DEMOLITION & RECONSTRUCTION

INDIAN NECK FIREHOUSE
6-10 LINDEN AVENUE
BRANFORD, CT 06405

S/P+A PROJECT NO. 17.015

DATE: December 3, 2018

The following changes to the Drawings and Project Specifications shall become a part of the Drawings and Project Specifications; superseding previously issued Drawings and Project Specifications to the extent modified by Addendum No. 2.

General Information:

• The deadline for RFIs was extended to Wednesday, December 5, 2018.
• See attached RFIs. (21)
• See attached Substitution Requests. (4)
• The Town of Branford is in the process of completing a Flood Certification package which will be in place prior to issuance of permit.

Changes to the Specifications:

• DRAWING LIST, Page 2, Fire Protection Drawings, delete “FP901” in its entirety.
• SECTION 081423, CLAD COMMERCIAL DOORS, Page 4, Article 2.5, add the following:
  “B. Weatherstripping: Manufacturer’s standard integral weatherstripping.”
• SECTION 085200, WOOD WINDOWS, Page 2:
  o Article 2.2.B.1., revise “CW” to read “LC”.
  o Article 2.2.B.2., revise “30” to read “65”.
• SECTION 087100, DOOR HARDWARE, Page 15, Article 3.7, HW-2, revise “WEATHERSTRIPPING” to read “WEATHERSTRIPPING (BY DOOR MANUFACTURER)”.

Changes to the Drawings:

• DRAWING A001, GENERAL INFORMATION & DRAWING LIST, List of Drawings:
  o Architectural, add the following:
    “A110 ATTIC DECK PLAN
     A911 DOOR DETAILS & SIGNAGE”
  o Fire Protection, delete “FP901” in its entirety.
ADDENDUM #2

- Plumbing, delete “P301” in its entirety.

- DRAWING A901, DOOR SCHEDULE, ELEVATIONS & DETAILS, Door Sill Detail 7, revise saddle to match that of Saddle Type B.

- DRAWING HM1, 6 LINDEN AVENUE ABATEMENT PLAN, delete all references to storing in basement. The entire building is being demolished.

- DRAWING S100, FOUNDATION PLAN & MECHANICAL PLATFORM FRAMING PLAN, Foundation Plan 1, Note 1, delete sentence referencing “Geotechnical Report” in its entirety.

**The bid date has been extended to December 12, 2018 at 2:00pm by this addendum.**
The addendum consists of twenty-seven (27) pages of 8½” x 11” text.
End of Addendum ‘2’
An addendum has issued to the town to be filed in the town website. This addresses your questions.

1. Please confirm that there is no insulation in attic other than the 4” of rigid insulation on the roof as this does not meet minimum code requirement.

We issued a revised detail. Continuous insulation on the roof needs to meet R25. We have a vented deck system that needs to meet R-25.

2. The existing septic tank is very close to the new foundation. Please advise on what will be done with the abandoned tank. **All existing septic system components shall be pumped dry, removed, and properly disposed of, in accordance with the CT Public health Code.**

3. Do attic stairs need to be fire rated? No, it is not required

4. All material is called to be fire rated. Does this include interior trim and LVL’s as some material is not available as fire rated? No. Trim or lvl’s are not fire rated

Have a nice thanksgiving

David J. Stein, AIA
Principal

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From: Estimating Dept. <estimating@pioneerbuildersct.com>
Sent: Wednesday, November 21, 2018 7:42 AM
To: Dave Stein
Subject: RFI

David,

I sent in this RFI as the first one and it has yet to be answered. Could you please respond.

Thank you,
Jon Stockford
Good morning Mike.
August 8 is the correct date. We will be issuing any clarifications in a forthcoming addendum. Thank you.

Rebecca Bouchard, CSI, CDT
Specifications Writer
Hi David,
The lists of drawings on A001 shows drawing FP901, this drawing is missing from the set. Does it exist?
Thanks,

**Mike Garneau**  
Estimator  
W. J. Mountford Co.  
P 860-291-9448 x 124  
F 860-289-6382  
mgarneau@wjmountford.com  
W.J. Mountford Co. is an Affirmative Action/Equal Opportunity Employer
We will clarify via addendum. But, in general the entire building is be demolished in its entirety from the foundation to roof. Disregard those notes. The other items being retained for the owner to be used in the new building are the generator and its transfer panel and associated components & the front wall mounted sign.

Refer to Demolition Notes on Drawing A030.

David J. Stein, AIA
Principal/Project Manager

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RFI #007

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RICHARD SHULTZ <richardshultz@sbcglobal.net>

Sent: Tuesday, November 27, 2018 12:59 PM

To: Dave Stein <dstein@silverpetrucelli.com>

Subject: RFI: Indian Neck Fire House Demolition and Reconstruction

David

I'm looking at bidding the hazmat work and have some clarification questions pertaining to the drawing HM1 as well as A030 demo drawing:

On the HM-1 drawing it states the following:

**SPECIFIC NOTES**

Field Note #1:

**REMOVE CAST IRON RADIATOR PRIOR TO ABATEMENT AND STORE IN BASEMENT**

Field Note # 2:

**DISCONNECT AND CAP PLUMBING AND ELECTRICAL TO HOT WATER HEATER AND FURNACE PRIOR TO ABATEMENT. MOVE HOT WATER HEATER AND FURNACE TO BASEMENT PRIOR TO ABATEMENT**

Field Note #3:

**REMOVE SUSPENDED CEILING TILES, GRID, AND LIGHT FIXTURES IN ROOM PRIOR TO ABATEMENT. STORE THE REMOVED ITEMS IN THE BASEMENT**
Field Note #4:

**REMOVE VANITY, SINK, AND TOILET PRIOR TO ABATEMENT AND STORE IN BASEMENT. CAP PLUMBING. REMOVE SHOWER DURING ABATEMENT AND CAP PLUMBING. CLEAN SHOWER AND STORE IN BASEMENT**

Are they planning to re-use all this items and why store in basement? The building is being completely demolished correct?

The Demo plan drawing (A030) is of interior of structure. Has the following notes underneath each section of the building stating the following:

**NOTE: REMOVE ENTIRE EXISTING FIREHOUSE BUILDING. INCLUDING, BUT NOT LIMITED TO: CONCRETE FOUNDATION WALLS AND FLOORS; 2X4 WOOD STUD WALLS WITH WOOD SIDING, VINYL SIDING AND 3/4" RIGID INSULATION; VINYL WINDOWS; ASPHALT SHINGLE ROOF ON WOOD SHEATHING AND MEMBRANE ROOF.**

Is the drawing necessary for the project? Are any items being salvaged?
You can use the AIA A305 Contractor’s Qualifications, as noted in the A701 and more importantly you need to follow the DAS requirements as noted in the Invitation to Bid. Thus, you can contact DAS as noted to get the two documents.

David J. Stein, AIA
Principal/Project Manager
REQUEST FOR INFORMATION

To: David Stein
Date: November 27, 2018

Project: Indian Neck Firehouse
Location: 6-10 Linden Ave. Branford, Ct.

1. Please provide the geotechnical report referenced on drawing S100. -No Geotech was performed for this project. Reference will be deleted in forthcoming addendum.

2. Please confirm the existing sanitary lateral is to be reused and the re-connection point is to be at the edge of the existing roadway and parking lot. -The existing lateral to be reused is 6-inch dia. and in the location depicted on the Site Plan. See attached info provided by the Town.

3. Please confirm the invert of the existing sanitary sewer at the connection point. -The invert is approx. 5 feet deep from the existing grade. See attached info provided by the Town.

Thank you,
Jon Stockford
That drawing is deleted.

Please note that RFI’s are due today. thus, we may not be able to address all your last minute questions. An addendum is be issued to answer this exact question.

Thank you,

David J. Stein, AIA
Principal/Project Manager

3190 Whitney Avenue Bldg 2 | Hamden, CT  06518 | silverpetrucelli.com
| P: 203.230.9007 x 201 | F: 203.230.8247 | C: 203.605.1930

David:

Attached is RFI-02 regarding drawing P301.

Thanks

RONALD C. STACY
Senior Project Manager
Millennium Builders, Inc.
rstacy@mbict.com
Tel: 860-571-0555
Fax: 860-571-0550
Cell: 860-614-4257
INF-BID — Indian Neck Firehouse

RFI Subject : 085200 Wood Windows

RFI Number : INF-BID-2
RFI Revision Number : 0
RFI Date : 11/17/2018
Type : Original RFI

Clarification Requested
Specification Section 085200 Wood Windows
2. Window Type W3 on drawing A600 dated 8/8/18 indicates a 5 3/4” vertical aluminum mull cover between window units. Marvin standard mull cover width is 6”.
3. Window Details 1, 2, 3, 4, 5 and 6 on drawing A600 dated 8/18/18 indicated Marvin Clad Double Hung Magnum Windows which is has been discontinued. Marvin Clad Ultimate Double Hung Next Generation Window has replaced this product, (See enclosed details).

Details

<table>
<thead>
<tr>
<th>Drawing</th>
<th>Detail</th>
<th>Spec</th>
</tr>
</thead>
<tbody>
<tr>
<td>A600</td>
<td></td>
<td>085200</td>
</tr>
</tbody>
</table>

Schedule / Cost Impact
To mitigate schedule delay, return by the following date 11/23/2018.
This problem is impacting our progress
This problem is impacting our costs (other than schedule costs)

Please provide a written directive on how to proceed. Descriptions of materials and methods should be accompanied by drawings, sketches and specifications if not covered by applicable contract documents.
Please re-review relevant submittals referenced above.

Signed By: Michael Schettino
Lead Estimator

Dated: 11/17/2018

Responses:
1. Fully tempered glass may be used in place of heat-strengthened. Glazing must be laminated as specified.
2. Understood as all manufacturer’s will vary slightly and will be reviewed during the Shop Drawing process.
3. Ultimate was specified.
4. Performance data will be revised in forthcoming addendum.
**Section Details: IZ3 Operating**

Scale: 3" = 1' 0"

**Double Hung**

<table>
<thead>
<tr>
<th>Head Jamb and Sill</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 1/4&quot; (83)</td>
</tr>
<tr>
<td>1 7/16&quot; (36)</td>
</tr>
<tr>
<td>11/16&quot; (17)</td>
</tr>
<tr>
<td>5 21/32&quot; (144)</td>
</tr>
<tr>
<td>4 9/16&quot; (116)</td>
</tr>
</tbody>
</table>

**Lower Sash**

| 1 1/2" (38) |
| 3 1/4" (83) |
| 3 1/4" (83) |

**Upper Sash**

| 1 1/2" (38) |
| 3 1/4" (83) |
| 3 1/4" (83) |

**Single Hung**

<table>
<thead>
<tr>
<th>Jambs</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 1/4&quot; (83)</td>
</tr>
<tr>
<td>1 7/16&quot; (36)</td>
</tr>
<tr>
<td>11/16&quot; (17)</td>
</tr>
<tr>
<td>5 21/32&quot; (144)</td>
</tr>
<tr>
<td>4 9/16&quot; (116)</td>
</tr>
</tbody>
</table>

**Lower Sash**

| 1 1/2" (38) |
| 3 1/4" (83) |
| 3 1/4" (83) |

**Upper Sash**

| 1 1/2" (38) |
| 3 1/4" (83) |
| 3 1/4" (83) |

**NOTE:** CE mark is not available on Impact units.
Section Details: IZ3 Operating

Scale: 3" = 1' 0"

Double Hung

Head Jamb and Sill

NOTE: CE mark is not available on Impact units.
Reinforced check rail required for applicable sizes
### Certified Sizes and Ratings (IZ3)

<table>
<thead>
<tr>
<th>Product</th>
<th>Air Test to PSF</th>
<th>Water Tested to psf</th>
<th>Structural Tested to psf</th>
<th>Certification Rating</th>
<th>Design Pressure</th>
<th>Overall Width</th>
<th>Overall Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clad Ultimate Double Hung Next Generation 2.0 (4036 - IZ3)</td>
<td>1.57</td>
<td>9.75</td>
<td>97.5</td>
<td>LC-PG65</td>
<td>DP65</td>
<td>45 1/4</td>
<td>79 1/2</td>
</tr>
<tr>
<td>Clad Ultimate Double Hung Next Generation 2.0 (4450 - IZ3)</td>
<td>1.57</td>
<td>9.75</td>
<td>97.5</td>
<td>LC-PG65</td>
<td>DP65</td>
<td>49 1/4</td>
<td>107 1/2</td>
</tr>
<tr>
<td>Clad Ultimate Double Hung Next Generation 2.0 (4256 - IZ3)</td>
<td>1.57</td>
<td>9.75</td>
<td>97.5</td>
<td>LC-PG65</td>
<td>DP65</td>
<td>47 1/4</td>
<td>119 1/2</td>
</tr>
<tr>
<td>Clad Ultimate Double Hung Next Generation 2.0 (4848 - IZ3)</td>
<td>1.57</td>
<td>9.75</td>
<td>97.5</td>
<td>LC-PG65</td>
<td>DP65</td>
<td>53 1/4</td>
<td>103 1/2</td>
</tr>
<tr>
<td>Clad Ultimate Double Hung Transom Next Generation 2.0 (6820-IZ3)</td>
<td>1.57</td>
<td>9.75</td>
<td>97.5</td>
<td>LC-PG65</td>
<td>DP65</td>
<td>73 1/4</td>
<td>27 11/16</td>
</tr>
<tr>
<td>Clad Ultimate Double Hung Picture Next Generation 2.0 (60102-IZ3)</td>
<td>1.57</td>
<td>9.75</td>
<td>97.5</td>
<td>CW-PG65</td>
<td>DP65</td>
<td>61 1/4</td>
<td>103 1/2</td>
</tr>
</tbody>
</table>

**NOTE:** CE mark is not available on Impact units.
Clarification Requested
Specification Section 081423 Clad Commercial Doors

1. Specification Section 081423 2.2.B.1. Minimum Performance Class: Class CW and 2.2.B.2 Minimum Performance Grade: Grade 30. Marvin Clad Commercial Door with a public access sill is not designed or intended to manage air or water infiltration. There is a non rated product and there is no performance warranty available.

2. Specification Section 081423 2.2.E Windborne-Debris Resistance: Capable of resisting impact from windborne debris based on testing clad commercial doors identical to those specified, according to ASTM E 1886 and testing information in ASTM E 1996 and requirements of authorities having jurisdiction. Impact Glass is an available option in Marvin Clad Commercial Doors and is not Impact Rated due to Public Access Sill.

3. Door #11A in Door Schedule on Drawing A910 dated 8/8/18 specifies a Type WD-2. WD-2 indicated on Typical Door Elevations specifies a glass door with a midrail and Door 11-A Elevation 5 specifies a full lite door with a 2 Wide 4 High Muntin Bar Lite Cut. Please confirm door type Door with Midrail or Full Lite door with Muntin Bars.

4. Door Detail #2 on Drawing A910 dated 8/8/18 specifies a removable metal center mullion. Is Marvin standard removable mullion acceptable (See enclosed product cut sheet)? Is the removable mullion keyed or non-keyed?

5. Specification Section 087100 3.7.C. Door Hardware Schedule Hardware Set HW-2 Door 11A specifies continuous hinges. Continuous hinges are not compatible with Marvin Clad Commercial Doors and are not available. Marvin Standard 4 x 4 ball bearing hinges in a Satin Chrome (US26D), Bronze (US10A), Brass (US3) or Stainless Steel (US32D) finishes (See enclosed product cut sheet).

6. Specification Section 087100 3.7.C. Door Hardware Schedule Hardware Set HW-2 Door 11A specified hardware. Specified hardware set is not available from Marvin. Please confirm by others except for Marvin Standard Hinges and Weatherstripping.

Schedule / Cost Impact
To mitigate schedule delay, return by the following date 11/23/2018.
This problem is impacting our progress
This problem is impacting our costs (other than schedule costs)

Please provide a written directive on how to proceed. Descriptions of materials and methods should be
accompanied by drawings, sketches and specifications if not covered by applicable contract documents.
Please re-review relevant submittals referenced above.

Signed By: Michael Schettino
Lead Estimator

Responses:
1. Understood.
2. Understood.
3. WD-2 is correct. Elevation 5/A910 is for detail reference only.
4. No. Removable mullion is to be provided as specified in 087100. Contractor to coordinate all
   pieces of door assembly.
5. Understood. Refer to Section 087100-13, 3.3.C. for installation requirements.
6. All door hardware to be provided as specified in 087100, except for weatherstripping. Door to
   be prepped accordingly. Weatherstripping to be provided by door manufacturer. Contractor to
   coordinate all pieces of door assembly.
7. Glazing must be laminated/rated as specified.
Hinge, 4 1/2” X 4 1/2” Ball Bearing

Includes:
1 - Hinge
6 - #12x1” Phillips flat head wood screws
2 - #12x2 1/2” Phillips flat head screws

NOTE: Hinge color/part number includes the color matched screws. If you need to order the screws separately, they are listed below aligned with the corresponding hinge color.

<table>
<thead>
<tr>
<th>SCREW DESCRIPTION</th>
<th>HINGE COLOR/PART NO.</th>
<th>SCREW COLOR/PART NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 - #12x1” Phillips flat head wood screws (SC=US26D) (BZ=US10A) (BS=US3) (SS=US32D)</td>
<td>SS 02100162 SC brass 02101166 BZ brass 02101167 BS brass 02101165</td>
<td>SS 02056069 SS 02056069 BZ 02056010 BS 02056068</td>
</tr>
<tr>
<td>2 - #12x2 1/2” Phillips flat head screws (SC=US26D) (BZ=US10A) (BS=US3) (SS=US32D)</td>
<td>SS 02100162 SC brass 02101166 BZ brass 02101167 BS brass 02101165</td>
<td>SS 02010311 SS 02010311 BZ 02056067 BS 02010310</td>
</tr>
</tbody>
</table>
**THE FOLLOWING REPLACEMENT PARTS ARE TO BE ORDERED THROUGH OMS – CONFIGURED PARTS**

When ordering replacement parts, specify:
1. type of units;
2. description;
3. finish.

<table>
<thead>
<tr>
<th>ILLUSTRATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Illustration" /></td>
<td>Schlage L Series Mortise Lock w/06 Lever&lt;br&gt;“L” Escutcheon and Strike: Entrance (L9453) Keyed Exterior Interior with Thumb Turn</td>
</tr>
<tr>
<td><img src="image2" alt="Illustration" /></td>
<td>Schlage L Series Mortise Lock w/06 Lever&lt;br&gt;“L” Escutcheon and Strike: Corridor Keyed Exterior Interior with no Thumb Turn</td>
</tr>
<tr>
<td><img src="image3" alt="Illustration" /></td>
<td>Dummy Trim Night Latch&lt;br&gt;Von Duprin (98–990–NL) Rigid lever – key retracts latch bolt</td>
</tr>
<tr>
<td><img src="image4" alt="Illustration" /></td>
<td>Dummy Trim&lt;br&gt;Von Duprin (98–990–DT) Rigid lever for pull operation</td>
</tr>
<tr>
<td><img src="image5" alt="Illustration" /></td>
<td>Lever Night Latch&lt;br&gt;Von Duprin (98–996L–NL) Rigid lever – key retracts latch bolt</td>
</tr>
<tr>
<td><img src="image6" alt="Illustration" /></td>
<td>Lever, Dummy Trim&lt;br&gt;Von Duprin (98–996L–DT) Rigid lever for pull operation</td>
</tr>
<tr>
<td><img src="image7" alt="Illustration" /></td>
<td>Removable Mullion&lt;br&gt;Keyed (AL=SP28) (BZ=SP313)</td>
</tr>
<tr>
<td><img src="image8" alt="Illustration" /></td>
<td>Removable Mullion&lt;br&gt;Non–Keyed (AL=SP28) (BZ=SP313)</td>
</tr>
<tr>
<td><img src="image9" alt="Illustration" /></td>
<td>Rim (Panic) Device, Lever&lt;br&gt;Von Duprin 98 L (SC=US26D) (BZ=313AN) (BS=US3)</td>
</tr>
<tr>
<td><img src="image10" alt="Illustration" /></td>
<td>Rim (Panic) Device, Exit Only&lt;br&gt;Von Duprin 98 EO (SC=US26D) (BZ=313AN) (BS=US3)</td>
</tr>
<tr>
<td><img src="image11" alt="Illustration" /></td>
<td>Closer, 2 1/4” Door&lt;br&gt;LCN4041 (AL=BHMA689) (BZ=BHMA695) (BS=BHMA696)</td>
</tr>
<tr>
<td><img src="image12" alt="Illustration" /></td>
<td>Closer, 1 3/4” Door&lt;br&gt;LCN1461 (AL=BHMA689) (BZ=BHMA695) (BS=BHMA696)</td>
</tr>
</tbody>
</table>
Good afternoon Mike.
All exposed wood within Stair ST-1 and Apparatus Bay 10 must be fire-treated.
Thank you and good luck.

Rebecca Bouchard, CSI, CDT
Specifications Writer

Hi David,
Could you clarify where Fire Retardant Treated wood is required?
   1) Spec 061000-2.3E indicates Treat ALL rough carpentry unless noted otherwise.
   2) Spec 061600-2.4D indicates Treat ALL plywood unless otherwise indicated.
   3) Spec 062023-2.4E mentions where indicated.
I see Pressure Treated called for on some details, so are we to assume all other lumber, sheathing is FRT?
Thanks,
Mike Garneau
Estimator
W. J. Mountford Co.
P 860-291-9448 x 124
F 860-289-6382
mgarneau@wjmountford.com
W.J. Mountford Co. is an Affirmative Action/Equal Opportunity Employer
Rebecca Bouchard

From: Rebecca Bouchard  
Sent: Monday, December 03, 2018 11:59 AM  
To: mgarneau@wjmountford.com  
Subject: RE: Indian Neck firehouse

Good morning Mike.  
Please see responses to your RFI below.  
Thank you and good luck.

Rebecca Bouchard, CSI, CDT  
Specifications Writer

Jim Pretti

From: Jim Pretti <Jim.Pretti@CEngineeringLLC.com>  
Sent: Monday, December 03, 2018 11:19 AM  
To: Dave Stein <dstein@silverpetrucelli.com>  
Cc: Rebecca Bouchard <rbouchard@silverpetrucelli.com>  
Subject: RE: Indian Neck firehouse

Dave,

1. Yes. The existing chain link fence gets removed.
2. Yes, provide stockade fence as indicated. The Town agreed to meet with the neighbor once the building goes up, and decide whether the fence of some additional landscaping would make more sense along that 50’ on the easterly property line.
3. We are just paving the parking lots and patches for the utility tie-ins. The solid shading is just depicting the existing bituminous road.

Jim

Mike Garneau

From: Mike Garneau <mgarneau@wjmountford.com>  
Sent: Monday, December 03, 2018 10:36 AM  
To: Dave Stein <dstein@silverpetrucelli.com>  
Cc: Mike Garneau <mgarneau@wjmountford.com>; ctp@ctpavingllc.com  
Subject: FW: Indian Neck firehouse

Hi David – see below,

- Refer to C drawings, does the existing chain link fence get removed where the new 6’ stockade fence is to be installed?
- Are we to carry the 50 lf +/- of 6’ stockade fence adjacent to neighbor’s property?

Thanks,

Mike Garneau  
Estimator  
W. J. Mountford Co.  
P 860-291-9448 x 124
Are we just paving the parking lots and the utility tie-ins in the street, or is Linden Ave & Cocheco Ave shown shaded also included?
CSI Form 1.5C

SUBSTITUTION REQUEST
(During the Bid Period)

Project: Indian Neck Firehouse Demolition and Reconstruction
Substitution Request Number: __________________________

To: David Stein
Date: November 21, 2018

Re: Vapor Barrier Substitution Request
A/E Project Number: __________________________

Specification Title: Cast in Place Concrete
Description: Vapor Retarders
Section: 033000 Page: 284 Article/Paragraph: 2.7/A

Proposed Substitution: VIPER VAPORCHECK II 15-MIL "CLASS A" VAPOR BARRIER
Manufacturer: ISI Building Products Address: 401 Truck Haven Road Phone: 866-698-6562
Trade Name: East Peoria, Illinois 61611 Model No.: __________________________

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:
• Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
• Same warranty will be furnished for proposed substitution as for specified product.
• Same maintenance service and source of replacement parts, as applicable, is available.
• Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
• Proposed substitution does not affect dimensions and functional clearances.
• Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: David Mooney
Signed by: __________________________
Firm: ISI Building Products
Address: 401 Truck Haven Road
East Peoria, Illinois 61611
Telephone: 866-698-6562

A/E's REVIEW AND ACTION

✓ Substitution approved - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: A. Lombardi, Michael Horton Associates
Date: 11.26.18

Supporting Data Attached: ☐ Drawings ☑ Product Data ☐ Samples ☑ Tests ☑ Reports ☑ Projects

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110 South Union Street, Suite 100, Alexandria, VA 22314
Page 1
Form Version: June 2004
CSI Form 1.5C

This is not an official CSI Construction Contract Administration (CCA) Form. Please use CSI's official CCA Forms if required by your project needs.
VIPER® VAPORCHECK® II 15-mil Vapor Barrier
ASTM E 1745 “CLASS A”

SPECIFICATION INFORMATION
VAPOR RETARDERS DIVISIONS: 033000, 072600

1.0 PRODUCT NAME
VIPER® VAPORCHECK® II 15-mil
ASTM E 1745 “Class A”
Under-Slab Vapor Barrier

2.0 MANUFACTURER
Insulation Solutions Inc.
401 Truck Haven Road
East Peoria, IL 61611

Engineering Assistance
Toll Free: 866-698-6562
Fax: 309-698-0065
www.insulationsolutions.com

3.0 PRODUCT DESCRIPTION
3.1 Basic Use:
VIPER® VAPORCHECK® II 15-mil is a unique high strength polyolefin based under-slab vapor barrier specifically designed for preventing moisture migration through concrete slabs-on-grade. VIPER® VAPORCHECK® II 15-mil reduces water vapor emission transfer and moisture migration from entering the building envelope on commercial, industrial and residential applications. VIPER® VAPORCHECK® II 15-mil controls condensation, mold, mildew, degradation and prevents costly flooring failures and damage to moisture sensitive furnishings within a building’s interior.

VIPER® VAPORCHECK® II 15-mil may be used to reduce radon and methane gas migration and is resistant to other adverse soil conditions.

3.2 Composition & Materials:
VIPER® VAPORCHECK® II 15-mil is manufactured using the latest generation of prime virgin (non-recycled) polyolefin resin, constructed in a multi-layer plastic extrusion process and engineered with physical properties that maintain long term performance. The multi-layer extrusion process creates an excellent balance of high puncture and tensile strength while maintaining very low water vapor permeance characteristics. The product will NOT biodegrade/ decompose and maintains (long term) high performance when exposed to various soil types and below slab conditions.

3.3 Product Dimensions & Weight:
3.4 Benefits:
3.5 www.insulationsolutions.com

4.0 TECHNICAL DATA
4.1 Applicable Standards
• American Society for Testing & Materials (ASTM)
• American Concrete Institute (ACI)

• ASTM E 1745 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs
• ASTM E 154 Standard Test Methods for Water Vapor Retarders used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover
• ASTM D 1709 Standard Test Methods for Impact Resistance of Plastic Film by the Free-Falling Dart Method
• ASTM D 882 Standard Test Method for Tensile Properties of Thin Plastic Sheeting
• ASTM F 1249 Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor
• ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
• ASTM E 1643 Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs
• ACI 302.2R-06 Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials

Note: All VIPER® VAPORCHECK® II 15-mil testing is done by accredited, third-party testing agencies following stringent industry guidelines and testing standards.

<table>
<thead>
<tr>
<th>PROPERTIES</th>
<th>TEST METHOD</th>
<th>VIPER® VAPORCHECK® II 15-mil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Procedure - Independent Test Facility</td>
<td>Applicable Standards</td>
<td>IP Units</td>
</tr>
<tr>
<td>Thickness, Nominal</td>
<td>ASTM E 1745</td>
<td>15-mil</td>
</tr>
<tr>
<td>Weight Per Roll</td>
<td></td>
<td>140 lbs</td>
</tr>
<tr>
<td>Classification</td>
<td>ASTM E 1745</td>
<td>EXCEEDS CLASS A, B &amp; C</td>
</tr>
<tr>
<td>Puncture Resistance</td>
<td>ASTM D 1709 Method B</td>
<td>3,485 grams</td>
</tr>
<tr>
<td>Puncture Resistance</td>
<td>ASTM E 154 Sec. 10</td>
<td>90 lbs</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ASTM E 154 Sec. 9 (D882)</td>
<td>57 lbf/in</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td></td>
<td>-70° F to 180° F</td>
</tr>
<tr>
<td>Water Vapor Permeance (New Material)</td>
<td>ASTM F 1249</td>
<td>0.0043 perms*</td>
</tr>
<tr>
<td>Water Vapor Transmission Rate (WVTR)</td>
<td>ASTM F 1249</td>
<td>0.0030 grains/ft²/hr</td>
</tr>
<tr>
<td>Water Vapor Permeance (After Conditioning)</td>
<td>ASTM E 154 Sec. 8 (ASTM F 1249)</td>
<td>0.0046 perms*</td>
</tr>
<tr>
<td>Permeance after Wetting, Drying and Soaking</td>
<td>ASTM E 154 Sec. 11 (ASTM F 1249)</td>
<td>0.0033 perms*</td>
</tr>
<tr>
<td>Permeance after Heat Conditioning</td>
<td>ASTM E 154 Sec. 12 (ASTM F 1249)</td>
<td>0.0046 perms*</td>
</tr>
<tr>
<td>Permeance after Low Temperature Conditioning</td>
<td>ASTM E 154 Sec. 13 (ASTM F 1249)</td>
<td>0.0039 perms*</td>
</tr>
<tr>
<td>Permeance after Soil Organism Exposure</td>
<td>ASTM E 96 Procedure B</td>
<td>0.01 perms*</td>
</tr>
<tr>
<td>Water Vapor Permeance (New Material)</td>
<td>ASTM E 96 Procedure B</td>
<td>0.007 grains/ft²/hr</td>
</tr>
<tr>
<td>Water Vapor Transmission Rate (WVTR)</td>
<td>ASTM E 154</td>
<td>Unaffected</td>
</tr>
<tr>
<td>Chemical Resistance</td>
<td>ASTM E 154</td>
<td>Unaffected</td>
</tr>
<tr>
<td>Life Expectancy</td>
<td>ASTM E 154</td>
<td>Indefinite</td>
</tr>
</tbody>
</table>

*grains/(ft²*ft²*in Hg) **g/(m²*24hr*mm Hg)
4.2 Environmental Considerations:

**VIPER® VAPORCHECK® II 15-mil** can aid in controlling soil gas and poisons such as methane, radon, sulfates and petroleum contaminated soil.

4.3 Physical Properties:

**VIPER® VAPORCHECK® II 15-mil** exceeds all ASTM E 1745 “Class A” requirements for under-slab vapor retarders.

5.0 INSTALLATION

5.1 Sub-Grade Preparation:

Level and tamp or roll granular base as specified by the architectural or structural drawings.

5.2 Vapor Barrier Placement:

Unroll **VIPER® VAPORCHECK® II 15-mil** with the longest dimension parallel with the direction of the pour. Unfold **VIPER® VAPORCHECK® II 15-mil** to full 14’ width.

Lap **VIPER® VAPORCHECK® II 15-mil** over the footings and seal to the vertical foundation walls with either **WHITE POLYETHYLENE TAPE, VIPER® DOUBLE BOND TAPE, VIPER® VAPORPATCH or VAPORCHECK® MASTIC.**

5.3 Seams and Penetrations:

Seal around pipes, support columns or any other penetration with **VIPER® VAPORPATCH, VAPORCHECK® MASTIC** or at minimum a combination of **VIPER® VAPORCHECK® II 15-mil** and **WHITE POLYETHYLENE TAPE.** Doing so creates a monolithic membrane between the surface of the slab and moisture sources below.

Holes or openings through **VIPER® VAPORCHECK® II 15-mil** should be effectively sealed with **WHITE POLYETHYLENE TAPE, VIPER® VAPORPATCH or VAPORCHECK® MASTIC** to maintain the integrity of the vapor barrier. Overlap joints a minimum of six inches. Seal overlap together with **WHITE POLYETHYLENE TAPE and/or VIPER® DOUBLE BOND TAPE.**

5.4 Protection:

When installing reinforcing steel and utilities, in addition to the placement of concrete, take precaution to protect **VIPER® VAPORCHECK® II 15-mil.** Carelessness during installation can damage the most puncture-resistant vapor barriers. Provide for additional protection in high-traffic areas.

Place standard reinforcing bar supports on **VIPER® VAPORCHECK® II 15-mil.** The strength characteristics of **VIPER® VAPORCHECK® II 15-mil** will help guard against possible punctures caused by reinforcing bar supports.

Avoid driving stakes through **VIPER® VAPORCHECK® II 15-mil.** If this cannot be avoided, each individual hole must be repaired.

If a cushion or blotter layer is required in the design between the vapor barrier and the slab, additional care should be taken, especially if sharp crushed rock is used. Washed rock will provide less chance of damage during placement.

These are very general installation instructions. Instructions on architectural or structural drawings should be reviewed and followed as well. Detailed installation instructions are available online at www.viper2.com. ASTM E 1643 also provides valuable installation information for under-slab vapor retarders.

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6.0 AVAILABILITY & COST

**VIPER® VAPORCHECK® II 15-mil** is sold through construction supply houses across the United States and Canada.

**VIPER® VAPORCHECK® II 15-mil** current cost information can be obtained by calling our Corporate Office at 866-698-6562.

7.0 WARRANTY

INSULATION SOLUTIONS INC.® MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, NO GUARANTEE OF SATISFACTORY RESULTS FROM RELIANCE UPON CONTAINED INFORMATION OR RECOMMENDATIONS AND DISCLAIMS ALL LIABILITY FOR RESULTING LOSS OR DAMAGE.

8.0 MAINTENANCE

**VIPER® VAPORCHECK® II 15-mil** requires no maintenance once installed.

9.0 TECHNICAL SERVICES

Technical Information and detailed test results can be obtained by calling our Corporate Office at 866-698-6562.

10.0 FILING SYSTEMS

Additional Information can be obtained by calling our Corporate Office at 866-698-6562 or online at www.viper2.com.

Note: To the best of our knowledge, the specification chart on page one lists typical property values and are intended as guides only, not as specification limits. Insulation Solutions Inc.® makes no warranties as to the fitness for a specific use or merchantability of products referred to, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage.
### PRODUCT COMPARISON CHART

#### 10-MIL TO 11-MIL VAPOR RETARDERS / BARRIERS

<table>
<thead>
<tr>
<th>PRODUCTS</th>
<th>PUNCTURE RESISTANCE (G)</th>
<th>TENSILE STRENGTH (LBF / IN.)</th>
<th>PERMEANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Viper® VaporCheck® II 10-mil</td>
<td>2,747 grams</td>
<td>55 lbf / in.</td>
<td>0.0073 perms</td>
</tr>
<tr>
<td>*Stego® Wrap 10-mil</td>
<td>3,066 grams</td>
<td>50 lbf / in.</td>
<td>0.0254 perms</td>
</tr>
<tr>
<td>*Vapor Block® 10-mil</td>
<td>2,600 grams</td>
<td>52 lbf / in.</td>
<td>0.015 perms</td>
</tr>
<tr>
<td>**Griffolyn® 10-mil</td>
<td>2,250 grams</td>
<td>44 lbf / in.</td>
<td>0.027 perms</td>
</tr>
<tr>
<td>*Moistop Ultra® 10-mil</td>
<td>3,800 grams</td>
<td>61 lbf / in.</td>
<td>0.020 perms</td>
</tr>
<tr>
<td>*Perminator® 10-mil</td>
<td>3,500 grams</td>
<td>52 lbf / in.</td>
<td>0.0183 perms</td>
</tr>
<tr>
<td>*Barrier-Bac® VB250 11-mil</td>
<td>2,400 grams</td>
<td>50 lbf / in.</td>
<td>0.020 perms</td>
</tr>
<tr>
<td>*VaporFlex® 10-mil</td>
<td>3,500 grams</td>
<td>62 lbf / in.</td>
<td>0.044 perms</td>
</tr>
<tr>
<td>*ASTM E 1745 CLASS A</td>
<td>2,200 grams</td>
<td>45 lbf / in.</td>
<td>0.10 perms</td>
</tr>
<tr>
<td>**ASTM E 1745 CLASS B</td>
<td>1,700 grams</td>
<td>30 lbf / in.</td>
<td>0.10 perms</td>
</tr>
<tr>
<td>***ASTM E 1745 CLASS C</td>
<td>475 grams</td>
<td>13.6 lbf / in.</td>
<td>0.10 perms</td>
</tr>
</tbody>
</table>

#### 15-MIL TO 20-MIL VAPOR RETARDERS / BARRIERS

<table>
<thead>
<tr>
<th>PRODUCTS</th>
<th>PUNCTURE RESISTANCE (G)</th>
<th>TENSILE STRENGTH (LBF / IN.)</th>
<th>PERMEANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Viper® VaporCheck® II 15-mil</td>
<td>3,485 grams</td>
<td>57 lbf / in.</td>
<td>0.0043 perms</td>
</tr>
<tr>
<td>*Stego® Wrap 15-mil</td>
<td>2,266 grams</td>
<td>70 lbf / in.</td>
<td>0.0086 perms</td>
</tr>
<tr>
<td>*Vapor Block® 15-mil</td>
<td>3,000 grams</td>
<td>60 lbf / in.</td>
<td>0.01 perms</td>
</tr>
<tr>
<td>*Vapor Block® Plus™ 20-mil</td>
<td>2,600 grams</td>
<td>58 lbf / in.</td>
<td>0.0098 perms</td>
</tr>
<tr>
<td>**Griffolyn® 15-mil</td>
<td>3,178 grams</td>
<td>72 lbf / in.</td>
<td>0.018 perms</td>
</tr>
<tr>
<td>*Moistop Ultra® 15-mil</td>
<td>4,900 grams</td>
<td>80 lbf / in.</td>
<td>0.010 perms</td>
</tr>
<tr>
<td>*Perminator® 15-mil</td>
<td>3,200 grams</td>
<td>72 lbf / in.</td>
<td>0.0063 perms</td>
</tr>
<tr>
<td>*Barrier-Bac® VB350 16-mil</td>
<td>3,960 grams</td>
<td>84 lbf / in.</td>
<td>0.001 perms</td>
</tr>
<tr>
<td>*VaporFlex® 15-mil</td>
<td>2,968 grams</td>
<td>65 lbf / in.</td>
<td>0.026 perms</td>
</tr>
<tr>
<td>*ASTM E 1745 CLASS A</td>
<td>2,200 grams</td>
<td>45 lbf / in.</td>
<td>0.10 perms</td>
</tr>
<tr>
<td>**ASTM E 1745 CLASS B</td>
<td>1,700 grams</td>
<td>30 lbf / in.</td>
<td>0.10 perms</td>
</tr>
<tr>
<td>***ASTM E 1745 CLASS C</td>
<td>475 grams</td>
<td>13.6 lbf / in.</td>
<td>0.10 perms</td>
</tr>
</tbody>
</table>

Note: All of the comparative data shown has been obtained from published values in available literature.