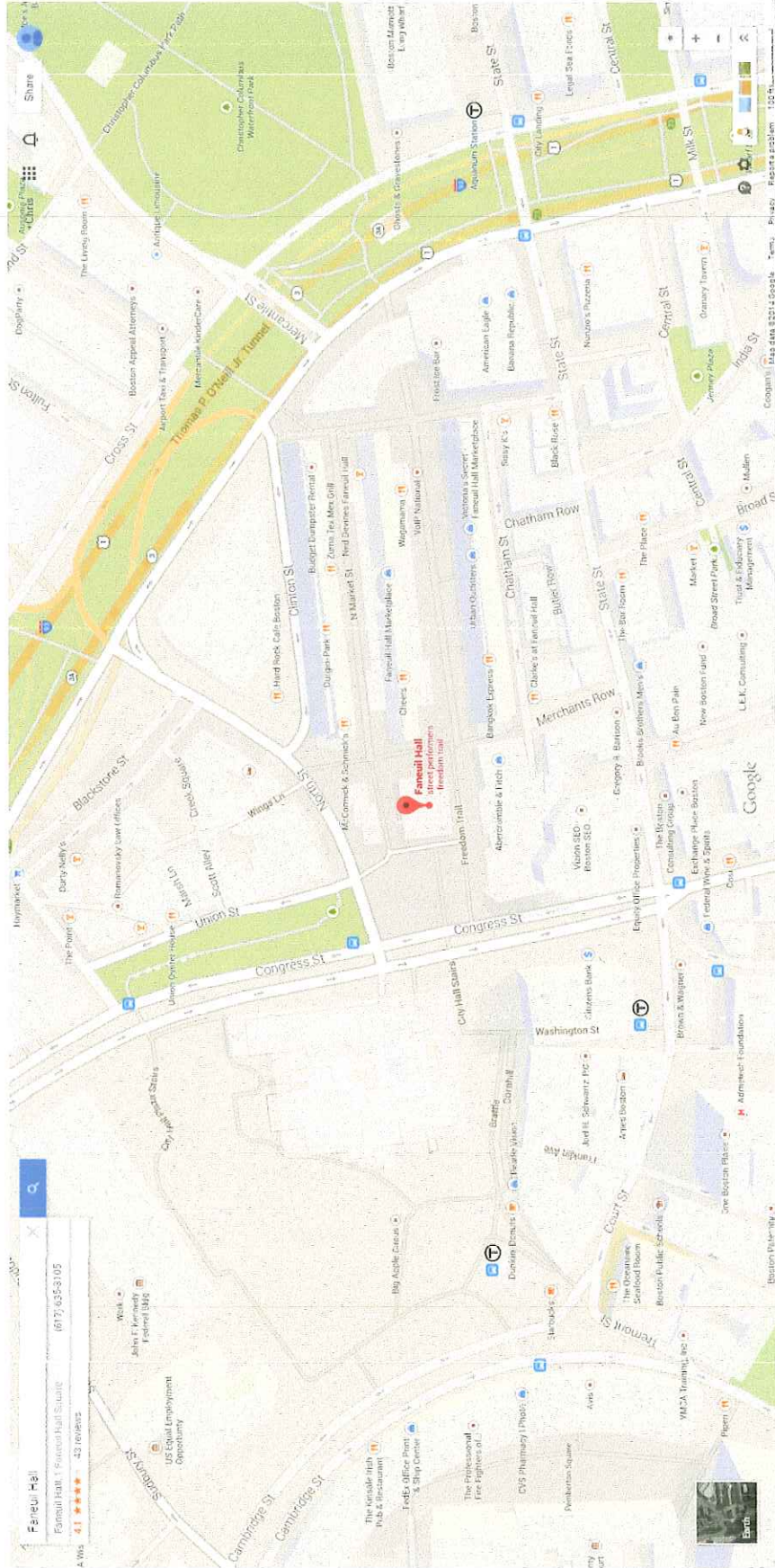


# Attachment A PROJECT LOCATION MAP







CSS ARCHITECTS INC.  
ARCHITECTURE · PLANNING · INTERIOR DESIGN

**Faneuil Hall Window, Cornice, Door and Bell Tower Restoration  
Project Narrative**

Project Narrative for Application of Certificate of Appropriateness

Presented to: City of Boston Environmental Department

**Window Restoration:**

In January of 2016 CSS Architects Inc. performed a survey of all the windows of Faneuil Hall. (The windows above the main roof line were not surveyed as they had been recently replaced.) This survey was performed from a lift and the results of the observations were presented in a Report to Boston Public Facilities in the form of a Capital Improvement Program Request (CIPR) which is attached as Exhibit 1. The Report determined that all the windows on all elevations of Faneuil Hall would require extensive repair. It should be noted that in October of 2015 eight windows (seven on the East elevation and one on the South elevation) were either replaced or restored by Homer Contracting under contract with the City of Boston under the direction of CSS Architects Inc. This work was the subject of a Certificate of Appropriateness granted by the City of Boston in December of 2015

Based on the information provided in the CIPR (See Exhibit 1) the City of Boston retained CSS Architects Inc. (CSS) to prepare construction documents for the restoration of the windows and doors delineated in the CIPR. CSS has retained Building Conservation Associates (BCA) and working with BCA, CSS performed an extensive inspection to determine the condition of each window and door. The condition of each window and door has been delineated in the construction documents to describe the scope of repair required. (See Design Development Construction Documents dated 12/18/17 attached as Exhibit 2.)

Two methods of window restoration will be employed. Where there is only deterioration of the paint and glazing compound the windows and frames will be restored in place. All loose paint and loose glazing compound will be removed by a combination of chemical and mechanical means and the window sash and frames repainted and new glazing compound installed. Where wood elements of the sash have rotted and or broken the sash will be removed and the damaged wood elements replaced. All paint on the sash and frame will be removed and the sash reinstalled in the repainted frame. This work will be a continuation of the work that was completed on the East elevation of the building in October of 2015. At the East elevation inspection by CSS and BCA determined that 11 windows can be restored in place and the 1 window will be removed and shop rebuilt and re-installed. At the West elevation 14 windows can be restored in place and 7 windows will be shop



*Members of the American Institute of Architects and USGBC*

107 Audubon Rd., Bld. 2, Suite 300, Wakefield, MA 01880



P 781.245.8400 • F 781.245.9372 • [css@cssarchitects.com](mailto:css@cssarchitects.com) • [www.cssarchitects.com](http://www.cssarchitects.com)



rebuilt and re-installed. At the North Elevation 35 windows can be restored in place and 2 windows will be shop rebuilt and re-installed. At the South elevation 32 windows can be restored in place and 4 windows will be shop rebuilt and re-installed. It should be noted that all of the 14 windows requiring shop rebuilding can be rebuilt with the addition of some new elements. This was not the case with the window restored in October of 2015 where four of the windows required replacement with reproductions.

### **Door Restoration:**

In January of 2016 CSS Architects Inc. performed a survey of all the exterior doors at the first and basement levels of Faneuil Hall. The results of the observations were presented in a Report to Boston Public Facilities which is attached. (See Exhibit 1) The Report determined that all the exterior doors at ground and basement level would require repainting and repair. It should be noted that on the East Elevation the center door was removed, repainted and repaired by Olde Bostonian under the supervision of CSS in consultation with BCA. Attached are documentation of the condition of the door and the measures taken in its restoration. (See Exhibit 4.) The restoration and re-installation of this door was the subject of a Certificate of Appropriateness granted by the City of Boston in April of 2017. These same measures will be employed in the restoration of exterior doors on all elevations of the building. Based on observations performed in January of 2016 the doors exhibiting the most severe deterioration are on the East Elevation of the building. The doors on the West elevation and at the basement level mainly require repainting with minor repairs to the wood substrate of the door.

### **Brown Stone Cornice Restoration:**

In January of 2016 CSS Architects in consultation with BCA performed a survey of the brown stone cornice at the second floor level of Faneuil Hall. This stone cornice has a sky facing surface about 14" wide which is subject to wetting and drying and a freeze/thaw cycle during the winter. Brownstone is a soft porous stone and erodes easily if exposed to the elements in a horizontal orientation. In an attempt to protect the stone a elastomeric coating has been previously applied to the stone, but the installation was imperfect which has resulted in the coating wearing away leaving areas of the stone exposed. The exposed stone has become saturated with water and during the winter edges of the cornice have fractured during the freeze thaw cycle. (See Exhibit 5 showing the extent of the present deterioration of the cornice.) To protect the stone all existing coatings will be removed. Depressions in the sky facing stone and fractured edges of the cornice will be repaired and a new elastomeric coating applied to protect the stone from further erosion and frost damage. (See the attached Exhibit 6 delineating the extent of the work for the cornice repair.)





### **Bell Tower Repainting:**

In October of 2015 when the windows of the East Elevation of Faneuil Hall were restored the exterior paint of the bell tower was intact. By January of 2016 the exterior paint exhibited extensive peeling and deterioration. (See Exhibit 7.) In consultation with the Richter Group, Inc., CSS Architects inspected the exterior of the bell tower to determine the cause of the paint failure and to determine a methodology for its repainting. The conclusion of that inspection was that the paint film had reached an excessive thickness due to numerous recoatings and failure of the paint coating was attributed to the fact that the adhesion of the paint coating to the substrate had failed due to excessive weight of the coating. The bell tower exterior is copper sheeting applied to a wooden substructure. The copper sheeting is intact so the sheeting, nor the underlying wood substrate will require repair. To repaint the bell tower all existing coatings will have to be removed from the copper sheeting and new paint applied. See attached inspection and recommendation by the Richter Group (Exhibit 8) and drawings and specifications prepared by CSS (Exhibit 9). Along with the repainting of the exterior of the bell tower the structural iron frame that supports the tower and the bell will also be re-painted .







## Exhibit 1

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- Capital Improvement Program Request (CIPR) for restoration of exterior wood windows and doors at Faneuil Hall (24 March 2016)



**Date: 24 March 2016**

**Title: Capital Improvement Program Request  
(CIPR) for restoration of exterior wood  
windows and doors at Faneuil Hall  
1 Faneuil Hall Market Place,  
Boston, MA 02109**

**Prepared For:**

Property and Construction Management Department  
Capital Construction Division  
26 Court Street  
Boston, MA 02108

**Prepared By:**

CSS Architects Inc.  
107 Audubon Road Bldg. 2 Suite 300  
Wakefield, MA 01880



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Appendix A	Window Façades and Matrices



## 1.0 Introduction

This report was prepared by CSS Architects Inc. (CSS) for the City of Boston's Property and Construction Management Department, Capital Construction Division. We understand that this report will be used by the City to develop a Capital Improvement Program Request (CIPR) for restoration of exterior wood windows and doors at Faneuil Hall, 1 Faneuil Hall Market Place, Boston, MA 02109. The purpose of the study was to assess the present condition of the windows and doors and to set budgets for the cost of restoration.

This study encompassed all the windows below the cornice on the North and South facades, the windows at the pediments and below on the East and West Facades and the three windows in the lantern above the roof. There are 123 windows in all - The North and South facades have 72 windows, the East and West facades have 48. The doors that are the subject of the study encompass 21 doors: 13 doors which provide access to the basement and 8 doors providing access at the first floor.

On January 25<sup>th</sup> and 26<sup>th</sup>, 2016, Gregory Rochlin of CSS surveyed from a man lift operated by Folan Waterproofing & Construction Co., Inc. the windows at the exterior on all four facades of the building. The man lift was employed so that at each window both the sash and the frame could be inspected and probed for deterioration. On February 17<sup>th</sup>, 2016, Gregory Rochlin surveyed all the exterior doors on both the exterior and interior side. In addition Rochlin surveyed all the inside surfaces of the windows that were accessible (Not covered by interior walls or casework). As the windows are covered by an interior storm glazing system, all observations were made through the glass of this system. No probing for deterioration on the interior was performed.

The following materials were provided for reference:

1. Sheets A4.1 and A4.2 - East and North, West and South Exterior Elevations of Faneuil Hall prepared by Goody Clancy & Associated, Inc. - Architects dated 1/8/90

On October 5<sup>th</sup>, 2015 CSS Architects with Homer Contracting, Inc. completed the restoration of seven windows at the third level of the East façade and the replacement of the sash of two windows on the third level of the South façade. The experience and information developed during this restoration - when all window sash were removed and either restored or replicated and then reinstalled and in the case of the East Façade in completely restored frames - has been incorporated into this study.

## 2.0 Executive Summary

Faneuil Hall at 1 Faneuil Hall Market Place was built in 1806 and was the replacement for a smaller building destroyed by fire. Faneuil Hall was the subject of a major renovation in the late 18th century when the interior of the building was completely reconstructed using iron and concrete construction in a colonial revival style. Except for some architectural elements of the staircases and some interior doors, the interior fabric of the building dates from that time. At the exterior, which was also completely restored, much of the 1806 architectural elements, such as the doors and windows, were retained. In 1990 there was another major restoration of Faneuil Hall which involved reconfiguration of some of the interior and complete replacement most of the mechanical and electrical systems. At that time the building exterior was restored to the extent that all windows and doors were repainted and spot repairs and replacements to window elements were done. Since 1990 no major restoration of Faneuil Hall has occurred at the exterior of the building.

### Exterior Windows

There are 123 exterior windows at Faneuil Hall. Of these 13 windows have been completely restored; 7 of these windows in 2015 in a restoration conducted by CSS Architects. Of the remaining windows, little has been done to them since they were repainted and spot repairs were executed in 1990. CSS Architects performed a complete survey of the condition of the windows and found almost none of the window sash and only about one third of the window frames intact. The balance of the windows exhibited peeling paint, missing putty, rot of the elements of both the window sash and frames. In addition, due to an error made during replacement of the most of the window sills in the 1990 restoration, 38% of all the double hung windows will not close properly, resulting in excessive air infiltration and deterioration of the upper sash.

In this study CSS Architects delineates two approaches to the repair of the 106 windows which were the subject of its investigation.

#### Approach One:

The Full Restoration of the 110 windows that are the subject of this study. The restoration would be to continue the work that was performed on the 13 windows that have been restored. The work would be identical to the work that was performed in the complete restoration of the 7 windows and frames at the third floor of the East Façade conducted by CSS and completed in 2015.

The budgeted cost of a full window restoration equal to the work that was done in 2015 CSS estimates would be \$1,853,000. CSS strongly recommends this approach to the restoration of the windows, as it would provide the most certain and long lasting repair for the windows at Faneuil Hall.

#### Approach Two:

Partial Repair and Repainting of the 110 windows that are the subject of this study. To slow down the deterioration of the remaining 110 windows that have not yet been the subject of complete restoration, the windows would be scraped, puttied



and repainted in place. Where rot is found, in-place repairs would be made. Only the most deteriorated sash would be removed for complete repair. (approximately 10 windows). The result of this approach would be to save from complete deterioration a major portion of the windows. If no work is done to save the windows from attack by the elements, as in their present condition much of the paint protection is severely compromised.

The budgeted cost of partial repair and complete in place repainting of the windows would be \$558,000. If this approach were undertaken it should be with the understanding that this work should not be considered a restoration or a permanent repair. Without frequent surveys to find and arrest further rot which was not discovered during the partial repairs, many of the windows could revert to their present deteriorated state within 5 years.

#### Exterior Doors

There are 21 exterior doors that are the subject of this study; 13 are at the basement level and 8 at the East and West Facades of the first floor. The basement level doors are either fixed or almost never opened. CSS recommends that these doors can be stripped, painted and repaired in place. The first floor doors on the East Façade are severely deteriorated. The West façade doors are in better condition. CSS recommends that all door leaves be removed (replaced by temporary doors) and that the door leaves, frames and hardware be completely restored.

The budgeted cost of the Exterior Door Restoration CSS estimates to be \$149,000.

### 3.0 Existing Conditions Investigation and Analysis

In the survey of the windows the following criteria were used to document the condition of the window sash frames at the exterior.

#### Window Sash:

##### Paint Intact:

Each window sash was inspected to determine if the paint film exhibited any cracks, breaks, blisters or peeling of the paint film. If no cracks, breaks or peeling was found then the paint surface of the window sash was classified as "Paint Intact"

##### Paint Failure:

Each window sash was inspected to determine if the paint film was cracked, broken, blistered or peeled. If any of these conditions were found then the window sash was classified as "Paint Failure."



Paint Failure

##### Putty Failure:

Each window sash was inspected to determine if the putty (glazing compound holding in the window glass) was intact – Not peeling or missing. If the putty was found to be either peeling or missing the window sash was classified as "Putty Failure."

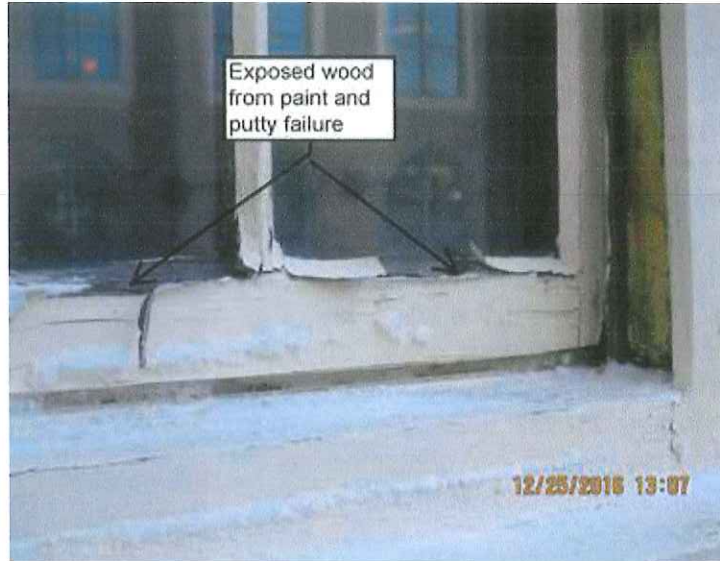


Putty Failure



Exposed Wood:

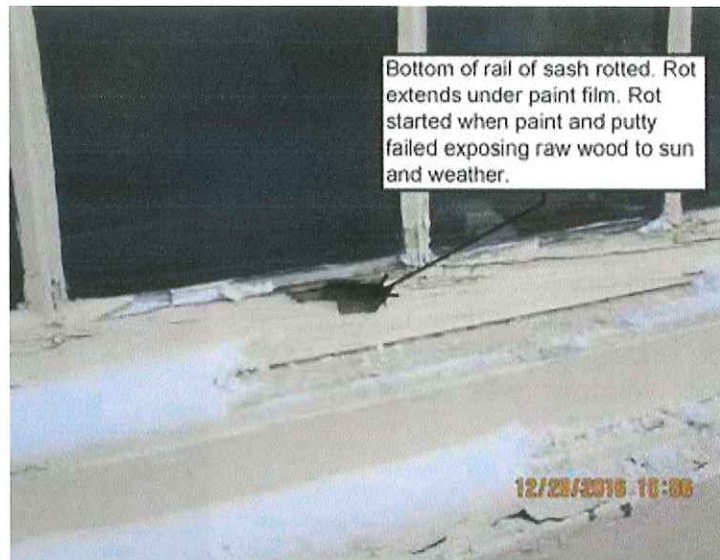
Each window sash was inspected to determine if there was exposed wood either from missing paint or putty. If paint and or putty were found to be missing the window sash was classified as “Exposed Wood.”



Exposed Wood

Sash Components Rotted:

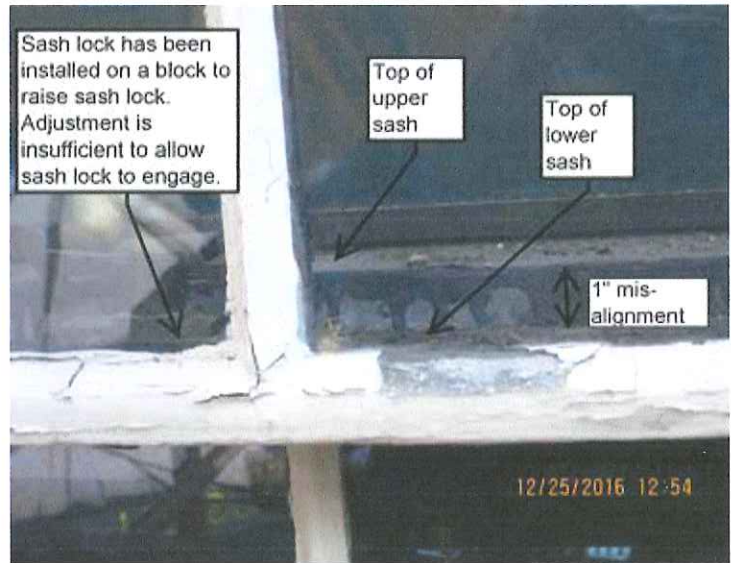
Each window sash was inspected to determine if any of the wood components of the window – stiles, rails or muntin bars – were rotted. This was done through observation where rotted wood could be observed either under the paint or rotted wood was exposed to view. In the case where there was exposed wood with no paint film the wood was gently probed with the sharp point of a knife to explore for rot. Where the paint film was intact and no rot could be observed the window components were not probed. If rot was found in any of the wood window components the sash was classified as “Sash Components Rotted.”



Sash Components Rotted

Meeting Rails Mis-aligned

Where the windows have double-hung sashes each window was inspected to determine if the meeting rails – the top rail of the lower sash and the bottom rail of the top sash – were aligned and the window locks were engaged. If this were not the case and the misalignment was great enough to prevent the engagement of the window locks, then the window sashes would be classified as “Meeting Rail Mis-aligned.”



Meeting Rail Mis-aligned

Meeting Rails Lockable

Where the windows have double-hung sashes each window was inspected to determine if the meeting rails – the top rail of the lower sash and the bottom rail of the top sash – were misaligned but still close enough in alignment that and the window locks could be engaged. If this was the case the window was classified as “Lockable.”



Meeting Rails Aligned



Cracked or Incorrect Glazing:

Each window sash was inspected for cracked or incorrect glazing. Where glazing was found to be cracked or incorrect it was classified as "Defective Glazing."



Cracked or Incorrect Glazing

**Window Frame:**

Paint Intact:

Each window frame was inspected to determine if the paint film exhibited any cracks, breaks, blisters or peeling of the paint film. If no cracks, breaks or peeling was found then the paint surface of the window frame was classified as "Paint Intact."

Paint Failure:

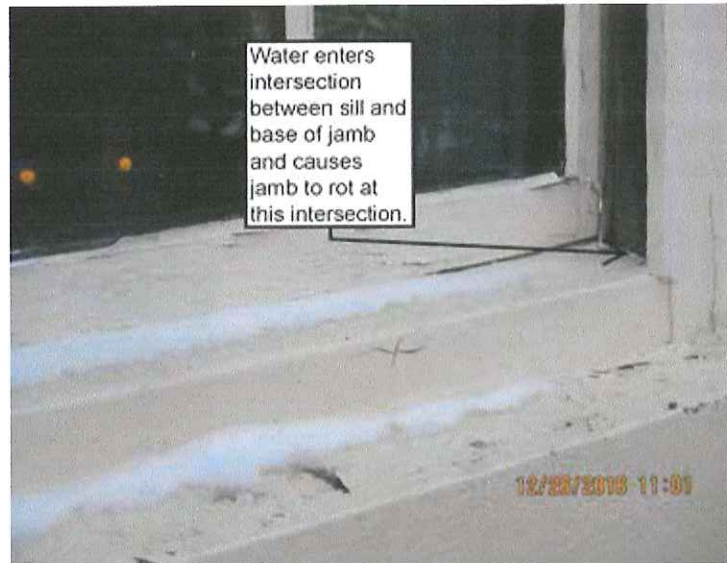
Each window frame was inspected to determine if the paint film was cracked, broken, blistered or peeled. If any of these conditions were found then the window frame was classified as "Paint Failure."



Frame Paint Failure

Rot at Base Of Jambs:

At each double hung window where the window frame jambs are exposed adjacent to the lower sash the jambs at the intersection with the sill were probed with the sharp point of a knife to explore for rot. If rot was found the window frame was classified as "Rot at Base of Jambs."



Rot at Base of Jamb

Parting Bead Displaced or Missing:

At each double hung window the parting bead is exposed adjacent to the lower sash. If the parting bead is displaced or missing the window frame was classified "Parting Bead Displaced or Missing."

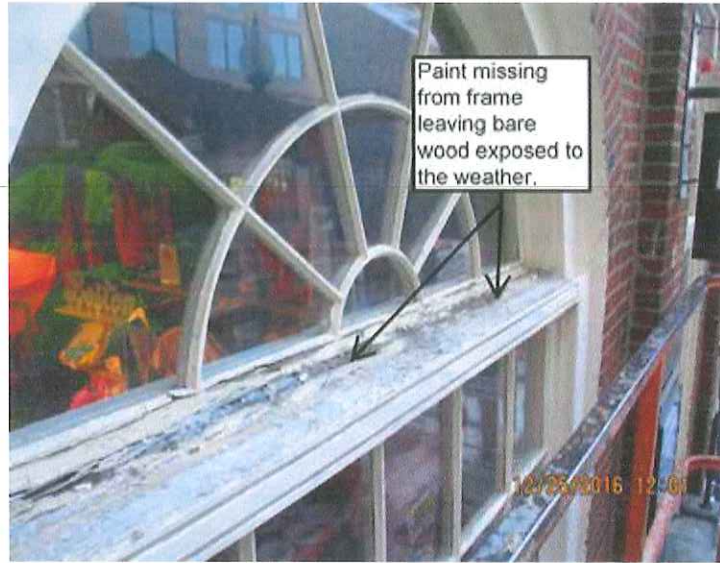


Parting Bead Displaced



Exposed Wood:

Each window frame was inspected to determine if there was exposed wood from missing paint. If paint was found to be missing the window frame was classified as "Exposed Wood."



Bare Wood of Window Frame Exposed

Brick Molding Broken or Missing:

At each window frame the brick molding was inspected to see if any parts of the molding were missing or broken. This included sections of molding that have been replaced with putty. If brick molding was found to be broken or missing it was classified as "Brick Molding Broken or Missing."



Brick Molding Broken

Blind Stop Rotted:

The blind stop of each window frame was inspected to determine if the any of the blind stop was rotted. This was done through observation were rotted wood could be observed either under the paint or rotted wood was exposed to view. In the case where there was exposed wood with not paint film the wood was gently probed with the sharp point of a knife to explore for rot. Where the paint film was intact and no rot could be observed the blind stop was not probed. If rot was found in the blind stop the blind stop was classified "Blind Stop Rotted."



Blind Stop at Base Rotted

Sill Rotted:

The sill of each window frame was inspected to determine if the any of the sill was rotted. This was done through observation were rotted wood could be observed either under the paint or rotted wood was exposed to view. In the case where there was exposed wood with not paint film the wood was gently probed with the sharp point of a knife to explore for rot. Where the paint film was intact and no rot could be observed the sill was not probed. If rot was found in the sill the sill was classified "Sill Rotted."



Rotted Sill



## 4.0 Investigation Summary

### Window Sash:

Of the 110 window sash surveyed only 16 sash had the paint film intact and of these 9 were fan lights which are in door recesses protected from the elements and 2 were restored sash set into unrestored window frames. Where the sash is exposed to the weather the paint failure of the sash at this time is virtually 100%. Once the paint film deteriorates, then the wood and putty substrate of the window becomes subject to attack from the elements. It is the skyward facing parts of the window that are subject to the quickest deterioration as snow and ice sits on these elements keeping the surfaces wet for long periods of time. The first component to fail is the glazing compound and this has occurred in 78 of the windows surveyed (70%). The next element of failure is falling away of both paint and putty exposing the bare wood of the sash. This has occurred in 38 of the windows surveyed (36%). Once the wood substrate is no longer protected by paint and putty and bare wood is exposed, wood rot starts and accelerates rapidly. This was found in 42 of the windows surveyed (38%). It should be noted that the rot found was only that which could be seen by observation or found by probing through damaged paint. It is also possible that there are elements of the window sash where rot has occurred, but will not be discovered until the paint has been removed from the window sash.

### Sash Mis-alignment:

Another important factor which is leading to the deterioration of the double hung sash is the mis-alignment of the sash meeting rails to the extent that the locks at the meeting rails cannot be engaged. This was observed in 29 pairs of double hung sash (33%). The meeting rails of the double hung sash no longer align due to the fit between the bottom sash and the sill. During restoration the third floor double hung windows on the East Façade CSS observed that none of the meeting rails of these sash met and none of the sash locks could be engaged. The result of this is twofold:

*One:* The window is rendered ineffective as a draft barrier which also defeats any thermal resistance properties the window may have. The storm sash mounted on the interior for purposed of thermal performance now becomes the window which is only single glazed.



Bottom Rail of Lower Sash not closing tightly against sill

*Two:* Because the upper sash is over six feet tall and the dimensions of muntin, stile and rail construction of the window are light, as the putty deteriorates, the full weight of the window glazing starts to bear on the bottom rail of the upper sash. As the rail is not sized to accept this weight it begins to deform. The bowing of the bottom rails in windows where the sash lock could not be engaged



Bottom Rail of Top Sash Bowed

was evident in almost half of the double windows surveyed. During the restoration of the third floor windows at the East façade, after the sashes were removed, it was found that the sills of these window frames had been replaced as part of the 1990 renovation. The profile of the replacement sill was not a correct match to the original sill that was replaced. Because of this difference in profile, the bottom sash of the window could not be lowered into its original position causing the meeting rails to not properly engage.

#### Window Frames:

Of the 110 window frames surveyed 45 frames had the paint film intact. This is in contrast to the window sash where almost all had failure of the paint film. Most of the components of the window frames are not sky facing and thus not subject to the same long periods of wetting as the sash. Of the frames surveyed 60% displayed paint film deterioration to some degree. This deterioration has resulted in 38% of the window frames showing some degree of rot. Most of the rot was observed in the window sills – 29 window sills - which would be expected as these are the sky facing elements. In addition to the blind stops and sills, some rot was observed at the intersections of the window jambs and sills – 18%. Again the snow that collects on the sills can also sit against the bottoms of the jambs keeping these elements wet. The displaced parting bead and broken brick molding was only observed in 9% of the window frames.

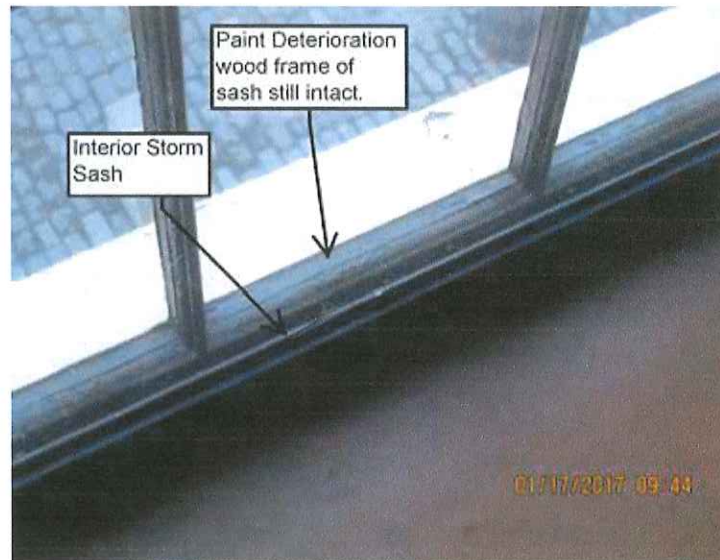


Window Sash at the Interior:

All windows on the second third and fourth floors have interior storm panels. This is a total of 88 panels. These panels were installed to increase the thermal efficiency of the windows. As many of the windows are accessible to the public and do not meet current code requirements for safety glazing and sill height, the storm panels have the added benefit of protecting the public from injury as well as protecting the windows from damage. An unforeseen result of the interior storm panel installation is that moisture is being trapped between the storm panel and the exterior glazing. The resulting condensation is causing deterioration of the paint and wood of the sash at the interior. This is most pronounced at the bottom rails of the windows where the condensation collects. It should be noted that storm panels were not installed at the windows on the first floor and no deterioration at the interior was observed.



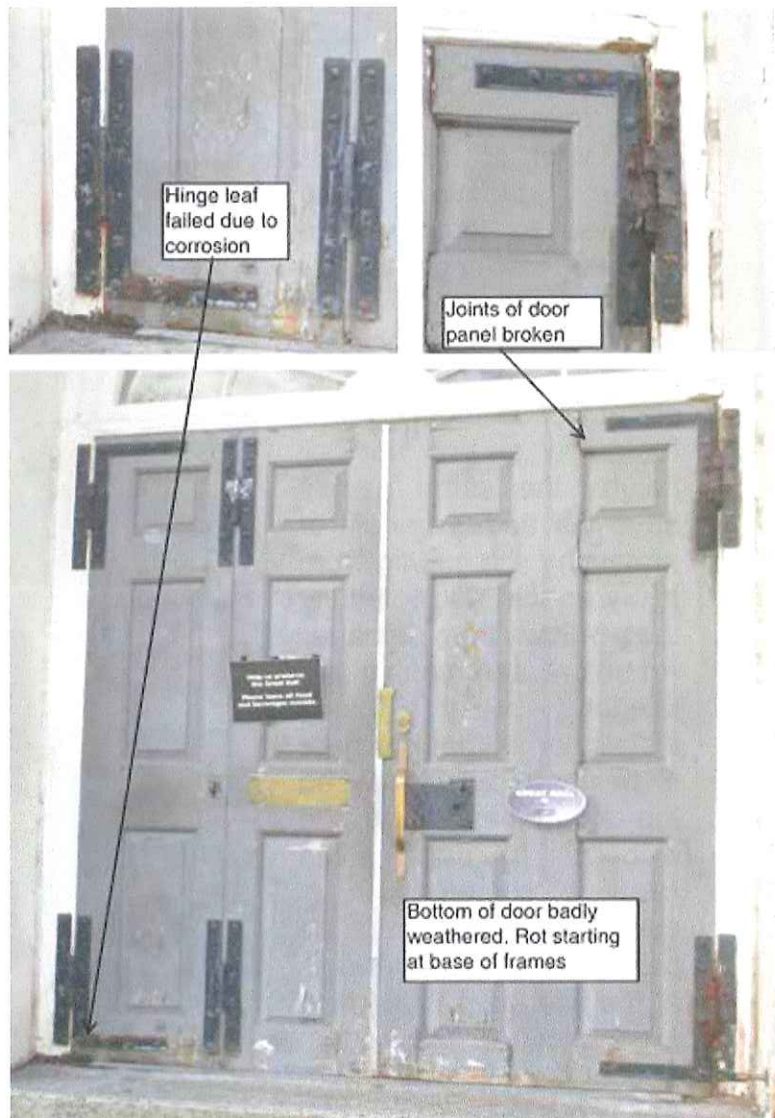
Major Deterioration of Bottom Rail of Sash at the Interior



Minor Deterioration of Paint at Sash Interior

Exterior Doors:

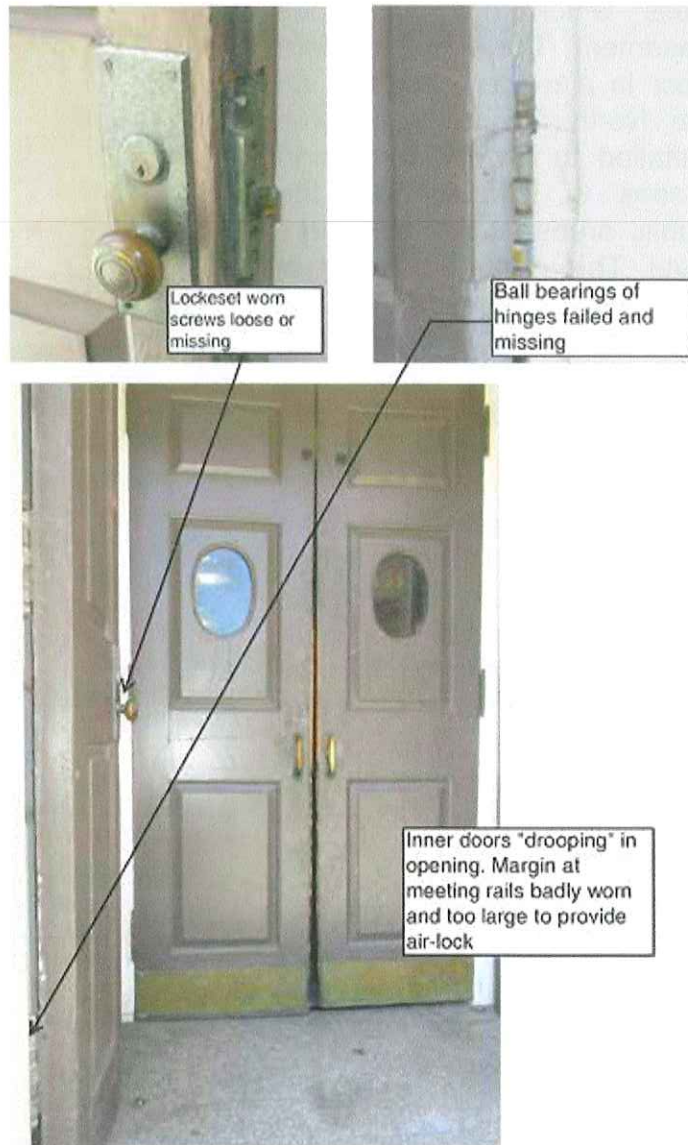
At the East Façade of the building there are five doors. Two of these doors – one on each side - provide public access to the first floor Market Hall. The other three doors provide access to the Great Hall. The center door is normally opened for public use and the two flanking doors are usually kept closed. The center door is badly deteriorated with broken mortise and tenon joints between the stiles and rails and with the bottom leaves of the doors severely weathered. The surface mounted wrought iron hinges are severely corroded. Due to this corrosion one hinge on the center door has failed and the other hinges are close to failure.



Center Door at Entrance to Great Hall



The two doors that provide access to the Market Hall are configured as pairs of inner and outer doors with a shallow vestibule between them. The outer doors are in better condition than the center doors, but still exhibit severe weathering at the base of the doors. The hardware of these outer doors consists of bronze ball-bearing hinges and mortise locksets. The hinges are of the ball bearing type. The hardware is more modern than the hardware of the center doors; either of late 19th or early 20<sup>th</sup> century manufacture. The hardware is severely worn with parts loose or missing. The inner doors serve to keep the conditioned air of the market hall within the building and are double acting doors on closers. Due to constant use, they are so badly worn at the meeting rails that the large gap at the margin where the rails meet defeats any function the doors may have had to keep conditioned air within the building.



Double Exterior Doors to Market Hall

At the West Façade of the building there are three doors. The center door which is similar in construction to the Center door on the East Façade is in far better condition with only slight weathering of the door and hardware. The other two doors which provide access to the Market Hall are identical in function to the pairs of doors on the East Façade. The outer doors of these pairs again are in far better condition with only slight weathering. The inner doors of these pairs are in much the same condition as the inner doors on the East Façade where their function as weather locks is compromised.

There are 14 doors in area wells which open into the basement. There is 1 modern door in a modern opening on the North facade which was installed to provide a second means of egress from the public areas at the basement level. This door is not part of the survey. Of the 14 doors all but 6 are no longer operable. They are either blocked by new construction within the building or have been permanently closed as ventilation assemblies have been attached to the doors. The doors are worn and do not fit tightly in their frames. There is water leakage at the base of the doors from water collecting in the area wells and subsequent damage to the doors and frames. There is also evidence of damage from rodents.



Basement Door Inoperable due to HVAC Ductwork



## 5.0 Conclusions and Recommendations

### Windows and Frames:

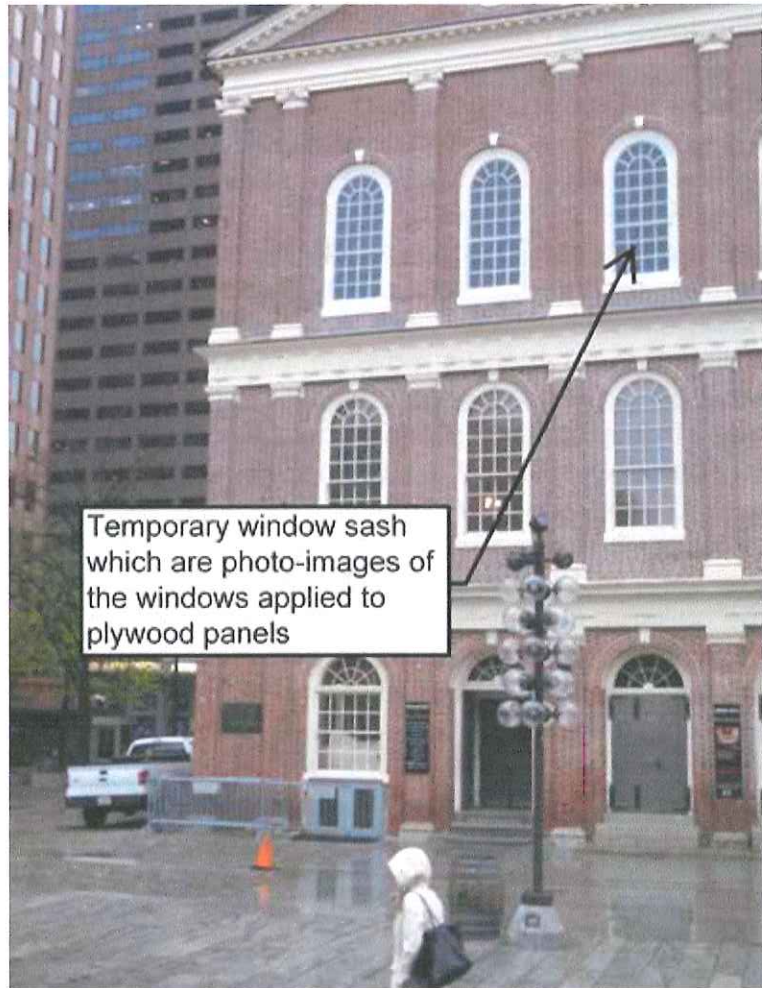
Except for spot minor repairs and the work conducted by the National Park service at the ground floor to create an ADA accessible entrance and egress, apparently no significant work has been done on the exterior windows since the major renovation of Faneuil Hall conducted in 1990-92. The condition of the windows and frames is the result of almost 25 years of exposure to the elements. Building exteriors where major portions of the exterior are constructed of wood are systems of wood and paint. Without paint, except in cases where building elements are constructed of wood which is highly resistant to rot such as redwood, cedar or cypress, the wooden elements of the system deteriorate once the paint begins to fail. This is what CSS observed at Faneuil Hall. The rate of deterioration is related to the orientation of the wood elements on the building façade. South and West facing elements on the whole exhibit the highest level of deterioration as they have the greatest exposure to rain, snow and sun. The East exposure has the added problem as being only 1,500 feet from the corrosive effects of the water of Boston Harbor. Most of the windows and frames appear to be original to the building. On the North and South Facades much of the glass is rolled glass and the molding profile of the muntins and stiles and rails is consistent with the 1806 profiles that were found in the window sash of the third floor on the East Façade. Where wood elements were found to have been replaced – this was the sills of many of the windows – the frequency of wood rot was found to be higher than that of original window elements. The original windows and frames were found to be fabricated from old growth Eastern White Pine. The replacement window elements have been fabricated from a variety of woods both pines and firs none of which have the rot resistance of old growth Eastern White Pine.

If nothing is done to arrest the current deterioration rot will attack the windows, primarily the sills and horizontal portions of the sash, at an accelerated rate as the preponderance of the current paint film is 25 years old and at this time is exhibiting 100% failure to some degree. Once the paint is no longer able to offer protection the windows from the elements, deterioration of the window, especially the putty of the sash, accelerates rapidly with rot setting in. Once rot begins removal and replacement of the rotted elements will be the only solution.

The approach to the window restoration that CSS just completed at the East Façade on the third floor would be the approach that CSS recommends to the other 110 windows requiring restoration at Faneuil Hall. This restoration would involve removal of the sash, complete removal of paint and glazing from the sash, repair – and where necessary replacement - of sash or sash components, complete disassembly and reassembly of all sash to their original configuration and then reinstallation of the sash with all new or restored hardware in completely restored window frames. The restoration of the frames would encompass the removal of all paint, repair or replacement of all wood components and installation of new sills to ensure that the window sash closes properly and locks at the meeting rails. When the restored sash are installed, bronze interlocking



weather stripping should be installed to improve the thermal characteristics of the window through reduction of infiltration. Both the sash and frames should be coated with multiple coats of a high grade exterior paint with great care taken to seal the joint between the paint and the glass of the window to provide the restored window with the greatest protection possible to the elements. The sash should be painted in a controlled indoor environment to maintain the highest level of paint application. As part of the project “false windows” should be installed to minimize the disruption to the appearance of this important historic building during the restoration process. When the interior storm sash are re-installed vents should be installed at the perimeter of the storm sash to reduce the build-up of condensation and the subsequent damage to the interior painted surfaces of the sash.



Temporary Windows at Third Floor

Another approach, and this should be considered as a stop-gap measure, would be to scrape the sash and frames to remove loose paint and putty. Once scraping and loose putty removal is complete, then areas of rot that have been discovered can be repaired with epoxy if it does not encompass complete frame or sash elements. On the frames these elements can be replaced in situ. For the sash, where entire components have to be replaced, this would involve complete sash removal and restoration identical to the restoration that was conducted on the third floor East Façade windows. Based on our survey, CSS estimates that approximately the sash at ten windows would require removal for repair. For the sash left in place, the rot in the sash would be repaired in place, the sash would be re-puttied where the putty was removed and then both the frames and sash would be primed and painted. What this approach would not be able to address, except in at the ten windows where the sash would be removed, is the reassembly of all sash to their original configuration, the installation of new operating hardware, weights, chains, pulleys and the installation of weather stripping. This approach would not encompass the replacement of sills and refitting of the window sash to ensure proper closure at the meeting rails. As only loose paint at the sash and frames



is being removed, it is likely that all rot will not be found and some latent rot conditions will be left under new coats of paint. This approach, which will arrest the accelerating deterioration of the windows and frames if nothing is done, will not have the lasting effect that a complete window restoration would have for Faneuil Hall.

### **Exterior Doors:**

The basement level doors that are the subject of this study should be scraped, repairs to the woodwork which on the whole are minor made, and painted. As these doors are rarely opened, some not at all, the structural integrity of the doors and hardware should not be a major concern. The 8 doors at the first floor that are the subject of this study have frequent, and in the case of the four entrances to the Market Hall, high use. These entrances need to be restored to their original condition. Both the door leaves, frames and hardware. Working one or two openings at a time the door leaves should be removed and temporary doors installed to maintain the appearance and function of the building. All hardware should be removed and catalogued. The doors and frames should be completely stripped of paint. Where joints or components within the leaves are broken or severely deteriorated the door leaves should be disassembled, all broken or severely worn components repaired or replaced and the door leaves reassembled. Where elements of the door frames are broken worn or rotted these elements should be replaced or repaired. Both doors and frames should be completely painted and then the door leaves re-fitted and re-hung. Every attempt should be made to restore all the existing hardware. This especially applies to the wrought iron hinges. If the hinges cannot be restored, attempts should be made to incorporate as much of the existing elements of the hinge in any reproductions that have to be fabricated. For the four entrances which create an "air lock" to the Market Hall, these doors should be removed and, using as many of their existing components as possible, refabricated. The door leaves should be re-hung to be tightly fit into the existing frames. New closers and hinges should be provided – the present hardware is modern – and the door properly weather stripped so the function of the air-lock is restored.

## 6.0 Cost Estimate

### Notes to Cost Estimate:

#### Approach One: Full Window Restoration

In 2015 CSS, working with Homer Contracting, performed a full restoration of 7 windows at the third floor on the East Façade of Faneuil Hall. The direct cost of this full restoration on a per glazing lite basis was \$461.00 per lite. The cost per lite adjusting for inflation, assuming a project start two years from today, and adjusting for project scale (10% reduction as the job is 110 windows not 7 windows) CSS is assuming a budget cost of \$452.00 per lite to develop a budget cost for the 2,695 lites that would encompass the 110 windows. For budget estimating The cost per lite is used to average out the differences in size and configuration in the 110 windows of the study

#### Approach Two – In Place Window Repair and Painting

CSS is assuming that 10 windows of the 110 windows of the study will require full restoration. Although different size and configurations will make up the 10 windows, CSS is assuming 36 lights per window which would be 360 lites in total

This would leave 2,335 lites in windows to be scraped, repaired and painted in place. To paint in place CSS assumed \$63.00 per lite which was based on discussions with two painting contractors that CSS has worked with on similar projects.

#### List of Lites by Window Type:

	Double Hung With Half Round Top		Double Hung Only		Half Circle Window		Lantern D/H With half Round Top		Double Hung Window Half Circle Transom		Triple Half Round With Double Hung		Large Fan Lite		Small Fan Lite		Totals
	Lites	36	Lites	20	Lites	8	Lites	22	Lites	31	Lites	30	Lites	16	Lites	10	
East Façade	7								2				1		4		14
West Façade	14								4		1		1		2		22
North Façade	9		9		9		1		9								37
South Façade	9		9		9		1		8						1		37
<b>Total Window By Type</b>	<b>39</b>		<b>18</b>		<b>18</b>		<b>2</b>		<b>23</b>		<b>1</b>		<b>2</b>		<b>7</b>		<b>110</b>
<b>Total Lites By WindowType</b>		<b>1404</b>		<b>360</b>		<b>144</b>		<b>44</b>		<b>713</b>		<b>30</b>		<b>32</b>		<b>0</b>	<b>2695</b> Total Lites



**Estimated Cost for Complete Window Restoration:**

Total Number of Lites		<b>2,695</b>	
Cost Per Lite for Total Sash and Frame Restoration		<b>\$451.96</b>	<b>per lite</b>
Total Direct Cost to Completely Restore all Windows		<b>\$1,218,034</b>	
	Subtotal		\$ 1,220,729
General Conditions	20%		\$ 244,146
	Subtotal		\$ 1,464,875
Profit	10%		\$ 146,487
	Subtotal		\$ 1,611,362
Contingency	15%		\$ 241,704
		<b>Total Projected Cost</b>	<b>\$ 1,853,067</b>

**Estimated Cost for in-place Scrape and Paint:**

Total Number of lites		2695	
Number of lites in total restored windows		360	
In place scrape and paint		2335	Lites
Cost to scrape and paint windows sash at interior			
\$20.00	per lite	\$46,700.00	
Cost per lite to scrape and paint window sash and frame exterior			
\$ 43.25	per lite	\$100,988.75	
Total cost to scrape and paint all frames and sash			
In place epoxy repairs		\$50,000	
Total restoration of ten windows and frames		\$170,000	
\$17,000.00	per window		
	subtotal		\$367,689
General Conditions	20%		
	subtotal		\$441,227
Profit	10%		\$44,123
	subtotal		\$485,349
Contingency	15%		\$72,802
		<b>Total Projected Cost</b>	<b>\$558,152</b>

**Estimated Cost for Door Restoration:**

Doors						
East Elevation						
Center Doors						
	Completely Rebuild Leaves	3	leaves	\$3,200.00	\$9,600.00	
	New replicated hinges	6	hinges	\$800.00	\$4,800.00	
	Rehang Doors Install hardware			each	\$3,000.00	
	Replicated door hardware				\$2,000.00	
	Paint doors and jamb				\$1,500.00	
						\$20,900.00
Side Doors Outer						
	Strip and repair outer doors	4	leaves	\$1,200.00	\$4,800.00	
	New Hardware	2		\$1,500.00	\$3,000.00	
	Rehang Doors Install Hardware	2		\$2,500.00	\$5,000.00	
Side Doors Inner						
	Rebuild doors	4	leaves	\$2,200.00	\$8,800.00	
	New Hardware	2		\$1,200.00	\$2,400.00	
	Rehang Doors Install Hardware	2		\$2,500.00	\$5,000.00	
	Paint Doors and Jambs	2		\$2,000.00	\$4,000.00	
						\$33,000.00
West Elevation						
Center Doors						
	Strip and minor repairs to doors	2	leaves	\$1,200	\$2,400	
	Repair Hinges	4	hinges	\$200	\$800	
	Rehang Doors Install hardware			each	\$2,500	
	Repair Door Hardware				\$1,500	
	Paint doors and jamb				\$1,500	
						\$ 8,700.00
Side Doors Outer						
	Strip and repair outer doors	4	leaves	\$1,200	\$4,800	
	New Hardware	2		\$1,500	\$3,000	
	Rehang Doors Install Hardware	2		\$2,500	\$5,000	
Side Doors Inner						
	Rebuild doors	4	leaves	\$2,200	\$8,800	
	New Hardware	2		\$1,200	\$2,400	
	Rehang Doors Install Hardware	2		\$2,500	\$5,000	
	Paint Doors and Jambs	2		\$2,000	\$4,000	
	Scrape , repair paint basement doors	13	doors	\$1,200	\$15,600	
						\$15,600



CIPR for Restoration of Exterior Wood  
Windows and Doors at Faneuil Hall

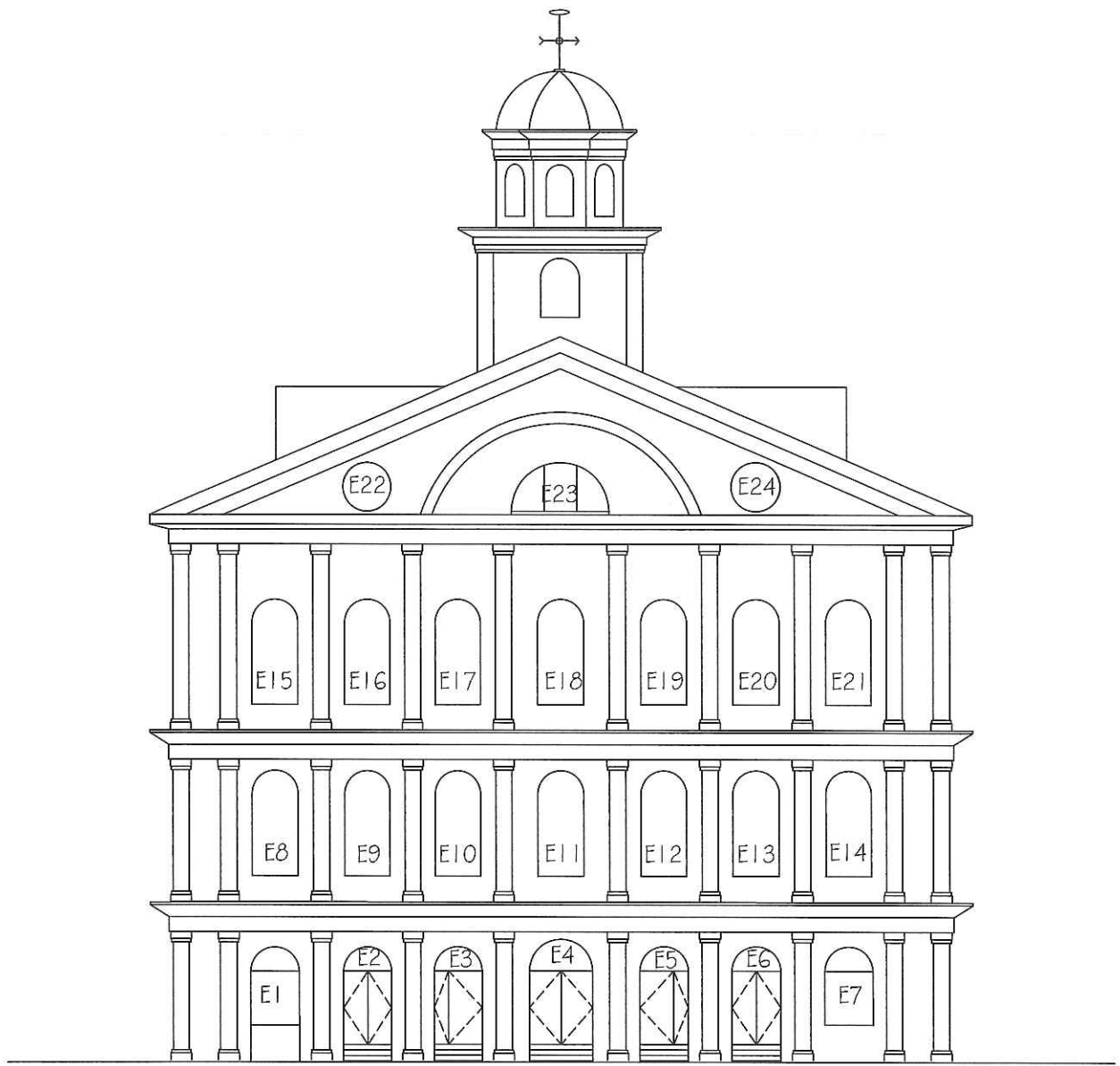
	Temporary doors				\$20,000	
						\$20,000
					subtotal	\$98,200.00
		General Conditions	20%			\$19,640.00
					subtotal	\$117,840.00
			Profit	10%		\$11,784.00
					subtotal	\$129,624.00
			Contingency	15%		\$19,443.60
					<b>Total Project Costs For Doors</b>	<b>\$149,067.60</b>

## Appendix A

### Window Façades and Matrices

- East Façade
- East Façade Matrix
- West Façade
- West Façade Matrix
- North Façade
- North Façade Matrix
- South Façade
- South Façade Matrix

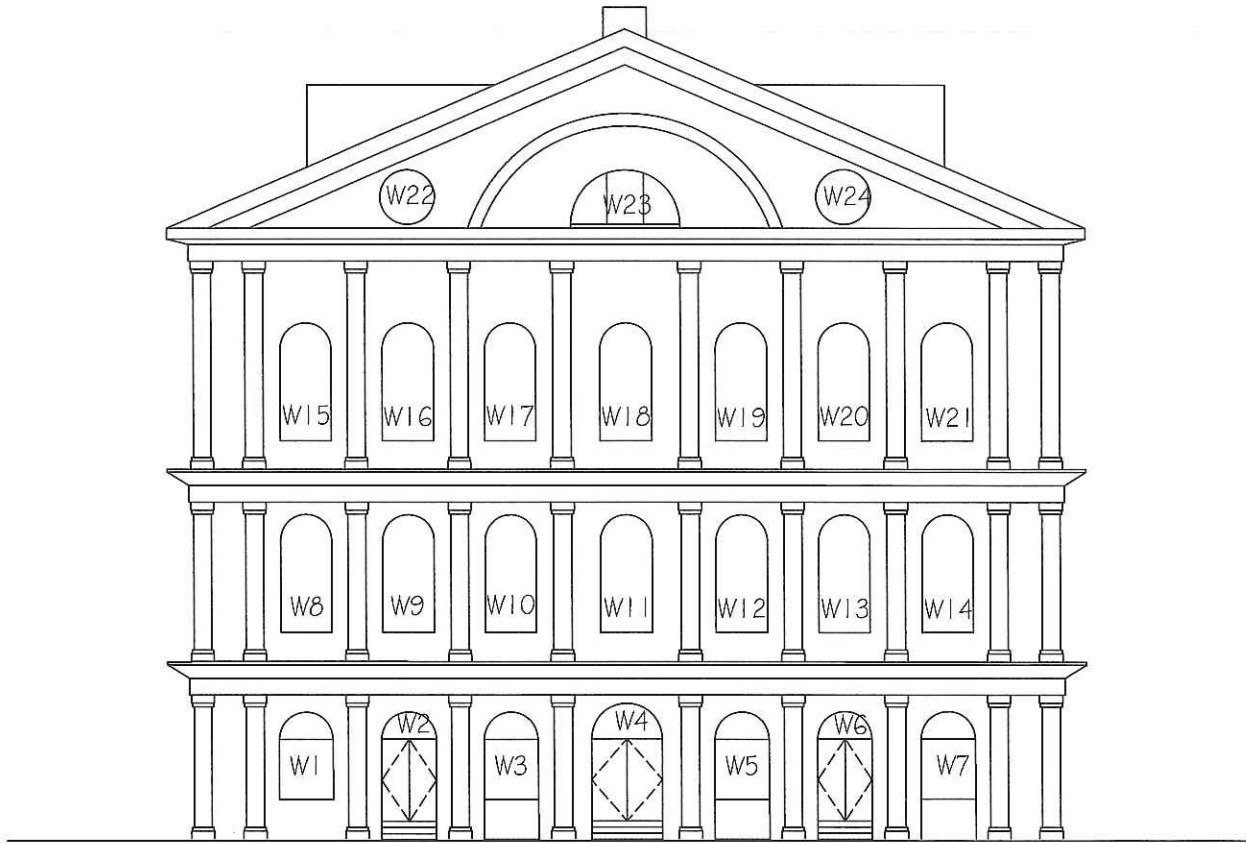




FANEUIL HALL EAST FACADE  
WINDOW KEY







FANEUIL HALL WEST FACADE  
WINDOW KEY

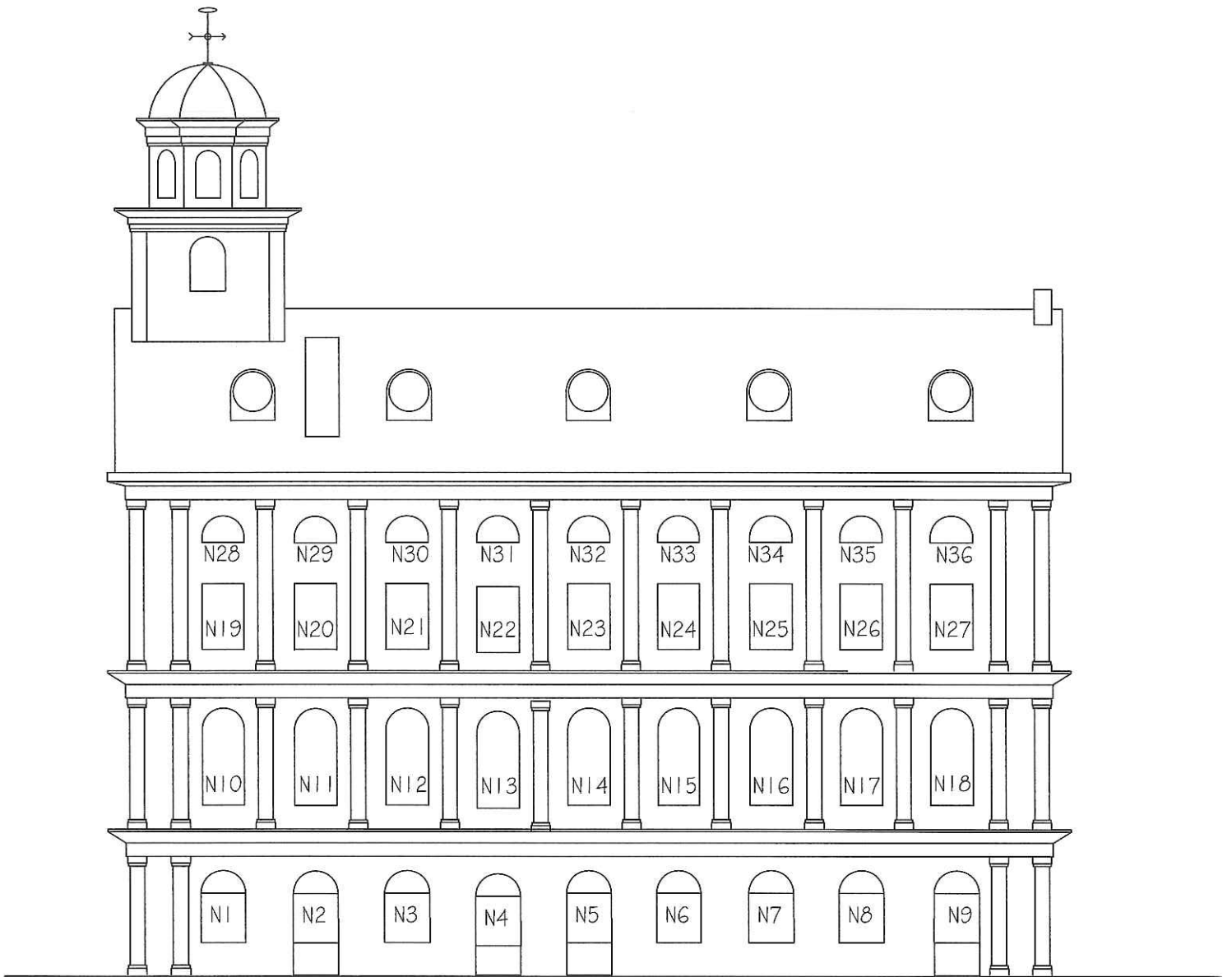
CONDITION OF WINDOW SASH

CONDITION OF WINDOW FRAME

	PAINT INTACT	PAINT FAILURE	PUTTY FAILURE	EXPOSED WOOD	SASH COMPONENTS ROTTED	MEETING RAIL MIS-ALIGNED	MEETING RAIL LOCKABLE	DEFECTIVE GLAZING		PAINT INTACT	PAINT FAILURE	ROT AT BASE OF JAMBS	PARTING BEAD DISPLACED OR MISSING	EXPOSED WOOD	BRICK MOLDING BROKEN OR MISSING	BLIND STOP ROTTED	SILL ROTTED
FIRST FLOOR																	
W1		●	●				●				●						
W2	●								FAN LITE	●							
W3		●	●							●	●						
W4	●								FAN LITE	●							
W5		●	●				●	●		●	●						
W6	●								FAN LITE	●							
W7		●	●				●			●	●						●
SECOND FLOOR																	
W8		●	●		●		●				●		●				
W9		●	●		●		●				●		●				
W10		●	●		●		●				●		●				
W11		●	●		●		●				●		●				
W12		●	●		●		●				●		●				
W13		●	●		●		●				●		●				
W14		●	●		●	●	●	●			●		●			●	●
THIRD FLOOR																	
W15		●	●	●	●		●				●		●		●	●	●
W16		●	●	●	●		●	●			●		●		●	●	●
W17		●	●	●	●		●				●		●		●	●	●
W18		●	●	●	●		●				●		●		●	●	●
W19		●	●	●	●	●	●	●			●		●		●	●	●
W20		●	●	●	●	●	●				●		●		●	●	●
W21		●	●	●	●		●				●		●		●	●	●
FOURTH FLOOR																	
W22	●								WINDOW RESTORED	●							
W23		●	●	●	●						●			●			●
W24	●								WINDOW RESTORED	●							

# FANEUIL HALL WEST ELEVATION





FANEUIL HALL NORTH FACADE  
WINDOW KEY

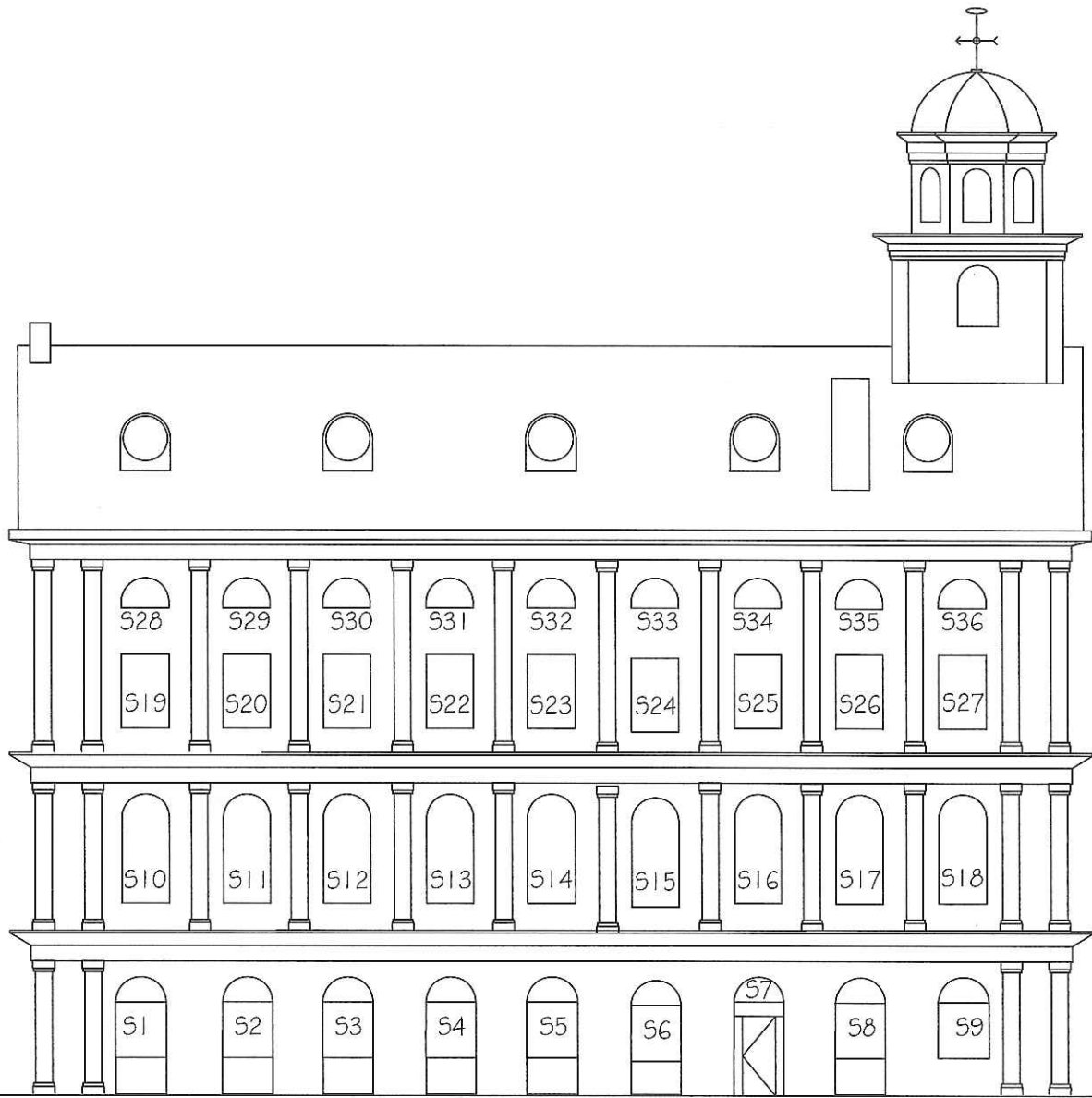
CONDITION OF WINDOW SASH

CONDITION OF WINDOW FRAME

	PAIN T INTACT	PAIN T FAILU R E	P U T T Y FAILU R E	EXPOSED WOOD	SASH COMPONENTS ROTTED	MEETING RAIL MIS-ALIGNED	MEETING RAIL LOCKABLE	DEFECTIVE GLAZING		PAIN T INTACT	PAIN T FAILU R E	ROT AT BASE OF JAMBES	PARTING BEAD DISPLACED OR MISSING	EXPOSED WOOD	BRICK MOLDING BROKEN OR MISSING	BLIND STOP ROTTED	SILL ROTTED
<b>FIRST FLOOR</b>																	
N1	●						●			●		●					
N2		●					●			●	●	●					
N3		●			●		●			●	●	●					
N4		●	●	●	●	●	●			●	●	●					
N5		●	●	●	●	●	●			●	●	●					
N6		●	●	●	●	●	●			●	●	●					
N7		●	●	●	●	●	●			●	●	●					
N8		●	●	●	●	●	●			●	●	●		●			
N9		●	●				●			●							●
<b>SECOND FLOOR</b>																	
N10		●				●				●							
N11		●				●		●		●	●	●					
N12		●	●			●				●	●	●					
N13		●	●	●		●				●	●	●					
N14		●	●	●		●				●	●	●					
N15		●	●	●		●				●	●	●					
N16		●	●	●		●		●		●	●	●					
N17		●	●	●		●				●	●	●					●
N18		●	●	●		●				●	●	●					●
<b>THIRD FLOOR</b>																	
N19			●		●		●			●							
N20			●	●	●	●	●			●	●	●					
N21			●	●	●	●	●			●	●	●					
N22			●	●	●	●	●			●	●	●					
N23			●	●	●	●	●			●	●	●					
N24			●	●	●	●	●			●	●	●					●
N25			●	●	●	●	●			●	●	●					
N26			●	●	●	●	●			●	●	●					
N27			●	●	●	●	●			●	●	●					
<b>FOURTH FLOOR</b>																	
N28		●								●					●		
N29	●						●			●							
N30		●								●							
N31		●	●							●							
N32		●								●							
N33		●	●							●						●	
N34		●								●							
N35		●								●							
N36		●	●							●							

# FANEUIL HALL NORTH ELEVATION





FANEUIL HALL SOUTH FACADE  
WINDOW KEY

CONDITION OF WINDOW SASH

CONDITION OF WINDOW FRAME

	PAINT INTACT	PAINT FAILURE	PUTTY FAILURE	EXPOSED WOOD	SASH COMPONENTS ROTTED	MEETING RAIL MIS-ALIGNED	MEETING RAIL LOCKABLE	DEFECTIVE GLAZING		PAINT INTACT	PAINT FAILURE	ROT AT BASE OF JAMBS	PARTING BEAD DISPLACED OR MISSING	EXPOSED WOOD	BRICK MOLDING BROKEN OR MISSING	BLIND STOP ROTTED	SILL ROTTED
FIRST FLOOR																	
91		●	●	●	●						●						
92		●	●							●	●						
93		●	●							●				●			
94	●																
95		●															
96		●			●		●										●
97	●								FAN LITE								
98		●	●	●	●	●					●	●		●	●	●	●
99		●								●	●						●
SECOND FLOOR																	
910		●	●	●			●			●							
911		●	●	●			●			●	●						
912		●	●	●	●	●	●			●	●						
913		●	●	●			●			●							
914		●	●	●			●			●							●
915		●	●	●			●			●							
916		●	●	●			●			●		●					
917		●			●	●				●	●			●			
918		●	●	●	●		●			●	●					●	
THIRD FLOOR																	
919		●	●	●	●		●			●							
920		●	●	●			●			●							
921		●	●	●	●		●			●							
922		●	●	●	●		●			●							
923		●			●		●			●		●					
924		●			●		●			●		●					
925		●					●			●		●					
926	●								NEW SASH	●							●
927	●								NEW SASH	●	●						
FOURTH FLOOR																	
928		●								●							●
929	●						●										●
930		●	●	●						●				●			
931		●	●	●	●					●							●
932		●								●							●
933		●			●					●							●
934		●			●					●							●
935		●			●					●				●			●
936		●								●							●

# FANEUIL HALL SOUTH ELEVATION





## Exhibit 2

- **CSS Design Development Drawings for Restoration of Faneuil Hall Exterior Windows (18 Dec. 2017)**

A1.0 – Exterior Elevations Scope of Openings Being Restored

A1.1 – West Facade Window Elevations

A1.2 – West Facade Window Elevations

A1.3 – West Facade Window Elevations

A2.1 – East Facade Window Elevations

A2.2 – East Facade Window Elevations

A3.1 – North Facade Window Elevations

A3.2 – North Facade Window Elevations

A3.3 – North Facade Window Elevations

A3.4 – North Facade Window Elevations

A3.5 – North Facade Window Elevations

A3.6 – North Facade Window Elevations

A3.7 – North Facade Window Elevations

A3.8 – North Facade Window Elevations

A3.9 – North Facade Window Elevations

A3.10 – North Facade Window Elevations

A3.11 – North Facade Window Elevations

A3.12 – North Facade Window Elevations

A4.1 – South Facade Window Elevations

A4.2 – South Facade Window Elevations

A4.3 – South Facade Window Elevations

A4.4 – South Facade Window Elevations

A4.5 – South Facade Window Elevations

A4.6 – South Facade Window Elevations

A4.7 – South Facade Window Elevations

A4.8 – South Facade Window Elevations

A4.9 – South Facade Window Elevations

A4.10 – South Facade Window Elevations

A4.11 – South Facade Window Elevations

A5.1 – Shop Repair Window Elevations

A5.2 – Shop Repair Window Elevations

A5.3 – Shop Repair Window Elevations

A5.4 – Shop Repair Window Elevations

- **CSS Design Development Drawings for Restoration of Faneuil Hall Exterior Windows (18 Dec. 2017)**

A6.1 – East Facade Door Elevations

A6.2 – East and West Facade Door Elevations











FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION

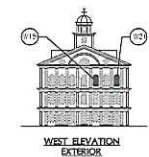


PFD PROJ. #

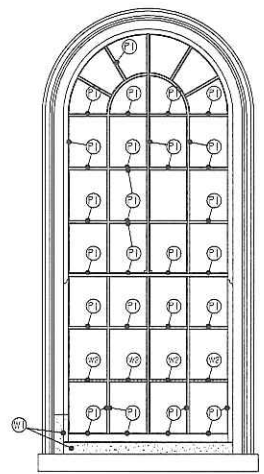
Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
107 Audubon Road  
Building 2 - Suite 200  
Woburn, MA 01897  
www.cssarchitects.com



WEST ELEVATION  
EXTERIOR



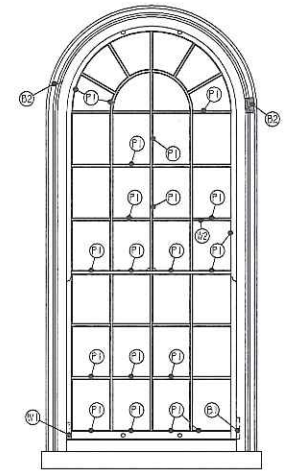
EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION W19

WINDOW REPAIR SCHEDULE	
B1	REPAIR AT SILL STOP
B2	PUTTY AT SILL JOINT
B3	WOOD PUTTING SILL
G1	REPAIR SPIDER GLASS
G2	SCAFFOLDS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	REPAIR JOINTS AT JAMB, SILL, HEAD
W2	EXTERIOR GLASS MULTI-PAN
W3	SURFACE REPAIR
W4	SPIDER GLASS ON GLASS
W5	REPAIR JOINTS AT JAMB, SILL, HEAD
W6	SURFACE REPAIRING

**GENERAL REPAIR NOTES**

- REMOVE & REPAIR SPIDER GLASS BETWEEN EXTERIOR GLASS AND SILL AT JAMB REPAIRS.
- SCOFF AND PAINT ENTIRE EXTERIOR OF WINDOW.

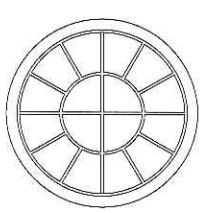


EXTERIOR

EXTERIOR WINDOW ELEVATION W21

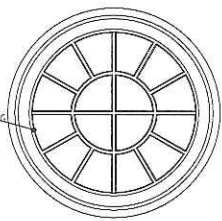


WEST ELEVATION  
EXTERIOR



INTERIOR

PAINT ON  
GLASS  
TO  
BE  
REPAIRED



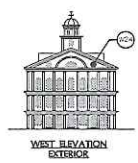
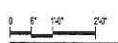
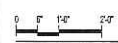
EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION W22

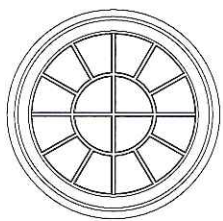
WINDOW REPAIR SCHEDULE	
B1	REPAIR AT SILL STOP
B2	PUTTY AT SILL JOINT
B3	WOOD PUTTING SILL
G	REPAIR SPIDER GLASS
G2	SCAFFOLDS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	REPAIR JOINTS AT JAMB, SILL, HEAD
W2	EXTERIOR GLASS MULTI-PAN
W3	SURFACE REPAIR
W4	SPIDER GLASS ON GLASS
W5	REPAIR JOINTS AT JAMB, SILL, HEAD
W6	SURFACE REPAIRING

**GENERAL REPAIR NOTES**

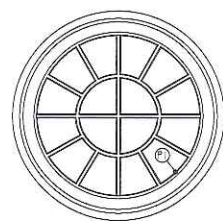
- REMOVE & REPAIR SPIDER GLASS BETWEEN EXTERIOR GLASS AND SILL AT JAMB REPAIRS.
- SCOFF AND PAINT ENTIRE EXTERIOR OF WINDOW.



WEST ELEVATION  
EXTERIOR



INTERIOR



EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION W23

WINDOW REPAIR SCHEDULE	
B1	REPAIR AT SILL STOP
B2	PUTTY AT SILL JOINT
B3	WOOD PUTTING SILL
G	REPAIR SPIDER GLASS
G2	SCAFFOLDS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	REPAIR JOINTS AT JAMB, SILL, HEAD
W2	EXTERIOR GLASS MULTI-PAN
W3	SURFACE REPAIR
W4	SPIDER GLASS ON GLASS
W5	REPAIR JOINTS AT JAMB, SILL, HEAD
W6	SURFACE REPAIRING

**GENERAL REPAIR NOTES**

- REMOVE & REPAIR SPIDER GLASS BETWEEN EXTERIOR GLASS AND SILL AT JAMB REPAIRS.
- SCOFF AND PAINT ENTIRE EXTERIOR OF WINDOW.

Title:  
WEST FACADE  
WINDOW ELEVATION

Scale: 3/4" = 1'-0"

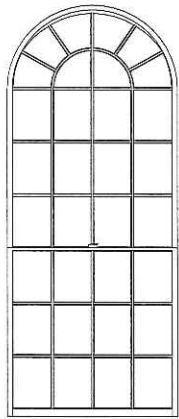
Date: 18 DEC. 2017

Drawn: CTC/JET

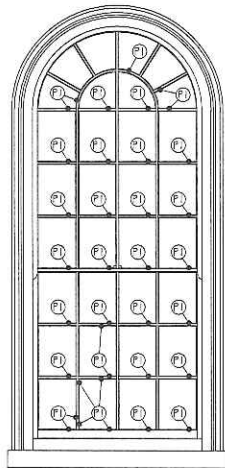
Checked: GMR/JJS

Project No: 1180

A13



INTERIOR



EXTERIOR



EAST ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE

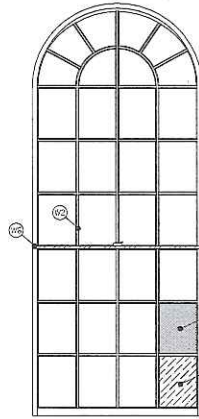
B1	REPAIR WINDOW STOP
B2	REPAIR AT BRICK INCLUDE
B3	LOCAL WINDOW SILL
G1	REPAIR WINDOW GLASS
G2	SCREWS ON GLASS
F1	PANES TO BE REPLACED
W1	REPAIR JOINTS AT JAMB, SILL, HEAD
W2	DETERIORATED MOUTH
W3	SURFACE ROT
W4	REPAIR MOUTH OF SASH
W5	REPAIR MOUTH WITHIN REAR
W6	SURFACE SCREWING

GENERAL REPAIR NOTES

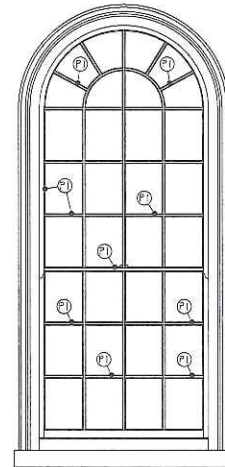
- REMOVE & REPLACE SASH AND REAR PANELS WHERE SHOWN AND AS SHOWN ON THE DRAWING.
- SCAFFOLD AND TRAVEL FROM EXTERIOR OF WINDOW.



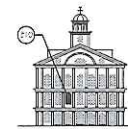
INTERIOR/EXTERIOR WINDOW ELEVATION | E08



INTERIOR



EXTERIOR



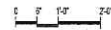
EAST ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE

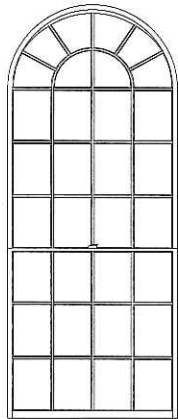
B1	REPAIR WINDOW STOP
B2	REPAIR AT BRICK INCLUDE
B3	LOCAL WINDOW SILL
G1	REPAIR WINDOW GLASS
G2	SCREWS ON GLASS
F1	PANES TO BE REPLACED
W1	REPAIR JOINTS AT JAMB, SILL, HEAD
W2	DETERIORATED MOUTH
W3	SURFACE ROT
W4	REPAIR MOUTH OF SASH
W5	REPAIR MOUTH WITHIN REAR
W6	SURFACE SCREWING

GENERAL REPAIR NOTES

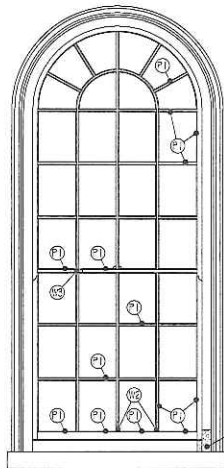
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- SCAFFOLD AND TRAVEL FROM EXTERIOR OF WINDOW.



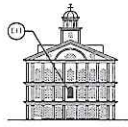
INTERIOR/EXTERIOR WINDOW ELEVATION | E10



INTERIOR



EXTERIOR



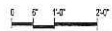
EAST ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE

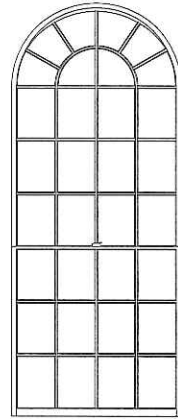
B1	REPAIR WINDOW STOP
B2	REPAIR AT BRICK INCLUDE
B3	LOCAL WINDOW SILL
G1	REPAIR WINDOW GLASS
G2	SCREWS ON GLASS
F1	PANES TO BE REPLACED
W1	REPAIR JOINTS AT JAMB, SILL, HEAD
W2	DETERIORATED MOUTH
W3	SURFACE ROT
W4	REPAIR MOUTH OF SASH
W5	REPAIR MOUTH WITHIN REAR
W6	SURFACE SCREWING

GENERAL REPAIR NOTES

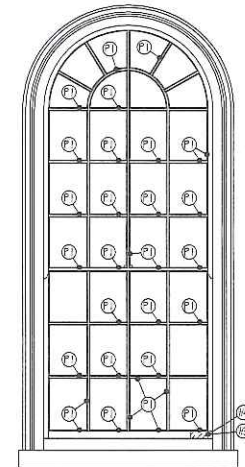
- REMOVE & REPLACE SASH AND REAR PANELS WHERE SHOWN AND AS SHOWN ON THE DRAWING.
- SCAFFOLD AND TRAVEL FROM EXTERIOR OF WINDOW.



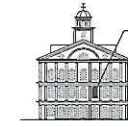
INTERIOR/EXTERIOR WINDOW ELEVATION | E11



INTERIOR



EXTERIOR



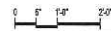
EAST ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE

B1	REPAIR WINDOW STOP
B2	REPAIR AT BRICK INCLUDE
B3	LOCAL WINDOW SILL
G1	REPAIR WINDOW GLASS
G2	SCREWS ON GLASS
F1	PANES TO BE REPLACED
W1	REPAIR JOINTS AT JAMB, SILL, HEAD
W2	DETERIORATED MOUTH
W3	SURFACE ROT
W4	REPAIR MOUTH OF SASH
W5	REPAIR MOUTH WITHIN REAR
W6	SURFACE SCREWING

GENERAL REPAIR NOTES

- REMOVE & REPLACE SASH AND REAR PANELS WHERE SHOWN AND AS SHOWN ON THE DRAWING.
- SCAFFOLD AND TRAVEL FROM EXTERIOR OF WINDOW.



INTERIOR/EXTERIOR WINDOW ELEVATION | E12

FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION



PFD PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.

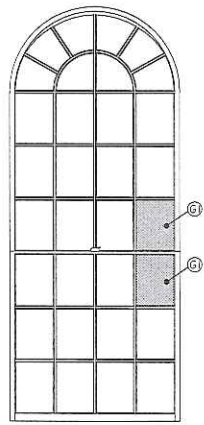


Title:  
EAST FACADE  
WINDOW ELEVATION

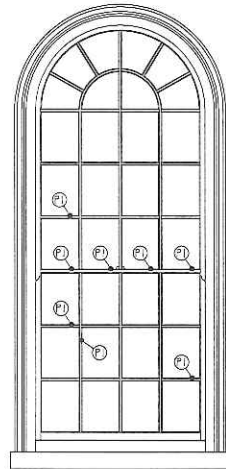
Scale: 3/4" 1'-0"  
Date: 18 DEC. 2017  
Drawn: CTC/JET  
Checked: GMR/JJS  
Project No: 1180

A2.1

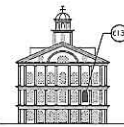




INTERIOR



EXTERIOR



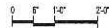
EAST ELEVATION  
EXTERIOR

**WINDOW REPAIR SCHEDULE**

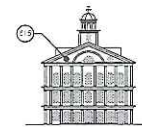
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B2	PUTTY AT BRICK JOINT
B3	WOOD PAINTING STOP
G1	REPAIR STORM GLASS
G2	SCREWS ON GLASS
P1	PUTTY TO BE REPLACED
P11	REPAIR MOUNTING AT JAMB, SILL, AND
P12	DISCONTINUED MUNTIN
P13	SURFACE ROT
P14	REPAIR MOUNTING OF SILL
P15	REPAIR GLASS MOUNTING
P16	SURFACE REPAIRS

**GENERAL REPAIR NOTES**

- REMOVE AND REPLACE GLASS IN DAMAGED SPOTS. REMOVE AND REPAIR CRACKED GLASS.
- SCREWS AND PUTTY TO BE REPLACED AT WINDOW.



INTERIOR/EXTERIOR WINDOW ELEVATION E15



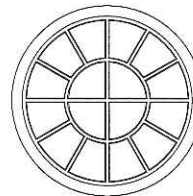
EAST ELEVATION  
EXTERIOR

**WINDOW REPAIR SCHEDULE**

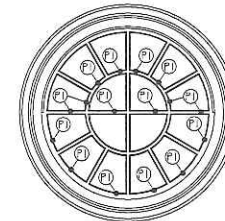
B1	REPAIR GLASS STOP
B2	PUTTY AT BRICK JOINT
B3	WOOD PAINTING STOP
G1	REPAIR STORM GLASS
G2	SCREWS ON GLASS
P1	PUTTY TO BE REPLACED
P11	REPAIR MOUNTING AT JAMB, SILL, AND
P12	DISCONTINUED MUNTIN
P13	SURFACE ROT
P14	REPAIR MOUNTING OF SILL
P15	REPAIR GLASS MOUNTING
P16	SURFACE REPAIRS

**GENERAL REPAIR NOTES**

- REMOVE AND REPLACE GLASS IN DAMAGED SPOTS. REMOVE AND REPAIR CRACKED GLASS.
- SCREWS AND PUTTY TO BE REPLACED AT WINDOW.



INTERIOR



EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION E15

FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION

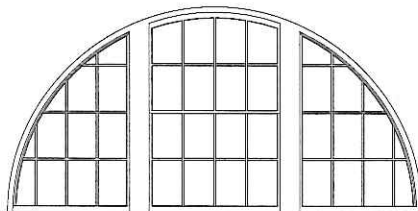


PFD PROJ. #

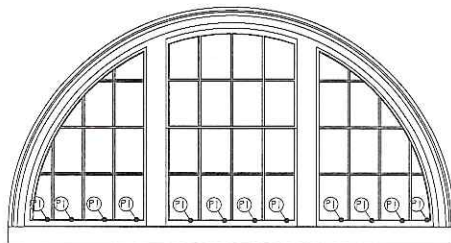
Revisions

No.	Date	Description	By

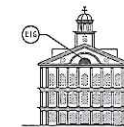
CSS ARCHITECTS INC.  
157 AUSTIN BLVD. BOSTON, MA 02116  
617.552.1100  
www.cssarchitects.com



INTERIOR



EXTERIOR



EAST ELEVATION  
EXTERIOR

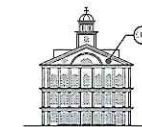
**WINDOW REPAIR SCHEDULE**

B1	REPAIR GLASS STOP
B2	PUTTY AT BRICK JOINT
B3	WOOD PAINTING STOP
G1	REPAIR STORM GLASS
G2	SCREWS ON GLASS
P1	PUTTY TO BE REPLACED
P11	REPAIR MOUNTING AT JAMB, SILL, AND
P12	DISCONTINUED MUNTIN
P13	SURFACE ROT
P14	REPAIR MOUNTING OF SILL
P15	REPAIR GLASS MOUNTING
P16	SURFACE REPAIRS

**GENERAL REPAIR NOTES**

- REMOVE AND REPLACE GLASS IN DAMAGED SPOTS. REMOVE AND REPAIR CRACKED GLASS.
- SCREWS AND PUTTY TO BE REPLACED AT WINDOW.

INTERIOR/EXTERIOR WINDOW ELEVATION E16



EAST ELEVATION  
EXTERIOR

**WINDOW REPAIR SCHEDULE**

B1	REPAIR GLASS STOP
B2	PUTTY AT BRICK JOINT
B3	WOOD PAINTING STOP
G1	REPAIR STORM GLASS
G2	SCREWS ON GLASS
P1	PUTTY TO BE REPLACED
P11	REPAIR MOUNTING AT JAMB, SILL, AND
P12	DISCONTINUED MUNTIN
P13	SURFACE ROT
P14	REPAIR MOUNTING OF SILL
P15	REPAIR GLASS MOUNTING
P16	SURFACE REPAIRS

**GENERAL REPAIR NOTES**

- REMOVE AND REPLACE GLASS IN DAMAGED SPOTS. REMOVE AND REPAIR CRACKED GLASS.
- SCREWS AND PUTTY TO BE REPLACED AT WINDOW.

INTERIOR/EXTERIOR WINDOW ELEVATION E17

Title:  
EAST FACADE  
WINDOW ELEVATION

Scale: 3/4" = 1'-0"

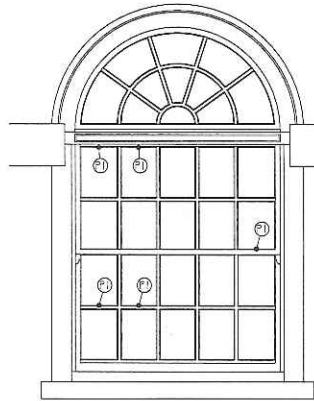
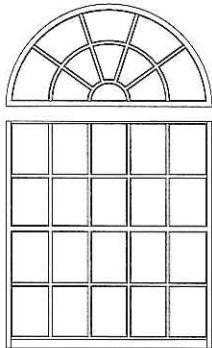
Date: 18 DEC. 2017

Drawn: CTC/JET

Checked: GMR/JJS

Project No: 1180

A2.2



NORTH ELEVATION  
EXTERIOR

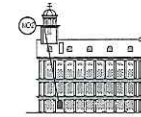
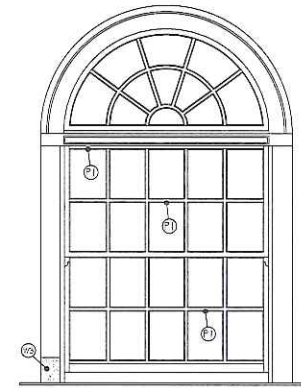
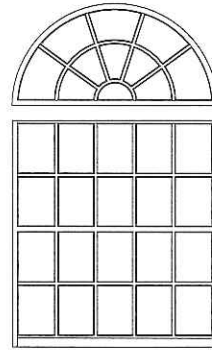
WINDOW REPAIR SCHEDULE	
S1	PUTTY AT SILL JOINT
S2	PUTTY AT BRICK MULLION
S3	REMOVE FINISHING SILL
G1	REPAIR BROKEN GLASS
G2	SCREWS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	REPAIR WEATHER AT JAMB, SILL, HOOD
W2	REPAIR CRACKS IN SILL
W3	SURFACE NOT
W4	REPAIR WEATHER AT JAMB
W5	REPAIR CRACKS IN SILL
W6	SURFACE WEATHERING
GENERAL REPAIR NOTES	
• REMOVE & REPLACE SILL IN WEATHERING, HOLD AND BRICK, SILL, HOOD	
• REMOVE AND REPAIR CRACKS IN SILL	
• REMOVE AND REPAIR CRACKS IN SILL	



INTERIOR

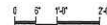
EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION N01



NORTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
S1	PUTTY AT SILL JOINT
S2	PUTTY AT BRICK MULLION
S3	REMOVE FINISHING SILL
G1	REPAIR BROKEN GLASS
G2	SCREWS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	REPAIR WEATHER AT JAMB, SILL, HOOD
W2	REPAIR CRACKS IN SILL
W3	SURFACE NOT
W4	REPAIR WEATHER AT JAMB
W5	REPAIR CRACKS IN SILL
W6	SURFACE WEATHERING
GENERAL REPAIR NOTES	
• REMOVE & REPLACE SILL IN WEATHERING, HOLD AND BRICK, SILL, HOOD	
• REMOVE AND REPAIR CRACKS IN SILL	
• REMOVE AND REPAIR CRACKS IN SILL	



INTERIOR

EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION N02

FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION

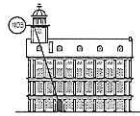
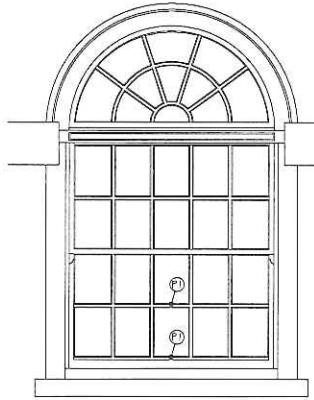
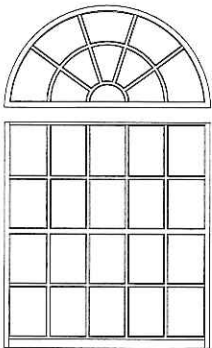


PFD PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
157 Audubon Road  
Building 2, Suite 200  
Boston, MA 02116  
617.552.8800  
cssarchitects.com



NORTH ELEVATION  
EXTERIOR

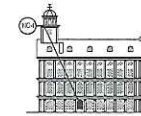
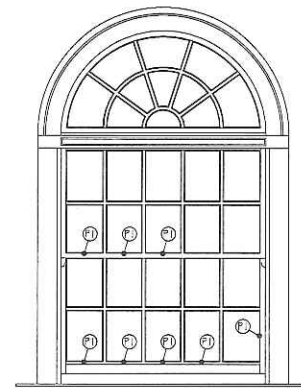
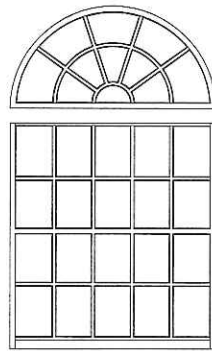
WINDOW REPAIR SCHEDULE	
S1	PUTTY AT SILL JOINT
S2	PUTTY AT BRICK MULLION
S3	REMOVE FINISHING SILL
G1	REPAIR BROKEN GLASS
G2	SCREWS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	REPAIR WEATHER AT JAMB, SILL, HOOD
W2	REPAIR CRACKS IN SILL
W3	SURFACE NOT
W4	REPAIR WEATHER AT JAMB
W5	REPAIR CRACKS IN SILL
W6	SURFACE WEATHERING
GENERAL REPAIR NOTES	
• REMOVE & REPLACE SILL IN WEATHERING, HOLD AND BRICK, SILL, HOOD	
• REMOVE AND REPAIR CRACKS IN SILL	
• REMOVE AND REPAIR CRACKS IN SILL	



INTERIOR

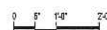
EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION N03



NORTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
S1	PUTTY AT SILL JOINT
S2	PUTTY AT BRICK MULLION
S3	REMOVE FINISHING SILL
G1	REPAIR BROKEN GLASS
G2	SCREWS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	REPAIR WEATHER AT JAMB, SILL, HOOD
W2	REPAIR CRACKS IN SILL
W3	SURFACE NOT
W4	REPAIR WEATHER AT JAMB
W5	REPAIR CRACKS IN SILL
W6	SURFACE WEATHERING
GENERAL REPAIR NOTES	
• REMOVE & REPLACE SILL IN WEATHERING, HOLD AND BRICK, SILL, HOOD	
• REMOVE AND REPAIR CRACKS IN SILL	
• REMOVE AND REPAIR CRACKS IN SILL	



INTERIOR

EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION N04

Title:  
NORTH FACADE  
WINDOW ELEVATION

Scale: 3/4" = 1'-0"

Date: 18 DEC. 2017

Drawn: CTC/JET

Checked: GMR/JJS

Project No: 1180

A3.1



FANEUIL HALL WINDOW, CORNICE AND DOOR RESTORATION



PFJ PROJ. #

Revisions

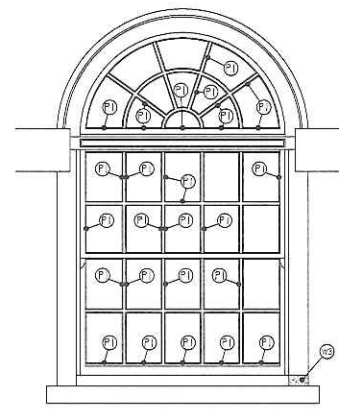
No.	Date	Description	By

CSS ARCHITECTS INC.  
 107 Audubon Road  
 Building 2, Suite 203  
 Weymouth, MA 01988  
 css@cssarchitects.com



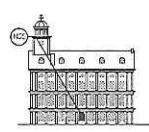
NORTH ELEVATION EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	FOR WINDOW STOP
B2	PURTY AT BRICK MOLD
B3	LOOSE METRIC BRICK
G1	REPAIR BRICK ON SILL
G2	SEPARATORS ON SILL
F1	PURTY TO BE REFINISHED
W1	NOT REFINISHMENT AT JAMB, SILL, HEAD
W2	REWORKED MULLIN
W3	SURFACE TYP
W4	BRICKS VISIBLE ON SILL
W5	BRICKS ON SILL TYP
W6	SURFACE WEATHERING
GENERAL REPAIR NOTES	
• BRICKS & SURFACE SOLARLY REWORKED BRICK AND BY COL. STONE REFINISHED	
• SOLVE AND WEATHER DETAIL OF BRICKS	



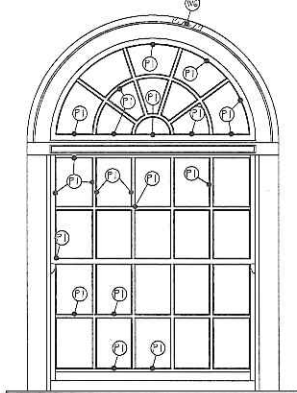
EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION N06



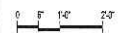
NORTH ELEVATION EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	FOR WINDOW STOP
B2	PURTY AT BRICK MOLD
B3	LOOSE METRIC BRICK
G1	REPAIR BRICK ON SILL
G2	SEPARATORS ON SILL
F1	PURTY TO BE REFINISHED
W1	NOT REFINISHMENT AT JAMB, SILL, HEAD
W2	REWORKED MULLIN
W3	SURFACE TYP
W4	BRICKS VISIBLE ON SILL
W5	BRICKS ON SILL TYP
W6	SURFACE WEATHERING
GENERAL REPAIR NOTES	
• BRICKS & SURFACE SOLARLY REWORKED BRICK AND BY COL. STONE REFINISHED	
• SOLVE AND WEATHER DETAIL OF BRICKS	



EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION N05



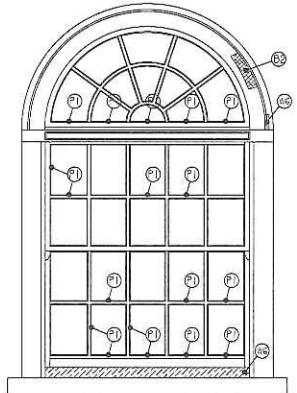
INTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION N05



NORTH ELEVATION EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	FOR WINDOW STOP
B2	PURTY AT BRICK MOLD
B3	LOOSE METRIC BRICK
G1	REPAIR BRICK ON SILL
G2	SEPARATORS ON SILL
F1	PURTY TO BE REFINISHED
W1	NOT REFINISHMENT AT JAMB, SILL, HEAD
W2	REWORKED MULLIN
W3	SURFACE TYP
W4	BRICKS VISIBLE ON SILL
W5	BRICKS ON SILL TYP
W6	SURFACE WEATHERING
GENERAL REPAIR NOTES	
• BRICKS & SURFACE SOLARLY REWORKED BRICK AND BY COL. STONE REFINISHED	
• SOLVE AND WEATHER DETAIL OF BRICKS	



EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION N07



INTERIOR

Title:  
 NORTH FACADE WINDOW ELEVATION

Scale: 3/4" = 1'-0"

Date: 18 DEC. 2017

Drawn: CTC/JET

Checked: GMR/JJS

Project No: 1180

A3.2

FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION



FPD PROJ. #

Revisions

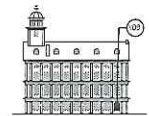
No.	Date	Description	By

CSS ARCHITECTS INC.  
 137 Auburn Road  
 Building 2, Suite 300  
 Waltham, MA 01980  
 oak@cssarchitects.com

Title:  
 NORTH FACADE  
 WINDOW ELEVATION

Scale: 3/4" 1'-0"  
 Date: 18 DEC. 2017  
 Drawn: CTC/JET  
 Checked: GMR/JJS  
 Project No: 1180

A3.3

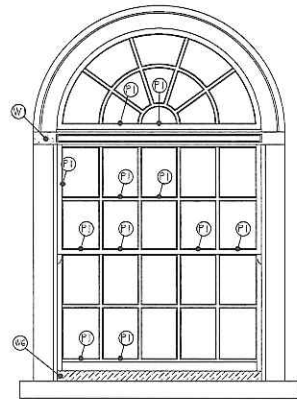


NORTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	ROT AT SILL STOP
B2	PUTTY AT SILL HOLD
B3	LOOSE PUTTING ASIDE
G1	REPAIR BRONZE GLASS
G2	CONDITION ON GLASS
P1	PUTTY TO BE REPLACED
W1	ROT REPAIRS AT ALL BRONZE SILL, HOLD
W2	REPAIRS ON SILL
W3	REPAIRS ON
W4	REPAIRS ON TOP OF SILL
W5	REPAIRS ON SILL
W6	REPAIRS ON SILL

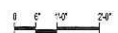
**GENERAL REPAIR NOTES**

- REMOVE ALL BRONZE SURFACE REPAIRS AND REPAIRS TO BE REPLACED WITH BRONZE
- SCAFFOLD MUST BE ON THE EXTERIOR OF WINDOW



EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION | N09

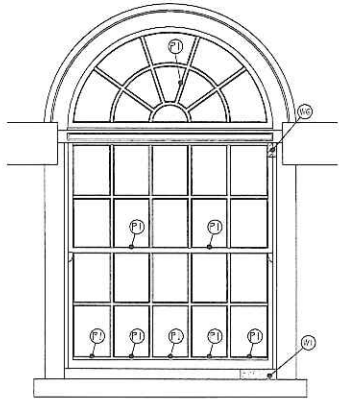


NORTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	ROT AT SILL STOP
B2	PUTTY AT SILL HOLD
B3	LOOSE PUTTING ASIDE
G1	REPAIR BRONZE GLASS
G2	CONDITION ON GLASS
P1	PUTTY TO BE REPLACED
W1	ROT REPAIRS AT ALL BRONZE SILL, HOLD
W2	REPAIRS ON SILL
W3	REPAIRS ON
W4	REPAIRS ON TOP OF SILL
W5	REPAIRS ON SILL
W6	REPAIRS ON SILL

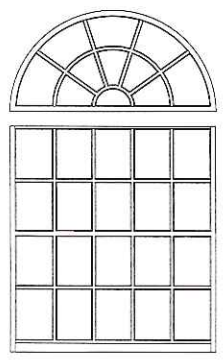
**GENERAL REPAIR NOTES**

- REMOVE ALL BRONZE SURFACE REPAIRS AND REPAIRS TO BE REPLACED WITH BRONZE
- SCAFFOLD MUST BE ON THE EXTERIOR OF WINDOW

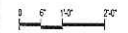


EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION | N08



INTERIOR





FANEUIL HALL  
WINDOW,  
CORNICHE AND  
DOOR  
RESTORATION

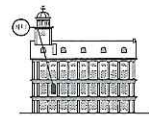


PFD PROJ. #

Revisions

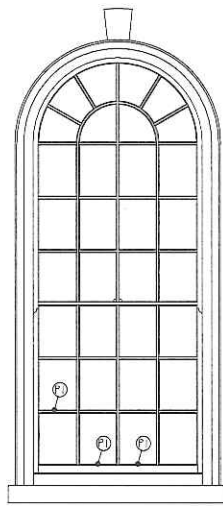
No.	Date	Description	By

CSS ARCHITECTS INC.  
107 Audubon Road  
Waltham, MA 02451  
Tel: 781.880.8800  
www.cssarchitects.com

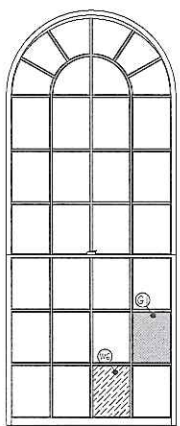


NORTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	EDGE OF WINDOW STOP
B2	FURTY AT WINDOW SILL
B3	LOOSE PUTTING STAG
G1	REPAIR SCHEIN GLASS
G2	SCORAINS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	FOR REPAIRS/REPLACE AT JAMB, SILL, HEAD
W2	EXTERIOR SIDE MULTUM
S1	SURFACE NOT
S2	REPAIR LAMINATE ON SASH
S3	REPAIR LAMINATE FRAME
S4	SURFACE REPAIRING
GENERAL REPAIR NOTES	
• REMOVE & REPLACE SASHES IN RESTORED PORTION HOLD AND SASHES TO BE REPAIRED	
• SCOVE AND PAINT ON THE EXTERIOR OF WINDOW	



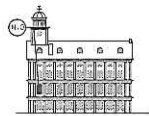
EXTERIOR



INTERIOR

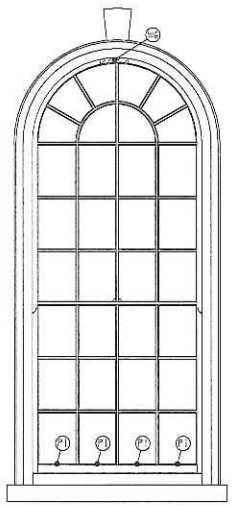


INTERIOR/EXTERIOR WINDOW ELEVATION N10

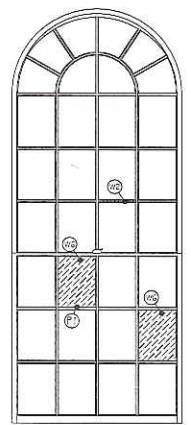


NORTH ELEVATION  
EXTERIOR

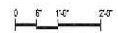
WINDOW REPAIR SCHEDULE	
B1	EDGE OF WINDOW STOP
B2	FURTY AT WINDOW SILL
B3	LOOSE PUTTING STAG
G1	REPAIR SCHEIN GLASS
G2	SCORAINS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	FOR REPAIRS/REPLACE AT JAMB, SILL, HEAD
W2	EXTERIOR SIDE MULTUM
S1	SURFACE NOT
S2	REPAIR LAMINATE ON SASH
S3	REPAIR LAMINATE FRAME
S4	SURFACE REPAIRING
GENERAL REPAIR NOTES	
• REMOVE & REPLACE SASHES IN RESTORED PORTION HOLD AND SASHES TO BE REPAIRED	
• SCOVE AND PAINT ON THE EXTERIOR OF WINDOW	



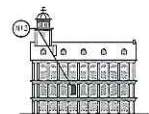
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INTERIOR

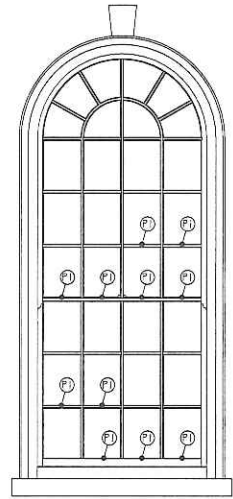


INTERIOR/EXTERIOR WINDOW ELEVATION N11

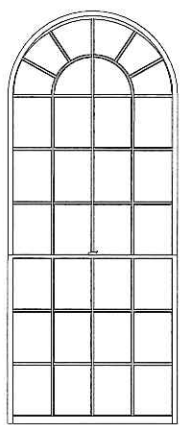


NORTH ELEVATION  
EXTERIOR

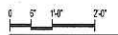
WINDOW REPAIR SCHEDULE	
B1	EDGE OF WINDOW STOP
B2	FURTY AT WINDOW SILL
B3	LOOSE PUTTING STAG
G1	REPAIR SCHEIN GLASS
G2	SCORAINS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	FOR REPAIRS/REPLACE AT JAMB, SILL, HEAD
W2	EXTERIOR SIDE MULTUM
S1	SURFACE NOT
S2	REPAIR LAMINATE ON SASH
S3	REPAIR LAMINATE FRAME
S4	SURFACE REPAIRING
GENERAL REPAIR NOTES	
• REMOVE & REPLACE SASHES IN RESTORED PORTION HOLD AND SASHES TO BE REPAIRED	
• SCOVE AND PAINT ON THE EXTERIOR OF WINDOW	



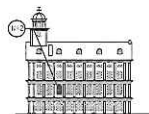
EXTERIOR



INTERIOR

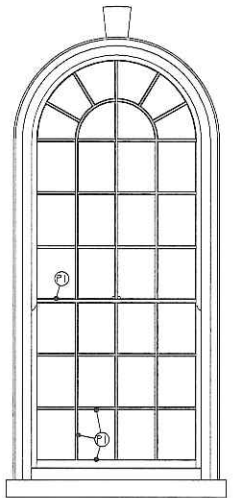


INTERIOR/EXTERIOR WINDOW ELEVATION N12

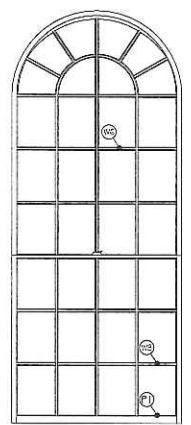


NORTH ELEVATION  
EXTERIOR

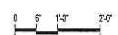
WINDOW REPAIR SCHEDULE	
B1	EDGE OF WINDOW STOP
B2	FURTY AT WINDOW SILL
B3	LOOSE PUTTING STAG
G1	REPAIR SCHEIN GLASS
G2	SCORAINS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	FOR REPAIRS/REPLACE AT JAMB, SILL, HEAD
W2	EXTERIOR SIDE MULTUM
S1	SURFACE NOT
S2	REPAIR LAMINATE ON SASH
S3	REPAIR LAMINATE FRAME
S4	SURFACE REPAIRING
GENERAL REPAIR NOTES	
• REMOVE & REPLACE SASHES IN RESTORED PORTION HOLD AND SASHES TO BE REPAIRED	
• SCOVE AND PAINT ON THE EXTERIOR OF WINDOW	



EXTERIOR



INTERIOR



INTERIOR/EXTERIOR WINDOW ELEVATION N13

Title:  
NORTH FACADE  
WINDOW ELEVATION

Scale: 3/4" = 1'-0"

Date: 18 DEC. 2017

Drawn: CTC/JET

Checked: GMR/JJUS

Project No: 1180

A3.4

FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION

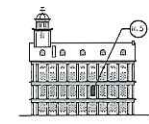


PFD PROJ. #

Revisions

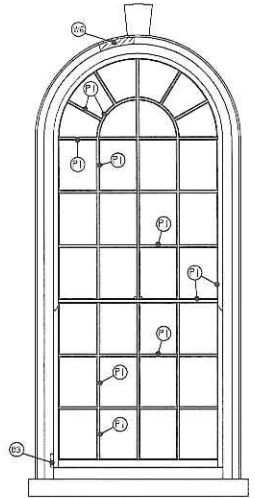
No.	Date	Description	By

CSS ARCHITECTS INC.  
107 Audubon Road  
Boston, MA 02116  
781.552.3300  
www.cssarchitects.com

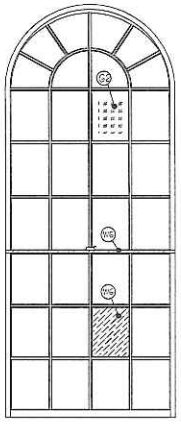


NORTH ELEVATION  
EXTERIOR

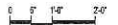
WINDOW REPAIR SCHEDULE	
B1	FIX H/REIN STOP
B2	PUTTY AT BRICK MOUND
B3	SCREW PATCHING BRICK
G1	REPAIR BRICK ON GLASS
G2	SCREWS ON GLASS
F1	PUTTY TO BE REPLACED
W1	FIX REPLACEMENT AT JAMB, SILL, HEAD
W2	DETENTION W/ SILL
W3	DETENTION W/ HEAD
W4	DETENTION W/ SIDE SASH
W5	DETENTION W/ TOP SASH
W6	DETENTION W/ PARTING
GENERAL REPAIR NOTES	
* REMOVE & REPLACE SILL/HEAD & DETENTION BRICKS, MOUND AND BRICK PATCHING PATCHES	
* SCREWS AND PATCHING TO BE DONE ON INTERIOR OF WINDOW	



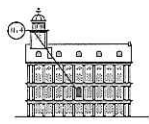
EXTERIOR



INTERIOR

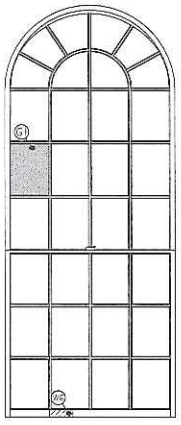


INTERIOR/EXTERIOR WINDOW ELEVATION N15

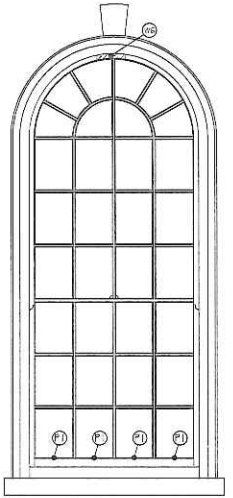


NORTH ELEVATION  
EXTERIOR

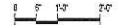
WINDOW REPAIR SCHEDULE	
B1	FIX H/REIN STOP
B2	PUTTY AT BRICK MOUND
B3	SCREW PATCHING BRICK
G1	REPAIR BRICK ON GLASS
G2	SCREWS ON GLASS
F1	PUTTY TO BE REPLACED
W1	FIX REPLACEMENT AT JAMB, SILL, HEAD
W2	DETENTION W/ SILL
W3	DETENTION W/ HEAD
W4	DETENTION W/ SIDE SASH
W5	DETENTION W/ TOP SASH
W6	DETENTION W/ PARTING
GENERAL REPAIR NOTES	
* REMOVE & REPLACE SILL/HEAD & DETENTION BRICKS, MOUND AND BRICK PATCHING PATCHES	
* SCREWS AND PATCHING TO BE DONE ON INTERIOR OF WINDOW	



INTERIOR



EXTERIOR

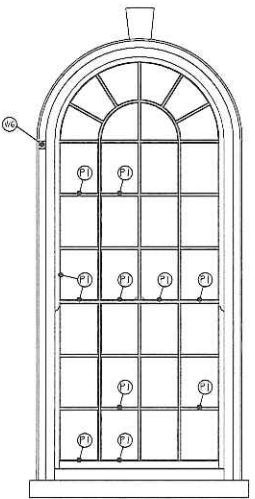


INTERIOR/EXTERIOR WINDOW ELEVATION N14

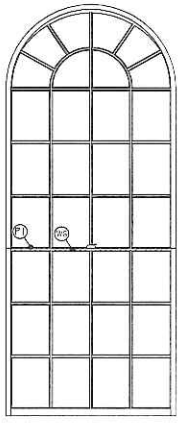


NORTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	FIX H/REIN STOP
B2	PUTTY AT BRICK MOUND
B3	SCREW PATCHING BRICK
G1	REPAIR BRICK ON GLASS
G2	SCREWS ON GLASS
F1	PUTTY TO BE REPLACED
W1	FIX REPLACEMENT AT JAMB, SILL, HEAD
W2	DETENTION W/ SILL
W3	DETENTION W/ HEAD
W4	DETENTION W/ SIDE SASH
W5	DETENTION W/ TOP SASH
W6	DETENTION W/ PARTING
GENERAL REPAIR NOTES	
* REMOVE & REPLACE SILL/HEAD & DETENTION BRICKS, MOUND AND BRICK PATCHING PATCHES	
* SCREWS AND PATCHING TO BE DONE ON INTERIOR OF WINDOW	



EXTERIOR



INTERIOR



INTERIOR/EXTERIOR WINDOW ELEVATION N16

Title:  
NORTH FACADE  
WINDOW ELEVATION

Scale: 3/4" 1'-0"  
Date: 18 DEC. 2017  
Drawn: CTC/JET  
Checked: GMR/JJS  
Project No: 1180

A3.5



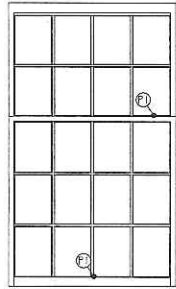




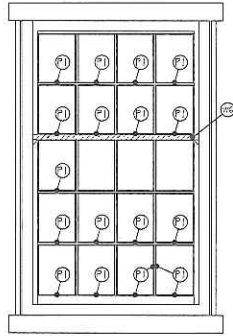




NORTH ELEVATION  
EXTERIOR



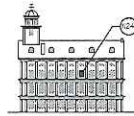
INTERIOR



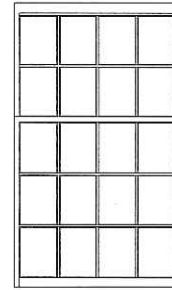
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	107 4" x 6" SILL SLOP
B2	PUTTY AT BRICK MOLD
B3	WOOD FINISHING SLOP
G1	REPAIR BROKEN GLASS
G2	SCRAMBLES ON GLASS
F1	PUTTY TO BE REFINISHED
W1	107 FURCULMENT AT JAMB, SILL, HEAD
W2	DEBRIDGED MOUTH
W3	SURFACE ROT
W4	BRICK MORTAR OR DISH
W5	PARAPET MOUTH FINISH
W6	REPAIR WEATHERING
GENERAL REPAIR NOTES	
<ul style="list-style-type: none"> <li>• REPAIRS TO BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS FOR THE PROJECT.</li> <li>• SCOPE AND PAINT TO BE DETERMINED BY THE OWNER.</li> </ul>	

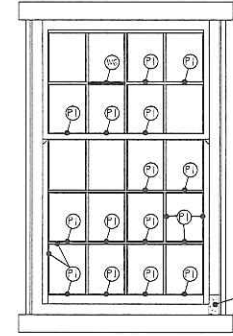
INTERIOR/EXTERIOR WINDOW ELEVATION N23



NORTH ELEVATION  
EXTERIOR



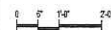
INTERIOR



EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	107 4" x 6" SILL SLOP
B2	PUTTY AT BRICK MOLD
B3	WOOD FINISHING SLOP
G1	REPAIR BROKEN GLASS
G2	SCRAMBLES ON GLASS
F1	PUTTY TO BE REFINISHED
W1	107 FURCULMENT AT JAMB, SILL, HEAD
W2	DEBRIDGED MOUTH
W3	SURFACE ROT
W4	BRICK MORTAR OR DISH
W5	PARAPET MOUTH FINISH
W6	REPAIR WEATHERING
GENERAL REPAIR NOTES	
<ul style="list-style-type: none"> <li>• REPAIRS TO BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS FOR THE PROJECT.</li> <li>• SCOPE AND PAINT TO BE DETERMINED BY THE OWNER.</li> </ul>	

INTERIOR/EXTERIOR WINDOW ELEVATION N24



FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION

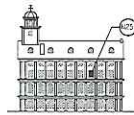


PFD PROJ. #

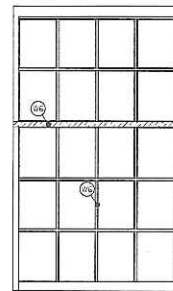
Revisions

No.	Date	Description	By

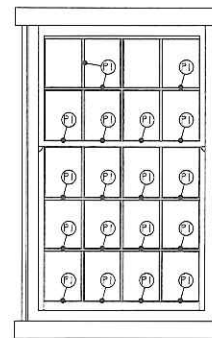
CSS ARCHITECTS INC.  
1157 AUGUSTINE ROAD  
BUILDING 2, SUITE 205  
DORCHESTER, MA 01919  
cssarchitects@boston.com



NORTH ELEVATION  
EXTERIOR



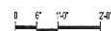
INTERIOR



EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	107 4" x 6" SILL SLOP
B2	PUTTY AT BRICK MOLD
B3	WOOD FINISHING SLOP
G1	REPAIR BROKEN GLASS
G2	SCRAMBLES ON GLASS
F1	PUTTY TO BE REFINISHED
W1	107 FURCULMENT AT JAMB, SILL, HEAD
W2	DEBRIDGED MOUTH
W3	SURFACE ROT
W4	BRICK MORTAR OR DISH
W5	PARAPET MOUTH FINISH
W6	REPAIR WEATHERING
GENERAL REPAIR NOTES	
<ul style="list-style-type: none"> <li>• REPAIRS TO BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS FOR THE PROJECT.</li> <li>• SCOPE AND PAINT TO BE DETERMINED BY THE OWNER.</li> </ul>	

INTERIOR/EXTERIOR WINDOW ELEVATION N25



Title:  
NORTH FACADE  
WINDOW ELEVATION

Scale: 3/4" 1'-0"

Date: 18 DEC. 2017

Drawn: CTC/JET

Checked: GMR/JJS

Project No: 1180

A3.8



FANEUIL HALL  
WINDOW,  
CORNICHE AND  
DOOR  
RESTORATION

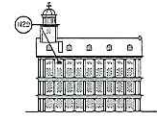


PFD PROJ. #

Revisions

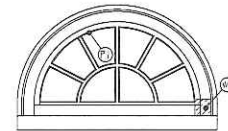
No.	Date	Description	By

CSS ARCHITECTS INC.  
1171 Audubon Road  
Building 2, Suite 300  
Waltham, MA 01980  
www.cssarch.com

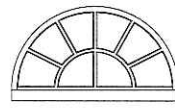


NORTH ELEVATION  
EXTERIOR

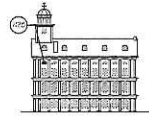
WINDOW REPAIR SCHEDULE	
B1	1/2" AT SILL STOP
B2	PUTTY AT BRICK MOUND
B3	LEADS PAINT @ SILL
G1	REPAIR BROKEN GLASS
G2	SCAMPERS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	1/2" REPAIR MORTAR AT JAMB, SILL, HEAD
W2	DISCONTINUED MORTAR
W3	SURFACE ROT
W4	REPAIR MORTAR ON SILL
W5	FABRICATE MORTAR PATCH
W6	SURFACE REPAIRING
GENERAL REPAIR NOTES	
* REMOVE & REPLACE SILL AND MORTAR PATCHES AS SHOWN AND REPAIR WITH POLYESTER CONCRETE	
* SCOPE AND PARTS LISTED OUTSIDE OF WINDOW	



INTERIOR/EXTERIOR WINDOW ELEVATION N29

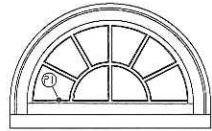


INTERIOR

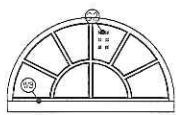


NORTH ELEVATION  
EXTERIOR

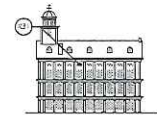
WINDOW REPAIR SCHEDULE	
B1	1/2" AT SILL STOP
B2	PUTTY AT BRICK MOUND
B3	LEADS PAINT @ SILL
G1	REPAIR BROKEN GLASS
G2	SCAMPERS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	1/2" REPAIR MORTAR AT JAMB, SILL, HEAD
W2	DISCONTINUED MORTAR
W3	SURFACE ROT
W4	REPAIR MORTAR ON SILL
W5	FABRICATE MORTAR PATCH
W6	SURFACE REPAIRING
GENERAL REPAIR NOTES	
* REMOVE & REPLACE SILL AND MORTAR PATCHES AS SHOWN AND REPAIR WITH POLYESTER CONCRETE	
* SCOPE AND PARTS LISTED OUTSIDE OF WINDOW	



INTERIOR/EXTERIOR WINDOW ELEVATION N28

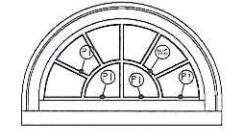


INTERIOR

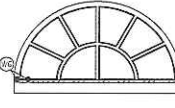


NORTH ELEVATION  
EXTERIOR

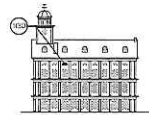
WINDOW REPAIR SCHEDULE	
B1	1/2" AT SILL STOP
B2	PUTTY AT BRICK MOUND
B3	LEADS PAINT @ SILL
G1	REPAIR BROKEN GLASS
G2	SCAMPERS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	1/2" REPAIR MORTAR AT JAMB, SILL, HEAD
W2	DISCONTINUED MORTAR
W3	SURFACE ROT
W4	REPAIR MORTAR ON SILL
W5	FABRICATE MORTAR PATCH
W6	SURFACE REPAIRING
GENERAL REPAIR NOTES	
* REMOVE & REPLACE SILL AND MORTAR PATCHES AS SHOWN AND REPAIR WITH POLYESTER CONCRETE	
* SCOPE AND PARTS LISTED OUTSIDE OF WINDOW	



INTERIOR/EXTERIOR WINDOW ELEVATION N31

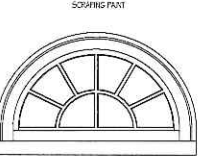


INTERIOR

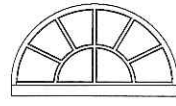


NORTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	1/2" AT SILL STOP
B2	PUTTY AT BRICK MOUND
B3	LEADS PAINT @ SILL
G1	REPAIR BROKEN GLASS
G2	SCAMPERS ON GLASS
F1	PUTTY TO BE REPAIRED
W1	1/2" REPAIR MORTAR AT JAMB, SILL, HEAD
W2	DISCONTINUED MORTAR
W3	SURFACE ROT
W4	REPAIR MORTAR ON SILL
W5	FABRICATE MORTAR PATCH
W6	SURFACE REPAIRING
GENERAL REPAIR NOTES	
* REMOVE & REPLACE SILL AND MORTAR PATCHES AS SHOWN AND REPAIR WITH POLYESTER CONCRETE	
* SCOPE AND PARTS LISTED OUTSIDE OF WINDOW	



INTERIOR/EXTERIOR WINDOW ELEVATION N30



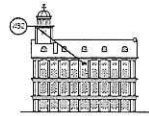
INTERIOR

Title:  
NORTH FACADE  
WINDOW ELEVATION

Scale: 3/4" = 1'-0"  
Date: 18 DEC. 2017  
Drawn: CTC/JET  
Checked: GMR/JJS  
Project No: 1180

A3.10





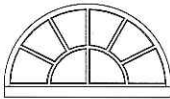
NORTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE

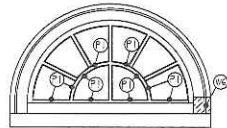
B1	PUTTY AT SILL/JOIST
B2	PUTTY AT SILL/JOIST
B3	ACCESS PANELING REPAIR
G1	REPAIR BROKEN GLASS
G2	REPAIR BROKEN GLASS
F1	PUTTY TO BE REPAIRED
W1	GET REPAIRS/REPAIR AT PANEL SILL HEAD
W2	REPAIR BROKEN MATHR
W3	SURFACE PAINT
W4	REPAIR WOODWORK OF SASH
W5	REPAIR WOODWORK OF SASH
W6	SURFACE PAINTING

GENERAL REPAIR NOTES

- CONSULT ARCHITECT FOR REPAIRS TO BE MADE TO THE WINDOW FRAME
- VERIFY AND MAKE CORRECTIONS TO THE WINDOW FRAME



INTERIOR



EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION N32



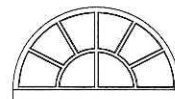
NORTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE

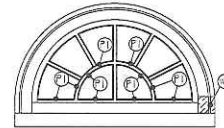
B1	PUTTY AT SILL/JOIST
B2	PUTTY AT SILL/JOIST
B3	ACCESS PANELING REPAIR
G1	REPAIR BROKEN GLASS
G2	REPAIR BROKEN GLASS
F1	PUTTY TO BE REPAIRED
W1	GET REPAIRS/REPAIR AT PANEL SILL HEAD
W2	REPAIR BROKEN MATHR
W3	SURFACE PAINT
W4	REPAIR WOODWORK OF SASH
W5	REPAIR WOODWORK OF SASH
W6	SURFACE PAINTING

GENERAL REPAIR NOTES

- CONSULT ARCHITECT FOR REPAIRS TO BE MADE TO THE WINDOW FRAME
- VERIFY AND MAKE CORRECTIONS TO THE WINDOW FRAME

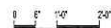


INTERIOR



EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION N33



FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION



PDF PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
107 AUGUSTUS ROAD  
BUILDING 2, SUITE 200  
WALTHAM, MA 01982  
www.cssarchitects.com



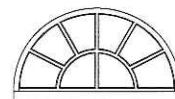
NORTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE

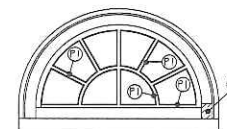
B1	PUTTY AT SILL/JOIST
B2	PUTTY AT SILL/JOIST
B3	ACCESS PANELING REPAIR
G1	REPAIR BROKEN GLASS
G2	REPAIR BROKEN GLASS
F1	PUTTY TO BE REPAIRED
W1	GET REPAIRS/REPAIR AT PANEL SILL HEAD
W2	REPAIR BROKEN MATHR
W3	SURFACE PAINT
W4	REPAIR WOODWORK OF SASH
W5	REPAIR WOODWORK OF SASH
W6	SURFACE PAINTING

GENERAL REPAIR NOTES

- CONSULT ARCHITECT FOR REPAIRS TO BE MADE TO THE WINDOW FRAME
- VERIFY AND MAKE CORRECTIONS TO THE WINDOW FRAME

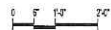


INTERIOR



EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION N34



Title:  
NORTH FACADE  
WINDOW ELEVATION

Scale: 3/4" 1'-0"

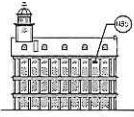
Date: 18 DEC. 2017

Drawn: CTC/JET

Checked: GMR/JJS

Project No: 1180

A3.11



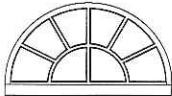
NORTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE

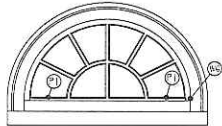
B1	REPAIR SAND STOP
B2	PUTTY AND BRICK MORTAR
B3	WOOD FINISHING PAINT
G1	REPAIR BROKEN GLASS
G2	SCRAMBLE OR GLASS
F1	PUTTY TO BE REPAIRED
W1	REPAIR AND REFINISH AT JAMB, SILL, HEAD
W2	DETERRATED W/STAIN
W3	SURFACE ROT
W4	BRICKS AND MORTAR SUB
W5	FINISH CO. MATERIALS
W6	SURFACE FINISHING

GENERAL REPAIR NOTES

- REMOVE AND REPLACE SAND IN THE HEAD OF WINDOW AND STOP EXTERIOR FINISHES
- SCRAPE AND PAINT IN THE STOP OF WINDOW

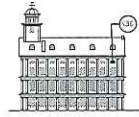
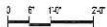


INTERIOR



EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION [N35]



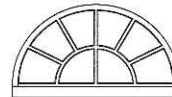
NORTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE

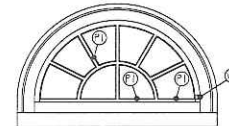
B1	REPAIR SAND STOP
B2	PUTTY AND BRICK MORTAR
B3	WOOD FINISHING PAINT
G1	REPAIR BROKEN GLASS
G2	SCRAMBLE OR GLASS
F1	PUTTY TO BE REPAIRED
W1	REPAIR AND REFINISH AT JAMB, SILL, HEAD
W2	DETERRATED W/STAIN
W3	SURFACE ROT
W4	BRICKS AND MORTAR SUB
W5	FINISH CO. MATERIALS
W6	SURFACE FINISHING

GENERAL REPAIR NOTES

- REMOVE AND REPLACE SAND IN THE HEAD OF WINDOW AND STOP EXTERIOR FINISHES
- SCRAPE AND PAINT IN THE STOP OF WINDOW



INTERIOR



EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION [N36]



FANEUIL HALL  
WINDOW,  
CORNICHE AND  
DOOR  
RESTORATION

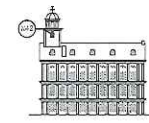


PPD PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
167 Archibon Road  
Building 2, Suite 205  
Weymouth, MA 01980  
css@cssarchitects.com



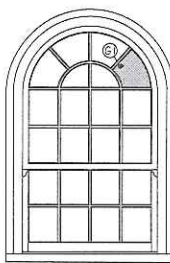
NORTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE

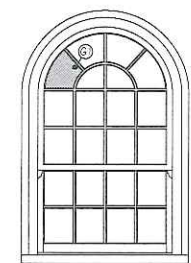
B1	REPAIR SAND STOP
B2	PUTTY AND BRICK MORTAR
B3	WOOD FINISHING PAINT
G1	REPAIR BROKEN GLASS
G2	SCRAMBLE OR GLASS
F1	PUTTY TO BE REPAIRED
W1	REPAIR AND REFINISH AT JAMB, SILL, HEAD
W2	DETERRATED W/STAIN
W3	SURFACE ROT
W4	BRICKS AND MORTAR SUB
W5	FINISH CO. MATERIALS
W6	SURFACE FINISHING

GENERAL REPAIR NOTES

- REMOVE AND REPLACE SAND IN THE HEAD OF WINDOW AND STOP EXTERIOR FINISHES
- SCRAPE AND PAINT IN THE STOP OF WINDOW

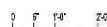


INTERIOR



EXTERIOR

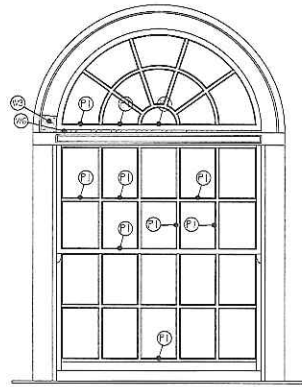
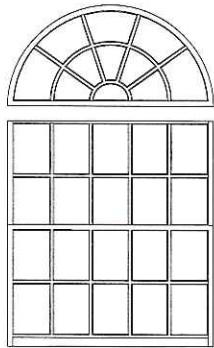
INTERIOR/EXTERIOR WINDOW ELEVATION [N42]



Title:  
NORTH FACADE  
WINDOW ELEVATION

Scale: 3/4" 1'-0"  
Date: 18 DEC. 2017  
Drawn: CTC/JET  
Checked: GMR/JJS  
Project No: 1180

A3.12



**WINDOW REPAIR SCHEDULE**

B1	ROT AT SILL JOIST
B2	PUTTY AT SILL JOIST
B3	LOOSE FINISHING EDGE
D1	REPAIR CRACKS GLASS
D2	REPAIR CRACKS ON GLASS
F1	PUTTY TO BE REPLACED
W1	ROT REPAIRMENT AT JAMB, SILL, HEAD
W2	DETACHED OR HEALTHY
W3	SURFACE ROT
W4	SPIDER WEBBING OR SASH
W5	REPAIR CRACKS MULTIPLE
W6	SURFACE WEATHERING

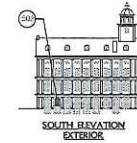
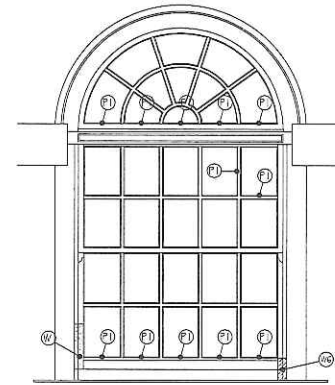
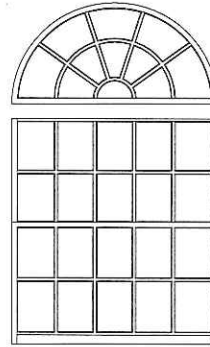
**GENERAL REPAIR NOTES**

- REMOVE & REPLACE SILL JOIST IN SECTION BEG. LEAD AND BACK-STOP TO TOP OF SILL
- SQUARE AND FINISH ENTIRE EXTERIOR OF WINDOW

0 6" 1'0" 2'0" INTERIOR

EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S01



**WINDOW REPAIR SCHEDULE**

B1	ROT AT SILL JOIST
B2	PUTTY AT SILL JOIST
B3	LOOSE FINISHING EDGE
D1	REPAIR CRACKS GLASS
D2	REPAIR CRACKS ON GLASS
F1	PUTTY TO BE REPLACED
W1	ROT REPAIRMENT AT JAMB, SILL, HEAD
W2	DETACHED OR HEALTHY
W3	SURFACE ROT
W4	SPIDER WEBBING OR SASH
W5	REPAIR CRACKS MULTIPLE
W6	SURFACE WEATHERING

**GENERAL REPAIR NOTES**

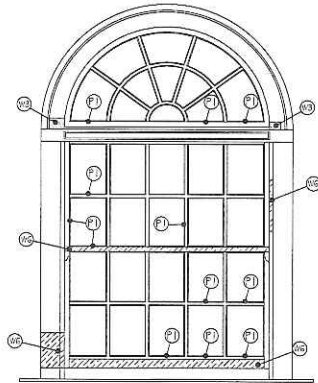
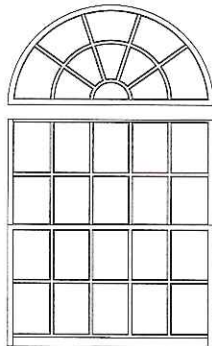
- REMOVE & REPLACE SILL JOIST IN SECTION BEG. LEAD AND BACK-STOP TO TOP OF SILL
- SQUARE AND FINISH ENTIRE EXTERIOR OF WINDOW

0 6" 1'0" 2'0" INTERIOR

EXTERIOR

EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S02



**WINDOW REPAIR SCHEDULE**

B1	ROT AT SILL JOIST
B2	PUTTY AT SILL JOIST
B3	LOOSE FINISHING EDGE
D1	REPAIR CRACKS GLASS
D2	REPAIR CRACKS ON GLASS
F1	PUTTY TO BE REPLACED
W1	ROT REPAIRMENT AT JAMB, SILL, HEAD
W2	DETACHED OR HEALTHY
W3	SURFACE ROT
W4	SPIDER WEBBING OR SASH
W5	REPAIR CRACKS MULTIPLE
W6	SURFACE WEATHERING

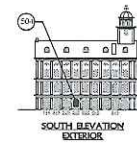
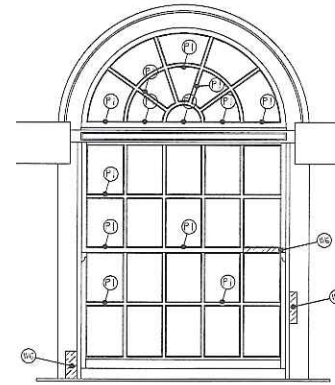
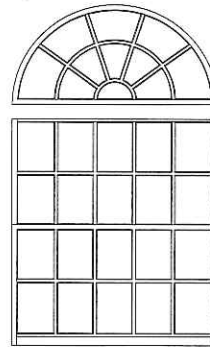
**GENERAL REPAIR NOTES**

- REMOVE & REPLACE SILL JOIST IN SECTION BEG. LEAD AND BACK-STOP TO TOP OF SILL
- SQUARE AND FINISH ENTIRE EXTERIOR OF WINDOW

0 6" 1'0" 2'0" INTERIOR

EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S03



**WINDOW REPAIR SCHEDULE**

B1	ROT AT SILL JOIST
B2	PUTTY AT SILL JOIST
B3	LOOSE FINISHING EDGE
D1	REPAIR CRACKS GLASS
D2	REPAIR CRACKS ON GLASS
F1	PUTTY TO BE REPLACED
W1	ROT REPAIRMENT AT JAMB, SILL, HEAD
W2	DETACHED OR HEALTHY
W3	SURFACE ROT
W4	SPIDER WEBBING OR SASH
W5	REPAIR CRACKS MULTIPLE
W6	SURFACE WEATHERING

**GENERAL REPAIR NOTES**

- REMOVE & REPLACE SILL JOIST IN SECTION BEG. LEAD AND BACK-STOP TO TOP OF SILL
- SQUARE AND FINISH ENTIRE EXTERIOR OF WINDOW

0 6" 1'0" 2'0" INTERIOR

EXTERIOR

EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S04

FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION



PRD PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
157 Audubon Wood  
Building 2, Suite 300  
Waltham, MA 02450  
www.cssarchitects.com

Title:  
SOUTH FACADE  
WINDOW ELEVATION

Scale: 3/4" 1'-0"

Date: 16 DEC. 2017

Drawn: CTC/JET

Checked: GMR/JJS

Project No: 1180

A4.1



FANEUIL HALL WINDOW, CORNICE AND DOOR RESTORATION



PRD PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
 137 Archon Place  
 Building 2, Suite 208  
 Weymouth, MA 01980  
 info@cssarchitect.com

SOUTH ELEVATION EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	NOT AT THIS SITE
B2	PUTTY AT BRICK MOLD
B3	LOGGE PARTING SASH
G1	REPAIR WINDOW GLASS
G2	SCANDLES ON GLASS
F1	PUTTY TO BE REFINISHED
W1	NOT REFINISHED AT THIS SITE, HEAD
W2	REFINISHED MANTLE
W3	SPRINKLE JOINT
W4	REPAIR BRICKS ON SASH
W5	REPAIR CORNER TIE ROD
W6	REPAIR SCRAPERS

**GENERAL REPAIR NOTES**

- REMOVE & REFACE CORNER & RE-INSTALL BRICK, LEAD AND SILL, SASH, TIE RODS
- SQUARE AND TRUE CORNER OF BRICK

0 6' 1'0" 2'4" INTERIOR

EXTERIOR  
INTERIOR/EXTERIOR WINDOW ELEVATION S05

SOUTH ELEVATION EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	NOT AT THIS SITE
B2	PUTTY AT BRICK MOLD
B3	LOGGE PARTING SASH
G1	REPAIR WINDOW GLASS
G2	SCANDLES ON GLASS
F1	PUTTY TO BE REFINISHED
W1	NOT REFINISHED AT THIS SITE, HEAD
W2	REFINISHED MANTLE
W3	SPRINKLE JOINT
W4	REPAIR BRICKS ON SASH
W5	REPAIR CORNER TIE ROD
W6	REPAIR SCRAPERS

**GENERAL REPAIR NOTES**

- REMOVE & REFACE CORNER & RE-INSTALL BRICK, LEAD AND SILL, SASH, TIE RODS
- SQUARE AND TRUE CORNER OF BRICK

0 6' 1'0" 2'4" INTERIOR

EXTERIOR  
INTERIOR/EXTERIOR WINDOW ELEVATION S06

SOUTH ELEVATION EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	NOT AT THIS SITE
B2	PUTTY AT BRICK MOLD
B3	LOGGE PARTING SASH
G1	REPAIR WINDOW GLASS
G2	SCANDLES ON GLASS
F1	PUTTY TO BE REFINISHED
W1	NOT REFINISHED AT THIS SITE, HEAD
W2	REFINISHED MANTLE
W3	SPRINKLE JOINT
W4	REPAIR BRICKS ON SASH
W5	REPAIR CORNER TIE ROD
W6	REPAIR SCRAPERS

**GENERAL REPAIR NOTES**

- REMOVE & REFACE CORNER & RE-INSTALL BRICK, LEAD AND SILL, SASH, TIE RODS
- SQUARE AND TRUE CORNER OF BRICK

0 6' 1'0" 2'4" INTERIOR

EXTERIOR  
INTERIOR/EXTERIOR WINDOW ELEVATION S08

SOUTH ELEVATION EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	NOT AT THIS SITE
B2	PUTTY AT BRICK MOLD
B3	LOGGE PARTING SASH
G1	REPAIR WINDOW GLASS
G2	SCANDLES ON GLASS
F1	PUTTY TO BE REFINISHED
W1	NOT REFINISHED AT THIS SITE, HEAD
W2	REFINISHED MANTLE
W3	SPRINKLE JOINT
W4	REPAIR BRICKS ON SASH
W5	REPAIR CORNER TIE ROD
W6	REPAIR SCRAPERS

**GENERAL REPAIR NOTES**

- REMOVE & REFACE CORNER & RE-INSTALL BRICK, LEAD AND SILL, SASH, TIE RODS
- SQUARE AND TRUE CORNER OF BRICK

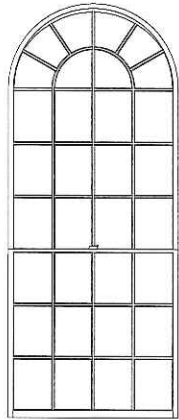
0 6' 1'0" 2'4" INTERIOR

EXTERIOR  
INTERIOR/EXTERIOR WINDOW ELEVATION S09

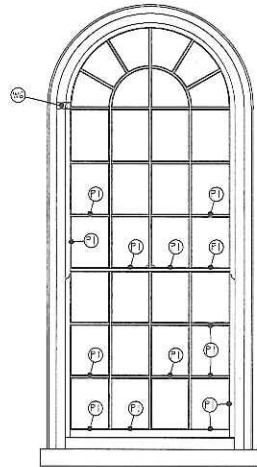
Title:  
SOUTH FACADE  
WINDOW ELEVATION

Scale: 3/4" 1'-0"  
 Date: 18 DEC. 2017  
 Drawn: CTC/JET  
 Checked: GMR/JJS  
 Project No: 1180

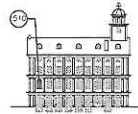
A4.2



INTERIOR



EXTERIOR



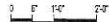
SOUTH ELEVATION  
EXTERIOR

**WINDOW REPAIR SCHEDULE**

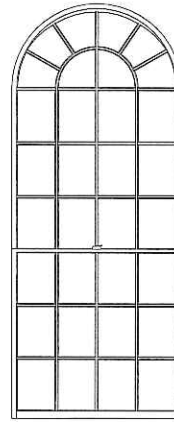
B1	NOT AT THIS STOP
B2	PUTTY AT SIDING JOINTS
B3	LOCAL FINISHING STOP
G1	REPAIR STRENGTH GLASS
G2	SCAFFOLDING ON GLASS
F1	PUTTY TO BE REPLACED
W1	NOT REPAIRABLE AT THIS STOP, HOLD
W2	DETERMINER HEALTHY
W3	SURFACE ROT
W4	BECKY WOODS ON SASH
W5	PARGLIC WIPING STAIN
W6	SURFACE WEARINGS

**GENERAL REPAIR NOTES**

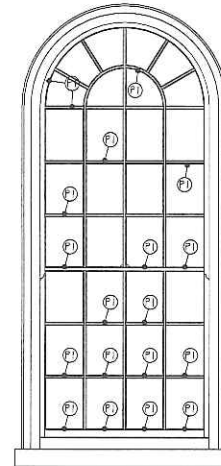
- REMOVE & REPLACE GLASS IN DAMAGED PANELS WITH IDENTICAL GLASS PER SPEC.
- SCOFF AND FINISH TO MATCH SURFACE OF WINDOW



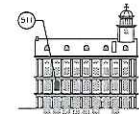
INTERIOR/EXTERIOR WINDOW ELEVATION S10



INTERIOR



EXTERIOR



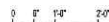
SOUTH ELEVATION  
EXTERIOR

**WINDOW REPAIR SCHEDULE**

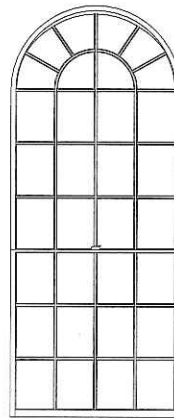
B1	NOT AT THIS STOP
B2	PUTTY AT SIDING JOINTS
B3	LOCAL FINISHING STOP
G1	REPAIR STRENGTH GLASS
G2	SCAFFOLDING ON GLASS
F1	PUTTY TO BE REPLACED
W1	NOT REPAIRABLE AT THIS STOP, HOLD
W2	DETERMINER HEALTHY
W3	SURFACE ROT
W4	BECKY WOODS ON SASH
W5	PARGLIC WIPING STAIN
W6	SURFACE WEARINGS

**GENERAL REPAIR NOTES**

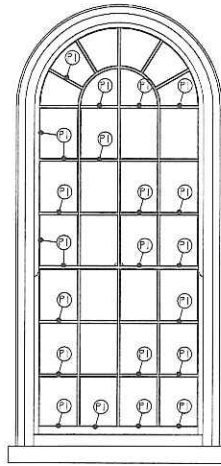
- REMOVE & REPLACE GLASS IN DAMAGED PANELS WITH IDENTICAL GLASS PER SPEC.
- SCOFF AND FINISH TO MATCH SURFACE OF WINDOW



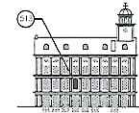
INTERIOR/EXTERIOR WINDOW ELEVATION S11



INTERIOR



EXTERIOR



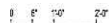
SOUTH ELEVATION  
EXTERIOR

**WINDOW REPAIR SCHEDULE**

B1	NOT AT THIS STOP
B2	PUTTY AT SIDING JOINTS
B3	LOCAL FINISHING STOP
G1	REPAIR STRENGTH GLASS
G2	SCAFFOLDING ON GLASS
F1	PUTTY TO BE REPLACED
W1	NOT REPAIRABLE AT THIS STOP, HOLD
W2	DETERMINER HEALTHY
W3	SURFACE ROT
W4	BECKY WOODS ON SASH
W5	PARGLIC WIPING STAIN
W6	SURFACE WEARINGS

**GENERAL REPAIR NOTES**

- REMOVE & REPLACE GLASS IN DAMAGED PANELS WITH IDENTICAL GLASS PER SPEC.
- SCOFF AND FINISH TO MATCH SURFACE OF WINDOW



INTERIOR/EXTERIOR WINDOW ELEVATION S12

FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION



PFD PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
107 Acad Street, Room 200  
Boston, MA 02116  
cssarchitects.com

Title:  
SOUTH FACADE  
WINDOW ELEVATION

Scale: 3/4" 1'-0"  
Date: 18 DEC. 2017  
Drawn: CTC/JET

Checked: GMR/JJS  
Project No: 1180

A4.3



FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION

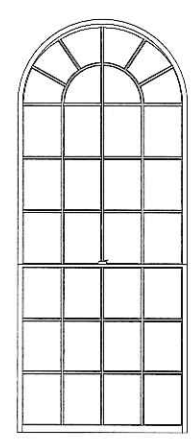


PFD PROJ. #

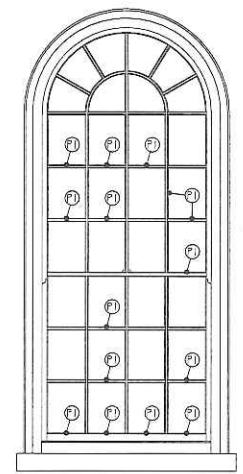
Revisions

No.	Date	Description	By

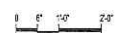
CSS ARCHITECTS INC.  
137 Massachusetts Avenue  
Boston, MA 02114  
Tel: 617.552.1100  
www.cssarchitects.com



INTERIOR



EXTERIOR



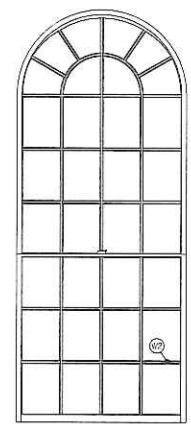
INTERIOR/EXTERIOR WINDOW ELEVATION S15

WINDOW REPAIR SCHEDULE	
S1	REPAIR TO STOP
S2	PUTTY AND GROUT
S3	WOOD FINISH SASH
G1	REPAIR SASH GLASS
G2	REPAIR OR REPLACE
P1	PUTTY TO REPAIR
W1	REPAIR WINDOW W/ ORIGINAL SASH
W2	REPAIR WINDOW W/ NEW SASH
W3	SURFACE PREP
W4	REPAIR WINDOW ON SASH
W5	REPAIR WINDOW ON FRAME
W6	SURFACE REPAIR
GENERAL REPAIR NOTES	
• REMOVE ALL SURFACE COATINGS IN REPAIR AREAS	
• USE APPROPRIATE WOOD PRESERVATIVE	
• SOURCE AND PAINT ORIGINAL WINDOW COLOUR	

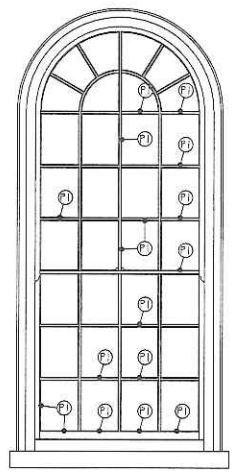


Title:  
SOUTH FACADE  
WINDOW ELEVATION

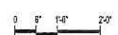
Scale: 3/4" 1'-0"  
Date: 18 DEC. 2017  
Drawn: CTC/JET  
Checked: GMR/JJS  
Project No: 1180



INTERIOR



EXTERIOR

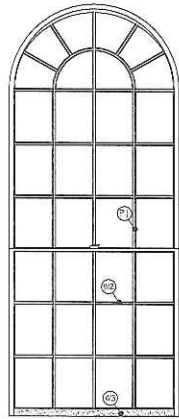


INTERIOR/EXTERIOR WINDOW ELEVATION S16

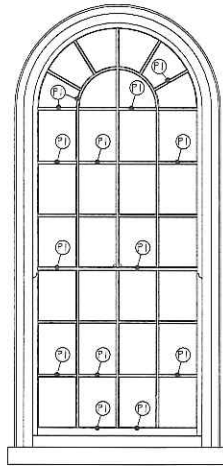
WINDOW REPAIR SCHEDULE	
S1	REPAIR TO STOP
S2	PUTTY AND GROUT
S3	WOOD FINISH SASH
G1	REPAIR SASH GLASS
G2	REPAIR OR REPLACE
P1	PUTTY TO REPAIR
W1	REPAIR WINDOW W/ ORIGINAL SASH
W2	REPAIR WINDOW W/ NEW SASH
W3	SURFACE PREP
W4	REPAIR WINDOW ON SASH
W5	REPAIR WINDOW ON FRAME
W6	SURFACE REPAIR
GENERAL REPAIR NOTES	
• REMOVE ALL SURFACE COATINGS IN REPAIR AREAS	
• USE APPROPRIATE WOOD PRESERVATIVE	
• SOURCE AND PAINT ORIGINAL WINDOW COLOUR	

A4.4





INTERIOR



EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S17

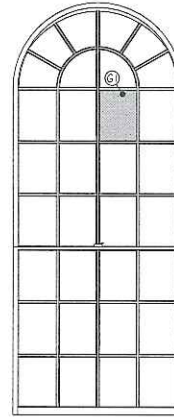


WINDOW REPAIR SCHEDULE

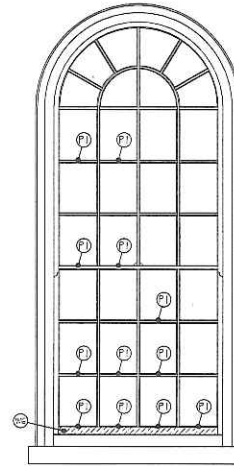
B1	REPAIR GLASS
B2	PUTTY AT SILL MOLD
B3	GLASS FINISHES
G1	REPAIR BROCK GLASS
G2	SCAFFOLD ON GLASS
P1	PUTTY TO BE REPAIRED
W1	REPAIR CRACKS AT SILL, SILL HEAD
W2	CRACKS ON SILL
W3	SLURRY PATCH
W4	REPAIR MORTAR CRACKS
W5	REPAIR MORTAR JOINT
W6	REPAIR MORTAR

GENERAL REPAIR NOTES

- REPAIR CRACKS WITH EPOXY RESIN AND FIBER REINFORCED POLYESTER
- SOME REPAIRS TO BE DONE OUT OF SEASON



INTERIOR



EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S18

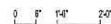


WINDOW REPAIR SCHEDULE

B1	REPAIR GLASS
B2	PUTTY AT SILL MOLD
B3	GLASS FINISHES
G1	REPAIR BROCK GLASS
G2	SCAFFOLD ON GLASS
P1	PUTTY TO BE REPAIRED
W1	REPAIR CRACKS AT SILL, SILL HEAD
W2	CRACKS ON SILL
W3	SLURRY PATCH
W4	REPAIR MORTAR CRACKS
W5	REPAIR MORTAR JOINT
W6	REPAIR MORTAR

GENERAL REPAIR NOTES

- REPAIR CRACKS WITH EPOXY RESIN AND FIBER REINFORCED POLYESTER
- SOME REPAIRS TO BE DONE OUT OF SEASON



FANEUIL HALL  
WINDOW,  
CORNICHE AND  
DOOR  
RESTORATION



PPD PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
107 Audubon Road  
Building 2, Suite 200  
Waltham, MA 01981  
617-251-8888

Title:  
SOUTH FACADE  
WINDOW ELEVATION

Scale: 3/4" 1'-0"  
Date: 18 DEC. 2017  
Drawn: CTC/JET  
Checked: GMR/JJS  
Project No: 1180

A4.5

FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION

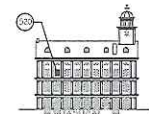


PFD PROJ. #

Revisions

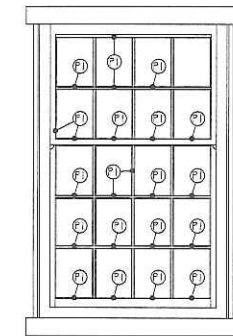
No.	Date	Description	By

CSS ARCHITECTS INC.  
107 AUDEBORN ROAD  
BUILDING 2, SUITE 300  
WALTHAM, MA 01982  
617-251-0000

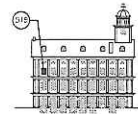
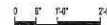


SOUTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	ROT AT JELD STOP
B2	PURTY AT WINDOW HEAD
B3	LOOKING PANE GLASS
G1	REPAIR WINDOW GLASS
G2	SCAMPONS ON GLASS
F1	PURTY TO BE REPAIRED
W1	ROT REPAIRMENT AT JAMB, SILL, HEAD
W2	EXTENDED WITH
W3	SURFACE ROT
W4	SCRUB WOODS OR SASH
W5	PARCOLE WOODS/TREK
W6	SURFACE REPAIRS
GENERAL REPAIR NOTES	
• REPAIRS TO SURFACE GLASS TO BE DONE FROM INSIDE OF WINDOW	
• SCAMP AND PAINT DONE EXTERIOR OF WINDOW	

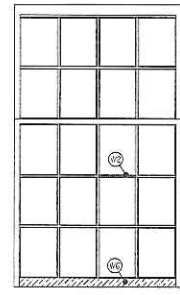
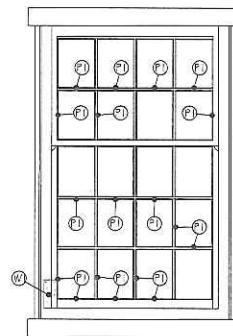


INTERIOR  
EXTERIOR  
INTERIOR/EXTERIOR WINDOW ELEVATION S20

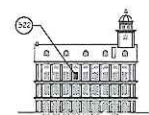


SOUTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	ROT AT JELD STOP
B2	PURTY AT WINDOW HEAD
B3	LOOKING PANE GLASS
G1	REPAIR WINDOW GLASS
G2	SCAMPONS ON GLASS
F1	PURTY TO BE REPAIRED
W1	ROT REPAIRMENT AT JAMB, SILL, HEAD
W2	EXTENDED WITH
W3	SURFACE ROT
W4	SCRUB WOODS OR SASH
W5	PARCOLE WOODS/TREK
W6	SURFACE REPAIRS
GENERAL REPAIR NOTES	
• REPAIRS TO SURFACE GLASS TO BE DONE FROM INSIDE OF WINDOW	
• SCAMP AND PAINT DONE EXTERIOR OF WINDOW	

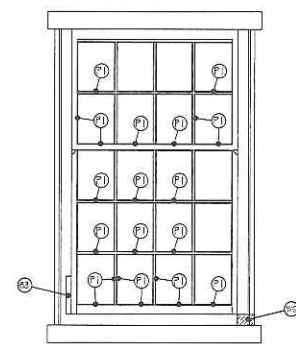


INTERIOR  
EXTERIOR  
INTERIOR/EXTERIOR WINDOW ELEVATION S19

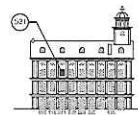


SOUTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	ROT AT JELD STOP
B2	PURTY AT WINDOW HEAD
B3	LOOKING PANE GLASS
G1	REPAIR WINDOW GLASS
G2	SCAMPONS ON GLASS
F1	PURTY TO BE REPAIRED
W1	ROT REPAIRMENT AT JAMB, SILL, HEAD
W2	EXTENDED WITH
W3	SURFACE ROT
W4	SCRUB WOODS OR SASH
W5	PARCOLE WOODS/TREK
W6	SURFACE REPAIRS
GENERAL REPAIR NOTES	
• REPAIRS TO SURFACE GLASS TO BE DONE FROM INSIDE OF WINDOW	
• SCAMP AND PAINT DONE EXTERIOR OF WINDOW	

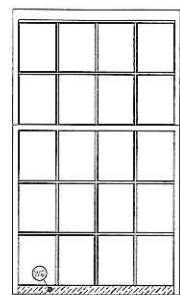
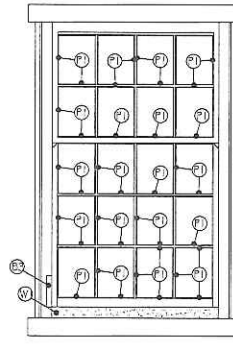


INTERIOR  
EXTERIOR  
INTERIOR/EXTERIOR WINDOW ELEVATION S22



SOUTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	ROT AT JELD STOP
B2	PURTY AT WINDOW HEAD
B3	LOOKING PANE GLASS
G1	REPAIR WINDOW GLASS
G2	SCAMPONS ON GLASS
F1	PURTY TO BE REPAIRED
W1	ROT REPAIRMENT AT JAMB, SILL, HEAD
W2	EXTENDED WITH
W3	SURFACE ROT
W4	SCRUB WOODS OR SASH
W5	PARCOLE WOODS/TREK
W6	SURFACE REPAIRS
GENERAL REPAIR NOTES	
• REPAIRS TO SURFACE GLASS TO BE DONE FROM INSIDE OF WINDOW	
• SCAMP AND PAINT DONE EXTERIOR OF WINDOW	



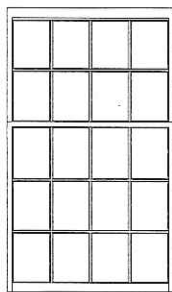
INTERIOR  
EXTERIOR  
INTERIOR/EXTERIOR WINDOW ELEVATION S21



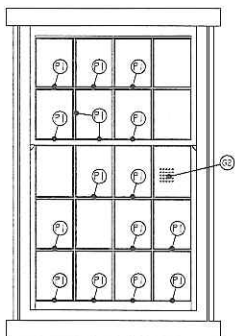
Title:  
SOUTH FACADE  
WINDOW ELEVATION

Scale: 3/4" 1'-0"  
Date: 18 DEC, 2017  
Drawn: CTC/JET  
Checked: GMR/JJS  
Project No: 1180

A4.6



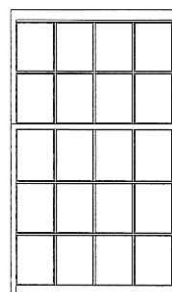
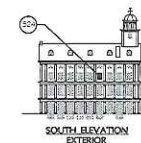
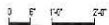
INTERIOR



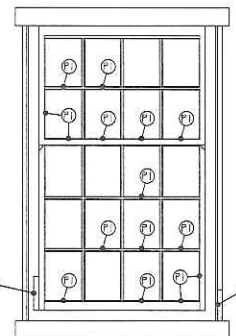
EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S23

WINDOW REPAIR SCHEDULE	
B1	GLASS BEHIND STOP
B2	PURTY BEHIND WINDOW
B3	WOOD PARTING BEAD
G1	REPAIR BROKEN GLASS
G2	SCAMPLED OR CRACK
F1	PURTY TO BE REFINISHED
W1	SOFT FINISHMENT AT JAMB, SILL, HEAD
W2	UNFINISHED PARTS
W3	DISHRAZE PAINT
W4	DISCREPANCY OF DESIGN
W5	INAPPROPRIATE MATERIAL
W6	SURFACE WEAR/TEAR
GENERAL REPAIR NOTES	
<ul style="list-style-type: none"> <li>• REPAIRS TO BE ACCORDING TO BOSTONIA CORNER, 1000, AND 1001, BOSTON, MASS.</li> <li>• SCAMP AND PARTS TO BE EXTERIOR OF WINDOW</li> </ul>	



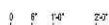
INTERIOR



EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S24

WINDOW REPAIR SCHEDULE	
B1	GLASS BEHIND STOP
B2	PURTY BEHIND WINDOW
B3	WOOD PARTING BEAD
G1	REPAIR BROKEN GLASS
G2	SCAMPLED OR CRACK
F1	PURTY TO BE REFINISHED
W1	SOFT FINISHMENT AT JAMB, SILL, HEAD
W2	UNFINISHED PARTS
W3	DISHRAZE PAINT
W4	DISCREPANCY OF DESIGN
W5	INAPPROPRIATE MATERIAL
W6	SURFACE WEAR/TEAR
GENERAL REPAIR NOTES	
<ul style="list-style-type: none"> <li>• REPAIRS TO BE ACCORDING TO BOSTONIA CORNER, 1000, AND 1001, BOSTON, MASS.</li> <li>• SCAMP AND PARTS TO BE EXTERIOR OF WINDOW</li> </ul>	



FANEUIL HALL WINDOW, CORNICE AND DOOR RESTORATION



PFD PROJ. #

Revisions			
No.	Date	Description	By

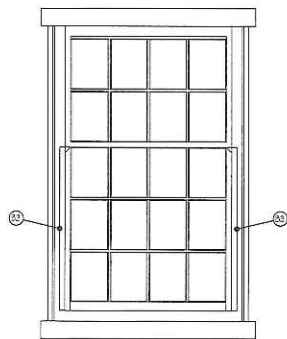
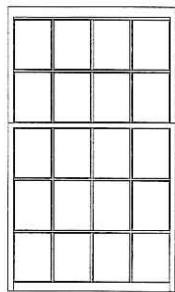
CSS ARCHITECTS INC.  
 107 A South St. 10th Fl.  
 Building 2, Suite 100  
 Woburn, MA 01890  
 css@cssarchitects.com

Title:  
 SOUTH FACADE  
 WINDOW ELEVATION

Scale: 3/4" 1'-0"  
 Date: 18 DEC. 2017  
 Drawn: CTC/JET  
 Checked: GMR/JJS  
 Project No: 1180

A4.7





**WINDOW REPAIR SCHEDULE**

W1	ROT REPAIRS/STP
W2	PUTTY AT BRASS/SIC
W3	WOOD PUTTING/SIC
W4	REPAIR/REPLACE GLASS
W5	SCREWS/ON GLASS
W6	PUTTY TO BE REPLACED
W7	ROT REPAIRS/STP AT SILL/SILL/HEAD
W8	REPAIR/REPLACE MORTAR
W9	REPAIR/REPLACE
W10	REPAIR/REPLACE/ON SILL
W11	REPAIR/REPLACE MORTAR
W12	REPAIR/REPLACE MORTAR
W13	REPAIR/REPLACE MORTAR
W14	REPAIR/REPLACE MORTAR
W15	REPAIR/REPLACE MORTAR
W16	REPAIR/REPLACE MORTAR

**GENERAL REPAIR NOTES**

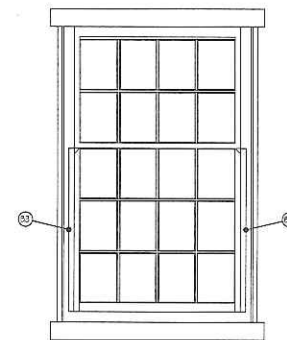
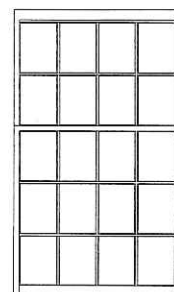
- REMOVE TOP GLASS SQUARE IN BOTTOM SASH, ADD FULL SIZE PLYWOOD REPAIR.
- SCREW AND PUTTY SILL SIDE OF WINDOW



INTERIOR

EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S26

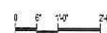


**WINDOW REPAIR SCHEDULE**

W1	ROT REPAIRS/STP
W2	PUTTY AT BRASS/SIC
W3	WOOD PUTTING/SIC
W4	REPAIR/REPLACE GLASS
W5	SCREWS/ON GLASS
W6	PUTTY TO BE REPLACED
W7	ROT REPAIRS/STP AT SILL/SILL/HEAD
W8	REPAIR/REPLACE MORTAR
W9	REPAIR/REPLACE
W10	REPAIR/REPLACE/ON SILL
W11	REPAIR/REPLACE MORTAR
W12	REPAIR/REPLACE MORTAR
W13	REPAIR/REPLACE MORTAR
W14	REPAIR/REPLACE MORTAR
W15	REPAIR/REPLACE MORTAR
W16	REPAIR/REPLACE MORTAR

**GENERAL REPAIR NOTES**

- REMOVE TOP GLASS SQUARE IN BOTTOM SASH, ADD FULL SIZE PLYWOOD REPAIR.
- SCREW AND PUTTY SILL SIDE OF WINDOW



INTERIOR

EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S27

FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION



PPD PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
127 Audubon Road  
Boston, MA 02116  
www.cssarch.com

Title:  
SOUTH FACADE  
WINDOW ELEVATION

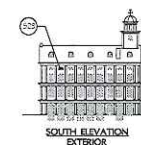
Scale: 3/4" 1'-0"  
Date: 18 DEC, 2017  
Drawn: CTC/JET  
Checked: GMR/JJS  
Project No: 1180

A4.8



WINDOW REPAIR SCHEDULE	
B1	NOT AT 2:00 STOP
B2	PLUM AT BRICK SILL
B3	LOOSE PUTTING GLASS
G1	REPAIR SICKEN GLASS
G2	SCRAMBLE ON GLASS
F1	PLUM TO BE REFINISHED
W1	NOT REFINISHED AT JAMB, SILL, HEAD
W2	DETACHED MUNTIN
W3	BRICK SET
W4	BRICK WORK SIDES OR SILL
W5	PAINT ON MUNTIN HEAD
W6	SURFACE REPAIRING
GENERAL REPAIR NOTES	
<ul style="list-style-type: none"> <li>REPAIRS TO BE DONE IN BETWEEN SPANS AND TO BE DONE BEFORE FINISH</li> <li>SCAFFOLD FROM BRICK SIDE OF WINDOW</li> </ul>	

INTERIOR/EXTERIOR WINDOW ELEVATION S28



WINDOW REPAIR SCHEDULE	
B1	NOT AT 2:00 STOP
B2	PLUM AT BRICK SILL
B3	LOOSE PUTTING GLASS
G1	REPAIR SICKEN GLASS
G2	SCRAMBLE ON GLASS
F1	PLUM TO BE REFINISHED
W1	NOT REFINISHED AT JAMB, SILL, HEAD
W2	DETACHED MUNTIN
W3	BRICK SET
W4	BRICK WORK SIDES OR SILL
W5	PAINT ON MUNTIN HEAD
W6	SURFACE REPAIRING
GENERAL REPAIR NOTES	
<ul style="list-style-type: none"> <li>REPAIRS TO BE DONE IN BETWEEN SPANS AND TO BE DONE BEFORE FINISH</li> <li>SCAFFOLD FROM BRICK SIDE OF WINDOW</li> </ul>	

INTERIOR/EXTERIOR WINDOW ELEVATION S29



WINDOW REPAIR SCHEDULE	
B1	NOT AT 2:00 STOP
B2	PLUM AT BRICK SILL
B3	LOOSE PUTTING GLASS
G1	REPAIR SICKEN GLASS
G2	SCRAMBLE ON GLASS
F1	PLUM TO BE REFINISHED
W1	NOT REFINISHED AT JAMB, SILL, HEAD
W2	DETACHED MUNTIN
W3	BRICK SET
W4	BRICK WORK SIDES OR SILL
W5	PAINT ON MUNTIN HEAD
W6	SURFACE REPAIRING
GENERAL REPAIR NOTES	
<ul style="list-style-type: none"> <li>REPAIRS TO BE DONE IN BETWEEN SPANS AND TO BE DONE BEFORE FINISH</li> <li>SCAFFOLD FROM BRICK SIDE OF WINDOW</li> </ul>	

INTERIOR/EXTERIOR WINDOW ELEVATION S30



WINDOW REPAIR SCHEDULE	
B1	NOT AT 2:00 STOP
B2	PLUM AT BRICK SILL
B3	LOOSE PUTTING GLASS
G1	REPAIR SICKEN GLASS
G2	SCRAMBLE ON GLASS
F1	PLUM TO BE REFINISHED
W1	NOT REFINISHED AT JAMB, SILL, HEAD
W2	DETACHED MUNTIN
W3	BRICK SET
W4	BRICK WORK SIDES OR SILL
W5	PAINT ON MUNTIN HEAD
W6	SURFACE REPAIRING
GENERAL REPAIR NOTES	
<ul style="list-style-type: none"> <li>REPAIRS TO BE DONE IN BETWEEN SPANS AND TO BE DONE BEFORE FINISH</li> <li>SCAFFOLD FROM BRICK SIDE OF WINDOW</li> </ul>	

INTERIOR/EXTERIOR WINDOW ELEVATION S31

FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION



PFJ PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
137 South Street  
Boston, MA 02109  
617.452.2222  
cssarchitects.com

Title:  
SOUTH FACADE  
WINDOW ELEVATION

Scale: 3/4" 1'-0"

Date: 18 DEC. 2017

Drawn: CTC/JET

Checked: GMR/JJS

Project No: 1180

A4.9

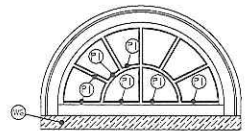
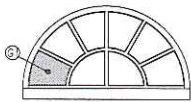


**WINDOW REPAIR SCHEDULE**

B1	100% AT BRICK STOP
B2	PLUMB AT BRICK VOSSE
B3	LOGS PARTING BRICK
G1	REPAIR BRICK GLASS
G2	REPAIR BRICK GLASS
F1	PLUMB TO FACE OF JOIST
W1	REPAIR AND PATCH UP JOINTS, SILL, HEAD
W2	DETACH AND REPAIR
W3	SURFACE PUT
W4	REPAIR AND PATCH UP JOINTS
W5	REPAIR AND PATCH UP JOINTS
W6	SURFACE AND PATCH UP

**GENERAL REPAIR NOTES**

- REMOVE SURFACE COATING IN REPAIRS AND PATCHES AND PATCH WITH MATCHING
- SCAFFOLD AND BRICK STOP TO BE REPAIRED BY WINDOW



INTERIOR

EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S32

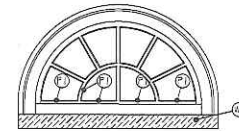
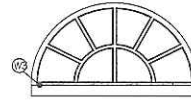


**WINDOW REPAIR SCHEDULE**

B1	100% AT BRICK STOP
B2	PLUMB AT BRICK VOSSE
B3	LOGS PARTING BRICK
G1	REPAIR BRICK GLASS
G2	REPAIR BRICK GLASS
F1	PLUMB TO BE REPAIRED
W1	REPAIR AND PATCH UP JOINTS, SILL, HEAD
W2	DETACH AND REPAIR
W3	SURFACE PUT
W4	REPAIR AND PATCH UP JOINTS
W5	REPAIR AND PATCH UP JOINTS
W6	SURFACE AND PATCH UP

**GENERAL REPAIR NOTES**

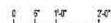
- REMOVE SURFACE COATING IN REPAIRS AND PATCHES AND PATCH WITH MATCHING
- SCAFFOLD AND BRICK STOP TO BE REPAIRED BY WINDOW



INTERIOR

EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S33



FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION



PPD PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
1177 Huntington Street  
Boston, MA 02116  
www.cssarchitects.com

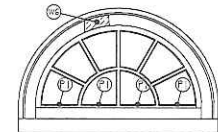
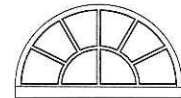


**WINDOW REPAIR SCHEDULE**

B1	100% AT BRICK STOP
B2	PLUMB AT BRICK VOSSE
B3	LOGS PARTING BRICK
G1	REPAIR BRICK GLASS
G2	REPAIR BRICK GLASS
F1	PLUMB TO BE REPAIRED
W1	REPAIR AND PATCH UP JOINTS, SILL, HEAD
W2	DETACH AND REPAIR
W3	SURFACE PUT
W4	REPAIR AND PATCH UP JOINTS
W5	REPAIR AND PATCH UP JOINTS
W6	SURFACE AND PATCH UP

**GENERAL REPAIR NOTES**

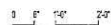
- REMOVE SURFACE COATING IN REPAIRS AND PATCHES AND PATCH WITH MATCHING
- SCAFFOLD AND BRICK STOP TO BE REPAIRED BY WINDOW



INTERIOR

EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S34



Title:  
SOUTH FACADE  
WINDOW ELEVATION

Scale: 3/4" 1'-0"

Date: 16 DEC. 2017

Drawn: CTC/JET

Checked: GMR/JJS

Project No: 1180

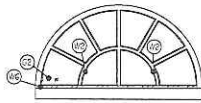
A4.10



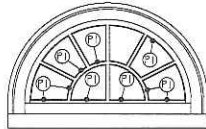


SOUTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	TOP 4" REPAIR STOP
B2	FURRY AT BRICK COURSE
B3	LOGIC PATCHING SCHE
G1	REPAIR CRACKS IN GLASS
G2	REPAIR CRACKS IN GLASS
F1	PURTY TO BE REPAIRED
W1	REPAIR REPAIRMENT AT JAMB SILL, HEAD
W2	OVERCOULMENT WEATH
W3	SURFACE WEATH
W4	SHOULDER WEATH
W5	FRONT GLASS WEATH
W6	SURFACE WEATH
GENERAL REPAIR NOTES	
<ul style="list-style-type: none"> <li>• REMOVE EXISTING SURFACE AT EXTERIOR STOP.</li> <li>• REMOVE EXISTING SURFACE AT INTERIOR STOP.</li> <li>• SCRAPE AND PRIME EXISTING SURFACE OF WINDOW.</li> </ul>	



INTERIOR



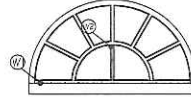
EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S35

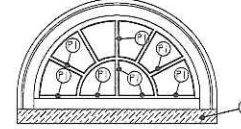


SOUTH ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	TOP 4" REPAIR STOP
B2	FURRY AT BRICK COURSE
B3	LOGIC PATCHING SCHE
G1	REPAIR CRACKS IN GLASS
G2	REPAIR CRACKS IN GLASS
F1	PURTY TO BE REPAIRED
W1	REPAIR REPAIRMENT AT JAMB SILL, HEAD
W2	OVERCOULMENT WEATH
W3	SURFACE WEATH
W4	SHOULDER WEATH
W5	FRONT GLASS WEATH
W6	SURFACE WEATH
GENERAL REPAIR NOTES	
<ul style="list-style-type: none"> <li>• REMOVE EXISTING SURFACE AT EXTERIOR STOP.</li> <li>• REMOVE EXISTING SURFACE AT INTERIOR STOP.</li> <li>• SCRAPE AND PRIME EXISTING SURFACE OF WINDOW.</li> </ul>	

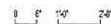


INTERIOR



EXTERIOR

INTERIOR/EXTERIOR WINDOW ELEVATION S36



FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION



PPD PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
1157 AUGUSTINE ROAD  
BOSTON, MA 02108  
617-552-8888  
www.cssarchitects.com

Title:  
SOUTH FACADE  
WINDOW ELEVATION

Scale: 3/4" 1'-0"  
Date: 18 DEC. 2017  
Drawn: CTC/JET  
Checked: GMR/JJS  
Project No: 1180

A4.11

FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION

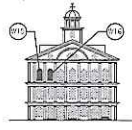


PFD PROJ. #

Revisions

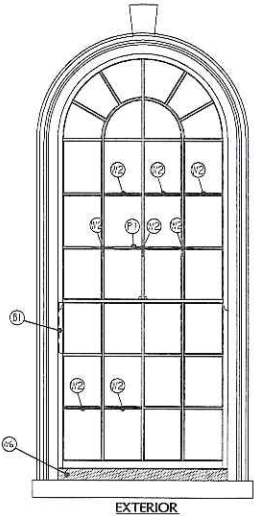
No.	Date	Description	By

CSS ARCHITECTS INC.  
107 Huntington Road  
Boston, MA 02116  
617-552-3333  
cssarchitects.com



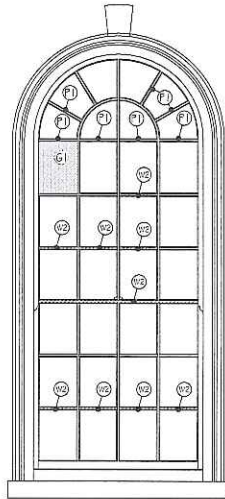
WEST ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	ROT AT SILL STOP
B2	FURTY AT SILL HOLD
B3	LOOKS FINISH HEAD
G1	REPAIR WINDOW GLASS
G2	SCAFFOLDS ON GLASS
F1	PURTY TO BE REPAIRED
W1	ROT REPLACEMENT AT JAMB, SILL, HEAD
W2	REPAIR WINDOW MOUTH
W3	SURFACE ROT
W4	REPAIR MOUTH OF SASH
W5	FRASIGATE MOUTH IRON
W6	SURFACE WEARINGS
GENERAL REPAIR NOTES	
• REMOVE & REPLACE SQUARE REPAIRS FROM EXTERIOR SIDE	
• SQUARE AND TRIM CORNER PORTIONS OF WINDOW	



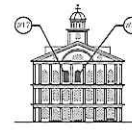
EXTERIOR

WEST - EXTERIOR WINDOW ELEVATION W15



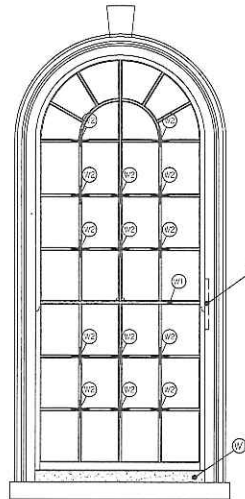
EXTERIOR

WEST - EXTERIOR WINDOW ELEVATION W16



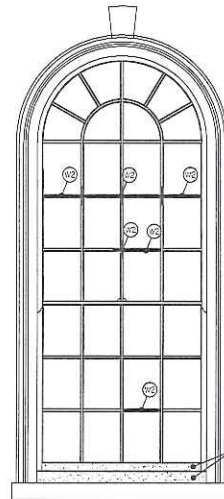
WEST ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	ROT AT SILL STOP
B2	FURTY AT SILL HOLD
B3	LOOKS FINISH HEAD
G1	REPAIR WINDOW GLASS
G2	SCAFFOLDS ON GLASS
F1	PURTY TO BE REPAIRED
W1	ROT REPLACEMENT AT JAMB, SILL, HEAD
W2	REPAIR WINDOW MOUTH
W3	SURFACE ROT
W4	REPAIR MOUTH OF SASH
W5	FRASIGATE MOUTH IRON
W6	SURFACE WEARINGS
GENERAL REPAIR NOTES	
• REMOVE & REPLACE SQUARE REPAIRS FROM EXTERIOR SIDE	
• SQUARE AND TRIM CORNER PORTIONS OF WINDOW	



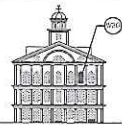
EXTERIOR

WEST - EXTERIOR WINDOW ELEVATION W17



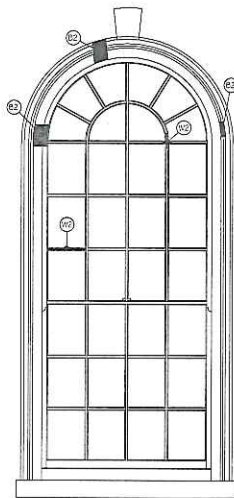
EXTERIOR

WEST - EXTERIOR WINDOW ELEVATION W18



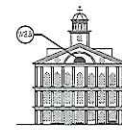
WEST ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	ROT AT SILL STOP
B2	FURTY AT SILL HOLD
B3	LOOKS FINISH HEAD
G1	REPAIR WINDOW GLASS
G2	SCAFFOLDS ON GLASS
F1	PURTY TO BE REPAIRED
W1	ROT REPLACEMENT AT JAMB, SILL, HEAD
W2	REPAIR WINDOW MOUTH
W3	SURFACE ROT
W4	REPAIR MOUTH OF SASH
W5	FRASIGATE MOUTH IRON
W6	SURFACE WEARINGS
GENERAL REPAIR NOTES	
• REMOVE & REPLACE SQUARE REPAIRS FROM EXTERIOR SIDE	
• SQUARE AND TRIM CORNER PORTIONS OF WINDOW	



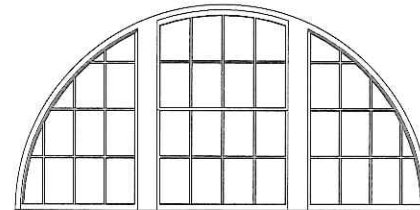
EXTERIOR

WEST - EXTERIOR WINDOW ELEVATION W20

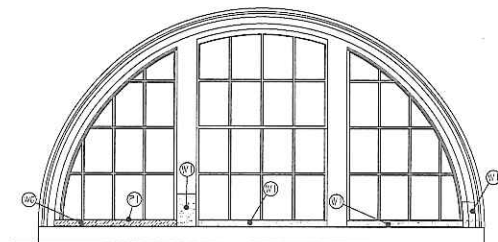


WEST ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	ROT AT SILL STOP
B2	FURTY AT SILL HOLD
B3	LOOKS FINISH HEAD
G1	REPAIR WINDOW GLASS
G2	SCAFFOLDS ON GLASS
F1	PURTY TO BE REPAIRED
W1	ROT REPLACEMENT AT JAMB, SILL, HEAD
W2	REPAIR WINDOW MOUTH
W3	SURFACE ROT
W4	REPAIR MOUTH OF SASH
W5	FRASIGATE MOUTH IRON
W6	SURFACE WEARINGS
GENERAL REPAIR NOTES	
• REMOVE & REPLACE SQUARE REPAIRS FROM EXTERIOR SIDE	
• SQUARE AND TRIM CORNER PORTIONS OF WINDOW	



INTERIOR



EXTERIOR

WEST - INTERIOR/EXTERIOR WINDOW ELEVATION W23

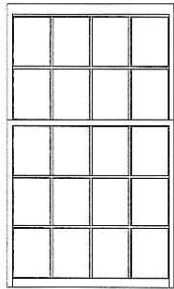
Title:  
SHOP REPAIR  
WINDOW ELEVATIONS

Scale: 3/4" 1'-0"  
Date: 18 DEC. 2017  
Drawn: CTC/JET  
Checked: GMR/JJS  
Project No: 1180

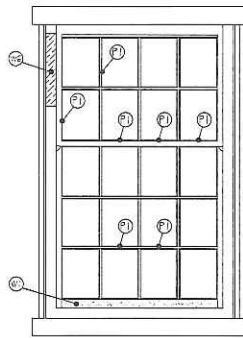
A5.1



NORTH ELEVATION  
EXTERIOR



INTERIOR



EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	SET AT 3/16" STOP
B2	PUTTY AT BRICK MOUND
B3	WOOD FINISHING SAND
G1	REPAIR BROKEN GLASS
G2	SEPARATES ON GLASS
F1	PUTTY TO BE REFINISHED
W1	REPAIR/REPLACE AT JAMB/SILL HEAD
W2	SEPARATED LUTTER
W3	SURFACE ROT
W4	BRICKS VISIBLE ON SASH
W5	PAINTWORK VISIBLE FROM
W6	SURFACE WEATHERING

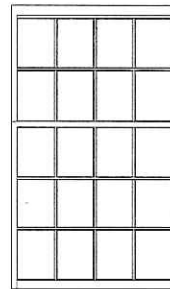
**GENERAL REPAIR NOTES**

- REMOVE ALL BROKEN GLASS AND REPAIR/REPLACE BROKEN GLASS AND BRICK SURFACE WEATHERING
- SCAFFOLD AND PART OFFICE CRANE USE OF WINDOW

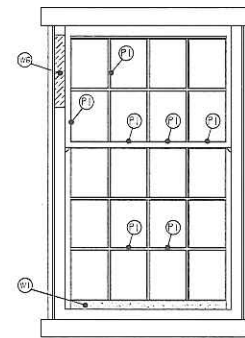
WEST - INTERIOR/EXTERIOR WINDOW ELEVATION | N19



NORTH ELEVATION  
EXTERIOR



INTERIOR



EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	SET AT 3/16" STOP
B2	PUTTY AT BRICK MOUND
B3	WOOD FINISHING SAND
G1	REPAIR BROKEN GLASS
G2	SEPARATES ON GLASS
F1	PUTTY TO BE REFINISHED
W1	REPAIR/REPLACE AT JAMB/SILL HEAD
W2	SEPARATED LUTTER
W3	SURFACE ROT
W4	BRICKS VISIBLE ON SASH
W5	PAINTWORK VISIBLE FROM
W6	SURFACE WEATHERING

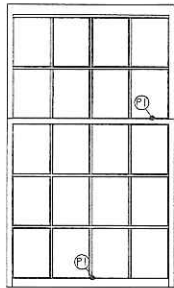
**GENERAL REPAIR NOTES**

- REMOVE ALL BROKEN GLASS AND REPAIR/REPLACE BROKEN GLASS AND BRICK SURFACE WEATHERING
- SCAFFOLD AND PART OFFICE CRANE USE OF WINDOW

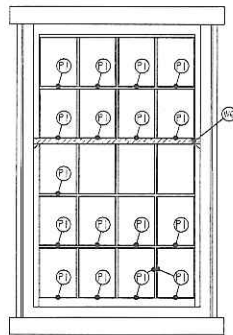
EAST - INTERIOR/EXTERIOR WINDOW ELEVATION | N19



NORTH ELEVATION  
EXTERIOR



INTERIOR



EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	SET AT 3/16" STOP
B2	PUTTY AT BRICK MOUND
B3	WOOD FINISHING SAND
G1	REPAIR BROKEN GLASS
G2	SEPARATES ON GLASS
F1	PUTTY TO BE REFINISHED
W1	REPAIR/REPLACE AT JAMB/SILL HEAD
W2	SEPARATED LUTTER
W3	SURFACE ROT
W4	BRICKS VISIBLE ON SASH
W5	PAINTWORK VISIBLE FROM
W6	SURFACE WEATHERING

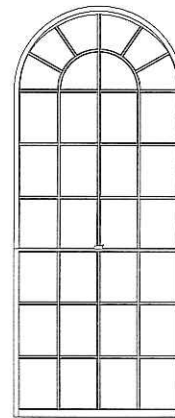
**GENERAL REPAIR NOTES**

- REMOVE ALL BROKEN GLASS AND REPAIR/REPLACE BROKEN GLASS AND BRICK SURFACE WEATHERING
- SCAFFOLD AND PART OFFICE CRANE USE OF WINDOW

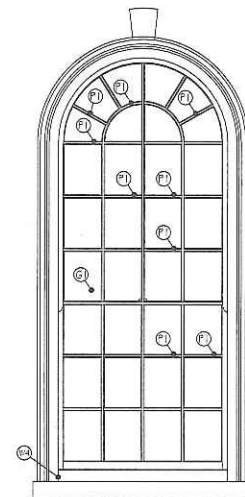
NORTH - INTERIOR/EXTERIOR WINDOW ELEVATION | N23



EAST ELEVATION  
EXTERIOR



INTERIOR



EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	SET AT 3/16" STOP
B2	PUTTY AT BRICK MOUND
B3	WOOD FINISHING SAND
G1	REPAIR BROKEN GLASS
G2	SEPARATES ON GLASS
F1	PUTTY TO BE REFINISHED
W1	REPAIR/REPLACE AT JAMB/SILL HEAD
W2	SEPARATED LUTTER
W3	SURFACE ROT
W4	BRICKS VISIBLE ON SASH
W5	PAINTWORK VISIBLE FROM
W6	SURFACE WEATHERING

**GENERAL REPAIR NOTES**

- REMOVE ALL BROKEN GLASS AND REPAIR/REPLACE BROKEN GLASS AND BRICK SURFACE WEATHERING
- SCAFFOLD AND PART OFFICE CRANE USE OF WINDOW

EAST - INTERIOR/EXTERIOR WINDOW ELEVATION | E09

FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION



PFJ PROJ. #

Revisions

No.	Date	Description	By

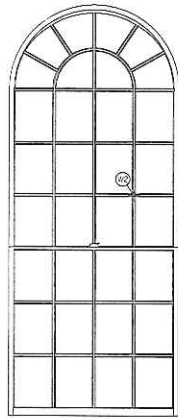
CSS ARCHITECTS INC.  
127 Anderson Road  
Building 2, Suite 209  
Waltham, MA 01981  
617.251.8800  
css@cssarchitects.com

Title:  
SHOP REPAIR  
WINDOW ELEVATIONS

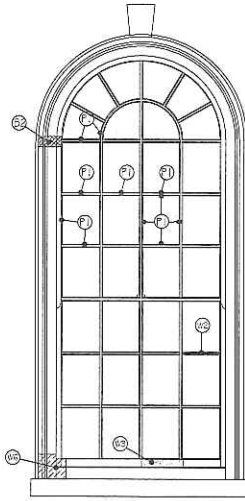
Scale: 3/4" 1'-0"  
Date: 18 DEC. 2017  
Drawn: CTC/JET  
Checked: GMR/JJS  
Project No: 1180

A5.2





INTERIOR



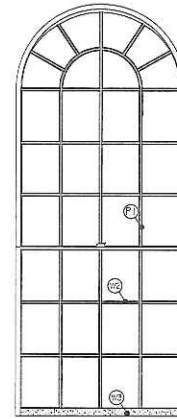
EXTERIOR



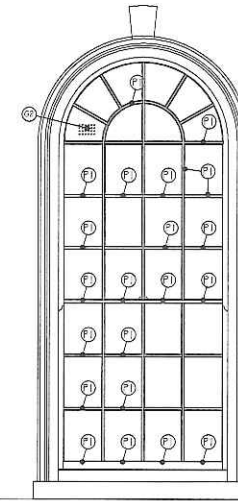
SOUTH ELEVATION EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	NOT APPLICABLE
B2	PUTTY AT SILL JOINT
B3	PUTTY AT SILL JOINT
B4	WOOD PARTING BEAD
G1	REMOVE EXISTING GLASS
G2	SCRAMBLE OR REPLACE
F1	PUTTY TO BE REPAIRED
W1	NOT REPAIRABLE AT THIS SCALE
W2	REPAIR TO MATCH
W3	REPAIR TO MATCH
W4	REPAIR TO MATCH
W5	REPAIR TO MATCH
W6	REPAIR TO MATCH
GENERAL REPAIR NOTES	
• REMOVE AND REPLACE EXISTING WINDOW PARTS AND GLASS AS SHOWN	
• SCOPE AND PAINT TO BE DETERMINED BY OTHERS	

SOUTH - INTERIOR/EXTERIOR WINDOW ELEVATION S12



INTERIOR



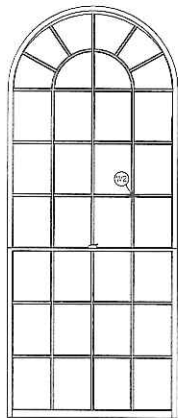
EXTERIOR



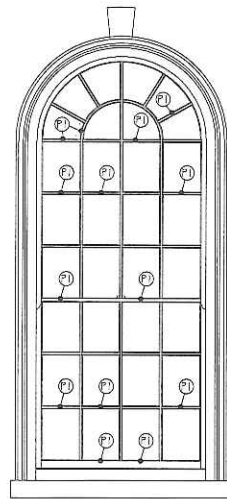
SOUTH ELEVATION EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	NOT APPLICABLE
B2	PUTTY AT SILL JOINT
B3	WOOD PARTING BEAD
G1	REMOVE EXISTING GLASS
G2	SCRAMBLE OR REPLACE
F1	PUTTY TO BE REPAIRED
W1	NOT REPAIRABLE AT THIS SCALE
W2	REPAIR TO MATCH
W3	REPAIR TO MATCH
W4	REPAIR TO MATCH
W5	REPAIR TO MATCH
W6	REPAIR TO MATCH
GENERAL REPAIR NOTES	
• REMOVE AND REPLACE EXISTING WINDOW PARTS AND GLASS AS SHOWN	
• SCOPE AND PAINT TO BE DETERMINED BY OTHERS	

SOUTH - INTERIOR/EXTERIOR WINDOW ELEVATION S14



INTERIOR



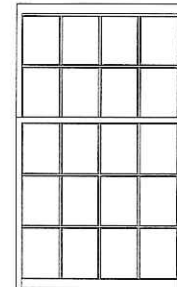
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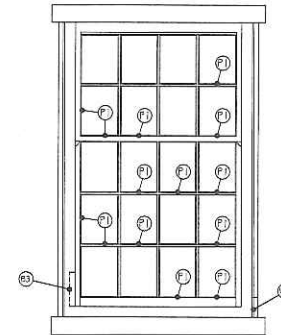
SOUTH ELEVATION EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	NOT APPLICABLE
B2	PUTTY AT SILL JOINT
B3	WOOD PARTING BEAD
G1	REMOVE EXISTING GLASS
G2	SCRAMBLE OR REPLACE
F1	PUTTY TO BE REPAIRED
W1	NOT REPAIRABLE AT THIS SCALE
W2	REPAIR TO MATCH
W3	REPAIR TO MATCH
W4	REPAIR TO MATCH
W5	REPAIR TO MATCH
W6	REPAIR TO MATCH
GENERAL REPAIR NOTES	
• REMOVE AND REPLACE EXISTING WINDOW PARTS AND GLASS AS SHOWN	
• SCOPE AND PAINT TO BE DETERMINED BY OTHERS	

SOUTH - INTERIOR/EXTERIOR WINDOW ELEVATION S17



INTERIOR



EXTERIOR



SOUTH ELEVATION EXTERIOR

WINDOW REPAIR SCHEDULE	
B1	NOT APPLICABLE
B2	PUTTY AT SILL JOINT
B3	WOOD PARTING BEAD
G1	REMOVE EXISTING GLASS
G2	SCRAMBLE OR REPLACE
F1	PUTTY TO BE REPAIRED
W1	NOT REPAIRABLE AT THIS SCALE
W2	REPAIR TO MATCH
W3	REPAIR TO MATCH
W4	REPAIR TO MATCH
W5	REPAIR TO MATCH
W6	REPAIR TO MATCH
GENERAL REPAIR NOTES	
• REMOVE AND REPLACE EXISTING WINDOW PARTS AND GLASS AS SHOWN	
• SCOPE AND PAINT TO BE DETERMINED BY OTHERS	

SOUTH - INTERIOR/EXTERIOR WINDOW ELEVATION S25

FANEUIL HALL WINDOW, CORNICE AND DOOR RESTORATION



PFJ PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
167 Apscomb Road  
Boston, MA 02116  
617-552-1100  
www.cssarchitects.com

Title:  
SHOP REPAIR WINDOW ELEVATIONS

Scale: 3/4" 1'-0"  
Date: 18 DEC. 2017  
Drawn: CTC/JET  
Checked: GMR/JJS  
Project No: 1180

A5.3

FANEUIL HALL  
WINDOW,  
CORNICE AND  
DOOR  
RESTORATION

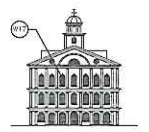
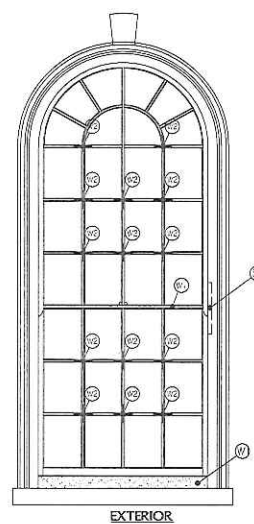
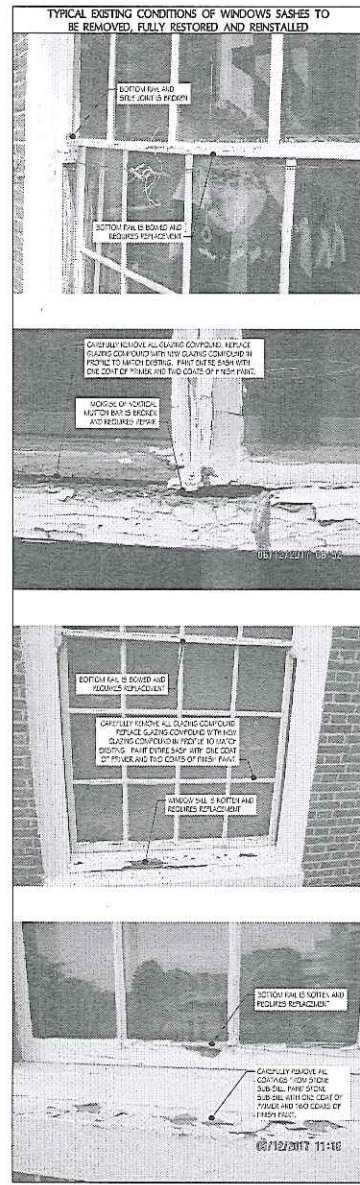


PPD PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
107 WASHINGTON STREET  
BOSTON MA 02110  
617-552-3333  
cssarchitects.com



WEST ELEVATION  
EXTERIOR

WINDOW REPAIR SCHEDULE

01	NOT TO SCALE STEP
02	PUTTY AND DISK LEAD
03	LEADS WITH GLASS
04	REPAIR BROKEN GLASS
05	SCAMPERS ON GLASS
06	PUTTY TO SECURE GLASS
07	NOT REPLACEMENT AT LEAD, SILEY JOINT
08	REPAIR CORNER MUTTON
09	STRIP PAINT
10	REPAIR MUTTON ON SASH
11	REPAIR MUTTON ON FRAME
12	STRIP PAINT
13	STRIP PAINT

GENERAL REPAIR NOTES

- REMOVE ALL OLD PAINT AND GLAZING COMPOUND FROM ALL SURFACES TO BE RESTORED.
- SCAMPERS AND OTHER DEBRIS TO BE REMOVED FROM WINDOW.

WEST - EXTERIOR WINDOW ELEVATION W17  
TYPICAL REPAIRS TO WINDOWS SASH AND FRAME OF  
WINDOW REQUIRING REMOVAL AND FULL RESTORATION

WOOD REPAIR NOTES

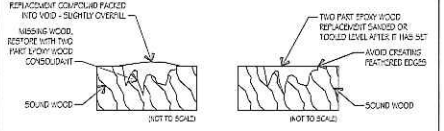
CONSOLIDATION OF FLAT OR MOLDED WOOD SURFACES

- PROTECT THE DETRIORATED AREA WITH A SMALL KNIFE BLADE, ICE PICK, OR AWL TO MARK THE AREA TO BE CONSOLIDATED AND TO DETERMINE THE BEST CONSOLIDATION TECHNIQUE.
- FOR MINOR SURFACE DETRIORATION - UP TO 1/4" DEPTH - BRUSH APPLY TWO PART EPOXY WOOD CONSOLIDANT THOROUGHLY WETTING PORTED SURFACES WITH WOOD CONSOLIDANT.
  - FOR DEEP DETRIORATION - 1/4" OR GREATER - DRILL 5/16" DIAMETER HOLES IN SPACINGS. WOOD WAX WITH TWO PART EPOXY WOOD CONSOLIDANT THOROUGHLY WETTING DETRIORATED AREA UNTIL AREA CAN ABSORB NO MORE CONSOLIDANT.

RESTORATION OF AREAS WHERE WOOD IS MISSING (AREAS OF MISSING WOOD LESS THAN 1 1/2" X 1/2" DEEP) WITH TWO PART EPOXY WOOD REPLACEMENT COMPOUND

TWO PART EPOXY WOOD REPLACEMENT COMPOUND FOR FILLING HOLES, GOUGES, CRACKS

- STEP 1: SAND OR TOOL TO REMOVE EXCESS TWO PART EPOXY WOOD REPLACEMENT COMPOUND AND FILLER UNTIL OUTLINE OF CRACK OR SPIT IS VISIBLE. DO NOT LEAVE THIN LAYERS OF FILLER ON THE SURFACE AROUND THE HOLES THE AREA OF REPAIR. AVOID FLATTENING THE EDGES.
- STEP 2: SAND OR TOOL TO REMOVE EXCESS TWO PART EPOXY WOOD REPLACEMENT COMPOUND AND FILLER UNTIL OUTLINE OF CRACK OR SPIT IS VISIBLE. DO NOT LEAVE THIN LAYERS OF FILLER ON THE SURFACE AROUND THE HOLES THE AREA OF REPAIR. AVOID FLATTENING THE EDGES.



RESTORATION OF AREAS WHERE WINDOW IS MISSING AREAS OF WOOD WITH TWO PART EPOXY WOOD CONSOLIDANT

REBUILDING MISSING SURFACE AND MOLDING DETAILS

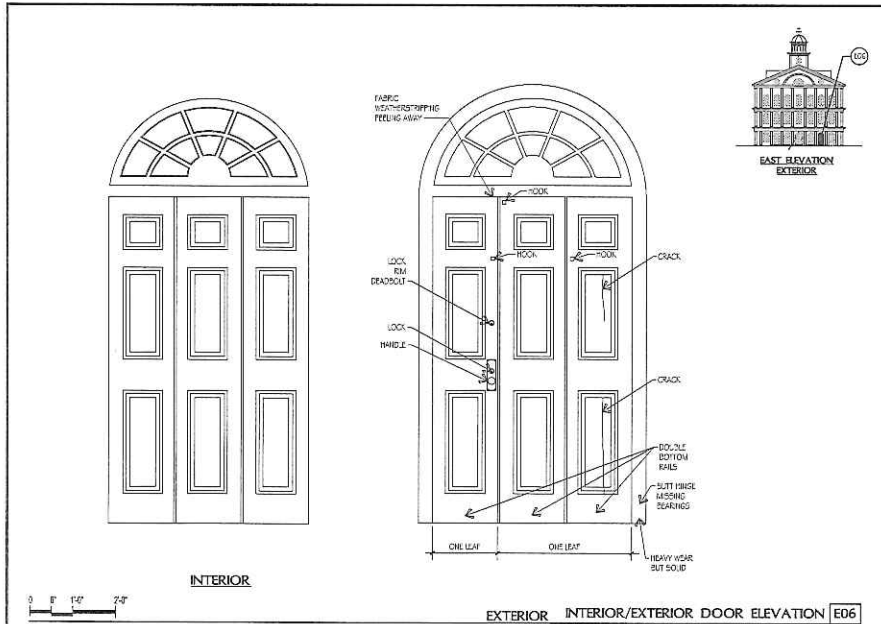
- IF THE AREA TO BE FILLED IS DAMAGED, SOFT OR DETRIORATED, REMOVE ONLY 'LOOSE MATERIALS' APPLY BY BRUSH THOROUGHLY WETTED WITH TWO PART EPOXY WOOD CONSOLIDANT TO DETRIORATED AREA WITH 'LOOSE' TO THE WEATHERED AREA, THEN APPLY IF NECESSARY REPAIR MATERIALS UNTIL FILLING IS FULLY SATURATED. AFTER CONSOLIDANT HAS SET PACK DAMAGED AND OR DETRIORATED AREA WITH TWO PART EPOXY WOOD REPLACEMENT COMPOUND.
- VERY SOFT OR DETRIORATED WOOD SATURATED WITH TWO PART EPOXY WOOD CONSOLIDANT PRIOR TO REPAIR WITH TWO PART EPOXY WOOD REPLACEMENT COMPOUND.



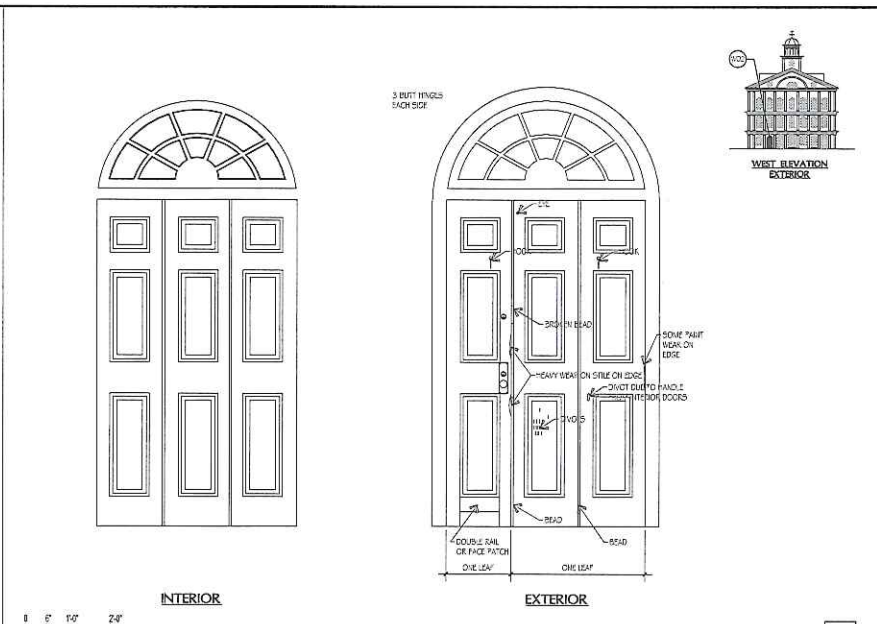




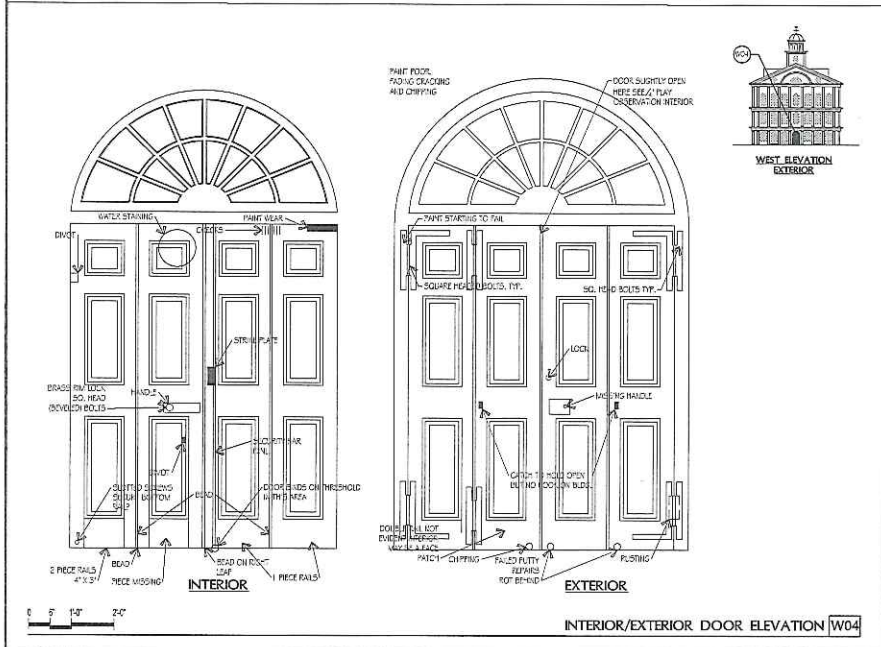




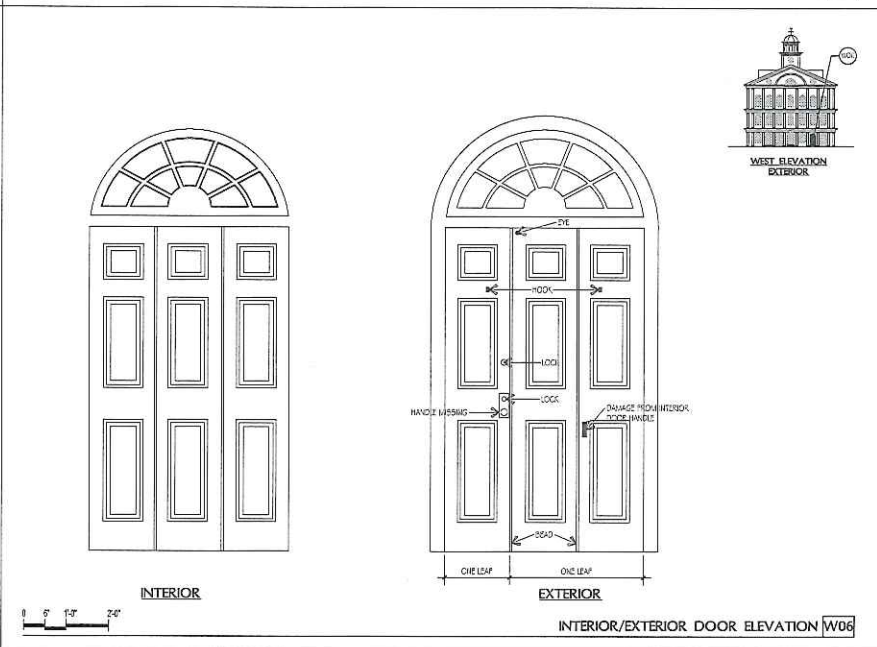
EXTERIOR INTERIOR/EXTERIOR DOOR ELEVATION E06



INTERIOR/EXTERIOR DOOR ELEVATION W02



INTERIOR/EXTERIOR DOOR ELEVATION W04



INTERIOR/EXTERIOR DOOR ELEVATION W06

FANEUIL HALL WINDOW, CORNICE AND DOOR RESTORATION



PFD PROJ. #

Revisions

No.	Date	Description	By

CSS ARCHITECTS INC.  
 107 Marlborough Street  
 Building 2, Suite 200  
 Cambridge, MA 02148  
 cssarchitects.com

Title:  
 EAST AND WEST FACADE DOOR ELEVATION

Scale: 3/4" 1'-0"  
 Date: 18 DEC. 2017  
 Drawn: CTC/JET  
 Checked: GMR/JJS  
 Project No: 1180

A6.2



## Exhibit 3

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- **CSS Design Development Specifications for Restoration of Faneuil Hall Exterior Windows (18 Dec. 2017)**

Section 08 01 15 Wood Door Restoration

Section 08 01 52 Wood Window Restoration

Section 09 91 00 Painting

**SECTION 08 01 15**  
**WOOD DOOR RESTORATION**

**PART 1 - GENERAL**

**1.01 GENERAL REQUIREMENTS**

- A. Division 00 and 01 are hereby made a part of this section.
- B. Examine all conditions as they exist at the project prior to submitting a bid for the work of this section.

**1.02 SECTION INCLUDES**

- A. General: Provide all labor, materials, equipment, and services required for wood door restoration at Faneuil Hall in Boston, Massachusetts, as indicated on the Drawings, as specified herein, and as may be required by conditions and authorities.
- B. Note that the doors that are to be restored are exterior doors at the east and west elevation of the building.
- C. Wood door restoration should include, but not be limited to, the following:
  - 1. General: Restore stiles and rails of the existing doors as shown on the drawings. Restoration of the doors consists of paint removal and repairs to the stiles and rails by the addition of new wood components. Installation of new hardware and re-installation of salvaged hardware. Re-Installation of existing doors and priming and painting of doors.
  - 2. Prior to commencing full scope of work, restore one door leaf for confirmation of materials to be used and quality of work. This work will be considered the required mock-up and samples.
  - 3. Remove paint from leaves according to the Lead Removal Requirements of the State of Massachusetts and in compliance with all other State, Federal, and Local regulations.
  - 4. Prime and finish paint all doors both on the interior and exterior.
  - 5. Remove existing door hardware and save door pulls and push plates for restoration.
  - 6. Install new door hardware and restored door pulls and push plates and kick plates
  - 7. Clean all glass following reinstallation of doors.
- D. Intent: It is the specific intent of this Section to provide for complete restoration of wood doors to structural soundness, optimum operating condition, with the retention of all sound existing elements. All work required to fulfill these intents shall be included as work of this Section except that work specifically delineated in other Sections.

**1.03 RELATED REQUIREMENTS**

- A. The following related work is to be performed under the designated Sections:
  - 1. Section 08 70 00 - HARDWARE
  - 2. Section 09 91 00 – PAINTING

**1.04 QUALITY ASSURANCE**



- A. Wood Millwork Restoration Specialist: Door restoration work to be performed by a firm regularly engaged in restoring wood doors on historic buildings that can demonstrate to Owner's, Architect's and Restoration Consultant's satisfaction that, within previous five years, it has successfully performed and completed in a timely manner at least three projects similar in scope and type to work required on this Project involving facilities designated as Landmarks by local governmental authorities, buildings listed on the National Register of Historic Places, or buildings listed on a State Register of Historic Places.
1. Foreman: Wood door restoration shall be directly supervised by a full-time foreman with experience equal to or greater than that required of Wood Millwork Restoration Specialist. Foreman shall read and speak English fluently. Foreman shall be on site at all times when work is being performed on site. The same foreman shall remain on the Project throughout work unless his performance is deemed unacceptable.
  2. Mechanics: Wood door restoration shall be carried out by a steady crew of skilled mechanics who are thoroughly experienced with materials and methods specified and have a minimum of three years' experience with work on historic buildings similar to that required by this Section. In acceptance or rejection of work of this Section, no allowance will be made for workers' incompetence or lack of skill.
- B. Laws, Codes, and Regulations: All work of this Section shall comply with all applicable federal, state, and local laws, codes, and regulations.
- C. Standards: Work of this Section shall comply with requirements and recommendations of the following standards, with requirements of this Section, and with applicable laws, codes, and regulations. In each case in which there is a conflict between the requirements, the most stringent and restrictive requirement shall govern.
1. Architectural Woodwork Institute (AWI), Architectural Woodwork Quality Standards, latest edition. Except as otherwise indicated, provide "Premium Grade, Class I" materials and workmanship for all wood door work of this Section.

#### **1.05 SUBMITTALS**

- A. Submit each item in this Article in compliance with the Conditions of the Contract and Division 1 specification sections. Revise and resubmit each item as required to obtain approval of Architect or Restoration Consultant.
- B. Qualification Data: Qualification data for firm and personnel specified in "Quality Assurance" Article that demonstrates that both firm and personnel have capabilities and experience complying with requirements specified. For firm and foreman, provide a list of at least three completed projects within the New England Region similar in size and scope to work required on this Project. For each project list project name, address, architect, conservator, supervising preservation agency, scope of contractor's work, and other relevant information.
- C. Product Data: Manufacturer's technical data for each product to be used in work of this Section. Include test reports and certificates substantiating that product complies with specified requirements, recommendations for application and use, and Material Safety Data Sheets (MSDS).
- D. Shop Drawings

1. Drawings of all doors to be repaired showing full extent of replacement, or major dutchman repair and of each door component. Show dimensioned elevations and sections and full-size details of all typical members and joinery. Identify materials.
  2. Shop drawings shall clearly indicate any deviation from designs or details of existing doors.
  3. All dimensional information contained in Drawings, whether numerical, tabular, or graphic, is provided only for Contractor's information and is not guaranteed. Contractor shall verify all dimensions in the field.
- E. Schedule: A schedule of work showing all door repairs and including finishes, wood types, locations, dimensions, and types of repair of each door. Schedule shall indicate time of completion of each task and shall note temporary closure of opening while door is removed for restoration.
- F. Samples
1. Wood for Repair and Replacement: 6-inch x 12-inch x 1-inch samples of each type to be used.
  2. Wood Member Profiles: 12-inch-long pieces of each profile required for repair, replacement, or alteration.
- G. Quality Control Samples: Perform quality control samples as specified in Article "Quality Control Samples," below.

#### **1.06 QUALITY CONTROL SAMPLES**

- A. General: Before beginning wood door restoration, prepare quality control samples to provide standards for work of this Section. Do not proceed with wood door restoration until Architect or Restoration Consultant has approved quality control samples.
1. Quality control samples to be performed on Door # XX or as directed by Architect or Restoration Consultant.
  2. Notify Architect or Restoration Consultant 48 hours prior to start of quality control samples.
  3. Architect or Restoration Consultant will monitor quality control samples.
  4. Use crew that will execute the work and follow requirements of this Section.
  5. Repeat quality control samples as necessary to obtain Architect or Restoration Consultant's approval
  6. Protect approved quality control samples to ensure that they are without damage, deterioration, or alteration at time of Substantial Completion.
  7. Approved quality control samples in undamaged condition at time of Substantial Completion may be incorporated into the Work.
  8. Approved quality control samples will represent minimum standards for wood window restoration. Subsequent wood window restoration work that does not meet standards of approved quality control samples will be rejected.
- B. Prepare the Following Quality Control Samples – :
1. One Door: Stripping of coatings door leaf.



2. One Door repair of one complete door stile with combination of Dutchman and additional wood members as indicated on the drawings.
3. All work in preparing the quality control samples shall be done in accordance to all drawings and specifications.

#### **1.07 DELIVERY, STORAGE, AND HANDLING**

- A. General: Deliver, store, and handle all materials to protect them from damage, moisture, dirt, and introduction of foreign matter. Store materials on raised platforms and under ventilated, waterproof cover. Store packaged materials in manufacturer's unopened containers, marked with manufacturer's name and product brand name. Immediately reseal containers after partial use. Remove damaged and deteriorated materials and replace with fresh materials.
- B. Do not deliver or install kiln-dried materials unless spaces in which they will be stored and in which they will be installed are sufficiently dry. Obtain Architect or Restoration Consultant's approval before delivering such materials.

#### **1.08 PROJECT CONDITIONS**

- A. Safety: Take all necessary precautions to protect all persons, whether engaged in work of this Section or not, from all hazards of any kind associated with the work of this Section.
- B. Protection of Building: Protect building elements and finishes from damage or deterioration caused by work of this Section. Repair any damage to materials or finishes to Architect or Restoration Consultant's satisfaction at no additional cost to Owner.
  1. Take all necessary precautions to prevent fire and spread of fire.

#### **1.09 ENVIRONMENTAL CONDITIONS**

- A. General: Perform work only when temperature of products being used, temperatures of existing and new materials, and air temperature and humidity comply with product manufacturer's requirements and requirements of this Section. In case of conflict, the most stringent requirements shall govern.
- B. Use of Epoxy Resins: Mix and apply epoxy resins only when temperatures are between 50 degrees Fahrenheit and 80 degrees Fahrenheit in work area and of all substrates.

#### **1.10 LEAD-CONTAINING PAINT (LCP)**

- A. General: Perform all work that disturbs lead-containing paint (LCP), handle all material that involves lead-containing paint, and transport and dispose of all lead-containing paint and residue in compliance with all applicable Federal, State, and Local laws and regulations for identification, removal, labeling, handling, containerization, transportation, and disposal of lead-containing material including, but not limited to, those referenced herein.
- B. U.S. Department of Labor OSHA Regulations: Including but not limited to: Title 29, Code of Federal Regulations (CFR) Section 1926.62: "Lead Exposure in Construction" and Title 29, CFR Section 1910.1200: "Hazard Communication Standard."
- C. U.S. Environmental Protection Agency (USEPA) Regulations: Including but not limited to: Title 40 CFR Part 262: "Standards Applicable to Generators of Hazardous Waste" and Part 263: "Standards Applicable to Transporters of Hazardous Waste."



- D. U.S. Department of Transportation (USDOT) Regulations: Including but not limited to: 49 CFR Parts 172, 173, 174, 175, 177, 178, 179, and 180.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS, GENERAL**

- A. Grades of all wood materials under this Section shall be as defined by the rules of the recognized Association of Lumber Manufacturers producing materials specified. Materials for millwork shall meet or exceed the requirements for "Premium Grade, Class 1" work as established by Architectural Woodwork Institute's Architectural Woodwork Quality Standards. Where conflicts occur between these standards and requirements of this Section, the more stringent or restrictive requirement shall govern in each case.
- B. All wood materials shall be of sound stock, thoroughly seasoned, and kiln-dried to a moisture content not exceeding 12 percent.
- C. Work that is to be finished or painted shall be free from defects and blemishes on surfaces exposed to view that will show after finish coat of paint is applied. Materials that are in any way defective and not up to specifications for quality and grade, or otherwise not in proper condition, shall be rejected.
- D. Wood for Replacement Entire Door Components:
1. Species used for new door components shall be Central American Mahogany Premium Grade, Class 1. Stock shall be either quarter or riff sawn only.
- E. Wood for Dutchman Repairs to existing door components.
1. For dutchmen match existing wood species; Premium Grade, Class 1.
- F. Strippers for Removing Paint and Other Coatings from Wood:
1. Back-to-Nature Double Duty (VII); as manufactured by Back to nature Products, Inc., 28 Harrison Ave., Englishtown, NJ 07726
  2. Peel Away 7, as manufactured by Dumond Chemicals Inc., 1501 Broadway, New York, NY 10036l
  3. S-303 Paint Stripper, available from Cathedral Stone Products Inc., 7266 Park Circle Dr., Hanover, MD 21076
  4. Or approved equal
  5. Test the products listed above on each type of coating to be removed. Perform additional tests using different dwell times and other variations as directed by the Architect to determine the most effective procedures for removing each type of paint and coating from each substrate.
- G. Epoxy Adhesives for Dutchman Repairs or Jointing of New components.
1. West System as manufactured by Gougeon Brothers, Inc., 706 Martin Street, Bay City, Michigan 48706. Provide the following materials as appropriate to each condition: 105 Resin; 205 Fast Hardener; 206 Slow Hardener.
  2. Abatron, Inc. 5501 95th Ave, Kenosha, WI 53144
  3. Advance Repair Technology P.O. Box 510 Cherry Valley, NY 13320
  4. Or approved equal

H. Epoxy Systems - General:

1. Prepare epoxy resins using accurate measuring containers, calibrated pumps, or other means approved by Architect or Restoration Consultant to ensure proper proportioning of resins and hardeners. Mix each batch in clean container without traces of cured resins. Mix components thoroughly following manufacturer's instructions. Do not mix more epoxy resin than can be applied before it thickens sufficiently to affect its use.
2. Wood Consolidant: Mix resin and hardener as recommended by manufacturer to provide material of a viscosity that will thoroughly penetrate deteriorated wood.
3. Wood Filler: Mix resin, hardener, and fillers as recommended by manufacturer and as determined by testing to provide appropriate properties for filling in each case. Composition of filler may vary depending on surface area of patch, depth of patch, whether patch is on vertical or horizontal surface, temperature of wood and surrounding air at time of application, and other conditions affecting action of epoxy resin and fillers. Adjust ingredients and proportions within limits recommended by manufacturer to provide optimum filler for each condition.

I. Painting Primer:

1. Benjamin Moore Fresh Start Moorwhite Penetrating Alkyd Primer 100 , Benjamin Moore Company, Inc. 101 Paragon Drive, Montvale, NJ 07645,
2. PPG Seal Grip Alkyd Primer, PPG Industries, One PPG Place, Pittsburg, PA 15272
3. Sherwin Williams All Surface Enamel Oil Primer, The Sherwin Williams Company, 101 West Prospect Ave, Cleveland, OH 44115
4. Or approved equal

J. Paint for Doors – Finish Coats One and Two:

1. Aura Waterborne Exterior Semi-Gloss Finish 632, Benjamin Moore Company, Inc. 101 Paragon Drive, Montvale, NJ 07645, or approved
2. PPG Manor Hall Timeless Exterior Paint, PPG Industries, One PPG Place, Pittsburg, PA 15272
3. Emerald Exterior Acrylic Latex Paint, The Sherwin Williams Company, 101 West Prospect Ave, Cleveland, OH 44115
4. Or approved equal

**2.02 HARDWARE**

- A. Install hardware provided under Section 08 70 00.
- B. Existing push/pull hardware and kick plates.
  1. Clean, polish and restore to function existing push/pull hardware and kick plates.

**PART 3 - EXECUTION**

**3.01 FIELD CONDITIONS**

- A. Take all necessary field measurements and verify all installation conditions prior to ordering and fabrication of material.



- B. Provide temporary protection at door openings during door restoration operations maintain draft barrier at opening .

### **3.02 EXAMINATION**

- A. Contractor shall inspect each door with the Architect or Restoration Consultant, note the actual conditions of the doors, and take all necessary field measurements. Contractor shall be responsible for notifying the Architect or Restoration Consultant of conditions detrimental to the proper and timely completion of the Work and shall not proceed until unsatisfactory conditions are corrected.

### **3.03 WOOD DOOR RESTORATION – GENERAL**

- A. General: Repair all stiles and rails as shown and scheduled using methods specified in this Section. Restoration work includes all work necessary to provide completely restored doors complying with intent of this Section and is not limited to specific items noted on Drawings and in schedules.
- B. Work shall comply with requirements of AWI Section 1000 for “Premium Grade” new doors. Profiles and dimensions shall match exactly profiles and dimensions of the existing doors to be restored.
- C. Joinery of door stiles, rails panels shall be fabricated to match existing joinery or to comply with requirements of AWI for “Premium Grade” new doors, whichever is more stringent.
- D. All Wood Components: Replace or repair all missing, rotted, broken, worn or otherwise defective stiles, rails as shown on the drawings. Finished doors shall be fully intact, structurally sound, and draft tight using materials as specified according to manufacturer’s instructions and/or as indicated in the drawings and specifications.

### **3.04 GENERAL RESTORATION SEQUENCE - EACH DOOR TO BE RESTORED.**

- A. Remove and label doors.
- B. Inspect each door leaf with Architect or Restoration Consultant, whose decisions on repair or replacement measures will be final.
- C. Provide temporary protection at door openings as specified herein..
- D. Strip paint from door and repair door.
- E. Prime and Paint doors
- F. Rehang Doors with both new and restored hardware.
- G. Make final adjustments to hardware to achieve optimum operation.

### **3.05 DOOR REMOVAL AND PROTECTION**

- A. Temporary Protection: Provide temporary closure of door openings.
  - 1. Install 3/4-inch-thick MDO exterior grade plywood panels to act as a draft stop at each door opening when door has been removed. Panels to be one piece – cut from 5ft x 12ft sign panels. Size plywood panels to exact dimensions of openings and secure against blind stop with blocking and screws installed into frame through hinge mortises.

### **3.06 DOOR RESTORATION**



- A. Door Repair: Inspect door components for condition. Test wood using an ice pick and moderate hand pressure to determine extent and depth of deterioration. Repair and replace wood elements as required to provide a sound door with all members having original planes and profiles.
1. Member Replacement and Major Repair: Disassemble door and remove members that are severely deteriorated.
    - a. Where more than one-third of member is deteriorated, provide new wood member matching original member as specified in Article "Member Replacement," below.
    - b. Where one-third or less of member is deteriorated, provide dutchman repairs to replace completely deteriorated portions of members following requirements of Article "Wood Element Restoration," below.
  2. Member Consolidation, Patching, and Small Dutchman Repair: Repair members where less than one third of member is deteriorated using dutchmen and epoxy consolidation and patching.
    - a. Dutchman Repairs: Use dutchmen to repair where wood is missing equal to or greater than 1 inch x 1 inch x 1/2 inch deep following requirements of Article "Wood Element Restoration," below.
    - b. Consolidation and Filling: Consolidate areas of members where wood is deteriorated, consolidate and patch areas where wood is missing, and fill small holes (less than 1 inch x 1 inch x 1/2 inch deep), cracks, and open joints using epoxy fillers. Follow requirements of Article "Wood Element Restoration," below.
  3. Joint Repair: Tighten loose and open joints in doors by disassembling door and reassembling members using specified adhesive and replacement hardwood pins. Clamp doors until adhesive sets.
- B. Finishing
1. Sanding and Cleaning: Sand all wood door elements to smooth surfaces. Remove sanding dust and dirt using tack clothes.
  2. Wood Preservative Treatment: Treat sash members with wood preservative. Liberally apply two coats to all surfaces. Allow 24 hours between coats and three days between final coat and priming.
  3. Painting: Prime door leaves before installation. See paragraph 3.12 Painting of doors.

### **3.07 INSTALLATION OF RESTORED DOORS**

#### **A. EXAMINATION:**

1. Examine areas to receive doors. Notify Architect of conditions that would adversely affect installation or subsequent use. Do not proceed with installation until unsatisfactory conditions are corrected

#### **B. Finish hardware shall be furnished under SECTION 08 70 00 – FINISH HARDWARE Section and shall be received, checked, stored and installed under this Section.**

#### **C. PREPARATION:**

1. Ensure existing frames ready to receive doors.

#### **D. INSTALLATION:**

1. Install doors true to line, and without warp or rack.
2. Install hardware to doors and frames in accordance with manufacturer's instructions, fit accurately, apply securely and adjust carefully. Use care not to injure adjacent work when installing hardware. Hardware shall be installed by skilled mechanics and shall be accurately fitted and adjusted.

E. ADJUSTING:

1. Adjust doors, hinges, and closers for smooth operation without binding.

**3.08 ADJUST AND CLEAN**

- A. General: Within one week of date set for inspection to establish Substantial Completion, examine doors and adjust for optimum operation.
- B. Adjust and check each window and each operating item of hardware to ensure proper operation and function of every unit.
- C. Lubricate moving parts including existing pulleys with machine oil. Replace elements that cannot be adjusted and lubricated to operate freely and smoothly for the application made.
- D. Clean new and existing finish hardware.
- E. Clean glass.

**END OF SECTION**

**Section 08 01 52****WOOD WINDOW RESTORATION****PART 1 - GENERAL****1.01 GENERAL REQUIREMENTS**

- A. Division 00 and 01 are hereby made a part of this section.
- B. Examine all conditions as they exist at the project prior to submitting a bid for the work of this section.

**1.02 SECTION INCLUDES**

- A. General: Provide all labor, materials, equipment, and services required for wood window restoration at Faneuil Hall in Boston, Massachusetts, as indicated on the Drawings, as specified herein, and as may be required by conditions and authorities.
- B. Note that some window sashes and frames are to be restored in place and some window sashes are to be removed the windows restored in a shop. The scope of the restoration is indicated on the drawings.
- C. Wood window restoration for windows where sash is to be left in place should include, but not be limited to, the following:
  - 1. General: Restore all components of the existing windows, including frames, sash, stops, hardware and glazing as indicated on the drawings. Restoration of the windows consists of partial paint and glazing compound removal. Repairs of surface deterioration of sash and frames. Complete priming and painting of sash on frames.
  - 2. Remove interior storm windows, provide 3/8" vent holes along the top radius of the upper storm window as shown on the drawings. Provide 3/8" vent holes at the bottom of the lower storm window as shown on the drawings. Reinstall interior storm windows after restoration of the windows.
  - 3. Prior to commencing full scope of work, restore one window frame and sash for confirmation of materials to be used and quality of work. This work will be considered the required mock-up and samples.
  - 4. Remove paint and putty from both frames, sashes and all other window components according to the Lead Removal Requirements of the State of Massachusetts and in compliance with all other State, Federal, and Local regulations.
  - 5. Prime and finish paint all window components both on the interior and exterior.
  - 6. Remove existing sealant and install new sealant in joint between masonry and window brick mold.
  - 7. Remove existing window lock at the meeting rail of each window. Re-install restored window lock in original location at meeting rail of each window as shown on the drawings.
  - 8. Clean all glass at completion of the work
- D. Wood window restoration where sash is to be removed should include, but not be limited to, the following.:



1. General: Restore all components of the existing windows, including frames, sash, stops, hardware and glazing. Restoration of the windows consists of paint removal, consolidation and filling of deteriorated areas of sash and frame with specified epoxy materials, dutchmen repairs, replacement of sash and frame components, fabrication and installation of replicated sash, puttying of all sash, replacement of broken glass, re-installation of salvaged existing glass, priming, painting and making the sash operable.
  2. Remove interior storm windows, provide 3/8" vent holes along the top radius of the upper storm window as shown on the drawings. Provide 3/8" vent holes at the bottom of the lower storm window as shown on the drawings. Reinstall interior storm windows after restoration of the windows.
  3. Prior to commencing full scope of work, restore one window frame and sash for confirmation of materials to be used and quality of work. This work will be considered the required mock-up and samples.
  4. Remove paint and putty from both frames, sashes and all other window components according to the Lead Removal Requirements of the State of Massachusetts and in compliance with all other State, Federal, and Local regulations.
  5. Prime and finish paint all window components both on the interior and exterior.
  6. Remove old weatherstripping and install new weather-stripping on all restored windows.
  7. Remove existing sealant and install new sealant in joint between masonry and window brick mold.
  8. Remove existing window lock at the meeting rail of each window. Re-install restored window lock in original location at meeting rail of each window.
  9. Clean all glass following reinstallation of sash.
- E. For windows where sash is to be removed: Levels of Window Restoration: At completion of window restoration, restored windows shall include all wood, glass, putty, hardware, paint and sealant. All restored windows shall have the lower sash fully operable. The upper sash shall be fixed, but movable for future servicing. Restoration shall include stripping of paint and coatings, repair and replacement of all damaged and deteriorated wood elements (using consolidation, patching, dutchman repairs, member replacement, and element replacement), surface preparation and painting, installation of new hardware, removal and reinstallation of existing glazing, installation of new glazing where glazing is missing or not salvageable and sealing joints at window assembly perimeter at masonry.
- F. Intent: It is the specific intent of this Section where window sash is to be removed to provide for complete restoration of wood windows to structural soundness, weather tightness, optimum operating condition, and excellent visual appearance with the retention of all sound existing elements and the patching, restoration, or replacement of all missing, damaged, or deteriorated elements for windows to be restored. All work required to fulfill these intents shall be included as work of this Section except that work specifically delineated in other Sections.

### 1.03 RELATED REQUIREMENTS

A. The following related work is to be performed under the designated Sections:

1. Section 01 22 00 – UNIT PRICES
2. Section 02 83 19 - LEAD-CONTAINING PAINT CONSIDERATIONS
3. Section 07 90 00 – JOINT SEALANTS
4. Section 09 91 00 – PAINTING

### 1.04 QUALITY ASSURANCE

A. Wood Millwork Restoration Specialist: Window restoration work to be performed by a firm regularly engaged in restoring wood windows on historic buildings that can demonstrate to Owner's, Architect's and Restoration Consultant's satisfaction that, within previous five years, it has successfully performed and completed in a timely manner at least three projects similar in scope and type to work required on this Project involving facilities designated as Landmarks by local governmental authorities, buildings listed on the National Register of Historic Places, or buildings listed on a State Register of Historic Places.

1. Foreman: Wood window restoration shall be directly supervised by a full-time foreman with experience equal to or greater than that required of Wood Millwork Restoration Specialist. Foreman shall read and speak English fluently. Foreman shall be on site at all times when work is being performed on site. The same foreman shall remain on the Project throughout work unless his performance is deemed unacceptable.
2. Mechanics: Wood window restoration shall be carried out by a steady crew of skilled mechanics who are thoroughly experienced with materials and methods specified and have a minimum of three years' experience with work on historic buildings similar to that required by this Section. In acceptance or rejection of work of this Section, no allowance will be made for workers' incompetence or lack of skill.

B. Laws, Codes, and Regulations: All work of this Section shall comply with all applicable federal, state, and local laws, codes, and regulations.

C. Standards: Work of this Section shall comply with requirements and recommendations of the following standards, with requirements of this Section, and with applicable laws, codes, and regulations. In each case in which there is a conflict between the requirements, the most stringent and restrictive requirement shall govern.

1. Architectural Woodwork Institute (AWI), Architectural Woodwork Quality Standards, latest edition. Except as otherwise indicated, provide "Premium Grade, Class I" materials and workmanship for all wood window work of this Section.
2. ANSI/WDMA Standard I.S.2. Repair existing windows to meet infiltration requirements of Class A windows.
3. National Park Service Preservation Briefs, 9: John H. Myers, The Repair of Historic Wooden Windows.
4. Wood-Epoxy Repairs for Exterior Woodwork," by John Leeke, Preservation Consultant



**1.05 SUBMITTALS**

- A. Submit each item in this Article in compliance with the Conditions of the Contract and Division 1 specification sections. Revise and resubmit each item as required to obtain approval of Architect or Restoration Consultant.
- B. Qualification Data: Qualification data for firm and personnel specified in "Quality Assurance" Article that demonstrates that both firm and personnel have capabilities and experience complying with requirements specified. For firm and foreman, provide a list of at least three completed projects within the New England Region similar in size and scope to work required on this Project. For each project list project name, address, architect, conservator, supervising preservation agency, scope of contractor's work, and other relevant information.
- C. Product Data: Manufacturer's technical data for each product to be used in work of this Section. Include test reports and certificates substantiating that product complies with specified requirements, recommendations for application and use, and Material Safety Data Sheets (MSDS).
- D. Shop Drawings
  - 1. Drawings of all windows requiring sash replacement, member replacement, or major dutchman repair and of each type of window in which operation of sash is to be modified. Show dimensioned elevations and sections and full-size details of all typical members and joinery. Identify materials. Show hardware, glazing, and methods of securing and joining both for sash and frame members.
  - 2. Shop drawings shall clearly indicate any deviation from designs or details of existing windows.
  - 3. All dimensional information contained in Drawings, whether numerical, tabular, or graphic, is provided only for Contractor's information and is not guaranteed. Contractor shall verify all dimensions in the field.
- E. Schedule: A schedule of work showing all windows and including finishes, wood types, locations, dimensions, and types of repair or replacement of each window assembly. Schedule shall indicate time of completion of each task and shall note temporary closure of opening while sash is removed for restoration.
- F. Samples
  - 1. Wood for Repair and Replacement: 6-inch x 12-inch x 1-inch samples of each type to be used.
  - 2. Wood Member Profiles: 12-inch-long pieces of each profile required for repair, replacement, or alteration.
  - 3. Weatherstripping: 12-inch-long samples of each type.
  - 4. New Hardware: Sample of each type required.
- G. Quality Control Samples: Perform quality control samples as specified in Article "Quality Control Samples," below.

**1.06 QUALITY CONTROL SAMPLES**

- A. General: Before beginning general wood window restoration, prepare quality control samples to provide standards for work of this Section. Do not proceed with wood



window restoration until Architect or Restoration Consultant has approved quality control samples.

1. Quality control samples to be performed on Project Window #E307 or as directed by Architect or Restoration Consultant.
2. Notify Architect or Restoration Consultant 48 hours prior to start of quality control samples.
3. Architect or Restoration Consultant will monitor quality control samples.
4. Use crew that will execute the work and follow requirements of this Section.
5. Repeat quality control samples as necessary to obtain Architect or Restoration Consultant's approval
6. Protect approved quality control samples to ensure that they are without damage, deterioration, or alteration at time of Substantial Completion.
7. Approved quality control samples in undamaged condition at time of Substantial Completion may be incorporated into the Work.
8. Approved quality control samples will represent minimum standards for wood window restoration. Subsequent wood window restoration work that does not meet standards of approved quality control samples will be rejected.

**B. Prepare the Following Quality Control Samples –**

1. On Window Frame: Stripping of coatings on blind stop and brick molding of entire frame.
2. On Window Frame: Replacement of entire window sill.
3. On Window Frame: Dutchman Repairs - Two repairs.
4. On Window Frame: Wood Consolidation and Patching - Two locations.
5. On Window sash: Replication of upper window sash including priming of sash and reglazing of all lites. Restoration of Lower sash including priming of sash and reglazing of all lites.
6. All work in preparing the quality control samples shall be done in accordance to all drawings and specifications.

**1.07 DELIVERY, STORAGE, AND HANDLING**

- A. General: Deliver, store, and handle all materials to protect them from damage, moisture, dirt, and introduction of foreign matter. Store materials on raised platforms and under ventilated, waterproof cover. Store packaged materials in manufacturer's unopened containers, marked with manufacturer's name and product brand name. Immediately reseal containers after partial use. Remove damaged and deteriorated materials and replace with fresh materials.
- B. Do not deliver or install kiln-dried materials unless spaces in which they will be stored and in which they will be installed are sufficiently dry. Obtain Architect or Restoration Consultant's approval before delivering such materials.

**1.08 PROJECT CONDITIONS**

- A. Safety: Take all necessary precautions to protect all persons, whether engaged in work of this Section or not, from all hazards of any kind associated with the work of this Section.
- B. Protection of Building: Protect building elements and finishes from damage or deterioration caused by work of this Section. Repair any damage to materials or finishes to Architect or Restoration Consultant's satisfaction at no additional cost to Owner.
  - 1. Take all necessary precautions to prevent fire and spread of fire.

### **1.09 ENVIRONMENTAL CONDITIONS**

- A. General: Perform work only when temperature of products being used, temperatures of existing and new materials, and air temperature and humidity comply with product manufacturer's requirements and requirements of this Section. In case of conflict, the most stringent requirements shall govern.
- B. Use of Epoxy Resins: Mix and apply epoxy resins only when temperatures are between 50 degrees Fahrenheit and 80 degrees Fahrenheit in work area and of all substrates.

### **1.10 LEAD-CONTAINING PAINT (LCP)**

- A. General: Perform all work that disturbs lead-containing paint (LCP), handle all material that involves lead-containing paint, and transport and dispose of all lead-containing paint and residue in compliance with all applicable Federal, State, and Local laws and regulations for identification, removal, labeling, handling, containerization, transportation, and disposal of lead-containing material including, but not limited to, those referenced herein.
- B. U.S. Department of Labor OSHA Regulations: Including but not limited to: Title 29, Code of Federal Regulations (CFR) Section 1926.62: "Lead Exposure in Construction" and Title 29, CFR Section 1910.1200: "Hazard Communication Standard."
- C. U.S. Environmental Protection Agency (USEPA) Regulations: Including but not limited to: Title 40 CFR Part 262: "Standards Applicable to Generators of Hazardous Waste" and Part 263: "Standards Applicable to Transporters of Hazardous Waste."
- D. U.S. Department of Transportation (USDOT) Regulations: Including but not limited to: 49 CFR Parts 172, 173, 174, 175, 177, 178, 179, and 180.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS, GENERAL**

- A. Grades of all wood materials under this Section shall be as defined by the rules of the recognized Association of Lumber Manufacturers producing materials specified. Materials for millwork shall meet or exceed the requirements for "Premium Grade, Class 1" work as established by Architectural Woodwork Institute's Architectural Woodwork Quality Standards. Where conflicts occur between these standards and requirements of this Section, the more stringent or restrictive requirement shall govern in each case.
- B. All wood materials shall be of sound stock, thoroughly seasoned, and kiln-dried to a moisture content not exceeding 12 percent.



- C. Work that is to be finished or painted shall be free from defects and blemishes on surfaces exposed to view that will show after finish coat of paint is applied. Materials that are in any way defective and not up to specifications for quality and grade, or otherwise not in proper condition, shall be rejected.
- D. Wood for Replacement Sashes:
1. Species used for new wood window sashes shall be Central American Mahogany Premium Grade, Class 1. Stock shall be either quarter or rift sawn only.
- E. Wood for Dutchman Repairs or Replacement of Components in Existing Window Frames or Sash:
1. For dutchmen match existing wood species; Premium Grade, Class 1.
  2. Wood for replacement of components within existing window frame or sash including parting beads shall be Central American mahogany Premium Grade, Class 1. Stock shall be either quarter or rift sawn only.
- F. Strippers for Removing Paint and Other Coatings from Wood:
1. Back-to-Nature Double Duty (VII); as manufactured by Back to nature Products, Inc., 28 Harrison Ave., Englishtown, NJ 07726
  2. Peel Away 7, as manufactured by Dumond Chemicals Inc., 1501 Broadway, New York, NY 10036
  3. S-303 Paint Stripper, available from Cathedral Stone Products Inc., 7266 Park Circle Dr., Hanover, MD 21076
  4. Or approved equal
  5. Test the products listed above on each type of coating to be removed. Perform additional tests using different dwell times and other variations as directed by the Architect to determine the most effective procedures for removing each type of paint and coating from each substrate.
- G. Epoxy Adhesives for Dutchman Repairs or Jointing of New components or Entire Sash:
1. West System as manufactured by Gougeon Brothers, Inc., 706 Martin Street, Bay City, Michigan 48706. Provide the following materials as appropriate to each condition: 105 Resin; 205 Fast Hardener; 206 Slow Hardener.
  2. Abatron, Inc. 5501 95th Ave, Kenosha, WI 53144
  3. Advance Repair Technology P.O. Box 510 Cherry Valley, NY 13320
  4. Or approved equal
- H. Epoxy Wood Consolidation and Patching System:
1. West System as manufactured by Gougeon Brothers, Inc., 706 Martin Street, Bay City, Michigan 48706. Provide the following materials as appropriate to each condition requiring consolidation and patching: 105 Resin; 205 Fast Hardener; 206 Slow Hardener; 403 Filler: Microfibers; 406 Filler: Colloidal Silica; 407 Filler: Micro balloons; and 409 Filler: Microspheres; or approved equal.
  2. Abatron, Inc. 5501 95th Ave, Kenosha, WI 53144



3. Advance Repair Technology P.O. Box 510 Cherry Valley, NY 13320
4. Or approved equal

I. Epoxy Systems - General:

1. Prepare epoxy resins using accurate measuring containers, calibrated pumps, or other means approved by Architect or Restoration Consultant to ensure proper proportioning of resins and hardeners. Mix each batch in clean container without traces of cured resins. Mix components thoroughly following manufacturer's instructions. Do not mix more epoxy resin than can be applied before it thickens sufficiently to affect its use.
2. Wood Consolidant: Mix resin and hardener as recommended by manufacturer to provide material of a viscosity that will thoroughly penetrate deteriorated wood.
3. Wood Filler: Mix resin, hardener, and fillers as recommended by manufacturer and as determined by testing to provide appropriate properties for filling in each case. Composition of filler may vary depending on surface area of patch, depth of patch, whether patch is on vertical or horizontal surface, temperature of wood and surrounding air at time of application, and other conditions affecting action of epoxy resin and fillers. Adjust ingredients and proportions within limits recommended by manufacturer to provide optimum filler for each condition.

J. Glazing:

1. Float Glass: – Color and thickness to match the historic glass in the existing windows as nearly as possible. Glass only to be installed to replace missing glass or glass that is not salvageable due to existing defects before start of sash restoration.
2. Glazing Accessories: Provide zinc coated steel glaziers points.

K. Glazing Compound:

1. Sarco Multi-glaze, Type M manufactured by Sarco Putty Co., 5959 S. Knox Ave. Chicago, IL 60629
2. Allback Linseed Oil Putty, Distributed by HPS North America, 515 Wilhite Street, Florence, AL 35630
3. Dap 33 Glazing Compound, Dap Products Inc., 2400 Boston Street, Suite 200, Baltimore. MD 21224
4. Or approved equal

L. Wood Preservative Treatment

1. Clear Wood Preservative: WDMA tested and accepted preservative and water-repellent formulation containing 3-iodo-2-propynyl butyl carbamate (IPBC) as its active ingredient. Use chemical formulation that does not bleed through or otherwise adversely affect finishes. Do not use colorants in solution to distinguish treated material from untreated material.
  - a. Treat all new wood members for replacement and all new elements and all other wood indicated to receive treatment on the drawings or in the specifications.

- b. Wood Required to Be Preservative Treated: Brush applied or dip treatment of specified wood preservative in conformance with standards of the American Wood Preservers Association and with WDMA I.S.4.

M. Painting Primer:

1. Benjamin Moore Fresh Start Moorwhite Penetrating Alkyd Primer 100 , Benjamin Moore Company, Inc. 101 Paragon Drive, Montvale, NJ 07645,
2. PPG Seal Grip Alkyd Primer, PPG Industries, One PPG Place, Pittsburg, PA 15272
3. Sherwin Williams All Surface Enamel Oil Primer, The Sherwin Williams Company, 101 West Prospect Ave, Cleveland, OH 44115
4. Or approved equal

N. Paint for Window Sash Exterior and Frames – Finish Coats One and Two:

1. Aura Waterborne Exterior Semi-Gloss Finish 632, Benjamin Moore Company, Inc. 101 Paragon Drive, Montvale, NJ 07645, or approved
2. PPG Manor Hall Timeless Exterior Paint, PPG Industries, One PPG Place, Pittsburg, PA 15272
3. Emerald Exterior Acrylic Latex Paint, The Sherwin Williams Company, 101 West Prospect Ave, Cleveland, OH 44115
4. Or approved equal

## 2.02 HARDWARE

A. General: Provide each restored window with full complement of hardware and fasteners matching that on original windows, except where hardware is specifically indicated to be modified. Provide salvaged, restored existing hardware where indicated on the drawings and new where hardware is missing or existing hardware is historically inappropriate, damaged or deteriorated so as to be unsalvageable.

B. Sash Pulleys:

1. Clean and lubricate all sash pulleys to make operational. Replace sash pulleys too damaged or deteriorated to provide sound operation with new pulleys with a size and design to match existing.
  - a. Replacement sash pulley to be solid brass or bronze ball bearing pulley as available from:
    - i. Kilian Hardware Company, 8460 Germantown Ave, Philadelphia, PA 19118
    - ii. The Architectural Resource Center, 557 Old Turnpike Road, Northwood, NH 03261
    - iii. Zero International, 415 Concord Ave., Bronx, NY 10455
    - iv. Or approved equal

C. Sash Chains:

1. Replace all missing and or deteriorated existing sash chains with new chains to match existing.



- a. Replacement chain to be solid bronze chain, 200 lb. test min. as available from:
  - i. Kilian Hardware Company, 8460 Germantown Ave, Philadelphia, PA 19118
  - ii. The Architectural Resource Center, 557 Old Turnpike Road, Northwood, NH 03261
  - iii. Zero International, 415 Concord Ave., Bronx, NY 10455
  - iv. Or approved equal
- D. Sash Weights:
  1. Clean existing weights. Add additional weight to existing weights to balance any inadequately balanced sash.
- E. Sash Locks:
  1. Clean, polish and restore to function, existing sash locks at windows #E303, #E304 and #E305. At windows #E301, #E302, #E306 and #E307 replace existing sash lock. At window #E501 provide and install a new sash lock.
    - a. New sash locks to be cam type, solid brass or bronze with stainless steel springs. Finish to be selected by Architect from manufacturer's full line of finishes.
    - b. Sash locks as available from:
      - i. Kilian Hardware Company, 8460 Germantown Ave, Philadelphia, PA 19118
      - ii. The Architectural Resource Center, 557 Old Turnpike Road, Northwood, NH 03261
      - iii. Rocky Mountain Hardware, 1020 Airport Way, Hailey, Idaho 83333
      - iv. Or approved equal
- F. Weatherstripping: Provide solid continuous bronze weatherstripping for operable sash in shapes indicated below.
  1. Manufacturer: Subject to compliance with requirements, provide products of one of the following:
    - a. Zero International Co., 415 Concord Ave., Bronx, NY 10455
    - b. Reese Enterprises, Inc., 16350 Asher Ave., Rosemount, NM 55068
    - c. National Guard Products, Inc., 4985 East Raines Rd., Memphis, TN 38118
    - d. Or approved equal
  2. Double-Hung Sash Windows: Series No. 6 by Zero Weatherstripping Co., Inc. Equal products by other listed manufacturers will be accepted.
    - a. Meeting Rails: Nos. 2 & 3
    - b. Jamb: Nos. 4 & 5
    - c. Top Rail: No. 1
    - d. Bottom Rail: No. 1

### **PART 3 - EXECUTION**

#### **3.01 FIELD CONDITIONS**



- A. Take all necessary field measurements and verify all installation conditions prior to ordering and fabrication of material.
- B. Provide temporary protection at window openings during window restoration operations to prevent water entry. Plywood used to cover the windows shall have an image overlay as indicated in paragraph 3.05 Window Removal and Protection - D.1. of this section.

### **3.02 EXAMINATION**

- A. Contractor shall inspect each window with the Architect or Restoration Consultant, note the actual conditions of the windows, and take all necessary field measurements. Contractor shall be responsible for notifying the Architect or Restoration Consultant of conditions detrimental to the proper and timely completion of the Work and shall not proceed until unsatisfactory conditions are corrected.

### **3.03 WOOD WINDOW RESTORATION – GENERAL**

- A. General: Repair all frames, sills, sash, and trim as shown and scheduled using methods specified in this Section. Restoration work includes all work necessary to provide completely restored windows complying with intent of this Section and is not limited to specific items noted on Drawings and in schedules.
- B. Work shall comply with requirements of AWI Section 1000 for “Premium Grade” new window sash. Profiles and dimensions shall match exactly profiles and dimensions of the 1806 Bulfinch Windows - #E304, #E305, #E306 and #E307
- C. Joinery of window rails, stiles, meeting rails and muntins shall be fabricated to match existing joinery or to comply with requirements of AWI for “Premium Grade” new window sash, whichever is more stringent.
- D. All Wood Components: Replace or repair all missing, rotted, or otherwise defective trim, stops, brick moldings, frames, casings, parting beads, stiles and rails of all windows. Finished windows shall be fully intact, structurally sound, and weather tight windows using materials as specified according to manufacturer’s instructions and/or as indicated in the drawings and specifications. For holes, indentations, gouges, missing pieces less than 1 inch x 1 inch x 1/2 inch deep use two part epoxy consolidant and two part epoxy wood replacement compound as indicated in the drawings and specifications. For holes, indentations, gouges, missing pieces equal to or greater than 1 inch x 1 inch x 1/2 inch deep use two part epoxy consolidant and dutchmen replacement wood.
- E. Preservative Treatment: Preservative treat carpentry and millwork materials as indicated in the drawings and specifications and in addition all wood exposed to weather or in contact with masonry or other dissimilar materials as specified herein, including all field cuts and fittings.

### **3.04 GENERAL RESTORATION SEQUENCE - EACH WINDOW TO BE RESTORED**

- A. Label all sashes.
- B. Removal of, providing vent holes in, and reinstallation of interior storm windows.
- C. Label and remove inside stops for reinstallation.
- D. Inspect each window unit with Architect or Restoration Consultant, whose decisions on repair or replacement measures will be final.

- E. Remove sash for repair, alteration and restoration on bench.
- F. Provide temporary protection at window openings as specified herein.
- G. Remove glazing putty and glaziers points: Remove glass using methods to prevent cracking, chipping or breaking of glass. Map location of glass lites in order that glass can be re-installed in sash to be restored or new sash to be fabricated in the same locations as it existed.
- H. Strip paint from sash, repair sash.
- I. Prime and paint sash and prepare sash to receive new glazing and glaze sash.
- J. Thoroughly strip, sand, and repair frame in place. Alter frame, where relevant, as required for new operation.
- K. Prime frame.
- L. Install new or restored sash.
- M. Install weatherstripping.
- N. Restore existing hardware and install new hardware.
- O. Finish paint sash exterior frame components and stone subsill.
- P. Install inside stops.
- Q. Make final adjustments to weatherstripping and hardware to achieve optimum operation.
- R. Finish paint interior of window sash and interior window trim.
- S. Seal around brick mold.

### **3.05 WINDOW REMOVAL AND PROTECTION**

- A. Interior Storm Windows: Remove interior storm windows so that interior trim and sash are not damaged. Prepare the interior storm windows vent holes.
- B. Interior Trim: Carefully remove stops and other interior wood trim at window openings as required for removal of sash and restoration of windows; label each member by schedule number; and stack neatly in area designated by Architect or Restoration Consultant. Contractor shall be responsible for safe removal and storage of interior wood trim. Contractor shall replace all material that is damaged or lost at no additional cost to Owner.
- C. Sash: Remove sash for restoration.
- D. Temporary Protection: Provide temporary closure of window openings.
  - 1. Seal all even windows openings with 3/4-inch-thick MDO exterior grade plywood panels. Panels to be one piece – cut from 5ft x 12ft sign panels. Refer to Section 09 91 00 for panel painting requirements. The Architect will provide to the Contractor a JPEG image of the exterior of a complete existing window sash assembly. (One complete opening.) Using the JPEG image provided by the Architect, The contractor shall prepare a full size 3mm self-adhered exterior grade vinyl overlay image of the sash to be adhered to the plywood panels – seven locations.



2. Size plywood panels to exact dimensions of openings and secure against blind stop with blocking and screws installed into frame through parting bead groove. Temporarily seal perimeter with latex sealant.

### **3.06 COATING REMOVAL FROM SASHES, FRAMES AND STONE SUB-SILL**

#### **A. General:**

1. Remove all existing coatings from exterior wood frames (including sills, blind stops and brick molding. Paint removal shall also include remove of all coatings on stone sub-sills below each window sill. Remove all existing coatings on interior and exterior of wood sashes to be restored.

#### **B. Stripper Application:**

1. Apply paint stripper selected during testing and confirmed during mock-ups for sash, frame and sub-sill surfaces where coatings are to be removed following manufacturer's instructions
2. Dwelling Time: Allow stripper to remain on surface of coatings for time determined during testing. Do not allow stripper to dry on surface. Apply additional stripper to ensure that material remains moist.

#### **C. Coating Removal:**

1. Scrape stripper and coating from surface using plastic scrapers with rounded corners. Remove any remaining coating using damp sponges and water and as otherwise recommended by the stripper manufacturer.
2. Repeat removal process as required to remove coatings to achieve surface matching approved mock-up to Architect's satisfaction.

### **3.07 FRAME RESTORATION**

#### **A. Preparation**

1. Remove dirt and debris from frame, including loose dirt inside window frames accessible from jamb access panels.
2. Remove extraneous nails, staples, bolts, hooks, etc. from window frame and wood trim.
3. Protect frame and opening from weather. Dry all existing wood to moisture content below 17 percent.
4. Strip paint from frame members, brick molds, sills, sub-sills and trim. Use care to avoid damage to wood.

#### **B. Frame Repair Procedure: Inspect all frame components for condition. Test wood using an ice pick and moderate hand pressure to determine extent and depth of deterioration. Repair and replace wood elements as required to provide sound frame with all members having original planes and profiles.**

1. Member Replacement: Disassemble frame as required to remove severely deteriorated components. Provide new wood members matching original members as specified in Article "Member Replacement," below.
  - a. Partial Sill Replacement: Where more than 50 percent of wood in sill is deteriorated, remove accessible portion of sill, consolidate remaining portion, and



provide dutchman to replace removed portion of sill. Install dutchmen using wood dowels (three per sill) and specified adhesive.

2. Member Repair: Consolidate areas of members where wood is deteriorated, consolidate and patch areas where wood is missing, and fill small holes (less than 1 inch x 1 inch x 1/2 inch deep), cracks, and open joints using two part epoxy fillers. Provide dutchman repairs for holes equal to or greater than 1 inch x 1 inch x 1/2 inch deep. Follow requirements of Article "Wood Element Restoration," below.
3. Joint Repair: Tighten loose and open joints in frame using specified adhesive and fasteners. All replacement fasteners shall be hot dipped galvanized or stainless steel.

#### C. Wood Preparation for Painting

1. Sanding and Cleaning: Sand all wood frame and trim elements to smooth surfaces. Remove sanding dust and dirt using tack clothes.
2. Wood Preservative Treatment: Treat all unpainted exterior and concealed wood surfaces with wood preservative. Liberally apply two coats to all surfaces. Spray treat concealed head and jamb members. Allow 24 hours between coats and three days between final coat and priming.

### **3.08 SASH RESTORATION**

#### A. Glass Removal:

1. Remove glazing compound using methods that do not damage wood elements to remain or break, crack, chip or scratch the existing glass.
2. Remove all glass lites from sash. Use methods that will ensure glass lites are not cracked, chipped or broken during removal. Catalogue glass so it can be re-installed in the same sash in the same location and orientation.

#### B. Sash Repair Procedure: Windows #E304, #E305, #E306, lower sash #E307 and #E501. Inspect sash components for condition. Test wood using an ice pick and moderate hand pressure to determine extent and depth of deterioration. Repair and replace wood elements as required to provide sound sash with all members having original planes and profiles.

1. Member Replacement and Major Repair: Disassemble sash and remove members that are severely deteriorated.
  - a. Where more than one-third of member is deteriorated, provide new wood member matching original member as specified in Article "Member Replacement," below.
  - b. Where one-third or less of member is deteriorated, provide dutchman repairs to replace completely deteriorated portions of members following requirements of Article "Wood Element Restoration," below.
2. Member Consolidation, Patching, and Small Dutchman Repair: Repair members where less than one third of member is deteriorated using dutchmen and epoxy consolidation and patching.
  - a. Dutchman Repairs: Use dutchmen to repair where wood is missing equal to or greater than 1 inch x 1 inch x 1/2 inch deep following requirements of Article "Wood Element Restoration," below.

- b. Consolidation and Filling: Consolidate areas of members where wood is deteriorated, consolidate and patch areas where wood is missing, and fill small holes (less than 1 inch x 1 inch x 1/2 inch deep), cracks, and open joints using epoxy fillers. Follow requirements of Article "Wood Element Restoration," below.
  3. Joint Repair: Tighten loose and open joints in sash by disassembling sash and reassembling members using specified adhesive and replacement hardwood pins. Clamp sash until adhesive sets.
- C. Finishing
1. Sanding and Cleaning: Sand all wood sash elements to smooth surfaces. Remove sanding dust and dirt using tack clothes.
  2. Wood Preservative Treatment: Treat sash members with wood preservative. Liberally apply two coats to all surfaces. Allow 24 hours between coats and three days between final coat and priming.
  3. Painting: Prime and finish paint sash before installation. See paragraph 3.12 Painting of Sash.

### 3.09 SASH REPLICATION

- A. Sash in Windows #E301, #E302, #E303 and upper sash of window #E307: Replicate sash with sizes of stiles, rails and muntins and all profiles to match windows #E304, #E305, #E306, #E501 and bottom sash of #E307.
- B. Finishing
1. Sanding: Sand all wood sash elements to smooth surfaces. Remove sanding dust tack clothes.
  2. Wood Preservative Treatment: Treat sash members with wood preservative. Liberally apply two coats to all surfaces. Allow 24 hours between coats and three days between final coat and priming.
  3. Painting: Prime and finish paint sash before installation.

### 3.10 WOOD ELEMENT RESTORATION

- A. Protection: Where wood elements are restored in situ, protect surrounding building elements and surfaces from contact with epoxy resins using polyethylene sheets and tape or other approved methods. Contractor shall restore or replace building elements and surfaces damaged or deteriorated by epoxy resins to Architect or Restoration Consultant's satisfaction at no additional cost to Owner.
- B. Epoxy Consolidation and Patching - General
  1. Preparation: Following paint removal to bare wood, remove dirt, dust, and other contaminants that might interfere with effectiveness of epoxy consolidation and patching using soft bristle brushes and clean oil-free compressed air.
  2. Manufacturer's Recommendations: Follow two part epoxy manufacturer's instructions for mixing of components, application temperatures, and material handling and manufacturer's recommendations for selection of resins, hardeners, and fillers for each type of consolidation and patching required.
  3. Consolidation and Patching of Wood with Deterioration and Missing Wood Less Than 1/2-Inch Deep: Consolidate deteriorated wood, fill surface with epoxy wood



replacement compound to restore profile, and sand to provide surface matching adjacent wood surface.

- a. Brush apply a heavy coat of two part epoxy wood consolidant onto clean wood surfaces and allow it to soak into wood. Apply an additional coat while previous coat is uncured to completely saturate deteriorated areas of wood.
  - b. Fill depressions, voids, gouges, and cracks with two part epoxy wood replacement compound to restore original planes and profiles. Thoroughly sand cured two part epoxy wood replacement compound to provide proper surface for bond of paint without altering wood profile. (Curing time varies with ambient temperature and product used.) Sand surfaces smooth. No scratches from sanding shall be visible after wood element has been painted.
  - c. Protect two part epoxy wood replacement compound from prolonged exposure to ultraviolet light. Apply primer within 48 hours after resin has cured.
4. Consolidation and Patching of Wood with Deterioration and Wood is missing 1/2-Inch or Greater in Depth: Prepare wood to receive consolidant, consolidate deteriorated wood.
- a. Drill 3/8-inch-diameter holes from surface of deteriorated wood member through deteriorated wood and into sound wood on approximately 3-inch centers. Stagger holes.
    - i. On sills, drill from top of sill through approximately 90 percent of sill thickness.
  - b. Pour low modulus, low viscosity two part epoxy wood consolidant into each hole until hole has been filled. As epoxy is absorbed into wood, top off holes with epoxy until no hole will accept additional consolidant. (If the wood being treated contains water, the water will be forced out by the epoxy without affecting the procedures.)
  - c. Brush apply a heavy coat of two part epoxy wood consolidant on remaining weathered portions of wood element. Repeat brush application until all surfaces being treated are saturated with epoxy wood consolidant and are flush and smooth.
  - d. Install Dutchman to replace missing wood to restore all surfaces to original planes and profiles.
- C. Dutchman Repairs: Prepare substrate and provide dutchman to fill hole or replace deteriorated portion of member matching plane and profile of adjacent surface.
1. Substrate: Neatly cut out defective wood and enough sound wood to ensure that dutchman will bond to sound substrate and to form a prismatic void. Mortise for dutchman shall have square corners and edges. End joints shall be scarf joints.
    - a. Where end of a component is to be replaced by dutchman, use interlocking diagonal scarf joint or interlocking joint (such as open mortise and tenon joint) or both for end-to-end joint between dutchman and existing wood member to provide maximum bonding surface at the joint and increase the structural strength of completed assembly.



2. Dutchman: Cut dutchman to exactly fit void with exposed portion slightly proud of adjacent original wood surface. Grain of dutchman shall run parallel to grain of existing wood member.
3. Installation: Secure dutchman with specified adhesive and clamp (or for frames, nail) in place until adhesive is set.
4. Finishing: Plane or scrape top of dutchman to match plane and profile of adjacent surface. Sand to provide uniformly smooth surface without sandpaper marks or other imperfections. Dutchman shall not be detectable to the naked eye at a distance of 3 feet after surface has been painted.

### **3.11 GLAZING**

- A. Reglaze all restored or replicated sash with existing glass or, if required, due to missing or un-salvageable glass, with new glass as approved by the Architect or the Conservation Consultant. Install existing glazing in same orientation and location as it was located in existing sash.
- B. After sash has been primed, bed glass light in putty sealing between glass and rabbet of sash.
- C. Secure glass with glazier's points.
- D. Apply putty to secure glass to sash. Fill area between sash and glass. Compact putty. Putty line to be straight and true with sharp inside corners. Edge of putty shall not be visible from the interior of the sash looking through the glass. Trim back all "bedding" putty flush with sash interior.

### **3.12 PAINTING OF SASH**

- A. Paint sash while sash is on the bench.
- B. Apply Primer paint to sash after sash has been repaired.
- C. After primer paint has cured, install glass and glazing compound. See Section 3.12 – Glazing.
- D. After glazing compound has cured to the length of time recommended by the glazing compound manufacturer apply an additional coat of primer over the glazing compound. When primer has cured apply the first coat of finish paints to the sash.
- E. Paint shall fully cover the wood of the sash (with the exception of the sides of the stiles) as well as lap onto the glass by approximately 1/16th inch on sash exterior. Paint line at glass shall not be established using masking tape or paint removed from the glass with a blade to establish the paint line.

### **3.13 PAINTING OF FRAME (BLIND STOP, BRICK MOLD, SILL) AND STONE SUB-SILL**

- A. Apply primer and two coats of finish paint to all exterior frame components and stone sub-sill. All work to be done in strict accordance with paint manufacturer's instructions.

### **3.14 INSTALLATION OF NEW AND RESTORED SASH**

- A. Alteration of existing window sash installation:
  1. Fix the movement of all upper sash using wooden stops as shown in the drawings installed in the window track.

- B. General: Install restored existing sash and new replicated sash in restored, primed and painted original frames. Ensure that existing sash are returned to their original locations.
- C. Fitting: Fit properly in frame.
- D. Weatherstripping: Install weatherstripping following weatherstripping manufacturer's recommendations and adjust for proper operation.
- E. Hardware: Install sash using restored existing hardware as specified. Accurately fit and adjust hardware as required for proper operation.
- F. Interior Stops: Install new or repaired interior stops, adjusting for proper fit.
- G. Adjustment: Adjust weatherstripping, hardware, and interior stops for proper window operation.

### **3.15 ADJUST AND CLEAN**

- A. General: Within one week of date set for inspection to establish Substantial Completion, examine windows and adjust for optimum operation.
- B. Adjust and check each window and each operating item of hardware to ensure proper operation and function of every unit.
- C. Lubricate moving parts including existing pulleys with machine oil. Replace elements that cannot be adjusted and lubricated to operate freely and smoothly for the application made.
- D. Clean new and existing finish hardware.
- E. Clean glass.
- F. Repair or refinish elements of restored wood windows that do not meet requirements of this Section to match approved quality control panels and meet requirements of this Section to Architect or Restoration Consultant's satisfaction at no additional cost to Owner.

### **3.16 MODIFICATION AND RE-INSTALLATION OF INTERIOR STORM WINDOWS**

- A. The existing interior storm windows are manufactured by Allied Window Corporation, 11111 Canal Rd. Cincinnati, OH 45241 . The contact at Allied Window Corporation is Dave Martin, 1-800-445-5411.
- B. The interior storm windows are to be modified to accept 3/8" screened vents as indicated on the drawings. The interior storm window are to be modified following recommendations from the original storm window manufacturer: Allied Window Corporation.
  - 1. The 3/8" screened vents which are to be installed by the Contractor will be provided to the Contractor by the Owner.
- C. The contractor shall re-install the interior storm windows following recommendations from the original storm window manufacturer: Allied Window Corporation. This re-installation shall include the setting of the storm window frames in sealant as required by the storm window manufacturer and as specified in Section 07 90 00 Joint Sealers.

**END OF SECTION**



**Section 09 91 00  
PAINTING**

**PART 1 - GENERAL**

**1.01 GENERAL REQUIREMENTS**

- A. Division 00 and 01 are hereby made a part of this section.
- B. Examine all conditions as they exist at the project prior to submitting a bid for the work of this section.

**1.02 SECTION INCLUDES**

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, and without limiting the generality thereof includes:
  - 1. Painting of temporary window enclosure.
  - 2. Finish painting of the of the interior window trim, casing, stops, stools or aprons including finish painting of any new components added during the course of the window restoration.

**1.03 RELATED REQUIREMENTS**

- A. The following items of work are not included in this Section and are specified under the designated Section
  - 1. Section 08 01 52 – WOOD WINDOW RESTORATION.
- B. Materials List: Before purchasing materials for the work, the Contractor shall submit to the Architect a complete list showing (1) the materials specified, and (2) the equivalent materials proposed for use, including description of products, if the Contractor desires to use materials other than those specified.
  - 1. The Architect shall approve all materials before commitment for materials is made. Intention of using specified materials shall not relieve the Contractor from submitting the above list.
- C. Product Data: Submit manufacturer's technical information including paint label analysis and application instructions for each material proposed for use.
- D. Samples: Submit samples for the Architect's review of color and sheen only. Provide a listing of material and application for each coat of finish sample.
  - 1. On 12" x 12" Hardboard: Provide two samples of each color and sheen, with texture to simulate actual conditions. Resubmit samples a maximum of three times as requested by the Architect until acceptable, color, sheen and texture is achieved.
- E. Record of the Work Completed:
  - 1. Prior to the completion of the project, submit to the Architect a complete listing indicating the following:
    - a. Area of item Painted.
    - b. Manufacturer of Paint used
    - c. Color and manufacturer's color number.

d. Names and addresses of any Paint Subcontractor and Suppliers.

#### **1.04 DELIVERY**

- A. Deliver materials to the job site or off-site workshop in original, new and unopened packages or containers
- B. bearing the manufacturer's name, label and following information.
  - 1. Name or title of material.
  - 2. Fed. Spec. Number, if applicable
  - 3. Manufacturer's stock number and date of manufacture.
  - 4. Manufacturer's name.
  - 5. Contents by volume, for major pigment and vehicle constituents.
  - 6. Thinning instructions.
  - 7. Application instructions.
  - 8. Color name and number.

#### **1.05 STORAGE**

- A. Store and mix painting materials in clean, well-ventilated spaces assigned for the purpose. All storage spaces shall be outside of the existing building.
- B. All possible precaution shall be taken to prevent the start or spread of fire in storage spaces. Each space used for storage of paint materials shall be equipped with one or more dry chemical fire extinguishers. Comply with applicable rules and regulations for the prevention of accidents in construction operation.
- C. Oily rags and waste shall be disposed of at the end of each workday. Containers shall be kept closed when not in use.

#### **1.06 JOB CONDITIONS**

- A. Apply solvent thinned paints only when the temperature of the surfaces to be painted and surrounding air temperatures are between 45° F (7°C) and 95°F (35°C), unless otherwise permitted by paint manufacturer's printed instructions.
- B. Apply water based paints only when the temperature of the surfaces and the surrounding air temperatures are between 50°F (10°C) and 90°F (32°C), unless otherwise permitted by the paint manufacturer's printed instructions

### **PART 2 - PRODUCTS**

#### **2.01 PAINT TYPES**

- A. Paint types, surface treatments, and finishes are indicated in a "Painting Schedule" included as paragraph 3.07 of this Section.

#### **2.02 COLORS**

- A. Prior to beginning work, the Architect will furnish the indicated color scheme for all surfaces to be painted.
- B. Color scheme shall be as directed by the Architect and all tinting and matching shall be to the satisfaction of the Owner. The Painter shall provide all facilities for comparison and adjustment of colors.



**2.03 ACCEPTABLE MANUFACTURERS**

- A. Reference a made under paragraph 3.07 - Painting Schedule, to the products of Benjamin Moore, except where otherwise specified, to establish the type of materials and the standard of quality required. Equivalent products as determined by the Architect by the following manufacturers may be used.
1. Benjamin Moore
  2. Pittsburgh Paints, Pittsburgh Plate Glass Co. (PPG)
  3. Sherwin Williams
  4. Other manufacturer's approved by the Architect

**2.04 MATERIAL QUALITY**

- A. Provide the best quality of various types of coatings as regularly manufactured by an acceptable paint materials manufacturer. Materials not displaying manufacturer's identification as a best-grade product will not be accepted.
- B. Provide undercoat paint produced by the same manufacturer as the finish coats. Use only thinners approved by the paint manufacturer, and use only within recommended limits.
- C. Review other Sections of these Specifications in which prime paints are to be provided to ensure compatibility of total coatings system for various substrates. Upon request from other trades, furnish information on characteristics of finish materials proposed for use, to ensure compatible prime coats are used. Provide bather coats over incompatible primers or remove and reprime as required. Notify the Architect in writing of any anticipated problems using specified coating systems with substrates primed by others.

**PART 3 - EXECUTION****3.01 INSPECTION**

- A. Inspect surfaces to receive work of this Section and the conditions under which the work has to be performed. Report in writing to the Architect, any condition which might adversely affect the performance of the paint work Do not proceed with the work until defects have been corrected and conditions made satisfactory.
- B. No work shall be done under conditions which are unsuitable for the production of the best results or in areas where dust is being generated which could coat substrates of speck finish.
- C. Starting of painting work will be construed as accepting the surfaces and conditions for the work to proceed by the Painter.

**3.02 PROTECTION**

- A. Furnish and lay and l or hang drop cloths over exterior and interior surfaces i.e. brickwork, stonework, stairs, walks, landscaping, floors and other items where painting and finishing is being done to adequately protect all other work from all damage during prosecution of the painting work. Drop cloths must be fire retardant treated.
- B. Do not use any plumbing fixtures for mixing paint, or any plumbing fixtures or drains for the disposal of paint materials.



C. Post "wet paint" signs as required to protect newly painted surfaces

### 3.03 PREVIOUSLY PAINTED SURFACE PREPARATION

#### A. General:

1. Previously painted surfaces may be found to contain lead. Undertake paint removal and preparation of these surfaces in accordance all applicable local, state and federal guidelines, rules and regulations.
2. Remove all loose, peeling and scaling paint by scraping and sanding. Sand smooth.
3. Contain and collect all paint debris and dispose of off site in a legal manner.
4. Using appropriate solvent, clean all surfaces of foreign deposits, which may reduce adhesion of paint or which may bleed through paint, including deposits of oil, grease or waxes.
5. The Contractor shall check compatibility of the new paint products specified with existing paint surfaces before beginning the paint work. Special care shall be taken to determine if previously painted surfaces contain calcimine. Advise the Architect of any incompatibility and consult with the Architect on choice of materials to eliminate potential problems.

#### B. Wood:

1. Repair Holes, crevices and cracks with appropriate patching compounds.
2. Aggressively sand damaged or chipped spots so as to feather them flush with adjacent surface.

#### C. Priming of all wood

1. All wood items specified to be painted under this section shall be primed to cover all bare wood.
2. Priming materials shall be as specified in the Painting Schedule.

### 3.04 APPLICATION OF PAINT MATERIALS

- A. Materials shall be applied in accordance with the manufacturer's printed directions; no prepared paint shall be thinned in any way except as directed by the manufacturer. All paint shall be thoroughly mixed before being used. Remove all skinned, lumps or thickened materials.
- B. Each coat of paint shall be a slightly different tint from that of the preceding coat in order to assure complete coverage. The final coat shall exactly match the approved sample.
- C. Minimum drying time shall comply with that recommended by the paint manufacturer. Each coat shall be thoroughly dry before the succeeding coat is applied.
- D. All painted surfaces shall be lightly sanded between coats using No. 100 grit sandpaper.
- E. Final coats shall be free from holidays, laps, runs, sags, brush marks and other surface imperfections. Make edges of paint adjoining other materials or color sharp and neat, without overlapping.

### **3.05 COMPLETION**

- A. Cleaning: At the completion of work, remove all paint spots and stains caused by the work under this section from floors, walls, glass, fixtures, hardware, equipment and other surface, leaving their finish in perfect condition.
- B. Final Inspection: The contractor shall protect all painted surfaces from damage until the date of Substantial Completion. The Architect will conduct a final inspection of the work under this section and the contractor shall repaint or retouch, as directed by the Architect, any surfaces which do not comply with the requirements of these specifications and any surfaces which, for any reason, have been damaged during work. All surfaces finished under this section shall be left in perfect condition, free of defects and blemishes, at the time of the final inspection.

### **3.06 PAINTING SCHEDULE**

- A. Temporary window enclosure:
  - 1. Primer: One (1) Coat Benjamin Moore Fresh Start Moorwhite Penetrating Alkyd Primer 100
- B. Previously painted and new wood trim:
  - 1. Primer: One (1) Coat Benjamin Moore Fresh Start Moorwhite Penetrating Alkyd Primer 100
  - 2. Finish: Two (2) Coats Benjamin Moore Aura Interior Semi- Gloss Finish

**END OF SECTION**



## Exhibit 4

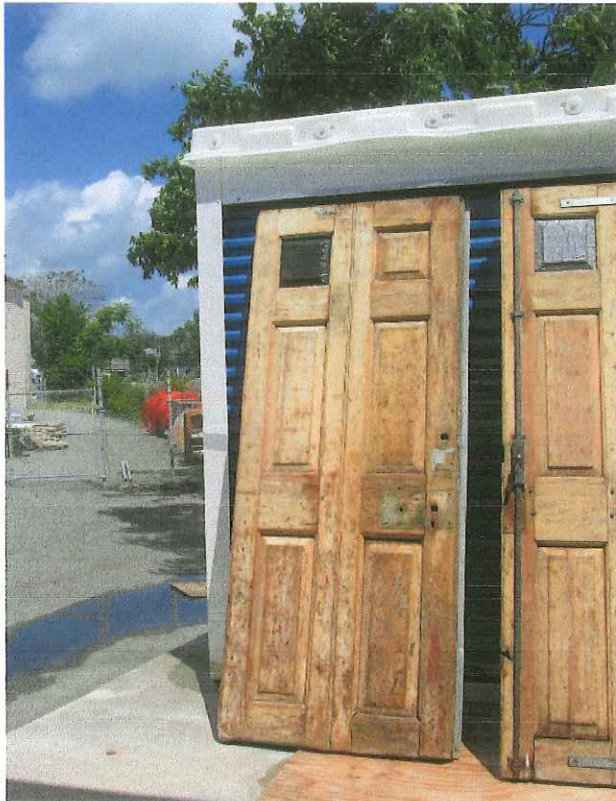
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- Photographs of existing door conditions of the center door of the East Elevation

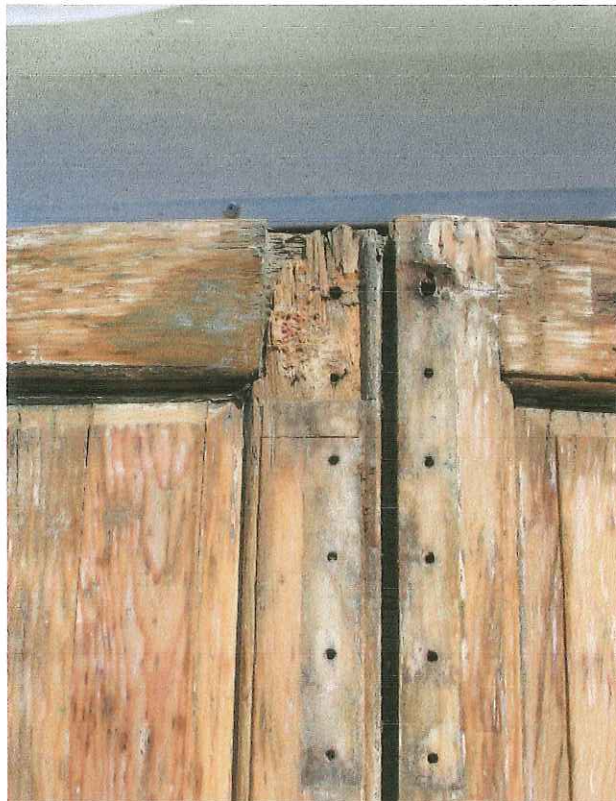




**Exhibit 4:** Photographs of existing door conditions of the center door of the East Elevation



Great Hall Doors – East Elevation of Faneuil Hall with all coatings removed. Note: On the upper left raised panel the coatings have been retained to preserve the historical record.



Damaged stile and rail joint of door which will be repaired with stainless steel rod reinforcement and wood "Dutchman" to recreate the original profile of stile.



**Exhibit 4:** Photographs of existing door conditions of the center door of the East Elevation



Typical joint between stile and rail with spline instead of a pinned through mortise and tenon. This joint is inherently not as strong as a through mortise and tenon joint which is more commonly found on large heavy doors. To reinforce this joint where the stile and rail have separated a stainless steel through bolt will be installed and hidden behind wooden plugs.



## Exhibit 5

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- Photographs of existing brownstone cornice conditions at the second floor





**Exhibit 5:** Photographs of existing brownstone cornice conditions at the second floor



Previous erosion of the sky facing brown stone which has resulted in ponding on the brown stone surface causing failure of the elastomeric coating



Damage to the edge of the brown stone cornice from water infiltration and abrasion .



**Exhibit 5:** Photographs of existing brownstone cornice conditions at the second floor



Deterioration of existing elastomeric coating which has exposed the sky facing brownstone to weathering and the freeze thaw cycle.



Damage to the brown stone cornice edge due to water infiltration and fracturing from the freeze thaw cycle.



## Exhibit 6

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- **CSS Design Development Drawings for Restoration of Faneuil Hall Exterior Brownstone Cornice at Second Floor (18 Dec. 2017)**
  - A7.1 – North and East Cornice Elevation and Enlarged Plan
  - A7.2 – South and West Cornice Elevation and Enlarged Plan
  - A7.3 – Typical Cornice Repair and Existing Condition Photograph















## Exhibit 7

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- Photographs showing progressive deterioration of exterior paint coating of bell tower
- Photograph showing failure of paint coating on structural iron supporting bell tower



**Exhibit 7:** Photographs showing progressive deterioration of exterior paint coating of bell tower



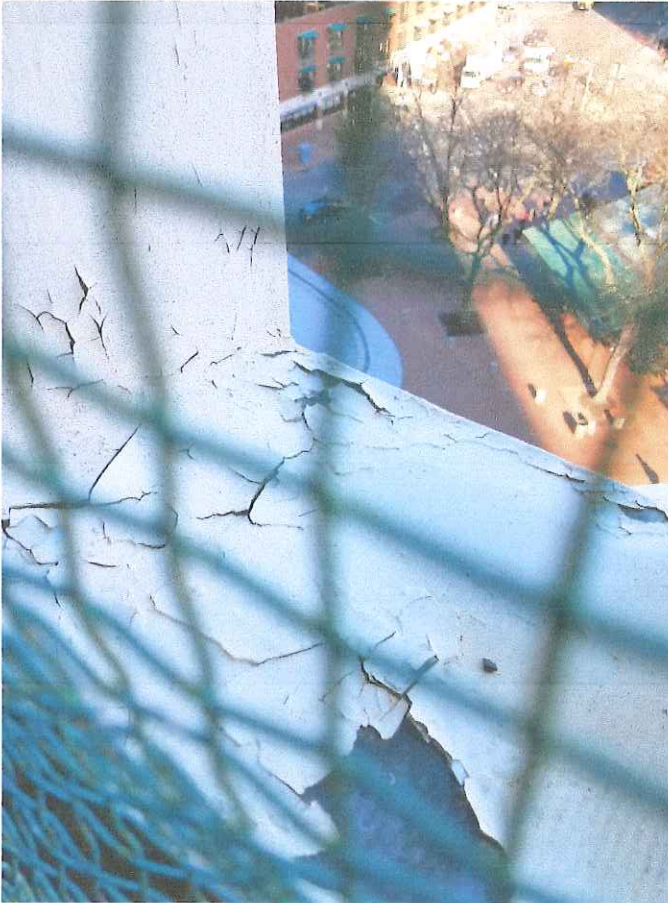
The condition of the paint coatings of the Faneuil Hall Bell tower in 2015



The condition of the paint coatings of the Faneuil Hall Bell Tower in 2017. The extensive failure of the paint coatings is the result of excessive re-coatings of the Bell Tower which has caused the paint film to finally pull away from the substrate due to excessive weight of the coatings.



**Exhibit 7:** Photographs showing progressive deterioration of exterior paint coating of bell tower



View of the paint coatings at a typical opening showing the copper substrate which has become exposed and the heavy thickness of the existing coatings.





**Exhibit 7:** Photograph showing failure of paint coating on structural iron supporting bell tower



Iron supports for bell and bell tower. The iron has the original coating from 1898. Presently most of the coating has worn away and the iron exhibits superficial rusting. The rust will be removed and all the iron recoated with a rust inhibiting paint. The bell will not be touched as part of this project.



## Exhibit 8

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- Paint analysis of existing coatings of Faneuil Hall bell tower by the Righter Group, Inc. (September 22, 2017)
- Bell tower painting recommendation by the Righter Group, Inc. (September 29, 2017)



**Date:** September 22, 2017  
**To:** Mike Woessner (081)  
**From:** Anthony Dallen  
**Subject:** Faneuil Hall Bell Tower – Boston, MA  
**Activity:** Overcoat Analysis  
**Customer:** Faneuil Hall – Boston, MA

## **Tnemec Technical Service Preliminary Research Summary**

### **PURPOSE / BACKGROUND INFORMATION**

You have submitted a sample that is reported to represent exterior coatings on the Subject Bell Tower. You have requested dry film thickness (DFT) measurements and generic identification for each layer of the submitted sample.

### **ANALYSES**

Microscopic examination and FTIR spectral analysis was performed on the submitted sample.

#### **Microscopic Examination:**

- The sample appeared to be twelve layers.
- The interface between layers 6 and 7 as well as layer 11 and the front were unable to be distinguished due to similarity in color.
- The light grey back layer measured an average DFT of 2.3 mils.
- The light grey second layer measured an average DFT of 1.3 mils.
- The light grey third layer measured an average DFT of 1.1 mils.
- The white fourth layer measured an average DFT of 2.0 mils.
- The beige fifth layer measured an average DFT of 1.5 mils.
- The yellow sixth and seventh layer measured an average DFT of 2.8 mils.
- The grey eighth layer measured an average DFT of 2.4 mils.
- The white ninth layer measured an average DFT of 2.0 mils.
- The light grey tenth layer measured an average DFT of 1.3 mils.
- The beige eleventh and front layer measured an average DFT of 3.4 mils.

#### **FTIR Analysis:**

- The light grey back layer appeared to be degraded urethane alkyd.
- The light grey second layer appeared to be degraded urethane alkyd.
- The light grey third layer appeared to be degraded urethane alkyd.
- The white fourth layer appeared to be degraded alkyd.
- The beige fifth layer appeared to be degraded alkyd.
- The yellow sixth layer appeared to be degraded alkyd.
- The yellow seventh layer appeared to be alkyd.
- The grey eighth layer appeared to be degraded alkyd.
- The white ninth layer appeared to be alkyd.
- The light grey tenth layer appeared to be alkyd.
- The beige eleventh layer appeared to be alkyd.
- The beige front layer appeared to be alkyd.



To: Mike Woessner (081)  
Subject: Faneuil Hall Bell Tower – Boston, MA  
Page 2 of 2

If other information becomes available, or if other forms of assistance are required, please let us know.

Regards,

A handwritten signature in black ink that reads "Anthony Dallen". The signature is written in a cursive style with a large, prominent initial "A".

Anthony Dallen  
Product Resource Representative  
Tnemec Company, Inc.



## MEMORANDUM

**TO:** Mr. Gregory Rochlin  
CSS Architects, Inc.  
107 Audubon Road  
Bld. 2, Suite 300  
Wakefield, MA 01880

**FROM:** Mike Woessner

**DATE:** September 29, 2017

**SUBJECT:** Faneuil Hall Bell Tower Painting Project

**CC:** File.

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Dear Greg,

Pursuant to our recent site visit to the subject project, please find the following information. We have performed an examination of the existing failed coating system on the siding and window frames. The adhesion of the existing materials received a 0A-1A, adhesion rating based on ASTM D 3359 Adhesion testing. This means that there is conclusively almost no adhesion left of the existing paint to the substrate. In addition, you received an analytic report from our lab reporting back that there were 12 layers of old Alkyd paint that is cracked and peeling from the building. In simple terms, given the age of the paint, the amount of times it has been painted and the existing condition, there is no way feasible to repaint the exterior of the bell tower without full removal of the existing paint. Oil based, Alkyd resins by nature become brittle with age and continually applying paint adds weight to the underlying coats. Eventually, you end up with a total failure which is what is now occurring. As with any paint or high performance coating you can only add so many layers over the years before its time to start anew. Again, for this project it is our recommendation that the existing coatings be removed fully, the surface lightly profiled for a new primer coat and coating system. By doing the project in this manner the paint will be restored for 20 + years.

I trust you will find this information helpful. Please feel free to contact us with any further questions.

Respectfully Submitted,

A handwritten signature in black ink that reads "Michael Woessner".

Michael Woessner  
Righter Group, Inc.  
Representing Tnemec Company, Inc.



## Exhibit 9

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- **CSS Design Development Drawings for Repainting of Faneuil Hall Exterior Bell Tower and Structural Iron Interior Supports (18 Dec. 2017)**
  - A8.1 – Bell Tower Plans and Elevations
- Paint Specification Faneuil Hall Bell Tower – Historic Restoration (September 2017)





**Paint Schedule**  
**Faneuil Hall Bell Tower – Historic Restoration**  
**September 2017**

**PART 1 - GENERAL**

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes surface preparation and field application of high- performance coating systems to items and surfaces scheduled.
- B. Related Sections include the following:
  - 1. Division 5 Section "Structural Steel" for shop priming structural steel.
  - 2. Division 5 Section "Formed-Metal Fabrications" for shop-primed ferrous metal.
  - 3. Division 9 Section "Painting" for general field painting.
- C. Alternates: Refer to Division 1 Section "Alternates" for description of Work in this Section affected by alternates.

1.3 DEFINITIONS

- A. Standard coating terms defined in ASTM D 16 apply to this Section.
- B. Gloss ranges used in this Section include the following:
  - 1. Semi-gloss refers to medium-sheen finish with a gloss range between 30 and 65 when measured at a 60° meter.
  - 2. High gloss refers to high-sheen finish with a gloss range more than 65 when measured at a 60° meter.
- C. Environments: The following terms are used in Part 2 of this Section to distinguish between different corrosive exposures:
  - 1. "Severe environments" are highly corrosive industrial atmospheres with sustained exposure to high humidity and condensation and with frequent cleaning using strong chemicals. Environments with heavy concentrations of strong chemical fumes and frequent splashing and spilling of harsh chemical products are severe environments.
  - 2. "Moderate environments" are corrosive industrial atmospheres with intermittent exposure to high humidity and condensation, occasional mold and mildew development, and regular cleaning with strong chemicals. Environments with exposure to heavy concentrations of chemical fumes and occasional splashing and spilling of chemical products are moderate environments.
  - 3. "Mild environments" are atmospheres with normal exposure to moderate humidity and condensation, occasional mold and mildew development, and infrequent cleaning with strong chemicals. Environments with low levels of mild chemical fumes and occasional splashing and spilling of chemical products are mild environments. Normal outdoor weathering is also considered a mild environment.



## 1.4 SUBMITTALS

- A. Product Data: For each coating system indicated. Include primers, intermediate coats, and finishes. Technical data sheets, ASTM performance criteria, warranties, and any other technical information requested by the architect or engineer.
  - 1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference the specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
  - 2. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each material specified.
- B. Certification by manufacturer that products supplied comply with requirements indicated that limit the amount of VOCs in coating products.
- C. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each type of finish-coat material indicated.
  - 1. After color selection, Architect will furnish color chips for surfaces to be coated.
- D. Samples for Verification: For each color and material to be applied, with texture to simulate actual conditions, on representative samples of the actual substrate.
  - 1. Provide stepped Samples defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.
  - 2. List of material and application for each coat of each sample. Label each sample for location and application.
  - 3. Submit samples on the following substrates for Architect's review of color and texture:
    - a. Concrete: Provide two 4 inch (100mm) square sample for each color and finish.
    - b. Concrete Masonry: Provide two 8-inch- (200-mm-) square samples of masonry, with mortar joint in the center, for each finish and color.
    - c. Wood: Provide two 12-inch- (300-mm-) square samples of each color and material on hardboard.
    - d. Ferrous and Nonferrous Metal: Provide two 4-inch- (100-mm-) square samples of flat metal and two 8-inch- (200-mm-) long samples of solid metal for each color and finish.
- E. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

## 1.5 QUALITY ASSURANCE

- A. Applicator Qualifications: Engage an experienced applicator who has completed high-performance coating system applications similar in material and extent to those indicated for Project and whose work has a record of successful in-service performance.
- B. Source Limitations: Obtain primers and undercoat materials for each coating system from the same manufacturer as the finish coats.
- C. Benchmark Samples (Mockups): Provide a full-coat benchmark finish sample of each type of coating and substrate required. Comply with procedures specified in PDCA P5. Duplicate finish of approved sample Submittals.



1. Architect will select one room, area, or surface to represent surfaces and conditions for application of each type of coating and substrate.
  - a. Wall Surfaces: Provide samples on at least 100 sq. ft. (9 sq. m) of wall surface.
  - b. Small Areas and Items: Architect will designate items or areas required.
2. After permanent lighting and other environmental services have been activated, apply coatings in this room or to each surface as specified. Provide the required sheen, color, and texture of each surface.
  - a. After finishes are accepted, Architect will use the room or surface to evaluate coating systems of a similar nature.
3. Final approval of colors will be from benchmark samples.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label with the following information:
  1. Name or title of material.
  2. Product description (generic classification or binder type).
  3. Manufacturer's stock number and date of manufacture.
  4. Contents by volume, for pigment and vehicle constituents.
  5. Thinning instructions.
  6. Application instructions.
  7. Color name and number.
  8. Handling instructions and precautions.
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 60° F. Maintain containers used in storage in a clean condition, free of foreign materials and residue.
  1. Protect materials from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and applying coatings.

#### 1.7 PROJECT CONDITIONS

- A. Apply coatings only when temperature of surfaces to be coated and surrounding air temperatures are between 60° and 95° F.
- B. Do not apply coatings in snow, rain, fog, or mist; when relative humidity exceeds 85% at temperatures less than 5° F above the dew point; or to damp or wet surfaces.
  1. Allow wet surfaces to dry thoroughly and attain temperature and conditions specified before proceeding with or continuing coating operation.
- C. Except as otherwise specified, materials shall be first line products of the following manufactures:
  1. Special Coatings:
    - a. Tnemec Company
    - b. RD Coatings USA
    - c. Jotun

## 1.8 MATERIALS

- A. Products specified are as manufactured by those of Tnemec Company unless otherwise indicated; similar products of acceptable manufacturers listed in Paragraph 1.7 may be furnished in lieu of those listed. Tnemec products are listed to establish a baseline of performance criteria, other manufacturers need to meet or exceed this noted performance.

1. Quality: Select primary products of the system from the products of a single manufacturer.

## PART 2 – EXECUTION

### 2.1 INSPECTION OF SURFACES

- A. Examine surfaces to be coated and report any conditions that would adversely effect the appearance or performance of the coating system and which cannot be put into an acceptable condition by the preparatory work specified herein.
- B. Do not proceed with surface preparation and application until surfaces are acceptable. Commencement of application of coating to any surface shall be construed as acceptance or surfaces as being proper to receive the finish, and any defects in work resulting from such accepted surfaces shall be corrected by the applicator without additional cost to the Owner.

### 2.2 SURFACE PREPARATION

A. General:

1. Dislodge dirt, plaster nibs, plaster spatter and other dry material by scraping or brushing. Remove dust and loose material by brushing, sweeping, vacuuming, or blowing with high pressure air.
2. Remove oil, wax and grease by scraping off heavy deposits and cleaning with mineral spirits or a hot trisodium phosphate solution followed by a clean water rinse.
3. Verify that surfaces to be coated are dry, clean and free of dust, dirt, oil, wax, grease or other contaminants.
4. Apply tests patch to existing painted surfaces to check adhesion. Remove any loose paint and spot prime.

B. Gypsum Board:

1. Fill nicks, scratches, holes and uneven spots with Series 215 Tape Coat.

C. Protection: Protect work of other trades, whether to be painted or no, against damage by painting and finishing work. Correct any damage by cleaning, repairing or replacing, and repainting as acceptable to Architect.

1. Provide “Wet Paint” signs as required to protect newly painted finishes. Remove temporary protective wrappings provided by others for protection of their work after completion of painting operations.
2. At the completion of work of other trades, touch-up and restore all damaged or defaced painted surfaces.

### 2.3 FINISH PAINTING SCHEDULE

- A. Exterior Paint Schedule: Basis of design are products manufactured by Tnemec and Benjamin Moore. Equivalent products may be submitted for approval to the Engineer subject to review of compliance with performance and properties of the named products.

1. Exterior Wood – Painted

Coat 1: Tnemec Series 151-1051 Elastogrip applied at 1.0-1.5 mils DFT.

Coat 2: Tnemec Series 1029 Enduratone applied at 2.0-3.0 mils DFT.

Coat 3: Same as coat 2.

2. Exterior Non-Ferrous Metals: (Siding, etc.)

(Surface Preparation: Initially all surfaces shall be pressure washed with sufficient pressure and 0 degree oscillating tip, to remove old loose, non-adhered coatings and thoroughly clean the surface to remove all chloride contamination, dirt, debris, oils, grease and all other contamination. Following cleaning procedures all surfaces shall be prepared in accordance with SSPC-SP16 Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steel, and Non-Ferrous Metals to create a uniform anchor profile of at least 1 mil. Sponge jetting, vapor blasting and other forms can be considered.)

Coat 1: Tnemec Series 66HS or 161HS Hi-Build Epoxoline applied at 2.0-3.0 mils DFT

Coat 2: Tnemec Series 73 Endura-Shield applied at 2.0-3.0 mils DFT

Coat 3: Tnemec Series 1072 Fluoronar (Satin) applied at 2.0-3.0 mils DFT

3. Exterior Ferrous Metals or Cast Iron Metals (Bell Tower Steel, Bell, etc.)

Surface Preparation: SSPC-SP6 Commercial Blast Cleaning to achieve a uniform anchor profile and minimum 1.5 mil profile.

Coat 1: Tnemec Series 1 Omnithane applied at 2.5-3.5 mils DFT

Coat 2: Tnemec Series 66HS or 161HS Hi-Build Epoxoline applied at 3.0-5.0 mils DFT

Coat 3: Tnemec Series 73 Endura-Shield applied at 3.0-5.0 mils DFT



**City of Boston**  
**Property and Construction Management Department**  
**Public Facilities Department**

26 Court Street, 10th Floor, Boston, MA 02108  
(617) 635-0554 (617) 635-0555 Fax

## Transmittal

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**To: Mr. Todd Satter**  
**Boston Landmarks Commission**  
**City Hall RM 708**

**Project: Faneuil Hall Window, Cornice and Door Restoration**  
**Project No. 7118**  
**Date: December 19, 2017**

**We are sending you the following:**

- |  |   |
|--|---|
| <input type="checkbox"/> O&M Manuals     | <input type="checkbox"/> Copy of Letter   |
| <input type="checkbox"/> Warranties      | <input type="checkbox"/> Specifications   |
| <input type="checkbox"/> Record Drawings | <input checked="" type="checkbox"/> Other |

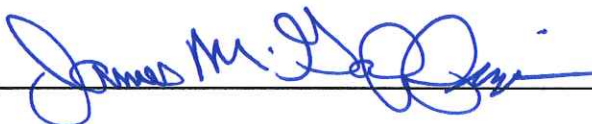
Comments: Project Notification Form

Dear Mr. Satter,

I hand delivered the Certificate of Appropriateness Form to your office prepared by CSS Architects for your review and comments. Should you have any questions please call me at 617-635-0554

Thank you

Signed: \_\_\_\_\_

 12.19.17

James McGaffigan, Project Manager