January 9, 2013

Mr. Thomas P. Donald, PE
Director of Bridge Project Development
Massachusetts Department of Transportation
Ten Park Plaza
Boston, MA 02116

Attention: Mr. Joseph Pavao, Jr., PE

Re: Chatham – Bridge St. over Mitchell River
Bridge No. C-07-001, Project File No. 603690
Stone Veneer

Dear Mr. Pavao:

As requested, URS reviewed options for cladding the faces of prominent concrete bridge elements with a stone veneer. The prominent bridge elements are the abutments and wing walls, the bascule pier, and the rest pier. The piers would be clad on four sides. The abutment/wingwalls would be clad on the north and south elevations as viewed from the Mitchell River and Mill Pond. A veneer could be wrapped around the face below the bridge deck, but it may not make economic sense to do so because the face under the pier would not be very broad or highly exposed.

Cladding the concrete faces with a stone veneer is an idea that was first suggested by several townspeople at the public information presentations during the project development stage in 2009-2010. URS created some early images (see right) that were regarded by some to be uncharacteristic of the location. We have since found a Massachusetts manufacturer, Stoneyard.com, which produces a fieldstone veneer that may be more appropriate to the area. The picture below is one example of a product offered by this manufacturer.

URS recommends that this example and specification be presented for review at the next Consulting Parties meeting. If MassDOT and the Consulting Parties opt for this solution, we also recommend having the contractor build a mock-up on site for approval prior to building the affected structures. Attached is a product specification for your reference.

URS Corporation
260 Franklin Street, Suite 300
Boston, MA 02110
Tel: 617.542.4244
Fax: 617.542.3301
www.urscorp.com

URS

Please contact me if you have any questions

Sincerely,

URS Corporation

Mark E. Shamon, PE
Vice President, Project Principal

enclosure

STONEYARD.COM
Historic New England Fieldstone

3-Part Specification

Section 04 4120

NEW ENGLAND FIELDSTONE VENEER

This specification section has been prepared to assist design professionals in the preparation of project specifications. It follows guidelines established by the Construction Specifications Institute (CSI) and therefore may be used with most master specification systems with minor editing.

Edit carefully to suit project requirements.

Notes to the specifier are contained in boxes and hidden text and should be deleted from the final copy.

Revise footer to suit project requirements.

Stoneyard.com
2 Spectacle Pond Road
Littleton, MA 01460 USA

Tel: 978-742-9800
Fax: 978-742-9898
Email: Sales@Stoneyard.com
Web: www.Stoneyard.com

SECTION 04 4120

NEW ENGLAND FIELDSTONE VENEER

** NOTE TO SPECIFIER ** Stoneyard.com; natural fieldstone veneer.

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This section is based on the products of Stoneyard.com, which is located at:

2 Spectacle Pond Rd
Littleton, Massachusetts 01460
Tel: 978-742-9800
Fax: 978-742-9898
E-mail: sales@stoneyard.com
Internet: www.Stoneyard.com

[Click Here] for additional information.

Stoneyard.com specializes in reclaimed New England Fieldstone architectural natural stone building material. Our products are made from a blend of weathered, aged and natural cleft real stone that feature the earth tones of states such as Connecticut, Rhode Island, Vermont, Maine, New Hampshire and Massachusetts.

Our New England Fieldstone is a conglomerate consisting mainly of Quartzite, which has been subjected to heat and pressure creating an incredibly hard and dense material, which is as strong as granite but weighs 15-20% less.

Our veneer stone is available in five distinct shapes: Round, Ledgestone, Ashlar, Square/Rectangular and Mosaic in matching full thickness 3-6 inch anchored veneer and thin 1.0 inch adhered veneer (less than 14 lbs per sq ft).

We are a third generation company delivering the traditional building stone of New England to a nationwide audience through our network of local dealers. Our showroom is open Monday to Friday and we invite architects, masons, and project owners to evaluate our offerings online 24 hours a day at www.Stoneyard.com.

PART 1 GENERAL

1.1 SECTION INCLUDES

** NOTE TO SPECIFIER ** Delete items below not required for project.

A. Stone cladding, siding and veneer of interior and exterior walls as indicated.
B. Stone water features.
C. Stone stair risers.
D. Stone fireplaces.
E. Stone signs.
F. Stone accent trim and shapes.

1.2 RELATED SECTIONS

** NOTE TO SPECIFIER ** Delete any sections below not relevant to this project; add others as required.

A. Section 04 22 00 - Unit Masonry Assemblies (Concrete Unit Masonry): Masonry supporting walls.

B. Section 05 40 00 - Cold-Formed Metal Framing: Formed steel-framed supporting walls.

C. Section 05 50 00 - Metal Fabrications: Galvanized shelf angles, structural supports, anchors and other built-in components for building into natural thin veneer stone.

D. Section 06 11 00 - Wood Framing: Wood frame supporting walls.

E. Section 06 16 00 - Sheathing: Wood frame supporting walls.

F. Section 07 90 00 - Joint Sealers (Joint Protection): Sealant and joint filler for perimeter and control joints.

G. Section 09 24 00 - Portland Cement Plaster (Portland Cement Plastering): Metal lath and scratch coat back-up over supporting walls.

H. Section 09 63 40 - Stone Flooring: Natural thin veneer stone used for flooring.

1.3 REFERENCES

** NOTE TO SPECIFIER ** Delete references from the list below that are not actually required by the text of the edited section.

A. ASTM C91 - Standard Specification for Masonry Cement.

B. ASTM C144 – Standard Specification for Aggregate Masonry Mortar.

C. ASTM C150 - Standard Specification for Portland Cement.

D. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes.

E. ASTM C270 - 08a Standard Specification for Mortar for Unit Masonry.

F. ASTM C847 - Standard Specification for Metal Lath.

G. ASTM C979 - 05 Standard Specification for Pigments for Integrally Colored Concrete.

H. ASTM D226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.

I. ACI-530.1-95/ ASCE 6-95/TMS 602-95 -The Specification for Masonry Structures.

J. ANSI A118.4 Latex Portland Cement Mortar

1.4 SUBMITTALS

A. Submit under provisions of Section 01 33 00 Submittal Procedures.

B. Product Data:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.

C. Selection Samples: Submit mortar color samples.

D. Verification Samples: Submit 2 manufacturer's full-size samples of natural veneer stone for each pattern specified.

** NOTE TO SPECIFIER ** Delete selection samples if colors have already been selected.

1.5 QUALITY ASSURANCE

** NOTE TO SPECIFIER ** Include qualification requirements. Delete if not required.

A. Stone Producer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.
** NOTE TO SPECIFIER ** Include qualification requirements. Delete if not required.

B. Stone Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience.
** NOTE TO SPECIFIER ** Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

C. Mock-Up: Provide a mock-up for evaluation of stone, mortar color and application workmanship.

1. Finish areas designated by Architect.
2. Do not proceed with remaining work until Architect approves workmanship, color, and sheen.
3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store stone on pallets. Pallet shall be shrink-wrapped, banded wood crates.

1.7 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install natural stone veneer under environmental conditions outside manufacturer's limits.

B. Hot and Cold Weather Requirements: ACI 530.1/ASCE 6/TMS 602.

C. Air Temperature: 40 degrees F or above during installation.

D. Mortar Mixing Water: Heat mortar mixing water when air temperature falls below 50 degrees F.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Stoneyard.com, which is located at:
2 Spectacle Pond Rd; Littleton, MA 01460;
Tel: 978-742-9800; Fax: 978-742-9898;
Email: sales@stoneyard.com;
Web: www.stoneyard.com

** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01 25 00.

2.2 NATURAL VENEER STONE

** NOTE TO SPECIFIER ** Stoneyard.com produces all natural historic New England fieldstone veneer products available in 5 shapes, 5 colors and 2 thickness options.

A. Physical Characteristics: New England Fieldstone.
1. Fieldstone: Collected stone from farms and fields in Massachusetts, Connecticut, Rhode Island, New Hampshire, Vermont, and Maine.
2. Color and Veining Range: Earth tones of brown, tan, gray, buff, pink, yellow, white, and black.
3. Density: 153.0 pcf.
4. Bulk Specific Gravity: 2.46.
5. Water Absorption: 0.54 percent.
6. Modulus of Rupture Perpendicular: 1,854 psi.
7. Modulus of Rupture Parallel: 2,692 psi.

8. Compressive Strength Perpendicular: 19,958 psi.
9. Compressive Strength Parallel: 17,307 psi.

** NOTE TO SPECIFIER ** Delete size(s), type(s) and shape(s) not required.

B. Sizes and Shapes:

1. Natural Stone Veneer. Broad range of colors including brown, tan, gray, buff, pink, yellow, white and black.
2. Natural aged and split faces. Commonly used as an architectural stone siding for interior and exterior veneer applications.
3. Adhered Thin Veneer - 1.0 inch thick (plus or minus 0.5 inches). Lightweight (less than 14 lbs per square foot), natural stone, does not require a supporting masonry shelf. Used for interior or exterior applications such as siding, fireplaces, chimneys, water features and fireplaces:
    a. Flats.
    b. Pre-Cut Corners for the appearance of full depth stone
    c. New England Fieldstone Boston Blend Round Thin Veneer:
        1) Natural weathered faces
        2) Thickness: 1.0 inch (plus or minus 0.5 inches).
        3) Facing area: 0.25 to 1.25 sf.
        4) Pre-cut corners present full size stone shape in a thin veneer.
    d. New England Fieldstone Boston Blend Roughly Square and Rectangular Thin Veneer:
        1) Primarily natural weathered faces with some split faces
        2) Thickness: 1.0 inch (plus or minus 0.5 inches).
        3) Heights: 3 to 11 inches
        4) Lengths: 3 to 16 inches
        5) Facing area: 0.25 to 1.25 sf.
        6) Pre-cut corners present full size stone shape in a thin veneer.
    e. New England Fieldstone Boston Blend Mosaic Thin Veneer:
        1) Primarily natural weathered faces with some split faces
        2) Thickness: 1.0 inch (plus or minus 0.5 inches).
        3) Facing area: 0.25 to 1.25 sf.
        4) Pre-cut corners present full size stone shape in a thin veneer.
    f. New England Fieldstone Boston Blend Ledgestone Thin Veneer:
        1) 100 percent split face
        2) Thickness: 1.0 inch (plus or minus 0.5 inches).
        3) Heights: 1 to 4 inches
        4) Lengths: 3 to 16 inches
        5) Facing area: 0.05 to 0.50 sf.
        6) Pre-cut corners present full size stone shape in a thin veneer.
    g. New England Fieldstone Boston Blend Ashlar Thin Veneer:
        1) 100 percent split face
        2) Thickness: 1.0 inch (plus or minus 0.5 inches).
        3) Heights: 3 to 8 inches

4) Lengths: 4 to 16 inches
5) Facing area: 0.10 to 1.0 sf.
6) Pre-cut corners present full size stone shape in a thin veneer.

h. Greenwich Gray Ledgestone Thin Veneer:
1) 100 percent split face
2) Thickness: 1.0 inch (plus or minus 0.5 inches).
3) Heights: 1 to 4 inches
4) Lengths: 3 to 16 inches
5) Facing area: 0.05 to 0.50 sf.
6) Pre-cut corners present full size stone shape in a thin veneer.

i. Greenwich Gray Mosaic Thin Veneer:
1) Primarily natural weathered faces with some split faces
2) Thickness: 1.0 inch (plus or minus 0.5 inches).
3) Facing area: 0.25 to 1.25 sf.
4) Pre-cut corners present full size stone shape in a thin veneer.

j. Yorkshire Granite Ledgestone Thin Veneer:
1) 100 percent split face
2) Thickness: 1.0 inch (plus or minus 0.5 inches).
3) Heights: 1 to 4 inches
4) Lengths: 3 to 16 inches
5) Facing area: 0.05 to 0.50 sf.
6) Pre-cut corners present full size stone shape in a thin veneer.

k. Yorkshire Granite Roughly Square and Rectangular Thin Veneer:
1) Primarily natural weathered faces with some split faces
2) Thickness: 1.0 inch (plus or minus 0.5 inches).
3) Heights: 3 to 11 inches
4) Lengths: 3 to 16 inches
5) Facing area: 0.25 to 1.25 sf.
6) Pre-cut corners present full size stone shape in a thin veneer.

l. Colonial Tan Ledgestone Thin Veneer:
1) 100 percent split face
2) Thickness: 1.0 inch (plus or minus 0.5 inches).
3) Heights: 1 to 4 inches
4) Lengths: 3 to 16 inches
5) Facing area: 0.05 to 0.50 sf.
6) Pre-cut corners present full size stone shape in a thin veneer.

m. Colonial Tan Mosaic Thin Veneer:
1) Primarily natural weathered faces with some split faces
2) Thickness: 1.0 inch (plus or minus 0.5 inches).
3) Facing area: 0.25 to 1.25 sf.
4) Pre-cut corners present full size stone shape in a thin veneer.

n. Sapphire Blue Ledgestone Thin Veneer:

1) 100 percent split face
2) Thickness: 1.0 inch (plus or minus 0.5 inches).
3) Heights: 1 to 4 inches
4) Lengths: 3 to 16 inches
5) Facing area: 0.05 to 0.50 sf.
6) Pre-cut corners present full size stone shape in a thin veneer.

4. Anchored Building Veneer 3-6 inches thick. All natural New England Fieldstone. Commonly used for exterior architectural siding and veneer:

a. Depth 3.0 – 6.0 inches thick.
b. Coverage approximately 35 sf per ton.
c. New England Fieldstone Boston Blend Round Building Veneer:
1) Natural weathered faces
2) Depth: 3.0 to 6.0 inches.
3) Facing area Small: 0.05 to 0.25 sf.
4) Facing area Regular: 0.25 to 1.0 sf.
5) Facing area Large: 0.75 to 2.5 sf.
d. New England Fieldstone Boston Blend Roughly Square and Rectangular Building Veneer:
1) Primarily natural weathered faces with some split faces
2) Depth: 3.0 to 6.0 inches.
3) Facing area Small: 0.10 to 0.75 sf.
4) Facing area Regular: 0.25 to 1.25 sf.
5) Facing area Large: 1.0 to 2.25 sf.
e. New England Fieldstone Boston Blend Mosaic Building Veneer:
1) Primarily natural weathered faces with some split faces
2) Depth: 3.0 to 6.0 inches.
3) Facing area Regular: 0.50 to 2.0 sf.
4) Facing area Large: 1.0 to 5.0 sf.
f. New England Fieldstone Boston Blend Ledgestone Building Veneer:
1) 100 percent split face.
2) Top and bottom mix of sawn and natural cleft.
3) Depth: 3.0 to 6.0 inches.
4) Heights: 1.0 to 4.0 inches.
5) Lengths: 4.0 to 16.0 inches.
g. New England Fieldstone Boston Blend Ashlar Building Veneer:
1) 100 percent split face
2) Top and bottom mix of sawn and natural cleft.
3) Depth: 3.0 to 6.0 inches.
4) Heights: 3.0 to 8.0 inches.
5) Lengths: 4.0 to 16.0 inches.
h. Greenwich Gray Ledgestone Building Veneer:
1) 100 percent split face.
2) Top and bottom mix of sawn and natural cleft.
3) Depth: 3.0 to 6.0 inches.
4) Heights: 1.0 to 4.0 inches.
5) Lengths: 4.0 to 16.0 inches.
i. Greenwich Gray Mosaic Building Veneer:

1) Primarily natural weathered faces with some split faces
2) Depth: 3.0 to 6.0 inches.
3) Facing area Regular: 0.50 to 2.0 sf.
4) Facing area Large: 1.0 to 5.0 sf.

j. Yorkshire Granite Roughly Square and Rectangular Building Veneer:
1) Primarily natural weathered faces with some split faces
2) Depth: 3.0 to 6.0 inches.
3) Facing area Regular: 0.25 to 1.25 sf.

k. Yorkshire Granite Ledgestone Building Veneer:
1) 100 percent split face.
2) Top and bottom mix of sawn and natural cleft.
3) Depth: 3.0 to 6.0 inches.
4) Heights: 1.0 to 4.0 inches.
5) Lengths: 4.0 to 16.0 inches.

l. Colonial Tan Ledgestone Building Veneer:
1) 100 percent split face.
2) Top and bottom mix of sawn and natural cleft.
3) Depth: 3.0 to 6.0 inches.
4) Heights: 1.0 to 4.0 inches.
5) Lengths: 4.0 to 16.0 inches.

m. Colonial Tan Mosaic Building Veneer:
1) Primarily natural weathered faces with some split faces
2) Depth: 3.0 to 6.0 inches.
3) Facing area Regular: 0.50 to 2.0 sf.
4) Facing area Large: 1.0 to 5.0 sf.

n. Sapphire Blue Ledgestone Building Veneer:
1) 100 percent split face.
2) Top and bottom mix of sawn and natural cleft.
3) Depth: 3.0 to 6.0 inches.
4) Heights: 1.0 to 4.0 inches.
5) Lengths: 4.0 to 16.0 inches.

2.3 ACCESSORIES

** NOTE TO SPECIFIER ** Edit the following three paragraphs to suit the project requirements. Delete if not required. Use paragraph A when thin masonry veneer is installed over metal siding or open stud back-up; Use paragraph B for use over wood sheathing or existing concrete or masonry back-up.

A. Expanded Metal Lath Paper Backed: ASTM C847; galvanized, self-furring mesh minimum 2.5 lb, backed with paper.
B. Expanded Metal Lath: ASTM C847, galvanized, self-furring, minimum 2.5 lb or 18 gauge.
C. Lath Anchorage: Tie wire, nails, screws and other metal supports, galvanized, of type and size to suit application and to rigidly secure materials in place.
D. Setting buttons or shims: Lead or plastic.

** NOTE TO SPECIFIER ** Edit the following two paragraphs to suit the project requirements. Delete if not required. Use paragraph D with wood sheathing. Use paragraph E with concrete or masonry without lath.

E. Building Paper: ASTM D226, No. 30 asphalt saturated felt.

F. House Wrap: Air/vapor barrier polymeric membrane as specified in Section _____.

G. Concrete Bonding Agent: Water-based polyvinyl acetate type or concrete adhesive emulsion formulated for use as an admixture.

H. Join Sealants and Joint Fillers: As specified in Section 07 90 00.

2.4 MORTAR

A. Mortar:

1. Cement: ASTM C 270.
2. Lime: ASTM C 207.
3. Sand: ASTM C 144, natural or manufactured.
4. Color Pigments: ASTM C 979, mineral oxide.
5. Water: Potable.
6. Pre-Packaged Latex-Portland Cement Mortar: ANSI A118.4.

B. Bonding Agent: Acrylic additive.

** NOTE TO SPECIFIER ** Delete sealer if not required. Specify clear or semi-gloss sealer.

C. Sealer: Water-based silane or siloxane masonry sealer, [clear] [semi-gloss].

D. Mortar Mixes:

** NOTE TO SPECIFIER ** Specify mortar mixes for grouted joints or jointless dry-stack installation

1. Grouted Joints:
   a. Mix mortar: ASTM C 270, Type S.
   b. Add color pigments to mortar in accordance with pigment manufacturer's instructions.
2. Jointless Dry-Stack Installation:
   a. Mix mortar in accordance with ANSI A118.4.
   b. Add color pigments in accordance with pigment manufacturer’s instructions.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until backing structure is plumb, bearing surfaces are level and substrates are clean and properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION MORTARED JOINTS THIN VENEER

Specifier Notes: The following paragraphs cover typical fieldstone thin veneer installation with mortared joints. Edit the following as required.

A. Install thin veneer stone and mortar in accordance with manufacturer's instructions and ACI 530.1/ASCE 6/TMS 602.

B. Maintain masonry courses to uniform dimensions. Form vertical and horizontal joints of uniform thickness.

C. Pattern Bond:

1. Layout work in advance and distribute color range of stone uniformly over total work area.
2. Lay stone with face exposed.
3. Take care to avoid concentration of any one color to any one wall surface.
4. Maintain approximate 1/2-inch joint, as stone allows.
5. Do not use stacked vertical joints.

D. Placing and Bonding:

1 Dampen substrate as required to reduce excessive suction.
2. Apply mortar in accordance with PCA Plaster (Stucco) Manual to thickness of 1/2 inch to 3/4 inch.
3. Do not spread more than workable area of 5 to 10 square feet, so mortar will not set before stone is applied.
4. Lay thin veneer stone in full bed of mortar with full head joints.
5. Work from bottom up, laying corner pieces first.
6. Remove excessive mortar as work progresses.
7. Do not shift or tap veneer stone after mortar has achieved initial set. Where adjustment is required, remove mortar and replace.
8. Isolate top of veneer stone from horizontal structural framing members and slabs or decks with compressible joint filler and sealant as specified in Section 07 90 00.

E. Joining Work: Where fresh masonry joins partially set masonry.

1. Remove loose stone and mortar.
2. Clean and lightly wet surface of set masonry.

3. To avoid horizontal run of masonry, rake back 1/2 the length of stone in each course.
4. Toothing is not permitted.

F. Joints:

1. Lay stone with approximate 1/2-inch mortar joint, as stone allows.
2. Tool joints when "thumb-print" hard with round jointer, slightly larger than width of joint.
3. Trowel point or concave tool exterior joints below grade.
4. Flush cut joints to be finished with soft brush only.
5. Retempering of mortar is not permitted.
6. Use non-corrosive stone shims as required to maintain uniform joint thickness.

Specifier Notes: Verify control and expansion joints are correctly indicated and detailed on the Drawings. Control joints shall be designed in accordance with National Concrete Masonry Association TEK 10-2B for control joint design and locations.

G. Control and Expansion Joints:

1. Keep joints open and free of debris.
2. Coordinate control joints as specified in Section 07 90 00 for sealant performance.

H. Sealant Recesses:

1. Provide open joints 3/4 inch deep and 1/4 inch wide, where masonry meets doors, windows, and other exterior openings.
2. Coordinate sealant joints as specified in Section 07 90 00 for sealant performance.

I. Cutting and Fitting:

1. Cut and fit thin veneer stone for chases, pipes, conduit, sleeves, grounds, and other penetrations and adjacent materials.
2. Coordinate with other work to provide correct size, shape, and location.

J. During progress of the work, cover top of unfinished stone masonry work for protection from weather.

Specifier Notes: The following paragraphs cover dry-stack thin natural thin veneer stone installation with no visible mortar joints. This method of installation is used for the “Ledgestone” and "Ashlar" shapes. Edit the following as required. Delete if not required.

3.4 INSTALLATION DRY-STACK THIN VENEER

A. Install thin veneer stone and mortar in accordance with manufacturer’s instructions and ACI 530.1/ASCE 6/TMS 602.

B. Maintain masonry courses to uniform dimensions. Form vertical and horizontal joints of uniform thickness.

C. Pattern Bond:

1. Layout work in advance and distribute color range of stone uniformly over total work area.
2. Lay stone with face exposed.
3. Take care to avoid a concentration of any 1 color to any 1 wall surface.
4. Maintain squared and uniform profile.
5. Do not use stacked vertical joints.

D. Placing and Bonding:

1. Dampen substrate as required to reduce excessive suction.
2. Use thin-set mortar in accordance with ANSI A118.4 for exterior dry stack installation.
3. Apply mortar to thickness of 1/4 inch to back of stone.
4. Press firmly to seat each stone as placed.
5. Work from bottom up, laying corner pieces first.
6. Remove excessive mortar as work progresses.
7. Do not shift or tap veneer stone after mortar has achieved initial set. Where adjustment is required, remove mortar and replace.
8. Isolate top of veneer stone from horizontal structural framing members and slabs or decks with compressible joint filler and sealant as specified in Section 07 90 00.

E. Joints:

1. Lay stone with reasonably uniform joints, as stone allows.
2. Remove excess mortar as stone is pressed into position.
3. Use non-corrosive stone shims as required to maintain joint thickness.

Specifier Notes: Verify control and expansion joints are correctly indicated and detailed on the Drawings. Control joints shall be designed in accordance with National Concrete Masonry Association TEK 10-2B for control joint design and locations.

F. Control and Expansion Joints:

1. Keep joints open and free of debris.
2. Coordinate control joints as specified in Section 07 90 00 for sealant performance.

G. Sealant Recesses:

1. Provide open joints 3/4 inch deep and 1/4 inch wide, where masonry meets doors, windows, and other exterior openings.
2. Coordinate sealant joints as specified in Section 07 90 00 for sealant performance.

H. Cutting and Fitting:

1. Cut and fit thin veneer stone for chases, pipes, conduit, sleeves, grounds, and other penetrations and adjacent materials.
2. Coordinate with other work to provide correct size, shape, and location.

I. During the progress of the work, cover top of unfinished stone masonry work for protection from weather.

3.5 INSTALLATION BUILDING VENEER

A. Install thin veneer stone and mortar in accordance with manufacturer's instructions and ACI 530.1/ASCE 6/TMS 602.

B. Maintain masonry courses to uniform dimensions. Form vertical and horizontal joints of uniform thickness.

3.6 CLEANING

A. Keep face of stone free of mortar as work progresses.

B. If residual mortar is on face of stone, allow to dry partially and brush mortar off surface and sponge off residue.

C. When work is completed and mortar has set for 2 to 3 days, clean surface from top to bottom using mild masonry detergent acceptable to natural stone manufacturer.

D. Do not use harsh cleaning materials or methods that could damage stone.

E. Do not use metal brushes or acids for cleaning.

3.7 PROTECTION

A. Protect installed natural stone veneer to ensure that, except for normal weathering, stone will be without damage or deterioration at time of Substantial Completion.

B. Touch-up, repair, or replace damaged stone before Substantial Completion.

END OF SECTION

This specification was prepared by Stoneyard.com. Comments for improvements should be addressed to:

Stoneyard.com, Stoneyard Inc
2 Spectacle Pond Rd
Littleton, MA 01460

Email: sales@stoneyard.com
Web: www.Stoneyard.com
Tel: 978.742.9800
Fax: 978.742.9898

Issue date: May 17, 2010

STONEYARD.COM
Historic New England Fieldstone

"Historic New England Fieldstone Veneer"