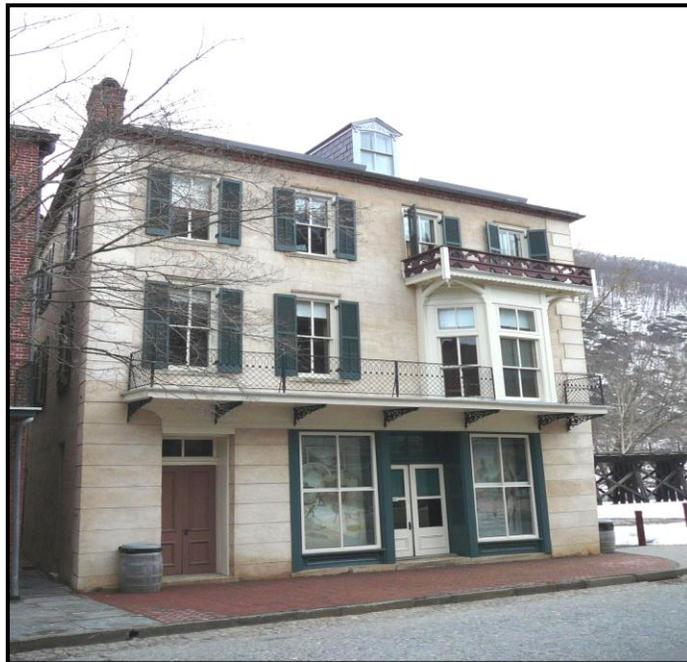


REPAIR DAMAGED STUCCO ON BUILDING #33

HARPERS FERRY NATIONAL HISTORICAL PARK

HISTORIC STRUCTURE TREATMENT REPORT



HISTORIC PRESERVATION TRAINING CENTER

**Department of Interior
National Park Service
4801A Urbana Pike
Frederick, MD 21704**

**REPAIR DAMAGED STUCCO ON BUILDING #33
HAPRERS FERRY NATIONAL HISTORICAL PARK**

TREATMENT REPORT

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Accounting

PMIS Completion Report Accounting

Account	Amount Obligated	Revised Estimate
PPNCHAFE00 PH.P0181773A.01.1	\$23,126.00	

Component Completion Report for project: [Repair Damaged Stucco on Building #33](#)

Component Account Costs By Budget Object Class (based on AFS3):

Account	Personal Service Cost	Travel Cost	Contract Work Cost (HPTC OH)	HPTC OH/Labor Cost	Supply Cost	Equipment Cost (Motor Pool)	Other Cost	Total Cost By Account
	11382.31		5765	1851.72	8718.2			21952.23
Total Component Account Cost								

Historic Preservation Training Center
Direct Charge Authorization
FY2013



Please complete all entries, including the proper signatures, and fax to the HPTC Contact listed below.

Park: Harpers Ferry National Historical Park

Alpha Code: HAFE

Region: National Capital

Date: 07-23-13

Project Title: Repair Damaged Stucco on Building #33

Cost Center PPNCHAFE00

Functional Area:

Code

WBS:

PH.P01B1773A.01.1

Fund Type: 133P103601

ALL ACCOUNT NUMBERS PROVIDED MUST BE DEDICATED FOR USE BY HPTC ONLY.

Authorized Amount: \$23,126.00

PMIS Number: #181773

PERIOD OF PERFORMANCE

August 2013 to September 2

Project Description:

This project will repair approximately 100 square feet of cracked exterior architectural stucco on Building #33 - Lower Town Exhibit (HAFE LCS 003867; dated to 1883) - which was damaged during the earthquake of Tuesday August 23, 2011. The repairs to the stucco will involve identifying deficiencies, correcting failures, repairing wall sections and stabilizing the stucco and mitigating further deterioration.

APPROVALS

Office Contact: Gayleen M. Boyd

Telephone Number: 304 535 4116

Fax Number: 304 535 4022

Date: 07-23-13

Signature: *Gayleen M. Boyd*

Office Budget Contact: Norma Rishel

Telephone Number: 304 535 6225

Fax Number: 304 535 4022

Date: 07-23-13

Signature: *Norma Rishel*

HPTC Contact: Moss Rudley

Telephone Number: 240-285-6780

Fax Number: 301-682-4576

Date:

HPTC Budget Contact: Carol Burkhard

Telephone Number: 301-663-8206 ext.132

Fax Number: 301-663-8032

Date:

HPTC Proj. Contact: Emily Harte

Telephone Number: 240-215-5806

Fax Number: 301-682-4576

Date: 7/8/2013

Narrative

Narrative Statement

REPAIR DAMAGED STUCCO ON BUILDING #33 HARPERS FERRY NATIONAL HISTORICAL PARK

Work Order # PMIS 181773

Executive Summary

This project repaired approximately 100 square feet of cracked exterior architectural stucco on Building #33 – Lower Town Exhibit (HAFE LCS 003867; dated to 1883) – which was damaged during the earthquake of Tuesday August 23, 2011. The repairs to the stucco involved indentifying deficiencies, correcting failures, repairing wall sections and stabilizing the stucco and mitigating further deterioration.

Peter Dessauer, Harpers Ferry National Historical Park Historic Architect and Catherine Dewey, National Capital Region, Architectural Conservator arranged for Cathedral Stone to demonstrate, educate and recommend products and procedures to be used on Building #33. Elizabet Biggio Conservation Intern , National Park Service, National Capital Regions “An Initial Status and Assessment Conservation Survey of Stucco on the West Elevation of Building #33” report was used as reference for the work to be performed.

Project History

May 15, 2013	Transmittal of Draft Project Agreement
May 22, 2013	Transmittal of Final Project Agreement
July 18, 2013	Project Meeting
July 23, 2013	Signed Direct Charge Authorization
July 24, 2013	Pre Construction Meeting Announcement
August 5, 2013	Pre Construction Meeting Minutes
August 19, 2013	HPTC begins set up for training
August 21, 2013	Training
September 4, 2013	Final Meeting Announcement
September 30, 2013	Punchlist Work Scheduled (Postponed)
October 24, 2013	Punchlist Work Completed and Accepted

Clearance

Section 106 clearance will be handled under the Memorandum of Agreement XXX process and shall be obtained by the Park. Any necessary future compliance requirements will be the responsibility of the Park.

PEPC 42038

Summary of Work

HAFE representatives in cooperation with Catherine Dewey Architectural Conservator, National Capital Region formulated a method of repair which included the use of Cathedral Stone Restorative Mortars. A training session was arranged with Cathedral Stone and HPTC craftsman, who would be applying the products. Invitations were sent to other parks and to National Capital Regions Interns who were interested in the training.

HPTC was responsible for setting scaffolding to be used for the training. HPTC set three sections of scaffold with the center section rising five tiers. The other sections were raised three tiers. All levels were fully decked and outriggers provided on every level. The scaffold was tied to the building through two windows. Safety gates were put up on the outside of walk surfaces. In addition HPTC supplied the electronic equipment and safety supplies needed. Cathedral Stone provided the materials to be used in the different applications.

Training was presented by Cathedral Stones Dennis Rude. Three methods of dealing with the different conditions present were demonstrated. At the beginning of the training Elizabeth Biggios pdf "Hollow Areas" was used to resound the highlighted areas and draw pencil marks around all hollow sounding areas. Following that exercise was the demonstration on grouting of hollow spots that exhibited no cracks or failing stucco. The bottom corner quoin was selected as the demonstration hollow area treatment. Numerous holes were drilled in the top and the bottom of the hollow area located on the quoin. The area was flushed with water. The intent was for the water to come out the bottom holes prior to injection. When this worked M30 injection grout was mixed and inserted via a syringe into the top hole until it flowed out the bottom hole. The bottom holes were then patched with M60 Restoration Mortar and stained at a later date with the recommended Cathedral Stone Stain Kit.

Another condition present in Building #33 stucco was cracks. Some of these cracks measured less than ½ inch. Using the grouting method for cracks was recommended in some applications by Cathedral Stone. In the class Cathedral Stone had the trainees chasing these cracks with a

grinder to a width twice the thickness of the depth of the crack. Later they would be filled with an application of M60 restorative mortar.

The final major condition present was areas that exhibited not only hollow sound but cracks and failing stucco. These areas were generally confined to above the windows near the cracks and at the foundation. These areas required removal of the failing stucco and total replacement with restoration mortar. The technique was not performed in class. The tooling, texturing and technique to mimic the blocks were discussed by Cathedral Stones Dennis Rude.

The class ended with a discussion on how to use the Cathedral Stone Stain Kit. Dennis Rude discussed the color variances throughout the different levels of the building and how the stain mixtures would change. He suggested making a sample of the mortar and then practicing the mixing and techniques for applying the stains.

The following day HPTC technicians began the application of the suggested methods of repair in accordance with the Cathedral Stone advised treatment application methods. The scaffold was removed following the class for access to the work areas with a forty-five foot man lift. The remainder of the work was performed from the ground or the man lift.

Work began on the west side of the top elevation and progressed down the quoins. The area was accessed with a forty-five foot man lift. Holes were drilled and attempts were made to flush water out of lower drilled holes. Grout was mixed and injected in all holes. M60 restorative mortar was used to plug all holes after grout injection. Work continued from west to east, roof to foundation on the façade. Attempts were made to drill, flush and inject on major hollow sounding and cracked areas. (See drawing Grout) Some areas would not flush. M30 grout was injected in all drilled holes regardless and it would act as a key in the stucco. It was determined that the drilling and grouting of some hollow sounding areas would be more detrimental to the substrate than the hollow area itself. In areas where there was minimal hollow sounding and no signs of deterioration a no treatment approach was taken. (See drawing No Treatment)

After further investigation it was apparent that the top crack that permeated the cornice and ran to the third story window corner was substantial. Loose and depreciated material was removed. The exterior structure was cracked through to and partially into the rubble wall. This may have been a result of the earthquake. Rust jacking of metal lintels above the third and second story center windows was occurring. There was no way to define if the rust jacking was the cause of the cracking or the earthquake caused the crack and allowed the infiltration of water to the lintels which subsequently cracked. HPTC removed all depreciated materials and cleaned the surrounding areas. A flexible mortar was chosen to fill the interior cracked portions of the wall and point the affected stone work. M60 restoration mortar was then used to mimic the original stucco. The mortar was finished to match and the ashlar block lines replicated. There were block located at the foundation with loose and depreciated stucco. These areas were removed and M60 restoration mortar applied, mimicking the original surface texture and ashlar block lines. The last block above the second story window and the crack located directly below that window were filled with a new batch of the M60 Cathedral Stone restoration mortar. It was noted at that time

that the color slightly differed from the original used. The same color number mix had been ordered.

Cracks were the final condition addressed on the façade. M60 restorative mortar was mixed and applied to all the cracks that had been chased with the grinder during the training session. (See drawing Cracks)

The Cathedral Stone Stain Kit was used to try and match colors on the west side foundation quoin that was used for the exhibition of grouting during the training. The final notice was sent out and a final was held. The patches without staining were not accepted and HPTC returned after a few weeks when the mortar was completely dry and stained the patches with the Cathedral Stone Stain Kit. Another final meeting was held with all in attendance being satisfied with the color match.

Selected Photographs



Photo 1: During training with Cathedral Stone large areas of hollow sounding stucco were removed.



Photo 2: An alternative treatment during training included the drilling of holes and the injection of grout.



Photo 3: Craftsman applies different samples of Jahn Restorative Mortar to pick a color match during training.



Photo 4: HPTC craftsman patches holes with Jahn M60 restorative mortars after Jahn M30 injection grout application



Photo 5: HPTC craftsman performs grout injections to all the hollow quoins of Building #33.



Photo 6: All blocks exhibiting depreciation of stucco, large cracks and hollow areas were sounded and loose stucco removed.



Photo 7: Injection grout application performed in the areas of large cracks.

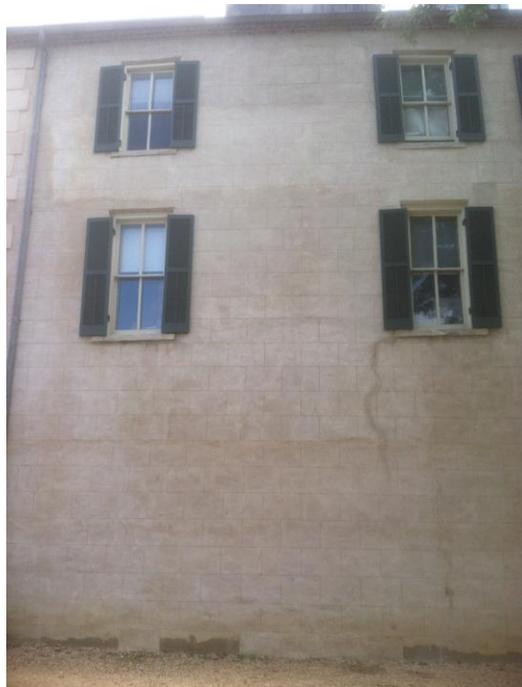
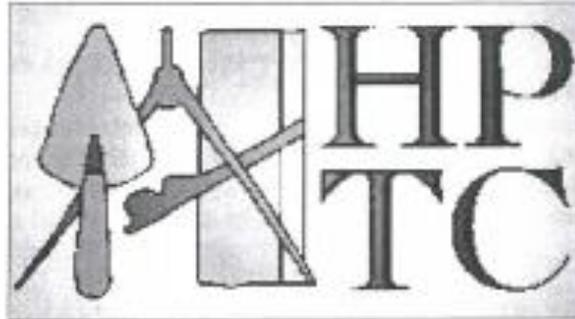


Photo 8: All patched areas, panels and cracks were tinted with Cathedral Stone Stain Kit.

Project Agreement



**FINAL PROJECT AGREEMENT
PMIS #181773/PEPC 42038
REPAIR DAMAGED STUCCO ON BUILDING #33
HARPERS FERRY NATIONAL HISTORICAL PARK
FY13**

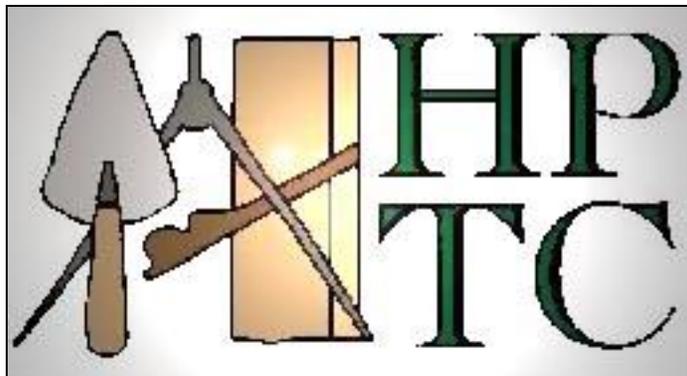
MAY, 2013

RECOMMENDED: *Chris Linton* DATE: 7/8/13
SUPERINTENDENT, HISTORIC PRESERVATION TRAINING CENTER

CONCUR: *Alan F. D'Saiva* DATE: JULY 8, 2013
HISTORIC ARCHITECT, HARPERS FERRY NATIONAL HISTORICAL PARK

APPROVED: *Rebecca A. Hewitt* DATE: 7/8/13
SUPERINTENDENT, HARPERS FERRY NATIONAL HISTORICAL PARK

Submitted by:
National Park Service
Historic Preservation Training Center
4801-A Urbana Pike
Frederick, MD 21704



**FINAL PROJECT AGREEMENT
PMIS #181773/PEPC 42038
REPAIR DAMAGED STUCCO ON BUILDING #33
HARPERS FERRY NATIONAL HISTORICAL PARK
FY13**

MAY, 2013

RECOMMENDED: _____ DATE: _____
SUPERINTENDENT, HISTORIC PRESERVATION TRAINING CENTER

CONCUR: _____ DATE: _____
HISTORIC ARCHITECT, HARPERS FERRY NATIONAL HISTORICAL PARK

APPROVED: _____ DATE: _____
SUPERINTENDENT, HARPERS FERRY NATIONAL HISTORICAL PARK

Submitted by:
National Park Service
Historic Preservation Training Center
4801-A Urbana Pike
Frederick, MD. 21704

I. DESCRIPTION OF THE PROJECT

Work to be executed under this Project Agreement will address the completion of PMIS 181773 - Repair Damaged Stucco in HAFE from 2011 Earthquake PEPC 42038. This project will address the repair of approximately 100 square feet of cracked exterior architectural stucco on the west elevation of the historic Building #33 part of the Doran Block Complex, dated to 1883, located in Lower Town Harpers Ferry, West Virginia.

The project will consist of documentation, a safety assessment and plan, evaluation, assessment, and development of methodology, and the execution of the work for the repair of severe cracks, voids, crumbling stucco and hollow areas. All methodology and work will be executed in conjunction and in cooperation with NCR Conservator Catherine Dewey and HAFE Park. The HAFE architect, Peter Dessauer will be the P.O.C.

II. STRUCTURE DESCRIPTION

Building #33 (HAFE LCS 003867): Building #33 is part of the famous Doran Block, and one of the structures in the Lower Town historic scene. It provides an interior exhibit for public visitation. It is the first building on the south side of Shenandoah Street, and the first visible building as visitors approach Lower Town from the transit bus terminal. It contains "Harpers Ferry: A Place in Time," a video program showing the growth of the town over time.

This is a 3-story, 4 bay structure, total 7249sf with a low hipped roof containing 1 dormer, parapet end walls and chimneys. There is a 2nd story iron balcony and a bay window on SW side. The windows are 2/2 double-hung sash and have cast iron lintels. 2 large storefront windows flank the 1st floor entrance. The NPS strengthened the structure with interior block in 1950. The building is clad in an historic architectural finish of stucco with a scored ashlar pattern of 15" x 22" block.

III. STRUCTURE CONDITION

The stucco on the west elevation of Building #33 is in fair condition based on an assessment performed by Catherine Dewey, NCR and outlined in the report: Initial Status and Assessment Conservation Survey of Stucco on the West Elevation of Building #33, prepared by Elizabeth Biggio, Conservation Intern, NPS NCR dated to August 2012. It was noted in the report the following conditions were exhibited; Between windows on the second story there are areas of delaminating and failing stucco. There are numerous hollow (sounded with a wooden mallet) areas. The greater percentage of these areas is located on the quoining panels on south side. There are some hollow areas located along hairline or larger cracks predominantly on the 2nd story. There are hairline and larger cracks approximately 1/4 "in width present on the remaining of the west elevation, most exhibited no evidence of detachment from the substrate. The areas of stucco weaknesses on the west elevation of Building 33 are color highlighted on an illustration drawing which accompanies the NCR survey report.

IV. SCOPE OF THE PROJECT

HPTC will work within the Secretary of the Interior's Standards for the Treatment of Historic Properties as preservation specialists to complete the following tasks on Building #33. When complete, repairs will have identified deficiencies, corrected failures, repaired wall sections, mitigated potential for additional failing stucco and stabilized remaining stucco while preserving historic details. HPTC and NCR will provide HAFE Park with advice and a plan to monitor the repairs and inspect their sustainability.

TASK # 1: Mobilization/Documentation/General Set-Up/Demobilization

This task will involve a variety of activities. The HPTC will initially identify material needs, prepare procurement documents, and obtain required materials. A team of preservation craft persons, appropriate for the project, will be assembled. All necessary tools, equipment and materials will be assembled and transported to a HAFE designated staging area. Storage facilities and a base of operation in the park will be established at an approved location.

A safety/hazard analysis will be conducted as part of this task and will be supported with the preparation of a safety plan for all onsite activities. Scaffolding may be erected for access to lower wall sections and a mechanical lift will be used for vertical access to the upper crack areas. Plywood will be laid on Market Street and under the lift, scaffold or ladders for ground protection. A chain link fence with lock will be erected around the staging. HPTC will be in charge of site security and maintenance. HPTC will supply any required staging equipment. Signs will be installed, as required. All materials and mixes used will be specifically documented and included in the HPTC Historic Structure Treatment Report (HSTR).

The HPTC may recommend and develop a mortar mix or grout that will be used for this stabilization effort. Considerations will be given to recommended mix of 1 part white cement to 1 or 2 parts lime and 6 parts sand. Samples of recommended mortar and grout will be provided to the NCR Conservator and Park for review and approval prior to the beginning of any injection or repair activities.

Existing conditions of the masonry components will be documented using color photographs and field sketches. HAFE Resource team will monitor HPTC activities for park documentation.

Following the completion of all tasks, HPTC tools and equipment will be removed from the site and transported to HPTC Facilities. Any remaining materials will be accessioned to the Park or disposed off site. Upon the completion of all tasks, the work site will be restored to an acceptable condition.

This task will be completed with the preparation and distribution of a Treatment Report as presented and described in section VIII. Products: of this document.

TASK # 2: Cleaning and Surface Preparations for Stucco

HPTC will clean stucco surfaces. Surfaces may be cleaned with a low pressure water wash, soft

bristle brushes and possible a non-ionic detergent. If algae, organic plant material, mold or metallic stains exists a pre approved appropriate solvent may be applied.

Surface preparation will be tailored to the individual classifications of damage. Larger cracks and areas of loss of historic fabric may be cut out to a sound substrate and cleaned to provide a solid bonding area for the new stucco. Minor areas to be patched will be properly prepared. Areas to be grouted will be prepared for insertion of grouts.

TASK # 3: Preservation, Conservation and Stabilization of Stucco

Treatment to the stucco will be performed on a case by case basis. All work will be performed in accordance with Preservation Standards, drawing from Brief #22 for the majority of repairs. Methodology and treatments will be applied with care and in accordance with recommendations from NCR Conservator Catherine Dewey. HPTC crafts persons will apply stucco, administer grout treatments, consolidants or protective coatings where advised. Stucco applications performed will be finished and tooled/struck to match the existing ashlar pattern. All work will be photographed and documented for the HSTR.

V. DATA COLLECTION

The following documents provided historical, existing condition assessments, structure specific recommendations, and management guidelines for this project:

- PMIS Funding Request, Project Identification # 181773
- Park LCS data – LCS 003867
- PEPC 42038
- An Initial Status and Assessment Conservation Survey of Stucco on the West Elevation of Building #33 Prepared by Elizabet Biggio, Conservation Intern, NPS/NCR dated August 2012

VI. COMPLIANCE

Section 106 clearance will be handled under the Memorandum of Agreement XXX process and shall be obtained by the Park. Any necessary future compliance requirements will be the responsibility of the park.

VII. PROJECT COORDINATION

The successful execution of this project will depend upon the timely completion of any and all necessary actions as outlined by each of the following parties to this Project Agreement:

HPTC: Review existing documentation and reports and prepare a Project Agreement and cost estimate describing project work.

Coordinate phasing of the work performed by the HPTC preservation team.

Conduct preconstruction, final inspection, and other such on-site, project-related meetings as required.

Provide project supervision for all work performed by the HPTC's preservation team.

Provide crafts people to perform all construction activity outlined in Section IX, Products.

Provide weekly reports on project progress and activities.

Provide proper disposal facilities for and periodic collection of all construction debris associated with this project.

Maintain a record of treatment and all documentation on all phases of the subject work. Prepare and distribute a record of treatment within six months of the date of the final inspection.

Provide for visitor protection while the project is ongoing.

Maintain work and staging area according to OSHA Regulations and Guidelines.

Provide ground protection and screening of staging area

HPTC will communicate with the HAFE Park and Harpers Ferry Town Police Department about permission for scheduling deliveries and observance of traffic restrictions.

HPTC will communicate with the Harpers Ferry Town Police Department about traffic controls, limited parking, and compliance with town laws.

HAFE: Consistent with the provisions of this Project Agreement, provide access to the project site for the day-labor crew and any related contract or supply or service contract associated with the project work or as stipulated at the preconstruction conference.

Provide any and all necessary clearances and/or permits for the project including federal, state, and local permits required. Prepare all compliance documents as required by the Historic Preservation Act of 1966, as amended and NEPA of 1969.

Review, comment, and approve/reject all project submittals in a timely manner

Provide access to a clean water source to be used for project-related purposes.

Designate a single administrative contact for the project duration. This will be HAFE Park Historic Architect Peter Dessauer.

Identify individuals and schedule availability for participation of Park personnel in the HPTC's Preservation Work Assignment Training Program, if desired (see attached program description)

Matters regarding site-related issues (access, closures, signing, etc.) will be determined by the HPTC and HAFE. The HPTC's project leader may vary from time-to-time, but at all times a designated person will retain on-site authority and serve as the immediate HPTC project contact.

HPTC project leaders do not have approval authority on matters concerning time, money, scope of work, or design changes. Matters regarding project objectives and/or design-related issues will be determined by approved compliance and design documents; any unresolved issues or changes will be handled between HAFE and the HPTC's supervisory staff.

Matters regarding logistics and/or techniques of project execution will be determined by the HPTC. Further refinement of these roles and responsibilities will be discussed at the preconstruction meeting.

VIII. SAFETY

Worker and visitor safety is a primary concern within the NPS. Safety awareness and compliance shall be both a team and individual concern, with all parties striving to attain a safer work environment.

This HPTC/HAFE projects are a work zone and is therefore designated a hardhat area in compliance with OSHA regulations. All persons entering the designated work area will wear an approved hard hat at all times. The HPTC Section Chief Chris Robinson or Moss Rudley is the only individuals who may grant exemption or exception to this written HPTC Policy.

Project leaders shall conduct "tailgate safety meetings" weekly with workers assigned to the project and file OSHA required records in the project file

The HPTC will conduct all work activities consistent with applicable health and safety regulations. All HPTC project work shall be conducted in accordance with OSHA regulations 29 CFR Part 1926.

A project-specific Safety Plan will be developed for this HPTC/HAFE project and made available to the client upon request. Each member of the project team will acknowledge their familiarity with the plan by affixing their signature to the "Crew Sign-Off Sheet." The plan designates the "Competent Person" for all OSHA regulated activities.

Project leaders shall ensure that all work activities are consistent with applicable health and safety regulations and the HPTC Safety Program.

ACCIDENT FORMS

On all HPTC projects, HPTC is responsible for reporting and investigating all accidents in accordance with HPTC's Safety Program (available upon request), laws and regulations.

Occupational Safety and Health Act - COMPLIANCE

All HPTC project work shall be conducted in accordance with OSHA regulations – 29 CFR Part 1926.

IX. PRODUCTS

Products to be furnished by the agreements within this Project Agreement from the HPTC to the HAFE are:

1. Completion of preservation tasks as detailed in Section IV of this Project Agreement.
2. Preparation of a Treatment Report for this project, both in accordance with Director's Order (DO) #28. The Treatment Report includes account data, correspondence, color photographs, sketches, weekly reports, and a narrative outlining the course of work, conditions encountered, and materials used.

The HPTC shall provide limited distribution of the Treatment Report. Broad distribution of the Treatment Report, as outlined in Appendix D, DO#28, shall be the responsibility of the Park. The HPTC shall provide the HAFE Program Manager with two Treatment Reports prepared in a CD ROM format and two notebook hardcopies, one for HAFE and one disk for Catherine Dewey, NCR.

Included in this document will be select scanned and digital photographic images. All original photographs and negatives will be packaged separately in a loose-leaf binder and presented to the HAFE Park for their library records.

The HPTC shall retain an electronic copy with duplicates of all photographs for the HPTC library. The HPTC shall distribute a CD ROM copy of the Treatment Report to the HPTC Deputy Superintendent, the designated Project Leader, the Harpers Ferry Center Library, the DSC Technical Information Center and respective park Regional Office.

X. ESTIMATED SCHEDULE

Draft Project Agreement:
Final Project Agreement:

May 15, 2013

Estimated Project Start Date:
Project Completion Date:

August 2013
September 2013

XI. PROJECT TEAM

HPTC: Moss Rudley, Masonry Section Supervisor
Emily Harte, Project Leader

HAFE: Peter Dessauer, HAFE Architect, AIA

NCR: Catherine Dewey, Architectural Conservator

XII. COST ESTIMATE

Task #1 Mobilization/Demobilization					
	Labor	Unit Cost	Number	Units	Total
1	Exhibit Specialist	\$ 65.00	20	hour	\$ 1,300
1	Mason	\$ 55.00	10	hour	\$ 550
	Masonry Worker	\$ 45.00	20	hour	\$ 900
Task # 1 Subtotal					\$ 2,750
Task #2 Clean and Prepare Stucco for Treatment Applications					
1	Exhibit Specialist	\$ 65.00	40	hour	\$ 2,600
1	Mason	\$ 55.00	40	hour	\$ 2,200
	Masonry Worker	\$ 45.00	20	hour	\$ 900
Task #2 Subtotal					\$ 5,700
Task 3 Preservation, Conservation and Stabilization of Stucco					
1	Exhibit Specialist	\$ 65.00	40	hour	\$ 2,600
1	Mason	\$ 55.00	40	hour	\$ 2,200
	Masonry Worker	\$ 45.00		hour	\$ -
Task 3 Subtotal					\$ 4,800
Item #1 General Costs					
	Misc. Materials		1	lump	\$ 1,050
	Project Supervision		1	lump	\$ 994
	Record of Treatment		1	lump	\$ 2,000
	Aerial Lift Rental		2	weeks	\$ 3,200
Item #1: Subtotal					
Summary					
	Task 1	\$ 2,750.00			
	Task 2	\$ 5,700.00			
	Task 3	\$ 4,800.00			
	Item 1	\$ 4,043.75			
	Subtotal	\$ 17,293.75			
	HPTC Overhead	\$ 5,764.58			
HPTC TOTAL		\$ 23,058.33			

NOTE: HPTC's salaries are calculated on a pay period basis. The number of pay periods is based upon an estimate of the total amount of hours required for each team member to complete the required project tasks. The hourly rate for each occupation is determined by combining the direct hourly rate plus benefits with a prorated amount for the indirect costs of annual and sick leave, holidays, and training time.

XIII. TRAINING

It is the objective of the HPTC to expand our programs by providing opportunities for all NPS employees to receive training, which increases their appropriate levels of sensitivity and responsibility in the recognition and implementation of historic preservation of cultural resources. The focus of HPTC's training is on work-based learning and skill improvement.

Various aspects of this project offer different learning opportunities for those involved in its execution. HPTC shall make every effort to maximize the training potential of the project described in this Project Agreement by scheduling HPTC's staff, program participants, and Park personnel to appropriate project duties. General training objectives have been developed for this project and are listed below:

1. To document the existing conditions of a historic masonry structure using photographs and field sketches.
2. To selectively prepare stucco for re-application, apply treatments to stucco (ie. grout or consolidants).

PRESERVATION WORK ASSIGNMENT - GENERAL GUIDELINES

To foster a better understanding of the Historic Preservation Training Center's (HPTC) programs and mission, and to enable Park staffs to develop a sense of ownership and feeling of personal involvement in the park project, we have developed the Preservation Work Assignment Program.

This program will be offered only if the assignment will afford a "good" training experience for the park staff. Factors such as project leader and crew skill, knowledge and experience levels, type of project, etc., will be considered before the assignment is offered.

The Project Supervisor or HPTC Superintendent will ask the HAFE or NCR representatives if they would like any of their staff to work with our crew on the project. If they are agreeable, the park will identify employees. Developmental objectives will be established after meeting with the park staff.

Midway through the assignment, a progress report (Verbal if assignment is two weeks, written if longer) will be sent to the park staff to solicit their input about how the assignment is progressing. The HAFE or NCR representative and the HPTC Project Supervisor or HPTC Superintendent will solve any problems that have arisen.

At the end of the assignment, participants will be issued a training certificate, and evaluations will be sent to the participant, the Maintenance Chief/Supervisor, and the Project Leader.

The following criteria will be negotiated between the HAFE and HPTC Project Supervisor or HPTC Superintendent:

- ◆ Park staff must work the agreed upon number of days on the project in order to achieve the established objectives.
- ◆ Park staff will work the same schedule as the HPTC crew or as close to it as possible.
- ◆ Park staff must notify the HPTC Project Leader as soon as possible when their employee has called in sick or is taking annual leave. Likewise, the HPTC Project Leader will notify park staff when the crew must return to the HPTC before scheduled. This includes inclement weather arrangements.
- ◆ Park staff must take breaks and lunch period at the project site and not return to the maintenance yard.
- ◆ Park staff must work at the project site during their entire assignment and not leave to perform other park duties.
- ◆ Park staff must provide own tools.

If it is arranged for a park employee to come to the HPTC to work in the Shop, the Training Manager should be notified so that travel arrangements can be made. All of the other above information applies to this situation also.

DESIGN CHANGE APPROVAL

Design Change Approval #:

Date of Submittal:

Park/Area:

Drawing/Specification #:

Project Supervisor:

Project Leader:

Reference (Approval specification, detail or page # you propose to change)

Proposed Change (Brief description of change with detail attached if necessary)

Cost Estimate

Discussion (Who?, What?, Where?, When?, and How? Add comments and/or follow-up.

Recommended by: _____ Date:
Initiator

Concur: _____ Date:
Project Supervisor

Concur: _____ Date:
Deputy Superintendent, HPTC

Concur: _____ Date:
Historical Architect, HAFE

Approved: _____ Date:
Superintendent, HAFE

Compliance

Documents for Building Compliance:

- Project PMIS 181773
- Project PEPC 3038
- West Elevation Drawing of Building 32, 33, and 33A along Market Street, Sheet 64, from DSC set 385/25,031, the restoration of the Doran Block, dated November 29, 1993.
- Completion Report - Stucco Repair Building 33, Lower Town, HAFE Park; by Renzo Riddo, dated December 1998.
- HAFE PARK - Historic Structures Report - Architectural Data Section Part I Buildings 32, 33, and 33A.,dated December 1994

Correspondence



United States Department of the Interior
NATIONAL PARK SERVICE
Historic Preservation Training Center
4801A Urbana Pike
Frederick, MD 21704



D18 (HPTC)

May 15, 2013

Memorandum

To: Superintendent, Harpers Ferry National Historic Park

From: Superintendent, Historic Preservation Training Center

Ref: Repair Damaged Stucco on Building #33

Subject: Transmittal of **DRAFT** Project Agreement

Enclosed is the Draft Project Agreement for the referenced project. Please review the document and return comments to HPTC before May 30, 2013

Since this document serves as a basic agreement between our respective offices, I urge your carefully review to ensure that it meets with your expectations and approval.

If we can provide any additional information regarding this document, please do not hesitate to contact Moss Rudley 240-285-6780

Chris Robinson

Enclosure

cc:

HAFE, Peter Dessauer

HAFE, Mia Parsons

HAFE, Dennis Fry

HAFE, Rebecca Harriett

HAFE, Steve Lowe

HAFE, Andrew Lee

bcc:

HPTC McGrath (w/enclosure)
HPTC Robinson (w/enclosure)
HPTC Rudley (w/enclosure)
HPTC Harte (w/enclosure)
HPTC Burkhard (w/enclosure)
HPTC Project File (w/enclosure)



United States Department of the Interior
NATIONAL PARK SERVICE
Historic Preservation Training Center
4801A Urbana Pike, Gambrill House
Frederick, MD 21704-7307



IN REPLY REFER TO:
H30 (HPTC)

May 22, 2013

Memorandum

To: Superintendent, Harpers Ferry Historic Park

From: Acting Superintendent, Historic Preservation Training Center

Ref: Repair Damaged Stucco on Building #33 PMIS#181773/PEPC 42038

Subject: Transmittal of FINAL Project Agreement

Enclosed is the FINAL Project Agreement for the referenced project. All review comments received from your staff have been incorporated into this document. Since this document serves as the basic agreement between our respective offices, I urge your careful review to ensure that it meets with your expectations and approval. Upon review and approval of this document, please sign the cover sheet and forward the cover page to our office for distribution.

If we can provide any additional information regarding this document, please do not hesitate to contact Moss Rudley at 240-285-6780.

Chris Robinson

Enclosure

cc:
HAFE, Peter Dessauer
HAFE, Mia Parsons
HAFE, Dennis Fry
HAFE, Rebecca Harriett
HAFE, Steve Lowe

HAFE, Andrew Lee

bcc:

HPTC Robinson (w/enclosure)

HPTC Rudley (w/enclosure)

HPTC Harte (w/enclosure)

HPTC Burkhard (w/enclosure)

HPTC Project File (w/enclosure)



United States Department of the Interior
NATIONAL PARK SERVICE
Historic Preservation Training Center
4801A Urbana Pike, Gambrill House
Frederick, MD 21704-7307



IN REPLY REFER TO:
H30 (HPTC)

July 22, 2013

Memorandum

To: Superintendent, Harpers Ferry Historic Park
From: Exhibits Specialist Emily Harte/Project Lead
Ref: Repair Damaged Stucco on Building #33 PMIS#181773/PEPC 42038
Subject: Pre-Construction Meeting

A pre-construction meeting has been scheduled for Wednesday July 24, 2013 to begin at 10AM on-site at Building #33. Those wishing to consolidate travel to site meet at the Brackett House on Camp Hill between 9:30 and 9:45AM. This meeting will be an opportunity for HAFE officials and HPTC project leads to discuss project related issues including: scope of work, project contacts, work hours, safety, project coordination, site use, park rules and regulations, and security.

I would anticipate the meeting lasting about 1 hour to discuss the above topics and make the decisions needed to begin the project.

I ask for your attendance as it key in providing the needed cooperation and coordination between our respective units.

Thank you and I look forward to meeting with you.

Sincerely,

Emily Harte

Enclosure

cc:

HAFE:

Larry Moore

Mia Parsons

Jeffrey Woods

Peter Dessauer

Andrew Lee

Dennis Fry

Todd Bolton

Darlene Hassler Godwyn

Sean Isham

Gayleen Boyd

Stan Mcgee

HPTC:

Chris Robinson

Moss Rudley

Emily Harte

bcc:

HPTC; McGrath/Robinson (w/enclosure)

HPTC; Robinson (w/enclosure)

HPTC; Rudley (w/enclosure)

HPTC; Jones (w/enclosure)

HPTC; Burkhard (w/enclosure)

HPTC; Printup (w/enclosure)

HPTC; Polzin (w/enclosure)

HPTC; Project file (w/enclosure)



United States Department of the Interior
NATIONAL PARK SERVICE
Historic Preservation Training Center
4801A Urbana Pike, Gambrill House
Frederick, MD 21704-7307



IN REPLY REFER TO:
H30 (HPTC)

July 29, 2013

Memorandum

To: Superintendent, Harpers Ferry Historic Park

From: Exhibits Specialist Emily Harte/Project Lead

Ref: Repair Damaged Stucco on Building #33 PMIS#181773/PEPC 42038

Subject: Pre-Construction Meeting Minutes

A pre-construction meeting has held Wednesday July 24, 2013 at 10AM on-site at Building #33. The meeting was an opportunity for HAFE officials and HPTC project leads to discuss project related issues including: scope of work, project contacts, work hours, safety, project coordination, site use, park rules and regulations, and security.

In attendance were:

HAFE: Stan McGee
Peter Dessaurer
Todd Bolton
Larry Moore

HPTC: Moss Rudley
Emily Harte

Cathedral Stone: Tony Zabrzewski

Agenda items included but were not limited to;

Introductions:

Introductions were performed and all signed the sign in sheet.
Contact numbers were exchanged.

Safety:

Central Dispatch number for Don Kees (301)714-2235 was given for emergencies.

HPTC and HAFE agreed to the area to be cordoned off from visitors.

Signage for the work will be provided by Catherine Dewey and HPTC will provide the “Historic Preservation in Progress” sign.

A “Safety Plan” will be provided by HPTC, all persons involved in the work will read and sign.

HPTC crew will wear HPTC designated shirts and hard hats.

When work is to occur above the sidewalk, HPTC will be in contact with the park and will provide a person to stop work and direct pedestrians.

Staging:

HPTC will unload scaffold and necessary supplies off the street.

The area to be cordoned off is from the front edge of building #33 not to obstruct the sidewalk, to the imbedded brick in the drive, to the rear of the building.

Area will be cordoned off with green fencing and signage.

HPTC will close off any ladder access to scaffold with plywood.

HPTC will cover the ground below the work with filter fabric.

HPTC will organize, batten down and remove any supplies and debris from the site at the close of the work day, on weekends and anytime work is not in progress.

Scopes of Work:

HPTC will send a schedule of work to be performed on a man lift to Larry Moore prior to the occasions.

HAFE will supply access to electric and water.

HPTC will provide detail for scaffold to window anchoring to HAFE prior to scheduled date of scaffold construction.

Training:

Training on the use of the prescribed treatment methods will be provided by Cathedral Stone.

Trainees should bring their own PPE (ie. hard hats, safety glasses and gloves)

HPTC will have safety equipment if needed.

Training will be limited to 20 people.

Parking for the training will be located at Cavalier Heights. Attendees can use the bus transportation from Cavalier Heights to Harper’s Ferry Lower Town.

A note should be placed on dashboards of vehicles stating association with the training.

Parking and Traffic Restrictions:

HPTC will not obstruct the roadway in Lower Town.

Contact John Brown in the event of any necessary disruptions on the roadway.

HPTC will park one to two vehicles in Park Maintenance site in HPTC designated spots.

A note will be placed on dashboards of vehicles parked stating association with the project.

Work Hours:

HPTC hours will be from 7AM to 3:30PM Monday through Thursday.

Work will commence with the construction of scaffold and assembly of necessary equipment on August 19 and 20, 2013.

Training will take place on Wednesday August 21, 2103.

Work will continue on the Monday through Thursday schedule until the week of September 2, 2013 when a stoppage of one week will occur.

Work will then reconvene the following week September 9, 2013 and continue until it is complete.

Administrative Responsibilities:

HPTC will provide a weekly progress/project report to HAFE.

Park Concerns:

In the event of a high water episode or other event HPTC will provide a 24 hour contact number.

HPTC will block all ladder access to scaffold with plywood.

The meeting lasted approximately an hour, with all agreeing that communication between all parties will be the key to a successful completion to the project.

Thank you and I look forward to working with you.

Sincerely,

Emily Harte

Enclosure

cc:

HAFE:

Larry Moore

Mia Parsons

Jeffrey Woods

Peter Dessauer

Andrew Lee

Dennis Fry

Todd Bolton

Darlene Hassler Godwyn

Sean Isham
Gayleen Boyd
Stan Mcgee

HPTC:
Chris Robinson
Moss Rudley
Emily Harte

Preconstruction meeting sign in
 REPAIR DAMAGED STUCCO ON BUILDING #33
 HARPERS FERRY NATIONAL HISTORICAL PARK

Name	Email	Phone number
Stan m Shea	stan-mgshe@nps.gov	304 535-4063
PETE F. DESSAVER	Peter-dessaver@nps.gov	304 535 6040
Tony ZAKRZASKI	TZARSKI@cothairalstene.com	412 570-8500
Todd Bowen	Todd-Bowen@nps.com	304-535-6026
LARRY MOORE	LARRY.MOORE@NPS.GOV	304.676.2125



United States Department of the Interior
NATIONAL PARK SERVICE
Historic Preservation Training Center
4801A Urbana Pike, Gambrill House
Frederick, MD 21704-7307



IN REPLY REFER TO:
H30(HPTC)

September 4, 2013

Memorandum

To: Superintendent, Harpers Ferry National Historic Park
From: Superintendent, Historic Preservation Training Center
Ref: Repair Damaged Stucco on Building #33 PMIS#181773/PEPC 42038
Subject: Final Inspection Meeting

The subject meeting has been scheduled for Thursday September 5, 2013. The meeting is scheduled to begin on site at 10:30 a.m. Your attendance and/or attendance by members of your staff is requested and encouraged.

If there are any questions or comments, please direct them to Moss Rudley, of the Historic Preservation Training Center at (240)-285-6780.

Chris Robinson

Enclosure

cc:
HAFE; Larry Moore
HAFE; Mia Parsons

HAFE; Jeffrey Woods
HAFE; Peter Dessauer
HAFE; Andrew Lee
HAFE; Dennis Fry
HAFE; Todd Bolton
HAFE; Darlene Hassler Godwyn
HAFE; Sean Isham
HAFE; Gayleen Boyd
HAFE; Stan Mcgee

bcc:

HPTC; Robinson
HPTC; Rudley
HPTC; Harte
HPTC; Project file

Sub: **HPTC COMPLETED PUNCHLIST @
B33 STUCCO - Thursday, October 24**

To: HAFE/HPTC/NCR Project Team

This morning at 11:00 AM Emily Harte, HPTC masonry specialist, completed the Punchlist for the above referenced project. HAFE Park representatives Mia Parsons, Larry Moore, and Peter Dessauer accepted the final work including the stain tinting and color matching of the patched stucco panels. The project is now COMPLETE.

Peter

On Tue, Oct 22, 2013 at 8:34 AM, Harte, Emily <emily_harte@nps.gov> wrote:
To: HAFE/HPTC/NCR Project Team

I will be arriving Thursday October 24, 2013 at approximately 8AM at HAFE to complete the punch out items on Building #33. I will park in the HPTC spot provided in the parking lot. I will need the use of the man lift and access to a water source. I will be bringing all other supplies necessary to perform the staining (to match the different colors on the building) and to fill the crack located beneath the second story window. I do not anticipate this taking longer than the morning to complete. I would like anyone interested in seeing the completed items to meet me at 11AM for the final. Thank you in advance for your time.

Emily Harte

On Fri, Oct 18, 2013 at 1:05 PM, Dessauer, Peter <peter_dessauer@nps.gov> wrote:

Ref: HAFE PMIS 181773 - Repair Damaged Stucco in HAFE from 2011 Earthquake

Sub: **PUNCHLIST WORK @ B33 Stucco
Repair - Thursday, October 24**

To: HAFE/HPTC/NCR Project Team

Emily Harte will be at Building #33 west elevation for the stucco repair punchlist on Thursday, October 24. As per our agreement, Emily will need the use of park lift. Also, we would like to meet with Emily on site that day to see how she is doing the punchlist work.

Everyone's cooperation would be appreciated.

Thanks Peter

Peter Dessauer, HAFE Architect, AIA
National Park Service
P.O.Box 65
Harpers Ferry
West Virginia, 25425
tel. 304-535-6040
tel. 304-535-6224

fax 304-535-6244

peter_dessauer@nps.gov

Weekly Reports

**NATIONAL PARK SERVICE
HISTORIC PRESERVATION TRAINING CENTER (HPTC)
WEEKLY FIELD REPORT # 1
FY-13**

PARK: Harpers Ferry National Historical Park

PROJECT: Repair Damaged Stucco on Building #33, PMIS: 181773

DATE: August 26, 2013

WEEK ENDING: August 22, 1013

GENERAL:

This project is to correct deficiencies in the stucco on Building #33. Cathedral Stone, sponsored by National Capitol Region Conservator Catherine Dewey presented a class on Stucco repair using their recommended products. These products and methods will be employed by HPTC for the duration of the project.

WORK PERFORMED:

Monday:

Scaffold was erected on site to allow access to stucco for the class. Three sections of scaffold were erected. The two outer sections were three tiers high and the middle four. (This would allow access to the worst of the cracks). The area was surrounded with green plastic fencing and proper signage.

Tuesday:

Preparations were made for the class. Water and electric lines were run, a larger designated area was cordoned off with green plastic fencing and safety precautions were put in place on the scaffold.

Wednesday:

The class was presented by Cathedral Stone with Dennis Rude as the instructor. There were approximately eight persons in attendance, 3 from HPTC, and 4 from NCR and 1 from HAFE. Approaches to repairing damaged stucco were discussed and applications of products recommended by Cathedral Stone were demonstrated.

Thursday:

HPTC employees began first assessing the pdf drawing produced by NCR intern Elizabeth Biggio. Work began on the top of the wall and progressed in an east to west direction. Areas found to be sound but hollow (no cracking evident) were drilled into with two to four holes using a 3/8" drill bit, flushed with water and filled with M-40 Crack and Void Injection Grout (mixed with water and injected with a syringe). The holes from the drilling were filled with M-60 Stucco/Plaster. Some areas were found not to be hollow enough to warrant the treatment. Those will be indicated in the as-built drawing pdf at the end of the project.

The larger crack in the center of the building was treated as recommended by Cathedral Stone's Dennis Rude. Holes were drilled every twelve inches and the crack at the lower end covered with M-60. Grout was injected in the hole at the top and then filled. (HPTC found this method to be difficult and were not happy with the resulting appearance of the cracks. HPTC would re visit the situation on Monday, giving the time for the product to dry to its final color)

PROJECTED WORK FOR UPCOMMING WEEK:

Re-assess work that was completed the prior week. Make decisions regarding color matches, textures and methods of applications. Administering of treatment will continue.

TRAINING:

Cathedral Stone presented training to eight National Park Employees in their application and recommendations for repair stucco.

VISITORS TO SITE:

SAFETY:

A safety plan was presented to and signed by all attendees at the training class.

WEATHER:

<u>19</u>		<u>20</u>		<u>21</u>		<u>22</u>	
Actual:	78 58	Actual:	85 60	Actual:	87 61	Actual:	86 67
Precip:	0.06	Precip:	0.00	Precip:	0.06	Precip:	0.00
Average:	84 62	Average:	84 62	Average:	84 61	Average:	84 61
Precip:	0.10	Precip:	0.09	Precip:	0.09	Precip:	0.09

PERSONNEL ASSIGNED TO PROJECT:

Emily Harte
Jessica Bender

RECAP:

Start Date: August 19, 2013
Completion Date: TBD
Percentage Complete: 35%
Starting Balance: \$23,058

Project Leader: Emily Harte

Cc Electronically:

HPTC: Robinson
HPTC: Rudley
HPTC: Burkhard
HPTC: Project File

HAFE: Dessauer
HAFE: Parsons
HAFE: Harriett
HAFE: Fry

**NATIONAL PARK SERVICE
HISTORIC PRESERVATION TRAINING CENTER (HPTC)
WEEKLY FIELD REPORT # 2
FY-13**

PARK: Harpers Ferry National Historical Park

PROJECT: Repair Damaged Stucco on Building #33, PMIS: 181773

DATE: September 3, 2013

WEEK ENDING: August 29, 1013

GENERAL:

This project is to correct deficiencies in the stucco on Building #33. Cathedral Stone, sponsored by National Capitol Region Conservator Catherine Dewey presented a class on Stucco repair using their recommended products. These products and methods will be employed by HPTC for the duration of the project.

WORK PERFORMED:

Monday:

HPTC crew revisited the work performed the previous week and addressed the main crack centrally located on the wall. Upon further investigation it was found that the portion of the crack above the third story window and transferring through the decorative brick cornice permeated through all the previous layers of stucco to the stone. When the crack was chased to the top of the third story window an iron lintel approximately ¼” x 3” was found to be showing signs of rust jacking. HPTC removed the areas of loose stucco and surrounding material to the size of a faux ashlar block finish for all the deeper cracks. This allows for the pointing of the stone and replacement of all cracked material in the location and a better opportunity to lessen the impact of any color and finish variances. Pointing of stone was done with 3:1 mix of sand and Brixment Mortar. Work continued on the drilling of holes in hollow spots and grouting with M-40 Crack and Void Injection Grout.

Tuesday:

Portions of the scaffold were removed to enable work from the man lift to continue to address the crack. Work continued with investigation of the crack around the second story window and continuing to the ground. The same conditions as the third story with a window lintel existed on the second story window. Material was removed to sound and in the shape of the faux ashlar block and the stones were pointed.

The portion of the crack below the second story window was found to be superficial and did not permeate through all the layers of stucco. The cracks were chased to a proper width to allow for patching (2 ½ x the depth).

Application of M-60 Stucco/Plaster began above the third story window.

Wednesday:

Scaffold was removed from site. Stucco repair with M-60 continued on the upper wall around windows and four faux ashlar block areas located at ground level (these areas had been removed during the instructional class August 21, 2013). Stucco was finished with a sponge to match the original.

Thursday:

The vegetation was removed from the area surrounding the foundation. Color samples were mixed and applied in areas.

MATERIALS USED:

(2) M-60 Stucco/Plaster – 5 gallon – custom 33275-ST-11

(1) M-40 Crack and Void Injection Grout – 5 gallon

(1) masonRE Stain Kit

Brixment Mortar – white (less than 1 quart)

Sand – (less than 2 gallons)

PROJECTED WORK FOR UPCOMMING WEEK:

Re-assess the colors that were applied the prior week. Make decisions regarding color matches, textures and methods of applications. Administering of treatment will continue.

VISITORS TO SITE:

Peter Dessauer

WEATHER:

<u>26</u>		<u>27</u>		<u>28</u>		<u>29</u>	
<u>Actual:</u>	<u>86 59</u>	<u>Actual:</u>	<u>87 70</u>	<u>Actual:</u>	<u>76 71</u>	<u>Actual:</u>	<u>85 67</u>
<u>Precip:</u>	<u>0.00</u>	<u>Precip:</u>	<u>T</u>	<u>Precip:</u>	<u>0.15</u>	<u>Precip:</u>	<u>0.00</u>
<u>Average:</u>	<u>83 60</u>	<u>Average:</u>	<u>83 60</u>	<u>Average:</u>	<u>83 60</u>	<u>Average:</u>	<u>82 60</u>
<u>Precip:</u>	<u>0.10</u>	<u>Precip:</u>	<u>0.09</u>	<u>Precip:</u>	<u>0.10</u>	<u>Precip:</u>	<u>0.10</u>

PERSONNEL ASSIGNED TO PROJECT:

Emily Harte
Jessica Bender

RECAP:

Start Date: August 19, 2013
Completion Date: TBD
Percentage Complete: 75%
Starting Balance: \$23,058

Project Leader: Emily Harte

Cc Electronically:

HPTC: Robinson
HPTC: Rudley
HPTC: Burkhard
HPTC: Project File

HAFE: Dessauer
HAFE: Parsons
HAFE: Harriett
HAFE: Fry

**NATIONAL PARK SERVICE
HISTORIC PRESERVATION TRAINING CENTER (HPTC)
WEEKLY FIELD REPORT # 3
FY-13**

PARK: Harpers Ferry National Historical Park

PROJECT: Repair Damaged Stucco on Building #33, PMIS: 181773

DATE: September 5, 2013

WEEK ENDING: September 5, 1013

GENERAL:

This project is to correct deficiencies in the stucco on Building #33. Cathedral Stone, sponsored by National Capitol Region Conservator Catherine Dewey presented a class on Stucco repair using their recommended products. These products and methods will be employed by HPTC for the duration of the project.

Final Meeting resulted in a punchlist of work to be completed. HAFE representative requested that the color match better on the replaced stucco panels. It was decided that Cathedral Stone recommended product would be employed. HPTC would return at a date to be determined to administer the application of the Cathedral Stone recommended product "Pigmented Stain for Jahn Restoration Mortars"

WORK PERFORMED:

Monday:

Holiday

Tuesday:

HPTC crew revisited the work performed the previous week and addressed the main crack centrally located on the wall. Work continued with the application of M-60 Stucco/Plaster.

Wednesday:

Work concluded with the application of the M-60 Stucco/Plaster to the crack and the last faux ashlar block section above the second story window.

Thursday:

Scheduled Final Meeting.

MATERIALS USED:

- (2) M-60 Stucco/Plaster – 5 gallon – custom 33275-ST-11
- (1) M-60 Stucco/Plaster – 2 gallon – custom 33275-ST-11
- (1) M-40 Crack and Void Injection Grout – 5 gallon
- (1) masonRE Stain Kit
- Brixment Mortar – white (less than 1 quart)
- Sand – (less than 2 gallons)

VISITORS TO SITE:

Peter Dessauer
Catherine Dewey

WEATHER:

<u>Sep 1</u>	<u>2</u>	<u>3</u>	<u>4</u>
<u>Actual Temp</u>	<u>Actual Temp</u>	<u>Actual Temp</u>	<u>Actual Temp</u>
<u>90° Lo 65°</u>	<u>89° Lo 69°</u>	<u>82° Lo 64°</u>	<u>81° Lo 53°</u>
<u>Hist. Avg.</u>	<u>Hist. Avg.</u>	<u>Hist. Avg.</u>	<u>Hist. Avg.</u>
<u>82° Lo 59°</u>	<u>81° Lo 59°</u>	<u>81° Lo 58°</u>	<u>81° Lo 58°</u>

PERSONNEL ASSIGNED TO PROJECT:

Emily Harte
Jessica Bender

RECAP:

Start Date: August 19, 2013
Completion Date: TBD
Percentage Complete: 100%
Starting Balance: \$23,058

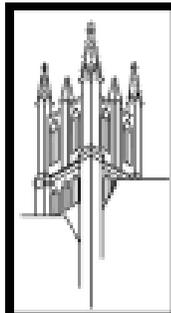
Project Leader: Emily Harte

Cc Electronically:

HPTC: Robinson
HPTC: Rudley
HPTC: Burkhard
HPTC: Project File

HAFE: Dessauer
HAFE: Parsons
HAFE: Harriett
HAFE: Fry

Material Data/Vendors



Cathedral Stone® Products
 7266 Park Circle Drive
 Hanover, Maryland 21076
 (800) 684-0901 FAX: (410) 782-9155
 www.cathedralstone.com

**Jahn Restoration Mortar (Jahn M-Products)
 Material Safety Data Sheet**

Section I – Product and Company Identification

Trade Name: Jahn Restoration Mortar	Date Prepared: 3/1/2013
Supplier: Cathedral Stone Products Address: 7266 Park Circle Drive Hanover, Maryland 21076, U. S. A.	Manufacturer: Cathedral Stone Products Address: 7266 Park Circle Drive Hanover, Maryland 21076, U. S. A.
Emergency Number: Chesotec (800) 424-9300 Telephone Number: (410) 782-9150 Fax Number: (410) 782-9155	Customer Code: CDTS

Section II – Composition/ Information on Ingredients

Ingredient Name(s)	OSHA PEL	ACGIH TLV	NIOSH (RTECS)#
Silicon Dioxide (Quartz) (CAS: 14808-60-7)	See table Z3	0.1 mg/m ³ Respirable; 9293	VV7330000
Non-Hazardous Aggregate	N/A	N/A	1000314NH
Tricalcium Silicate (CAS: 12168-85-3)	N/A	N/A	1004122T8
Dicalcium Silicate	N/A	N/A	1004278D8
Tricalcium Aluminate (CAS: 12042-78-3)	N/A	N/A	1004124TA
Calcium Oxide (CAS: 1305-78-8)	5mg/m ³	2mg/m ³	EW3100000
Non-Hazardous Ingredients: Inorganic pigments	N/A	N/A	10000314NH

Section III – Physical/Chemical Characteristics

Boiling Point: N/A	Specific Gravity: 1400/1700 lgh ³
Vapor Pressure: N/A	Melting Point: N/A
Vapor Density (Air=1): N/A	Evaporation Rate: N/A
Solubility in Water (20° C): Negligible	Solubility in Other Solvents: N/A
Color: White to Pastel	Odor: No Odor

Section IV – Fire and Explosion Hazard Data

Flash Point: N/A	
Extinguishing Media: Media Suitable for Surrounding Fire (FP N).	
Special Fire Fighting Procedure: Wear NIOSH / MSHA Approved SCBA & Full Protective Equip. (FP N).	
Unusual Fire and Explosion Hazards: Not Relevant	

Section V – Reactivity Data

Stability: Yes	Conditions to Avoid Stable (Stability): N/A
Incompatibility (Materials to Avoid): N/A	
Hazardous Polymerization: No	Conditions to Avoid (Hazardous Polymerization): Not Relevant

Cathedral Stone Jahn Mortars
Material Safety Data Sheet

Section VI – Health Hazard Data

Primary Routes of Entry: Inhalation Ingestion

Health Hazard acute and Chronic: Eye and Skin Irritation, Removes Oil From Skin.

Other Potential Health Risks: None

Carcirogenicity – NTP: Yes

Carcirogenicity – IARC: Yes

Carcirogenicity – OSHA: No

Explanation Carcirogenicity: Not Relevant

Signs / Symptoms of Exposure: See Health Hazards

Medical Condition Aggravated by Exposure: None Specified by Manufacturer.

Contact with Eyes:

IMMEDIATELY FLUSH WITH POTABLE WATER FOR A MINIMUM OF 15 MINUTES, SEEK ASSISTANCE FROM MD (FP N). INHALATION: REMOVE TO FRESH AIR. SUPPORT BREATHING (GIVE O₂/ARTF RESP) (FP N). INGESTION: CALL MD IMMEDIATELY (FP N).

Section VII – Safe Handling and Use Information

Steps to be Taken In Case Material Is Released or Spilled: Normal Clean Up.

Neutralizing Agent: None Specified by Manufacturer.

Waste Disposal Method: If This Material as Provided by the Manufacturer, Becomes a Waste, It Doesn't Meet the Criteria of a Hazardous Waste as Defined by the EPA Under Authority of the RCRA. Disposal Must be In Accordance With Federal, State, or Local Regulations (FP N).

Precautions-Handling / Storage: Store Dry

Other Precautions: Avoid Contact Between Skin Surfaces and Wet Mortar, or Clothing Saturated With Wet Mortar. Wash Clothing in Clean Water.

Normal Use: Mix With Water and Use Within 30 Minutes. Do Not Use Under 5°C (41°F).

Section VIII – Control Measures

Protective Gloves: Impervious Gloves Recommended.

Respiratory Protection: NIOSH / MSHA Approved Dust Respirator.

Ventilation: N/A

Eye Protection: Chemical Worker's Goggles.

Other Protective Equipment: None Specified by Manufacturer.

Work Hygiene Practices: None Specified by Manufacturer.

Suppl. Safety and Health Data: None Specified by Manufacturer.

Section IX – Label Data

Label Required: Yes

Label Status: G

Common Name: Cementitious Mortar

Special Hazard Precautions: Inhalation: Pulmonary Diseases. Dust Can Cause Inflammation of the Lining Tissue of the Interior of the Nose and Inflammation of the Cornea.

Label Name: Cathedral Stone Products, Inc.

Label Street: 7266 Park Circle Drive

Label City: Hanover

Label State: Maryland

Label Zip Code: 21076

Label Emergency Number: (410)782-9150 Fax: (410)782-9155

Section XX – Transportation

DOT Shipping: N/A

DOT Hazard: N/A

Section XXI

Disclaimer:

Although reasonable care has been taken in preparation of this document, we extend no warranties, and make no representations as to the accuracy or completeness of information Contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for his or her particular purpose.



JAHN M60

- Interior Plaster
- Exterior Stucco

These single-component, cementitious plasters are engineered for use on new or existing brick or stone substrates. Jahn M60 can be altered to adhere to block or concrete (Contact Cathedral Stone for more details). Jahn M60 may be applied as a ground coat or finished system in thickness ranging from 1/4" to 1 1/2". The Jahn System eliminates the need for the traditional three-part application process (brown, scratch, finish). M60 is available in both interior and exterior formulations with factory custom coloring available. The plaster exhibits a superior chemical bond to prepared substrates, without the addition of latex or acrylic bonding agents or additives, and performs in situations where previous methods and materials have failed due to repeated water and salt saturation. M60 is water based, thus environmentally and user safe with no solvent clean up or disposal problems.

Features and Benefits

Single-Component: Mixes with water only, improving quality control and consistency of application.

Compatible Formulations: Compatibility of physical properties ensures that the plaster and substrate react to the environment in the same way.

Contains No Latex or Acrylic Bonding Agents: It protects the substrate by allowing salts, water vapor, and liquid water to reach the surface, preventing failure due to salt expansion or freeze/thaw cycles.

Tenacious Adhesion: Strong bonding capabilities without relying on synthetic bonding agents.

Water Based: Environmentally and user safe. No solvent clean up or disposal problems.

Custom Colored Upon Request: Closely matches existing masonry. Excellent for repairs or as a complete coverage system. Choose from Standard or Custom Colors.

Surface Preparation

Surfaces to receive M60 must be sound and free of all dust, dirt, grease, laitance and/or any other coating or foreign substance which may prevent proper adhesion. Remove all loose or friable mortar

before application of Jahn M60. The sides of the repair area should be "square cut" with edges and a minimum of 1/4" depth. Wash the prepared surface with clean water and a bristle brush. All necessary joint repairs should be completed with Jahn M110 Pointing Mortar 21 days prior to the application of Jahn M60.

Exposed Ferrous Metals

In the event that ferrous metal reinforcement (rebar, threaded rod, etc.) is exposed within the repair area or repairs are adjacent to ferrous metal jambs, lintels, anchoring systems etc., the Coronado Surface Tolerant Mastic 113 Line must be applied to all properly prepared ferrous metal surfaces before repairs are made. Refer to the Technical Data Sheets within Cathedral Stone's Product line for proper preparation and use of the Coronado Surface Tolerant Mastic 113 Line.

Mixing

The mixing ratio is approximately 4 parts powder to 1 part water by volume, depending on temperature and humidity. (This ratio can be altered as needed to suit local conditions.) Small quantities may be mixed manually, stirring until the plaster is thoroughly mixed. Large quantities should be mixed for a minimum of five minutes using a slow speed drill (400 - 600 rpm) equipped with a Jiffier-type mixing paddle. The more thoroughly mixed the material becomes, the easier it is to apply and the better the quality of the finished product. The working time will vary, depending upon wind, temperature, and humidity. Using excessive water in the mixture may affect the color of the repair. Bulk mixing may be done in a mortar mixer, paying strict attention to proper quantities of water and material used.

Application

Moisten the substrate using clean water. (The substrate requires intensive presoaking prior to application of Jahn M60.) Thoroughly presoak until saturated (Saturated Surface Dry or SSD). This prevents the stucco from drying too quickly. If the surface is allowed to dry out before applying M60, this step must be repeated. This is critical. ***It is our recommendation that only experienced stucco or plastering contractors, or trained Jahn Stucco applicators use this material. Without knowledge of sufficient substrate saturation, the substrate might draw the moisture out of the***



Jahn M60 too quickly, and bond will not be achieved.

The material can be applied in one application or successive lifts if desired. If applying Jahn M60 in lifts, additional surface preparation is required between lifts. Brush the surface of the initial coat to remove the cement skin formed during troweling. This will open the pores before an additional layer of material is applied. No waiting period is required between applications.

While the plaster is still workable, wipe the surface with a dry sponge in order to prevent surface map cracking of the material. Never use a damp sponge for final finishing because it can change the color.

Curing

Periodically mist M60 repairs with clean water for at least a 72-hour period. The timing for initial misting will vary with ambient conditions. Hot, dry conditions may require misting in 30 to 60 minutes. Cooler, damp conditions may require waiting several hours before beginning the curing process. Mist several times a day. Should access to the repairs be impossible over a period of time, plastic may be used to cover them temporarily. The application of plastic, however, does not remove the need for normal curing techniques.

Clean Up

Remove uncured material from the perimeter of the repair before it dries using clean water and a rubber sponge. Repeat several times with clean water to prevent a halo effect (staining of adjacent masonry). Cured plaster may only be removed chemically or mechanically.

Safety Requirements

It is recommended that safety goggles, gloves, and a dust mask equipped with P-2 filters (or equivalent) be worn for protection while mixing.

Limitations

Do not apply Jahn M60 to a frozen or exceedingly hot substrate. The applied M60 must be protected from extreme heat, freezing, excessive wind, direct sunlight, and rain. Ambient temperature range should be 40° F to 90° F with low to average humidity.

Do not add bonding agents to Jahn M60 or use them as surface preparation materials.

Minimum thickness of M60 application is 1/4".

Packaging and Coverage

A 5 gallon plastic pail contains approximately 33 lb. of material. This will cover 0.5 cubic feet (12 sq. feet at 1/2" thickness).

Storage And Shelf Life

Store material in a dry area away from direct sunlight. Ambient storage conditions should be in the range of 40° F to 90° F with low to average humidity. Average shelf life is six months in original, unopened packaging.

Technical Data

Jahn M60

LIQUID/PLASTIC PHASE	
Ratio water dry material	3.8 to 4.2 fl. oz./lb.
Volume M60 in inches 3 per lb dry material	15 fl. oz./lb.
HARDENED PHASE	
Compressive strength, dry	800 to 1100 psi
Tensile bending strength, dry	200 to 250 psi
Bonding strength	145 to 290 psi
Linear coefficient of thermal expansion	0.1E-06 to 0.2E-06 (in/inches)°F
Hydraulic coefficient of expansion (%)	0.2 to 0.3
Modulus of elasticity	1090 to 1150 ksi
Specific gravity - Acoustics (A) **	1.2

Warning

Not for internal consumption. Keep out of reach of children and animals. Consult Material Safety Data Sheet (MSDS) for specific information.

Notice: The information contained herein is based on our own research and the research of others, and it is provided solely as a service to help users. It is believed to be accurate to the best of our knowledge. However, no guarantee of its accuracy can be made, and it is not intended to serve as the basis for determining this product's suitability in any particular situation. For this reason, purchasers are responsible to make their own tests and assume all risks associated with using this product.

2/2012



JAHN M40 Crack Injection Grout

Jahn M40 is formulated to repair cracks and voids ranging in width from approximately 3/16" to 9/16" (5.0 mm to 15.0 mm) or larger using low pressure mechanical or gravity feed equipment. M40 is completely mineral based, contains no latex or acrylic bonding agents or additives, and is vapor permeable for compatibility with masonry substrates.

Features and Benefits

- **Single-Component:** Easy to mix correctly, thereby improving quality control at the point of injection.
- **Compatible Formulation:** Compatibility of physical properties ensures that the grout and natural substrate react to the environment in the same way.
- **Contains No Latex or Acrylic Bonding Agents:** It protects the substrate by allowing salts, water vapor, and liquid water to reach the surface, preventing failure due to salt expansion or freeze/thaw cycles.
- **Tenacious Adhesion:** Strong bonding capabilities.
- **Factory Controlled:** No field chemistry resulting in product variation.
- **Low Viscosity:** Deep, thorough penetration.
- **Simple Application:** Can be manually or mechanically applied.
- **Water Based:** Environmentally and user safe. No solvent clean up or disposal problems.

Application Procedures

Wash the surface and interior of the crack using clean water to remove all dust, loose or deleterious material, which could prevent proper flow and/or adhesion thereby compromising the integrity of the cured injection grout.

Mixing

The mixing ratio is approximately 2 - 2 1/2 parts powder to 1 part water by volume. Mix by hand or mechanically, using a slow speed drill (400 - 600 RPM) equipped with a Jiffier-type mixing paddle. The material should be mixed for a minimum of three minutes, with continued agitation.

Injection Procedures

Immediately before injection, moisten interior of the crack by flushing with water. If the crack is allowed to dry out before the grout is injected, this step must be repeated. This is very important.

Transverse Cracks:

Drill a series of injection ports in the center of the crack. These ports should be drilled in a downward direction. Seal the crack with removable, non-staining clay, sealant, or caulk.

Inject grout into the lowest port and continue until it flows freely from this port and other ports at the same level. Seal ports using non-staining clay, sealant, or caulk and proceed in identical fashion until the crack is filled. **Clean up overflow immediately with clean water.**

Lateral Cracks (Delaminating Layers):

Drill a series of injection ports in a square configuration (90° angles) on the face of the substrate to create a "drill frame". Ports should be drilled in a downward direction. Wash the surface and interior of the crack using clean water to remove as much dust and loose material as possible. Any dust or debris remaining between the layers will impede the flow of the grout. If this is the case, more holes will be required to attempt to fill all hollow areas.

Inject grout into lower left port and proceed until it flows freely from this port and other ports at the same level. Seal ports using non-staining clay, sealant, or caulk. Inject grout into lower right port and proceed in identical fashion. The order of injection is lower left, lower right, upper left, and then upper right. **Clean up overflow immediately with clean water.**

Removal of Sealant

Let the grout dry (24 - 48 hours) and remove all sealant, caulk, or clay. After removing the sealant, repair the crack surface and injection holes with Jahn Mortar that matches the color and type of existing masonry.

Clean Up

While injecting, continually check for grout runs and spills on the surface of the masonry, and clean the surface before the grout has time to set. This is normally done with a clean sponge and water, and may have to be done several times, rinsing the sponge repeatedly with clean water.

Remove uncured mortar from tools and equipment with water as soon as possible. Cured grout may only be removed chemically or mechanically.

Safety Requirements

It is recommended that safety goggles, gloves, and a dust mask equipped with P-2 filters (or equivalent) be worn for protection while mixing.

Limitations

- Do not apply Jahn Injection Grout to a frozen or exceedingly hot substrate. The applied grout must be protected from extreme heat, freezing, excessive wind, direct sunlight, and rain. Ambient temperature range should be 40° F to 90° F with low to average humidity.
- Do not add bonding agents to Jahn Injection Grout or use them as surface preparation materials.

Packaging

A two-gallon plastic pail contains approximately 18 lbs. of material. Coverage will vary depending on the type of substrate and the size of the crack.

A five-gallon plastic pail contains approximately 44 lbs. of material. Coverage will vary depending on the type of substrate and the size of the crack.

Storage And Shelf Life

Store material in a dry area away from direct sunlight. Ambient storage conditions should be in the range of 40° F to 90° F with low to average humidity. Average shelf life is six months in original, unopened packaging.

Technical Data

Jahn M40 - Crack and Void Injection Grout

LIQUID/PLASTIC PHASE	
Volume mixed M40 in fluid oz. per lb. of dry material	14.3 fl oz/lb (approx.)
HARDENED PHASE	
Compressive strength	1500 to 4400 psi
Tensile bending strength	290 to 730 psi
Tensile strength	58 to 100 psi
Ratio in/3 water/lb of dry material	5.3 to 6.0 fl. oz/lb.
Specific gravity	1.3 (approx.)

Warning

Not for internal consumption. Keep out of reach of children and animals. Consult Material Safety Data Sheet (MSDS) for specific information.

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02/2012

MASONRE

MASONRE Mineral Coatings for Masonry

Cathedral Stone Products® Inc. has developed MASONRE Mineral Coating, for use on all masonry (mineral surfaces), and over latex and acrylic coatings. Similar coatings have been in use in Europe for over 160 years and are now produced for the first time in North America. MASONRE Mineral Coating combines the advantages of silicate/mineral and silicone Coatings. Unlike latex and acrylic paints, they form a molecular bond with the masonry substrate. **The coatings are 92% vapor permeable.**

Features and Benefits

- *Specially Formulated for Masonry Surfaces and over Dispersion Coating*
- *92% Vapor Permeable*
- *Color Fast*
- *Retards Corrosion*
- *Fire Retardant*
- *Withstands Extreme Climate Conditions*
- *Water Repellent*

Application Procedures

Surface Preparation

MASONRE Mineral Coating should only be used by experienced painters. MASONRE Mineral Coating can be applied to any sound masonry or plaster surface. (Do not use on wood, plastic, or apply over oil or gloss paint.) The surface must be clean, solid, dry and free from efflorescence. The surface **must be completely dry** at the time of application. MASONRE Mineral Coating is designed for vertical surfaces only. Horizontal surfaces, especially where water can pool, are not suitable for application. Cracks and spalls must be repaired and cured before painting. Cracks can be filled with Jahn M30 or M40 mortars. To ensure even penetration of the paint, make sure repairs have been made with repair materials that are compatible to the substrate. Temperature

(ambient and substrate) must be at least 45° F (8° C) and below 90° F (32° C). Do not apply the MASONRE Mineral Coating when precipitation is expected within 48 hours of application. Do not apply MASONRE Mineral Coating when the temperature is expected to reach the dew point within 24 hours. Protect adjoining surfaces from splashes. MASONRE Mineral Coating can only be removed while wet. **Once MASONRE Mineral Coating dry they CANNOT be removed**

When painting with dark colors, irregularly absorbing surfaces, or freshly poured concrete the substrate should first be treated with Cathedral Stone Green Etch S-309 (see Cathedral Stone Stripper Section for more information). The difference in substrate absorption can cause small color variations, which are more noticeable on darker colors. The S-309 will etch masonry to create similarly absorbing surfaces. Contact a Cathedral Stone technician for further questions on proper substrate preparation prior to coating.

Mixing

Do not mix MASONRE Mineral Coating with water. If MASONRE Coating needs to be thinned out add Cathedral Stone Fixative until the desired consistency is reached. Mix MASONRE Mineral Coating with a drill prior to use. When installing multiple units of paint, be sure to "box-mix". ("Box-mixing" is the blending of paint by pouring alternately between two containers.) This will help alleviate minor color inconsistencies between batches.

Substrate absorption definition: The absorption must not be too high or too low for the coating to be applied correctly. Absorption can be tested by applying small amounts of water (drops) on the vertical surface to be coated. Normal absorption can be defined as the water absorbing into the substrate without beading on the surface. High absorption can be defined as water being absorbed so quickly that all traces of water seem to disappear rapidly. Low absorption can be defined as water laying or beading on the surface of the substrate (masonry must be etched in cases of low absorption).

Application

Protect all areas not to be coated prior to application. Substrate must be completely dry before coating. Do not work when precipitation is expected within 48 hours of installation. The

coating needs adequate time to bond to the substrate and moisture disrupts this curing process. Apply liberally and spread well, filling all pores and cracks. Work wet into wet. MASONRE Mineral Coating should be applied with a short bristle brush. Brushing increases the absorption of the coating into the masonry, resulting in a longer lasting, more durable coating. Spraying and rolling the paint is possible. Allow the first coat of MASONRE Mineral Coating to dry of at least 12 hours. Apply a second coat of MASONRE Mineral Coating in the same fashion; work wet into wet.

Important Points

- *Make sure the substrate is completely dry and there is no expected dew*
- *Protect coatings from all forms of moisture: rain, dew, snow, etc. for 48 hours.*
- *Temperature must be at least 45°F (8°C)*
- *Protect any surfaces not to be coated*
- *Do not add water to MASONRE Mineral Coating*
- *Always work wet into wet*

Clean Up

Place tools immediately in clean water when pausing work (15-30 minutes or more). Clean tools with clean water immediately after finishing work. Dried MASONRE Mineral Coating is insoluble in water. MASONRE Mineral Coating can be removed from non-porous surfaces with clean water while still wet.

Packaging

Consists of 25 kg of MASONRE Mineral Coating in a 6-gallon plastic pail.

Coverage

Coverage depends on the absorption and structure of the substrate. Determine coverage with a trial application.

- ***Normally absorptive, smooth surfaces with two coats:***

One unit of MASONRE Mineral Coating (approx. 5.0 gallons) will cover approx. 1200 square feet for a single coat and approx. 750 square feet when two coats are applied.

Coverage rates will generally be higher with darker color paints.

Safety Information

Eye protection should be worn during mixing to protect eyes from splashing. Avoid contact with skin and mucous membranes. Work in well ventilated areas.

Storage and Shelf Life

Store in a dry area, away from direct sunlight. Storage conditions should be in the range of 40° – 80° F with low to average humidity. Average shelf life is six months in original, unopened packaging.

Warning

Not for internal consumption. Keep out of the reach of children and animals.

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02/2012

i.design flamingo-BRIXMENT

Colored Mortar Cement

PRODUCT DESCRIPTION:

i.design flamingo-BRIXMENT is a prepackaged colored mortar cement meeting or exceeding the requirements of ASTM C 1329. The selection of colored mortar can make a vivid impact on the look of a building. Mortar joints comprise an average of 20 percent of a brick wall's total surface. The selection of colored mortar can dramatically enhance this surface. i.design flamingo-BRIXMENT is manufactured to the most exacting standards and is uniquely formulated to provide strength, stability and color fastness to endure for generations. Our products are manufactured with the highest-quality iron oxide pigments, which provide consistent color quality throughout the life of the structure.

BENEFITS:

- Consistent color
- Excellent workability
- Superior board life
- Long-term durability

APPLICATIONS:

i.design flamingo-BRIXMENT can be used for mortar in the construction of all types of masonry walls. The most common masonry units utilized are concrete block, clay and concrete brick and natural and manufactured stone.

TYPES AND USES:

i.design flamingo-BRIXMENT is manufactured in two types: Type N and Type S. It is recommended to use Type N mortar for all masonry work unless there is a compelling reason to choose another mortar. ASTM C 270 provides recommendations for mortar choices in a concise tabular format as shown here.

Location	Building Segment	Recommended Mortar	Alternative Mortar
Exterior, above grade	Load-bearing walls	Type N	Type S or M
	Non-load bearing walls	Type O	Type N or S
	Parapet walls	Type N	Type S
Exterior, at or below grade	Foundation walls, retaining walls, manholes, sewers, pavements, walks and patios	Type S	Type M or N
Interior	Load-bearing walls	Type N	Type S or M
	Non-load bearing walls	Type O	Type N

From ASTM C 270



PACKAGING:

i.design flamingo-BRIXMENT Type N is packaged in 70 lbs. (32 kg) multi-walled bags and Type S is packaged in 75 lbs. (34 kg) multi-walled bags. Packages should be kept free from moisture.

AVAILABILITY & PRICING:

Contact your Essroc Sales Representative for availability and pricing in your area.

APPLICABLE STANDARDS:

i.design flamingo-BRIXMENT conforms to the requirements of ASTM C 1329, Standard Specification for Mortar Cement.

MIXING:

Assure that the mixing equipment is clean and in good working order. Provide a one cubic foot box or other suitable container for volumetric measuring of aggregate. Aggregate shall conform to the requirements of ASTM C 144. Water shall be potable. i.design flamingo-BRIXMENT should be mixed with 2 1/4 to 3 cubic feet of sand according to Table 1 Proportion Specification of ASTM C 270. If an independent laboratory completes ASTM C 780 preconstruction testing that demonstrates compliance to table 2 of ASTM C 270, then up to 3 1/2 parts of sand may be used per bag of i.design flamingo-BRIXMENT. Start the mixer, place 3/4 of the required amount of water, 1/2 the required amount of sand and all the i.design flamingo-BRIXMENT into the mixer. Mix briefly. Add the remaining sand and water to the mixer and mix for a minimum of 3 and a maximum of 5 minutes after the last mix water has been added. This assures homogeneity and workability of the mortar. Although minor retempering is allowed, mortar should be used or discarded after 90 minutes.

WORKMANSHIP:

Set masonry units in mortar beds as quickly as possible after the mortar bed is placed. Avoid furrowing bed joints. Provide enough mortar to guarantee full head and bed joints. Don't attempt to move or adjust masonry units once the mortar has begun to stiffen. This can interfere with the bond between the mortar and the masonry unit. If one or more masonry units needs to be adjusted, remove the units and reset them in fresh mortar.

TOOLING JOINTS:

Mortar joints should be tooled when the surface is 'thumb-print' hard. Proper tooling increases the contact area between the masonry unit and mortar and provides for a weather-resistant joint. Improper or inconsistent timing when tooling joints lead to variation in the colored of the mortar joint and could adversely affect weather resistance.

PRECAUTIONS:

Minimize direct contact with wet cement. Exposure of sufficient duration to wet portland cement can cause serious, potentially irreversible tissue (skin or eye) destruction in the form of chemical (caustic) burns. Consult the relevant MSDS before working with i.design flamingo-BRIXMENT.

WARRANTY:

Essroc warrants that its products are free from manufacturing defects and conform to applicable ASTM standards. Essroc makes no warranty or guarantee, express or implied, including warranties of fitness for a particular purpose or merchantability, respecting its products. User assumes all risks and liability in connection with the suitability of the products for the intended use.

FOR MORE INFORMATION:

For more information on Essroc's products call 800-4-ESSROC or visit us online at www.essroc.com.

Essroc Italcementi Group
3251 Bath Pike
Nazareth, PA 18064
800-4-ESSROC
www.essroc.com

July 2013

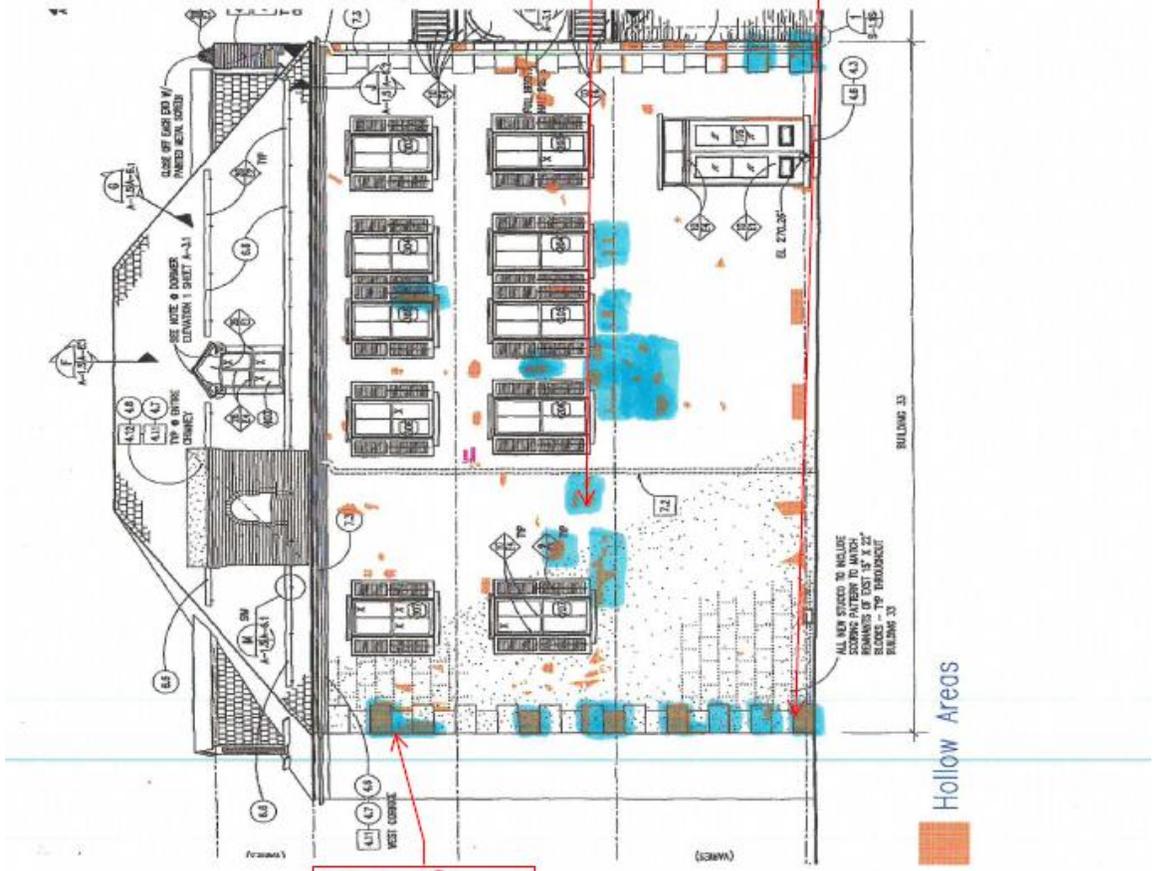
Field Drawings

Grout

Holes were drilled with a 3/8 inch masonry drill bit. Water was flushed through and M-40 grout injected. Holes were then patched with M-60 Stucco/Plaster color match #11

Numerous holes were drilled in this area during class to exhibit grouting techniques

Numerous holes were drilled for the training class to demonstrate grouting. HPTC found the holes hard to to patch and color match. Grouting was ineffective in reducing the hollow sound and in permeating all the hollow areas of the quoin.



HPTC drilled a minimum amount of holes in all marked quoin and other highlighted areas to minimize patching appearance

Hollow Areas

PANELS

panels were replaced with M-60 Stucco/plaster color matched to #11. The size, texture and scoring were performed to match existing.



HPTC found the crack to permeate all layers of stucco and through the stone.

Color match for stucco was performed in this area for color match, #11 best match

Four failed stucco panels were removed during class

Metal lintels were found, rust jacking from moisture infiltration was possible cause for some of stucco failure

Color match for stucco was performed during class, no match found, color dyes were recommended

Hollow Areas

CRACKS

Cracks were chased with masonry grinder blades to the depth of the cracks. These did not permeate all layers of stucco and were patched with M-50 Stucco/Plaster color match #11

Cracks were chased during class for the application of repair stucco



Hollow Areas



ALL NEW STUCCO TO INCLUDE CORNER PATCHES TO MATCH REMAINS OF OUT OF A 1/2" SLABS - TO BE BROUGHT

REPAIRS TO

NO TREATMENT

HPTC assessed all the hollow areas found in the original report. Some areas were found to sound hollow but exhibited no cracks or failure. HPTC recommends no treatment required at this time. Treatments may cause more problems than exist.



Hollow Areas

Safety

REPAIR DAMAGED STUCCO ON BUILDING #33

Harpers Ferry National Historical Park

Harpers Ferry West Virginia

PROJECT SAFETY PLAN



HISTORIC PRESERVATION TRAINING CENTER

Department of Interior

National Park Service

4801A Urbana Pike

Frederick, MD 21704

CERTIFICATE OF COMPLETION

Project Title: Repair Damaged Stucco on Building #33

Project Location:

Harpers Ferry West Virginia

Harpers Ferry West Virginia

General Description of Scope of Work: Repair Cracked Exterior Stucco

Project Leader: Emily Harte

Alternate Project Leader: N/A

Project Supervisor: Moss Rudley

Start Date: August 19, 2013

Estimated Completion Date: September 30, 2013

Approvals _____ Date: _____

Project Supervisor


For Safety Manager

Date: 8/12/13


Deputy Superintendent

Date: 8/12/13

CREW REVIEW SIGN-OFF SHEET

After the Project Leader has reviewed the Safety Plan with the crew, the crewmembers shall sign and date this sheet to verify their participation.

Emily Harte

Project Leader

Crewmembers:

Date: 8/21/13

Becky Cybularz

~~DIRT~~

Cathy Harte

Jessica Bauld London

COMPETENT PERSON DESIGNATION

The following person(s) shall be the Competent Person for the following project and will perform the duties assigned in the applicable safety modules.

Project *"Click here and type project name"*

Module	Competent Person	Module	Competent Person
Asbestos	N/A	PPE	Harte
Chainsaw	N/A	Respiratory Protection	Harte
Compressed Gas	N/A	Roadway Safety	Harte
Confined Space	N/A	Sawmill	N/A
Crane/Hoist/Lift	N/A	Scaffold	Harte
Electrical	Harte	Silicates	N/A
Extreme Weather	Harte	Skid Steer loader	N/A
Fall Protection	Harte	Stationary power equipment	N/A
Fire Extinguisher	Harte	Trenching	N/A
First Aid/BBP	Harte	Vaccines	N/A
General Jobsite	Harte	Vehicles	Harte
Grinder-Handheld	Harte	Visitors Safety	Harte
Grinder-Stationary	N/A		
Hand/Power Tool	Harte		
Hardhat	Harte		
HazComm	N/A		
HazMat Survey	N/A		
Hearing Conservation	Harte		
Lead	N/A		
Lockout-Tagout	N/A		
Machine Guarding	N/A		
Material Handling	N/A		
Medical Monitoring	N/A		
Metal Brake	N/A		
Natural Hazard	Harte		
Office Safety	Harte		

Miscellaneous

