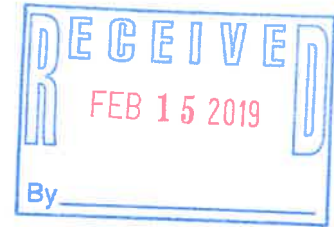


29-41 CONGRESS
— STREET, LLC —



February 15, 2019

City of Portsmouth New Hampshire
Historic District Commission

RE: 29-41 Congress Street

To Whom it May Concern:

Attached you will find the Land Use Application materials for application: LU-19-4. The described work to be done is described as follows:

Maintenance of building exterior including:

- Replacement of existing brownstone window headers/sills and coins with precast concrete as needed. Brownstone is known as an inferior building material and the existing brownstone is showing noticeable deterioration. New brownstone is virtually unavailable today.
- Replacement of 13 existing double hung vinyl clad windows on the front of the building with Anderson 400 series Fibrex Composite windows with a full divided light grille in a colonial pattern. Replacement of the windows will serve to not only improve the energy efficiency of the building, but to also replace the less desirable vinyl-clad windows with the more desirable Anderson 400 series. Replacement windows will match the profile and trim details of the existing windows.
- Maintenance and in-kind replacement of bricks as needed with a 2-1/4 Morin waterstruck brick. Currently there are patchwork sections of multiple types of brick repairs on the front of the building that need to be evaluated. Replacement of the brownstone and the windows will also disturb bricks. The scope of the brick replacement could extend to the entire front of the building based on professional advice once the work begins. The proposed brick is the same brick used to replace the front of 2 Bow Street a couple of years ago.
- Maintenance of the wood trim at the roof line as needed - Previously approved by the HDC.

Included in the attached materials are the specifications for the windows, pre-cast concrete, and mortar that will be used for replacement. Also included is a previous submittal dated, February 28, 2018.



39 CONGRESS STREET
PORTSMOUTH, NH 03801



(603) 431-0400

(603) 431-0424

Land Use Application
LU-19-4

Your submission

Submitted Jan 17, 2019 at 12:05pm

Your Submission

Attachments

- Land Use Code Review
- Land Use Permit -- Planning Department Review and Fee Calculation
- Application Permit Fee
- Land Use Approval

Historic District Commission Approval

Building Permit Issued

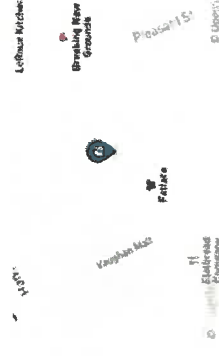
Contact Information

Eric Frizzell Phone Number
Eric Frizzell Email address
 e.frizzell@msprops.net Phone Number
 6034310400

Mailing Address
 PO Box 310 , Dover, NH 03821

Location

35 CONGRESS ST
 Portsmouth, NH 03801



Project Type

Addition or Renovation: any project (commercial or residential) that includes an ADDITION to an existing structure or a NEW structure on a property that already has structure(s) on it

--

New Construction: any project (commercial or residential) that involves adding a NEW structure on a parcel that is currently VACANT. If there are any existing structures on the property (even if you are planning to remove them), you should select Addition and Renovation above

--

Minor Renovation: for projects in the Historic District only that involve a minor exterior renovation or alteration that does not include a building addition or construction of a new structure



Home Occupation: residential home occupation established in an existing residential dwelling unit and regulated by the Zoning Ordinance. Home Occupations are not allowed in the following Zoning Districts: Waterfront Business, Office Research, Industrial, or Waterfront Industrial

--

New Use/Change in Use: for a change of land use or an expansion to an existing use (e.g. addition of dwelling units) that includes no exterior work or site modifications

--

Temporary Structure / Use: only for temporary uses (e.g. tents, exhibits, events)

--

Demolition Only: only applicable for demolition projects that do not involve any other construction, renovation, or site work

--

Subdivision or Lot Line Revision: for projects which involved a subdivision of land or an adjustment to an existing lot line

--

Other Site Alteration requiring Site Plan Review Approval and/or Wetland Conditional Use Permit Approval

--

Zoning Information

Base Zoning District 2 ?

Character District 5 (CD5)

Flood Plain District

Historic District



Downtown Overlay District



Osprey Landing Overlay District

-- Airport Approach Overlay District --

Waterfront Use Overlay District -- North End Incentive Overlay District --

West End Incentive Overlay District -- Highway Noise Overlay District --

Application Type Subdivision (Planning Board) Lot Line Revision (Planning Board) --

Site Plan Review (Planning Board) --

Amended Site Plan Review (Planning Board) --

Wetland Conditional Use Permit (Planning Board)

--

Amended Wetland Conditional Use Permit (Planning Board)

--

Accessory Dwelling Unit / Garden Cottage Conditional Use Permit (Planning Board)

--

Other Conditional Use Permit (Planning Board)

--

Variance (Zoning Board of Adjustment)

--

Special Exception (Zoning Board of Adjustment)

--

Historic District Certificate of Approval (Historic District Commission)



Land Use

Application Fee Calculation

Valuation of New Construction (\$)	--	Total Number of Dwelling Units	--
------------------------------------	----	--------------------------------	----

Project Information

Re-Roofing -- Exterior Mechanical Work

Replacement Windows/Doors Siding

Roof-top Solar Panels --

Expanded Description of Work

Maintenance of building exterior including:

- Maintenance and replacement of bricks as needed.
- Replacement of existing brownstone window headers/sills and coins with precast concrete as needed.
- Replacement of 13 existing double hung vinyl clad windows on the front of the building with Anderson 400 series Fibrex Composite windows with a full divided light grille in a colonial pattern.
- Maintenance of wood trim at the roof line as needed - Previously approved by the HDC.

Please check here if your project is a replacement-in-kind (with the same material, profile and appearance).



Project Representatives

Relationship to Project	If you selected "Other", please state relationship to project.	Full Name (First and Last)
Owner	-	Keith Frizzell

I understand that this application will not be considered complete until I have provided the required plans and any additional submission requirements. (You will be prompted at the next screen to upload your plans.) *



I certify that the information given is true and correct to the best of my knowledge. *



Acknowledgement

By checking this box, I agree that this is equivalent to a handwritten signature and is binding for all purposes related to this transaction *



I hereby certify that as the applicant for permit, I am the *

Owner's authorized agent

If you selected "Other" above, please explain your relationship to this project. Owner authorization is required.

-

If this application is approved, I hereby acknowledge that all changes or variation in the design as presented shall require further Historic District Commission approval *



I understand that it is the obligation of the applicant to submit adequate documents, plans, and exhibits to demonstrate compliance with the Zoning Ordinance. *

This field is required

INTERNAL USE
 -- Land Use Approvals

Historic District Commission	HDC Approval Granted
<input checked="" type="checkbox"/>	--

Zoning Board of Adjustment	BOA Approval Granted
--	--
Zoning Relief Required	
--	
Conservation Commission Review	Conservation Commission Review Completed
--	--
Conditional Use Permit (Wetlands)	Wetland CUP Granted
--	--
	Conditional Use Permit (Other)
	--
Other CUP Granted	Technical Advisory Committee Review
--	--
TAC Review Completed	Subdivision / Lot Line Revision
--	--
Subdivision / Lot Line Revision Granted	Site Plan Review
	--

-- Site Plan Review Granted

--

Internal consistency review

required ?

--

Certificate of Use Required

--

Stipulations

--

Additional Planning Department Comments

--

Your Profile

Resources

City of Portsmouth, NH

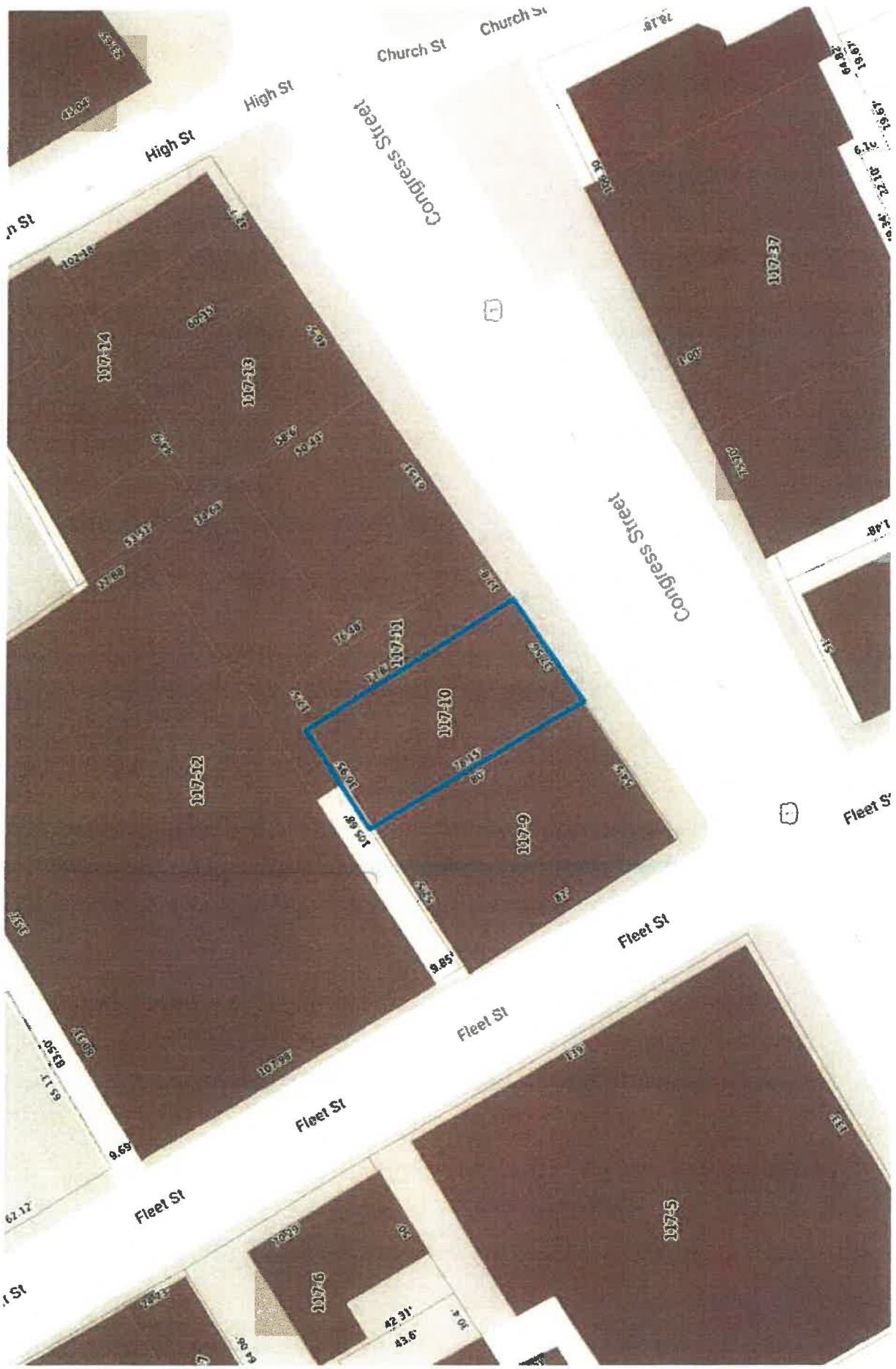
[Your Records \(/dashboard/records\)](#)

[Search for Records \(/search\)](#)

[Claim a Record \(/claimRecord\)](#)

[Employee Login \(https://portsmouthnh.viewpointcloud.io\)](#)

Portal powered by **ViewPoint Cloud**



I, Keith Frizzell, the owner of 29-41 Congress Street, LLC, give my permission for Eric Frizzell to submit a Land Use Application on my behalf.

Keith Frizzell
(Signature)

1/17/2019
(Date)



Andersen Windows - Abbreviated Quote Report

Project Name: ROYAL OAK

Quote #: 1625

Print Date: 02/06/2019

Quote Dates: 01/17/2019

ICQ Version: 19.0

Dealer: RICCI LUMBER-MILLWORK

105 BARTLETT STREET,
PORTSMOUTH, NH 03801

603-427-2880/FAX 603-431-6870

Sales Rep: Jay Clark

Created By:

Customer: RICCI

Billing Address:

Phone:

Contact:

Trade ID: 096376

Promotion Code:

Location

Unit Price

Ext. Price

\$ 657.16

\$ 2628.64

Item Qty Item Size (Operation)

0002 4 ADH 1' 9 3/4" x 4' 11 1/4" (AA)

RO Size = 1' 10 1/2" W x 5' 0" H Unit Size = 1' 9 3/4" W x 4' 11 1/4" H

A Series

Unit, 4 9/16" Frame Depth, White/Pine; Birch Bark - Factory Painted, High Performance Low-E4 (Each Sash), Traditional, White, 1-Sash Locks; Equal Sash; Insect Screen, White

Viewed from Exterior

Zone: Northern
U-Factor: 0.29, SHGC: 0.30, ENERGY STAR® Certified: No



0001 9 ADH 3' 4 1/4" x 6' 5 3/4" (AA)

RO Size = 3' 5" W x 6' 6 1/2" H Unit Size = 3' 4 1/4" W x 6' 5 3/4" H

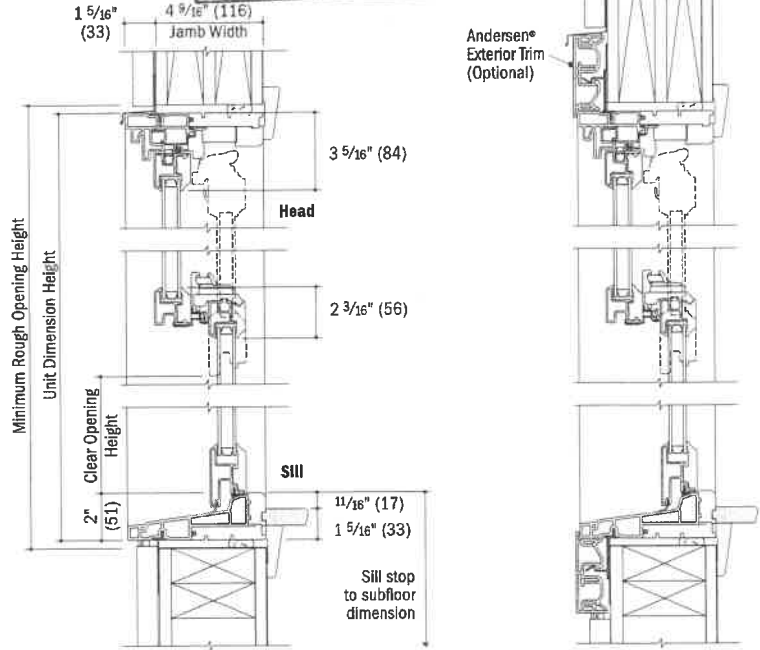
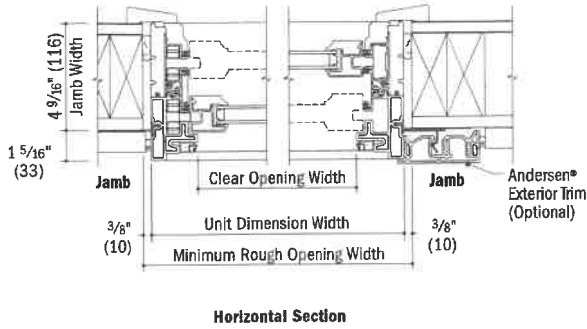
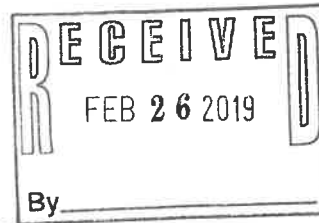
A Series

Unit, 4 9/16" Frame Depth, White/Pine; Birch Bark - Factory Painted, High Performance Low-E4 (Each Sash), Divided Light with Spacer, Specified Equal Life, 4W2H, 3/4" Ext Grille - White, Int Species - Pine, Int Grille Color - Birch Bark - Factory Painted (Each Sash), Traditional, White, 2 Sash Locks; Equal Sash; Insect Screen, White

Viewed from Exterior

Zone: Northern
U-Factor: 0.30, SHGC: 0.27, ENERGY STAR® Certified: No

Double-Hung Window Details



Vertical Sections

- 4 9/16" jamb width measurement is from backside of installation flange.
- Light-colored areas are parts included with window. Dark-colored areas are additional Andersen® parts required to complete window assembly as shown.
- Dimensions in parentheses are in millimeters.
- **Rough openings may need to be increased to allow for use of building wraps, flashing, sill panning, brackets, fasteners or other items.**
- Details are for illustration only and are not intended to represent product installation methods or materials. Refer to product installation guides at andersenwindows.com.



ARCHITECTURAL CAST STONE SUBMITTAL

CONTACT:

207-539-6035

7 Oxford Homes Lane

PO Box 207

Oxford, Maine, 04270

www.mgacaststone.com

PRECAST: ITS WHO WE ARE, IT'S WHAT WE DO.

MGA Cast Stone is a producer of Architectural Precast and Cast Stone products. MGA Cast Stone has 50,000 sqft. of production capacity and is backed by an excellent staff of professionals providing superior customer service and support - a combination that ensures your project meets specifications and is delivered on time, every time.





QUALITY CONTROL

APA PLANT CERTIFICATION

Architectural Precast Concrete has grown in popularity as a building product because of its economy, flexibility, durability, and universal availability. With its increased use, a highly specialized industry has developed which requires an equally specialized system of quality control procedures.

The successful use of Architectural Precast Concrete is dependent not only on the designers' understanding of the product, but on the ability of manufacturers to produce products which meet the desired intent of the project. To this end, the Architectural Precast Association constructed a Plant Certification Program which provides designers that essential assurance of a manufacturer's ability to produce quality precast concrete products. By concentrating on Architectural Precast Concrete as its single inspection priority, APA can offer a level of quality assurance which only specialization can provide.

STRINGENT REQUIREMENTS FOR PLANT INSPECTORS

Only the most qualified inspectors are chosen.

To provide a specifier the quality assurance he or she demands, inspection criteria must be supported by inspectors who have the knowledge to properly evaluate precasting procedures. This is why APA requires that every inspector be a seasoned Registered Professional Engineer with in-depth knowledge of Precast Concrete and its quality control requirements. Ten years' experience in the Precast Concrete Industry is the minimum APA will accept. Individual inspector credentials are verified by APA before any inspection begins.



UNANNOUNCED INSPECTIONS PROVIDE ACCURATE RESULTS. DE-CERTIFICATION IS IMMEDIATE

Every inspection is unannounced. A plant must be prepared for an inspection at all times. The APA office orders inspections randomly so all data is reflective of the daily status of the plant. Every certified plant inspection spans an entire casting cycle and covers well over one hundred check points. Each check point is graded as pass/fail. Either the item inspected meets the high APA standard or it does not.

APA does not recognize partial credit. In fact, a plant will immediately fail if it cannot pass each of more than twenty mandatory items which encompass highly critical areas of personnel, record keeping, and shop drawings. A plant which falls below the standards set by the APA Certification Program has its Certificate of Certification withdrawn immediately. There is no grace period; therefore, a plant cannot continue to function as a certified plant. The modifications to its quality control procedures must be accomplished and verified by another inspection before certification status is re-instated.



APPROVED QUALITY CONTROL MANUAL IS MANDATORY

All APA certified plants will have on hand at all times an updated QC Manual. This manual delineates the procedures producers will follow in their plants to ensure compliance with the certification program. Each QC manual is reviewed by a committee consisting of professional engineers and production experts before it is approved. Failure to maintain this manual will constitute suspension of the plants approved status.

THE CERTIFICATION PROCESS

Quality control begins with the dedication of each company to produce a fabricated product which conforms to

the requirements specified in the contract documents; one that is in compliance with appropriate codes and the recommended standards and practices of the industry and the requirements established in this plant certification program.

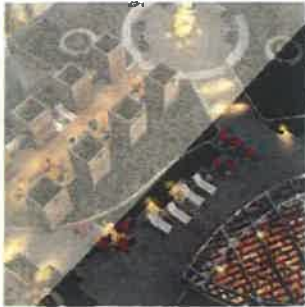
QUALITY CONTROL ZONES

Architectural Precast manufacturing facilities are divided into quality control zones. These are the areas in which each phase of manufacturing takes place. Each zone is then further broken down into its quality control components. More than 100 quality control components are thoroughly inspected and individually graded pass/fail.

ENGINEERING

A Certified Architectural Precast manufacturer is required to have on staff qualified engineering professionals. These individuals are responsible for forming, manufacturing, and installation procedures.

Finished projects must conform within tolerances to the specified quality standards. The engineering department must review the design of the Precast Concrete products with respect to layout, connections, and handling stresses. Layout considerations include jointing, manufacturing and installation tolerances, product sizing and finishes. Form design, shop drawings, connections and reinforcing design are also inspected.



TESTING

Material Testing

Testing is the primary method of determining conformance to design and specification requirements. Testing procedures are assigned to the produced product, material to be incorporated in the product, and to machinery or equipment used in the manufacturing process. The specified properties of all materials used in the manufacturing process are to be determined by appropriate testing according to ASTM Standards. Strict testing compliance is assured for elements integral to quality production. Key elements include:

- Cement
- Aggregates
- Water

- Reinforcing
- Reinforcing Admixtures
- Hardware
- Pigments
- Inserts
- Embeds
- Mix Designs

Concrete Testing

Product testing maintains production uniformity to ensure conformity to established criteria of reported data. Mix specimens are made and tested for:

- Compressive Strength
- Slump
- Spread
- Air Content

Other tests as required by specification will be performed according to established methods and standards.

Equipment Testing

Proper testing and calibration of:

- Scales
- Jacks
- Testing Machines

Other applicable equipment is also verified.

ALL QUALITY CONTROL PROCEDURES ARE CAREFULLY REVIEWED

The scope of quality control reviews which are performed in Architectural Precast Concrete plants include but are not limited to:

- Aggregates
- Reinforcing
- Cement





- Embeds
- Hardware

CONCRETE

Concrete is checked for mix consistency throughout the project. The consistency of temperature, slump and curing conditions are important in the final product finish. Weighing, dispensing, sequencing and mixing of materials are certified to be accurate and consistent to maintain acceptable panel finishes.

PREPARATION OF FORMS

Forms are meticulously inspected to assure compliance to specified tolerances. Changes involving blockouts, reveals, cast-in items, position and amount of reinforcing are rechecked following initial positioning and prior to concrete placement.

SAMPLES

Precast Concrete samples are key to ensuring that the proposed architectural treatment will be consistent in color and finish throughout the project. Related to specific projects, they are used to show the type of material, the quality of the concrete, and the type of finish. Sample acceptability and proper storage is noted.

SHOP DETAILS

Items inspected include:

- How finished products compare to shop drawing details

- Surface Finishes
- Dimensions
- Location of Embeds
- Conformance to Shape
- Detailing

STORAGE AREAS

Observations of storage areas are conducted to ensure proper blocking methods are used for prevention of chipping, warpage, cracking, or contamination. A final review of the product is made during loading to

detecting defects caused by handling. If needed, proper repair procedures are witnessed.

RECORD KEEPING

Inspectors check all files to verify that quality control procedures take place daily.

Typical files which are checked include but are not limited to:

- Samples
- Finishes
- Mix Designs
- Drawings
- Mill Test Reports
- Special Items
- ASTM Certificates of Compliance
- Calibration Reports

PLANT FACILITIES

Quality production of Architectural Precast Concrete requires plant facilities which are clean, safe, and reflect current concrete technology.

Material Storage

Proper cement and aggregate storage is inspected and verified. Contamination is minimized for enduring strength and a lasting finish.

Batch Plant & Batching Operations

Concrete batching operations are inspected to ensure consistency and specified tolerance adherence. Scales are certified annually. It is determined that all mixing equipment is of a capacity and type to produce thoroughly mixed concrete of a uniform consistency. Admixture Dispensing is also checked.

Casting Area Inspections Include:

- Placing Concrete
- Consolidation
- Curing
- Stripping
- Finishing
- Storage
- Shipping
- Safety
- Reinforcement
- Subassemblies

This Is To Certify
MGA Cast Stone, Inc.

complies with the requirements of plant certification, thus demonstrating ability to produce Architectural Precast products of exemplary quality; therefore, this company is hereby recognized as an



and is entitled to all honors, privileges, and qualifications extended to those recognized within the
Architectural Precast Association Plant Certification Program
Certification is contingent upon satisfactory completion of periodic inspections and compliance is not affirmed past the expiration date of:

September 30th, 2018

Certification Designations
Architectural Precast - Architectural Cast Stone Wet Pour



A handwritten signature in black ink, appearing to read 'Tim Michael'.

Tim Michael, Committee Chairman

A handwritten signature in blue ink, appearing to read 'Fred L. McGee'.

Fred L. McGee, President
Construction Certification Institute



Program Administered By The Construction Certification Institute.



MIX DESIGN

DESIGN: 6500 PSI

Color: To Be Selected By Architect/Owner

Product provided is 6500 psi self-consolidating concrete using Type I White or Type III Gray cement and local sand and aggregates. Concrete will be air en-trained 5-7% and super-plasticized. Finish will be a light etched finish. Reinforcement is ASTM 615 Grade 60

Quantity Per Cubic Yard:

1520 lbs. Fine aggregate

1350 lbs. 3/8" Stone course aggregate

920 lbs. Type I WHT or Type III Gray Cement

322.2 lbs. water/cy

0.35 lbs./yd. BASF Master-Air AE 200

3.51 lbs./yd. BASF Glenium 3400nv

Water Cement ratio: .358

Submitted By:

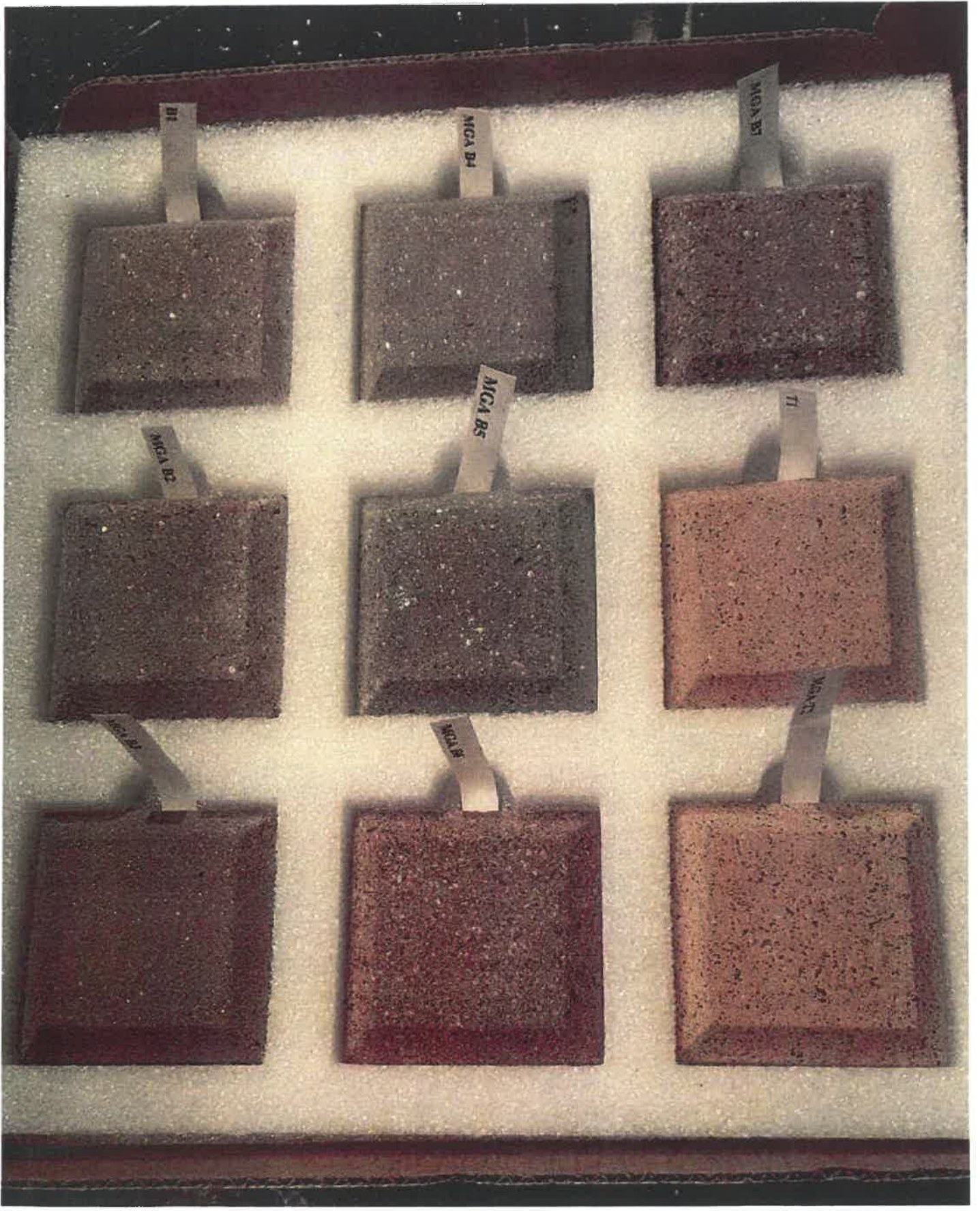
A handwritten signature in black ink, appearing to read "Greg Hamann", written over a horizontal line.

Date 02/01/2018

Greg Hamann, CEO

MGA Cast Stone

#020516



B1

MCA B1

MCA B1

MCA B2

MCA B5

71

MCA B1

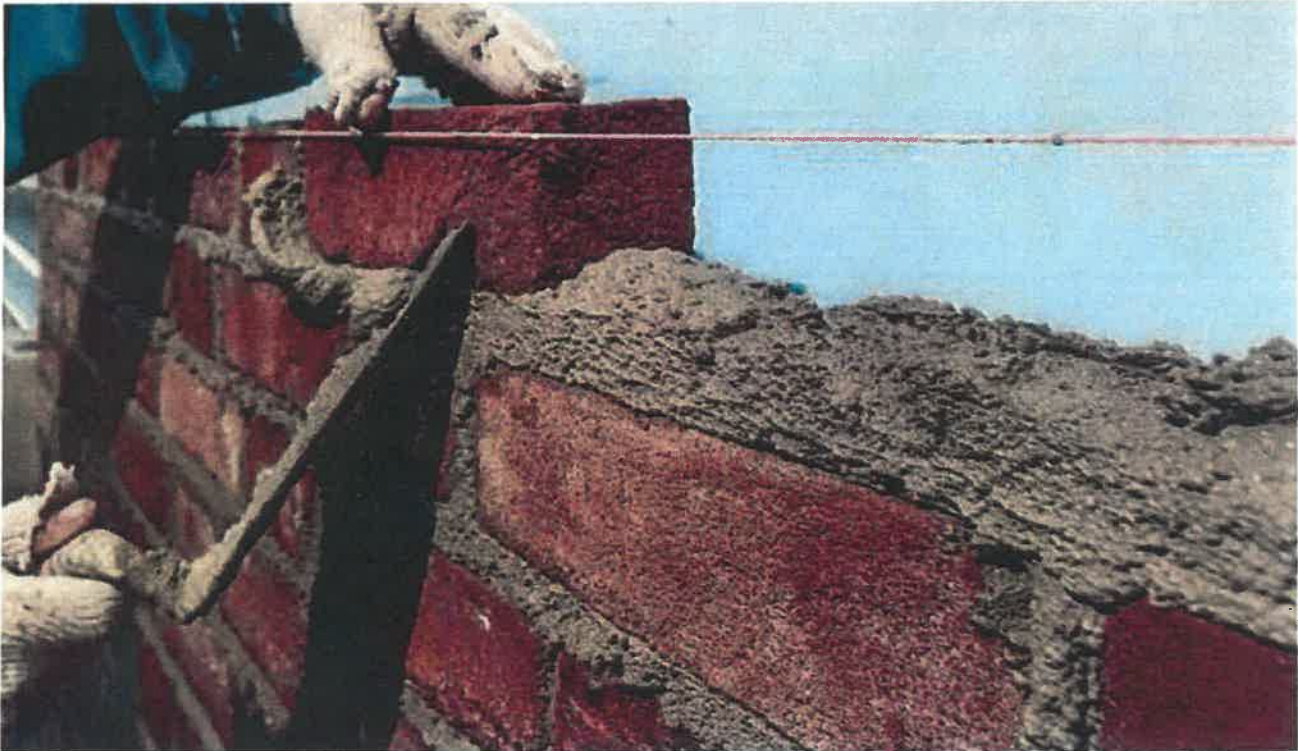
MCA B1

MCA B1



04 DIVISION
MORTAR

PORTLAND LIME & SAND MASONRY MORTAR



Great Workability. Increased Productivity.

SPEC MIX® Portland Lime & Sand Mortar is a dry preblended mortar mix containing portland cement, hydrated lime and dried masonry sand formulated for superior bond, water retention and board life. Available in Types M, S and N, each meets ASTM C 270, ASTM C 1714 and CSA A179 requirements. SPEC MIX Portland Lime & Sand is available in standard or custom colors. In addition to custom mix designs that are available for specific applications or properties, the standard Portland Lime & Sand Mortar is designed to be compatible with the characteristics of the specified masonry unit. It is acceptable for all types of masonry construction.

SPEC MIX Portland Lime & Sand is produced under strict manufacturing standards, and complete quality control measures are implemented with each batch. A digital printout displaying the proper proportions per batch may be kept as a permanent record. Submittals are available upon request for certification to applicable ASTM, ACI, and CSA standards.

TYPICAL MATERIALS

PORTLAND CEMENT
HYDRATED LIME
SAND
PIGMENT



TYPE M (PL-02)
TYPE S (PL-03)
TYPE N (PL-04)
COLOR (PL-05)

AVAILABLE
IN COLOR



PORTLAND LIME & SAND MASONRY MORTAR

INSTALLATION/APPLICATION

Mortar type should correlate with the particular masonry unit to be used. The specifier should evaluate the interaction of the mortar type and masonry unit specified. That is, masonry units having a high initial rate of absorption will have greater compatibility with mortar that has high water retentivity. The material properties of mortar that influence the structural performance of masonry are compressive strength, bond strength and elasticity. Because the compressive strength of masonry mortar is generally less important than bond strength, workability and water retentivity, the latter properties should be given principal consideration in mortar selection. Select mortar based on the design requirements and with consideration of code and specification provisions affected by the mortar.

A sample of the proposed product will be provided by the manufacturer for architectural approval and testing, if required. Preparation of a panel with all materials and systems employed in the final project is imperative. Retain the mock-up or field sample through the completion of the project.

Allow mortar to cure a minimum of 7 days but no more than 28 days before cleaning. Consult manufacturer of the masonry units and cleaning chemicals for further instructions to ensure proper washing procedures.

Clean masonry only with a national proprietary cleaning agent (following the manufacturer's instructions) or potable water. SPEC MIX products must be kept dry, covered and protected from weather and other damage.

SIZES AND EQUIPMENT

SPEC MIX Portland Lime & Sand Mortar is available in 80 lb (36.2 kg) packages for easy hand loading or in 3,000 lb (1,360.7 kg) reusable bulk bags to be used with the various SPEC MIX silo systems. When using the silo system, once the bulk bags of mortar are delivered to the project site, the portable silo is loaded with a jobsite forklift and the product is dispensed into a mechanical batch mixer. (See silo operations manual.)

MIXING INSTRUCTIONS

WEAR IMPERVIOUS GLOVES, such as nitrile.

- Mixing is best accomplished by using a mechanical mixer to ensure optimal workability and performance.
- Use clean, potable water; add the amount of water consistent with optimum workability which provides adequate water to satisfy the initial rate of absorption of the masonry units.
- Mixing times are four to five minutes when using a mechanical batch mixer and should be

ASTM C 270 PROPERTY SPECIFICATIONS (laboratory prepared)

Type	Average compressive strength at 28 days, minimum PSI	Water retention, minimum %	Air content, maximum %
M	2,500	75	12
S	1,800	75	12
N	750	75	14*

* When structural reinforcement is incorporated in cement-lime mortar, the maximum air content shall be 12%.

CSA A 179 PROPERTY SPECIFICATIONS (laboratory prepared)

Type	Minimum compressive strength at 28 days, MPa	Water retention, minimum %	Air content, maximum %
M	17.5	70	18
S	12.5	70	18
N	5	70	18

ESTIMATED YIELDS

	80 lb (36.2 kg) bags	3,000 lb (1,360.7 kg) bags
4 in Block	14 to 16	525 to 600
6 in Block	11 to 13	410 to 485
8 in Block	10 to 12	375 to 450
10 in Block	10 to 12	375 to 450
12 in Block	9 to 11	335 to 410
Modular Brick	37 to 39	1,385 to 1,460
Queen Sized Brick	31 to 33	1,160 to 1,235
King Sized Brick	25 to 27	935 to 1,010
Utility Brick	22 to 24	825 to 900



Note: The yields given above are approximate and depend on labor practices, site conditions and design of work. Yields include typical waste. Some areas such as FL, CA, OR, and WA experience higher yields due to construction practices. Please contact your local representative for more specific yield information in your area.

- held consistent from batch to batch.
- Maintain the same mixing procedures to maintain consistency throughout the project.
- Tool mortar joints when the surface is thumb-print hard. Keep tooling times consistent.
- Hand mix mortar only with written approval by the specifier who should outline procedures.
- Use mortar within 2.5 hours after initial mixing.
- Retemper mortar only when mixing water is lost due to evaporation.
- Whenever possible, do not retemper colored SPEC MIX masonry mortars by adding additional water; retempering may affect color consistency.

LIMITATIONS

SPEC MIX Portland Lime & Sand Mortar should be installed in accordance with the provisions of the local building code and applicable ASTM, ACI, and CSA standards. Good workmanship coupled with proper detailing and design assures durable, functional, watertight construction. Follow proper cold-weather and hot-weather masonry procedures at temperatures below 40 °F (4 °C) or above 100 °F (38 °C) respectively.

LIMITED WARRANTY

In the United States

NOTICE: Obtain the applicable LIMITED WARRANTY at www.specmix.com/product-warranty or send a written request to SPEC MIX, LLC, Five Concourse Parkway, Atlanta, GA 30328, USA.

AVISO: Obtenga la GARANTÍA LIMITADA correspondiente en www.specmix.com/product-warranty o envíe una solicitud por escrito a SPEC MIX, LLC, Five Concourse Parkway, Atlanta, GA 30328, USA.

In Canada

NOTICE: Obtain the applicable LIMITED WARRANTY at www.specmix.com/product-warranty or send a written request to SPEC MIX, LLC, Five Concourse Parkway, Atlanta, GA 30328, USA.

AVIS: Obtenez la GARANTIE LIMITÉE applicable sur www.specmix.com/produit-garantie. Ou envoyez une demande écrite à SPEC MIX, LLC, Five Concourse Parkway, Atlanta, GA 30328, USA.

TECHNICAL SUPPORT

- CONTACT YOUR LOCAL SPEC MIX® MANUFACTURER
- VISIT WWW.SPECMIX.COM
- CONTACT SPEC MIX®
- PHONE: 651-994-7120 FAX: 651-454-5315



1. Product Name

- SPEC MIX® Portland Lime & Sand Mortar
URL: [Portland Lime & Sand](#)
- SPEC MIX Masonry Cement & Sand Mortar
URL: [Masonry Cement & Sand Mortar](#)
- SPEC MIX Mortar Cement & Sand Mortar
URL: [Mortar Cement & Sand Mortar](#)
- SPEC MIX Tuckpoint Mortar
URL: [Tuckpoint Mortar](#)
- SPEC MIX Colored Mortar
URL: [Colored Mortar](#)
- SPEC MIX Integral Water Repellent Mortar (IWR)
URL: [IWR](#)
Videos: [Masonry Solutions](#)

2. Manufacturer

SPEC MIX, Inc.
1230 Eagan Industrial Road
Suite 160
Eagan, MN 55121
Phone: (888) 773-2649
(651) 994-7120
Fax: (651) 454-5315
E-mail: info@specmix.com
Web: www.specmix.com

3. Product Description

Basic Use

- **Portland Lime and Sand**—a preblended masonry mortar mix containing Portland cement, hydrated lime and dried masonry sand available in standard and custom colors
- **Masonry Cement and Sand**—a preblended masonry mortar mix containing mason cement and dried masonry sand, available in standard and custom colors
- **Mortar Cement and Sand**—a dry, preblended mortar mix containing mortar cement and dried masonry sand, available in standard and custom colors
- **Tuckpoint Mortar**—a preblended masonry mortar mix containing dried masonry sand and either Portland cement and hydrated lime or mason cement, as specified; specifically formulated for superior bond, water retention and board life



Consistent custom colored mortar, every time

- **Integral Water Repellent (IWR) Mortar**—a dry preblended masonry mortar mix containing Portland cement, hydrated lime or masonry or mortar cement and dried masonry sand; formulated for water repellency, superior bond, water retention and board life and meets compressive strength requirements, available in standard and custom colors

Available in Type M, S, N or O, SPEC MIX masonry mortars are packaged dry and offer batch-to-batch consistency. They are suited for all types of masonry construction, including above grade, below grade, brick, block, stone and historical restoration. Produced under strict manufacturing standards, SPEC MIX quality mortars deliver optimal compressive and tensile bond strengths.

Composition & Materials

SPEC MIX products are manufactured with the finest available raw materials, meeting the requirements of ASTM C144, C207, C91, C150, C595, C1072, C1329 C1384, E514 and E518. The final product is certified to meet the requirements of ASTM C270 and ASTM C1714.

SPEC MIX products are manufactured locally across the United States and Canada using specialized blending equipment and following strict quality control procedures to meet project specifications, contractor expectations and applicable ASTM standards. Test reports and additional product information from each local manufacturing facility upon request. SPEC MIX mortar mix designs are proprietary information.

Colored Mortar

SPEC MIX uses the strongest and most stable pigments available. Colors, produced from high quality pigments made



Aesthetic and structural performance, every project

of finely milled synthetic iron oxides, are limeproof, sunfast, inert, stable and meet or exceed ASTM C979 criteria.

In order to consistently achieve the desired mortar color, SPEC MIX incorporates pigment into the mortar during the factory blending process. Components of the finished product, including the pigments, are individually weighed and are then blended and packaged dry to ensure the colored mortar is consistent from batch to batch. This is the optimal means for quality control since the product is environmentally safe and requires no field measuring. Mix times for SPEC MIX colored mortars are 4–5 minutes.

Sizes

SPEC MIX masonry mortars and colored mortars are available in 80 pound (36.3 kg) packages for easy hand loading. For increased jobsite efficiency and safety, they are also offered in 3000 pound (1360.8 kg) bulk bags for use with any SPEC MIX material delivery system.

Colors

SPEC MIX colored masonry mortars cover the full range of the color spectrum: brown, buff, tan, black, yellow, orange, red and white. Each color is custom matched and handled on an individual basis to meet the architect's expectations.

Benefits

- A state-of-the-art batching process and strict quality control procedures help ensure that the finished product complies to design and specification requirements
- Dried sands eliminate the bulking effect associated with varying degrees of moisture within the aggregate, helping to maintain batch-to-batch consistency
- Portable SPEC MIX silos are available to permit construction in all climates

- Pallets and bulk bag containers are completely reusable and are retrieved when a new load of material is delivered to a site
- Preblended product eliminates shoveling and heavy lifting associated with field mixing

Limitations

- For best results, mortar type should be correlated with the specific masonry unit to be used
- Bond strength, workability and water retention should be given principal consideration when selecting mortar
- Retempering colored mortar is not recommended
- Colored mortar should be discarded after 2½ hours from the time of initial mixing

4. Technical Data

Applicable Standards

American Concrete Institute (ACI)

- ACI 530.1—Building Code Requirements and Specification for Masonry Structures and Related Commentaries

American Society for Testing and Materials (ASTM)

- ASTM C91—Standard Specification for Masonry Cement
- ASTM C 1072—Standard Test Method for Measurement of Masonry Flexural Bond Strength
- ASTM C1384—Standard Specification for Admixtures for Masonry Mortars
- ASTM C 514—Standard Test Method for Water Penetration and Leakage Through Masonry
- ASTM E518—Standard Test Methods for Flexural Bond Strength of Masonry
- ASTM C144—Standard Specification for Aggregate for Masonry Mortar



State-of-the-art batching for quality assurance

- ASTM C150—Standard Specification for Portland Cement
- ASTM C207—Standard Specification for Hydrated Lime for Masonry Purposes
- ASTM C270—Standard Specification for Mortar For Unit Masonry
- ASTM C387—Standard Specification for Packaged, Dry, Combined materials for mortar and concrete
- ASTM C595—Standard Specification for Blended Hydraulic Cements
- ASTM C780—Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry
- ASTM C979—Standard Specification for Pigments for Integrally Colored Concrete
- ASTM C1093—Standard for Accreditation for testing agencies for unit masonry
- ASTM C1157—Standard Performance Specification for Hydraulic Cement
- ASTM C1314—Standard Test Method for Compressive Strength of Masonry Prisms
- ASTM C1329—Standard Specification for Mortar Cement
- ASTM C1586—Standard Guide for Quality Assurance of Mortars
- ASTM C1714—Standard Specification for Preblended Dry Mortar Mix for Unit Masonry

International Masonry Industry All-Weather Council (IMIAC) - Recommended Practices and Guide Specification for Hot and Cold Weather Masonry Construction



Patented Mortar Delivery System

Notes

- Test method C780 is acceptable for preconstruction and construction evaluation of mortars for plain and reinforced unit masonry
- There is no ASTM method for determining the conformance or nonconformance of a field prepared mortar to the property specification of ASTM C270
- Compressive strength values resulting from field tested mortars do not represent the compressive strength of mortar as tested in the laboratory or of the mortar in the wall. Physical properties of field sample mortars should not be used to determine compliance with ASTM C270, which is intended as criteria to determine the acceptance or rejection of the mortar

Environmental Considerations

Most SPEC MIX products are produced and manufactured with local raw materials that are extracted within 500 miles of the jobsite and meet their respective ASTM standards. Only specially-ordered raw materials can be sourced greater than 500 miles from the project jobsite. Empty bags and wooden pallets are returned to the plant for reuse, reducing landfill impact. SPEC MIX products may contain recycled materials. Use of SPEC MIX products can contribute points toward LEED® project certification.

5. Installation

Preparatory Work

Deliver products in manufacturer's original, unopened, undamaged containers, with identification labels intact. SPEC MIX products are custom packaged to meet specification requirements. Handle and store products according to SPEC MIX recommendations. Keep dry, covered and protected from the weather and other environmental hazards that could cause damage. When stored and protected as recommended, SPEC MIX products have a 9 month shelf life.

Verify that site conditions are acceptable for installation. Do not proceed with installation until unacceptable conditions are corrected.

The mortar type should correlate to the particular masonry unit to be used, as certain mortars are compatible with certain masonry units. The specifier should evaluate the interaction of the mortar type and masonry unit specified. Masonry units with a high initial rate of absorption will have greater compatibility with mortar of high water retention.

The material properties that influence the structural performance of masonry are compressive strength, bond strength and elasticity. Since the compressive strength of masonry mortar is of less importance than bond strength, workability and water retentivity, the latter should be given priority in mortar selection.

Mortar selection should be based on design requirements and with due consideration given to the code and specification provisions affected by the mortar selected.

Mock-ups

A sample of the proposed product will be provided by the manufacturer for onsite preparation of a sample panel for architectural approval and testing, if required. Preparation of this panel with all materials and systems that will be employed in the final project is imperative. Retain the mock-up or field sample through the completion of the project.

Methods

Mixing Instructions:

1. Use a mechanical batch mixer to ensure homogeneity, workability and good board life.
2. Add the minimum amount of clean, potable water for optimum workability.
3. Mix for five minutes consistently from batch to batch.
4. Tool mortar joints when the surface is thumb-print hard; keep tooling times consistent.
5. Hand mix mortar only with written approval by the specifier who should outline procedures.
6. Use mortar within 2½ hours after initial mixing.
7. Retemper mortar only when mixing water is lost due to evaporation.
8. Do not retemper colored mortar

Precautions

Usage

- Use of a batch type mixer and a mixing time of 4–5 minutes is required for best results
- The finished color should not be analyzed until after 7 days and after specified cleaning procedures have been followed consistent with the mock-up panel
- Uniform color requires consistent material proportioning
- Maintain uniform mix times and water addition rates
- Tool mortar joints when surface is thumbprint hard and keep tooling time consistent
- Do not strike joints too early or too late, as the color will not remain consistent with the mock-up panel
- Retempering colored mortar by adding additional water is not recommended
- Hand mixing of the mortar should be permitted only with the written approval of the specifier, who should outline hand-mixing procedures
- Mortar should be cured a minimum of 28 days
- When using water in the cleaning procedures, use potable water only
- Do not clean colored mortar with muriatic acid

Safety

IMPORTANT! READ BEFORE USING. WEAR IMPERVIOUS GLOVES, such as nitrile.

WARNING: CAN CAUSE SERIOUS INJURY TO SKIN AND EYES. This product contains Portland cement. Contact with freshly mixed product can cause severe burns. Avoid direct contact with skin and eyes. If this product should contact eyes, immediately flush with water for at least 15 minutes and consult a physician. For skin exposure, wash promptly with plenty of soap and water. Remove soaked clothing promptly. If this product burns your skin, see a physician immediately. This product may contain silica. Silica dust if inhaled may cause respiratory or other health problems. Prolonged inhalation may cause delayed lung injury, including silicosis and possibly cancer. A N95 approved dust mask, eye protection and rubber boots and gloves are recommended when using this product. Safety Data Sheets can be viewed online at www.specmix.com
KEEP OUT OF REACH OF CHILDREN WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Building Codes

Current data concerning building code requirements and product compliance may be obtained from SPEC MIX technical support specialists. Installation and use of SPEC MIX products must comply with the requirements of applicable local, state and national code jurisdictions.

6. Availability & Cost

Availability

SPEC MIX products are produced locally across the United States and Canada, using high tech blending equipment and following strict quality control procedures to meet project specifications, contractor expectations and applicable ASTM standards. SPEC MIX masonry mortars and SPEC MIX silo delivery systems are available nationally, with local distribution to every major U.S. and Canadian market. Contact SPEC MIX, Inc., for information or visit www.specmix.com/locator to locate a local representative.

Cost

Market pricing and installed cost information may be obtained from a local SPEC MIX representative.

7. Warranty

Limited WARRANTY

SPEC MIX, Inc. warrants this product to be of merchantable quality when used or applied in accordance with the instructions hereon. This product is not warranted as suitable for any purpose or use other than the general purpose for which it is intended. Liability under this warranty is LIMITED to the replacement of its product (as purchased) if found to be defective, or at the shipping company's option, to refund the purchase price. In the event of a claim under this warranty, notice must be given to SPEC MIX, Inc. in writing at: One Securities Centre, 3490 Piedmont Road, Suite 1300, Atlanta, GA 30305. THIS LIMITED WARRANTY IS ISSUED AND ACCEPTED IN LIEU OF ALL OTHER EXPRESS WARRANTIES AND EXPRESSLY EXCLUDES LIABILITY FOR CONSEQUENTIAL DAMAGES.

8. Maintenance

Properly mixed and installed masonry units and mortar require little maintenance. Depending on service conditions, masonry walls may require periodic cleaning and tuck-pointing. Clean masonry with potable water only. Do not use muriatic acid to clean colored mortar.

9. Technical Services

SPEC MIX is produced under strict manufacturing standards and complete quality control is in effect with each batch. A digital printout displaying the proper proportions per batch may be kept as a permanent record and produced if requested. Only SPEC MIX offers this lab controlled production system for preblended masonry materials on a national basis. Contact SPEC MIX, Inc., or a local SPEC MIX representative for information.

10. Filing Systems

- Additional product information is available from the manufacturer upon request

U.S.A.
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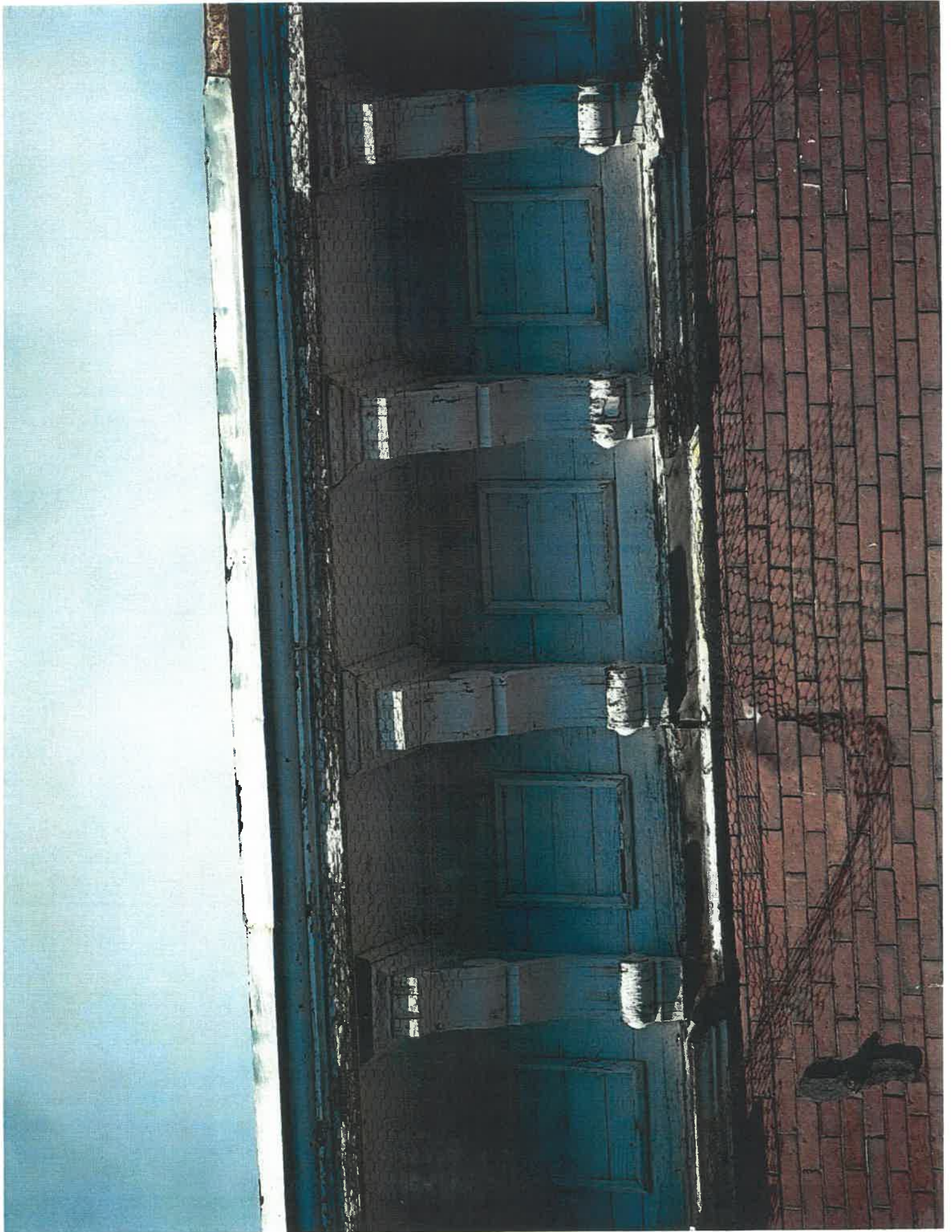
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Feb 28, 2018

Dear Portsmouth HDC

I am looking for guidance from the HDC for the maintenance I would like to perform on the brick and sandstone/brownstone exterior of 29-41 Congress Street.

There are currently multiple types of brick on the front. If some of the brick has to be replaced, I would like to replace it with brick that is as close to a match to the majority of the brick on the front of the building.

The sandstone/brownstone is also going to be examined. Should pieces need replacing, the practicality of replacing them with sandstone is prohibitive. As outlined in the attached document, most quarries have closed and finding a color match is nearly impossible. Skilled craftsmen that have experience working the stone are not easy to find. I would like to be able to use a precast product.

Thank you for your time,

Keith Frizzell,

29-41 Congress St. LLC

There appears to be approximately 6 different types of brick. Sandstone corners, window headers & lentils. Two window headers are steel with no lentils.



Practical Sandstone Restoration

by John Harry

Excerpted from Restoration & Renovation '99 Session MM4: Sandstone Restoration, January 29, 1999; John Harry is an independent Restoration Consultant in Allentown, Pennsylvania. He is currently directing sandstone restoration work at Packer Chapel on the campus of Lehigh University. Edison Custom SYSTEM 45 sandstone repair mortars in 4 different colors are being used. Work is being performed by Masonry Preservation Group of Merchantville, New Jersey. On-Site Technical and Training services were provided by Edison Coatings, Inc.

What can you expect in dealing with sandstone? Permanency? Perfection? I'm afraid not. Sandstone is a material that *wants* to deteriorate and will deteriorate, plus there is usually a problem -- **BUDGET**. In the everyday real world of financially inhibited clients, sandstone repairs are not the only needs of the building that you have to deal with in the face of limited budgets.

So I'd like to talk about 8 realistic goals of what can be done in the way of sandstone repair:

1. Slow down the deterioration of the building.

2. Protect the building from serious structural problems.

3. Protect the public.

4. Do repairs at a reasonable cost.

5. Reversibility. I love to do things in a way that can be undone by future generations.. or maybe I'll have to undo them in a few years. You don't want to do things that burn your bridges behind you, that make permanent, irreversible changes to the building.

6. Do minimum intrusion into the historic fabric of the building. That is, to leave as much as possible of the building intact, and only do as much as is necessary.

7. Enhance the appearance of the building. This is very important to most clients.

8. The overriding goal: Don't make things worse.

Solving the Underlying Problems

In looking at a building, the first question we need to answer is "*Why is the deterioration occurring?*" Typically sandstone deterioration has something to do with water. Either direct rainwater that's hitting the building, or commonly, roof leaks, gutter and downspout leaks. You have to look for those obvious situations. If there's an area with concentrated deterioration, find out where the water is getting in.

A second major reason for deterioration is *actions by Man* -- inappropriate previous repairs. Hard cement pointing and repair mortars are very, very damaging. Most sandstone buildings were built during a time when mortars contained either all lime and no cement or mostly lime and very little cement. Those mortars are very plastic, they're very porous, they breathe a lot, they take up stresses. Repointing buildings with hard cement mortar traps moisture and salts right below the hard pointing and creates problems. Look for bad patches -- patches that didn't breathe, trapped moisture or trapped salts and caused deterioration around that area in the sandstone.

The third reason you can have deterioration of sandstone is just the *natural occurrence of weathering*, and that's the one that you really can't do anything about.

Repair Priorities

In some of the buildings I look at, I go through those first 3 stages, I find roof problems, leaking gutters and downspouts. I make recommendations to the owners and the entire budget goes to the roof repairs... we don't get to do the sandstone repairs. That is not necessarily a bad thing. You have to get those sources of water intrusion... you have to

correct those problems before you even think about repairing the sandstone.

The next thing I look at is "*How bad is the problem?*" What is the extent of the problem and where is it occurring? I would argue that this cannot be effectively done from the ground. You can stand there with high-power binoculars, you cannot see what's going on in detail up high. Spend a little bit of money, get up high, dangle from a crane... so you can touch it, you can feel it, you can probe a little bit. It is very, very revealing.

Repair Approaches

There are 4 major repair approaches:

1. Major replacement with new sandstone... either replace the entire block or take out part and do what are called Dutchman repairs. Problems with major stone replacements are first that you have to find matching stone. In many cases the quarries are closed, the stone is not available. You may be able to find salvage stone but you have to be very careful. You have to find perfect matches. If you're off just a little bit, all those repair areas are going to really stand out. You need to find workmen who are able to do this type of thing-- to actually take the stone, cut the stone, dress the stone and install the stone. That is not easy and it is also very expensive.

Major replacement of stone is not reversible. Once you've taken the stone out and thrown it away, it's gone forever. It's also very intrusive. You're going to end up taking large pieces of the building out. You have to be very careful that you're not disrupting the structure of the building. Finally it's also very expensive. Sometimes, if you have a big budget and you have stone you can get, this can be a viable alternative.

2. Retool the surfaces. Take away some delaminated material and retool the surface to make it look like what it was originally. It's not always feasible to do this, in fact in most cases it's probably not feasible to do this. The amount of deterioration may vary and you may have to remove tremendous amounts of stone to retool the surface... It is a very intrusive process. You're going to end up removing stone from surfaces that are in perfectly good shape to bring everything back to a similar plane, and I object to removing any good stone. It is not reversible, you remove that stone and it's gone forever. The deterioration processes that were going on will continue, whether you retool the surface and move it back a little or whether you leave it where it was. It also requires consummate skill and therefore it is expensive.

3. Scaling off the loose pieces. It's inexpensive, you don't need skilled labor to do it. It increases the safety factor. It can be combined with patching. Scaling happens inevitably. If there's a piece that's hanging there and it's going to come off sooner or later...we're just making it a little bit sooner.

4. Patching. Patching can be effective at a reasonable cost. In general, patching is reversible. If the patch does not hold up well, 20 years from now somebody can take that patch out and redo it. It involves minimal intrusion into the building fabric. You can usually avoid removing more stone than is badly damaged.

In general I've been very surprised at how effective patching can be at slowing deterioration. In some of the buildings that I've been involved with over a period of years where it looked as though the deterioration was occurring at a very rapid rate, and that it was going to continue at a rapid rate even with the patching, we found that by patching areas where the water was getting in, where there was soft stone or high weathering, that we prevented a lot of moisture from entering the rest of the stone and places that I would have expected to see deteriorate, didn't deteriorate. To get those bad areas repaired to prevent water from entering apparently is important. If done properly, or reasonably well, it can also enhance the appearance of the building. And generally, if you do things right, you probably will not make things worse. And that's one of the prime criteria in dealing with old masonry.

Patching Materials

The patching material you use must match the color and texture of the existing material. It must adhere well, it must be breathable, it must have similar thermal expansion characteristics, and it must weather well. You don't want to do a patch that's going to deteriorate in 5 years. That's not cost effective for the client. I would advise keeping patching as minimal as possible. Do those things that really must be done for structural purposes and to prevent water intrusion and for appearance sake, but don't go crazy. It's very easy to look at a sandstone building and say "we can patch this, this,

this and this, almost everything there". Try to keep it minimal. *Minimal intrusion.*

Helpful Hints for Patching

1. Avoid feather edges. If you feather edge a repair the feather edges will deteriorate rapidly. I like to cut, as opposed to chisel, the areas where the repair is going to be done. Chiseling tends to fracture the surface, you don't get a nice even cut and you're also banging hard on a very fragile material and you can cause more damage with that. A little 4" high speed grinder with a thin diamond wheel can be really effective at cutting out the area that you're going to repair and you can even undercut the repair, that is cut back at a slope from the surface so that you dovetail the area. A diamond grinder is quick, it's easy, it doesn't damage the surface at all.

2. Avoid thin repairs.

3. Color matching. I have a philosophy that no color match will be exact. So if you can't be exact and you're going to be wrong, be wrong several times. Let me explain that.

If you use one color for all the patches on a building, when someone stands back they're going to be able to pick out all those areas, because the color is just a little bit off. But if you use several different colors, maybe one that's real close, maybe one that's just a little bit too dark, and you start intermixing those -- do a repair here with the darker one, do a repair here with the one that you think is just right, intermix them and patch a stone here -- when someone looks at the building, even though each repair may not be exact, the overall effect will be that you won't pick out that there are a whole bunch of repaired areas. My other rule about color is that it's always better to be a little bit too dark than too light. If you're too light, the repairs will stand out really obviously, but if it's a little too dark, most people's minds go "Oh, there's a little variation in the stone or maybe there's a little dirt on it". You don't pick it out as an obvious bad repair.

4. The surface texture is critical. If you get the color right, the next thing you have to do is get the surface texture right. It doesn't have to be real exact, but if the surface of the stone is rough in the area that you're patching, don't do a really smooth repair. It'll stand out like a sore thumb.

The accuracy of the shape is important is important, but surprisingly, for overall appearance, from what I've seen, the shape of the repair, how closely you match the profile of the original stone, is probably less important than a good color match and a good texture match. You can be off a little bit, you can have relative amateurs doing some of these repairs and they don't get it exactly right. They're repairing a window sill, it's got a little dip in it, repairing an ornament and it's not quite right, but that is much less important in terms of the overall appearance than getting the color and the texture correct.