership or limited liability company or other entity, at least 51% of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more minority individuals and both the management and daily business operations are controlled by one or more minority individuals.

All small businesses must be certified by the Commonwealth of Virginia Department of Small Business and Supplier Diversity (SBSB) by the due date of the solicitation to participate in the SWaM program. Certification applications are available online at [www.sbsd.virginia.gov](http://www.sbsd.virginia.gov).

Offeror Name: John T. Morgan Roofing & Sheet Metal Co., Inc.

Preparer Name: Brandon Ratliff Date: 11/16/2023

## Instructions

- A. Businesses certified by the Department of Small Business and Supplier Diversity (SBSB) as a small business must complete Section A of this form.

## Section A

CERTIFICATION TYPE (check only one below):

- Small Business
- Small and Women-owned Business
- Small and Minority-owned Business

Certification Number: 655657 Certification Date: 5/1/2020  
Expiration Date: 5/1/2025

NOTE: It is your responsibility to ensure that your certification is renewed and does not lapse. Should your certification expire, you will no longer be eligible to receive awards under this contract.

VMI CONTRACTOR / VENDOR STANDARDS OF CONDUCT

The contractor shall be responsible for controlling employee conduct, for assuring that its employees are not boisterous or rude, and are not engaging in any destructive or criminal activity.

Foul language of any kind will not be tolerated. Engaging in verbal or physical behavior that causes distress to cadets, faculty, staff and/or employees will result in immediate removal from the job site.

All employees of the contractor and subcontractors shall wear uniforms or other appropriate Institute approved attire at all times to designate their affiliation with the contractor.

Brandishing a firearm, whether threatening or non-threatening, will result in immediate removal from the job site.

Contractor's employees who appear to be under the influence of alcohol or other substance shall not be permitted on VMI property.

Contractor's employees shall not use VMI owned equipment without the distinct permission of the Director of Physical Plant or Director of Construction or their designees. This equipment includes but is not limited to telephones and computers, hand tools and operable equipment.

The contractor is also responsible for insuring that its employees do not disturb papers on desks, or open desk drawers, cabinets or briefcases, or use the Institute equipment and the like, except as authorized in the preceding paragraph.

Smoking is not permitted on Post or at other VMI owned property except in designated areas as indicated by **General Order 45**. Tobacco use in VMI-owned or leased buildings, covered walkways, temporary enclosed structures, trailers, and tents as well as structures placed on state-owned property by contractors or vendors is prohibited. Tobacco use in VMI provided vehicles is prohibited. Outside smoking or tobacco use will not be permitted within 50 feet of building entrances or exits. Smoking will not be permitted in outside areas identified as hazardous areas.

Agreed to by: 

SIGNATURE

Matthew Shelor

PRINTED NAME

John T. Morgan Roofing & Sheet Metal Co., Inc.

COMPANY

11/16/2023

DATE

## TRADE CONSIDERATION

Contractor Pool for Non-Capital Construction, Renovation and Repair Services for projects valued at less than \$50k

Check all trades for which your firm is proposing:

TRADE:	CHECK ALL THAT APPLY FOR CONSIDERATION
General Construction	
Asbestos Remediation	
Asphalt Repair	
Casework/Millwork	
Concrete Work	
Demolition	
Disaster Recovery	
Dry Wall Installation/Finishing	
Electrical	
Elevator Inspections	
Excavation/Grading	
Exterior Waterproofing	
Fencing	
Fire System Services	
Flooring Installation/Refinishing	
Guttering	
HVAC	
Insulation services	
Masonry	
Mechanical	
Metal Fabrication	
Mold Remediation	
Painting	
Plumbing	
Roofing	X
Tile and Grout Work	
Water Mitigation	
Welding	
Window & Door Repair/Replacement	
OTHER: (Describe)	



## ADDENDUM 1 V211-24-023

330 VMI Parade Lexington, VA 24450  
Phone: 540-464-7323 Fax: 540-464-7669

**Project:** *On Demand Trades Pool, Project Values to \$50K  
Set-Aside for SBSB Certified SWaM Vendors*

**Date:** *31 October 2023*

**To:** *Prospective Offerors*

This Addendum forms a part of the Contract Documents and modifies, corrects or supplements the original Request for Proposal dated 16 October 2023.

***Additional Scope:***

This addendum is provided to add Solar Panel Design, Manufacturing and Installation Services to the trades that are being solicited for contract. This scope is detailed in Additional Requirements Attachment O included as part of this addendum. The Trade Consideration, Attachment G, document has been updated and the new version is also attached.

The solicitation schedule is also amended:

***Questions Due: 2:00 PM, 8 November 2023***

***Proposals Due: 2:00 PM, 17 November 2023***

Proposals are due at 330 VMI Parade Avenue, Room 314 by the posted deadline. Late proposals will not be accepted. Please note that VMI is not in a guaranteed delivery zone and vendors should plan accordingly.

Submitted by: LTC Lynn W. Carmack  
Assistant Director of Procurement Services  
540-464-7223  
[carmacklw@vmi.edu](mailto:carmacklw@vmi.edu)

ADDITIONAL REQUIREMENTS FOR  
SOLAR PANEL DESIGN, MANUFACTURING & INSTALLATION SERVICES

**Objective.** Contractor shall provide a total “turnkey” project including all necessary equipment, materials, design, manufacturing, and installation services for the installation of a [Roof-Mounted, Ground-Mounted, and Carport-Mounted Grid-Tied PV System] utility-interactive photovoltaic (PV) system. The contractor should prepare a system summary detailing each location, applicable equipment/size, and predicted system energy production (kWh). With regard to any building-mounted system, the contractor shall evaluate roof conditions and may remove the existing roof system and replace it with either an integrated roof/PV system or a new roof with a PV system installed. See roofing specification for these requirements. The project shall meet all requirements of this statement of work and other specifications included that apply.

**Scope.** The contractor shall perform all professional services as necessary to provide Virginia Military Institute with a complete design package, including the requirements outlined in this statement of work. The contractor shall install the project such that it is operational and compliant with all applicable standards, building codes, utility interconnection requirements, and Virginia requirements. The contractor shall include specifications, calculations, and drawings in the design package and submit it to VMI Construction Office for review and approval. After approval by Virginia Military Institute of the final design package, the contractor shall provide all necessary construction services to successfully complete the PV system installation.

**Design Guidelines for [Roof Mounted, Ground Mounted, and Carport].**

**Design Guidelines for Rooftop PV.** Contractor shall develop a design for a new PV system at [LOCATION]. See attached drawings indicating available areas for installation and existing roof structure plans. These drawings are meant for informational purposes only and must be field-verified by the contractor.

- The mounting system shall minimize roof penetrations and may include building-integrated roof PV or fully ballasted. The mounting system design needs to meet applicable local building code requirements with respect to snow, wind, and earthquake factors.
- Conduit penetrations shall be minimized.
- If the system is not building-integrated or membrane-sealed, the system shall be fixed-tilt (minimum 5-degree tilt for flat roof or flush mounted for sloped roof) with an orientation that maximizes annual energy production.
- All roof access points shall be securely locked at the end of each day.
- The system layout shall meet local fire department, code, and ordinance requirements for roof access.

**Design Guidelines for Ground-Mounted PV.** The contractor shall develop a design for a new PV system at [LOCATION]. See attached drawings indicating available areas for installation. Not all locations need to be used. It is the responsibility of the contractor to assess site topography and review geotechnical report to estimate costs related to project installation. The entity will provide geotechnical report as part of this request for proposal

- The mounting system shall be either directly anchored into the ground (driven piers, concrete footers, etc.) or ballasted on the surface without ground penetration. The mounting system design needs to meet applicable local building code requirements with respect to snow, wind, and earthquake factors.

- Panels' orientation or azimuth shall be within 20–30 degrees of due south.
- Panels' tilt shall be based on site latitude and wind conditions.
- Ground cover and vegetation management shall be included in the proposal.
- The stormwater management and erosion control management plan shall be included in the proposal.
- OPTIONAL. Chain link fencing and gate shall be included in the proposal.
- All lines interconnecting PV arrays to the point of interconnection (POI) shall be underground.

**Design Guidelines for Carport PV.** The contractor shall develop a design for a new PV system at [LOCATION]. See attached drawings indicating available areas for carport installation. Not all locations need to be used. It is the responsibility of the contractor to assess site topography and geotechnical attributes to estimate costs related to the project installation.

- Carport PV shall be tilted at a minimum of 5 degrees to allow for drainage and reduce soil buildup.
- The carport PV shall be at least 9 ft clear in all locations.
- Lighting shall be provided under each carport. This lighting shall be efficient (e.g., light-emitting diode, LED) and allow for adjustable times for illumination with photocell controls to turn the lights on at dusk and off in the morning prior to daylight.

All lines interconnecting PV arrays to the POI shall be underground.

**Performance Criteria.** The following performance criteria shall be met for all arrays:

- The power provided shall be three-phase compatible with the on-site distribution system. Winning bidder will be required to submit design drawings stamped (by a licensed professional engineer) specifying connection voltage and location.
- The proposal shall provide an estimated energy delivery for each array, for each month of the year, and for the total for the year at the delivered voltage.
- The standard test condition (STC)-rated power value, slope, and orientation will be entered into PVWatts (<http://pvwatts.nrel.gov/>) using the nearest weather file to determine estimated energy delivery in kWh AC. A default value for the system losses of 14% shall be used.
- The PV array shall mean one or more PV modules having the same orientation and on the same maximum power point tracking (MPPT) system. Every array with differing orientation shall have a separate MPPT system.
- All proposed/implemented PV array locations shall be shade-free from 9 a.m. to 3 p.m. (solar time). The contractor shall provide documentation of shading calculations for exterior extents for each proposed array. These calculations may be modified for shading obstructions that will be removed and mitigated as part of the project. Suggested documentation would include sun path diagrams for exterior array locations or SunEye measurements.
- All PV hardware components shall be either stainless steel or aluminum. PV structural components shall be corrosion-resistant (e.g., galvanized steel, stainless steel, composites, or aluminum).
- The project, including supports and power conductors, shall not interfere with roof drains, water drainage, expansion joints, air intakes, existing electrical and mechanical equipment, existing antennas, and planned areas for future installation of equipment shown on drawings.

**Production Metering.** The project shall have at least one production meter at POI of the building.

**Construction.** Contractor (unless otherwise noted by Virginia Military Institute) shall perform all construction services necessary for the successful installation of the system based upon the design generated

### Technical Requirements and Reference Materials

- **Code Compliance.** The installation and equipment shall comply with applicable building, mechanical, fire, seismic, structural, and electrical codes. Only products that are listed, tested, identified, or labeled by Underwriters Laboratories (UL), Factory Mutual (FM), Electrical Testing Laboratories (ETL), or another nationally recognized testing laboratory shall be used as components in the project. Non-listed products are only permitted for use as project components when a comparable useable listed component does not exist. Non-listed products proposed for use as components must be identified as such in all submittals.
- The contractor shall use project components that are or made of materials that are recyclable, that contain recycled materials, and that are or ENERGY STAR® rated if they are available on the market.
- The publications listed below form a part of this document and are hereby incorporated by reference:
  - National Electrical Code (NEC)
  - UL 1703 Flat – Plate PV Modules and Panels
  - UL 1741 – Standard for Static Inverters and Charge Controllers for Use in PV Power Systems
  - FM Approved – Fire Protection Tests for Solar Component Products
  - International Electrotechnical Commission (IEC) 62446 Grid-Connected PV Systems – Minimum Requirements for System Documentation, Commissioning Tests, and Inspections
- Other technical codes that shall apply include:
  - American Society of Mechanical Engineers (ASME) Performance Test Codes (PTC) 50 (solar PV performance)
  - American National Standards Institute (ANSI) Z21.83 (solar PV performance and safety)
  - National Fire Protection Association (NFPA) 853 (solar PV systems near buildings)
  - Institute of Electrical and Electronics Engineers (IEEE) 1547 (interconnections)
  - American Society of Civil Engineers/Structural Engineering Institute (ASCE/SEI)-7 – ASCE – “Minimum Design Loads for Buildings and Other Structures”
  - National Roofing Contractors Association (NRCA)

### Roles and Responsibilities

**Contractor.** The contractor is required to provide:

- Conceptual Design Drawings
- Construction documents and engineering calculations that are signed and sealed by a licensed architect or professional engineer in the appropriate discipline of the subject design drawings (e.g. architectural, geotechnical, electrical, structural)
- Submittals for materials and products
- Construction materials, equipment, and labor
- Design and construction supervision/contract management
- A quality control plan (QCP)
- A safety plan
- Inspections and tests (per QCP)
- Manuals (e.g., design calculations, operation/maintenance, a shop drawing, etc.)

- Commissioning of the project
- Mentoring and training of building operating staff for operation and maintenance
- Operation and maintenance during the first year and an optional service plan after the first year
- A web-based monitoring system for 20 years

Virginia Military Institute will:

- Provide information and facility site visits per the contractor's request
- Review for approval design submittals and QCP
- Witness inspections to verify attainment of performance requirements
- Make progress payments for design/construction as agreed

## TRADE CONSIDERATION

Contractor Pool for Non-Capital Construction, Renovation and Repair Services for projects valued at less than \$50k

Check all trades for which your firm is proposing:

TRADE:	CHECK ALL THAT APPLY FOR CONSIDERATION
General Construction	
Asbestos Remediation	
Asphalt Repair	
Casework/Millwork	
Concrete Work	
Demolition	
Disaster Recovery	
Dry Wall Installation/Finishing	
Electrical	
Elevator Inspections	
Excavation/Grading	
Exterior Waterproofing	
Fencing	
Fire System Services	
Flooring Installation/Refinishing	
Guttering	
HVAC	
Insulation services	
Masonry	
Mechanical	
Metal Fabrication	
Mold Remediation	
Painting	
Plumbing	
Roofing	X
Solar Panel Services	
Tile and Grout Work	
Water Mitigation	
Welding	
Window & Door Repair/Replacement	
OTHER: (Describe)	