

Millen

Contract Routing Form

ROUTING: Routine

printed on: 05/22/2015

Contract between: Millen RFG Co
and Dept. or Division: Engineering Division
Name/Phone Number:

Project: Forest Hill Cemetery-John Catlin Chapel-Roof Replacement

Contract No.: 7478
Enactment No.: RES-15-00459
Dollar Amount: 95,457.00 ✓

File No.: 38190
Enactment Date: 05/21/2015

Contract entered & posted in Munis KSV

(Please DATE before routing)

Signatures Required	Date Received	Date Signed
City Clerk	5-22-15	5-22-15
Director of Civil Rights	5-22-15	5-26-15 MDD
Risk Manager	5-27-15	5-28-15 KRB
Finance Director	6/10/15 KSV	6-11-15
City Attorney	6-11-15	6-11-15
Mayor	6-11-15	6-16-15

Please return signed Contracts to the City Clerk's Office
Room 103, City-County Building for filing.

Original + 2 Copies

05/22/2015 11:25:18 enjap - Paul Stauffer - 266-4366

Dis Rights: OK / N/A / Problem - Hold
Prev Wage: AA / Agency / No
Contract Value: see above
AA Plan: EXEMPT
Amendment / Addendum # —
Type: POS / Pwip / Shdv / Gov't /
Grant / PW / Goal / Loan / Agrmt

PROJECT

CONTRACTOR

AMOUNT OF BID

CONTRACT NO. 7478
FOREST HILL CEMETERY – JOHN CATLIN CHAPEL – ROOF REPLACEMENT

MILLEN ROOFING CORPORATION

\$95,457.00

Acct. No. 10123-401-200: 54210 (91066)
Contingency 8%±

\$95,457.00
7,633.00

GRAND TOTAL

\$103,090.00



Legislation Details (With Text)

File #: 38190 **Version:** 1 **Name:** Awarding Public Works Contract No. 7478, Forest Hill Cemetery - John Catlin Chapel - Roof Replacement.

Type: Resolution **Status:** Passed

File created: 4/28/2015 **In control:** BOARD OF PUBLIC WORKS

On agenda: 5/19/2015 **Final action:** 5/19/2015

Enactment date: 5/21/2015 **Enactment #:** RES-15-00459

Title: Awarding Public Works Contract No. 7478, Forest Hill Cemetery - John Catlin Chapel - Roof Replacement.

Sponsors: BOARD OF PUBLIC WORKS

Indexes:

Code sections:

Attachments: 1. Contract 7478.pdf

Date	Ver.	Action By	Action	Result
5/19/2015	1	COMMON COUNCIL	Adopt Under Suspension of Rules 2.04, 2.05, 2.24, and 2.25	Pass
5/6/2015	1	BOARD OF PUBLIC WORKS	RECOMMEND TO COUNCIL TO ADOPT UNDER SUSPENSION OF RULES 2.04, 2.05, 2.24, & 2.25 - REPORT OF OFFICER	Pass
4/28/2015	1	Engineering Division	Refer	

Budget authority is available in the Acct. Nos. listed on the attached.

Awarding Public Works Contract No. 7478, Forest Hill Cemetery - John Catlin Chapel - Roof Replacement.

BE IT RESOLVED, that the following low bids for miscellaneous improvements be accepted and that the Mayor and City Clerk be and are hereby authorized and directed to enter into a contract with the low bidders contained herein, subject to the Contractor's compliance with Section 39.02 of the Madison General Ordinances concerning compliance with the Affirmative Action provisions **and subject to the Contractor's compliance with Section 33.07 of the Madison General Ordinances regarding Best Value Contracting:**

BE IT FURTHER RESOLVED, that the funds be encumbered to cover the cost of the projects contained herein.

See attached document (Contract No. 7478) for itemization of bids.

SDR *KLS*

**Wisconsin Office of the Commissioner of Insurance
Licensed Producer Search**

Monday, May 18, 2015

 ROBERTS, DINA A
WEST BEND WI

 License Status: Active
 License No: 2459106
 NPN No: 8437649
 Effective Date: 04-06-2005
 Expiration Date: 08-31-2015
 License Type: Resident Intermediary Indv

P62

Lines of Authority

Line of Authority	Residency	Effective Date	Status
Property	Resident	04-06-2005	Active
Casualty	Resident	04-06-2005	Active

Appointments and Terminations

Company Name	Qualification Type/Status	Effective Date	Termination Date	Termination Reason
ACUITY, A Mutual Insurance Company	CAS/Active PROP/Active	07-12-2007 07-12-2007		
Auto-Owners Insurance Company	CAS/Active PROP/Active	04-29-2015 04-29-2015		
Charter Oak Fire Insurance Company, The	CAS/Active PROP/Active	10-03-2008 10-03-2008		
Cincinnati Casualty Company, The	CAS/Active PROP/Active	01-13-2006 01-13-2006		
Cincinnati Indemnity Company, The	CAS/Active PROP/Active	01-13-2006 01-13-2006		
Cincinnati Insurance Company, The	CAS/Active PROP/Active	01-13-2006 01-13-2006		
Employers Assurance Company	CAS/Active	02-20-2015		
Employers Preferred Insurance Company	CAS/Active	02-20-2015		
General Casualty Company of Wisconsin	CAS/Active PROP/Active	04-28-2015 04-28-2015		
Integrity Mutual Insurance Company	CAS/Active PROP/Active	04-19-2006 04-19-2006		

Integrity Property and Casualty Insurance Company	CAS/Active	01-30-2008		
	PROP/Active	01-30-2008		
Liberty Mutual Insurance Company	CAS/Active	10-14-2011		
Ohio Casualty Insurance Company, The	CAS/Active	03-16-2015		
Old Republic Insurance Company	CAS/Inactive	07-07-2008	11-03-2010	Inadequate Production
Old Republic Surety Company	CAS/Inactive	07-07-2008	11-03-2010	Inadequate Production
Owners Insurance Company	CAS/Active	04-29-2015		
	PROP/Active	04-29-2015		
Phoenix Insurance Company, The	CAS/Active	10-03-2008		
	PROP/Active	10-03-2008		
Regent Insurance Company	CAS/Active	04-28-2015		
	PROP/Active	04-28-2015		
St. Paul Fire and Marine Insurance Company	CAS/Inactive	10-03-2008	11-26-2013	Canceled
	PROP/Inactive	10-03-2008	11-26-2013	Canceled
St. Paul Guardian Insurance Company	CAS/Inactive	10-03-2008	11-26-2013	Canceled
	PROP/Inactive	10-03-2008	11-26-2013	Canceled
St. Paul Mercury Insurance Company	CAS/Inactive	10-03-2008	11-26-2013	Canceled
	PROP/Inactive	10-03-2008	11-26-2013	Canceled
Travelers Casualty and Surety Company	CAS/Active	10-03-2008		
	PROP/Active	10-03-2008		
Travelers Casualty and Surety Company of America	CAS/Active	10-03-2008		
	PROP/Active	10-03-2008		
Travelers Casualty Insurance Company of America	CAS/Active	10-03-2008		
	PROP/Active	10-03-2008		
Travelers Indemnity Company of America, The	CAS/Active	10-03-2008		
	PROP/Active	10-03-2008		
Travelers Indemnity Company of Connecticut, The	CAS/Active	10-03-2008		
	PROP/Active	10-03-2008		
Travelers Indemnity Company, The	CAS/Active	10-03-2008		
	PROP/Active	10-03-2008		

Travelers Property	CAS/Active	10-03-2008
Casualty Company of America	PROP/Active	10-03-2008
Western Surety Company	CAS/Active	08-09-2010
Wilson Mutual	CAS/Active	07-16-2008
Insurance Company	PROP/Active	07-16-2008

DISCLAIMER: The Office of the Commissioner of Insurance does not endorse any specific agent or insurance agency. You are encouraged to contact the Agent Licensing Section at if you have any concerns with any of the agents or agencies listed.

\$95,457.00
FILE

BID OF MILLEN RFG. CORP.

2015

PROPOSAL, CONTRACT, BOND AND SPECIFICATIONS

FOR

FOREST HILL CEMETERY - JOHN CATLIN CHAPEL ROOF REPLACEMENT

CONTRACT NO. 7478

PROJECT NO. 53W1922

MUNIS NO. 10123

IN

MADISON, DANE COUNTY, WISCONSIN

AWARDED BY THE COMMON COUNCIL
MADISON, WISCONSIN ON MAY 19, 2015

CITY ENGINEERING DIVISION
1600 EMIL STREET
MADISON, WISCONSIN 53713

<https://bidexpress.com/login>

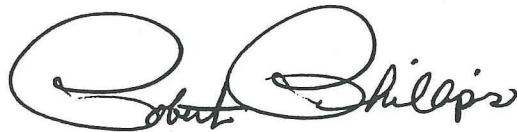
**FOREST HILL CEMETERY - JOHN CATLIN CHAPEL-ROOF REPLACEMENT
CONTRACT NO. 7478**

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This Proposal, and Agreement have
been prepared by:

**CITY ENGINEERING DIVISION
CITY OF MADISON
MADISON, DANE COUNTY, WISCONSIN**



Robert F. Phillips, P.E., City Engineer

RFP: ps

SECTION A: ADVERTISEMENT FOR BIDS AND INSTRUCTIONS TO BIDDERS

REQUEST FOR BID FOR PUBLIC WORKS CONSTRUCTION CITY OF MADISON, WISCONSIN

A BEST VALUE CONTRACTING MUNICIPALITY

PROJECT NAME:	FOREST HILL CEMETERY - JOHN CATLIN CHAPEL-ROOF REPLACEMENT
CONTRACT NO.:	7478
BID BOND	5%
PRE-BID WALK THROUGH MEETING (1:00 P.M.)	APRIL 8, 2015
PREQUALIFICATION APPLICATION DUE (1:00 P.M.)	APRIL 10, 2015
BID SUBMISSION (1:00 P.M.)	APRIL 24, 2015
BID OPEN (1:30 P.M.)	APRIL 24, 2015
PUBLISHED IN WSJ	MARCH 27 & APRIL 3, 10 AND 17, 2015

Pre-bid Walk Through Meeting:

A single pre-bid conference will be conducted for the purposes of a pre-bid walk through and all bidding contractors are encouraged to attend.

1. The meeting will be held at **1:00 pm on Wednesday, April 8th, 2015.**
2. This meeting will take place on site at the Chapel located in the Forest Hill Cemetery located at 1 Speedway Road, Madison, Wisconsin.
3. A representative from InSite Consulting Architects and City staff will be on hand to conduct the building walk through, discuss the plans, specifications and expectations of the contract.
4. Questions, clarifications will be answered per addendum.

PREQUALIFICATION APPLICATION: Forms are available at the same location or on our website, www.cityofmadison.com/business/pw/forms.cfm. If not currently prequalified in the categories listed in Section A, an amendment to your Prequalification will need to be submitted prior to the same due date. Postmark is not applicable.

BIDS TO BE SUBMITTED by hand to 1600 EMIL ST., MADISON, WI 53713 or online at www.bidexpress.com.

THE BID OPENING is at 1600 EMIL ST., MADISON, WI 53713.

STANDARD SPECIFICATIONS

The City of Madison's Standard Specifications for Public Works Construction - 2015 Edition, as supplemented and amended from time to time, forms a part of these contract documents as if attached hereto.

These standard specifications are available on the City of Madison Public Works website, www.cityofmadison.com/Business/PW/specs.cfm.

The Contractor shall review these Specifications prior to preparation of proposals for the work to be done under this contract, with specific attention to Article 102, "BIDDING REQUIREMENTS AND CONDITIONS" and Article 103, "AWARD AND EXECUTION OF THE CONTRACT." For the convenience of the bidder, below are highlights of three subsections of the specifications.

SECTION 102.1: PRE-QUALIFICATION OF BIDDERS

In accordance with Wisconsin State Statutes 66.0901 (2) and (3), all bidders must submit to the Board of Public Works proof of responsibility on forms furnished by the City. The City requires that all bidders be qualified on a biennial basis.

Bidders must present satisfactory evidence that they have been regularly engaged in the type of work specified herein and they are fully prepared with necessary capital, materials, machinery and supervisory personnel to conduct the work to be contracted for to the satisfaction of the City. All bidders must be pre-qualified by the Board of Public Works for the type of construction on which they are bidding prior to the opening of the bid.

In accordance with Section 39.02(9)(a)l. of the General Ordinances, all bidders shall submit in writing to the Affirmative Action Division Manager of the City of Madison, a Certificate of Compliance or an Affirmative Action Plan at the same time or prior to the submission of the proof of responsibility forms.

The bidder shall be disqualified if the bidder fails to or refuses to, prior to opening of the bid, submit a Certificate of compliance, Affirmative Action Plan or Affirmative Action Data Update, as applicable, as defined by Section 39.02 of the General Ordinances (entitled Affirmative Action) and as required by Section 102.11 of the Standard Specifications.

SECTION 102.4 PROPOSAL

No bid will be accepted that does not contain an adequate or reasonable price for each and every item named in the Schedule of Unit Prices.

A lump sum bid for the work in accordance with the plans and specifications is required. The lump sum bid must be the same as the total amounts bid for the various items and it shall be inserted in the space provided.

All papers bound with or attached to the proposal form are considered a part thereof and must not be detached or altered when the proposal is submitted. The plans, specifications and other documents designated in the proposal form will be considered a part of the proposal whether attached or not.

A proposal submitted by an individual shall be signed by the bidder or by a duly authorized agent. A proposal submitted by a partnership shall be signed by a member/partner or by a duly authorized agent thereof. A proposal submitted by a corporation shall be signed by an authorized officer or duly authorized registered agent of such corporation, and the proposal shall show the name of the State under the laws of which such corporation was chartered. The required signatures shall in all cases appear in the space provided thereof on the proposal.

Each proposal shall be placed, together with the proposal guaranty, in a sealed envelope, so marked as to indicate name of project, the contract number or option to which it applies, and the name and address of the Contractor or submitted electronically through Bid Express (www.bidexpress.com). Proposals will be accepted at the location, the time and the date designated in the advertisement. Proposals received after the time and date designated will be returned to the bidder unopened.

The Bidder shall execute the Disclosure of Ownership form. REFER TO SECTION F.

SECTION 102.5: BID DEPOSIT (PROPOSAL GUARANTY)

All bids, sealed or electronic, must be accompanied with a Bid Bond equal to at least 5% of the bid or a Certificate of Annual/Biennial Bid Bond or certified check, payable to the City Treasurer. Bid deposit of the successful bidders shall be returned within forty-eight (48) hours following execution of the contract and bond as required.

PREVAILING WAGE RATES

Prevailing Wage Rates may be required and are attached in Section J of the contract. See Special Provisions to determine applicability.

Bidders for this Contract(s) must be Pre-Qualified for at least one of the following type(s) of construction denoted by an ☒

Building Demolition

- 101 ☐ Asbestos Removal
120 ☐ House Mover

- 110 ☐ Building Demolition

Street, Utility and Site Construction

- 201 ☐ Asphalt Paving
205 ☐ Blasting
210 ☐ Boring/Pipe Jacking
215 ☐ Concrete Paving
220 ☐ Con. Sidewalk/Curb & Gutter/Misc. Flat Work
221 ☐ Concrete Bases and Other Concrete Work
222 ☐ Concrete Removal
225 ☐ Dredging
230 ☐ Fencing
235 ☐ Fiber Optic Cable/Conduit Installation
240 ☐ Grading and Earthwork
241 ☐ Horizontal Saw Cutting of Sidewalk
242 ☐ Infrared Seamless Patching
245 ☐ Landscaping, Maintenance
250 ☐ Landscaping, Site and Street
251 ☐ Parking Ramp Maintenance
252 ☐ Pavement Marking
255 ☐ Pavement Sealcoating and Crack Sealing
260 ☐ Petroleum Above/Below Ground Storage Tank Removal/Installation
262 ☐ Playground Installer
265 ☐ Retaining Walls, Precast Modular Units

- 270 ☐ Retaining Walls, Reinforced Concrete
275 ☐ Sanitary, Storm Sewer and Water Main Construction
276 ☐ Sawcutting
280 ☐ Sewer Lateral Drain Cleaning/Internal TV Insp.
285 ☐ Sewer Lining
290 ☐ Sewer Pipe Bursting
295 ☐ Soil Borings
300 ☐ Soil Nailing
305 ☐ Storm & Sanitary Sewer Laterals & Water Svc.
310 ☐ Street Construction
315 ☐ Street Lighting
318 ☐ Tennis Court Resurfacing
320 ☐ Traffic Signals
325 ☐ Traffic Signing & Marking
332 ☐ Tree pruning/removal
333 ☐ Tree, pesticide treatment of
335 ☐ Trucking
340 ☐ Utility Transmission Lines including Natural Gas, Electrical & Communications
399 ☐ Other _____

Bridge Construction

- 501 ☐ Bridge Construction and/or Repair

Building Construction

- 401 ☐ Floor Covering (including carpet, ceramic tile installation, rubber, VCT)
402 ☐ Building Automation Systems
403 ☐ Concrete
404 ☐ Doors and Windows
405 ☐ Electrical - Power, Lighting & Communications
410 ☐ Elevator - Lifts
412 ☐ Fire Suppression
413 ☐ Furnishings - Furniture and Window Treatments
415 ☒ General Building Construction, Equal or Less than \$250,000
420 ☐ General Building Construction, \$250,000 to \$1,500,000
425 ☐ General Building Construction, Over \$1,500,000
428 ☐ Glass and/or Glazing
429 ☐ Hazardous Material Removal
430 ☐ Heating, Ventilating and Air Conditioning (HVAC)
433 ☐ Insulation - Thermal
435 ☐ Masonry/Tuck pointing

- 437 ☐ Metals
440 ☐ Painting and Wallcovering
445 ☐ Plumbing
450 ☐ Pump Repair
455 ☐ Pump Systems
460 ☐ Roofing and Moisture Protection
464 ☐ Tower Crane Operator
461 ☐ Solar Photovoltaic/Hot Water Systems
465 ☐ Soil/Groundwater Remediation
466 ☐ Warning Sirens
470 ☐ Water Supply Elevated Tanks
475 ☐ Water Supply Wells
480 ☐ Wood, Plastics & Composites - Structural & Architectural
499 ☒ Other Historic Slate Roofing

State of Wisconsin Certifications

- 1 ☐ Class 5 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for quarries, open pits and road cuts.
2 ☐ Class 6 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for trenches, site excavations, basements, underwater demolition, underground excavations, or structures 15 feet or less in height.
3 ☐ Class 7 Blaster - Blasting Operations and Activities for structures greater than 15' in height, bridges, towers, and any of the objects or purposes listed as "Class 5 Blaster or Class 6 Blaster".
4 ☐ Petroleum Above/Below Ground Storage Tank Removal and Installation (Attach copies of State Certifications.)
5 ☐ Hazardous Material Removal (Contractor to be certified for asbestos and lead abatement per the Wisconsin Department of Health Services, Asbestos and Lead Section (A&LS).) See the following link for application:
www.dhs.wisconsin.gov/Asbestos/Cert. State of Wisconsin Performance of Asbestos Abatement Certificate must be attached.
6 ☐ Certification number as a Certified Arborist or Certified Tree Worker as administered by the International Society of Arboriculture
7 ☐ Pesticide application (Certification for Commercial Applicator For Hire with the certification in the category of turf and landscape (3.0) and possess a current license issued by the DATCP)
8 ☐ State of Wisconsin Master Plumbers License.

SECTION B: PROPOSAL

Please refer to the
Bid Express Website
at <https://bidexpress.com>
look up contract number
and go to
Section B: Proposal Page

You can access all City of Madison bid solicitations for FREE at www.bidexpress.com

Click on the "Register for Free" button and follow the instructions to register your company and yourself. You will be asked for a payment subscription preference, since you may wish to bid online someday. Simply choose the method to pay on a 'per bid' basis. This requires no payment until / unless you actually bid online. You can also choose the monthly subscription plan at this time. You will, however, be asked to provide payment information. Remember, you can change your preference at anytime. You will then be able to complete your free registration and have full access to the site. Your free access does not require completion of the 'Digital ID' process, so you will have instant access for viewing and downloading. To be prepared in case you ever do wish to bid online, you may wish to establish your digital ID also, since you cannot bid without a Digital ID.

If you have any problems with the free registration process, you can call the bidexpress help team, toll free at 1-888-352-2439 (option 1, option 1).

SECTION C: SMALL BUSINESS ENTERPRISE

**Instructions to Bidders
City of Madison
SBE Program Information**

SBE NOT APPLICABLE

SECTION D: SPECIAL PROVISIONS

FOREST HILL CEMETERY - JOHN CATLIN CHAPEL-ROOF REPLACEMENT CONTRACT NO. 7478

It is the intent of these Special Provisions to set forth the final contractual intent as to the matter involved and shall prevail over the Standard Specifications and plans whenever in conflict therewith. In order that comparisons between the Special Provisions can be readily made, the numbering system for the Special Provisions is equivalent to that of the Specifications.

Whenever in these Specifications the term "Standard Specifications" appears, it shall be taken to refer to the City of Madison Standard Specifications for Public Works Construction and Supplements thereto.

SECTION 102.1: PREQUALIFICATION OF BIDDER

The work associated with the construction of **Forest Hill Cemetery – John Catlin Roof Replacement** has necessitated a new prequalification category:

499 – Historic Slate Roofing

Either the General Contractor or their sub contractor shall be pre-qualified under this new category to bid on the project. If the General Contractor is only prequalified under the approved category #415 for this project, the General Contractor must team with a sub contractor that is prequalified under #499 – Historic Slate Roofing.

The contract shall be awarded to the lowest responsible bidder where either the General Contractor or their sub contractor, meet the requirements of category 499 – Historic Slate Roofing.

General Contractors or sub contractors interested in pre-qualifying for category 499 shall complete and submit the Contractors Prequalification Application and Affirmative Action Plan packet **along with the materials required in attachment 1 as soon as possible** but no later than 1:00 PM on Friday, April 10, 2015, to be considered for PW Contract #7478 Forest Hill Cemetery – John Catlin Roof Replacement.

Submit Pre-qualification packet to:
City of Madison Engineering Division
Attn: Janet Pien
210 Martin Luther King Jr. Blvd., Room 115
Madison, WI 53701

To ensure a properly completed application, please contact Janet Pien of the City Engineering Division at (608) 266-4620 prior to submission of the pre-qualification packet. Note that when using category #499, this is a category designated for "Other." The Contractor will need to write in "Historic Slate Roofing" in the space just after the word "Other," when submitting the packet.

Attachment 1, at the end of this section, contains a detailed list of submission requirements to obtain prequalification under #499.

General Contractors wishing to bid on this contract that are prequalified under the #415 category and not the #499 category, will be required to list the sub contractor they are using on a form that will be provided on BID EXPRESS under Section D: General Contractor / Subcontractor Pre-qualification Requirement. The Contractor can upload the form and submit

on Bid Express along with the project bid, or the form may be submitted as a hard copy along with a manual bid at 1:00 PM at 1600 Emil Street Engineering Office the day the bids are due.

If the Contractor does not submit this form with their bid, and they are deemed the lowest bidder, they will have one business day to submit this information to the Project Engineer, Paul Stauffer, City of Madison Engineering Division, City-County Building, Room 115, 210 Martin Luther King Jr. Blvd., Madison, WI 53703.

If the Contractor fails to provide this form within the guidelines described above or their chosen subcontractor does not meet the pre-qualification requirements of category #499, the Contractor's proposal will be considered non-responsive.

Prospective bidders can also download the prequalification forms from the City's website:

<http://www.cityofmadison.com/business/pw/documents/PreQualAppContractors2015doc>

Questions relating to prequalification applications may be directed to Janet Pien, City Engineering Division by phone at (608) 266-4620, or email japien@cityofmadison.com

SECTION 102.10: PREVAILING WAGE

For this project, payment of prevailing wages (white sheet) shall be required unless the box indicating prevailing wages are not required is checked below.

☒ Prevailing wages shall not be required when this box is checked.

If prevailing wages (white sheets) are required, the wages and benefits paid on the contract shall not be less than those specified in the Prevailing Wage Determination included with these contract documents for the following types of work:

- ☐ Building or Heavy Construction
- ☐ Sewer, Water, or Tunnel Construction
- ☐ Local Street or Miscellaneous Paving Construction
- ☐ Residential or Agricultural Construction

When multiple boxes are checked, worker's wages may vary according to the type and area of work performed. It is the responsibility of the Contractor to determine and apply the appropriate wage rate for the specific work assigned.

SECTION 102.12: BEST VALUE CONTRACTING

This Contract shall be considered a Best Value Contract if the Contractor's bid is equal to or greater than \$55,500 for a single trade contract; or equal to or greater than \$271,500 for a multi-trade contract pursuant to MGO 33.07(7).

SECTION 104: SCOPE OF WORK

The scope of improvements to the John Catlin Chapel at Forest Hill Cemetery includes the restoration of the terne copper tower; the replacement of all sheet metal flashings and trim and the removal, salvage, and reinstallation of as much limestone copings as possible and installation of a new slate roof. This is a historic building and all work shall be performed per The Secretary of the Interior's Standards. The project will include carefully removing and salvaging the stone copings that will be removed and reused.

SECTION 109.2 : PROSECUTION OF THE WORK

Work may begin only after the contract is completely executed. The Contractor may begin work within seven (7) days after receiving the start work letter. It is anticipated that the start work letter may be issued as early as **June 15th, 2015**, after the issuance of the start work letter, the contractor shall order all necessary materials with substantial lead times to ensure that all necessary materials and supplies are on site prior to the start of construction.

SECTION 109.7: TIME OF COMPLETION

Construction Closeout: The point in the contract where all contractual requirements associated the execution of the work as described in the plans, specifications, and other documents have been successfully met.

Contract Closeout: The point in the contract where all contractual requirements associated with the City of Madison, Board of Public Works contract has been successfully met.

The contractor shall have the option to start construction work at their discretion as long as construction closeout occurs on or before **November 20th, 2015**. Once the start work date has been established, the contractor shall have **Sixty (60) Calendar Days** to complete the work.

The contractor shall provide a schedule as outlined in Section 1.17 Schedule of Operations of the General Requirements to the project manager at least 10 working days prior to the start of work.

Contract Closeout shall occur no more that **Forty-Five (45) Calendar Days** after the Construction Close out date.

ATTACHMENTS 1 PRE-QUALIFICATION SUBMISSION REQUIREMENTS FOR CATEGORY #499 HISTORIC SLATE ROOFING

The scope of improvements to the John Catlin Chapel at Forest Hill Cemetery includes the restoration of the terne copper tower; the replacement of all sheet metal flashings and trim and the removal, salvage, and reinstallation of as much limestone copings as possible and installation of a new slate roof. This is a historic building and all work shall be performed per The Secretary of the Interior's Standards. The project will include carefully removing and salvaging the stone copings that will be removed and reused.

It is the goal of the City to utilize roofing contractors who have experience in projects of this kind. A resume of qualifications shall be submitted to determine if the contractor performing the installation of the slate roofing system and associated work will be prequalified under item #499, Other: Historic Slate Roofing. This resume shall be submitted along with the Contractors Pre-Qualification Application and Affirmative Action Plan packet.

The contractor performing the installation of the slate roofing system shall submit a resume showing that they clearly meet the minimum qualifications as stated below:

1. Provide proof of a minimum of three projects within the last 15 years of similar scope or greater. All projects must include roofing slate with terne coated copper, swept eaves, mitered joints, closed valleys and roofing slates as a primary part of the scope. All projects provided must have been on the National Register of Historic Places before, or during the subject roof rehabilitation project. All projects provided must have been completed in strict adherence to the Secretary of the Interior's Standards for the rehabilitation of historic structures.
2. Provide a portfolio with images of completed similar work.
3. Provide a list of all staff used on those projects that will be used on this project.
4. Provide three (3) references for all projects in this category.

All bids that are provided without the roofing contractor supplying this information and obtaining approval status as #499 Historic Slate Roofing shall be considered non-responsive.

SECTION 01 00 00- GENERAL REQUIREMENT

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PART 1 – GENERAL

1.1. SCOPE

- A. The work under this section includes general rules for the project.
- B. The scope of improvements to the John Catlin Chapel at Forest Hill Cemetery includes the restoration of the terne copper tower; the replacement of all sheet metal flashings and trim and the removal, salvage, and reinstallation of as much limestone copings as possible and installation of a new slate roof. This is a historic building and all work shall be performed per The Secretary of the Interior's Standards. The project will include carefully removing and salvaging the stone copings that will be removed and reused. Work shall be performed per plans and specifications. The John Catlin Chapel is located within the Forest Hill Cemetery, 1 Speedway Road, Madison Wisconsin.

1 **1.2. PRE-BID INFORMATION**

- 2 A. There will be a pre-bid tour of the existing building on **Wednesday, April 8th, 2015 at 1:00 PM** to provide bidders the oppor-
3 tunity to acquaint themselves with the project. A representative from the designer's office will be present to take questions
4 that will be answered by addendum. Alternate site visits may be arranged with the owner Project Manager.
5

6 **1.3. CONTACTS**

- 7 A. Send all pre-bid inquiries to the owner's project management
8 B. The owner's representative and designee for project management:
9 1. Paul Stauffer
10 2. Company: City of Madison
11 3. Address: Room 115, 210 Martin Luther King Jr. Blvd.
12 4. Phone: Office (608)266-4366, Cell (608) 575-5270
13 5. Email: pstaufer@cityofmadison.com
14 C. The owner's designee for architecture and engineering is:
15 1. Stephen Mar-Pohl
16 2. Company: InSite Consulting Architects
17 3. Address: 115 East Main Street, suite 200
18 4. Phone: Office (608) 467-0359, Cell (608) 513-1992
19 5. Email: steve@icsarc.com
20

21 **1.4. QUALIFICATIONS OF BIDDER**

- 22 A. By submitting the bid, the bidder and each subcontractor certifies as to meeting the following requirements:
23 1. Has completed one projects of at least 50% of the size or value of the division of work being bid and the type of work
24 completed is similar to that being bid. Additional requirements will be described in the appropriate technical section of
25 these specifications.
26 2. Has access to all necessary equipment and has organizational capacity and technical competence necessary to do the
27 work properly and expeditiously.
28 3. Maintains a permanent place of business.
29 4. Refer to prequalification requirements in Section D 102.1 Prequalification of Bidder and any additional requirements
30 stated in the plans and specification for this project.
31

32 **1.5. WORK BY THE OWNER AND OWNER FURNISHED EQUIPMENT**

- 33 A. Any asbestos removal shall be performed by owner under a separate contract. There is no anticipated asbestos removal
34 anticipated for this project, however, existing building materials that may have hazardous content and are located within
35 the work area (example: floor tile, ceiling tile, pipe insulation) shall be sampled, tested, and removed by the City. If any sus-
36 pect hazardous building materials are found by the contractor during demolition or renovation work that have not been
37 sampled and tested, work must stop and a certified hazardous material inspector must be contacted by the City to assess
38 the situation. Inaccessible areas may exist within the facility.
39 B. The following work will be accomplished by the owner or will be let under separate contracts and will not be included under
40 this Contract. The contractor shall coordinate his work with the work provided :
41 No additional work by owner is anticipated.
42

43 **1.6. SALVAGE MATERIALS**

- 44 A. No materials removed from this project shall be reused except as specifically noted below. All materials removed shall be-
45 come the property of and shall be disposed of by the Contractor.
46 B. Partial salvage of existing materials is required, limestone copings shall be carefully removed and stored in a secure area
47 and reinstalled.
48

49 **1.7. PROVISIONS FOR FUTURE WORK**

50 Not applicable.
51

52 **1.8. SPECIAL SITE CONDITIONS**

- 53 A. Unless otherwise noted, construction operations shall be limited to the hours between **7:30 a.m. and 6:00 p.m.**, Mondays
54 through Fridays, except for holidays. A request must be made to the owner forty-eight hours in advance for approval of
55 work days or hours other than those stated above. Compliance is required with applicable Noise Ordinances.
56 B. The Contractor shall provide and maintain sanitary temporary toilets, located where directed by the owner, in sufficient
57 number required for the force employed. The toilets shall comply with International Building Code Chapter 29 on Plumbing
58 Systems. Toilets shall be self-contained chemical type. The Contractor shall maintain and supply the temporary toilets in a
59 sanitary condition at all times.
60 C. FIELD OFFICES: Not applicable.
61 D. CONTRACTOR ON SITE MATERIAL STORAGE: A material lay down area and provided for new materials and the removed
62 coping stones. The contractor shall be responsible for security for all items. Coordinate location with the project manager.
63 E. ON SITE TRASH CONTAINERS: No permanently reserved on-site space for a trash container shall be provided. Occasionally
64 a trash container may be brought in for a short duration (e.g. two to three days) if arranged in advance with the project
65 manager. Waste from the project shall not be disposed into the building owner's trash receptacles.

- 1 F. ELECTRICAL- A 110v circuit will be available for the contractors use. Coordinate with the project manager.
2 G. WATER- A water spigot is available on site near the chapel. Coordinate usage with the project manager.
3

4 **1.9. ALTERNATES**

- 5 A. Not applicable
6

7 **1.10. STANDARD SPECIFICATIONS**

- 8 A. The City of Madison Standard Publications for Public Works Construction (Edition at publication date of this bid) forms a
9 part of these contract documents as if attached hereto. These Standard Specifications are available from the City Engineer,
10 City Engineering Division, Room 115, City County Building, 210 Martin Luther King Jr. Blvd., Madison, WI 53710 or electroni-
11 cally from the City Website <http://www.cityofmadison.com/business/pw/specs.cfm>. The Contractor shall review these
12 standard specifications prior to preparation of proposal for the work to be done under this contract. Failure to do so does
13 not relieve the Contractor from meeting all requirements.
14

15 **1.11. GENERAL REQUIREMENTS**

- 16 A. All articles in these General Requirements are applicable to all Divisions fully as if repeated within that Division. The Condi-
17 tions of the Contract, General and Supplementary General Conditions, and these General Requirements shall apply to the
18 Contractor engaged in this work. Items listed under Scope of Work are not necessarily all inclusive. These specifications and
19 drawings are intended to include everything necessary to perform the entire work properly. Every item necessarily required
20 might not be specifically mentioned or shown. Unless expressly stated, all systems and equipment shall be complete and
21 operable. All devices and installation methods necessary for a functioning system are considered included in this contract
22 even if a detail is missing or unclear. The words "furnish", "install", "as required", and "provide" shall mean the same in a
23 sense that the Contractor shall furnish and install all the necessary materials, apparatus, and devices to complete the
24 equipment and systems installation herein specified, except such parts as are specifically exempted herein. This also in-
25 cludes that the contractor demolishes and disposes of an existing item if demolition is required to install the new item, even
26 if demolition drawings or specification don't mention demolition of the specific item. If an item is either called for in the
27 specifications or shown on the plans, it shall be considered sufficient for the inclusion of said item in this contract.
28 B. The terms "city", "owner", city engineer" and "project manager" are used interchangeably. The terms "contractor", "sub-
29 contractor" and "general contractor" are used interchangeably.
30 C. Portions of these specifications are of the abbreviated, simplified type and may include incomplete sentences. Omissions of
31 words or phrases such as "the Contractor shall", "in conformity with", "shall be", "as noted on the drawings", "in accord-
32 ance with details", are intentional. Omitted words or phrases shall be supplied by inference in the same manner, as they
33 are when a note occurs on the drawings. Such terms as approved, reviewed, equal, as directed, , as permitted, acceptable,
34 satisfactory mean by or to the owner.
35 D. If a conflict exists within the Specifications or exists within the Drawings, the Contractor shall furnish the item, system, or
36 workmanship, which is the highest quality, largest, largest quantity or most closely fits the owner's intent. Materials and
37 labor shall be new (unless noted or stated otherwise), first class, and workmanlike, and shall be subject at all times to the
38 owner's inspections, tests and approval from the commencement until the acceptance of the completed work. Whenever a
39 particular manufacturer's product is named, it is intended to establish a level of quality and performance requirements un-
40 less more explicit restrictions are stated to apply. It must be understood that the details and drawings are diagrammatic.
41 The Contractor shall verify all dimensions at the site and be responsible for their accuracy. If items are too large to fit into
42 existing space Contractor shall provide smaller model of same type upon approval by owner at no cost to owner. All sizes as
43 given are minimum except as noted. Prior to bidding, bidder must visit site to become familiar and verify existing condi-
44 tions. Failure to do so does not relieve the bidder from the responsibility to verify existing conditions, to point out errors in
45 drawings or specifications or code violations.
46 E. The area to be set aside for the work under this contract is shown on the drawings, and the Contractor shall confine the
47 construction to the immediate area within the construction limits. The Contractor shall immediately upon entering the site
48 for purpose of beginning work, locate general reference points and take such action as is necessary to prevent their de-
49 struction. The Contractor shall lay out its work and be responsible for all lines, elevations and measurements of the build-
50 ing and other work executed under its Contract. The Contractor must exercise proper precaution to verify dimensions on
51 the drawings before laying out work and will be held responsible for any error resulting from failure to exercise such pre-
52 caution. The Contractor shall verify grades, lines, levels, locations, and dimensions as shown on drawings and report any er-
53 rors or inconsistencies to owner before commencing work. Starting of work by the Contractor shall imply acceptance of ex-
54 isting conditions. Confine all operations, equipment, apparatus and storage of materials, to the immediate area of work to
55 the greatest possible extent. Contractor shall ascertain, observe and comply with all rules and regulations in effect on the
56 project site, including but not limited to parking and traffic regulations, use of walks, security restrictions and hours of al-
57 lowable ingress and egress. Any special traffic control during construction involving lane closures shall be in accordance
58 with the federal standard, Manual of Uniform Traffic Control Devices.
59 F. The work site shall be kept clean and neat at all times. Accumulation of debris shall be avoided and all new equipment and
60 material shall be stored neatly and protected. Failure to comply will result in the contractor responsible for the disorderly
61 conditions to be removed from job site.
62 G. Owner will not furnish Watchpersons. The Contractor shall provide such precautionary measures, to include the furnishing
63 of watchpersons if deemed necessary, to protect persons and property from damage or loss where the Contractor's work is
64 involved. The contractor is responsible for securing any material stored on site. In case of theft or damage
65

1.12. CONTRACTOR'S RESPONSIBILITY PRIOR BIDDING

- A. Bidders shall bring inadequacies, omissions or conflicts to owner's attention at least ten (10) days before the date set for bid submission. Prompt clarification will be supplied to all bidders of record by addendum. Failure to request clarification or interpretation of the drawings and specifications will not relieve the successful Bidder of responsibility. Signing of the contract will be considered as implicitly denoting that the Contractor has thorough understanding of the scope of work, existing conditions, and comprehension of the contract documents. Owner is not responsible for verbal instructions.
- B. During bidding time owner will allow contractors to visit the site to familiarize themselves with the existing conditions and to ask questions for clarification. Failure to attend the scheduled walkthrough implies that the contractor accepts all existing conditions and includes all work to handle existing conditions in his bid price.
- C. Prior bidding, bidder must obtain information on payment conditions, discounts, shipping charges, and other cost from vendor and/or manufacturer of the products specified.

1.13. PAYMENT AND CHANGE ORDERS

- A. PAYMENTS: will be made based on progress of work. No payments will be made for occurred overhead cost that did not materialize in actual installation. Examples of cost to the contractor that is not part of partial payment are project management cost, bond cost etc. These cost will be covered proportionally for actual work done on site. No payments shall be made for material that is not installed.
- B. PAY APPLICATION: The Contractor is responsible for providing the Owner partial payment applications on form AIA Document G702 Application for Payment and AIA Document G703 Continuation Sheet (with schedule of values). Before the first Application for Payment, the Contractor shall submit to the A/E a schedule of values of the various portions of the Work, including quantities if required by the A/E aggregating the total Contract Sum, divided so as to facilitate payments to Subcontractors. Prepare a schedule of values in such form and supported by such substantiating data as the A/E and Owner may require. Each item in the schedule of values shall include its proper share of overhead and profit. This schedule, when approved by the A/E, shall be used only as a basis for reviewing the Contractor's Applications for Payment.
- C. CHANGE ORDERS: Changes only will be accepted if approved prior work done. No payment shall be made if contractor if contractor commences work without a cost is agreed on. In case of field change orders a price range has to be agreed on at minimum. If contractor does not provide cost before the additional work is done, it is assumed the contractor agreed that this work was part of the original contract.
- D. CHANGE ORDER MARKUP: Contractor shall supply all documentation for evaluation of reasonableness of change order price. These include but are not limited to subcontractor quotes, supplier quotes, time estimates and others. Markup on subcontractor price shall not exceed the value allowed by the Standard Specifications referenced in this contract. This markup will cover all the contractor expenses including added bond, insurance and other cost.

1.14. COOPERATION AND RESPONSIBILITIES BETWEEN TRADES

- A. The Contractor assumes responsibility for all work specified in this contract except for work explicitly noted as be done by owner or a Contractor separately hired by owner. The Contractor coordinate the work of all trades on the project. If plans or specifications designate parts of the work to be done by a specific trade it is meant as a suggestion only. It is up to the trades to agree on division of work and cost. Any work not done by a subcontractor will be the responsibility of the contractor (general contractor, party the owner is in contract with).
- B. All Contractors shall work in cooperation with the Contractor and with each other, and fit their work into the structure as job conditions may demand. Owner shall make all final decisions as to the right-of-way and run of pipe, ducts, etc., at pre-arranged meetings with responsible representatives of the Contractors involved. Contractor(s) shall coordinate the work with adjacent work with other Contractors prior to installation and shall cooperate with all other trades to facilitate the general progress of the work. The Contractor shall coordinate and schedule the work of all its subcontractors, and shall furnish all information required by them for proper scheduling and execution of the work. In the same manner, the Contractor shall coordinate the work with that of owner, and any other Contractor operating in the area, including reasonable adjustments of schedule in order to allow other Contractors or the owner to do their work. Any installed work that is not coordinated and that interferes with other Contractor's work shall be removed or relocated at the Contractor's expense.
- C. In case it is indicated which trade is responsible for which work, this is meant as a suggestion and it is the Contractor's responsibility in its contracts with subcontractors to clarify who ultimately will do the work. If conflicts arise between the Contractor and subcontractor about who is responsible for which work to be done it is the Contractor's responsibility to make sure the work gets done in time even if the dispute between Contractor and subcontractor gets settled later.

1.15. SUBMITTALS

- A. Documents have to be submitted in electronic form (PDF) as described elsewhere in addition to hardcopies no later than 3 business days after start work letter is issued. Owner will review, and process shop drawings and other required submittals with reasonable promptness. No delay will be allowed in the progress of the job attributable to Contractor's failure to supply submittals in time. PDF shall be in good quality in electronic original from manufacturer. Scanned PDF are not acceptable.
- B. The Contractor shall submit three (3) prints of all shop drawings, submittal data consisting of brochures, catalogs, material lists, wiring diagrams, Material Safety Data Sheets (MSDS), samples, erection drawings, and equipment layouts for review by owner. General catalog sheets showing a series of the same device is not acceptable unless the specific model is clearly marked. Each submittal shall be provided together with a transmittal letter or form. Each original transmittal shall be assigned a transmittal number. The number shall begin with the first initial of the name of the Contractor's firm followed by a serial number. The re-submittals shall indicate the same number with numerical suffix in sequence. Each transmittal shall

- 1 itemize the enclosures and indicate the distribution of the transmittal and the enclosures. The following information shall
2 be included on all submitted documents: Agency/Location/Address obtained, project number, building name, project name.
3 Submittals shall be grouped to include complete submittals of related systems, products, and accessories in a single submit-
4 tal. Mark dimensions and values in units to match those specified. Include wiring diagrams of electrically powered equip-
5 ment.
- 6 C. Submit all original documents providing information regarding sustainability requirements including but not limited to recy-
7 cled content, VOC, certified wood, disposal certificates and transportation distance. Contractor is required to prove that
8 material and methods used meet all requirements specified elsewhere.
- 9 D. Owner will return the marked and stamped drawings together with transmittal letter or form to Contractor. If re-submittal
10 is required, owner will so note and Contractor shall make another submission for review after correction resolving the re-
11 view comments on the prior submittals. The above procedure shall be repeated until owner favorably reviews the submit-
12 tal. The submittals must be approved before material is ordered and fabrication is authorized.
- 13 E. Owner's favorable review of shop drawings and other submittals shall not relieve the Contractor of responsibility for devia-
14 tions from drawings or specifications, unless the Contractor has in writing called the owner's attention to such deviations at
15 the time of submission, and the owner has acknowledged in writing such deviations; nor shall it relieve the Contractor from
16 responsibility for errors of any sort in such drawings. If deviations, discrepancies, or conflicts between shop drawing submit-
17 tals and the drawings and specifications are discovered either prior to or after the shop drawing submittals are reviewed by
18 owner, the drawings and specifications shall control and shall be followed. The Contractor shall be responsible for and shall
19 check the correctness of all documents including those subcontractors prior to submitting them to owner for review.
- 20 F. The Contractor shall furnish prints of the favorably reviewed final shop drawings, erection drawings, equipment layouts and
21 vendor data to subcontractors and suppliers for the proper coordination of their work. The Contractor shall keep one (1)
22 complete set of the above documents at the job site for the use by owner.
- 23 G. After the completion of the project, and prior to final payment, submit:
- 24 1. One (1) copy of the Waste Manifest Records to the owner, if required in accordance with "Safety and Environment" Re-
25 quirements Article "HAZARDOUS SUBSTANCES".
- 26 2. The original and one (1) copy of all guarantee/warranty documents.
- 27 3. A copy of the O&M manual.
- 28

29 **1.16. GUARANTEES**

- 30 A. All work, material and equipment shall be guaranteed by the Contractor to be free of faults for at least one year or longer if
31 specified elsewhere. This year begins from the date of final acceptance from owner. The Contractor agrees to return to the
32 project and commence work as directed upon notification by owner and will furnish at his own expense all necessary labor
33 and material to make proper repairs or corrections made necessary by defective material or inferior workmanship fur-
34 nished or performed under this contract. If a subcontractor is not complying, the Contractor shall be held responsible.
- 35 B. All corrections and repairs are to be made no more than 30 days after notification of the Contractor for equipment and
36 material that is not critical to the operation of the building. Critical equipment and material, including but not limited to
37 HVAC, roofing, electrical, elevator, shall be repaired or brought into temporary and safe working condition in less than 7
38 days and temporary alternatives have to be provided by the Contractor if function is critical for use of the facility. If Con-
39 tractor fails to do so the owner reserves the right to perform the work himself or subcontract a different Contractor and
40 charge the Contractor the full cost of the repair and correction and cost of any material, rental fee, labor and equipment to
41 provide temporary relief and protection to enable safe operation of the building.
- 42 C. All equipment and material warranty by the manufacturer that lasts longer than the 1-year warranty by the contractor re-
43 quires sufficient documentation acceptable by the manufacturer to honor the warranty beyond the first year. documents
44 required include manufacturer's warranty certification for this specific material and equipment at the job site, purchase or-
45 ders or any other documents that will be required beyond the first year for the manufacturer to honor warranty.
- 46

47 **1.17. SCHEDULE OF OPERATIONS**

- 48 A. Within 5 calendar days after the effective date of Start Work Letter, the Contractor shall provide a critical path method
49 (CPM) network diagram and a preliminary construction progress schedule. The diagram shall show the order in which the
50 Contractor proposes to accomplish the work. The CPM shall show interdependence and duration, along with installation
51 man-hours by craft of each activity. Any work element longer than 15 days shall be broken down into component parts. The
52 critical path and float for each activity shall also be shown. The diagram or bar chart shall be neatly lettered and legibly
53 drawn to a time scale. This initial network diagram and all consecutive versions shall include preliminary dates throughout
54 the end of the project.
- 55 B. Install work in phases to accommodate owner's occupancy requirements.
- 56 C. After the initial submittal, the Contractor shall update the schedule monthly by entering actual progress for the period and
57 submit copies as part of the payment request. Contractor shall maintain and provide a 6-week construction schedule that is
58 compatible and complimentary to the general CONSTRUCTION SCHEDULE, and shall include detail of daily tasks over a 6-
59 week period to be updated weekly and communicated and coordinated at the weekly Trade Meetings by the Contractor's
60 field supervisor.
- 61 D. Include tests and other commissioning activities in schedule
- 62

63 **1.18. DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS**

- 64 A. Drawings indicate approximate locations of the various items. These items are shown approximately to scale and attempt
65 to show how these items should be integrated with building construction. Locate all the various items on-the-job measure-

- 1 ments in conformance with code and cooperation with other trades. Before locating items, confer with the owner as to de-
2 sired location in the various areas. In no case items shall be located by scaling drawings. Contractor must relocate items and
3 bear cost of redoing work or other trades' work necessitated by failure to comply with this requirement.
- 4 B. Demolition drawings, location, circuit numbers, number and type of fixtures, type of mounting and control devices may not
5 be correct. All sizes are approximations and have to be field-verified by contractor. In case of a discrepancy within and be-
6 tween the drawings that would cause and awkward or improper installation the engineer has to be notified for clarification
7 prior to installation. Any work in conflict with the drawings shall be corrected at contractor's expense and at no cost to the
8 owner. Contractor shall determine if scheduled devices fit into space and shall advise if not BEFORE ordering fixtures or de-
9 vices.
- 10 C. Information pertaining to existing conditions that are described in the specifications or appear on the drawings is based on
11 available records. While such data has been collected with reasonable care, there is no expressed or implied guarantee
12 that conditions so indicated are entirely representative of those actually existing. This information is provided to inform the
13 Contractor of known, existing conditions so that due diligence is taken by the Contractor to avoid damage. Where site ob-
14 servation or documents indicate existing underground utilities/services in close proximity (within four feet horizontally
15 and/or four feet vertically) to necessary new construction work, the Contractor shall be responsible to test, probe or oth-
16 erwise determine exact locations so as to prevent damage to such utilities/services.
- 17 D. Standard References such as ANSI, AASHTO, AWWA, AISC, Commercial Standards, Federal Specifications, NEMA, UL, and the
18 like incorporated in the requirements by reference shall be those of the latest edition at time of receiving bids, unless oth-
19 erwise specified. The manufacturers, producers and their agents of required materials shall have such specifications availa-
20 ble for reference and are fully familiar with their requirements as pertains to their product or material.
- 21 E. The Contractor shall not take advantage of any apparent error or omission in the plans or specifications, and the owner
22 shall be permitted to make such corrections and interpretations as may be deemed necessary for the fulfillment of the in-
23 tent of the plans and specifications.
- 24 F. In addition to verifying at the site all measurements shown on the Drawings, Contractor shall consult the Drawings and
25 Specifications of related work or existing construction that may in any manner affect the work of this contract. Contractor
26 shall promptly report to the owner, in writing, any errors, omissions, violations, or inconsistencies that may be discovered
27 as a result of such verifications; otherwise, it shall be understood that Contractor accepts all such related data and condi-
28 tions without reservations.
- 29 G. Each trade shall keep one set of plans and specifications on site. In addition construction bulletins, change orders etc. as
30 applicable to the trades shall be on site.
- 31 H. It shall be the responsibility of the Contractor to submit to the owner within ten (10) days after final inspection, one com-
32 plete marked-up set of contract drawings fully illustrating all revisions made by all the crafts in the course of the work. This
33 shall include all field changes, adjustments, variances, substitutions and deletions, whether covered by Change Order or
34 not. Underground utility installations must be located precisely as constructed on the marked-up drawings. Contractor shall
35 markup changes for as-built drawings on a daily basis.
- 36 I. Layout of existing piping, conduits, and locations of equipment are shown as exactly as could be determined during design
37 of the facilities; but their accuracy, particularly when such layouts and drawings are schematic, cannot be guaranteed. Con-
38 tractor shall check all Specifications including the Drawings for possible interference with electrical, mechanical, and struc-
39 tural details, as well as interference with existing building or equipment, and shall notify the owner of the interference for
40 resolution of the interference before commencing work. Any completed work that interferes shall be corrected by Contrac-
41 tor at Contractor expense so that the original design can be followed.
- 42 J. Electronic design files may be provided by the owner at its discretion as they are needed for the contractor to perform the
43 work. Contractor shall use electronic design files on their own risk and assume all liability. Electronic documents are not
44 contract documents and significant discrepancies may exist between these electronic files and contract documents and ac-
45 tual site conditions.
- 46 K. Contractor shall provide list with all equipment installed. This list shall contain, but not limited to, type, make and special
47 product key and number. For grant purposes the contractor may have to provide detailed information about equipment in-
48 stalled and labor provided to third party institutions, such as Focus on Energy.
- 49 L. Using datum, the lot lines and present levels have been established as shown on the drawings. Other grades, lines, levels
50 and benchmarks, shall be established and maintained by the Contractor, who shall be responsible for them. As work pro-
51 gresses, the Contractor shall lay out on forms and floor, the locations of all partitions, walls and fix column centerlines as a
52 guide to all trades. The Contractor shall make provision to preserve property line stakes, benchmarks, or datum point. If
53 any are lost, displaced or disturbed through neglect of any Contractor, Contractor's agents or employees, the Contractor re-
54 sponsible shall pay the cost of restoration.

55 1.19. QUALITY ASSURANCE

- 56 A. Any installed material not meeting the specification requirements must be replaced with material that meets these speci-
57 fications without additional cost to owner.
- 58 B. All products and materials used are to be new, undamaged, clean and in good condition. Existing products and materials
59 are not to be reused unless specifically indicated.
- 60 C. Where equipment or accessories are used which differ in arrangement, configuration, dimensions, ratings, or engineering
61 parameters from those indicated on the contract documents, the Contractor is responsible for all costs involved in integrat-
62 ing the equipment or accessories into the system and for obtaining the performance from the system into which these
63 items are placed. This may include changes found necessary during the testing, adjusting, and balancing phase of the pro-
64 ject.
- 65

- 1 D. Contractor shall assume the responsibility for the protection of all finished construction under the Contract and shall repair
2 and restore any and all damage of finished work to its original state. Wheeling of any loads over any type of floor, either
3 with or without plank protection, will be permitted only in rubber-tired wheelbarrows, buggies, trucks or dollies. Where
4 structural concrete is also the finished surface, care must be taken to avoid marking or damaging those surfaces. All struc-
5 tures and equipment shall be constructed, installed and operated with guards, controls and other devices in place.
- 6 E. Contractor shall obtain complete data at the site and inspect surfaces that are to receive the Work before proceeding with
7 fabricating, assembling, fitting or erecting any work under this contract. Contractor shall notify owner in writing in case of
8 discrepancies between existing work and drawings, and of any defects in such surfaces that are to receive the Contractor's
9 work. Owner will evaluate the notice and direct what remedial action will be taken.
- 10 F. Starting of work implies acceptance of existing work or the work of others. Removal and replacement of work applied to
11 defective surfaces, in order to correct defects, shall be done at the expense of the Contractor who applied work to defec-
12 tive surfaces.
- 13 G. For outdoor work the Contractor shall:
- 14 1. Provide, erect and maintain all required planking, barricades, guard rails, temporary walkways, etc., of sufficient size
15 and strength necessary for protection of stored material and equipment; paved surfaces, walks, curbs, gutters and
16 drives; streets adjacent to or within project area; adjoining property and all project work to prevent accidents to the
17 public and the workmen at the job site.
 - 18 2. Notify adjacent property owners if their property interferes with the work so that arrangements for proper protection
19 can be made.
 - 20 3. Provide protection against rain, snow, wind, ice, storms, or heat to maintain all work, materials, apparatus, and fixtures,
21 incorporated in the work or stored on the site, free from injury or damage. At the end of the day's work, cover all new
22 work likely to be damaged. Remove snow and ice as necessary for safety and proper execution of the work.
 - 23 4. Protect the building and foundations from damage at all times from rain, ground water and back up from drains or
24 sewers. Provide all equipment and enclosures as necessary to provide this protection.
 - 25 5. Damaged property shall be repaired or replaced in order to return it to its original condition. Damaged lawns shall be
26 re-seeded.
 - 27 6. Take all necessary precautions to protect owner 's property as well as adjacent property, including trees, shrubs, build-
28 ings, sanitary and storm sewers, water piping, gas piping, electric conduit or cable, etc., from any and all damage which
29 may result due to work on this project.
 - 30 7. Repair work outside of property line in accordance with the requirements of the authority having jurisdiction.
 - 31 8. Repair any work, damaged by failure to provide proper and adequate protection, to its original state to the satisfaction
32 of owner or remove and replace with new work at the Contractor's expense.
 - 33 9. Protect trees indicated on the drawings to remain and trees in locations that would not interfere with new construc-
34 tion, from all damage. Do not injure trunks, branches, or roots of trees that are to remain. Do cutting and trimming on-
35 ly as approved and as directed by owner. The value of trees destroyed or damaged will be charged against the account
36 of the Contractor responsible for the damage in an amount equal to the expense of replacing the trees with those of
37 similar kind and size.
- 38 H. The contractor shall be fully responsible for inspecting the work of its suppliers, and subcontractors to assure that the work
39 complies with the standards for materials and workmanship required by the contract documents. The Contractor shall:
- 40 1. Monitor quality control over subcontractors, suppliers, manufacturers, products, services, site conditions, and work-
41 manship, to produce work of the quality specified in the contract documents.
 - 42 2. Comply fully with manufacturer's instructions, including each step in sequence.
 - 43 3. Request clarification from owner before proceeding with work when manufacturers' instructions or reference stand-
44 ards conflict with Subcontract Documents.
 - 45 4. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes, or
46 manufactures instructions require more precise workmanship.
 - 47 5. Ensure that work is performed by persons specializing in the specific trade and class of work required, and qualified to
48 produce workmanship of specified quality.
 - 49 6. Secure products in place with positive anchorage devices designed and sized to withstand seismic, static and dynamic
50 loading, vibration, physical distortion or disfigurement.
- 51 I. If reference standards or manufacturers' instructions contain provisions that would alter or are at variance with relation-
52 ships between the parties to the contract set forth in the contract Documents, the provisions in the contract Documents
53 shall take precedence.
- 54 J. When required by individual Specification sections, Contractor shall provide the following services from a manufacturer's
55 representative:
- 56 1. Review of Specifications and design and concurrence or suggestions for modification.
 - 57 2. Site observation of conditions of use and substrate.
 - 58 3. Observation of the installation work in progress and on completion.
 - 59 4. Start up, testing, and adjustment of equipment.
 - 60 5. Instruction to the owner in operation and maintenance.
 - 61 6. Provide written signed report by manufacturer's representative documenting services provided and any comments or
62 recommendations.
- 63 K. Inspection or testing performed by the owner shall not relieve the Contractor from responsibility for performing his own
64 quality control and for complying with the requirements of the contract Documents. Owner will not be responsible for the
65 Contractor's failure to carry out work in accordance with the contract Documents.

1.20. CODES AND PERMITS

- A. Applicable provisions of Public Law, the Constitution and Laws and Statutes of the State of Wisconsin and the codes and regulations of governmental departments are hereby referred to and made a part of this contract and all work performed shall be in accordance with such laws, regulations and the latest edition or supplement or amendment thereto in effect at the time of submittal of bid shall be considered to be the issue in effect (unless shown otherwise) of all applicable codes including, but not limited to:
1. Wisconsin Building Code
 2. Wisconsin Electrical Code
 3. Wisconsin Mechanical Code
 4. Wisconsin Plumbing Code
 5. Wisconsin Energy Code
 6. Wisconsin Fire Code
 7. NFPA 70 National Electrical Code
 8. General Services Administration 41 CFR Part 101-19
 9. Americans with Disabilities Act (ADA)
 10. Energy Conservation Performance Standards,
 11. Local Codes
 12. Occupational Safety and Health Act (OSHA)
 13. Occupational Safety and Health Standards, Department of Labor
 14. Safety and Health Regulations for Construction, Department of Labor
 15. Wisconsin Fire Code
 16. National Electrical Safety Code, ANSI C2
 17. Environmental Protection Agency regulations
 18. Clean Air Act
 19. Clean Water Act
 20. Resource Conservation and Recovery Act
 21. Toxic substances Control Act
 22. Wisconsin Department of Health and Family Services
 23. State and Regional Water Quality Control Boards
 24. County and Municipal ordinances
- B. In case of conflict or overlap of the above references, the most stringent provision shall apply.
- C. The newest version of the a code or standard shall apply even if an older version is adopted by the Jurisdiction Having Authority.
- D. If necessary, file and maintain Notification of Demolition and/or Renovation and Application for Permit Exemption (WDNR Form 4500-113) in accordance with the Wisconsin Administrative Code Chapter NR447.
- E. Contractor is expected to know or to ascertain, in general and in detail, the requirements of all codes and ordinances, and all rulings and interpretations of code requirements being made by all authorities having jurisdiction over the work performed by them, applicable to the construction and operation of systems covered by this contract. Where codes or standard specifications other than those listed in this paragraph are referred to in the different Divisions of these specifications, it is understood that they apply as fully as if cited here. Where differences exist between codes affecting this work, the code affording the greatest protection to the owner shall govern.
- F. All cost for items and procedures necessary to satisfy requirements of all applicable codes, ordinances and authorities, whether or not these are specifically covered by drawings or specifications. All cases of serious conflict or omission between the drawings, specifications, and codes shall be brought to the owner's attention as herein before specified. The Contractor shall carry out work and complete construction as required by applicable codes and ordinances and in such a manner as to obtain approval of all authorities whose approval is required.
- G. Contractor is responsible for obtaining permits at its own cost including expenses for supporting documents. Deliver original permits to the owner before work starts. Apply for, arrange and pay for all required installation inspections required. Deliver originals of these certificates to the owner. Include copies of the certificates in the Operating and Maintenance Instructions. Contractor shall arrange all required inspections and correct all deficiencies at no cost to owner.
- H. The Contractor must maintain all licenses required for the work performed and required by authorities. The Contractor must submit proof of holding the license or certificate upon request. If a Contractor loses a license for whatever reason he must inform the owner immediately after learning about that himself.
- I. PERMIT TO PENETRATE GROUND OR EXISTING SURFACES OF OWNER PROPERTY:
1. Prior to any penetration of the ground or existing concrete surfaces (including the use of stakes or poles) in excess of 1.5", the Subcontractor shall obtain from the Project Representative a Permit to penetrate or Excavate Existing Surface of owner property and shall adhere to the conditions of the permit during such work. The Permit and all conditions in it shall be considered part of these specifications and shall be included in the contractor's bid amount.
 2. In areas where a Permit to penetrate or excavate existing surfaces of owner property is not required, contractors shall verify by safe means, prior to drilling, that no utilities or services are enclosed within the area to be drilled.
- J. FIRE SAFETY PERMIT:
1. All operations with open flames or that cause sparks or is near gas lines or near combustible storage containers require a daily Fire Safety Permit issued by the Project Representative. Contractor shall not commence such work until the permit is issued. Activities requiring a Permit include, but are not limited to, electric arc and gas welding and flame cut-

ting, other open flame operations, tar kettles, powder activated tools and excavations. Fire watch personnel shall be provided the contractor in sufficient number to continuously monitor all locations where work is conducting requiring a fire permit. The fire watch personnel shall remain on the job at least thirty minutes after such operations are completed. Fire safety personnel may be installers or welders.

2. Noncombustible shields or covers shall be provided by the contractor on tables, floors, walls, around the workstation, and over equipment to protect building structures, equipment and personnel from sparks and fragments of hot metal. Contractor shall also take these precautions to protect against sparks and hot metallic oxides generated by grinding, drilling or sawing operations.

K. AIR EMISSIONS PERMITS AND NOTIFICATIONS:

1. For all projects that involve demolition of a structure, the contractor shall complete the asbestos demolition forms and notify all related authorities at least 10 working days in advance of the activity, regardless of the presence of asbestos.
2. For all projects that involve removal of regulated asbestos containing materials, the contractor shall complete the required asbestos removal forms and notify the authorities at least 10 working days in advance of the activity.
3. For any operations required to obtain an Authority to Construct or Permit to Operate from the authorities, the contractor shall provide in advance to the Project Manager the information needed for the application. Authorities may take more than 40 working days to process the application and issue the Authority to Construct or Permit to Operate; the contractor shall include this time in his Schedule of Operations; OWNER will grant no extra cost under this contract for this wait period.

1.21. ENVIRONMENT, SAFETY AND HEALTH (EHS)

- A. The owner can request additional safety or environmental protection measures at any time. If contractor does not follow safety or environmental protection requirements, the owner can hire a different contractor or self-perform to ensure compliance and charge the original contractor for the cost.
- B. Contractor shall provide all labor, materials, equipment, services and supervision required to maintain work sites that meet the environment, safety and health (ES&H) requirements of all applicable federal, state, and local regulations and protect the environment and the safety and health of its employees, the employees of its lower tier subcontractors, owner employees and the general public.
- C. The contractor shall provide a qualified onsite EHS Representative with the authority to enforce all of the safety requirements and implement the contractor's Injury and Illness Prevention Program and Hazard Abatement Plan. The contractor shall remove and replace its Health and Safety Representative at the request of the owner, if the Safety Representative is unsuccessful in enforcing the EHS requirements. The contractor's EHS representative shall conduct safety inspections of the project operations, materials, and equipment frequently throughout the day to ensure that all safety deficiencies are identified and corrected. The owner reserves the right to enforce measures if the contractor's onsite EHS representative does not enforce all requirements. Inspection findings and corrective actions taken shall be documented, and the record shall be kept on the construction work site and be made available to owner upon request. If safety deficiencies are found, owner will issue a Safety Deficiency Notice to the contractor. Upon receipt of a written Safety Deficiency Notice from the Owner, the contractor shall take appropriate action to correct the deficiency and discontinue the hazardous activity until the hazard is abated. Failure to correct or eliminate violation(s) within the period specified might result in the order to stop all or any part of the work. The contractor shall submit to the owner a written response to the Safety Deficiency Notice describing what corrective action it has taken, the date such corrective action was completed and actions that it will take to prevent future recurrence of the same incident.
- D. Provide protection for workmen, public, adjacent construction and occupants of existing building(s). Personal Protective Equipment (PPE) such as hard hats, ear plugs and dust masks, shall be provided to all employees and use shall be enforced by the onsite EHS Representative. PPE also shall be provided to site visitors near the main entrances to the jobsite. PPE shall be provided in sufficient numbers to outfit typical number of visitors (i.e. designers, inspectors, shipment workers)
- E. WORK SITE SAFETY ORIENTATION: Each employee shall receive initial EH&S orientation prior to performing any work on the project. The contractor shall maintain on the work site a detailed outline of the orientation and a signed and dated roster of all employees who have completed the project EHS indoctrination. Make documentation available to owner on request. The orientation shall, at a minimum, cover the following points:
 1. Employee rights and responsibilities.
 2. Construction contractor responsibilities.
 3. Alcohol and drug abuse policy
 4. Contractor's disciplinary procedures.
 5. First aid and medical facilities.
 6. Site and project specific hazards.
 7. Hazard recognition and procedures for reporting or correcting unsafe conditions or practices.
 8. Procedures for reporting accidents and incidents.
 9. Fire fighting and other emergency procedures to include local warning and evacuation systems.
 10. Hazard Communication Program.
 11. Access to employee exposure monitoring data and medical records.
 12. Protection of the environment, including air, water, and storm drains from construction pollutants.
 13. Location of and access to reviewed project Illness and Injury Prevention Program, Hazard Analysis and Hazard Abatement Plan
 14. Location and contents of required postings
- F. A comprehensive EH&S program shall be established including but not be limited to:

1. Confined Space Entry
 2. Site specific Emergency Response, First Aid, & Medical Services. Identify employees with CPR/First Aid certification available at the work site.
 3. Fire Protection and Prevention
 4. Hazard Communications
 5. Hazardous Waste Operations
 6. Hazardous Work Permits
 7. Toxic and Hazardous substances
 8. Inspection, Maintenance, and Certification of Heavy Equipment, Cranes, and Motor Vehicles
 9. Lock Out/Tag Out (LOTO) Subcontractors are required to include LOTO
 10. Personal Protective and Life Saving Equipment
 11. Radiation Protection
 12. Construction Safety Training
 13. Control of silica dust released during demolition or drilling of concrete or released from work with other materials that contain silica.
- G. A comprehensive activity hazard analysis and hazard abatement plan shall be established including but not be limited to:
1. Description of work phase or activity
 2. Identification of potential hazards associated with the activity
 3. A list of the contractor's planned controls to mitigate the identified hazards
 4. Name of the contractor's employee responsible for inspecting the activity and ensuring that all proposed safety measures are followed
 5. Construction activities for which an Activity Hazard Analysis and Hazard Abatement Plan may be required include, but are not limited to:
 6. Roofing
 7. Hoisting and handling of materials
 8. Excavations
 9. Trenching and drilling
 10. Concrete placement and false work
 11. Welding
 12. Steel erection
 13. Work performed six feet or higher above ground
 14. Electrical work
 15. Demolition
 16. Work in confined spaces
 17. Work that causes the release of silica such as demolition or drilling of concrete or work with materials that contain silica.
 18. Work with epoxy coatings
 19. Work with or around hazardous materials
 20. Work on hilly terrain
 21. Use and handling of flammable materials
 22. The owner must favorably review the Activity Hazard analysis and Hazard Abatement Plan before work can start on that activity.
- H. ELECTRICAL WORK:
1. Energized electrical work within panels and equipment is not allowed.
 2. Workers shall be qualified to perform electrical tasks in accordance with OSHA 29 CFR 1910 and 1926 requirements.
 3. Work practices must be compliant with NFPA 70E, newest edition – Standard for Electrical Safety in the Workplace.
- I. Rubbish, debris and scrap shall not be thrown through any window or other opening, or dropped from any great height; it shall be conducted to the ground, to waiting truck(s) or removable container(s) by means of approved chutes or other means of controlled conveyance.
- J. Form and scrap lumber shall have all nails withdrawn or bent over; shall be neatly stacked, placed in trash bins, or removed from the premises.
- K. Take all necessary precautions while dismantling piping containing gas, gasoline, oil or other explosive or toxic fluids or gases. Purge lines and contain materials in accordance with all applicable regulations. Store such piping outdoors until fumes are removed. Verify that all gas and electrical utilities have been abandoned or disconnected and associated hazards mitigated, prior to beginning any demolition.
- L. All material classified by authorities to be a material that needs special treatment must be recycled, reused or disposed of by a special contractor that holds a valid license to work with such material. If hazardous materials are not anticipated, but encountered, terminate operations and contact owner immediately.
- M. CONTROL OF CRYSTALLINE SILICA DUST: The subcontractor shall provide all necessary control measures at the work site to keep worker exposure to crystalline silica dust within the OSHA Established Permissible Exposure Limits (PEL's). Dust control measures may require spraying of water or engineering controls at the dust generating points. It also may include the use of respirators, industrial grade HEPA vacuums, and HEPA filtered locally exhausted tools. Construction operations known to cause the release of silica dusts include, but are not limited to:
1. Chipping, sawing, grinding, hammering, and drilling of concrete, rock, or brick.
 2. Work with cementitious materials such as grout, mortar, stucco, gunnite, etc.

3. Dry sweeping of dust originating from concrete or rock
- N. CONSTRUCTION ACTIVITY POLLUTION PREVENTION:
 1. Follow Requirements in Storm Water Pollution Prevention Plan (SWPPP) and Erosion and Sedimentation Control (ESC) Plan
 2. Stabilize any relocated and moved soil with fast growing grasses and place mulch (hay, woodchips, straw) on it to cover and hold soil
 3. Divert surface runoff from distributed areas into sediment basin or sediment traps with a mound of stabilized soil
 4. Construct posts with filter fabric media to remove sediment from stormwater leaving the site.
 5. Follow requirements in site development plan and don't disturb areas beyond the marked areas
- O. INDOOR AIR QUALITY:
 1. During construction the recommended control measures of the Sheet Metal and Air Conditioning Contractors National Association (SMACNA) IAQ guidelines for occupied buildings under construction, (1995, chapter 3) must be met or exceeded.
 2. Stored on-site or installed absorptive material must be protected from moisture damage.
 3. In case permanently installed air handlers are used for ventilation, filtration media with a Minimum efficiency Reporting Value (MERV) of 8 shall be used at each return air grille, as determined by ASHRAE 52.2-1999. Contractor shall replace all filtration media immediately prior occupancy.
 4. All to be installed ductwork, air handlers and other equipment later connected to the indoor air path are to be protected from dirt and debris.
- P. FIRE PROTECTION AND PREVENTION:
 1. The contractor shall develop and maintain an effective fire protection and prevention program at the job site through all phases of demolition, alteration, repair, and construction work. Contractor shall ensure the accessibility and availability of fire protection and suppression equipment.
 2. Smoking is prohibited everywhere on the job site – no exceptions. Signs shall be posted. In visible locations.
 3. No burning of rubbish or debris will be allowed at the site. Combustible waste shall be removed immediately or stored in fire resistive containers until disposed of in an approved manner.
 4. The Contractor shall provide and maintain in working order during the entire construction period, a minimum of three (3) fire extinguishers on each floor level, including basement of the building, and one (1) in temporary office. Extinguishers shall be nonfreezing type such as A-B-C rated dry chemical, of not less than 10-pound capacity each. In addition, any subcontractor who maintains an enclosed shed on the site shall provide and maintain, in an accessible location, one or more similar nonfreezing type fire extinguisher in each enclosed shed.
- Q. ACCIDENTS AND SPILLS:
 1. The contractor shall immediately notify the owner of any accidents, injuries or occupational illnesses that occur on the project, regardless of the employer of the involved personnel or the owner of the involved materials or equipment. For OSHA recordable injuries, the subcontractor shall also furnish a copy of the OSHA Form 301(or equivalent) to the Project Representative within five days of the injury.
 2. In the event a job site accident occurs, the contractor shall immediately implement controls and restrictions on the accident site to ensure the site remains undisturbed until released in writing by the owner to resume work. The contractor shall provide accident investigation follow-up and shall support Owner's accident investigation and reporting protocol.
 3. The contractor shall promptly report to owner any spill, deposit, leak, drainage, debris, residue, spoil, residual, and/or by-product, whether its presence at the jobsite is occasioned by accident, inadvertence, intent, discarding, or abandonment by the Subcontractor or its lower tier subcontractors. This reporting requirement applies to petroleum products, oil, lubricants, chemical substances, waste materials, and waste substances, which are in such quantities as to constitute a hazardous substance or hazardous waste. All such occurrences of any quantity involving paints, solvents, thinners, degreasers, PCBs, halogenated hydrocarbons, volatile organic compounds, and/or asbestos shall be deemed a reportable event. These identification and reporting requirements shall be the responsibility of the contractor for both its own work forces as well as for any sub tier contractor, material man or supplier performing work on site for the contractor. All removal, cleanup, and associated costs, which result from contractor or lower tier subcontractor, material man, or supplier presence at the jobsite, shall be at the contractor's sole expense.
- R. WASTE MANAGEMENT:
 1. Recycle all recyclable material. This includes any material for which there is a recycling facility in Wisconsin.
 2. Separate all waste material in plastic, metal, paper, acoustical tile, brick, concrete, clean wood, glass, gypsum drywall, carpet and insulation and provide designated on-site collection areas.
 3. Keep track of volume and weight of each material and track if it was recycled, reused, donated or disposed otherwise.
 4. It is permissible to separate waste off-site by specialized recycling contractor. This contractor needs to be provide proof of recycling and needs to be WASTECAP certified as "Accredited Professional in Construction and Demolition Debris Recycling".
 5. Prior to demolition or construction activities, the General Contractor, with input of all contractors and their subcontractors, shall develop and submit a Waste Management Plan to owner. Priority is given to reuse, followed by recycling followed by disposal including proper land filling or incineration. Disposal only will be acceptable if other methods are not commercially available. The Waste Management Plan includes but is not limited to the following:
 - a. A list of each material proposed to be salvaged, reused, or recycled, Materials to be included, at a minimum, are the following:
 - i. Concrete: Clean concrete, concrete with rebar, asphalt concrete.

- ii. Metals: Steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass or bronze, including banding, ductwork, framing, roofing and siding, flashing, piping and rebar.
 - iii. Clean Fill: Earth, rocks, and gravel.
 - iv. Wood: Clean dimensional wood, wood pallets, engineered wood products including plywood, particleboard, I joist.
 - v. Biodegradable landscaping materials.
 - vi. Cardboard, paper, packaging.
 - vii. Masonry: Brick, ceramic tile, CMU.
 - viii. Roofing: Clay or concrete tiles, asphalt shingles.
 - ix. Gypsum board.
 - x. Acoustic ceiling panels.
 - xi. Carpet and pad.
 - xii. Paint.
 - xiii. Insulation.
 - xiv. Plastics: ABS, PVC
 - xv. Beverage containers
 - xvi. Cardboard.
 - xvii. Concrete
 - xviii. Brick and concrete masonry units (CMU).
 - xix. Metals from banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
 - xx. Gypsum wallboard.
 - xxi. Clean dimensional wood
 - xxii. Wood doors
 - xxiii. Acoustical ceiling tiles/panels
 - xxiv. Glass
 - b. Separation and Materials Handling Procedures: How waste materials (as identified above), will be separated, cleaned (if necessary) and protected from contamination.
 - c. Waste Material Estimating Sheet (Appendix A at the end of this Section)
 - d. Proposed Alternatives to Land filling: List each material planned to be salvaged or recycled, quantities, and proposed destination.
6. The contractor shall provide separation, bins for temporary onsite storage, handling, transportation, recycling, salvage, and land filling for all demolition and waste materials and keep recycling and waste bins areas neat, clean and clearly marked in order to avoid contamination or mixing materials and maintain logs onsite for each load of materials removed from site.
 7. During the progress of the work, the General Contractor shall report to owner the quantity of each material recycled, reused, or salvaged, and the receiving party. All contractors shall maintain a record of weight tickets, manifests, receipts, and invoices for review by owner on request.
 8. At the completion of the project the General Contractor shall submit a final summary of the progress reports, including the percentage of recycled waste (weight or volume) to the quantity of waste that would have been otherwise land filled.
 9. Contractor is to provide the following documents upon request for payment:
 - a. Waste Materials Estimating Sheet (Appendix A at the end of this Section)
 - b. Landfill Log (Appendix B at the end of this Section)
 - c. Waste Diversion Log (Appendix C at the end of this Section)
 - d. Legible copies of manifests, weight tickets, and receipts. Manifests shall be from recycling and/or disposal site operators that can legally accept the materials for the purpose of reuse, recycling or disposal. These documents shall include the contract number and the job site name.
 10. Examples of documents include, but are not limited to:
 - a. Cover sheet for hazardous materials recycling contract
 - b. Vendor "Pickup Request"
 - c. Vendor "Certificate of Recycling and/or Disposal"
 - d. Vendor invoice
 - e. Maintain at the Project site Landfill Logs and Waste Diversion Logs for each load of materials removed from site.
 - f. Discuss Waste management plans and implementation during all construction-related meetings.
 - g. Immediately Inform the owner if hazardous materials are encountered or suspected, and stop work in the suspect area. Do not proceed with work in the suspect area until approved by the owner.
 11. The following resources are provided for information only, to aid the Contractor in managing the construction waste:
 - a. The Wisconsin DNR, Bureau of Waste Management <http://www.dnr.state.wi.us/org/aw/wm/>
 - b. The UW-Extension's Solid and Hazardous Waste Education Center <http://www1.uwex.edu/ces/shwec/>
 - c. WasteCap Wisconsin, Inc. <http://www.wastecapwi.org> or telephone: 414-961-1100 or 608-245-1100
 12. The contractor shall provide summaries of type and amount of material recycled, reused or disposed of. Those summaries shall include enough information and detail to satisfy requirements by external auditors. At a minimum the documentation needs to meet the current LEED requirements and requirements set by the EPA and federal govern-

ment for federally funded projects. These requirements may or may not be mentioned specifically in this contract and the contractor is required to learn about specifics and to add documentation as required by such third party auditors.

1.22. STAIRS, SCAFFOLDS, HOISTS, ELEVATORS OR CRANES

- A. The Contractor shall furnish and maintain equipment such as temporary stairs, fixed ladders, ramps, chutes, runways and the like as required for proper execution of work by all trades, and shall remove them on completion of the work. The Contractor shall erect permanent stair framing as soon as possible. Provide stairs with temporary treads, handrails, and shaft protection. Contractors requiring scaffolds shall make arrangements with the Contractor, or shall provide their own and remove them on completion of the work. The Contractor shall underlay its interior scaffolds with planking to prevent up-rights from resting directly on the floor construction.
- B. Contractor shall provide and pay for its own hoist/crane or other apparatus necessary for unloading/setting or moving their equipment and materials. Installation and removal of equipment for this activity must be accounted for in the Project Schedule. Equipment and operations for this activity shall comply with applicable Department of Commerce and OSHA requirements. No material hoist may be used to transport personnel unless it meets Department of Commerce and OSHA requirements for that purpose.
- C. Existing elevators may be used on a limited basis with the owner's permission and agreement. The Contractor will pay costs of warranty extensions and additional service work required. Appropriate protection must be provided by the using Contractor and that Contractor shall be responsible for any structural, mechanical or finish damage to the elevator and its parts and to adjoining building finishes and components.

1.23. SAFEGUARDS - EXISTING EQUIPMENT, UNDERGROUND UTILITIES AND ARTIFACTS

- A. Existing utilities, including those listed as abandoned, shall not be moved or otherwise disturbed without written verification by the owner that the utility is abandoned.
- B. When altering existing facilities, the Contractor shall take every precaution to preserve and protect existing facilities, both those to be altered and those to remain unaltered that are within the limits of the work.
- C. The Contractor shall notify the owner of structural members, piping, conduit, or equipment not indicated for removal that may cause interference with the work. Work shall not proceed in the affected area until instructions have been issued. Do not drill or penetrate existing structures without prior permission. The removal of existing work shall be by methods that will not jeopardize the integrity of structures or systems that are to remain.
- D. Existing utilities, including but not limited to roof drainage systems, underground cables, ducts, roadways, manholes, building fire alarm, public address or telecommunications wiring shall not be moved or otherwise disturbed, nor electrical circuits or switches operated or taken in or out of service, without prior consent of the owner. Contractor shall compensate loss to the owner resulting from damage to utilities, facilities and other owner or public items damaged.
- E. Take measures necessary to safeguard all existing work and facilities that are inside and outside the limits of the work or items that are within the construction limits but are intended to remain. Report any damage to the owner immediately. Correct and pay for all damages.
- F. If bones or artifacts are encountered during digging, the owner requires that the Contractor stop work within a 50-foot radius of the find and immediately notify the owner. Work may continue only with approval from the owner.

1.24. OPERATION AND MAINTENANCE DATA

- A. All OM documents are to be submitted as electronic copy for review at the time the respective equipment is delivered. No hardcopy shall be provided until the OM manuals are approved.
- B. Submit data bound in 8-1/2 x 11 inch (A4) text pages, Use three D side rings if necessary and binders with durable plastic covers. Submit all documents in electronic form as well as in hardcopy. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project and subject matter of binder when multiple binders are required.
- C. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
- D. Contents: Prepare a Table of Contents for each volume, with each Product or system description identified, typed on 20-pound white paper, in three parts as follows:
- E. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, subcontractors, and major equipment suppliers.
- F. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of subcontractors and suppliers. Identify the following:
 - 1. Summary list of maintenance items indicating frequency and type of maintenance required for all systems covered in this contract.
 - 2. List of components.
 - 3. A description of recommended replacement parts and materials, which the owner should stock.
 - 4. Parts list for each component.
 - 5. A summary of equipment vendors, or location where replacement parts can be purchased.
 - 6. Copies of all approved submittals.
 - 7. Operating instructions.
 - 8. Maintenance instructions for components systems, Preventive maintenance recommendations.
 - 9. Maintenance instructions for finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.

- 1 G. Part 3: Project documents and certificates, including the following:
- 2 1. Product data.
- 3 2. Certificates.
- 4 3. Photocopies of warranties.
- 5 4. Name, address, and telephone number of the person or office to contact for service during the warranty period.
- 6 5. Name, address, and telephone number of the person or service organization to be contacted for service after the
- 7 warranty period.
- 8 H. Submit all O&M manuals in original electronic form (PDF). Scanned copies are not acceptable. PDF need to be of high qual-
- 9 ity and searchable.
- 10 I. Submit 1 draft copy of completed volumes 15 [fifteen] days after approval of applicable submittal or receipt of the prod-
- 11 uct. Revise content of all document sets as required prior to final submission. Submit 2 [two] sets of revised final volumes,
- 12 within 10 [ten] days after final inspection.
- 13

14 **1.25. ACCESS PANELS AND DOORS**

- 15 A. All serviceable and replaceable devices, including but not limited to valves, boxes, and dampers shall receive an access at a
- 16 location and in a size that enables proper servicing and repair of the device without removal of other material. Sizes de-
- 17 scribed are minimum sizes and might be increased if the type and size of device requires it. Install all piping, conduit,
- 18 ductwork, and accessories to permit access to equipment for maintenance. Coordinate the exact location of wall and ceil-
- 19 ing access panels and doors with the owner making sure that access is available for all equipment and specialties. Relocate
- 20 access panel or door if equipment is not properly accessible to perform all maintenance and repair at no cost to the own-
- 21 er. Minimum size is 12" by 12". Use "Cendrex" products or approved equal.
- 22

23 **1.26. LOOSE AND DETACHABLE PARTS**

- 24 A. Contractor shall retain all loose and small detachable parts of apparatus and equipment furnished under this Contract,
- 25 until completion of the work and shall turn them over to the owner to receive them.
- 26 B. Furnish one can of touch-up paint for each different color factory finish furnished by the Contractor. Deliver touch-up
- 27 paint with other "loose and detachable parts".
- 28

29 **PART 2 – PRODUCTS**

30

31 **2.1. SPECIFIED ITEMS - SUBSTITUTES**

- 32 A. Wherever catalog numbers and specific or trade names are used in conjunction with a designated material, product, item,
- 33 or service mentioned in these Specifications, they are used to establish the standards of quality, utility, and appearance
- 34 required. Substitutions will be approved, subject to the following provisions:
- 35 a. Contractors or manufacturers may request that their product be substituted for specified products where sole sourc-
- 36 ing is not stated, (i.e. no substitutions allowed). Requests may be submitted up to 10 calendar days prior bid due
- 37 date. All requests must be accompanied by sufficient information to judge its suitability for this project. Accepted
- 38 substitutions shall be listed per addendum.
- 39 b. Owner may reject any substitute request without providing specific reasons.
- 40 c. Owner may accept substitution requests after contract award, but reserves the right to refuse review or acceptance
- 41 of any requests without providing specific reasons.
- 42 d. All Substitutions must be accepted by the owner in writing. The owner will accept, in writing, such proposed substi-
- 43 tutions as are in his or her opinion, equal in quality, utility, and appearance to the items or materials specified. Such
- 44 acceptance shall not relieve the Contractor from complying with the requirements of the drawings and specifica-
- 45 tions, and the Contractor shall be responsible at Contractor's own expense for any changes resulting from Contractor
- 46 proposed substitutions which affect the other parts of Contractor's own work or the work of others.
- 47 e. The manufacturer shall be a company specializing in the manufacture of the specified equipment and accessories
- 48 with minimum five years documented experience.
- 49 f. Failure of the Contractor to submit proposed substitutions for approval in the manner described above and within
- 50 the time prescribed shall be sufficient cause for disapproval by owner of any substitutions otherwise proposed.
- 51 B. Specifications may mention other manufacturers than the specific device specified. Those are manufacturers that in gen-
- 52 eral are acceptable, but may not have a product for this specific project. Those manufacturers still may be rejected without
- 53 providing specific reasons. The bidder only can rely on using items specifically mentioned in the contract documents.
- 54

55 **2.2. APPROVED TESTING LABORATORIES**

- 56 A. The following laboratories are approved for providing electrical product safety testing and listing services as required in
- 57 these specifications:
- 58 1. Underwriters Laboratories Inc.
- 59 2. Electrical Testing Laboratories, Inc.
- 60

61 **2.3. HAZARDOUS SUBSTANCES**

- 62 A. The Subcontractor shall submit to the Project Representative, for review by the EH&S Division, any proposed procurement,
- 63 stocking, installing, or other use of materials containing asbestos, cadmium, chromates, or lead.

- B. All materials and applications shall comply with requirements of any and all Districts Regulations, including, but not limited to architectural coatings, general solvent and surface coatings, solvent cleaning operations, adhesive and sealants, visible emissions, and asbestos.
- C. Contractor shall keep and maintain proof of compliance with the above-referenced regulations, including any recordkeeping obligations, for a period of two years after completion of the project. Contractor shall make such documents or evidence available if so requested by owner.
- D. No materials outlawed in any of the 50 US states are to be used. Only equipment and material legal in all 50 states is to be used. All Federal, state, county and local codes and ordinances regarding are to be considered deciding if a piece of equipment or material is to be used.
- E. The contractor assumes responsibility for proper removal, collection and storage of hazardous substances on site and disposal of those if hazardous substances were known to be present and pointed out in these specifications or on the plans. If hazardous substances are not known to be present and are found, the owner assumes responsibility for additional cost due to removal, collection and storage on site. All hazardous substances are to be disposed in accordance with all federal, state and local laws, codes and regulations. It is the contractor's responsibility to recognize typical hazardous substances not known to be present. This includes all substances that were used in buildings of that type in the period since original construction.
- F. Contractor will assume that all electronic components, machinery, refrigeration devices and other common devices contain hazardous substances and include disposal of such in bid price, even if those substances are not mentioned separately. If special tests are necessary the owner assumes responsibility for such.
- G. ASBESTOS:
1. Contractor's attention is directed to WAC NR 447, WAC HSS 159 and the Occupational Safety and Health Act (OSHA) in general, part 1926.1101--ASBESTOS in particular. Contractor is responsible for compliance with all applicable regulations when the work includes fastening to or coring through Asbestos Containing Materials (ACM) and disturbance of asbestos containing caulking and mastics. Unless otherwise indicated, all caulking, sealants, glazing compounds, gaskets, asphalt roofing materials and miscellaneous adhesives are assumed to contain asbestos and are considered to be Category I non-friable ACM as defined in NR 447. Waste material containing Category I non-friable ACM, is regulated as Construction and Demolition (C&D) waste and may be disposed of at a Department of Natural Resources (DNR) approved C&D waste landfill. If Contractor's work methods cause non-friable ACM to become friable, the Contractor is responsible for the disposal of the friable asbestos waste at a landfill specifically approved by DNR to accept friable asbestos. A copy of the signed waste manifest for the disposal of all friable asbestos waste shall be provided to owner prior to request for final payment.
 2. The regulations referenced above require removal of friable ACM and Category II non-friable ACM prior to demolition of a building. Category I non-friable ACM does not need to be removed from a building prior to demolition if the waste generated from the demolition is taken to a DNR approved C & D waste landfill. If the contractor chooses to recycle building materials from a building to be demolished, the contractor is responsible for removal and disposal of all Category I non-friable ACM in accordance with applicable regulations prior to demolition. If the contractor's demolition methods will cause non-friable ACM to become friable, the contractor is responsible for removal and disposal of all Category I non-friable ACM in accordance with applicable regulations prior to demolition.
 3. The asbestos abatement contractor will require sole occupancy of the workspace during asbestos abatement work. Contractor shall communicate with the asbestos abatement contractor and make adequate allowance for the asbestos abatement work in the work schedule
- H. LEAD BASED PAINT: Conform with OSHA and EPA recommended worker safety requirements when removing lead based paint or material bearing lead based paint or material contaminated with lead by the demolition process. Contractor's attention is directed to the Occupational Safety and Health Act (OSHA) in general and particularly to 29 CFR 1910 (LEAD STANDARD) and to CFR 1926 (LEAD EXPOSURE IN THE CONSTRUCTION INDUSTRY). For OSHA compliance and regulation interpretations, contractors may contact the area OSHA office for this project. [Milwaukee, telephone (414) 297-3315; Appleton, telephone (414) 734-4521; Eau Claire, telephone (715) 832-9019]. Dispose of refuse containing lead based paint or contaminated with lead by the demolition process in conformance with State of Wisconsin Hazardous Waste Regulations set forth by the Department of Natural Resources and in conformance with OSHA and EPA recommended worker safety requirements.
- I. PCB'S: Contractor shall assume all ballasts and transformers not specifically labelled as "no PCB" type to contain PCB and to dispose properly meeting all regulatory requirements
- J. MERCURY-CONTAINING DEVICES: Mercury containing devices are accumulated in our facilities for eventual recycling through a contracted vendor. These devices include certain building controls and switches, thermometers, and lamps. Lamps are stored in accordance with Environmental Protection Agency universal waste regulation 40 CFR part 273 including storing them in containers with labels describing the contents and the start date of accumulation.
- K. PAINT AND RELATED PRODUCTS: The oil-based paints are disposed of as hazardous waste
- L. USED APPLIANCES AND BUILDING EQUIPMENT: Used appliances include microwaves, refrigerators, and ice machines. Smaller pieces of building equipment include items such as water heaters and variable-drive motors. All of these items are recycled by a contracted vendor at eh contractor's expense.
- M. VOC: Volatile Organic Compounds in materials shall be limited to these maximum values:
1. Adhesives and Sealants:
 2. Wood Glues: 30 g/L.
 3. Metal-to-Metal Adhesives: 30 g/L.
 4. Adhesives for Porous Materials (Except Wood): 50 g/L.

5. Subfloor Adhesives: 50 g/L.
6. Plastic Foam Adhesives: 50 g/L.
7. Carpet Adhesives: 50 g/L.
8. Carpet Pad Adhesives: 50 g/L.
9. VCT and Asphalt Tile Adhesives: 50 g/L.
10. Cove Base Adhesives: 50 g/L.
11. Gypsum Board and Panel Adhesives: 50 g/L.
12. Rubber Floor Adhesives: 60 g/L.
13. Ceramic Tile Adhesives: 65 g/L.
14. Multipurpose Construction Adhesives: 70 g/L.
15. Fiberglass Adhesives: 80 g/L.
16. Contact Adhesive: 80 g/L.
17. Structural Glazing Adhesives: 100 g/L.
18. Wood Flooring Adhesive: 100 g/L.
19. Structural Wood Member Adhesive: 140 g/L.
20. Single-Ply Roof Membrane Adhesive: 250 g/L.
21. Special Purpose Contact Adhesive (contact adhesive that is used to bond melamine covered board, metal, unsupported vinyl, rubber, or wood veneer 1/16 inch or less in thickness to any surface): 250 g/L.
22. Top and Trim Adhesive: 250 g/L.
23. Plastic Cement Welding Compounds: 250 g/L.
24. ABS Welding Compounds: 325 g/L.
25. CPVC Welding Compounds: 490 g/L.
26. PVC Welding Compounds: 510 g/L.
27. Adhesive Primer for Plastic: 550 g/L.
28. Sheet Applied Rubber Lining Adhesive: 850 g/L.
29. Aerosol Adhesive, General Purpose Mist Spray: 65 percent by weight.
30. Aerosol Adhesive, General Purpose Web Spray: 55 percent by weight.
31. Special Purpose Aerosol Adhesive (All Types): 70 percent by weight.
32. Other Adhesives: 250 g/L.
33. Architectural Sealants: 250 g/L.
34. Non-membrane Roof Sealants: 300 g/L.
35. Single-Ply Roof Membrane Sealants: 450 g/L.
36. Other Sealants: 420 g/L.
37. Sealant Primers for Nonporous Substrates: 250 g/L.
38. Sealant Primers for Porous Substrates: 775 g/L.
39. Modified Bituminous Sealant Primers: 500 g/L.
40. Other Sealant Primers: 750 g/L.
41. Inside Paints and Coatings:
42. Flat Paints, Coatings, and Primers: VOC not more than 50 g/L.
43. Nonflat Paints and Coatings: VOC not more than 150 g/L.
44. Dry-Fog Coatings: VOC not more than 400 g/L.
45. Primers, Sealers, and Undercoaters: VOC not more than 200 g/L.
46. Anticorrosive and Antirust Paints applied to Ferrous Metals: VOC not more than 250 g/L.
47. Zinc-Rich Industrial Maintenance Primers: VOC not more than 340 g/L.
48. Pretreatment Wash Primers: VOC not more than 420 g/L.
49. Clear Wood Finishes, Varnishes: VOC not more than 350 g/L.
50. Clear Wood Finishes, Lacquers: VOC not more than 550 g/L.
51. Floor Coatings: VOC not more than 100 g/L.
52. Shellacs, Clear: VOC not more than 730 g/L.
53. Shellacs, Pigmented: VOC not more than 550 g/L.
54. Stains: VOC not more than 250 g/L.

2.4. BARRICADES, SIGNS, WARNING DEVICES, AND TEMPORARY PLASTIC BARRIERS

- A. Traffic barricades, traffic signs, and warning devices shall meet the requirements of applicable OSHA standards and the FHA Manual of Uniform Traffic Control Devices (MUTCD).
- B. UV stabilized high-density polyethylene barrier fence free of holes tears and other defects. Provide 4' tall fence in diamond or rectangular pattern. Fencing shall be "safety orange" color, unless otherwise noted.
- C. Posts for temporary plastic barrier fencing shall be 5' tall, minimum 12 gauge, painted metal posts.

2.5. SEALING AND FIRESTOPPING

- A. Manufacturers: 3M, Hilti, Rectorseal, STI/SpecSeal, Tremco, or approved equal.
- B. All firestopping systems shall be provided by the same manufacturer and shall be UL listed.
- C. Submittals: Contractor shall submit product data for each firestop system. Submittals shall include product characteristics, performance and limitation criteria, test data, MSDS sheets, installation details and procedures for each method of installation applicable to this project. For non-standard conditions where no UL tested system exists, submit manufacturer's drawings for UL system with known performance for which an engineering judgment can be based upon.

- D. Use a product that has a rating not less than the rating of the wall or floor being penetrated.
- E. Contractor shall use firestop putty, caulk sealant, intumescent wrapstrips, intumescent firestop collars, firestop blocks, firestop mortar or a combination of these products to provide a UL listed system for each application required for this project. Provide mineral wool backing where specified in manufacturer's application detail.
- F. Where shown or specified, pack annular space with fiberglass batt insulation or mineral wool insulation. Provide 4" sheet metal escutcheon around duct on both sides of partition or floor to cover annular space.
- G. Install approved product in accordance with the manufacturer's instructions where an installation penetrates a fire/smoke rated surface. When pipe is insulated, use a product, which maintains the integrity of the insulation and vapor barrier.
- H. Whenever possible, avoid penetrations of fire and smoke rated partitions. When they cannot be avoided, verify that sufficient space is available for the penetration to be effectively fire and smoke stopped.

PART 3 – EXECUTION

3.1. PROJECT MEETINGS

- A. Project meetings will be held at the time designated by the owner. If the principal of the firm does not attend meetings, a responsible representative of the Contractor who can bind the Contractor to a decision at the meetings shall attend. The contractor will write a report covering all items discussed and decisions reached and copy of such report distributed to all parties involved within 3 business days. All contractors, sub-contractors and other related parties shall attend. Attendance especially is required if such contractor is scheduled to perform work within the next 6 weeks.
- B. PRE-CONSTRUCTION MEETING: Owner, design representatives and all contractor and sub-contractor representatives attend.
- C. PRE-INSTALLATION MEETING: prior installation, layout or other activities related to major systems, separate meetings will be held to ensure proper coordination. These meetings will be initiated by the contractor. Not initiating these meetings doesn't relieve the contractor from coordination responsibilities. The owner may set up such meetings as needed

3.2. CONTINUITY OF SERVICE, TRAFFIC, SHUTDOWN AND ACCESS

- A. BUILDING ACCESS: Unless otherwise shown or directed, maintain existing access and egress to the facility throughout construction. Maintain ANSI A117 compliant access for disabled persons, delivery access, emergency vehicle access, and emergency egress. Do not interrupt access and egress without prior written approval by owner.
- B. Contractor shall verify the locations of any water, drainage, gas, sewer, electric, drainage, gas, sewer, electric, telephone/communication, fuel, steam lines or other utilities and site features which may be encountered in any excavations or other site work. All lines shall be properly underpinned and supported to avoid disruption of service.
- C. Contractor shall provide and maintain continuous service (power, controls, alarms, communication, elevators, HVAC, roads etc.) during the entire construction period. No outages shall be permitted on existing systems except at the time and during the interval specified by the owner. Any outage must be scheduled when the interruption causes the least interference with normal institutional schedules and business routines and might be scheduled during after-hours if regular business hours are not acceptable to the owner. No extra costs will be paid to the Contractor for such outages, which must occur outside of regular weekly working hours. Cost to the utility is paid by Contractor. The Contractor shall provide temporary utility services and bypasses for any disruptions not completed within this period. The Contractor shall restore any circuit interrupted as a result of this work to proper operation as soon as possible.

3.3. DEMOLITION

- A. Perform all demolition as indicated on the drawings to accomplish new work. Demolition Drawings are based on casual field observation and/or existing record documents. Verify field measurements and circuiting arrangements as shown on Drawings, verify that abandoned wiring, piping, ducting and equipment serve only abandoned facilities. Report discrepancies to the owner before disturbing existing installation. Beginning of demolition means installer accepts existing conditions.
- B. Demolition all abandoned services and devices in areas affected by this contract, even if not shown on plans. This includes but is not limited to wiring, conduits, piping, and equipment.
- C. Before demolition of any load bearing concrete a ground-penetrating radar or concrete X-ray scan needs to be performed to detect any rebar, conduit or other damageable items. This work shall be performed at least a week before demolition starts to give A/E the opportunity to resolve any issues by rebar or other obstacles in unexpected locations. Drawings with existing subsurface obstacles may not be correct and shall not be relied on.
- D. Where pipe or duct is removed and not reconnected with new work, cap ends of existing services as if they were new work. Coordinate work with owner to minimize disruption to the existing building occupants.
- E. All pipe, wiring and associated conduit, insulation, ductwork, and similar items demolished, abandoned, or deactivated are to be removed from the site by the Contractor. Maintain the condition of material and/or equipment that is indicated to be reused equal to that existing before work began.
- F. Patch holes and openings caused by removal of material and equipment, or formerly covered by such, with like material and texture of surrounding surface. Paint to match surroundings.
- G. Disconnect all services in a manner which allows for future connection to that service. Disconnect services to equipment at unions, flanges, valves, or fittings wherever possible.
- H. Approval of all Jurisdictions Having Authority shall be obtained prior to disposal of any equipment and materials. All disposal has to be in compliance with all local, county, state and nationwide regulations.

- I. All disconnected wiring shall be removed from all raceway systems, panels, enclosures pull boxes, junction boxes etc. irrespective of whether the removal is specified in the construction documents or not. The empty raceway systems shall be tagged spare on both ends of each termination.
- J. Don't demolition or damage equipment and material that is to stay in place. Replace and repair any equipment and installations that get damaged during demolition. The Contractor shall restore all disturbed areas in accordance with the drawings and specifications. If plans and specifications do not address restoration of specific areas, these areas will be restored to pre-construction conditions as approved by owner.
- K. Verify the locations of, and protect, any buildings, structures, utilities, paved surfaces, signs, streetlights, utilities, landscaping and all other such facilities that are intended to remain or be salvaged. Make such explorations and probes as necessary to ascertain any required protection measures that shall be used before proceeding with demolition.
- L. Provide and maintain adequate catch platforms, warning lights, barricades, guards, weather protection, dust protection, fences, planking, bracing, shoring, piling, signs, and other items required for proper protection.
- M. Report damage of any facilities or items scheduled for salvaging to owner.
- N. Explosives shall not be used for demolition.
- O. Remove all equipment, fixtures and other materials scheduled for salvage prior to beginning demolition operations.
- P. Abandon gas, electric and communication utilities in accordance with local utility company requirements, or applicable substantive requirements if considered private.
- Q. Carry out vehicle loading as necessary within the project boundaries or as defined or indicated on the drawings, but not in locations that block vehicular traffic on the streets or pedestrian traffic on adjacent public walks.
- R. Dismantle each structure in an orderly manner to provide complete stability of the structure at all times. Provide bracing and shoring where necessary to avoid premature collapse of structure.
- S. Conduct demolition operations and the removal of rubbish and debris in such a way that a minimum of nuisance dust is caused. Constantly sprinkle rubbish and debris with water if necessary to keep nuisance dust to a minimum.
- T. Where necessary to prevent collapse of any construction, install temporary shores, underpinning, struts or bracing. Do not commence demolition work until all temporary construction is complete.
- U. During the execution of the work, provide, operate, and maintain all pumping equipment, suction and discharge lines in a number of capacity as required to keep all cellars and pits free of water from any source whatsoever at all times.
- V. Masonry and concrete shall be demolished in small sections. Use braces and shores as necessary to support the structure of the building or structure and protect it from damage. Where limits of demolition are exposed in the finished work, cutting shall be made with saws, providing an absolutely straight line, plumb, true and square.
- W. Operate equipment so as to cause a minimum of damage to plaster which is to remain, and so as to keep dust and dirt to a minimum.

3.4. TEMPORARY CONSTRUCTION

- A. Temporary construction shall conform to all requirements and laws of state and local authorities, which pertain to operation, safety, and fire hazards. Contractor shall furnish and install all items necessary for conformance with such requirements, whether called for under separate sections of these Specifications or not. Contractor shall provide, maintain, and remove upon completion of his work:
- B. Employ temporary crossovers and bypass to utilities, electrical connections, traffic and footbridges, and walkways used to maintain services or communications, which cannot be interrupted or curtailed.
- C. Provide temporary rigging, scaffolding, shoring, hoisting equipment, and all other temporary work as required for this project.

3.5. INSTALLATION

- A. Install in accordance with manufacturer's instructions and all code requirements. Provide the owner with copy of manufacturer's instructions prior to installation. Coordinate equipment location with piping, ductwork, conduit and equipment of other trades to allow sufficient clearances. Locate equipment to provide access space for servicing all components. Install in accordance with recognized industry practices. The manufacturer's latest recommendations shall be used. It is Contractor's responsibility to enforce these requirements with all the Contractors. The Contractor shall be responsible for correcting any infringement on this requirement at no cost to owner.
- B. Startup and test equipment and adjust operating and safety controls for proper operation.
- C. Contractor shall coordinate work with existing equipment so that all systems, equipment and other components will fit the available space, and will allow proper service and repair. Each location needs to be approved by owner. This also applies to existing equipment if newly installed equipment interferes with its accessibility. Location of equipment has to fit into existing panels, decoration or finish. Owner can request position changes of equipment before the work has begun.
- D. The Contractor shall cooperate in reducing objectionable noise or vibration. If noise or vibration is a result of improper material or installation, these conditions shall be corrected at no cost to owner. Abnormal buzzing in equipment is not acceptable.
- E. Provide carpentry, cutting, patching, and core drilling required for installation of material and equipment.
- F. **WATERPROOF CONSTRUCTION:** Maintain waterproof integrity of penetrations of materials intended to be waterproof. Provide flashings at exterior roof penetrations. Caulk penetrations of foundation walls and floors watertight. Provide membrane clamps at penetrations of waterproof membranes.
- G. **PAINTING OF EQUIPMENT AND HARDWARE:** Provide moisture resistant paint for all exterior painting. Colors shall be as shown on the drawings unless specified. All exposed conduits, raceways and gutters inside (finished spaces) and outside the building shall be painted to match the wall color.

- 1 H. Lubricate all bearings with lubricant as recommended by the manufacturer before the equipment is operated for any rea-
2 son. Once the equipment has been run, maintain lubrication in accordance with the manufacturer's instructions until the
3 work is accepted by owner. Maintain a log of all lubricants used and frequency of lubrication; include this information in the
4 Operating and Maintenance Manuals at the completion of the project.
5

6 **3.6. DELIVERY, STORAGE AND HANDLING OF MATERIALS**

- 7 A. Contractor must be present to accept delivery of all equipment and material shipments. Owner will not knowingly accept,
8 unload or store anything delivered to the site for the Contractor's use. Inadvertent acceptance of delivered items by owner
9 shall not constitute acceptance or responsibility for any of the materials or equipment. It is the Contractor's responsibility
10 to assume liability for equipment or material delivered to the job site.
11 B. Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays. Materials and
12 equipment shall be delivered to the site in adequate time to ensure uninterrupted progress of the work and inspection of
13 material by owner. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels
14 intact. Packaged units shall be delivered in their original crates.
15 C. Store in a clean and dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to
16 protect units from dirt, water, construction debris, and traffic. Promptly inspect shipments to insure that the material is un-
17 damaged and complies with specifications. Materials or equipment, which do not conform to the Specifications or are dam-
18 aged shall not be incorporated in the work and shall be immediately removed from the site.
19 D. Arrange for the necessary openings in the building to allow for admittance of all apparatus. When the building access was
20 not previously arranged and must be provided by this Contractor, restore any opening to its original condition after the ap-
21 paratus has been brought into the building.
22 E. Contractor shall confine equipment, apparatus, storage of materials and operations to limits indicated on the drawings or
23 by specific direction of owner. Storage of materials within the building shall at no time exceed the design carrying capacity
24 of the structural system. The Contractor assumes full responsibility for damage due to the storage of materials.
25 F. Material shall be stored according to manufacturer's recommendations as a minimum. Provide and maintain watertight
26 storage sheds on the premises where directed, for storage of materials that might be damaged by weather. Sheds shall
27 have wood floors raised at least 6" above the ground. Materials, construction sheds, and earth stockpiles shall be located so
28 as not to interfere with the installation of the utilities nor cause damage to existing lines. Should it be necessary at any time
29 to move material sheds or storage platforms, the Contractor shall move it at the Contractor's expense, when directed by
30 owner.
31 G. If necessary, material will be stored off site at the Contractor's expense. Offsite storage agreements will not relieve the
32 Contractor from using proper storage techniques. Storage and protection methods must allow inspection to verify prod-
33 ucts.
34 H. All materials shall be stored in a manner that prevents release of hazardous material to the environment. All hazardous
35 materials, including motor fuels, shall be properly handled and contained to prevent spills or other releases. The Contractor
36 shall develop and maintain a contingency plan to provide emergency response, containment, and cleanup of spills of haz-
37 ardous materials resulting from contract activities. All spills and releases shall be reported to owner immediately
38

39 **3.7. CONCRETE WORK**

- 40 A. Not applicable.
41

42 **3.8. OPENINGS, SLEEVES, CUTTING, STRUCTURAL ATTACHMENT, PATCHING AND PAINTING**

- 43 A. Before any drilling, cutting or other type of opening the contractor shall verify that no conduits, wires, pipes or other items
44 are in or near opening area.
45 B. Openings shall be the responsibility of the Contractor requiring the openings even if such openings are not shown on draw-
46 ings. The Contractor shall install sleeves for all openings and shall submit to the owner for review and approval, layout
47 drawings of all such required sleeves and/or openings. Sleeve and opening sizes and locations shall be dimensioned from
48 column lines and floor elevations or from a point of reference approved by owner.
49 C. All openings shall be made as airtight, watertight, fireproof, smoke-tight, thermally insulated as the wall they are in. Patch
50 wall around sleeve to match adjacent wall construction and finish. In finished spaces where penetration through wall is ex-
51 posed to view, sheet metal sleeve shall be installed flush with face of wall. Grout area around sleeve in masonry construc-
52 tion. Patching includes repairing openings to match adjacent construction and painting the surface to match existing sur-
53 face including texture.
54 D. Do not pierce beams or columns without owner's permission and then only as directed in writing.
55 E. No devices or materials shall be attached to non-structural or structural members or parts of the building without approval
56 by owner. All items shall be attached to structurally stable building parts only. Provide all supporting devices as required for
57 the installation of mechanical equipment and materials. All supports and installation procedures are to conform to the lat-
58 est requirements of the ANSI Code for building piping. Do not hang any mechanical item directly from a metal deck or run
59 piping so its rests on the bottom chord of any truss or joist. Fasteners depending on soft lead for holding power or requiring
60 powder actuation will not be accepted. Support apparatus and material under all conditions of operation, variations in in-
61 stalled and operating weight of equipment and piping, to prevent excess stress, and allow for proper expansion and con-
62 traction.

- F. Provide all supporting steel required for the installation of mechanical equipment and materials, including angles, channels, beams, etc. to suspended or floor supported tanks and equipment. All of this steel may not be specifically indicated on the drawings.

3.9. IDENTIFICATION

- A. Not applicable.

3.10. TRAINING AND DEMONSTRATION

- A. The owner's facility staff (and occupants and service Contractors as needed), shall receive orientation and training on the proper care and maintenance of the roofing system with emphasis on preventative inspections. This training shall be summarized in the O&M Manual.

3.11. TESTS, PUNCH LIST AND FINAL ACCEPTANCE

- A. Contractor shall make all necessary adjustments and replacements affecting the work, which is necessary to fulfill owner's requirements and to comply with the directions and recommendations of the manufacturer, and to comply with all codes and regulations, which may apply to the entire installation.
- B. Notice that the work is ready for final inspection and acceptance shall be given after the Contractor has carefully inspected all portions of the work, has reviewed in detail the drawings and specifications, and that to the best of the Contractor's knowledge all conditions of the contract documents have been fulfilled. The owner and the Contractor shall make a joint inspection of the work and owner will issue a punchlist.
1. Multiple punch lists can be submitted and neither punchlist may be considered final. Punchlist can be submitted throughout the entire warranty period.
 2. If Contractor fails to perform required corrective work in less than 30 days upon receipt of punch list by Contractor, owner can perform corrections or hire a separate contractor and charge the Contractor the full cost.
 3. Contractor shall advise owner that the necessary work has been performed. If punch list items were not resolved and the work was not performed in less than 30 days upon receipt of punch list by Contractor, the Contractor shall be required to compensate the owner for additional site visits of project manager, design professional and other related staff at a rate of \$ 100/hour plus mileage. The amount shall be paid to the owner prior to processing the final payment. Payment may be processed as deductive change order.
- C. After deficiencies, if any, have been corrected or accounted for, and after all work is satisfactorily complete, the City will accept the work; and Notice of Completion will be filed by owner. The contractor shall inspect the roofing system before claiming completion. Prior to final acceptance, filing of the Notice of Completion or processing of final payment, the following shall be done and submitted reviewed and accepted by owner:
1. Certificates of compliance and guarantees required under various Sections
 2. Operating and maintenance manuals
 3. Instruction to City personnel, as required
 4. Replacement material as required in specifications
 5. As-built documents
 6. All punch list items resolved
 7. All training provided (except deferred seasonal training)
 8. All warranty issues brought to Contractor's attention so far resolved
 9. Warranty documents signed by representative of manufacturer, guarantee documents, roofing agreement and other warranty related documents

3.12. CLEANING

- A. The construction site shall be kept in clean and safe manner. The Contractor shall clean up and remove from the premises, on a daily basis accumulation of surplus materials, rubbish, debris and scrap and shall repair all damage to new and existing equipment resulting from its work. When job is complete, this Contractor shall remove all tools, excess material and equipment, etc., from the site. Contractors or subcontractors found to be in violation may be required to leave the jobsite until their staff is trained in orderly, clean and safe construction site work. Clean and safe construction site includes but is not limited to:
1. All trades keep a separate and neat area for material, equipment etc.
 2. Equipment and material not needed anymore is removed from the jobsite
 3. Demolition material and equipment is removed from jobsite daily
 4. All material and equipment is sorted and stored properly
- B. Spreading of dirt, dust and other construction related material must be kept to a minimum. Occupied and work areas must be separated by seals. Such seals shall be inspected and repaired frequently as needed to ensure proper sealing at all times.
- C. Keep streets, walks and all other adjacent paved areas clean and swept clear of dirt, mud and debris deposited as a result of this operation. Protect surrounding area from dust. Control rodents, and other vermin associated with demolition operations.
- D. All installed items shall be cleaned at time of installation, and all lens exteriors shall be cleaned just prior to final inspection. Equipment shall be thoroughly cleaned of all stains, paint, spots, dirt and dust. All temporary labels not used for instruction or operation shall be removed. Dust, dirt and other foreign matter shall be removed completely from all internal

1 surfaces of all mechanical and electrical units, cabinets, ducts, pipes, etc. Dirt, soil, fingerprints, stains and the like, shall be
2 completely removed from all exposed finished surfaces.

- 3 E. Contractor shall wash all glass immediately prior to the occupancy of this project. Work shall include the removal of labels,
4 paint splattering, glazing compound and sealant. Surfaces shall include mirrors and both sides of all glass in windows, bor-
5 rowed lights, partitions, doors and sidelights. In addition to the above, the Contractor shall be responsible for the general
6 "broom" cleaning of the premises and for expediting all of the cleaning, washing, waxing and polishing required within the
7 technical sections of the specifications governing work under this Contract. The Contractor shall also perform "final"
8 cleaning of all exposed surfaces to remove all foreign matter, spots, soil, construction dust, etc., so as to put the project in
9 a complete and finished condition ready for acceptance and use intended.

- 10 F. If rubbish and debris is not removed, or if surfaces are not cleaned as specified above, the owner reserves the right to have
11 said work done by others and the related cost(s) will be deducted from monies due the Contractor.

12
13 **END OF SECTION**
14

APPENDIX A - WASTE MATERIALS ESTIMATING SHEET

Instructions: Use as many sheets as needed.

PROJECT TITLE: _____
COMPANY: _____
DATE: _____

		Total Amount Generated		Amount Recycled		Amount Salvaged		Amount Sent to Landfill	
Material	Destination	Tons	Cu Yds	Tons	Cu Yds	Tons	Cu Yds	Tons	Cu Yds
Total									

APPENDIX B - LANDFILL LOG

Instructions: Use as many sheets as needed.

Project Title: _____

Company: _____

Log Dates: _____ through _____

Date	Destination	Cubic Yards Land filled	Tons Land filled
Total			

APPENDIX C - WASTE DIVERSION LOG

Instructions: Use as many sheets as needed.

Project Title: _____

Company: _____

Log Dates: _____ through _____

Material	Date	Destination	Salvaged	Recycled	Tons	Cubic Yards	Cost
Total							

PART 1 - GENERAL

1.1. SCOPE

- a. The work under this section shall consist of providing all materials, labor, equipment, tools, protection and supervision necessary for the mobilization; select removal of entire stone units at gable copings to install new through-wall flashing system (this work shall constitute all the base-bid stone masonry work).

1.2. RELATED WORK

- a. Applicable provisions of Division 1 shall govern work under this Section.

1.3. DESCRIPTION

- a. In addition to all other requirements, all work of this Section shall be performed under the guidelines of the Secretary of the Interior's Standards for the Treatment of Historic Properties and must comply with the Secretary of the Interior's Standards for Rehabilitation.
- b. The intent of this Section is:
 - i. To carefully deconstruct the existing wall in successive segments.
 - ii. To save as much of the historic material as possible.
 - iii. To repair all deteriorated stone that is deemed to be suitable for reuse. See Instructions to Bidders and the Bid Form for Unit Prices developed for the work.
 - iv. That all repair and replacement materials will match historic construction in all physical and visual aspects, including material, form, color, texture, and workmanship.
 - v. That all work will be done using the gentlest methods available.
 - vi. That sound historical materials will not be put at risk due to the work of this Section.

1.4. QUALITY ASSURANCE

- a. Pre-Construction Conference: Prior to beginning the work of this Section, the General Contractor and all Masonry Sub-contractors shall convene a meeting with the Architect and Owner's Representative(s) to review the requirements of the Quality Assurance Plan, installation procedures, location of required mock-up areas, and all job conditions and processes.
- b. Quality Assurance Plan: Prior to beginning Work, submit a written Quality Assurance Plan to Architect and Owner for approval. Allow 2 weeks for review and approval process. Do not proceed without written approval of plan. The Owner's Quality Control Representative and the Architect shall review work on a regular basis for conformance with the approved Quality Assurance Plan. Quality Assurance Plan shall, at a minimum, include the following items:
 - i. Describe the method of mobilization and access to work areas.
 - ii. Describe methods of dust containment during the work of this section.
 - iii. Describe the methods of protecting surrounding stone and landscape. Submit drawings of protection when requested by Architect.
 - iv. Describe the Work procedures, materials, and tools the contractor proposes to use for each stone treatment requirement (STR) specified.
 - v. Describe the sequence of stone treatment requirements (STR).
 - vi. Describe how the sequence of stone treatment requirements (STR) and the construction schedule changes as it relates to climate fluctuations and protection of completed work.
 - vii. Describe the methods for surveying original layout and collecting datum points and plumb lines for rebuilding stone masonry.
 - viii. Describe the methods for shoring and providing a safe working environment.
 - ix. Describe all methods for deconstruction of individual stone and tools for cleaning the stone for reuse.
 - x. Describe the method and approach to cleaning cement-based mortar smears and old patching materials from the stone face.
 - xi. Describe, in detail, the matching procedures relating to techniques and tools proposed for stone redressing.
 - xii. Describe the complete stone removal and redressing procedures; include equipment, approach and where (on-site or in shop) the stone will be redressed.
 - xiii. Describe the procedure for mixing and matching of substitute stone materials.
 - xiv. Describe the methods and system by which the use of reclaimed stone can be utilized.
 - xv. Describe the methods for setting stone back into wall for rebuilding the wall and maintaining the original bonding and course layout concept.

- xvi. Describe the methods of transition points where rehabilitation work will meet the original historic work.
- c. Stone Rehabilitation Firm Qualifications:
- i. Engage an experienced masonry rehabilitation firm to perform work in this section. The firm shall have completed work similar in material, design, and extent to that indicated for this Project and shall demonstrate a record of successful in-service performance. Proven implementation of the Secretary of the Interior's Standards for Rehabilitation: Preservation Briefs #1 and #2 and compliance with TMS 402-08/ACI 530-08/ASCE 5-08 are required.
- d. Field Supervision:
- i. Rehabilitation specialist firms shall maintain an experienced full-time supervisor on the Project site at all times when stone masonry rehabilitation is in progress. A single individual shall be responsible for supervising the stone masonry rehabilitation work throughout the duration of the Project.
- e. Rehabilitation Worker Qualifications:
- i. Rehabilitation specialist firms must employ craftspersons who are experienced with and specialize in rehabilitation work of the types they will be performing.
- ii. All rehabilitation treatments must be performed by a craftsperson who is familiar with historic stone construction. The Contractor shall provide proof of such knowledge to the Architect by submitting a portfolio of completed similar work.
- iii. Only skilled journeyman masons who are familiar with and experienced with the materials and methods specified and are familiar with the design requirements shall be used for the scope of this Section.
- f. Source Limitations:
- i. Each type of material for stone rehabilitation shall be obtained from a single source with resources sufficient to provide materials of consistent quality in color, texture, detailing, appearance and physical properties.
- g. Stone Treatment Mock-ups:
- i. All submittals as noted herein shall be submitted and approved prior to the creation of mock-ups. Consult the Architect for placement, size, and location of mock-ups. Mock-ups shall demonstrate to the Architect and Owner the methods and quality of workmanship to be performed in all stone treatments.
- ii. Prepare mock-ups directly in the existing historic wall.
- iii. Mock-ups shall include separate treatments, as called out on the drawings and related specification Sections. These are as follows:
1. Substitute Stone Repair - Substitute stone material repair on at least 2 stones. Include one stone on which to demonstrate proficiency in removing previous patching material and repairing with new substitute stone material.
 2. Crack Repair - Repair one crack, two feet in length, using mortar. Repair one crack, two feet in length, using dispersed hydrated lime injection technique with spachal surface treatment.
 3. Repointing Mortar Installation - Repoint mortar joints, twelve feet in length - 2/3 horizontal joints and 1/3 vertical joints.

1.5. SUBMITTALS

- a. Submit the following items in time to prevent delay of the work and to allow adequate time for review. Do not order materials or start work before receiving written approval.
- b. Submit samples of all specified materials and Material Safety Data Sheets (MSDS) as appropriate.
- c. Stone Samples for Verification
- i. Before erecting mockup, submit samples of the following:
1. Stone Replacement - Cut Stones - Create each profile for review and approval.
- d. Substitute Stone Repair Material - Provide at least two samples for patching material that will match the existing stone. Patching shall match existing stone; therefore, multiple submittals are expected. Substitute stone repair material will not be permitted to be applied in missing areas of more than 2 inches.
- e. Dispersed Hydrated Lime - Submit dispenser manufacturer's written instructions for maintaining the equipment and the ratio accuracy.
- i. The written submission must include the following:
1. Name and address of project
 2. Name, address and phone numbers of Client
 3. Date of project completion
 4. Size of the project, in terms of square feet of stone masonry required
 5. List of materials (including names and manufacturers) used on project

6. Name(s) of firm(s) the work was performed under, if different from submitting firm
7. Proof of expertise in historic stone masonry.
- f. Qualification Data for Workers – The firm must submit the name of each craftsperson who will be assigned to this project. Only skilled journeyman masons, trained and certified by the historic masonry consultant, shall be used for masonry rehabilitation. All stone treatments must be performed and supervised by craftspersons who are familiar with historic stone masonry construction.
 - i. Include the following:
 1. Name of craftsperson
 2. Position craftsperson will hold on this project
 3. Number of years working as a masonry rehabilitation specialist
 4. Proof of expertise in historic stone masonry.
 5. Submit digital photographic documentation proposed procedures

1.6. PRODUCT DELIVERY, STORAGE AND HANDLING

- a. Deliver and store materials in manufacturer's original unopened containers bearing labels indicating the grade, batch, production data, type, and names of products and manufacturers.
- b. During storage and construction, protect rehabilitation materials from wetting by rain, snow or ground water, and from staining or intermixture with earth or other types of materials.
- c. Protect stone and other materials from deterioration by moisture and temperature. Store stone in a dry location or in waterproof containers. Keep stone on pallets. Do not shrink wrap stone on pallets.
- d. Comply with product manufacturer's recommendations for minimum and maximum temperature requirements for storage.
- e. Comply with the manufacturer's written specifications and recommendations for application and installation.
- f. Store all materials in a location that will not impede the progress of the work.

1.7. PROJECT CONDITIONS

- a. Do not perform any masonry work unless air temperatures are between 40 degrees Fahrenheit (10 degrees Celsius) and 95 degrees Fahrenheit (32 degrees Celsius) and will remain so for at least 120 hours after completion of the work. To prevent premature evaporation of the mortar, phase masonry work during hot weather by completing the process on the shady side of the wall or by scheduling installation of materials during cooler evening hours.
- b. Do not use frozen materials or materials mixed or coated with ice or frost. Do not lower the freezing point of mortar by the use of admixtures or anti-freeze agents, and do not use chlorides in the mortar.
- c. Prevent mortar from staining the face of the masonry or other surfaces to be left exposed. Immediately remove all mortar that comes in contact with any surface.
- d. Cover partially completed work when work is not in progress.
- e. Protect projections from droppings.
- f. Damage occurring to the structure as a result of the Contractor's failure to protect against such damage shall be the Contractor's responsibility. The contractor shall restore damaged areas to the complete satisfaction of the Architect at no expense to the Owner.
- g. Cold-Weather Requirement for masonry repair and mortar:
 - i. Follow ACSI 530 and manufacturers written installation requirements.
- h. Hot-Weather Requirements:

Protect masonry repair and mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water. Provide artificial shade and wind breaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 90 degrees Fahrenheit and above.

PART 2 – PRODUCTS

2.1. MANUFACTURERS

- a. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:
 - i. Products: Subject to compliance with requirements, provide one of the products specified.
 - ii. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.2. SUBSTITUTE STONE REPAIR MATERIALS

- a. Substitute Stone Repair Material: Must use only mineral-based, single component products that contain natural binders; no synthetic polymers or additives are permitted. Substitute stone material must be pre-mixed in a quality controlled factory, with only the addition of water required at the site prior to installation.
- b. Acceptable material:
 - i. HS15 Heritage Limestone Repair Mortar manufactured and distributed by U.S. Heritage Group, Inc., Chicago, Illinois.
 - ii. Jahn Limestone Repair Mortar, Cathedral Stone Products, Hanover, Maryland.
- c. Substitute Stone Repair Material shall be custom colored to match the existing stone and produced in a quality controlled factory environment.
- d. No field mixing of color pigments into the repair materials is permitted on-site.
- e. No color staining of existing stone or newly applied repair materials is permitted.
- f. Apply substitute stone materials to areas no more than 2 inches in depth and 3 inches wide.

2.3. STONE REPLACEMENT MATERIAL

- a. The Contractor shall use replacement stone that is compatible to the existing stone in appearance, color and texture, as well as in compressive strength (as specified in ASTM C170), density (ASTM C97), and absorption (ASTM C97).
 - i. Quarra Stone Company, LLC, Madison, Wisconsin.
 - ii. Approved equal.
- b. Mortar for laying replacement stone: Mortar shall be the same as the repointing mortar, as defined in this Section.

2.4. CRACK INJECTION MATERIAL

- a. Crack Injection Material:
 - i. Dispersed Hydrated Lime DHL-IM Injection Mortar distributed by U.S. Heritage Group, Inc., Chicago, Illinois.
 - ii. Approved equal.

2.5. ALL MORTAR MATERIALS

- a. Repointing mortar shall be prepared and placed in accordance with the Department of the Interior National Park Service Cultural Resources Preservation Briefs 2, "Repointing Mortar Joints in Historic Masonry Buildings".
- b. Revised edition October 1998, and in compliance with the guidelines set forth by the Secretary of the Interior's Standards for Rehabilitation.
- c. The repointing mortar shall match the original in color, grain size and texture. The compressive strength of the repointing mortar shall be equal or less than the compressive strength of the original mortar and surrounding stone. The replacement mortar shall contain approximately the same ingredient proportions of the original mortar.
- d. All replacement mortar ingredients and mortar formulations have been established from test data
- e. Mixing of individual mortar ingredients at the construction site will be permitted.

2.6. OTHER MATERIALS

- a. Replacement Limestone: All replacement limestone shall be "Bedford" Indiana Oolitic limestone as quarried in Lawrence County, Indiana. Replacement limestone shall match existing in size, profile, grade, color, and finish.
- b. Shims: 2 inch by 4 inch by 1/16 inch, 1/8 inch, and 1/4 inch, plastic shims as manufactured by Racknow Polymers and distributed by Lance Construction Supplies, Inc., Chicago, Illinois, or approved equal.
- c. Strap Anchors: "No. 141 U-Type Stone Anchor," 8 inches long by 1-1/4 inch wide with a 7/8 inch bend (interior dimension). 16 gauge or 0.625 inch (1/16 inch) thickness, stainless steel conforming to ASTM A 167, AISI Type 304, as manufactured by Heckmann Building Products, Inc., Melrose Park, Illinois.
- d. Dowels (Pins): 3/8 inch diameter by 4 inch long, smooth finish, stainless steel, conforming to ASTM 267, AISI Type 304 or 316.
- e. Mortar: Mortar mixture ratio shall be 2.5 to 1.
- f. Portland Cement: Not used.

- g. Lime (as required): St. Astier NHL 3.5 (natural hydraulic lime) by TransMineral USA, Inc., Petaluma, California, (707) 769-0352.
- h. Sand (as required): Clean, sharp, free from loam, silt, vegetable matter, salts, and other injurious substances, conforming to ASTM C144 standard. Such as by Mandt Sandfill, 2079 County Hwy MM, Fitchburg, Wisconsin 53575. Match existing in size and color.
- i. Water: Potable, fresh, clean, clear and free from injurious amounts of sewage, oil, acid, alkali, salts, organic matter or other detrimental substances.
- j. Limestone Rehabilitation Mortar: Trowel applied, color matched, single component limestone repair mortar such as Jahn M70 Repair Mortar as manufactured by Cathedral Stone Products, 7266 Park Circle Drive, Hanover, MD 21076, (410) 782-9150, www.cathedralstone.com
- k. Other Items: All other materials not specifically described but required for a complete and proper installation of the Work in this Section, shall be selected by the Contractor subject to approval by the Architect.

PART 3 - EXECUTION

3.1. EXAMINATION

- a. The Contractor shall have the sole responsibility for the accuracy of all measurements and for the estimate of material quantities required and necessary to satisfy the requirements of these Specifications. It is the intent of this project to salvage, preserve and reuse existing stone to the greatest extent possible.
- b. Whenever possible, where full stone replacement is deemed necessary, use approved original material salvaged and stored by the Owner.
- c. Should replacement stone be required due to irreparable damage; match all physical properties including color, texture and size of existing stone.
- d. Verify that installation conditions are satisfactory to receive work of this Section.
- e. Do not proceed until unsatisfactory conditions have been corrected.
- f. Beginning work constitutes the Contractor's acceptance of conditions as satisfactory.
- g. During deconstruction, as well as rehabilitation operations, restore all areas to a weathertight condition each day and/or before inclement weather commences.

3.2. SUBSTITUTE STONE REPAIRS

- a. Substitute stone repairs require a moldable, plastic filled material applied directly to the loss area and set into place by its own adhesion to the stone substrate. Such stone repair mortars and putties are typically offered by manufacturing companies that do not sell stone.
- b. Substitute stone material may not be installed in thicknesses exceeding 2 inches. Stone repairs in excess of 2 inches thick will require reconfiguring the stone in lieu of performing other repairs.
- c. Remove all loose mortar and masonry prior to installation of the substitute stone material. "Sound" the masonry with a hammer to verify its integrity. If necessary, cut away an additional 1/2" of the stone substrate to ensure the surface to be repaired is solid and stable. Remove any sealant residue.
- d. Cut out all cramp anchors, threaded rod anchors and/or dowels within the damaged masonry area. Any anchors that are free of rust, solidly embedded, and do not project beyond the solid masonry surface may remain. All others should be removed.
- e. Using clean water and a scrub brush, clean all dust from surface and pores of the substrate.
- f. For very dry or porous surfaces, pre-wet the substrate ahead of time to prevent the substrate from drawing moisture out of the repair too quickly. Re-wet the surface immediately before applying the repair material.
- g. Curing methods vary in different parts of the country and at different times of the year, calling for different amounts of water to be used in the first 36 hours after application. Adjustments also have to take into account how much time is remaining before freezing weather occurs.
- h. Follow all manufacturers' instructions pertaining to the placement of materials. If the manufacturer requires that installers of a specified product be trained, provide this documentation to the Architect and supporting documentation. Applicators previously trained by product companies are encouraged to work on this specific scope, but it is not a mandatory requirement of this specification, only that of the product company to ensure the proper placement of the materials.

3.3. FERROUS ANCHOR BOLT REMOVAL

- a. Remove masonry anchors, brackets, wood nailers, and other extraneous items no longer in use unless identified as historically significant or indicated to remain.

- b. Remove items carefully to avoid spalling or cracking masonry.
- c. If item cannot be removed without damaging surrounding masonry, cut off item flush with surface and core drill surrounding masonry and item as close around item as practical.

3.4. REMOVE, REDRESS AND RETURN COPINGS

- a. Before removing any deteriorated masonry units establish bonding patterns, levels and coursings. Label each unit, numbered on drawings, for this treatment to correspond. Intent of label is to ensure return of stone to same location and bond pattern. Label the stones on a surface which will be completely hidden once the stones are reinstalled. The method of labeling should be compatible with specified mortars (and not result in non-adhesion or an adverse reaction to the mortar, etc.) Numbered stones should be oriented the same (up/down, north, south, east, west) when reinstalled as when they were removed.
- b. Carefully remove units in gentlest means necessary for reinstallation at the same location.
- c. Scale off all loose pieces of original stone from masonry intended to be removed, redressed and returned, including surface material in powder or granular form and detachments of planer elements, spalls and chips. Contractor shall sound all stone on building by using the "ring test method" in order to distinguish fully intact stone from those in which delamination may be hidden or pieces of unstable material may not be immediately visible.
- d. Remove mortar, loose particles, and soil from stone by cleaning with hand chisels, needle scalers, brushes, and water.
- e. Remove sealants by cutting close to stone with utility knife and cleaning with solvents.
- f. Redress the stone surface to match the original surface textures and profiles as approved by the Architect and Owner and as required.
- g. It is the intention of this treatment to avoid introducing products to the face of the stone merely to enhance the look and color of the surface.
- h. Reset unit plane or plumb with the surrounding stone masonry surfaces. The maximum open space behind the returned stone unit is equal half of the stone's depth. Notify Architect for alternate stone treatment repair if open space exceeds permissible depth. No infill will be permitted behind stone.
- i. Butter vertical joints for full width before setting and set units in full bed of mortar, unless otherwise indicated.
- j. Rake out mortar used for laying stone before mortar sets and point new mortar joints in repaired area to comply with requirements for repointing existing stone, and at same time as repointing of surrounding area.

3.5. STONE REMOVAL AND REPLACEMENT

- a. When directed, remove stone that has deteriorated or is damaged beyond repair. Carefully demolish or remove entire units from joint to joint, without damaging surrounding stone, in a manner that permits replacement with full size units.
- b. Sort stone by size and zone for future use.
- c. Support and protect remaining stonework that surrounds removal area and adjoining construction in an undamaged condition.
- d. Remove in an undamaged condition as many whole stone units as possible.
- e. Remove mortar, loose particles, and soil from stone by cleaning with hand chisels, needle scalers, brushes, and water.
- f. Remove sealants by cutting close to stone with utility knife and cleaning with solvents.
- g. Reuse salvaged stone to the fullest extent possible. Integrate new replacement stone in concealed areas or shielded from public view.
- h. Deliver cleaned stone not required for reuse to Owner.
- i. Clean stone surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.
- j. Replace removed stone with other removed stone, where possible, or with new stone matching existing stone, including size. Butter vertical joints for full width before setting and set units in full bed of mortar, unless otherwise indicated.
- k. Rake out mortar used for laying stone before mortar sets and point new mortar joints in repaired area to comply with requirements for repointing existing stone, and at same time as repointing of surrounding area.

3.6. CRACK INJECTION

General: Comply with the Dispersed Hydrated Lime manufacturer's written instructions.

- a. Those cracks designated on drawings, where stone is soundly bonded but cracked, shall be injected. Unless otherwise noted, the intent of this specification is for the designated cracks to be injected their full lengths, not just locally where markings are noted on drawings.
- b. The contractor shall diligently carry out the manufacturer's installation requirements and advise the Architect and Owner as to when and where the installation will occur, so that their representatives can observe them. At such time, the contractor shall provide resin samples from the dispenser during the course of the injection. Samples shall not exceed three fluid ounces.
- c. Drill 1/4-inch- (6-mm-) diameter, downward-sloping injection holes as follows:
 - i. Transverse Cracks Less Than 3/8 inch (10 mm) Wide: Drill holes through center of crack at 12 to 18 inches (300 to 500 mm) o.c.
 - ii. Transverse Cracks More Than 3/8 inch (10 mm) Wide: Drill holes through center of crack at 18 to 36 inches (500 to 1000 mm) o.c.
 - iii. Drill holes 2 inches (50 mm) deep. Where possible, drill holes in mortar joints.
- d. Clean out drill holes and cracks with compressed air and water. Remove dirt and organic matter, loose material, sealants, and failed crack repair materials.
- e. Place plastic injection ports in drilled holes and seal face of cracks between injection ports with clay or other non-staining, removable plugging material. Leave openings at upper ends of cracks for air release.
- f. Inject Dispersed Hydrated Lime through ports sequentially, beginning at one end of area and working to opposite end; where possible begin at lower end of injection area and work upward.
- g. Inject Dispersed Hydrated Lime until it extrudes from adjacent ports. After port has been injected, plug with clay or other suitable material and begin injecting filler at adjacent port, repeating process until all ports have been injected.
- h. Clean Dispersed Hydrated Lime from face of stone before it sets by scrubbing with water.
- i. After Dispersed Hydrated Lime has set, remove injection ports, plugging material, and excess filler.
- j. Patch injection holes and surface of cracks as specified in "Substitute Stone Repairs" Article.

3.7. POINTING OF MORTAR JOINTS IN STONE

- a. Walls should be presoaked with water 10 minutes prior to pointing or as weather conditions dictate. Walls should be misted with water for duration of at least 3 minutes at the end of the day after initial installation. Keep newly pointed wall moist for a minimum of 3-days after installation, including weekends and holidays. 3 times per day minimum – morning, noon and night.
- b. Rinse stone joint with water to remove dust and mortar particles. Time the rinsing application so that at the time of pointing excess water has evaporated or run off. Joint surfaces should be damp but free from standing water.
- c. Mortar shall be pre-mixed by approved manufacturer. The mortar material shall resemble the consistency of brown sugar during installation. This drier consistency enables the material to be tightly packed into the joint and allows for cleaner work and prevents shrinkage cracks as the mortar cures.
- d. Joints should be pointed in layers or "lifts" where the joints are deeper than 1-1/4 inch. Apply in layers not greater than 1/2 the depth but not more than 1-1/4 inch or until a uniform depth is formed. Compact each layer thoroughly and allow it to become thumbprint hard before applying the next layer.
- e. Lift examples:
 - i. 3/16" joint depth (1/16" joint existing) point in one lift
 - ii. 5/16" joint depth (1/8" joint existing) point in one lift
 - iii. 5/8" joint depth (1/4" joint existing) point in one lift
 - iv. 5/16" joint depth (3/8" joint existing) point in one lift
 - v. 1-1/4" joint depth (1/2" joint existing) point in one lift
 - vi. 1-7/8" joint depth (3/4" joint existing) point in two lifts approx. -1" (each)
 - vii. 2-1/2" joint depth (1" joint existing) point in three lifts approx. +3/4" (ea.) over 2-3/4 joint depth- point in lifts of no more than 1-1/4" (each)
- f. Point all mortar joints to a flat double trowel cut/stipple finish profile.
- g. When mortar is thumbprint hard the joints shall be finished to match the original historic joint profile.
- h. Keep mortar from drying out too quickly. Protection from direct sun, high winds for the first 72 hours after installation. Thoroughly soak the wall a minimum of three times per day for the first 3 days. Protect freshly pointed areas with plastic sheeting for the first 24 hours after installation.
- i. Where pointing work precedes overall cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

3.8. FINISHING TECHNIQUES

- a. Acceptable finishing techniques for redressing, substitute stone and crack repair will be defined during the demonstration and test panel work as approved by the Architect and Owner.
- b. Do not create vibrations in the wall to dislodge or separate bond from previously completed work.

3.9. CLEANING

- a. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or fiber brushes, and clean water, spray applied at low pressure.
- b. Do not use metal scrapers or brushes.
- c. Do not use acidic or alkaline cleaners.
- d. Wash adjacent non-masonry surfaces, if applicable. Use detergent and soft brushes or cloths.
- e. Sweep and rake adjacent pavement and grounds to remove masonry debris. Where necessary, pressure wash surfaces to remove mortar, dust, dirt, and stains.

END OF SECTION 04 01 40

PART 1 – GENERAL

1.1. INSTALLATION ASSURANCE

- a. Slates shall be installed by skilled and experienced roofers who will fit and fasten each slate. Each roofer shall demonstrate relevant experience. Provide project portfolio with references per Section 102.1 Prequalification of Bidder.

1.2. CERTIFICATE

- a. The roofing slate manufacturer shall furnish a certificate stating that materials used for the Project strictly adhere to the provisions of these specifications. The certificate shall also state that any required roof repairs resulting solely from defective materials or workmanship by the manufacturer furnished under this contract shall be made without cost to the Owner for a period of two (2) years.

1.3. PROJECT CONDITIONS

- a. The roofer shall proceed with slate shingle installation only after all penetrating work has been completed correctly, the substrate is dry, and weather conditions are favorable.

PART 2 – PRODUCTS

2.1. ROOFING SLATE

- a. Material
 - i. Classification: Slate shall meet the requirements of Grade S1 per ASTM C-406-06.
 - ii. Color: Shall be semi-weathering grey/green.
 - iii. Roof Style: Shall be standard with uniform widths.
 - iv. Size: Length: 16 x 10 inches. Width: 12 inch, uniform width.
 - v. Shape: Slate shingles shall be rectangular, unless otherwise noted.
 - vi. Exposure: 8 ½ inches.
 - vii. Headlap: Varies by slope.
 - viii. Thickness: Nominal thicknesses of ¼ inch.
 - ix. Nail Holes: Each slate shall be punched for two nails located for proper headlap.
- b. Physical Requirements
 - i. Slates with a strong grain must be produced "on the grain", that is, the direction of the grain of the stone must be parallel to the long dimension of the shingle. Slates shall be randomly selected from each shipment and tested for grain direction to ensure proper fabrication.
 - ii. Slates with broken corners on the exposed ends shall not be installed when either the base or leg of the right triangular piece broken off is greater than 1 ½ inches. Slates with broken corners are acceptable for cutting stock.
 - iii. The curvature of shingles shall not exceed 1/16 inch in 12 inches. Curved slates shall be trimmed and holed to permit them to be laid with the convex side facing up.
 - iv. "Knots" and "knurls" are rounded defects that affect the smoothness of split. They are acceptable on the exposed portion of the top face but on other parts will prevent close contact of shingles. Shingles having knots or knurls on the covered portions projecting in excess of 1/16 inch shall not be used.
 - v. Slates shall be free from ribbons.
 - vi. Not more than 1% of broken slates, including those having cracks materially precluding ringing when sounded, shall be accepted.
 - vii. Face dimensions shall not differ from those specified by more than 1/8 inch.
- c. Approved Slate Supplier
 - i. The slate shall be furnished by:
 - 1. Vermont Structural Slate Company (VSS)
3 Prospect Street, Fair Haven, Vermont, USA
Telephone: 1-800-343-1900 or 802-265-4933
Fax: 802-265-3865
Contact: Ben Champine
Email: ben@vermontstructuralslate.com
Website: www.vermontstructuralslate.com
 - 2. The New England Slate Company
363 VT Route 30 South

Poultney, VT 05764
Telephone: 802-287-2295
Fax: 802-287-2296
Contact: Clay Heald
Email: clay@neslate.com
Website: www.neslate.com

2.2. ROOFING UNDERLAYMENT

- a. Underlayment: High tensile strength polypropylene woven core fabric, coated on both sides with a UV resistant polypropylene containing anti-oxidant additive and slip resistant surface, such as "Sharkskin Ultra" as manufactured by Kirsch Building Product. Substitutes will be allowed. Discuss with architect prior to submitting bid. Substitutions for this product will be allowed pre-bid only
- b. Membrane Underlayment: 100% polypropylene-based self-adhering membrane underlayment, such as "Sharkskin Ultra SA" by Kirsch Building Products. Substitutes will be allowed. Discuss with architect prior to submitting bid. Substitutions for this product will be allowed pre-bid only.

2.3. NAILS

- a. The roofer shall use large head slaters' solid copper nails, 1 3/4 inch (verify that nails do not penetrate fully through roof deck) and 2 inch for slates on hips and ridges. Nails should adequately penetrate the roof deck.

2.4. CAULKING

- a. The roofer shall use approved waterproof elastic slaters' cement, color to match slate.

2.5. FLASHING

- a. The roofer shall use terne coated copper flashing in accordance with Section 07 62 00.

PART 3 – EXECUTION

3.1. ROOFING UNDERLAYMENT INSTALLATION

- a. The roofer shall lay the felt in horizontal layers, with joints lapped toward the eaves at least 2 inches. The felt shall be well secured along laps and at ends as necessary to properly hold the felt in place and protect the structure until the slate has been installed.
- b. The roofer shall lap the felt over all hips and ridges at least 12 inches to form double thickness.
- c. The roofer shall lap the felt 2 inches over the metal of any valleys.

3.2. MEMBRANE UNDERLAYMENT INSTALLATION

- a. The roof decks shall be treated with a self-adhering membrane underlayment. Follow manufacturer's literature for membrane application. Areas to be sheeted with membrane are hips, eaves, low slope areas, all slope changes or tie-ins and protrusions through the roof. Refer to the roof plan.

3.3. SLATE INSTALLATION

- a. Hips shall be mitred.
- b. All ridges shall be laid to form "saddled" ridges. Nails of the combing slate shall pass through the joints of the slates beneath.
- c. Valleys shall be open.
- d. Slate shall project 2 inches at eaves and 1 inch at gable ends, and shall be laid in horizontal courses with 3 inch headlaps, and each course shall break vertical joints with a minimum of 3 inch sidelap. Starter or "undereave" slates and slates at the ridge shall be canted 1/4 inch by a wooden cant strip which shall be provided by the roofer.
- e. Nails shall not be driven as to produce strain on slates. The slate shall be loose when fully nailed.
- f. The roofer shall draw slates from several pallets at once (shuffle) so as to blend the material on the roof.
- g. Exposed nails are only permissible at the top courses where unavoidable. Exposed nail heads shall be covered with elastic cement. Hip slates and ridge slates shall be laid in elastic cement

- 127 spread thickly over unexposed surface of under courses, nailed securely in place, and pointed with
128 elastic cement.
- 129 h. All penetrations such as pipes and ventilators shall have slate neatly fitted around them.
- 130 i. The roofer shall build in, and place, all flashing pieces. Each course of slate shall have copper
131 step-flashing neatly woven into the slate.
- 132 j. Entire surfaces of all roofs, except as noted, shall be covered with slate in a proper and
133 weatherproof manner. Upon completion, all slates must be sound, whole and clean. The roof must
134 be left watertight and neat in every respect, and subject to the Architect's approval.
- 135 k. The Owner shall be furnished with a stock of 2% extra slates for future roof repairs.
- 136
- 137

END OF SECTION 07 31 26

1 PART 1: GENERAL

2
3 1.1. SUMMARY OF WORK

- 4
5 a. This Section includes all labor, material, equipment and related services necessary to furnish and
6 install the following Work.
7 i. Sheet metal eave.
8 ii. Sheet metal counterflashings and receivers.
9 iii. Miscellaneous sheet metal and accessories associated with roofing.

10
11 1.2. QUALITY CONTROL

- 12
13 b. There shall be no deviation made from this Specification or the approved shop drawing without
14 prior written approval by the Manufacturer and Architect.
15 c. Shop drawings of proposed alternate details shall be submitted to Architect for approval prior to
16 start of construction.
17 d. Proposed alternate details and application procedures shall comply with the intent of these
18 Specifications, Drawings and/or Manufacturer's recommendations.

19
20 1.3. REFERENCES

- 21
22 e. References shall refer to the most recent standard.
23 i. American Society for Testing and Materials (ASTM).
24 ii. Sheet Metal and Air Conditioning Contractor's National Association (SMACNA).
25

26 1.4. CONTRACTOR REQUIREMENTS

- 27
28 f. The Contractor shall not change the Project Foreman without prior approval of the Architect.
29 g. The Contractor shall not change the crew without 5 days notice to the Architect.
30 h. The Contractor's Foreman shall be present on the job site during work hours.
31 i. A competent Foreman shall oversee all roofing work. The Foreman shall have the authority to
32 remove unfit workers from the project along with wet, damaged or unsuitable materials. All workers
33 shall be skilled in the application of the materials and all workmanship shall be of the highest
34 quality.
35 j. Roofing work shall not be performed when adverse weather conditions are existing, forecasted or
36 when indications of moisture are present. Roofing materials shall not be applied before sunrise.
37 k. Roofing work shall not be performed when air temperatures are (or are expected to be) below 40°F.
38 l. All Work that requires saw cutting, vacuuming and other similar functions that create substantial
39 noise and/or vibration shall be coordinated well in advance of the Work with the Owner and the
40 Architect.
41 m. Prior to the start of the Project, and daily after the start, the Contractor shall review the type of
42 space below the roof being worked on, and comply with all special requirements due to occupancy
43 type.
44 n. Take all necessary precautions to protect the Owner's property as well as adjacent property,
45 including trees, shrubs, buildings, sanitary and storm sewers, water piping, gas piping, electric
46 conduit or cable, etc., from any and all damage which may result due to Work on this Project.
47 o. The Contractor shall provide a waterproof roof throughout the duration of this project. At the
48 Contractor's expense, the Contractor shall repair or replace (as determined by the Architect) any
49 Work or property damaged by failure to provide a waterproof roof.
50

51 1.5. SUBMITTALS

- 52
53 p. Submit shop drawings. Details required for roof system installation that are not shown or differ
54 from the Specifications shall be submitted to the Architect. All dimensions and installation methods
55 shall be detailed on shop drawings.
56 q. Submit a list of materials for use in the Work.
57 r. Submit standard samples for approval.
58 s. Submit shop drawing of eave.
59 t. Submit shop drawing of counterflashing and receiver.
60 u. A total of three (3) copies of each submittal are required.

1.6. MATERIAL HANDLING

- v. Deliver all materials in Manufacturer's original, unopened packaging with Manufacturer's labels intact and legible and store as required by the Manufacturer.
- w. All materials sensitive to moisture and UV radiation shall be covered with a properly secured, water-resistant, breathable covering, such as canvas tarps at the end of each work period and during adverse weather. The Manufacturers' shrink wrap covering shall be slashed. Materials shall be raised above the ground or roof and placed on pallets or platforms.
- x. Do not overload the roof deck or structural assembly.
- y. Do not transport roofing materials over or store materials on a finished roof section, without prior approval of the Architect.
- z. The Contractor shall replace at his own expense all materials damaged due to improper handling.

1.7. WARRANTIES

- aa. Furnish two copies of the following to the Architect:
 - i. Contractor's Warranty: The Contractor shall warrant, the workmanship in writing for a period of two (2) years following completion and that the Work has been installed according to material Manufacturer's current specifications and according to this Specification. The warranty shall cover labor and materials.

PART 2: PRODUCTS

The Contractor shall provide the following materials, as required.

2.2. MANUFACTURERS

- a. Provide materials from the Manufacturers listed in this section.
- b. Materials shall meet all specified standards.
- c. All materials shall be new unless noted otherwise.
- d. New materials shall not contain asbestos.

2.3. MATERIALS

- a. **All Sheet Metal:** Terne coated copper such as "Freedom Gray" by Revere. No substitutions will be allowed.
- b. Fasteners (Miscellaneous)
 - ii. Fasteners such as nails, screws, etc. shall be of same material as metal flashing on which they are used. They shall be of type and size as shown on the Drawings or specified herein.
 - iii. Screws used to secure metal to blocking shall be #8 minimum, penetrate wood blocking minimum 1-1/2" and shall have metal washers and watertight neoprene washers under hex head. The installed withdrawal resistance shall be a minimum of 150 pounds per screw.
 - iv. Fasteners used to secure metal to metal shall be hardened, self-tapping, sheet metal gimlet point type, with hex/washer head and be of compatible material.
 - v. Fasteners used to secure sheet metal to masonry or stone shall be 1/4" minimum diameter metal expansion stud anchors in pre-drilled holes such as "Kwik-Bolt II Stud Expansion Anchor" by Hilti, Inc. or approved equal. Space fasteners at 24" o.c. maximum spacing.
 - vi. Fasteners used to secure gutter spacers to hemmed edge shall be 3/8" diameter cadmium plated nut, bolt and washer assemblies.
- c. Solder: FS QQ-S-571 or ASTM B32. Use 50/50 for all applicable work unless otherwise specified.
- d. Soldering Flux: FS O-F-506, type best suited for specific material.
- e. Other Materials: All other materials not specifically described but required for a complete and proper installation of the Work in this Section, shall be as selected by the Contractor subject to the approval by the Architect.

2.4. FABRICATION

- a. Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- b. Provide cross-break to top surface of coping metal and at all exposed surfaces of all metals which exceed 8" in cross dimension.
- c. Fascia Panel Assembly
 - vii. Fabricate side lap joints in male/female configuration for air and water tightness and structural integrity between adjacent panels.
 - viii. Fabricate side lap joints to permit concealed fastening of panels to structure.
 - ix. Fabricate panels with a flatness deviation not to exceed 0.030" in 18" in any direction when measured with a metal straight edge.
 - x. Panels exhibiting rippling, waving or oil canning exceeding 0.030" in 18" in any direction when measured with a metal straight edge will be rejected.

PART 3: EXECUTION

3.1. EXAMINATION

- a. Examine supporting members and substrate for layout, alignment and soundness.
- b. Verify that surfaces are free from debris and unnecessary protrusions.

3.2. INSTALLATION

- a. Counterflashing
 - i. Saw-cut mortar joints to form new reglet approximately 1" minimum uniform depth at elevation of a minimum 10" above the surface of the roof membrane, as shown on the Drawings.
 - ii. Secure spring locked reglet receivers in clean and sound saw cuts at mortar joint.
 - iii. The reglet receiver shall be notched and lapped at all corners and joints.
 - iv. Secure flashings to reglet receivers using specified type fasteners at 18" o.c. maximum and as noted on the Drawings.
 - v. Fit flashing tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
 - vi. The counterflashing shall be notched and lapped at inside corners and joints and seamed at outside corners.
 - vii. Maintain lines of constant elevation around entire perimeter unless noted otherwise on the Drawings.
 - viii. Apply continuous bead of sealant to masonry/metal intersection at top of reglet. Tool to smooth finish.
 - ix. Where existing structural expansion joint intersects sheet metal work, provide "slip joint" in sheet metal work to accommodate movement of the structure.
- b. Drip Edge
 - i. Install Work with laps of 1-1/2" minimum dimension.
 - ii. Install continuous cleat at location(s) as shown on the Drawings.
 - iii. Secure in place using specified type fasteners as shown on the Drawings.
 - iv. Section lengths shall be contained to 10' lengths or less. Permit movement of metal by allowing 1" between section lengths and securing each length twice at its mid-point through the top surface into the substrate beneath.
 - v. The flashing shall be notched and lapped at inside corners and joints and seamed at outside corners.
 - vi. Fit flashing tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
 - vii. Maintain lines of constant elevation around entire perimeter.
 - viii. Where existing structural expansion joint intersects sheet metal work at hand, discontinue fascia at intersection and bridge joint with slipcover to match new sheet metal section profile.

END OF SECTION 07 62 00

1 PART 1: GENERAL

2
3 1.1. SUMMARY OF WORK

- 4
5 a. This Section includes all labor, materials and equipment necessary to perform the following Work:
6 i. Removal of all existing caulking/sealant to be replaced.
7 ii. Preparation of all surfaces to receive new sealant work.
8 iii. Application of the joint waterproofing sealant.
9 iv. Clean up.

10
11 1.2. QUALITY CONTROL

- 12
13 a. The Manufacturer of the sealant system shall have a minimum of five (5) years experience in the
14 manufacture of waterproof coatings and sealants.

15
16 1.3. SUBMITTALS

- 17
18 a. Manufacturer's Literature: Submit three (3) complete sets of Manufacturer's literature and technical
19 data for the sealant system.
20 b. Contractor's Certificate: Submit copies of "Licensed Applicator's Certificate" issued by the
21 Manufacturer.
22 c. A total of three (3) copies of each submittal is required, unless noted otherwise.

23
24 1.4. MATERIAL HANDLING

- 25
26 a. Delivery and Storage of Materials
27 i. Deliver all materials in their original unopened containers with all markings intact.
28 ii. All materials must be stored in a dry place or otherwise protected from water or extreme
29 humidity.
30 iii. Stack material on pallets at least 4" above the ground and cover with a breathable
31 covering, such as canvas.
32 iv. Store sealants in the manner and temperature range recommended by the Manufacturer.
33 b. Handling Materials
34 i. Do not store or transport materials on the roof in a manner that may exceed the live load
35 capacity of the deck system or the structure. The Architect, during routine inspections,
36 may make recommendations as to loading.
37 ii. Do not transport materials over or store materials on a finished section without prior
38 approval of Architect.

39
40 1.5. WARRANTIES

- 41
42 a. The sealant Manufacturer and the Contractor shall warrant the performance of the sealant system
43 for a period of five (5) years starting from the date of acceptance by the Architect. Such warranty
44 shall include material as well as labor for application. Damage and/or failure due to acts of God
45 and vandalism, may be excluded from such warranty.

46
47 PART 2: PRODUCTS

48
49 The Contractor shall provide the following materials, as required.

50
51 2.1. MANUFACTURERS

- 52
53 a. Provide materials from the following Manufacturers:
54 i. SIKA Corp.
55 ii. Sonneborn Building Products
56 iii. Tremco, Inc.
57 iv. Soudal
58 b. Materials shall meet all specified standards.
59 c. All materials shall be new unless noted otherwise.
60 d. New materials shall not contain asbestos.
61
62
63

2.2. MATERIALS

- a. Sealant: A hybrid multi-component chemically curing polyurethane joint sealant meeting the requirements of ASTM C920 Type M, Grade P, Class 25 Standards. Sealant material shall be polyurethane elastomer based, meeting or exceeding minimum physical properties as listed in Section 2.3, and capable of producing a seamless waterproof joint seal. Color shall be chosen to most closely match that of the adjacent limestone/masonry, or, non-staining and no-tack, soft type with high elongation properties and shall be so designated on the label by the Manufacturer such as "Sikaflex 1a" by SIKA Corp., "Sikaflex 2c NS/SL" by SIKA Corp., "Sonolastic NP1" by Sonneborn Building Products, "Dynatrol II" by Pecora Corp., "Dimonic" by Tremco, Inc. or "SoudaSeal" by Soudal. Follow all Manufacturers' previously submitted recommendations for type required at joints. Use non-sag at all joints. All sealants must take latex and oil base paint.
- b. Joint Cleaning Compound: As recommended by the sealant Manufacturer for the joint surfaces to be cleaned.
- c. Joint Primer/Sealer: As recommended by the sealant Manufacturer for the joint surface to be primed or sealed. All surfaces to which sealant is intended to bond shall be primed.
- d. Bond Breaker Tape: Polyethylene tape or other plastic tape as recommended by the sealant Manufacturer to be applied to sealant-contact surfaces where bond to the substrate or joint filler must be avoided for proper performance of sealant. Provide self-adhesive tape where applicable.
- e. Sealant Backer Rod: Compressible rod stock polyethylene foam, polyethylene jacketed and polyurethane foam or other flexible, permanent, durable non-absorptive material as recommended for the compatibility with sealant by the sealant Manufacturer; which will control the joint depth for sealant placement, break bond of sealant at bottom of joint, form optimum shape of sealant bead on back side, and provide a highly compressible backer to minimize the possibility of sealant extrusion when the joint is compressed. Backer rod shall be at least larger than the width of the joint. Refer to manufacturer recommendations for backer rod size. Coordinate with Architect.

2.3. TYPICAL PERFORMANCE CHARACTERISTICS

A. T-S-00227E and 19-GP-24 test method:
Adhesion-In-Peel

Mortar 6.3 kg (14 lbs)
Anodized aluminum 8.2 kg (18 lbs)
Granite 7.3 kg (16 lbs)
Minimum requirement 2.26 kg (5 lbs)
Passed (on mortar, granite and anodized aluminum at
± 25% movement)
None up to 50°C (122°F)
25 (Shore A) after 7 days at 24°C (75°F), plus 21 days
at 70°C (158°F)
96% after 7 days at 24°C (75°F), plus 21 days at 70°C
(158°F)
Up to 7 hours at 24°C (75°F)
Less than 72 hours at 24°C (75°F)
-54°C (-65°F)
None

Durability (Bond and Cohesion)

Sagging
Hardness

Percent Solids

Pot Life
Tack-Free Time
Low Temperature Flexibility
Staining

B. Other Test Methods:

Hardness

ASTM D2240

Extension and Compression and
Cycle

TRC-ST/450

Ultra-Violet Resistance

TRC-ST/448

Average 35 (Shore A) after 5 years

1/2" X 1/2" (12 mm X 12 mm) at 24°C (75°F) will withstand 100
cycles of 40% extension and 25% compression

No adverse effects after 5 weeks' exposure to 14-25 E-Viton of UV
energy at 70°C (158°F)

Accelerated Aging
ASTM E42, Method E

No adhesive or cohesive failure, nor significant changes at 8,000
hours

PART 3: EXECUTION

3.1. EXAMINATION

- a. The Contractor shall have the sole responsibility for the accuracy of all measurements and for the estimate of material quantities required and necessary to satisfy the requirements of these Specifications.

3.2. SEQUENCING/SCHEDULING

- a. Remove only as much sealant work as can be restored to a weathertight condition each day and before showers commence.
- b. All sealant work shall be completed each day on the section being worked on.
- c. The Contractor shall not proceed with the sealant work until all unsatisfactory conditions detrimental to the proper and timely completion of the sealant work have been corrected.

3.3. SUBSTRATE PREPARATION

- a. Remove all debris from working surfaces. Remove all loose materials.
- b. Thoroughly clean all surface areas involved to remove dirt, oils, grease, heavy laitance, for release agent, curing compound, and other contaminants, which would interfere with the application and performance of the sealant, in accordance with the Manufacturer's recommendations.
- c. Remove all foreign projections in the joint by grinding or other suitable methods.
- d. Prime all surfaces requiring adhesion of sealant.
- e. Install the sealant material under conditions where rain is not anticipated within eight hours of application and substrate surface temperatures are above 40°F and below 110°F.

3.5. SEALANT APPLICATION – TWO STAGE

- a. This shall be done at all coping stone joint details.
- b. All material shall be applied in strict accordance with the Manufacturer's recommendations.
- c. All surfaces to receive the sealant system shall be air-dried a minimum of 24 hours immediately prior to performing Work.
- d. Where Manufacturer's specifications are more stringent or require more material than specified herein, follow the Manufacturer's specifications.
- e. Primer
 - i. Apply the concrete primer at the rate of 225 square feet per gallon. Evenly apply two consecutive coats to the joint interface to produce a continuous film.
 - ii. Allow the primer to dry for 45 minutes or until tack-free.
 - iii. Do not apply more primer than can be coated over within 8 hours.
 - iv. Do not apply primer to adjacent surfaces not scheduled for sealant to prevent staining.
- f. Joint Backing Stage I
 - i. Joint backing shall be used to control the depth of joint to the recommended dimension.
 - ii. Select a size, to allow for 25% minimum compression of the backing when inserted into the joint.
 - iii. Where depth of joint will not permit use of joint backing, a bond-breaker tape must be installed to prevent three-sided adhesion.
- g. Sealant Stage I
 - i. Mix according to Manufacturer's detailed instructions.
 - ii. Minimum mixing time: 6 minutes.
 - iii. Apply with conventional sealant equipment, filling joint completely.
- h. Tooling Stage I
 - i. Immediately after application, tooling shall be employed to insure firm, full contact with the inner faces of the joint.
 - ii. Dry tooling is preferred. Tooling agents can be used.
- i. Cleaning Stage I
 - i. Remove immediately all excess sealant adjacent to the joint with "Xylol" or "Toluol" as work progresses.
 - ii. Avoid staining of adjacent areas.
 - iii. At the conclusion of the sealant Work, remove all tools, scaffolding, equipment, construction materials and construction debris from the site.

- j. Joint Backing Stage II
 - iv. Joint backing shall be used to control the depth of joint to the recommended dimension.
 - v. Select a size, to allow for 25% minimum compression of the backing when inserted into the joint.
 - vi. Where depth of joint will not permit use of joint backing, a bond-breaker tape must be installed to prevent three-sided adhesion.
- k. Sealant Stage II
 - iv. Mix according to Manufacturer's detailed instructions.
 - v. Minimum mixing time: 6 minutes.
 - vi. Apply with conventional sealant equipment, filling joint completely.
- l. Tooling Stage II
 - iii. Immediately after application, tooling shall be employed to insure firm, full contact with the inner faces of the joint.
 - iv. Dry tooling is preferred. Tooling agents can be used.
- m. Cleaning Stage II
 - iv. Remove immediately all excess sealant adjacent to the joint with "Xylol" or "Toluol" as work progresses.
 - v. Avoid staining of adjacent areas.
 - vi. At the conclusion of the sealant Work, remove all tools, scaffolding, equipment, construction materials and construction debris from the site.

Install Stage II sealant after Stage I sealant has cured sufficiently. Refer to manufacturer's recommendations. Make certain that each stage is allowed to work independently and that all sealant has ample opportunity to fully cure.

END OF SECTION 07 90 00



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Kathleen M. Cryan

Mapping Section Manager
Eric T. Pederson, P.S.

Financial Manager
Steven B. Danner-Rivers

April 20, 2015

**NOTICE OF ADDENDUM
ADDENDUM 1
FOREST HILL CEMETERY- JOHN CATLIN CHAPEL ROOF REPLACEMENT
CONTRACT NO. 7478**

Revise and amend the contract document(s) for the above project as stated in this addendum, otherwise, the original document shall remain in effect.

The work for this contract necessitated a new prequalification category of 499 Historic Slate Roofing. The following contractors have been prequalified under this category:

Renaissance Roofing, Inc
2231 Hawkey Drive
Belvidere, IL 61008
(815) 547-1725
www.claytileroof.com

Millen Roofing Company
8747 North 107th Street
Milwaukee, WI 53224-2201
(414) 371-8850
www.millenroofing.com

The following questions were submitted by a Contractor:

1. Who is responsible for buying the stainless steel counter flashing on the roof side?

Answer: Roofer.

2. Who is installing the stainless flashing on the roof side?

Answer: Roofer.

3. Who is responsible for buying the stainless steel concealed drip under the stone and installing it?

Answer: Roofer.

Specifications:

1. Replace Specification section 07 31 26 – SLATE SHINGLES with revised section 07 31 26 – SLATE SHINGLES – ADDENDUM NO. 1, see attached.

2. Insert, in its entirety, Specification section 07 56 00 – FLUID-APPLIED ROOFING ADDENDUM NO. 1, see attached.

3. Replace Specification section 07 62 00 – SHEET METAL FLASHING AND TRIM with revised section 07 62 00 – SHEET METAL FLASHING AND TRIM – ADDENDUM NO. 1, see attached.

April 20, 2015
Page 2

Drawings:

1. SHEET A6: Amend drawing sheet A6 as indicated on revised drawing sheet A6, see attached.
Please acknowledge this addendum on page E1 of the contract documents and/or in Section E: Bidder's

Please acknowledge this addendum on page E1 of the contract documents and/or in Section E: Bidder's Acknowledgement on Bid Express.

Electronic version of these documents can be found on the Bid Express web site at:

<http://www.bidexpress.com>

If you are unable to download plan revisions associated with the addendum, please contact the Engineering office at 608-266-4751 receive the material by another route.

A handwritten signature in black ink, appearing to read "Robert Phillips". The signature is stylized with large, flowing loops.

Robert F. Phillips, P.E., City Engineer

FOREST HILL CEMETERY
JOHN CATLIN CHAPEL ROOF REPLACEMENT SECTION 07 31 26 – SLATE SHINGLES – REVISED
CONTRACT NO.: 7478

Addendum No. 1

PART 1 – GENERAL

1.1. INSTALLATION ASSURANCE

- a. Slates shall be installed by skilled and experienced roofers who will fit and fasten each slate. Each roofer shall demonstrate relevant experience. Provide project portfolio with references per Section 102.1 Prequalification of Bidder.

1.2. CERTIFICATE

- a. The roofing slate manufacturer shall furnish a certificate stating that materials used for the Project strictly adhere to the provisions of these specifications. The certificate shall also state that any required roof repairs resulting solely from defective materials or workmanship by the manufacturer furnished under this contract shall be made without cost to the Owner for a period of two (2) years.

1.3. PROJECT CONDITIONS

- a. The roofer shall proceed with slate shingle installation only after all penetrating work has been completed correctly, the substrate is dry, and weather conditions are favorable.

PART 2 – PRODUCTS

2.1. ROOFING SLATE

a. Material

- i. Classification: Slate shall meet the requirements of Grade S1 per ASTM C-406-06.
- ii. Color: Shall be semi-weathering grey/green.
- iii. Roof Style: Shall be standard with uniform widths.
- iv. Size: Length: 16 x 10 inches. Width: 12 inch, uniform width.
- v. Shape: Slate shingles shall be rectangular, unless otherwise noted.
- vi. Exposure: 8 1/2 inches.
- vii. Headlap: Varies by slope.
- viii. Thickness: Nominal thicknesses of 1/4 inch.
- ix. Nail Holes: Each slate shall be punched for two nails located for proper headlap.

b. Physical Requirements

- i. Slates with a strong grain must be produced "on the grain", that is, the direction of the grain of the stone must be parallel to the long dimension of the shingle. Slates shall be randomly selected from each shipment and tested for grain direction to ensure proper fabrication.
- ii. Slates with broken corners on the exposed ends shall not be installed when either the base or leg of the right triangular piece broken off is greater than 1 1/2 inches. Slates with broken corners are acceptable for cutting stock.
- iii. The curvature of shingles shall not exceed 1/16 inch in 12 inches. Curved slates shall be trimmed and holed to permit them to be laid with the convex side facing up.
- iv. "Knots" and "knurls" are rounded defects that affect the smoothness of split. They are acceptable on the exposed portion of the top face but on other parts will prevent close contact of shingles. Shingles having knots or knurls on the covered portions projecting in excess of 1/16 inch shall not be used.
- v. Slates shall be free from ribbons.
- vi. Not more than 1% of broken slates, including those having cracks materially precluding riving when sounded, shall be accepted.
- vii. Face dimensions shall not differ from those specified by more than 1/8 inch.

c. Approved Slate Suppliers

i. The slate shall be furnished by:

1. Vermont Structural Slate Company (VSS)
3 Prospect Street, Fair Haven, Vermont, USA
Telephone: 1-800-343-1900 or 802-265-4933
Fax: 802-265-3865
Contact: Ben Champine
Email: ben@vermontstructuralslate.com
Website: www.vermontstructuralslate.com
2. The New England Slate Company
363 VT Route 30 South

07 31 26.1

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Poultney, VT 05764
Telephone: 802-287-2295
Fax: 802-287-2296
Contact: Clay Heald
Email: clay@neslate.com
Website: www.neslate.com
3. Greenstone Slate Company, Inc.
325 Upper Road - PO Box 134
Poultney, VT 05764
Telephone: 802-287-4333, Ext: 11
Contact: Bob Geroux
Email: bob@greenstoneslate.com
Website: www.greenstoneslate.com

2.2. ROOFING UNDERLAYMENT

- a. Underlayment: High tensile strength polypropylene woven core fabric, coated on both sides with a UV resistant polypropylene containing anti-oxidant additive and slip resistant surface, such as "Sharkskin Ultra" as manufactured by Kirsch Building Product. Substitutes will be allowed. Discuss with architect prior to submitting bid. Substitutions for this product will be allowed pre-bid only
- b. Membrane Underlayment: 100% polypropylene-based self-adhering membrane underlayment, such as "Sharkskin Ultra SA" by Kirsch Building Products. Substitutes will be allowed. Discuss with architect prior to submitting bid. Substitutions for this product will be allowed pre-bid only.

2.3. NAILS

- a. The roofer shall use large head slaters' solid copper nails, 1 1/4 inch (verify that nails do not penetrate fully through roof deck) and 2 inch for slates on hips and ridges. Nails should adequately penetrate the roof deck.

2.4. CAULKING

- a. The roofer shall use approved waterproof elastic slaters' cement, color to match slate.

2.5. FLASHING

- a. The roofer shall use terne coated copper flashing in accordance with Section 07 62 00.

PART 3 - EXECUTION

3.1. ROOFING UNDERLAYMENT INSTALLATION

- a. The roofer shall lay the felt in horizontal layers, with joints lapped toward the eaves at least 2 inches. The felt shall be well secured along laps and at ends as necessary to properly hold the felt in place and protect the structure until the slate has been installed.
- b. The roofer shall lap the felt over all hips and ridges at least 12 inches to form double thickness.
- c. The roofer shall lap the felt 2 inches over the metal of any valleys.

3.2. MEMBRANE UNDERLAYMENT INSTALLATION

- a. The roof decks shall be treated with a self-adhering membrane underlayment. Follow manufacturer's literature for membrane application. Areas to be sheeted with membrane are hips, eaves, low slope areas, all slope changes or tie-ins and protrusions through the roof. Refer to the roof plan.

3.3. SLATE INSTALLATION

- a. Hips shall be mitred.
- b. All ridges shall be laid to form "saddled" ridges. Nails of the combing slate shall pass through the joints of the slates beneath.
- c. Valleys shall be open.
- d. Slate shall project 2 inches at eaves and 1 inch at gable ends, and shall be laid in horizontal courses with 3 inch headlaps, and each course shall break vertical joints with a minimum of 3 inch

FOREST HILL CEMETERY

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

JOHN CATLIN CHAPEL ROOF REPLACEMENT SECTION 07 31 26 - SLATE SHINGLES - REVISED
CONTRACT NO.: 7478

- 127 sidelap. Starter or "undereave" slates and slates at the ridge shall be canted $\frac{1}{4}$ inch by a wooden
128 cant strip which shall be provided by the roofer.
129 e. Nails shall not be driven as to produce strain on slates. The slate shall be loose when fully nailed.
130 f. The roofer shall draw slates from several pallets at once (shuffle) so as to blend the material on the
131 roof.
132 g. Exposed nails are only permissible at the top courses where unavoidable. Exposed nail heads
133 shall be covered with elastic cement. Hip slates and ridge slates shall be laid in elastic cement
134 spread thickly over unexposed surface of under courses, nailed securely in place, and pointed with
135 elastic cement.
136 h. All penetrations such as pipes and ventilators shall have slate neatly fitted around them.
137 i. The roofer shall build in, and place, all flashing pieces. Each course of slate shall have copper
138 step-flashing neatly woven into the slate.
139 j. Entire surfaces of all roofs, except as noted, shall be covered with slate in a proper and
140 weatherproof manner. Upon completion, all slates must be sound, whole and clean. The roof must
141 be left watertight and neat in every respect, and subject to the Architect's approval.
142 k. The Owner shall be furnished with a stock of 2% extra slates for future roof repairs.
143
144

END OF SECTION 07 31 26

FOREST HILL CEMETERY
JOHN CATLIN CHAPEL ROOF REPLACEMENT
CONTRACT NO.: 7478

DIVISION 07 – THERMAL AND MOISTURE PROTECTION
SECTION 07 56 00 – FLUID-APPLIED ROOFING

Addendum No. 1

1 PART 1: GENERAL

2
3 1.1. CONDITIONS OF THE CONTRACT

- 4
5 a. The conditions of the Contract (General, Supplementary and Other Conditions) and the
6 requirements of Division 1 are hereby made a part of this Section. Applicable provisions of Division
7 1 shall govern Work under this Section.

8
9 1.2. WORK INCLUDED

- 10
11 a. This Section includes all labor, material, equipment and related services necessary to perform the
12 following Work. All Work shall be installed as shown on the Drawings and as specified herein.
13 i. Furnish and install new fluid-applied flashing membrane at gable parapets as shown on
14 the drawings.

15
16 1.3. RELATED SECTIONS

- 17
18 a. Section 07 62 00 - Sheet Metal Flashing and Trim
19 b. Section 07 90 00 - Sealants

20
21 1.4. QUALITY ASSURANCE

- 22
23 a. The membrane Manufacturer shall have a minimum ten (10) years experience specializing in fluid-
24 applied flashing membranes.
25 b. The applicator shall have a minimum five (5) years documented experience specializing in fluid-
26 applied flashing membranes.
27 c. The flashing system must be applied by a roofing Subcontractor authorized by the roof system
28 Manufacturer.
29 d. The membrane Manufacturer shall approve all components used in the system.
30 e. At start of new membrane installation, Manufacturer's Representative shall visit the job site to
31 ensure that the installation begins correctly with all installation procedures and guidelines being
32 followed and notify the Architect of his findings. Failure to notify constitutes acceptance of the work
33 of his licensed applicator (the Subcontractor) by the Manufacturer.
34 f. Upon 50 percent completion of the project, the membrane Manufacturer's Representative shall
35 inspect the installation for adherence to installation procedures and guidelines. The installation
36 shall be inspected more frequently if deemed necessary by the Manufacturer, Architect, Owner or
37 Contractor.
38 g. Upon completion of the installation, an inspection shall be made by the membrane Manufacturer's
39 Representative to ascertain that the roof system has been installed according to the applicable
40 membrane Manufacturer's specifications.
41 h. All the above indicated job visits shall be documented in writing by the membrane Manufacturer's
42 Representative indicating all problems, concerns, recommendations and directives given to the
43 roofing Subcontractor regarding membrane system installation. Copies shall be provided to the
44 Architect within ten (10) days of the inspection date.
45 i. It is the Contractor's responsibility to arrange the Manufacturer's Representative's inspections.
46 j. There shall be no deviation made from this Specification without prior written approval by the
47 Manufacturer and Architect.
48 k. Shop drawings of proposed alternate details shall be submitted to the Architect for approval prior to
49 the start of construction.
50 l. Proposed alternate details and application procedures shall comply with the Specifications,
51 Drawings and Manufacturer's recommendations.
52 m. The Contractor shall keep a copy of the membrane Manufacturer's installation instructions and
53 these Specifications on site at all times.

54
55 1.5. REGULATORY REQUIREMENTS

- 56
57 a. Materials and construction shall meet the following:
58 i. Underwriters Laboratories, Inc. (UL): Class A Fire Hazard Classification.
59 ii. Factory Mutual Engineering Corporation (FM): Windstorm Resistance Classification, FM
60 Data Sheets 1-28 and 1-49 (Class I-90 Construction); Fire Classification, Class 1 (FM
61 Approval Standards).

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SECTION 07 56 00 – FLUID-APPLIED ROOFING

- iii. International Conference of Building Officials (ICBO)
- iv. Regional, State and Local Building Codes and/or Ordinances.

1.6. REFERENCES

- a. References shall refer to the most recent standard.
 - i. American Society for Testing and Materials (ASTM)
 - ii. Federal Specifications (FS)
 - iii. Factory Mutual System (FM)

1.7. SPECIAL ROOFING CONTRACTOR REQUIREMENTS

- a. The roofing Subcontractor shall provide a Project Foreman with a minimum of five (5) years documented experience in the supervision of the membrane system installation and shall be knowledgeable in the type of membrane system specified herein.
- b. The Subcontractor shall not change Foreman or crew without prior approval of the Architect.
- c. The Subcontractor's Foreman shall be present on the job site during the majority of work hours and shall be accessible at all times to ensure good Project coordination and communication.
- d. During the workday, should the weather conditions appear to be changing adversely, the Foreman shall take preventative measures to allow the roof to be closed to a watertight condition to avoid exposure of buildings, equipment and materials.
- e. All Work that requires saw cutting, vacuuming and other similar functions that create substantial noise and/or vibration shall be coordinated well in advance of the Work with the Owner and the Architect.
- f. Take all necessary precautions to protect the Owner's property as well as adjacent property, including trees, shrubs, buildings, sanitary and storm sewers, water piping, gas piping, electric conduit or cable, etc. from any and all damage which may result due to work on this Project.
- g. Repair any Work, damaged by failure to provide proper and adequate protection, to its original state to the satisfaction of the Owner or remove and replace with new Work at the Contractor's expense.

1.8. SUBMITTALS

- a. Submit shop drawings as required. Drawings shall show roof edge condition details, roof penetration flashing details, standard roof section and all other details required for proper roof system installation that are not shown in, or that differ from, the Specifications and Drawings.
- b. Submit product data for all materials for use in the Work, including installation temperature ranges.
- c. Submit Manufacturer's Installation Instructions.
- d. A total of three (3) copies of each submittal are required.

1.9. PRODUCT DELIVERY, STORAGE AND HANDLING

- a. Deliver all materials in Manufacturer's original, unopened containers with Manufacturer's labels intact and legible.
- b. Materials shall be stored so as to protect them completely from damage by the elements and temperatures. Storage of materials on ground and/or rooftop shall be protected with waterproof canvas covering and stored on raised platforms. The use of pallets or similar type equipment will be acceptable.
 - i. Waterproof canvas covering shall be applied in a watertight manner and securely tied at the end of each workday or work period.
 - ii. Use of Manufacturer's product protection wrapping is not acceptable for worksite type protection. Wrapping shall be side-punctured, end-punctured or slashed before covering with canvas.
 - iii. No tears in the waterproof canvas covering will be allowed.
- c. Material storage in warehouse, storage trailer, or tent is recommended.
- d. Keep lids tightly sealed on all emulsions, solvent-based adhesives and cements to keep volatiles from escaping.
- e. Handling Materials
 - i. Do not store or transport materials on the roof in a manner that may exceed the live load capacity of the roof deck system or the structure. The Architect during routine observations may make recommendations as to loading.

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Addendum No. 1

- ii. The Contractor's Foremen shall have a hand held thermometer on the roof to check application temperature.

1.10. ENVIRONMENTAL REQUIREMENTS

- a. Do not apply flashing membrane during inclement weather or when air temperature is below (or is expected to be below) 40°F (5°C).
b. Do not start tear off of existing materials when inclement weather is expected.

1.11. GUARANTEES, WARRANTIES, CERTIFICATES

- a. Furnish two copies of the following to the Architect:
- i. Contractor's Warranty: The Contractor shall warrant, in writing, that the roof system shall remain leak free for a period of two (2) years following completion and that the membrane system has been installed according to material Manufacturer's current specification. The warranty shall cover labor and materials. The MRCA printed guarantee shall be used as a standard.
 - ii. Membrane Manufacturer's No Dollar Limit Warranty: The membrane system Manufacturer shall furnish a Cost of Repair/Replacement Manufacturer's Materials Roofing Guarantee. The guarantee shall include the cost of repairs or replacement of the roof membrane and flashing system damaged as a result of the roof membrane and flashing system failure or as a result of workmanship for a period of twenty (20) years from the date of completion. The guarantee shall cover both labor and materials.
 - iii. Membrane Manufacturer's Owner Service Manual: Provide for the Owner an informational manual to include the Manufacturer's approved emergency repair procedures and materials, maintenance procedures and customer service information.

PART 2: PRODUCTS

The Contractor is responsible for furnishing the following materials in the amount required for completion of the entire Project specified herein.

2.1. ACCEPTABLE MANUFACTURERS

- a. Provide products by Manufacturers specified herein, which meet or exceed standards as set forth in this Section.
b. No material specified or approved shall contain asbestos.
c. All materials shall be new unless noted otherwise.

2.2. MATERIALS

- a. Fluid Applied Flashing Membrane: "Kemperol BR," is a two-component with catalyst, high performance seamless and self-terminating cold fluid applied reinforced unsaturated polyester membrane system, as manufactured by Kemper System, Inc., or approved equal.
b. Other Materials: All other materials not specifically described but required for a complete and proper installation of the work in this Section, shall be as selected by the Contractor subject to approval by the Architect.

PART 3: EXECUTION

3.1. DEFINITIONS

- a. The term "phased construction" or "phased application" shall mean the roof system construction or application process in which all parts of cross-section of the roof membrane and flashing system are not completed for a particular roof area during one day or work period.

3.2. EXAMINATION

- a. The Contractor and roofing Subcontractor shall have the sole responsibility for the accuracy of all measurements and for the estimate of material quantities required and necessary to satisfy the

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requirements of these Specifications.

3.3. WORKMANSHIP

- a. All roofing work shall be accomplished with a Foreman fully trained and knowledgeable in the application procedures of the specified materials. The Foreman shall oversee the work of all working personnel who are thoroughly skilled in the application of specified materials. All workmanship to be of the very best quality and shall be done in such a manner as to fulfill the intent of the Drawings and Specifications.
- b. Weather Condition Limitations: Proceed with roofing work only when existing and forecasted weather conditions will permit Work to be performed in accordance with the requirements of this Specification.
- c. After starting the Work, the Contractor shall be responsible for complete moisture integrity of the roof membrane and flashing system and for providing a properly applied roof membrane and flashing system. Therefore, the Contractor and roofing Subcontractor shall:
 - i. Establish and follow application procedures to insure that adequate quantities of materials are used.
 - ii. Maintain competent Foreman continuously supervising the Work with authority to discard unsuitable materials and remove unsatisfactory workmen from the Project.
 - iii. Observe all fire precautions involving the storage and handling of roofing materials. Provide adequate quantity of fire extinguishers at the worksite.
 - iv. Comply with current roofing safety standards at all times.
 - v. Supervise installation of, and be responsible for, seeing that roof mechanical and electrical equipment, roof drains, etc. are properly set without damage to the roof. Make roof and flashing repairs as necessary and advise the Architect in writing of all potential leaks as may be caused by other trades not under the Contractor's control.
 - vi. Under no conditions shall any roofing materials be applied before sunrise, or at anytime when there are indications of moisture present (rain, mist, dew, frost, and snow).
 - vii. Install only as much roofing material as can be completed and covered in accordance with the requirements of this Specification in any one day or work period.
 - viii. Apply roof membrane and flashing system as directed by the Manufacturer and in strict accordance with this Project Manual.
 - ix. Insure that all wheeled equipment on the roof be equipped with pneumatic tires.
 - x. Permit no traffic over, nor stack roofing equipment or materials on, completed new roofing surfaces without adequate protection with minimum 1/2" plywood.
 - xi. Install flashings at openings, projections and walls adjoining new roofing every day or work period. If circumstances do not allow this, these areas shall be made watertight at the end of each day or work period.
 - xii. Comply with other workmanship requirements as outlined in other Sections of this Specification.

3.4. FLUID-APPLIED FLASHING MEMBRANE APPLICATION

- a. Install liquid-applied flashing membrane in strict conformance with the Manufacturers printed application instructions and as directed by the Manufacturers Representative.
- b. Fluid-applied flashing membranes shall extend up all vertical surfaces a minimum of 8" high.
- c. Fluid-applied flashing membrane is available in summer and winter grades. Care should be taken to ensure that the correct formulation is used for the application based upon the ambient temperatures.
- d. Summer Grade: Apply when the ambient temperature is between 59°F (15°C) and 104°F (40°C) and the substrate temperature is between 59°F (15°C) and 122°F (50°C). Discontinue fluid-applied surface membrane application when the ambient temperature exceeds 104°F (40°C) and/or the substrate temperature exceeds the 122°F (50°C) maximum, or provide adequate shade to the substrate area for up to one hour prior to and during application as necessary to maintain surface temperature below the maximum.
- e. Winter Grade: Can be applied when the ambient temperature is between 23°F (-5°C) and 68°F (20°C) and the substrate temperature is between 23°F (-5°C) and 77°F (25°C).
- f. Storage: Shelf life is approximately 6 months from the ship date. Shelf life will be reduced if product is stored at temperatures above 77°F (25°C). Store indoors in a closed container in a well-ventilated, cool, dry area away from heat, open fire, any ignition source, direct sunlight, oxidizing agents, strong acids, and strong alkalis. Do not store in temperatures below 32°F (0°C). Product

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- 244 may auto-polymerize at temperatures greater than 140°F (60°C). Materials stored on the jobsite
245 during application should be kept on a pallet in a shaded, well-ventilated area. In unshaded area,
246 materials should be covered with a white, reflective tarp in a manner that allows air circulation
247 beneath the tarp.
- 248 g. Pot Life: Pot life is approximately 15 minutes at 68°F (20°C). Because pot life is in large part
249 dependent on ambient temperature, which constantly changes, actual pot life must be determined
250 in the field. Pot will be reduced at high temperatures.
- 251 h. Set Times: Minimum set times are approximate and may vary. The information provided is
252 intended for use as a guideline only. Actual set times and cure times should be established in the
253 field based on actual field conditions.
- 254 i. Rain proof at 68°F (20°C): Approximately 30 minutes
255 ii. Ready for next coat at 68°F (20°C): Approximately 45 minutes
256 iii. Ready for foot traffic at 68°F (20°C): Approximately 2 hours
- 257 i. All fluid-applied flashing membrane materials shall be laid free from wrinkles, buckles and voids.
- 258 j. Fluid applied surface membrane construction shall not be "phased."
- 259 k. When terminating each day's work, install a temporary, watertight seal. When beginning the next
260 day's work, remove and discard the temporary seal.

261
262
END OF SECTION 07 56 00

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DIVISION 07 - THERMAL AND MOISTURE PROTECTION
SECTION 07 62 00 - SHEET METAL
FLASHING AND TRIM -- REVISED

Addendum No. 1

1 PART 1: GENERAL

1.1. SUMMARY OF WORK

- a. This Section includes all labor, material, equipment and related services necessary to furnish and install the following Work.
 - i. Sheet metal eave.
 - ii. Sheet metal counterflashings and receivers.
 - iii. Miscellaneous sheet metal and accessories associated with roofing.

1.2. QUALITY CONTROL

- a. There shall be no deviation made from this Specification or the approved shop drawing without prior written approval by the Manufacturer and Architect.
- b. Shop drawings of proposed alternate details shall be submitted to Architect for approval prior to start of construction.
- c. Proposed alternate details and application procedures shall comply with the Intent of these Specifications, Drawings and/or Manufacturer's recommendations.

1.3. REFERENCES

- a. References shall refer to the most recent standard.
 - i. American Society for Testing and Materials (ASTM).
 - ii. Sheet Metal and Air Conditioning Contractor's National Association (SMACNA).

1.4. CONTRACTOR REQUIREMENTS

- a. The Contractor shall not change the Project Foreman without prior approval of the Architect.
- b. The Contractor shall not change the crew without 5 days notice to the Architect.
- c. The Contractor's Foreman shall be present on the job site during work hours.
- d. A competent Foreman shall oversee all roofing work. The Foreman shall have the authority to remove unfit workers from the project along with wet, damaged or unsuitable materials. All workers shall be skilled in the application of the materials and all workmanship shall be of the highest quality.
- e. Roofing work shall not be performed when adverse weather conditions are existing, forecasted or when indications of moisture are present. Roofing materials shall not be applied before sunrise.
- f. Roofing work shall not be performed when air temperatures are (or are expected to be) below 40°F.
- g. All Work that requires saw cutting, vacuuming and other similar functions that create substantial noise and/or vibration shall be coordinated well in advance of the Work with the Owner and the Architect.
- h. Prior to the start of the Project, and daily after the start, the Contractor shall review the type of space below the roof being worked on, and comply with all special requirements due to occupancy type.
- i. Take all necessary precautions to protect the Owner's property as well as adjacent property, including trees, shrubs, buildings, sanitary and storm sewers, water piping, gas piping, electric conduit or cable, etc., from any and all damage which may result due to Work on this Project.
- j. The Contractor shall provide a waterproof roof throughout the duration of this project. At the Contractor's expense, the Contractor shall repair or replace (as determined by the Architect) any Work or property damaged by failure to provide a waterproof roof.

1.5. SUBMITTALS

- a. Submit shop drawings. Details required for roof system installation that are not shown or differ from the Specifications shall be submitted to the Architect. All dimensions and installation methods shall be detailed on shop drawings.
- b. Submit a list of materials for use in the Work.
- c. Submit standard samples for approval.
- d. Submit shop drawing of eave.
- e. Submit shop drawing of counterflashing and receiver.

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SECTION 07 62 00 - SHEET METAL
FLASHING AND TRIM - REVISED

- f. A total of three (3) copies of each submittal are required.

1.6. MATERIAL HANDLING

- a. Deliver all materials in Manufacturer's original, unopened packaging with Manufacturer's labels intact and legible and store as required by the Manufacturer.
- b. All materials sensitive to moisture and UV radiation shall be covered with a properly secured, water-resistant, breathable covering, such as canvas tarps at the end of each work period and during adverse weather. The Manufacturers' shrink wrap covering shall be slashed. Materials shall be raised above the ground or roof and placed on pallets or platforms.
- c. Do not overload the roof deck or structural assembly.
- d. Do not transport roofing materials over or store materials on a finished roof section, without prior approval of the Architect.
- e. The Contractor shall replace at his own expense all materials damaged due to improper handling.

1.7. WARRANTIES

- a. Furnish two copies of the following to the Architect:
 - i. Contractor's Warranty: The Contractor shall warrant, the workmanship in writing for a period of two (2) years following completion and that the Work has been installed according to material Manufacturer's current specifications and according to this Specification. The warranty shall cover labor and materials.

PART 2: PRODUCTS

The Contractor shall provide the following materials, as required.

2.2. MANUFACTURERS

- a. Provide materials from the Manufacturers listed in this section.
- b. Materials shall meet all specified standards.
- c. All materials shall be new unless noted otherwise.
- d. New materials shall not contain asbestos.

2.3. MATERIALS

- a. All Sheet Metal: Lead coated copper.
- b. Fasteners (Miscellaneous)
 - i. Fasteners such as nails, screws, etc. shall be of same material as metal flashing on which they are used. They shall be of type and size as shown on the Drawings or specified herein.
 - ii. Screws used to secure metal to blocking shall be #8 minimum, penetrate wood blocking minimum 1-1/2" and shall have metal washers and watertight neoprene washers under hex head. The installed withdrawal resistance shall be a minimum of 150 pounds per screw.
 - iii. Fasteners used to secure metal to metal shall be hardened, self-tapping, sheet metal gimlet point type, with hex/washer head and be of compatible material.
 - iv. Fasteners used to secure sheet metal to masonry or stone shall be 1/4" minimum diameter metal expansion stud anchors in pre-drilled holes such as "Kwik-Bolt II Stud Expansion Anchor" by Hilli, Inc. or approved equal. Space fasteners at 24" o.c. maximum spacing.
 - v. Fasteners used to secure gutter spacers to hemmed edge shall be 3/8" diameter cadmium plated nut, bolt and washer assemblies.
- c. Solder: FS QQ-S-571 or ASTM B32. Use 50/50 for all applicable work unless otherwise specified.
- d. Soldering Flux: FS O-F-506, type best suited for specific material.
- e. Other Materials: All other materials not specifically described but required for a complete and proper installation of the Work in this Section, shall be as selected by the Contractor subject to the approval by the Architect.

2.4. FABRICATION

- a. Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- b. Provide cross-break to top surface of coping metal and at all exposed surfaces of all metals which exceed 8" in cross dimension.
- c. Fascia Panel Assembly
 - ii. Fabricate side lap joints in male/female configuration for air and water tightness and structural integrity between adjacent panels.
 - iii. Fabricate side lap joints to permit concealed fastening of panels to structure.
 - iv. Fabricate panels with a flatness deviation not to exceed 0.030" in 18" in any direction when measured with a metal straight edge.
 - v. Panels exhibiting rippling, waving or oil canning exceeding 0.030" in 18" in any direction when measured with a metal straight edge will be rejected.

PART 3: EXECUTION

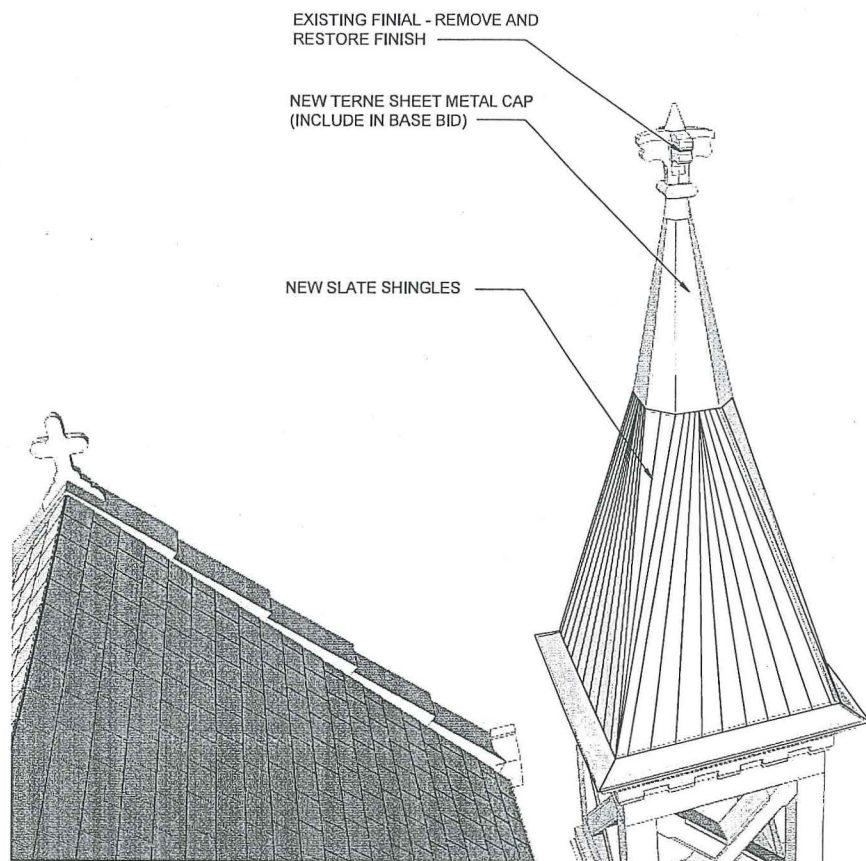
3.1. EXAMINATION

- a. Examine supporting members and substrate for layout, alignment and soundness.
- b. Verify that surfaces are free from debris and unnecessary protrusions.

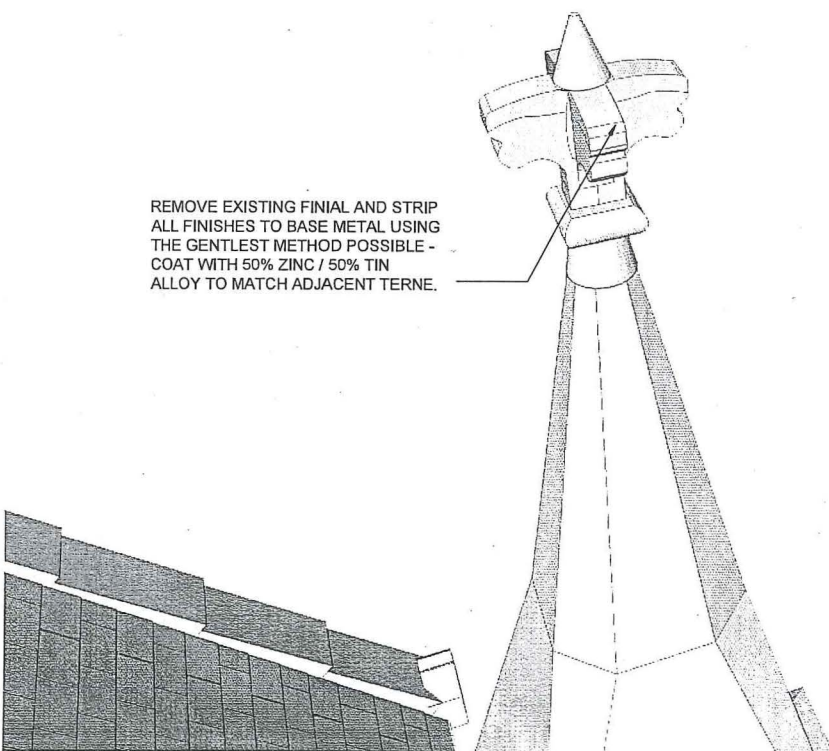
3.2. INSTALLATION

- a. Counterflashing
 - i. Saw-cut mortar joints to form new reglet approximately 1" minimum uniform depth at elevation of a minimum 10" above the surface of the roof membrane, as shown on the Drawings.
 - ii. Secure spring locked reglet receivers in clean and sound saw cuts at mortar joint.
 - iii. The reglet receiver shall be notched and lapped at all corners and joints.
 - iv. Secure flashings to reglet receivers using specified type fasteners at 18" o.c. maximum and as noted on the Drawings.
 - v. Fit flashing tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
 - vi. The counterflashing shall be notched and lapped at inside corners and joints and seamed at outside corners.
 - vii. Maintain lines of constant elevation around entire perimeter unless noted otherwise on the Drawings.
 - viii. Apply continuous bead of sealant to masonry/metal intersection at top of reglet. Tool to smooth finish.
 - ix. Where existing structural expansion joint intersects sheet metal work, provide "slip joint" in sheet metal work to accommodate movement of the structure.
- b. Drip Edge
 - i. Install Work with laps of 1-1/2" minimum dimension.
 - ii. Install continuous cleat at location(s) as shown on the Drawings.
 - iii. Secure in place using specified type fasteners as shown on the Drawings.
 - iv. Section lengths shall be contained to 10' lengths or less. Permit movement of metal by allowing 1" between section lengths and securing each length twice at its mid-point through the top surface into the substrate beneath.
 - v. The flashing shall be notched and lapped at inside corners and joints and seamed at outside corners.
 - vi. Fit flashing tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
 - vii. Maintain lines of constant elevation around entire perimeter.
 - viii. Where existing structural expansion joint intersects sheet metal work at hand, discontinue fascia at intersection and bridge joint with slipcover to match new sheet metal section profile.

END OF SECTION 07 62 00

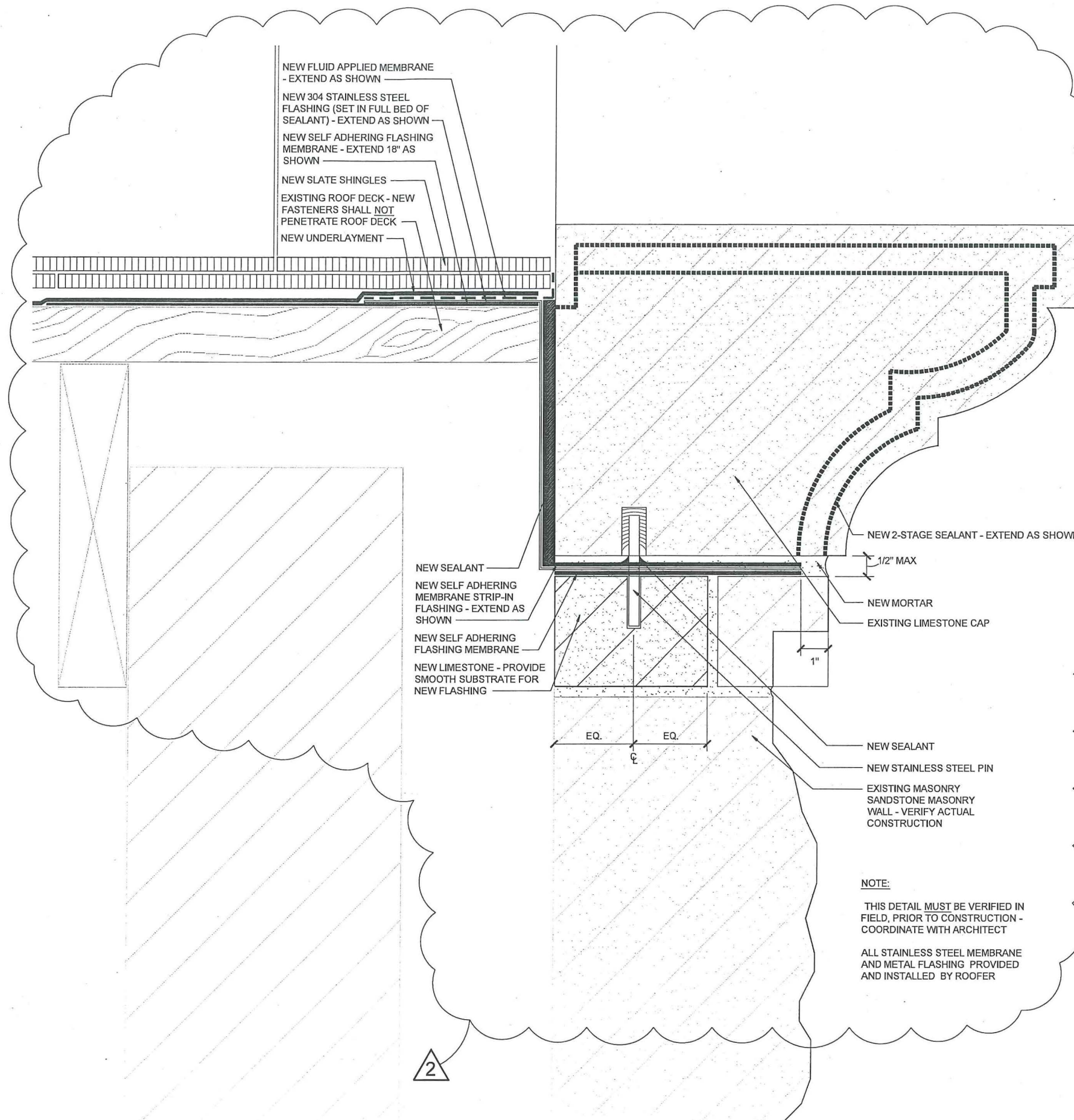


1
A6
TOWER VIEW
SCALE: N.T.S.



REMOVE EXISTING FINIAL AND STRIP ALL FINISHES TO BASE METAL USING THE GENTLEST METHOD POSSIBLE - COAT WITH 50% ZINC / 50% TIN ALLOY TO MATCH ADJACENT TERNE.

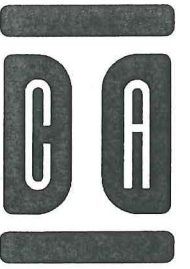
2
A6
TOP OF TOWER VIEW
SCALE: N.T.S.



3
A6
DETAIL AT GABLE / RAKE FLASHING
SCALE: 6" = 1'-0"

NOTE:
THIS DETAIL MUST BE VERIFIED IN FIELD, PRIOR TO CONSTRUCTION - COORDINATE WITH ARCHITECT

ALL STAINLESS STEEL MEMBRANE AND METAL FLASHING PROVIDED AND INSTALLED BY ROOFER



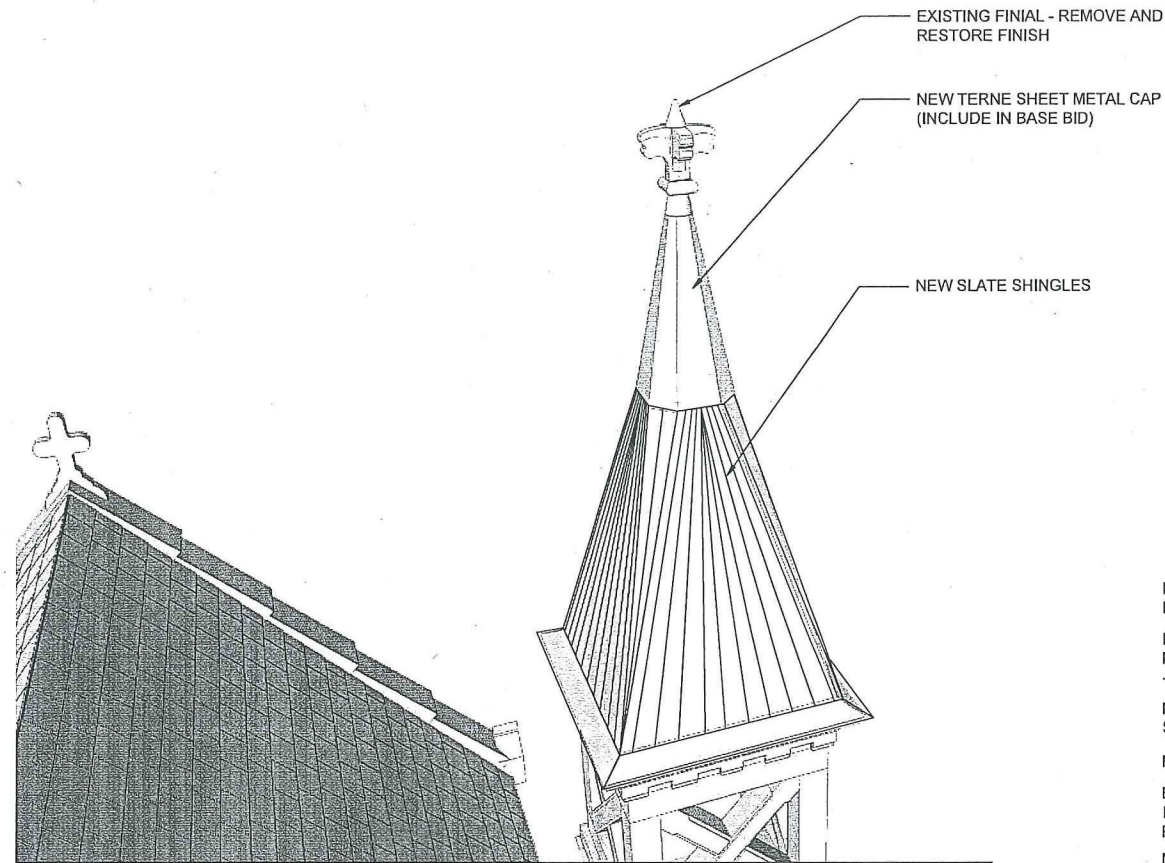
InSite Consulting Architects
115 E. Main / STE 200
Madison, Wisconsin 53703
608-204-0825
608-297-1762 (fax)
info@icsarc.com

INSITE CONSULTING ARCHITECTS

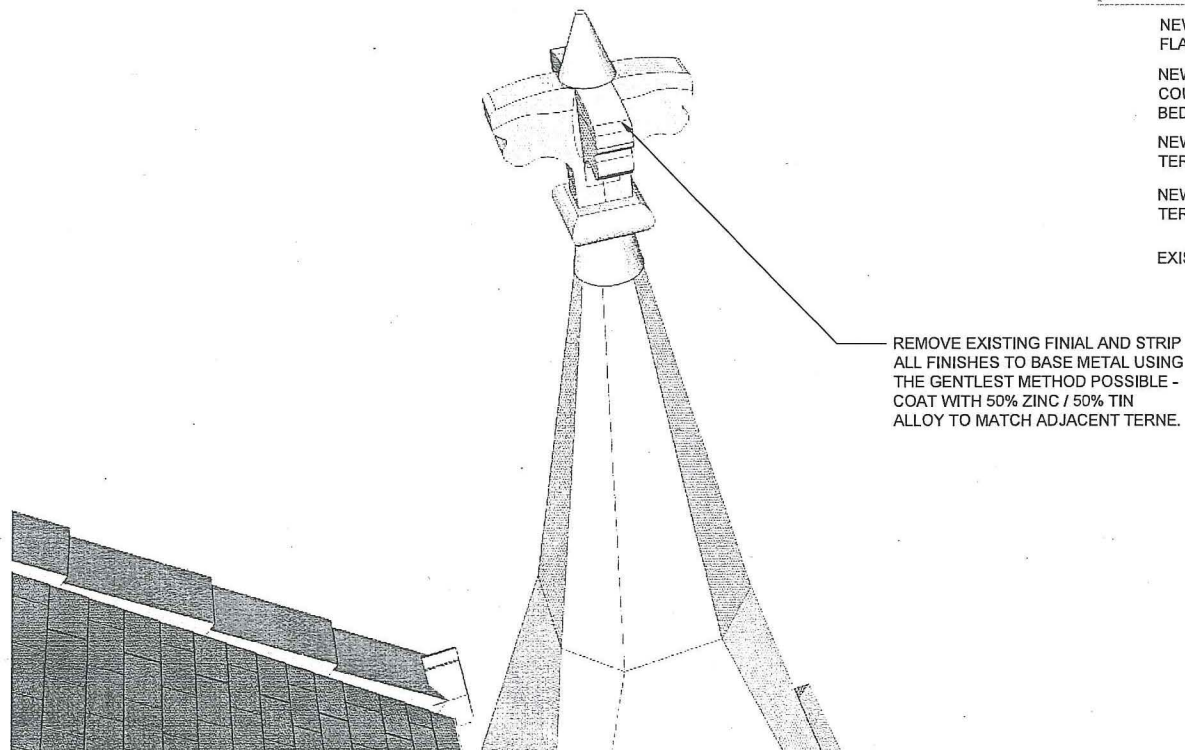
ORIGINAL

FOREST HILL CEMETERY - JOHN CATLIN CHAPEL
ROOF REPLACEMENT
CITY OF MADISON CONTRACT # 7478

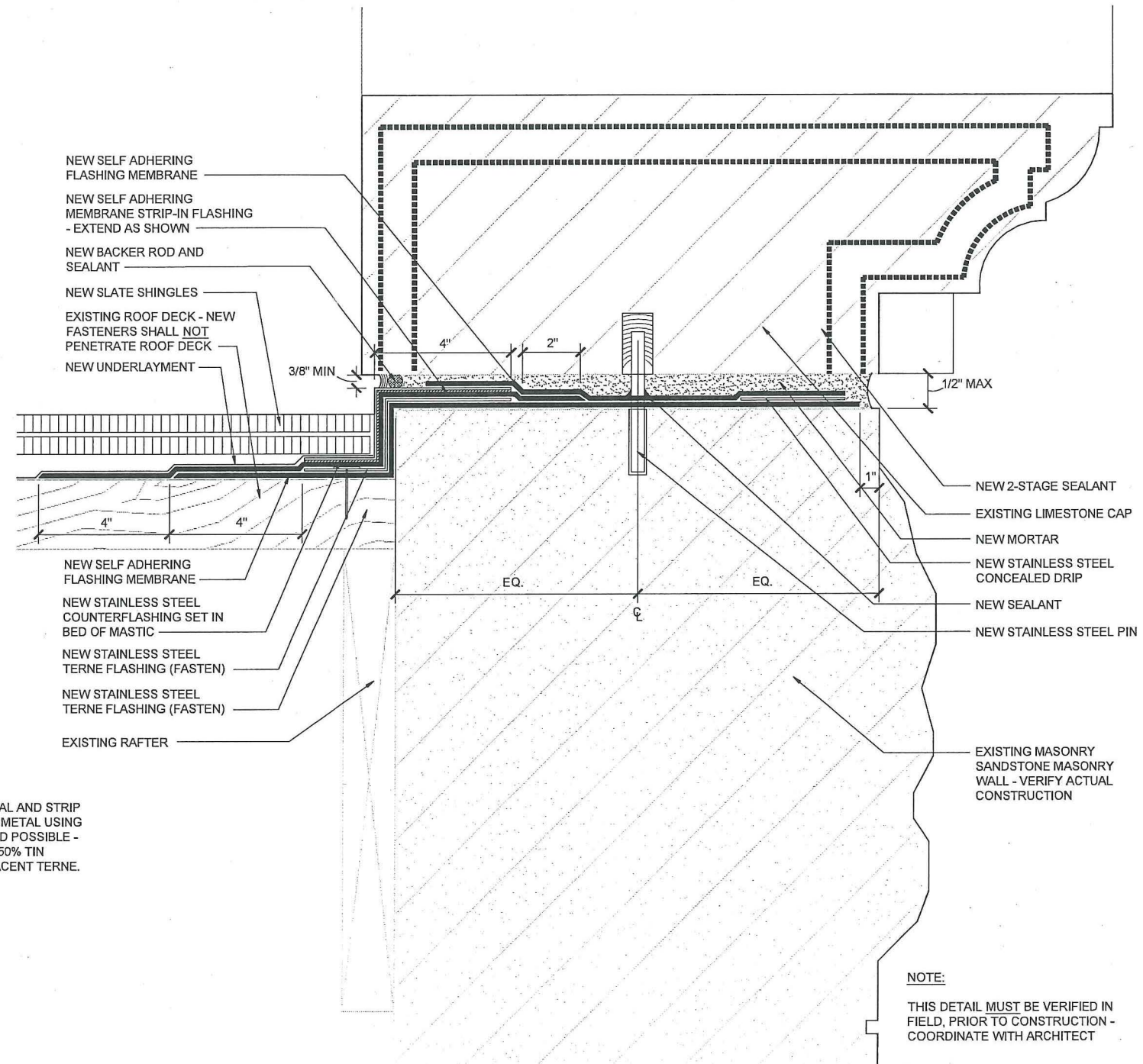
1 SPEEDWAY ROAD
MADISON, WI 53705



1 TOWER VIEW
A6 SCALE: N.T.S.



2 TOP OF TOWER VIEW
A6 SCALE: N.T.S.



3 DETAIL AT GABLE / RAKE FLASHING
A6 SCALE: 6" = 1'-0"

NOTE:

THIS DETAIL MUST BE VERIFIED IN
FIELD, PRIOR TO CONSTRUCTION -
COORDINATE WITH ARCHITECT

DETAILS

3/27/2015
ISSUE FOR BID

A6

SECTION E: BIDDERS ACKNOWLEDGEMENT

CONTRACT TITLE: FOREST HILL CEMETERY – JOHN CATLIN CHAPEL-ROOF REPLACEMENT

CONTRACT NO. 7478

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1. The undersigned having familiarized himself/herself with the Contract documents, including Advertisement for Bids, Instructions to Bidders, Form of Proposal, City of Madison Standard Specifications for Public Works Construction - 2015 Edition thereto, Form of Agreement, Form of Bond, and Addenda issued and attached to the plans and specifications on file in the office of the City Engineer, hereby proposes to provide and furnish all the labor, materials, tools, and expendable equipment necessary to perform and complete in a workmanlike manner the specified construction on this project for the City of Madison; all in accordance with the plans and specifications as prepared by the City Engineer, including Addenda to the Contract Nos. _____ through _____ issued thereto, at the prices for said work as contained in this proposal. (Electronic bids submittals shall acknowledge addendum under Section E and shall not acknowledge here)
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3. The undersigned Bidder or Contractor certifies that he/she is not a party to any contract, combination in form of trust or otherwise, or conspiracy in restraint of trade or commerce or any other violation of the anti-trust laws of the State of Wisconsin or of the United States, with respect to this bid or contract or otherwise.
4. I hereby certify that I have met the Bid Bond Requirements as specified in Section 102.5.
(IF BID BOND IS USED, IT SHALL BE SUBMITTED ON THE FORMS PROVIDED BY THE CITY. FAILURE TO DO SO MAY RESULT IN REJECTION OF THE BID).
5. I hereby certify that all statements herein are made on behalf of Millen Roofing Corp (name of corporation, partnership, or person submitting bid) a corporation organized and existing under the laws of the State of Wisconsin a partnership consisting of _____; an individual trading as _____; of the City of Milwaukee State of Wisconsin; that I have examined and carefully prepared this Proposal, from the plans and specifications and have checked the same in detail before submitting this Proposal; that I have fully authority to make such statements and submit this Proposal in (its, their) behalf; and that the said statements are true and correct.

SIGNATURE

PRINCIPAL

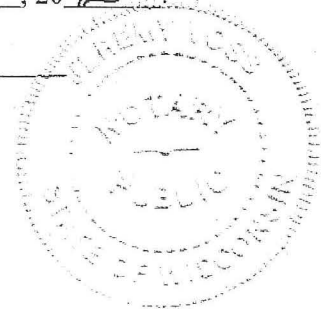
TITLE, IF ANY

Sworn and subscribed to before me this 24TH day of APRIL, 20 15

(Notary Public or other officer authorized to administer oaths)

My Commission Expires 2/2/18

Bidders shall not add any conditions or qualifying statements to this Proposal.



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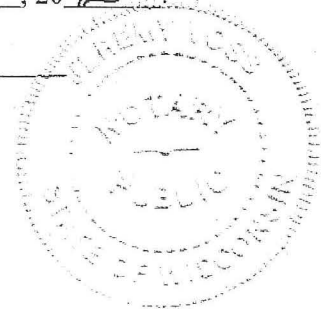
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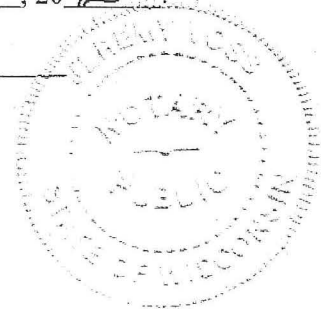
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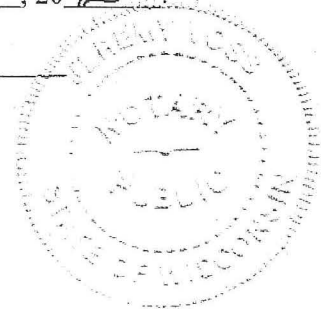
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Contract 7478 – Millen Roofing

Section E: Bidder's Acknowledgement

This section is a required document for the bid to be considered complete. There are two methods for completing the Bidder Acknowledgement Report. Method one: The report can be downloaded, completed, and uploaded to this site to be included with your electronic bid.

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Please select the method of submission below. The form is in the section below to download and upload to the site or download and submit by hand.

Please check the box in the Upload section if submitting the report by hand.

Method of Submittal for Bidder Acknowledgement (click in box below to choose) *

☒ I will download Bidder Acknowledgement Downloadable Document, complete, and upload online.

The bidder acknowledges receipt of the following addenda to the contract for the above designated project. Please check the appropriate box for each addendum reviewed. If no addenda have been issued, then no boxes are required to be checked.

Any addenda issues after 12:00 P.M. on the Wednesday proceeding the bid due date shall include a provision extending the bid due date.

Addendum Acknowledgement

Acknowledge each Addenda reviewed by checking the appropriate checkboxes below.

☒ Addendum 1 *

☐ Addendum 2

☐ Addendum 3

☐ Addendum 4

☐ Addendum 5

☐ Addendum 6

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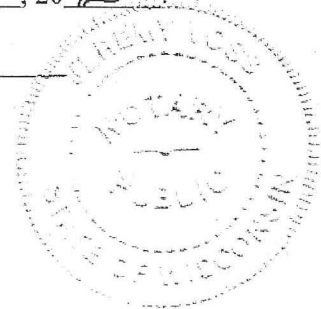
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Contract 7478 – Millen Roofing

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☐ Addendum 2

☐ Addendum 3

☐ Addendum 4

☐ Addendum 5

☐ Addendum 6

Section F: Disclosure of Ownership and BVC

This section is a required document for the bid to be considered complete. There are two methods for completing the Disclosure of Ownership and BVC form. Method one: The form can be filled out online and submitted to this site to be included with your electronic bid. Method two: The form can be downloaded from the site and submitted by hand to the City of Madison.

Method of Submittal for Disclosure of Ownership and BVC (click in box below to choose) *

I will submit Bid Express fillable online form (Disclosure of Ownership and BVC).

Notice required under Section 15.04(1)(m), Wisconsin Statutes. The statutory authority for the use of this form is prescribed in Sections 66.0903(12)(d), Wisconsin Statutes. The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12). Personal information you provide may be used for secondary purposes.

(1) On the date a contractor submits a bid to or completes negotiations with a state agency or local governmental unit, on a project subject to Section 66.0903 or 103.49, Wisconsin Statutes, the contractor shall disclose to such state agency or local governmental unit the name of any "other construction business", which the contractor, or a shareholder, officer or partner of the contractor, owns or has owned within the preceding three (3) years.

(2) The term "other construction business" means any business engaged in the erection, construction, remodeling, repairing, demolition, altering or painting and decorating of buildings, structures or facilities. It also means any business engaged in supplying mineral aggregate, or hauling excavated material or spoil as provided by Sections 66.0903(3), 103.49(2) and 103.50(2), Wisconsin Statutes.

(3) This form must ONLY be filed, with the state agency or local governmental unit that will be awarding the contract, if both (A) and (B) are met.

(A) The contractor, or a shareholder, officer or partner of the contractor:

1. Owns at least a 25% interest in the "other construction business", indicated below, on the date the contractor submits a bid or completes negotiations.

2. Or has owned at least a 25% interest in the "other construction business" at any time within the preceding three (3) years.

(B) The Wisconsin Department of Workforce Development (DWD) has determined that the "other construction business" has failed to pay the prevailing wage rate or time and one-half the required hourly basic rate of pay, for hours worked in excess of the prevailing hours of labor, to any employee at any time within the preceding three (3) years.

Other Construction Business

☒ Not Applicable

Name of Business

Street Address or PO Box

City

State and Zip Code

Best Value Contracting

1. The Contractor shall indicate the non-apprenticeable trades used on this contract.

2. Madison General Ordinance (M.G.O.), 33.07(7), does provide for some exemptions from the active apprentice requirement. Apprenticeable trades are those trades considered apprenticeable by the State of Wisconsin. Please check applicable box if you are seeking an exemption.

☐ Contractor has a total skilled workforce of four or less individuals in all apprenticeable trades combined.

☐ No available trade training program; The Contractor has been rejected by the only available trade training program, or there is no trade training program within 90 miles.

☐ Contractor is not using an apprentice due to having a journey worker on layoff status, provided the journey worker was employed by the contractor in the past six months.

☐ First time contractor on City of Madison Public Works contract requests a onetime exemption but intends to comply on all future contracts and is taking steps typical of a "good faith" effort.

☐ Contractor has been in business less than one year.

☐ Contractor doesn't have enough journeyman trade workers to qualify for a trade training program in that respective trade.

3. The Contractor shall indicate on the following section which apprenticeable trades are to be used on this contract. Compliance with active apprenticeship, to the extent required by M.G.O. 33.07(7), shall be satisfied by documentation from an applicable trade training body; an apprenticeship contract with the Wisconsin Department of Workforce Development or a similar agency in another state; or the U.S Department of Labor. This documentation is required prior to the Contractor beginning work on the project site.

☐ The Contractor has reviewed the list and shall not use any apprenticeable trades on this project.

LIST APPRENTICABLE TRADES (check all that apply to your work to be performed on this contract)

- ☐ BRICKLAYER
- ☐ CARPENTER
- ☐ CEMENT MASON / CONCRETE FINISHER
- ☐ CEMENT MASON (HEAVY HIGHWAY)
- ☐ CONSTRUCTION CRAFT LABORER
- ☐ DATA COMMUNICATION INSTALLER
- ☐ ELECTRICIAN
- ☐ ENVIRONMENTAL SYSTEMS TECHNICIAN / HVAC SERVICE TECH/HVAC INSTALL / SERVICE
- ☐ GLAZIER
- ☐ HEAVY EQUIPMENT OPERATOR / OPERATING ENGINEER
- ☐ INSULATION WORKER (HEAT and FROST)
- ☐ IRON WORKER
- ☐ IRON WORKER (ASSEMBLER, METAL BLDGS)
- ☐ PAINTER and DECORATOR
- ☐ PLASTERER
- ☐ PLUMBER
- ☐ RESIDENTIAL ELECTRICIAN
- ☒ ROOFER and WATER PROOFER
- ☐ SHEET METAL WORKER
- ☐ SPRINKLER FITTER
- ☐ STEAMFITTER
- ☐ STEAMFITTER (REFRIGERATION)
- ☐ STEAMFITTER (SERVICE)
- ☐ TAPER and FINISHER
- ☐ TELECOMMUNICATIONS (VOICE, DATA and VIDEO) INSTALLER-TECHNICIAN
- ☐ TILE SETTER

SECTION 102.1 PRE-QUALIFICATION OF BIDDERS

The work associated with the construction of Forest Hill Cemetery – John Catlin Roof Replacement has necessitated a new prequalification category:

499- Historic Slate Roofing.

Section 102.1 Pre-qualification of Bidders requires that either the General Contractor (GC), or a sub contractor hired by the GC, be pre-qualified to work under this new category to bid on this project. If the General Contractor is only prequalified under the approved category of #415 for this project, the General Contractor must team with a sub contractor that is prequalified under #499 – Historic Slate Roofing.

The contract will be awarded to the lowest responsible bidder where either the General Contractor or their subcontractor meets the requirements of category 499 – Historic Slate Roofing.

Please check the appropriate box below:



Check this box if you plan on bidding on BPW Contract #7478 as a General Contractor and you are presently pre-qualified in category #499 Historic Slate Roofing.

Name of Company:

Millen Roofing Co.



Check this box if you plan on bidding on BPW Contract #7478 as a General Contractor and you are presently pre-qualified in the other pre-qualification category:

#415

and you have hired a subcontractor that is pre-qualified under category #499 Historic Slate Roofing. The Historic Slate Roofing Contractor shall be identified in writing no later than Monday, April 27, 2015 at 1 pm.

If the Historic Slate Roofing Contractor subcontractor is currently known, please provide their information below.

Name of Subcontractor:

--

FOREST HILL CEMETERY- JOHN CATLIN CHAPEL-ROOF REPLACEMENT

CONTRACT NO. 7478

Date: 4/24/15

Millen Roofing Co.

Item	Quantity	Price	Extension
Section B: Proposal Page			
1 - COMPLETE LUMP SUM BID (EXCEPT FOR ITEM 2) - Lump Sum Bid	1.00	\$94,377.00	\$94,377.00
2 - Patch coping stone using stone repair materials specified herein (provide pricing per cubic inch of stone replaced) - Cubic Inch	120.00	\$9.00	\$1,080.00
Totals			\$95,457.00

SECTION G: BID BOND

KNOW ALL MEN BY THESE PRESENT, THAT Millen Roofing Corp (a corporation of the State of Wisconsin) (individual), (partnership), hereinafter referred to as the "Principal") and The Ohio Casualty Insurance Company, a corporation of the State of New Hampshire (hereinafter referred to as the "Surety") and licensed to do business in the State of Wisconsin, are held and firmly bound unto the City of Madison, (hereinafter referred to as the "Obligee"), in the sum of five per cent (5%) of the amount of the total bid or bids of the Principal herein accepted by the Obligee, for the payment of which the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such that, whereas the Principal has submitted, to the City of Madison a certain bid, including the related alternate, and substitute bids attached hereto and hereby made a part hereof, to enter into a contract in writing for the construction of:

FOREST HILL CEMETERY – JOHN CATLIN CHAPEL ROOF REPLACEMENT

CONTRACT NO. 7478

1. If said bid is rejected by the Obligee, then this obligation shall be void.
2. If said bid is accepted by the Obligee and the Principal shall execute and deliver a contract in the form specified by the Obligee (properly completed in accordance with said bid) and shall furnish a bond for his/her faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be void.

If said bid is accepted by the Obligee and the Principal shall fail to execute and deliver the contract and the performance and payment bond noted in 2. above executed by this Surety, or other Surety approved by the City of Madison, all within the time specified or any extension thereof, the Principal and Surety agree jointly and severally to forfeit to the Obligee as liquidated damages the sum mentioned above, it being understood that the liability of the Surety for any and all claims hereunder shall in no event exceed the sum of this obligation as stated, and it is further understood that the Principal and Surety reserve the right to recover from the Obligee that portion of the forfeited sum which exceed the actual liquidated damages incurred by the Obligee.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by an extension of the time within which the Obligee may accept such bid, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, on the day and year set forth below

Seal Millen Roofing Corp. 8747 North 107th St, Milwaukee WI 53224

April 24, 2015

Principal

Date

By:

The Ohio Casualty Insurance Company
62 Maple Avenue, Keene, NH 03431

Name of Surety

By

Timothy F. Stolz, Attorney-In-Fact

April 24, 2015

Date

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under License No. 663195 for the year 2015, and appointed as attorney in fact with authority to execute this bid bond and the payment and performance bond referred to above, which power of attorney has not been revoked.

April 24, 2015

Date

Timothy F. Stolz

Agent

First Associated Insurance Agencies

12465 Burleigh Road.

Address

Brookfield, WI 53005

City, State and Zip Code

262-786-2550

Telephone Number

NOTE TO SURETY & PRINCIPAL

The bid submitted which this bond guarantees may be rejected if the following instrument is not attached to this bond:

Power of Attorney showing that the agent of Surety is currently authorized to execute bonds on behalf of the Surety, and in the amounts referenced above.

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 5827017

American Fire and Casualty Company
The Ohio Casualty Insurance Company

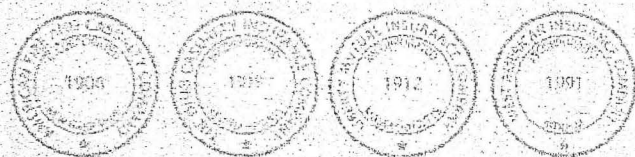
Liberty Mutual Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Dina A. Roberts; Timothy Gahagan; David R. Grant; Dennis B. Spars; Timothy F. Stolz; Michael Stolz; Barbara Howland; Robert Grant

all of the city of Brookfield, state of WI each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 1st day of December, 2012.



American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: Gregory W. Davenport
Gregory W. Davenport, Assistant Secretary

STATE OF WASHINGTON
COUNTY OF KING

ss

On this 1st day of December, 2012, before me personally appeared Gregory W. Davenport, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Seattle, Washington, on the day and year first above written.



By: KD Riley
KD Riley, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS - Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

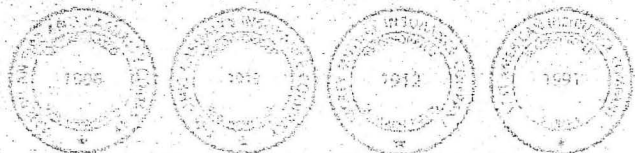
ARTICLE XIII - Execution of Contracts - SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes Gregory W. Davenport, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, David M. Carey, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 24th day of April, 2015.



By: David M. Carey
David M. Carey, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, bill of lading, warehouse receipt, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-800-555-1234

Boutelle, Alane

From: Viste, Doran
Sent: Wednesday, April 29, 2015 8:15 AM
To: Phillips, Robert; Dailey, Michael
Cc: Boutelle, Alane; Fahrney, John; Stauffer, Paul
Subject: FW: Forest Hill Cemetery Bid Bond Issue

Rob and Mike,

See below.

Based upon my correspondence with OCIC's attorney, it appears that the power of attorney was in fact valid at the time the bid was submitted (despite the records maintained at the Commissioner of Insurance and the information given to Alane on the follow up call). Hopefully this sort of issue is isolated and doesn't happen again. But, if we start finding agents whose appointments are not up to date on the Commissioner's website (something we should be able to rely upon), then we can address that by perhaps requiring either a print out of the up to date appointments with the bid submission or at least an indication that they have submitted the proper paperwork to the State. In the meantime, this bid can now be considered to be valid.

Please print off this e-mail and insert it as part of the contract, after the power of attorney.

Doran Viste
Assistant City Attorney
Office of the City Attorney
210 Martin Luther King, Jr. Blvd., Room 401
Madison, WI 53703-3345
Phone: (608) 266-4511
Fax: (608) 267-8715
e-mail: DViste@cityofmadison.com

From: Viste, Doran
Sent: Wednesday, April 29, 2015 8:07 AM
To: 'Indelicato, Chris'
Subject: RE: Forest Hill Cemetery Bid Bond Issue

Chris,

Our staff member who called the number on the power of attorney stated the following when I asked if she had any records or notes of her call to OCIC last Friday:

I'm sorry I do not.
It was whoever answered the phone.
She did not forward me to anyone.
She spoke to someone else and called me back.

In light of what you indicated in your earlier e-mail, and the representation as to your authority, I will inform Engineering that the power of attorney was valid at the time the bid was submitted and that the bid should not have been thrown out. Hopefully this can just serve as a reminder to agents to check their appointments on file with the State so we can all avoid issues like this from happening again.

Doran Viste
Assistant City Attorney
Office of the City Attorney
210 Martin Luther King, Jr. Blvd., Room 401
Madison, WI 53703-3345

Phone: (608) 266-4511
Fax: (608) 267-8715
e-mail: DViste@cityofmadison.com

From: Indelicato, Chris [<mailto:Chris.Indelicato@libertymutual.com>]
Sent: Wednesday, April 29, 2015 7:32 AM
To: Viste, Doran
Subject: RE: Forest Hill Cemetery Bid Bond Issue

Doran:

I agree this is confusing, and I apologize for our role in it. Hopefully, we can clarify things as soon as possible.

First, I am acting as OCIC's attorney. OCIC is a subsidiary of Liberty Mutual Insurance Company.

Second, I don't understand why City Staff would have been advised that Mr. Stolz was not authorized to sign for OCIC. The attached Power of Attorney is clearly valid. I will look into this today. Do you happen to have any record of who City Staff spoke with when they called that number?

Thanks for your assistance with this.

Chris

Chris Indelicato
Surety Counsel
Liberty Mutual Surety
450 Plymouth Road, Suite 400
Plymouth Meeting, PA 19462
Phone (610) 832-8432
Fax (610) 828-4684
chris.indelicato@libertymutual.com

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From: Viste, Doran [<mailto:DViste@cityofmadison.com>]
Sent: Tuesday, April 28, 2015 4:32 PM
To: Indelicato, Chris
Subject: RE: Forest Hill Cemetery Bid Bond Issue

Chris,

This situation is a bit confusing.

When the bid was opened, City staff checked Mr. Stolz's license status at the Wisconsin Office of the Commissioner of Insurance (<https://ociaccess.oci.wi.gov/ProducerInfo/PrdInfo.oci>). The results of this search are

attached, and show that his OCIC appointment was cancelled in 2003. Similar results show up for American Fire and Casualty Company and West American Insurance Company. There is no indication he has ever had an appointment from Liberty Mutual. While state law requires insurers to report to the Commissioner all appointments within 15 days of a contract with the agent or an insurance application is submitted (Wis. Stat. Sec. 628.11 and Wis. Adm. Code s. Ins. 6.57), it does not appear his appointment has been reported to the State. Hence, based upon this unusual result, City staff called the number on the bid bond (610-832-8240) to clarify (a copy of the bid bond submitted is attached). At that time, we were then told that Mr. Stolz was not authorized to sign for Ohio Casualty Insurance Company. Based upon that information, we deemed the bid bond invalid, as noted below. However, it now sounds like we were incorrectly informed during this phone call.

Given this background, can you clarify why we were told Mr. Stolz was not authorized to sign for OCIC when we called the number on the bid bond and why his appointment is not shown in the OCIC's records? Was this just a mistake and an oversight? Also, I am not clear on Liberty Mutual's authority to act on behalf of OCIC. Are you acting as OCIC's attorney as well? If so, can you state that. If not, I will need something from OCIC itself, or some document indicating how Liberty Mutual is able to act on OCIC's behalf.

Doran Viste
Assistant City Attorney
Office of the City Attorney
210 Martin Luther King, Jr. Blvd., Room 401
Madison, WI 53703-3345
Phone: (608) 266-4511
Fax: (608) 267-8715
e-mail: DViste@cityofmadison.com

From: Indelicato, Chris [<mailto:Chris.Indelicato@libertymutual.com>]
Sent: Tuesday, April 28, 2015 1:57 PM
To: Viste, Doran
Subject: FW: Forest Hill Cemetery Bid Bond Issue

Dear Attorney Viste:

I am in-house counsel for Liberty Mutual Surety, which underwrites surety business for member companies of the Liberty Mutual Group, including The Ohio Casualty Insurance Company (OCIC). OCIC's underwriters have forwarded your e-mail below to my attention along with additional information regarding this matter, some of which you may not be aware of.

Attached please find a copy of the bid specs for this project. At pages 59-60 of the pdf is Exhibit G- Bid Bond. The second page of the Bid Bond contains the following representation:

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under License No. ____ for the year ____, and appointed as attorney in fact with authority to execute this bid bond and the payment and performance bond referred to above, which power of attorney has not been revoked.

The Bid Bond also contains the following notice:

NOTE TO SURETY & PRINCIPAL

The bid submitted which this bond guarantees shall be rejected if the following instrument is not attached to this bond:

Power of Attorney showing that the agent of Surety is currently authorized to execute bonds on behalf of the Surety, and in the amounts referenced above.

In compliance with these specs, the agent who executed the OCIC bid bond for Millen Roofing, Timothy Stolz, attached a valid Power of Attorney confirming his authorization as attorney in fact to issue the bonds for OCIC. That Power of Attorney has not been revoked and remains valid, yet the City of Madison rejected the bid based on a supposedly invalid Power of Attorney. In fact, Mr. Stolz has, over the years, issued numerous bonds pursuant to his valid Power of Attorney and these bonds have been routinely accepted by public obligees such as the City of Madison.

Please let this correspondence confirm that Mr. Stolz's appointment as attorney in fact with authority to execute the bid bond pursuant to the Power of Attorney for OCIC attached to the Millen Roofing Company bid bond was, and remains, valid. In addition, please consider this OCIC's request that the City rescind its rejection of the Millen Roofing Company bid bond and award the project to it as the low bidder.

Should you have any questions or wish to discuss further, please do not hesitate to contact me. I look forward to your response.

Regards,

Chris Indelicato

Surety Counsel

Liberty Mutual Surety

450 Plymouth Road, Suite 400

Plymouth Meeting, PA 19462

Phone (610) 832-8432

Fax (610) 828-4684

chris.indelicato@libertymutual.com

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From: Viste, Doran [<mailto:DViste@cityofmadison.com>]

Sent: Monday, April 27, 2015 3:51 PM

To: Tim Stolz

Cc: Stauffer, Paul; Fahrney, John; Boutelle, Alane; Phillips, Robert; Dailey, Michael

Subject: Forest Hill Cemetery Bid Bond Issue

Mr. Stolz,

I was asked to contact you regarding the defective bid bond submitted as part of Millen Roofing Company's bid in the City of Madison's Forest Hill Cemetery Roof Replacement Project that led to the bid being thrown out.

As you know, upon opening the bid proposal the City discovered that, according to the Wisconsin Office of the Commissioner of Insurance, your authority to issue policies on behalf of Ohio Casualty Insurance Company was cancelled on 9/4/2013. City staff followed up with Ohio Casualty on April 24 and confirmed that, despite the statement to the effect on the power of attorney form, this is accurate. Accordingly, the bid bond is invalid since you lack the authority to bind Ohio Casualty to the terms thereof.

Under Wis. Stat. Sec. 62.15(3), "[n]o bid shall be received unless accompanied by a certified check or a bid bond equal to at least 5% but not more than 10% of the bid payable to the city as a guaranty that if the bid is accepted the bidder will execute and file the proper contract and bond within the time limited by the city." Because the bid bond was invalid on the date of the submission, the bid bond was not valid and the contractor failed to meet this statutory requirement. Hence, the bid was appropriately thrown out. This is not a paperwork issue. It is an authority issue. Because the bid bond requirement is a prerequisite of a bid designed to protect the City in between accepting a proposal and signing the contract, without a valid bid bond the City will be left unprotected if the contractor refuses to sign the contract. Case law does allow "substantial compliance" with the requirement, but that exception only applies where the bid bond or certified check is insufficient by not more than 1/4 of 1% of the bid. Here, because there was no bid bond, they were deficient by the full 5% and this small exception is not applicable.

Accordingly, it is my opinion that City staff acted appropriately, and consistent with state laws on public bidding.

Doran Viste
Assistant City Attorney
Office of the City Attorney
210 Martin Luther King, Jr. Blvd., Room 401
Madison, WI 53703-3345
Phone: (608) 266-4511
Fax: (608) 267-8715
e-mail: DViste@cityofmadison.com

From: Dailey, Michael
Sent: Monday, April 27, 2015 2:30 PM
To: Viste, Doran
Cc: Stauffer, Paul; Fahrney, John; Boutelle, Alane; Phillips, Robert; 'timstolz@firstassociated.com'
Subject: Bid Appeal

Hello Doran,

At last Friday's Bid Opening, Contract #7478 had 3 bidders. Millen Roofing was low, but deemed non-responsive because the Bonding Agent was not authorized to sign for the Insurance Company on the bid bond (Power of Attorney not valid). The Agent is Tim Stolz, copied above. Mr Stolz is considering appeal of this decision at the Board of Public Works on May 6th. I suggested he first review it with you.

Alane, can you please forward Doran the pertinent info. Thanks.

Michael R. Dailey, P.E.
Deputy City Engineer
608-266-4058

SECTION H: AGREEMENT

THIS AGREEMENT made this 20th day of May in the year Two Thousand and Fifteen between MILLEN RFG. CORP. hereinafter called the Contractor, and the City of Madison, Wisconsin, hereinafter called the City.

WHEREAS, the Common Council of the said City of Madison under the provisions of a resolution adopted MAY 19, 2015, and by virtue of authority vested in the said Council, has awarded to the Contractor the work of performing certain construction.

NOW, THEREFORE, the Contractor and the City, for the consideration hereinafter named, agree as follows:

1. **Scope of Work.** The Contractor shall, perform the construction, execution and completion of the following listed complete work or improvement in full compliance with the Plans, Specifications, Standard Specifications, Supplemental Specifications, Special Provisions and contract; perform all items of work covered or stipulated in the proposal; perform all altered or extra work; and shall furnish, unless otherwise provided in the contract, all materials, implements, machinery, equipment, tools, supplies, transportation, and labor necessary to the prosecution and completion of the work or improvements:

FOREST HILL CEMETERY - JOHN CATLIN CHAPEL ROOF REPLACEMENT CONTRACT NO. 7478

2. **Completion Date/Contract Time.** Construction work must begin within seven (7) calendar days after the date appearing on mailed written notice to do so shall have been sent to the Contractor and shall be carried on at a rate so as to secure full completion SEE SPECIAL PROVISIONS, the rate of progress and the time of completion being essential conditions of this Agreement.
3. **Contract Price.** The City shall pay to the Contractor at the times, in the manner and on the conditions set forth in said specifications, the sum of NINETY-FIVE THOUSAND FOUR HUNDRED FIFTY-SEVEN (\$95,457.00) Dollars being the amount bid by such Contractor and which was awarded to him/her as provided by law.
4. **Wage Rates for Employees of Public Works Contractors**

General and Authorization. The Contractor shall compensate its employees at the prevailing wage rate in accordance with section 66.0903, Wis. Stats., DWD 290 of the Wisconsin Administrative Code and as hereinafter provided unless otherwise noted in Section D: Special Provisions, Subsection 102.10 – Minimum Rate of Wage Scale.

"Public Works" shall include building or work involving the erection, construction, remodeling, repairing or demolition of buildings, parking lots, highways, streets, bridges, sidewalks, street lighting, traffic signals, sanitary sewers, water mains and appurtenances, storm sewers, and the grading and landscaping of public lands.

"Building or work" includes construction activity as distinguished from manufacturing, furnishing of materials, or servicing and maintenance work, except for the delivery of mineral aggregate such as sand, gravel, bituminous asphaltic concrete or stone which is incorporated into the work under contract with the City by depositing the material directly in final place from transporting vehicle.

"Erection, construction, remodeling, repairing" means all types of work done on a particular building or work at the site thereof in the construction or development of the project, including without limitation, erecting, construction, remodeling, repairing, altering, painting, and decorating, the transporting of materials and supplies to or from the building or work done by the employees of the Contractor, Subcontractor, or Agent thereof, and the manufacturing or furnishing of

materials, articles, supplies or equipment on the site of the building or work, by persons employed by the Contractor, Subcontractor, or Agent thereof.

"Employees working on the project" means laborers, workers, and mechanics employed directly upon the site of work.

"Laborers, Workers, and Mechanics" include pre-apprentices, helpers, trainees, learners and properly registered and indentured apprentices but exclude clerical, supervisory, and other personnel not performing manual labor.

Establishment of Wage Rates. The Department of Public Works shall periodically obtain a current schedule of prevailing wage rates from DWD. The schedule shall be used to establish the City of Madison Prevailing Wage Rate Schedule for Public Works Construction (prevailing wage rate). The Department of Public Works may include known increases to the prevailing wage rate which can be documented and are to occur on a future specific date. The prevailing wage rate shall be included in public works contracts subsequently negotiated or solicited by the City. Except for known increases contained within the schedule, the prevailing wage rate shall not change during the contract. The approved wage rate is attached hereto.

Workforce Profile. The Contractor shall, at the time of signature of the contract, notify the City Engineer in writing of the names and classifications of all the employees of the Contractor, Subcontractors, and Agents proposed for the work. In the alternative, the Contractor shall submit in writing the classifications of all the employees of the Contractor, Subcontractors and Agents and the total number of hours estimated in each classification for the work. This workforce profile(s) shall be reviewed by the City Engineer who may, within ten (10) days, object to the workforce profile(s) as not being reflective of that which would be required for the work. The Contractor may request that the workforce profile, or a portion of the workforce profile, be submitted after the signature of the contract but at least ten (10) days prior to the work commencing. Any costs or time loss resulting from modifications to the workforce profile as a result of the City Engineer's objections shall be the responsibility of the Contractor.

Payrolls and Records. The Contractor shall keep weekly payroll records setting forth the name, address, telephone number, classification, wage rate and fringe benefit package of all the employees who work on the contract, including the employees of the Contractor's subcontractors and agents. Such weekly payroll records must include the required information for all City contracts and all other contracts on which the employee worked during the week in which the employee worked on the contract. The Contractor shall also keep records of the individual time each employee worked on the project and for each day of the project. Such records shall also set forth the total number of hours of overtime credited to each such employee for each day and week and the amount of overtime pay received in that week. The records shall set forth the full weekly wages earned by each employee and the actual hourly wage paid to the employee.

The Contractor shall submit the weekly payroll records, including the records of the Contractor's subcontractors and agents, to the City Engineer for every week that work is being done on the contract. The submittal shall be within twenty-one (21) calendar days of the end of the Contractor's weekly pay period.

Employees shall receive the full amounts accrued at the time of the payment, computed at rates not less than those stated in the prevailing wage rate and each employee's rate shall be determined by the work that is done within the trade or occupation classification which should be properly assigned to the employee.

An employee's classification shall not be changed to a classification of a lesser rate during the contract. If, during the term of the contract, an employee works in a higher pay classification than the one which was previously properly assigned to the employee, then that employee shall be considered to be in the higher pay classification for the balance of the contract, receive the appropriate higher rate of pay, and she/he shall not receive a lesser rate during the balance of the

materials, articles, supplies or equipment on the site of the building or work, by persons employed by the Contractor, Subcontractor, or Agent thereof.

"Employees working on the project" means laborers, workers, and mechanics employed directly upon the site of work.

"Laborers, Workers, and Mechanics" include pre-apprentices, helpers, trainees, learners and properly registered and indentured apprentices but exclude clerical, supervisory, and other personnel not performing manual labor.

Establishment of Wage Rates. The Department of Public Works shall periodically obtain a current schedule of prevailing wage rates from DWD. The schedule shall be used to establish the City of Madison Prevailing Wage Rate Schedule for Public Works Construction (prevailing wage rate). The Department of Public Works may include known increases to the prevailing wage rate which can be documented and are to occur on a future specific date. The prevailing wage rate shall be included in public works contracts subsequently negotiated or solicited by the City. Except for known increases contained within the schedule, the prevailing wage rate shall not change during the contract. The approved wage rate is attached hereto.

Workforce Profile. The Contractor shall, at the time of signature of the contract, notify the City Engineer in writing of the names and classifications of all the employees of the Contractor, Subcontractors, and Agents proposed for the work. In the alternative, the Contractor shall submit in writing the classifications of all the employees of the Contractor, Subcontractors and Agents and the total number of hours estimated in each classification for the work. This workforce profile(s) shall be reviewed by the City Engineer who may, within ten (10) days, object to the workforce profile(s) as not being reflective of that which would be required for the work. The Contractor may request that the workforce profile, or a portion of the workforce profile, be submitted after the signature of the contract but at least ten (10) days prior to the work commencing. Any costs or time loss resulting from modifications to the workforce profile as a result of the City Engineer's objections shall be the responsibility of the Contractor.

Payrolls and Records. The Contractor shall keep weekly payroll records setting forth the name, address, telephone number, classification, wage rate and fringe benefit package of all the employees who work on the contract, including the employees of the Contractor's subcontractors and agents. Such weekly payroll records must include the required information for all City contracts and all other contracts on which the employee worked during the week in which the employee worked on the contract. The Contractor shall also keep records of the individual time each employee worked on the project and for each day of the project. Such records shall also set forth the total number of hours of overtime credited to each such employee for each day and week and the amount of overtime pay received in that week. The records shall set forth the full weekly wages earned by each employee and the actual hourly wage paid to the employee.

The Contractor shall submit the weekly payroll records, including the records of the Contractor's subcontractors and agents, to the City Engineer for every week that work is being done on the contract. The submittal shall be within twenty-one (21) calendar days of the end of the Contractor's weekly pay period.

Employees shall receive the full amounts accrued at the time of the payment, computed at rates not less than those stated in the prevailing wage rate and each employee's rate shall be determined by the work that is done within the trade or occupation classification which should be properly assigned to the employee.

An employee's classification shall not be changed to a classification of a lesser rate during the contract. If, during the term of the contract, an employee works in a higher pay classification than the one which was previously properly assigned to the employee, then that employee shall be considered to be in the higher pay classification for the balance of the contract, receive the appropriate higher rate of pay, and she/he shall not receive a lesser rate during the balance of the

contract. For purposes of clarification, it is noted that there is a distinct difference between working in a different classification with higher pay and doing work within a classification that has varying rates of pay which are determined by the type of work that is done within the classification. For example, the classification "Operating Engineer" provides for different rates of pay for various classes of work and the Employer shall compensate an employee classified as an "Operating Engineer" based on the highest class of work that is done in one day. Therefore, an "Operating Engineer's" rate may vary on a day to day basis depending on the type of work that is done, but it will never be less than the base rate of an "Operating Engineer". Also, as a matter of clarification, it is recognized that an employee may work in a higher paying classification merely by chance and without prior intention, calculation or design. If such is the case and the performance of the work is truly incidental and the occurrence is infrequent, inconsequential and does not serve to undermine the single classification principle herein, then it may not be required that the employee be considered to be in the higher pay classification and receive the higher rate of pay for the duration of the contract. However, the Contractor is not precluded or prevented from paying the higher rate for the limited time that an employee performs work that is outside of the employee's proper classification.

Questions regarding an employee's classification, rate of pay or rate of pay within a classification, shall be resolved by reference to the established practice that predominates in the industry and on which the trade or occupation rate/classification is based. Rate of pay and classification disputes shall be resolved by relying upon practices established by collective bargaining agreements and guidelines used in such determination by appropriate recognized trade unions operating within the City of Madison.

The Contractor, its Subcontractors and Agents shall submit to interrogation regarding compliance with the provisions of this ordinance.

Mulcting of the employees by the Contractor, Subcontractor, and Agents on Public Works contracts, such as by kickbacks or other devices, is prohibited. The normal rate of wage of the employees of the Contractor, Subcontractor, and Agents shall not be reduced or otherwise diminished as a result of payment of the prevailing wage rate on a public works contract.

Hourly contributions. Hourly contributions shall be determined in accordance with the prevailing wage rate and with DWD. 290.01(10), Wis. Admin. Code.

Apprentices and Subjourney persons. Apprentices and sub journeypersons performing work on the project shall be compensated in accordance with the prevailing wage rate and with DWD 290.02, and 290.025, respectively, Wis. Admin. Code.

Straight Time Wages. The Contractor may pay straight time wages as determined by the prevailing wage rate and DWD 290.04, Wis. Admin. Code.

Overtime Wages. The Contractor shall pay overtime wages as required by the prevailing wage rate and DWD 290.05, Wis. Admin. Code.

Posting of Wage Rates and Hours. A clearly legible copy of the prevailing wage rate, together with the provisions of Sec. 66.0903(10)(a) and (11)(a), Wis. Stats., shall be kept posted in at least one conspicuous and easily accessible place at the project site by the Contractor and such notice shall remain posted during the full time any laborers, workers or mechanics are employed on the contract.

Evidence of Compliance by Contractor. Upon completion of the contract, the Contractor shall file with the Department of Public Works an affidavit stating:

- a. That the Contractor has complied fully with the provisions and requirements of Sec. 66.0903(3), Wis. Stats., and Chapter DWD 290, Wis. Admin. Code; the Contractor has received evidence of compliance from each of the agents and subcontractors; and the

names and addresses of all of the subcontractors and agents who worked on the contract.

- b. That full and accurate records have been kept, which clearly indicate the name and trade or occupation of every laborer, worker or mechanic employed by the Contractor in connection with work on the project. The records shall show the number of hours worked by each employee and the actual wages paid therefore; where these records will be kept and the name, address and telephone number of the person who will be responsible for keeping them. The records shall be retained and made available for a period of at least three (3) years following the completion of the project of public works and shall not be removed without prior notification to the municipality.

Failure to Comply with the Prevailing Wage Rate. If the Contractor fails to comply with the prevailing wage rate, she/he shall be in default on the contract. In addition, if DWD finds that a contractor or subcontractor violated the prevailing wage law, DWD will assess liquidated damages of 100% of the wages owed to employees.

Establishment of Wage Rates. The Department of Public Works shall periodically obtain a current schedule of prevailing wage rates from DWD. The schedule shall be used to establish the City of Madison Prevailing Wage Rate Schedule for Public Works Construction (prevailing wage rate). The Department of Public Works may include known increases to the prevailing wage rate which can be documented and are to occur on a future specific date. The prevailing wage rate shall be included in public works contracts subsequently negotiated or solicited by the City. Except for known increases contained within the schedule, the prevailing wage rate shall not change during the contract. The approved wage rate and DWD prevailing wage requirements are attached hereto as Sec. I of the contract.

5. **Affirmative Action.** In the performance of the services under this Agreement the Contractor agrees not to discriminate against any employee or applicant because of race, religion, marital status, age, color, sex, disability, national origin or ancestry, income level or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, gender identity, political beliefs, or student status. The Contractor further agrees not to discriminate against any subcontractor or person who offers to subcontract on this contract because of race, religion, color, age, disability, sex, sexual orientation, gender identity or national origin.

The Contractor agrees that within thirty (30) days after the effective date of this agreement, the Contractor will provide to the City Affirmative Action Division certain workforce utilization statistics, using a form to be furnished by the City.

If the contract is still in effect, or if the City enters into a new agreement with the Contractor, within one year after the date on which the form was required to be provided, the Contractor will provide updated workforce information using a second form, also to be furnished by the City. The second form will be submitted to the City Affirmative Action Division no later than one year after the date on which the first form was required to be provided.

The Contractor further agrees that, for at least twelve (12) months after the effective date of this contract, it will notify the City Affirmative Action Division of each of its job openings at facilities in Dane County for which applicants not already employees of the Contractor are to be considered. The notice will include a job description, classification, qualifications and application procedures and deadlines. The Contractor agrees to interview and consider candidates referred by the Affirmative Action Division if the candidate meets the minimum qualification standards established by the Contractor, and if the referral is timely. A referral is timely if it is received by the Contractor on or before the date started in the notice.

Articles of Agreement
Article I

The Contractor shall take affirmative action in accordance with the provisions of this contract to insure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin and that the employer shall provide harassment free work environment for the realization of the potential of each employee. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training including apprenticeship insofar as it is within the control of the Contractor. The Contractor agrees to post in conspicuous places available to employees and applicants notices to be provided by the City setting out the provisions of the nondiscrimination clauses in this contract.

Article II

The Contractor shall in all solicitations or advertisements for employees placed by or on behalf of the Contractors state that all qualified or qualifiable applicants will be employed without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin.

Article III

The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice to be provided by the City advising the labor union or worker's representative of the Contractor's equal employment opportunity and affirmative action commitments. Such notices shall be posted in conspicuous places available to employees and applicants for employment.

Article V

The Contractor agrees that it will comply with all provisions of the Affirmative Action Ordinance of the City of Madison, including the contract compliance requirements. The Contractor agrees to submit the model affirmative action plan for public works contractors in a form approved by the Affirmative Action Division Manager.

Article VI

The Contractor will maintain records as required by Section 39.02(9)(f) of the Madison General Ordinances and will provide the City Affirmative Action Division with access to such records and to persons who have relevant and necessary information, as provided in Section 39.02(9)(f). The City agrees to keep all such records confidential, except to the extent that public inspection is required by law.

Article VII

In the event of the Contractor's or subcontractor's failure to comply with the Equal Employment Opportunity and Affirmative Action Provisions of this contract or Section 39.03 and 39.02 of the Madison General Ordinances, it is agreed that the City at its option may do any or all of the following:

1. Cancel, terminate or suspend this Contract in whole or in part.
2. Declare the Contractor ineligible for further City contracts until the Affirmative Action requirements are met.

3. Recover on behalf of the City from the prime Contractor 0.5 percent of the contract award price for each week that such party fails or refuses to comply, in the nature of liquidated damages, but not to exceed a total of five percent (5%) of the contract price, or five thousand dollars (\$5,000), whichever is less. Under public works contracts, if a subcontractor is in noncompliance, the City may recover liquidated damages from the prime Contractor in the manner described above. The preceding sentence shall not be construed to prohibit a prime Contractor from recovering the amount of such damage from the non-complying subcontractor.

Article VIII

The Contractor shall include the above provisions of this contract in every subcontract so that such provisions will be binding upon each subcontractor. The Contractor shall take such action with respect to any subcontractor as necessary to enforce such provisions, including sanctions provided for noncompliance.

Article IX

The Contractor shall allow the maximum feasible opportunity to small business enterprises to compete for any subcontracts entered into pursuant to this contract. (In federally funded contracts the terms "DBE, MBE and WBE" shall be substituted for the term "small business" in this Article.)

6. Substance Abuse Prevention Program Required. Prior to commencing work on the Contract, the Contractor, and any Subcontractor, shall have in place a written program for the prevention of substance abuse among its employees as required under Wis. Stat. Sec. 103.503.

**FOREST HILL CEMETERY - JOHN CATLIN CHAPEL ROOF REPLACEMENT
CONTRACT NO. 7478**

IN WITNESS WHEREOF, the Contractor has hereunto set his/her hand and seal and the City has caused these presents to be sealed with its corporate seal and to be subscribed by its Mayor and City Clerk the day and year first above written.

Countersigned:

<u>[Signature]</u>		<u>MILLEN RFG. CORP.</u>	
Witness	Date	Company Name	
<u>[Signature]</u>	<u>5/18/15</u>	<u>[Signature]</u>	<u>5/18/15</u>
		President	Date
<u>[Signature]</u>	<u>5/18/15</u>	<u>Matt Millen</u>	<u>5/18/15</u>
Witness	Date	Secretary	Date

CITY OF MADISON, WISCONSIN

Provisions have been made to pay the liability that will accrue under this contract.

Approved as to form:

[Signature]
Finance Director

[Signature]
for City Attorney

Signed this 16th day of June, 2015

[Signature]
Witness

[Signature] 6-16-15
Mayor Date

[Signature]
Witness

Maibeth Wigdel Behl 5-22-15
City Clerk Date

SECTION I: PAYMENT AND PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we Millen Rfg. Corp. as principal, and
The Ohio Casualty Insurance Company 62 Maple Avenue, Keene, NH 03431

Company of New Hampshire as surety, are held and firmly bound unto the City of
 Madison, Wisconsin, in the sum of **NINETY-FIVE THOUSAND FOUR HUNDRED FIFTY-SEVEN**
(\$95,457.00) Dollars, lawful money of the United States, for the payment of which sum to the City of
 Madison, we hereby bind ourselves and our respective executors and administrators firmly by these
 presents.

The condition of this Bond is such that if the above bounden shall on his/her part fully and faithfully
 perform all of the terms of the Contract entered into between him/herself and the City of Madison for the
 construction of:

FOREST HILL CEMETERY - JOHN CATLIN CHAPEL ROOF REPLACEMENT
CONTRACT NO. 7478

in Madison, Wisconsin, and shall pay all claims for labor performed and material furnished in the
 prosecution of said work, and save the City harmless from all claims for damages because of negligence
 in the prosecution of said work, and shall save harmless the said City from all claims for compensation
 (under Chapter 102, Wisconsin Statutes) of employees and employees of subcontractor, then this Bond is
 to be void, otherwise of full force, virtue and effect.

Signed and sealed this 20th day of May, 2015

Countersigned:

Millen Rfg. Corp.

Company Name (Principal)

Witness

President

Seal

Secretary

Approved as to form:

The Ohio Casualty Insurance Company

Surety

Seal

☐ Salary Employee

☒ Commission

By

Attorney-in-Fact

Dina A. Roberts

for City Attorney

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under
 License No. 2459106 for the year 2015, and appointed as attorney-in-fact with
 authority to execute this payment and performance bond which power of attorney has not been revoked.

May 20, 2015

Date

Agent Signature

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 6966606

American Fire and Casualty Company
The Ohio Casualty Insurance Company

Liberty Mutual Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Barbara Howland; David R. Grant; Dina A. Roberts; Michael Stolz; Robert Grant; Timothy F. Stolz

all of the city of Brookfield, state of WI each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 28th day of April, 2015.



American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 28th day of April, 2015, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires March 28, 2017
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Gregory W. Davenport, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 20th day of May, 2015.



By: Gregory W. Davenport
Gregory W. Davenport, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

SECTION J: PREVAILING WAGE RATES

NOT APPLICABLE