July 25, 2023

Ms. Jessi White  
Landmark Preservation  
City and County of Denver  

We have received your third review of our Remedial Plan for 2234 Grove Street.

Your review is copied below and our responses are below each, in italics.

- **Note R1** - Please select a shingle color.  
  *Completed. Shown on both the revised Elevation Key Notes, Page 12 and on the Materials Sheet, page 42.*

- **Pg. 14** - note R6 on the rear dormer. There isn’t a note R6 in your key. Is this note supposed to be R4?  
  *Note is revised to R5.*

- **Note S5** - please expand this note to “and cover with 7/8” thick cement stucco on stucco wrap.”  
  *Completed, as requested.*

- **Note S4** - how thick will this cementious face be? We have concerns over longevity of the cementious face if it is too thin.  
  *We have added notation in this note for a minimum 3/8” thickness.*

- **Pg. 15** - rear door jack arch noted as S6, should this be C4 or C6?  
  *Yes, this should have been C6, and that is corrected on page 15.*

- **Pg. 16** - is the hatching correct? The other elevations show hatching the full height of the bay. Please correct this so it is consistent from elevation to elevation.  
  *Hatching has been added.*

- **Pg. 17-19** - I do not see coordinating section labels on your plans or elevation. Please add these labels in so I know where these sections are on the building. 
  *Section cuts have been enlarged and additional cuts shown on both the plans and elevations. Window Sections cuts were shown on only the windows specifications page 41 so we have added further notes to the details on page 19 referencing that.*

- **Pg. 19** - show a note stating that the window inset will match the existing window inset and add the inset dimensions to the drawing.  
  *Added as requested.*

- **Pg. 19** - if this is a comprehensive section for all new windows please note that or list the locations on the plans where this detail will apply.  
  *Yes, these details are comprehensive for all new windows. We have added notes to the drawing to reflect this and to direct to page 41 as well.*

- **Pg. 13** - Add a C2 note like it is shown on pg. 25. On pg. 25 add a C4 note like it is shown on pg.13.  
  *Completed and further clarified on these sheets.*

- **Pg. 13 and pg. 26** - Stained glass window flat jack arch shows conflicting notes C4/C6 which note applies?  
  *C6 is the correct note and both pages are updated to reflect this.*
Pg. 13 and pg.26- brick to the right of the door shows conflicting notes for C4, C3, and C2, which applies?  
Similarly to above, C6 is the correct note and both pages are updated to reflect this.

Pg. 14- Add a C6 note over W4 like it is shown on pg. 27.  
C6 note is added.

Pg. 14 and pg.28- Wall End (Southeast) shows C4 note but this note is not shown on pg. 14.  
The entire wall is C2, but it has need for C4 in several areas as well. The notes have been updated to reflect this.

Pg. 15 and pg. 28- missing C1 note on pg. 15 dormer that is shown on pg. 28 dormer image.  
Note C1 has been added to page 15

Pg. 15 and pg. 29- conflict on note at the jack arch over the door. Should the note be S6 or C6?  
C6 is the correct note which has been added and clarified on both pages.

Pg. 15 and pg. 30- missing note C4 on page 15. Bay potentially drawn incorrectly, see “Corner Bay (Northeast)” image on page 30. Pg. 30 shows an incorrect C9 note on the “Corner BAY (Northeast)” image.  
On page 15 the note of C4 is not visible—only the rebuild of the bay walls beyond are visible here. On page 30 we have clarified this.  
Note C9 callout has been removed from page 30.

Pg. 16- Missing note C8 at the chimney shown on pg. 31.  
C8 note added to page 16.

Pg. 31- Incorrect C6 note at the “Wall End (Northwest) image shown as C3 on pg. 16. 
Notes corrected.

Clean up Window Schedule on pg. 39.
  - Relabel column 3 as “Repair/Replace” 
    Completed as requested.
  - It’s not clear where some of the window notes are being used. It might be helpful to make these numbers different colors or bold them so that they stand out and are easy to find. I couldn’t fine notes 3 and 8 in the table, but I may have overlooked them. 
    We have made the keys bold and shown the missing note {3} on column two. 
    Note 8 has been deleted and that information added to note 6.
  - W1 will need to be a single hung arched window to fit the historic rough opening. 
    So noted and revised to reflect this.
  - W3 will need a detail drawing showing how the stained glass window will be replicated. 
    We have added an Appendix for the rebuild/restoration of the 4 windows that are being rebuilt including this stained glass / art glass window. This is reflected and referenced in the revised window schedule.
  - W4, W6, W15- Need a general detail showing how they will be rebuilt. I question whether W15 is historic. It looks non-historic on pg. 37 unless the image on pg.37 for W15 is incorrect.
See note above about the Appendix.

Windows 14 and 15 stack and between Lyon’s Historic Windows and our schedule the notations were reversed. Window 14 is the upper window, and it is the one that can be rebuilt. Window 15 needs to be replaced. Our schedule has been revised to correctly show this.

- W11- will need to be a simulated divided light with a spacer bar. We have added a note showing this in the window schedule.
- Add a 3rd openings page for the doors after pg. 37. 
  As discussed in a subsequent email, these openings are shown on page 36.
- Clean up Door note on pg. 40.
  - Note B isn’t needed as you are demolishing the garage.
  - Where are notes 3 and 4 being used?
  - Where is note #2 being used?
    The door schedule has been revised, with the notes above all having been deleted as they were all in relation to the deleted garage.
- Pg. 41- add a note that refers to the section on page 19. 
  Added as requested.
- Pg. 42-
  - Provide a shingle color
    Provided.
  - Where is the beadboard going, please label on the elevations and photos.
    This does not show on elevations, as it is the ceiling of the front porch. We have referenced this on the note to where it IS shown, which is the porch section on page 17.
  - Add a shingle siding cut sheet for note C9
    Added as requested.
- Engineers Site Observation
  - I have concerns with the limited access note on age 2 of the site observation. Was the engineer able to make a full assessment of the building? Do you have additional notes or an assessment from the mason that came to the site?
    a. We did discuss this with the Engineer to verify and they were able to make as full an assessment as is physically possible. I.e., they could not physically access the remote areas of the very short crawl space. So their review was restricted in those areas to exterior review only.
    b. We then reviewed that further with the Mason as we walked the site and based on that review, we have shown 2 pieces to the remediation on our drawings:
      1) On the north wall where there are the most issues, we have called for excavation to bottom of foundation, repointing of the stones and installation of a French drain system. See plan notes and North Elevation notes.
      2) On the south and east sides the foundations were more stable and have been previously stabilized with Cementous coatings which in our site/foundation notes have called to be patched where required. On the
We believe we have responded to all of your comments with the notes above and the updated drawings dated 7/27/23.

Very Truly,

Pappas Architecture Design, LLC
Peter D. Pappas, Architect
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<td>Window Restoration Procedures</td>
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NOTICE OF VIOLATION(S)

FOX, RONALD L
2234 GROVE ST,
DENVER, CO 80211-4614

You are hereby notified to comply with this order on or before 5/31/2022. Failure to comply with this order may result in an administrative penalty of $150 for the first violation, $500 for the second violation, and $999 for any further violations. If you fail to comply with this order, the City may also seek a warrant to enter your property and abate the violation at your expense as permitted by law.

PROPERTY ADDRESS: 2234 N GROVE ST, DENVER, CO 80211-4614

You may contact Inspector Matthew Huhta of this office by phone at 720-865-3232 Monday - Friday, 7:30 a.m. - 3:30 p.m. or by email at Matthew.Huhta@denvergov.org for further clarification of violation(s) indicated hereon. If no contact with this office is made within ten (10) calendar days, compliance will be required as stated above. Failure to comply may result in immediate abatement at the property owner's expense; court action with a possible penalty of $999.00 fine and/or one year in jail, and/or an administrative penalty may be imposed.

Thank you for your cooperation in this matter.

05/16/2022 12:10:17PM
Record ID: 2022-ZNIS-0006528 Page 1 of 1
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<tr>
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2228 GROVE STREET
ADJACENT RESIDENCE

2244 GROVE STREET
ADJACENT RESIDENCE

2234 GROVE STREET
EXISTING SINGLE-STORY
SINGLE-FAMILY RESIDENCE
ZONING DISTRICT: U-SU-C1-UO3
GROSS BUILDING AREA: 1,832 SF
LOT SIZE: 10,391 SF
YEAR BUILT: 1894

EXISTING DETACHED
ACCESSORY STRUCTURE
(GARAGE) YEAR BUILT: 1928
EXISTING BUILDING TO BE
REMOVED TO EXISTING
CONCRETE SLAB. PATCH &
REPAIR SLAB AS REQUIRED
FOR USE AS NEW PARKING
PAD.

EXISTING CONCRETE
PARKING PAD THIS
AREA TO REMAIN

REMOVE EARTH BERMS TO
MATCH ADJACENT GRADE

AT PROPERTY LINE

3'-9" SETBACK

SCALE: 1/16" = 1'-0"

172' ZONE LOT DEPTH X FRONT 65%
= 111'-9 1/2"

172' ZONE LOT DEPTH X REAR 35%
= 60'-2 1/2"

41'-7" FRONT SETBACK
12'-0" REAR SETBACK
16'-8" +/- SETBACK
12'-0" +/- SETBACK
5'-0" SIDE INTERIOR SETBACK LINE
5'-0" SIDE INTERIOR SETBACK LINE

GROVE ST
30' R.O.W.
ALLEY
16' R.O.W.
Lot 19

Lot 20

Lot 21

Primary Street
Front Zone: Lot Line

Note:

- Regrade adjacent to entire house, slope away from foundation. Minimum 4'-1/2" in first 3'-0".
- Remove all plant growth including roots within 2'-0" (minimum) of foundation.
- Re-point all foundation stones where exposed or re-stabilize where coated. Re: Note S4 on page 12 and site work notes on page 33.

2234 Grove Street
Existing Single Story
Single-Family Residence
Zoning District: U-SU-C1-UO3
Gross Building Area: 1,832 SF
Lot Size: 10,391 SF
Year Built: 1894

Specify:

- New downspouts not shown, to be field coordinated with new gutter system. All downspouts to terminate at 24" splash blocks.
existing conditions - overall elevations

Keys are for openings
Re: Plan & Schedules
existing conditions - overall elevations

Keys are for openings
Re: Plan & Schedules
North (Side) Elevations

existing conditions - overall elevations

Keys are for openings
Re: Plan & Schedules
EXISTING ROOFING HAS BEEN REMOVED AND SHEATHING COVERED WITH EXPOSED INSTALL WOOD SHAKE SHINGLES TO MATCH EXISTING REMAINING FEW SHINGLES @ PAINT EXISTING RAILINGS AND PORCH COLUMNS; COLOR: TBD REMOVE (E) CORNICE BLOCKS AS REQUIRED TO ALLOW BRICK WALL REBUILD PER NOTE REMOVE PEELING PAINT FROM BEAMS, SOFFITS, FASCIA & TRIM; PATCH AS REQUIRED REMOVE ALL VEGITATION FROM ROOFS, WALLS, AND FROM WITHIN 2 FEET MINIMUM REMOVE EXISTING COAL CHUTE PLYWOOD AND REPLACE WITH TREATED 3/4" PLYWOOD NORTH WALLS @ BAY AREA, INCLUDING BUT NOT LIMITED TO THE NORTH WALL AT REPOINT STONE FOUNDATIONS WHERE EXPOSED AT EXISTING PORCHES USING TYPE 'S' FLASH RE-ROOFED PORCH ROOFS AGAINST MASONRY WALL WITH 4" VERTICAL CRACKED WALLS R5 INSTALL ROOF FLASHING UP DORMER WALLS MIN. 6" TO ALLOW NEW SIDING A 2" SHEET; PAINT, COLOR: TBD R3 EXISTING GUTTERS AND DOWNSPOUTS, WHERE EXISTING, ARE DAMAGED AND INSTALL NEW 6" WD. OR SMOOTH FINISH FIBER CEMENT FASCIA ON EXIST. RAFTERS; R1 EXPERIENCE WITH HISTORIC MASONRY. MENDOZA BRICK. PREVIOUSLY REPAIRED AREAS AND REPLACE WITH NEW MATCHING BRICK FROM MEANS POSSIBLE. REMOVE EXISTING BROKEN BRICK AT VERTICALLY CRACKED AND SINGLE-PIECE STONE SILLS. • REMOVE, CLEAN AND RESET STONE WINDOWSILLS. AT BROKEN STONES CUT NEATLY INCLUDING SIZES OF BRICK PIECES. • ALL BRICK DETAILING TO BE REPLICATED AND SHALL MATCH EXISTING DESIGN REMAINING BRICK WALLS. • USE TYPE 'O' STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING SALVAGED PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK. • CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS AVAILABLE REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY. • BACKFILL WORK WHEN COMPLETE PER NOTE S2 • REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY. • REMOVE EXISTING FACE BRICK AT MINIMUM. MASON TO EVALUATE INTERIOR WTYS OF WALL AND REPLACE AS REQUIRED TO STABILIZE WALL. • REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY. • CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGED PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK. • USE TYPE 'O' STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING REMAINING BRICK WALLS. • SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK CURSING HEIGHT. • TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE COMPLETE RUNNING BOND WALL CONSTRUCTION AND STRUCTURAL INTEGRITY. • ALL BRICK DETAILING TO BE REPLACED AND SHALL MATCH EXISTING DESIGN INCLUDING SIZES OF BRICK PIECES. • REMOVE, CLEAN AND RESET STONE WINDOWSILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE. OR REPLACE WITH NEW MATCHING SINGLE-PIECE STONE SILLS. C6 MASON TO REMOVE AND REPLACE OR RESET MASONRY IN AREAS INDICATED. PROVIDE SALVAGED BRICK TO MATCH EXISTING IF RESET OF EXISTING IS NOT SALVAGEABLE OR DOES NOT MATCH ORIGINAL HISTORIC BRICK. WORK TO BE PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY. • REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY. • CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGED PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK. • USE TYPE 'O' STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING REMAINING BRICK WALLS. • SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK CURSING HEIGHT. • TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE COMPLETE RUNNING BOND WALL CONSTRUCTION AND STRUCTURAL INTEGRITY. • ALL BRICK DETAILING TO BE REPLACED AND SHALL MATCH EXISTING DESIGN INCLUDING SIZES OF BRICK PIECES. • REMOVE, CLEAN AND RESET STONE WINDOWSILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE. OR REPLACE WITH NEW MATCHING SINGLE-PIECE STONE SILLS. S1 REMOVE ALL VEGETATION FROM ROOFS, WALLS, AND FROM WITHIN 2 FEET MINIMUM OF FOUNDATION. S2 GRADE ALL EARTH AWAY FROM BUILDING FOR MINIMUM OF 3' DISTANCE SLOPED @ 1.5" PER FOOT (4.5" TOTAL) MINIMUM. S3 FOUNDATION STABILIZATION REQUIRED. -- SEE ENGINEER'S ASSESSMENT. WORK TO BE PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY. • EXCAVATE TO BOTTOM OF FOUNDATION AS REQUIRED FOR MASON TO ACCESS / ACCOMPLISH COMPLETE STABILIZATION OF STONES AND INSTALL NEW MORTAR FROM BEARING POINT TO START OF BRICK WORK • USE TYPE 'S' STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING STONEWORK. • BACKFILL WORK WHEN COMPLETE PER NOTE S2 • INSTALL CONTINUOUS FRENCH DRAIN PER WALL SECTION • SEE WALL SECTION ON PAGE 18 S4 AT FOUNDATIONS PREVIOUSLY STABILIZED WITH COMPATIBLE CEMENTOUS PRODUCT. CLEAN AND CHIP EXISTING AS REQUIRED TO PREPARE SURFACE FOR CONTINUOUS CEMENTOUS FACE AT MIN. 3/8" THICK. PAINT ALL SUCH FOUNDATIONS, COLOR: TBD S5 REMOVE EXISTING COAL CHUTE PLYWOOD AND REPLACE WITH TREATED 3/4" PLYWOOD AND COVER WITH 3/8" THICK 2-COAT CEMENT STUCCO ON DIAMOND METAL LATH ON STUCCO WRAP. COLOR AND TEXTURE TO SIMULATE ADJACENT CEMENTOUS COATING ON STONE FOUNDATION. S6 REPOINT STONE FOUNDATIONS WHERE EXPOSED AT EXISTING PORCHES USING TYPE 'S' MORTAR
EXISTING PORCH COLUMNS TO BE REPLACED, SEE SECTION (PAGE 17) AND MATERIALS SHEET (PAGE 42).

TYP. AT NORTH WALL.

TYPS. ALL BRICK EXCEPT AT C5.

TYP. OF 3 ON THIS ELEVATION.
2234 grove street | remedial plan | 19 June 2023

EXISTING REAR PORCH BEYOND

TYPO AT NORTH AND EAST FOUNDATION

FOR KEY NOTES SEE SHEET 12

NEW STEP
BEHIND S2

FOR KEY NOTES SEE SHEET 12

REBUILD BRICK AT TOP OF CHIMNEY

DORMER BEYOND

REAR PORCH

S3

DORMER

BEYOND
EXISTING 2X8 BEAMS

NEW ROOFING (RE: NOTES)

EXISTING 2X4 WOOD ROOF JOISTS

EXISTING WOOD ROOF SHEATHING

ADD (NEW) BEAD-BOARD CEILING
(RE: MATERIALS PAGE)

PRE-FINISHED WHITE OR PAINT

REPLACE EXISTING METAL COLUMNS WITH NEW 6" DIAMETER TUSCAN LOAD-BEARING COLUMNS
(RE: MATERIAL PAGE)

EXISTING CONCRETE PATIO

ADD NEW CONCRETE STEP AT 4’ WIDE AREA ALIGNING WITH ENTRY DOOR

SECTION A
(FRONT PORCH DETAIL)
SCALE: 3/4” = 1'-0"

SECTION B
(INTERIOR OF BASEMENT / CRAWLSPACE RETAINING WALL DETAIL)
SCALE: 3/4” = 1'-0"

ALSO SEE APPENDIX WITH ADDITIONAL NOTES AND CALCULATIONS.
RECOMPACT CRAWL SPACE EARTH TO EXISTING HEIGHT AND COMPACT SHORE EXISTING FLOOR DURING REBUILD OF FOUNDATION.

CRAWL SPACE VARY NEW MORTAR JOINT AS REQUIRED FOR LEVEL STABLE MASONRY COURSING ABOVE V.I.F. BOTTOM OF FOUNDATION EXISTING BASE COURSE STONE TO REMAIN. TUCK POINT/REMORTAR ALL VERTICAL JOINTS FOR RESTABILIZED BASE.

EXCAVATE BOTH SIDES OF EXISTING BASE COURSE TO ALLOW RE-POINTING OF BASE COURSE

V.I.F. ALL WINDOW OPENING AND DIMENSIONS PRIOR TO REMOVAL OF ANY MASONRY AND MATCH WITH NEW WINDOWS OPENINGS.

NOTE: ALL BRICK COURSING TO REMAIN, AS ORIGINALLY BUILT. REPAIR / REPLACE DAMAGED BRICK AS REQUIRED TO PROVIDE THE SAME COURSING PROFILE.

NEW GUTTERS, RE: ROOFING NOTES ON ELEVATIONS

REMOVE AND REPLACE EXISTING TRIM AS REQUIRED TO ALLOW REBUILD OF MASONRY BEARING WALL

REMOVE AND RESTORE, REPAINT CORBEL BLOCKS AND REINSTALL AFTER WALL REBUILD.

REBUILD DBL WY THE BRICK WALL WITH SOLID GROUT CORE

PROJECTED BRICK DBL COURSE RUNNING BOND ACCENT BOND TO MATCH AND TIE INTO ADJACENT EXISTING WALL BAND (ALSO WITH 2ND LEVEL WINDOW SILL

REPLICATE / MATCH EXISTING RUNNING BOND @ TOP OF FAN

REPLICATE / MATCH EXISTING BRICK SOLDIER COURSE FAN ARCH @ WINDOW HEADS

VARIES REPEAT / MATCH EXISTING FAN ARCH SPRING POINT TO MATCH EXISTING SILL HEIGHT V.I.F. MATCH EXISTING

RESET EXISTING OR REPLACE STONE SILL

MATCH 2 COURSE TALL 1/2" PROJECTED RUNNING BOND BRICK ACCENT BAND BEYOND

BACKFILL AND COMPACT NEW GRADE TO SLOPE MIN. 4 1/2" AWAY FROM FOUNDATION

APPROXIMATE EXISTING GRADE

EXISTING BASE COURSE STONE TO REMAIN. TUCK POINT / REMORTAR ALL VERTICAL JOINTS FOR RESTABILIZED BASE.

EXCAVATE BOTH SIDES OF EXISTING BASE COURSE TO ALLOW RE-POINTING OF BASE COURSE

NOTE SECOND LEVEL DORMER WINDOW SIMILAR TO MATCH EXISTING SPRING POINT VARIES

MATCH EXISTING SILL HEIGHT

RESET EXISTING OR REPLACE STONE SILL

WINDOW OPENING

NOTE SECOND LEVEL DORMER WINDOW SIMILAR

GROUND LEVEL

SHORE EXISTING 2ND LEVEL FLOOR JOIST DURING REBUILD OF WALL.

NOTE SECOND LEVEL DORMER WINDOW SIMILAR

V.I.F.

SECTION C (WALL SECTION @ NORTH BAY WALL REBUILD) SCALE: 1" = 1'-0"
EXISTING OR NEW PLASTER
RE: LOCATION
NEW OR REPLACED PAINTED WOOD TRIM. RE: OWNER
WOOD BLOCKING AS REQUIRED (HEIGHT VARIES)
NEW 2X6 BLOCKING
EXISTING OR NEW PLASTER FACE
NEW PAINTED WOOD TRIM AS REQUIRED. RE: OWNER
PAINTED WOOD FACE
NEW PAINTED 1/2" STOP
NEW BUILT-UP PAINTED WOOD FRAME SILL
EXISTING STONE SILL
PAINTED WOOD BRICK MOULD
SEALANT
NEW WOOD SILL
NEW WOOD TRIM
NEW 2X BLOCKING AS REQUIRED.
SEAL THE UNIT TO STOOL AND WINDOW SILL. SEAL ADJUSTABLE SILL ADAPTER TO EXISTING WOOD SILL. LEVEL UNITS AS REQUIRED
EXISTING OR NEW PLASTER FACE
NEW PAINTED WOOD TRIM AS REQUIRED. RE: OWNER
INTERIOR WOOD TRIM. RE: OWNER
NEW OR EXISTING PLASTER FACE
NEW 2X BLOCKING AS REQUIRED.
PAINTED WOOD FACE
NEW PAINTED 1/2" STOP
PAINTED WOOD BRICK MOULD
SEALANT
NEW 2X BLOCKING
EXISTING STONE SILL
SEALANT
NEW 2X BLOCKING
EXISTING STONE SILL
NEW 2X BLOCKING
NEW WOOD SILL
NEW WOOD TRIM
NEW 2X BLOCKING AS REQUIRED.
NEW 2X BLOCKING
EXISTING STONE SILL
SEALANT
2 1/2"
2 1/4"

NOTE:
THESE DETAILS ARE TYPICAL FOR ALL REPLACEMENT WINDOWS. SEE WINDOW SCHEDULE PAGE 39 & WINDOW SPECIFICATIONS PAGE 41.

SECTION D
(PELLA PRECISION FIT IN NEW SITE BUILT PAINTED WOOD WINDOW FRAMES)
SCALE: 3" = 1'-0"
ROOF

R1 EXISTING ROOFING HAS BEEN REMOVED AND SHEATHING COVERED WITH EXPOSED AND DETERIORATED UNDERLAYMENT; INSTALL NEW ROOF: REMOVE OR REPAIR EXISTING UNDERLAYMENT AS REQUIRED TO WARRANTY NEW ASPHALT COMPOSITION ROOF FOR 30 YEARS. INSTALL ON 35# FELT (MINIMUM) OR ICE AND WATER SHIELD. SEE NPS BRIEF #4 & MATERIALS PAGE. COLOR: SLATESTONE GRAY

R2 INSTALL NEW 5" WD. OR SMOOTH FINISH FIBER CEMENT FASCIA ON EXIST. RAFTERS; PAINT. SEE SECTION ON PAGE 17 FOR ASSOCIATED SOFFITS, BEAMS AND CEILINGS. ALSO SEE MATERIALS PAGE FOR CEILING MATERIAL.

R3 EXISTING GUTTERS AND DOWNSPOUTS, WHERE EXISTING, ARE DAMAGED AND UNEASASAGABLE. INSTALL NEW 4" 'K'-STYLE GUTTERS AT BOTTOM OF ALL ROOFS AND 4"X 3" RECT. D.S. AT ALL GUTTERS TO 24" SPLASH BLOCKS AT GRADE; SEE MATERIALS SHEET; PAINT, COLOR: TBD;

R4 FLASH RE-ROOFED PORCH ROOFS AGAINST MASONRY WALL WITH 4" VERTICAL FLASHING, USING FULLY ADHERED FLEXIBLE MEMBRANE OR SEALED REGLET ON BRICK

CLADDING (WALLS)

C1 REMOVE PEELING PAINT FROM BEAMS, SOFFITS, FASCIA & TRIM; PATCH AS REQUIRED AT DETERIORATED SURFACES; SEE NPS BRIEF #10 FOR PAINTING WOOD; PAINT, COLOR: TBD

C2 PRESSURE WASH EXISTING BRICK WITH LESS THAN 100PSI WATER FROM 3.5 INCHES AWAY. SCRUB WITH PLAIN WATER AND NATURAL OR NYLON BRISTLE BRUSH.

C3 VERTICALLY CRACKED WALLS, INCLUDING BUT NOT LIMITED TO THE NORTH WALL AT WEST CORNER: REMOVE MIS-COLORED MORTAR AND PORTLAND CEMENT PATCHES BY THE GENTLEST MEANS POSSIBLE. REMOVE EXISTING BROKEN BRICK AT VERTICALLY CRACKED AND PREVIOUSLY REPAIRED AREAS AND REPLACE WITH NEW MATCHING BRICK FROM MENDOZA BRICK. WORK TO BE PERFORMED BY A LICENSED BRICK MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.

• TOOTH IN REPLACED BRICKS INTO EXISTING SOUND BRICKS
• USE TYPE 'O' STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING BRICK

C4 REPOINT BRICK JOINTS AS NECESSARY WITH TYPE "O" STRENGTH MORTAR COLORED TO EXISTING PREDOMINANT COLOR OF THE BUILDING. KEEP WALL COVERED WITH WET BURLAP OR PLASTIC FOR 3 DAYS —SEE NPS BRIEF #2

C5 NORTH WALLS @ BAY AREA: SEE SECTION ON PAGE 18

MASON TO REMOVE AND RESET ALL MASONRY AT THE BAY OF THE NORTH WALL FROM BOTTOM OF FOUNDATION TO THE TOP OF THE WALL AT THE ROOF, INCLUDING ALL WYTHES OF THE BRICK WALLS AND THE STONE FOUNDATIONS. SEE SITEWORK AND FOUNDATION COMPONENT NOTES. WORK TO BE PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.

• PROVIDE TEMPORARY INTERIOR SUPPORT OF ALL FLOORS AND ROOF AT THIS AREA UNTIL THE WALL IS COMPLETELY REBUILT. SUBMIT METHOD OF SUPPORT TO STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION
• REMOVE EXISTING BRICK AND STONE IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY.
• CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGED, PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.
• USE TYPE 'O' STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING REMAINING BRICK WALLS.
• SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK COURSING HEIGHT.
• TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE COMPLETE RUNNING BOND WALL CONSTRUCTION AND STRUCTURAL INTEGRITY.
• ALL BRICK DETAILING TO BE REPLICATED AND SHALL MATCH EXISTING DESIGN INCLUDING SIZES OF BRICK / PIECES.
• REMOVE, CLEAN AND RESET STONE WINDOWSILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE; OR REPLACE WITH NEW MATCHING SINGLE-PIECE STONE SILLS.
EXISTING ROOFING HAS BEEN REMOVED AND SHEATHING COVERED WITH EXPOSED
REMOVE PEELING PAINT FROM BEAMS, SOFFITS, FASCIA & TRIM; PATCH AS REQUIRED
FLASH RE-ROOFED PORCH ROOFS AGAINST MASONRY WALL WITH 4" VERTICAL
WORK TO BE PERFORMED BY A LICENSED BRICK MASON OR CONTRACTOR WHO HAS
MENDOZA BRICK.
WORK TO BE PERFORMED BY A LICENSED BRICK MASON OR CONTRACTOR WHO HAS
MEANS POSSIBLE. REMOVE EXISTING BROKEN BRICK AT VERTICALLY CRACKED AND
REMOVE MIS-COLORED MORTAR AND PORTLAND CEMENT PATCHES BY THE GENTLEST
PREVIOUSLY REPAIRED AREAS AND REPLACE WITH NEW MATCHING BRICK FROM
MEANS POSSIBLE. REMOVE EXISTING BROKEN BRICK AT VERTICALLY CRACKED AND
REMOVE MIS-COLORED MORTAR AND PORTLAND CEMENT PATCHES BY THE GENTLEST
WARD WALL CONSTRUCTION AND STRUCTURAL INTEGRITY.
HEIGHT.
• REMOVE EXISTING BRICK AND STONE IN SEQUENCED FASHION AS REQUIRED BY THE
MASON TO REMOVE AND RESET ALL MASONRY AT THE BAY OF THE NORTH WALL FROM
UNSLAVAGABLE. INSTALL NEW 4" 'K'-STYLE GUTTERS AT BOTTOM OF ALL ROOFS AND
4"X 3" RECT. D.S. AT ALL GUTTERS TO 24" SPLASH BLOCKS AT GRADE; SEE MATERIALS
SHEET; PAINT, COLOR: TBD;
ROOF
R1 EXISTING ROOFING HAS BEEN REMOVED AND SHEATHING COVERED WITH EXPOSED
AND DETERIORATED UNDERLAYMENT; INSTALL NEW ROOF. REMOVE OR REPAIR
EXISTING UNDERLAYMENT AS REQUIRED TO WARRANTY NEW ASPHALT COMPOSITION
ROOF FOR 30 YEARS. INSTALL ON 30# FELT (MINIMUM) OR ICE AND WATER SHIELD. SEE
NPS BRIEF #4 & MATERIALS PAGE. COLOR: SLATESTONE GRAY
R3 EXISTING GUTTERS AND DOWNSPOUTS, WHERE EXISTING, ARE DAMAGED AND
UNSLAVAGABLE. INSTALL NEW 4" 'K'-STYLE GUTTERS AT BOTTOM OF ALL ROOFS AND
4"X 3" RECT. D.S. AT ALL GUTTERS TO 24" SPLASH BLOCKS AT GRADE; SEE MATERIALS
SHEET; PAINT, COLOR: TBD;
roof components
EXISTING ROOFING HAS BEEN REMOVED AND SHEATHING COVERED WITH EXPOSED PRESSURE WASH EXISTING BRICK WITH LESS THAN 100PSI WATER FROM 3.5 INCHES.

FLashing re-roofed porch roofs against masonry walls with 4" vertical flashing, using fully adhered flexible membrane or sealed reglet on brick. Install roof flashing up dormer walls min. 6" to allow new siding a 2" overlap.

ROOF COMPONENTS

1. **Existing Roofing**: Existing roofing has been removed and sheathing covered with exposed.
2. **Existing Gutters**: Existing gutters and downspouts, where existing, are damaged and unsalvageable. Install new 4" K-style gutters at bottom of all roofs and 4" x 3" rect. D.S. at all gutters to 24" splash blocks at grade. See materials sheet, paint, color: TBD.
3. **Roof Flashing**: Flash re-roofed porch roofs against masonry wall with 4" vertical flashing, using fully adhered flexible membrane or sealed reglet on brick. Install roof flashing up dormer walls min. 6" to allow new siding a 2" overlap.
4. **Roofing**: Install new roof: remove or repair existing underlayment as required to warranty new asphalt composition roof for 30 years. Install on 30# felt (minimum) or ice and water shield. See NPS Brief #4 & Materials page. Color: slate stone gray.
5. **Painting**: Use type 'O' strength mortar colored to match adjacent existing brick. Paint. See section on page 17 for associated soffits, beams and ceilings. Color: slate stone gray.
6. **Roofing Components**: Roofing components.
**ROOF**

**R1**
Existing roofing has been removed and sheathing covered with exposed and deteriorated underlayment. Install new roof: remove or repair existing underlayment as required to warranty new asphalt composition roof for 30 years. Install on 30# felt (minimum) or ice and water shield. See NPS Brief #4 & Materials page. Color: Slatestone Gray.

**R2**
Install new 6” wood or smooth finish fiber cement fascia on exist. rafters; paint. See section on page 17 for associated soffits, beams and ceilings. Also see Materials page for ceiling material.

**R3**
Existing gutters and downspouts, where existing, are damaged and unsalvageable. Install new 4” K-style gutters at bottom of all roofs and 4”x3” rect. D.S. at all gutters to 24” splash blocks at grade; see materials sheet; paint, color: TBD.

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**CLADDING (WALLS)**

**C1**
Remove peeling paint from beams, soffits, fascia & trim; patch as required at deteriorated surfaces; see NPS Brief #10 for painting wood; paint, color: TBD.

**C2**
Pressure wash existing brick with less than 100PSI water from 3.5 inches away. Scrub with plain water and natural or nylon bristle brush.

**C3**
Vertically cracked walls, including but not limited to the north wall at west corner: remove mis-colored mortar and Portland cement patches by the gentlest means possible. Remove existing broken brick at vertically cracked and previously repaired areas and replace with new matching brick from Mendoza Brick. Work to be performed by a licensed brick mason or contractor who has experience with historic masonry.

- Tooth in replaced bricks into existing sound bricks
- Use Type "O" strength mortar colored to match adjacent existing brick

**C4**
Repoint brick joints as necessary with Type "O" strength mortar colored to existing predominant color of the building. Keep wall covered with wet burlap or plastic for 3 days — see NPS Brief #2.

**C5**
North walls @ bay area: See section on page 18. Mason to remove and reset all masonry at the bay of the north wall from bottom of foundation to the top of the wall at the roof, including all wythes of the brick walls and the stone foundations. See site work and foundation components notes. Work to be performed by a licensed mason or contractor who has experience with historic masonry.

- Provide temporary interior support of all floors and roof at this area until the wall is completely rebuilt. Submit method of support to structural engineer for review and approval prior to installation
- Remove existing brick and stone in sequenced fashion as required by the mason to maintain a stable wall system and construction safety.
- Clean brick prior to using to rebuild wall. If insufficient material is salvaged, provide matching brick and stone from Mendoza Brick.
- Use Type "O" strength mortar colored to match adjacent remaining brick walls.
- Set brick with mortar joint thickness to match existing brick coursing height.
- Tooth / lap all brick into existing adjacent remaining walls to provide complete running bond wall construction and structural integrity.
- All brick detailing to be replicated and shall match existing design including sizes of brick pieces.
- Remove, clean and reset stone windowsills. At broken stones cut neatly for clean new mortar joint if possible; or replace with new matching single-piece stone sills.
EXISTING ROOFING HAS BEEN REMOVED AND SHEATHING COVERED WITH EXPOSED AND DETERIORATED UNDERLAYERMENT. INSTALL NEW ROOF: REMOVE OR REPAIR EXISTING UNDERLAYERMENT AS REQUIRED TO WARRANTY NEW ASPHALT COMPOSITION ROOF FOR 30 YEARS. INSTALL ON 30# FELT (MINIMUM) OR ICE AND WATER SHIELD. SEE NPS BRIEF #4 & MATERIALS PAGE. COLOR: SLATESTONE GRAY

INSTALL NEW 6" WD. OR SMOOTH FINISH FIBER CEMENT FASCIA ON EXIST. RAFTERS; PAINT. SEE SECTION ON PAGE 17 FOR ASSOCIATED SOFFITS, BEAMS AND CEILINGS. ALSO SEE MATERIALS PAGE FOR CEILING MATERIAL.

EXISTING GUTTERS AND DOWNSPOUTS, WHERE EXISTING, ARE DAMAGED AND UNSALVAGEABLE. INSTALL NEW 4" ‘K’-STYLE GUTTERS AT BOTTOM OF ALL ROOFS AND 4"X 3" REC. D.S. AT ALL GUTTERS TO 24" SPLASH BLOCKS AT GRADE; SEE MATERIALS SHEET; PAINT, COLOR: TBD;

FLASH RE-ROOFED PORCH ROOFS AGAINST MASONRY WALL WITH 4" VERTICAL Flashing, Using FULLY ADHERED FLEXIBLE MEMBRANE OR SEALED REGLET ON BRICK

REMOVE PEELING PAINT FROM BEAMS, SOFFITS, FASCIA & TRIM; PATCH AS REQUIRED AT DETERIORATED SURFACES; SEE NPS BRIEF #10 FOR PAINTING WOOD; PAINT, COLOR: TBD

PRESSURE WASH EXISTING BRICK WITH LESS THAN 100PSI WATER FROM 3.5 INCHES AWAY. SCRUB WITH PLAIN WATER AND NATURAL OR NYLON BRISTLE BRUSH.

VERTICALLY CRACKED WALLS, INCLUDING BUT NOT LIMITED TO THE NORTH WALL AT WEST CORNER:

REMOVE MIS-COLORED MORTAR AND PORTLAND CEMENT PATCHES BY THE GENTLEST MEANS POSSIBLE. REMOVE EXISTING BROKEN BRICK AT VERTICALLY CRACKED AND PREVIOUSLY REPAIRED AREAS AND REPLACE WITH NEW MATCHING BRICK FROM MENDOZA BRICK.

WORK TO BE PERFORMED BY A LICENSED BRICK MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.

TOOTH IN REPLACED BRICKS INTO EXISTING SOUND BRICKS

USE TYPE ‘O’ STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING BRICK

REPOINT BRICK JOINTS AS NECESSARY WITH TYPE “O” STRENGTH MORTAR COLORED TO EXISTING PREDOMINANT COLOR OF THE BUILDING. KEEP WALL COVERED WITH WET BURLAP OR PLASTIC FOR 3 DAYS —SEE NPS BRIEF #2

NORTH WALLS @ BAY AREA: SEE SECTION ON PAGE 18

MASON TO REMOVE AND RESET ALL MASONRY AT THE BAY OF THE NORTH WALL FROM BOTTOM OF FOUNDATION TO THE TOP OF THE WALL AT THE ROOF, INCLUDING ALL WYTHES OF THE BRICK WALLS AND THE STONE FOUNDATIONS. SEE SITEWORK AND FOUNDATION COMPONENT NOTES. WORK TO BE PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.

PROVIDE TEMPORARY INTERIOR SUPPORT OF ALL FLOORS AND ROOF AT THIS AREA UNTIL THE WALL IS COMPLETELY REBUILT. SUBMIT METHOD OF SUPPORT TO STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION

REMOVE EXISTING BRICK AND STONE IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY.

CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGED, PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.

USE TYPE ‘O’ STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING REMAINING BRICK WALLS.

SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK COURSING HEIGHT.

TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE COMPLETE RUNNING BOND WALL CONSTRUCTION AND STRUCTURAL INTEGRITY.

ALL BRICK DETAILING TO BE REPLICATED AND SHALL MATCH EXISTING DESIGN INCLUDING SIZES OF BRICK PIECES.

REMOVE, CLEAN AND RESET STONE WINDOWSILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE; OR REPLACE WITH NEW MATCHING SINGLE-PIECE STONE SILLS.
**CLADDING (WALLS)**

C1. REMOVE PEELING PAINT FROM BEAMS, SOFFITS, FASCIA & TRIM; PATCH AS REQUIRED AT DETERIORATED SURFACES; SEE NPS BRIEF #10 FOR PAINTING WOOD; PAINT, COLOR: TBD

C2. PRESSURE WASH EXISTING BRICK WITH LESS THAN 100PSI WATER FROM 3.5 INCHES AWAY. SCRUB WITH PLAIN WATER AND NATURAL OR NYLON BRISTLE BRUSH.

R3. EXISTING GUTTERS AND DOWNSPOUTS, WHERE EXISTING, ARE DAMAGED AND UNSLAVAGABLE. INSTALL NEW 4" 'K'-STYLE GUTTERS AT BOTTOM OF ALL ROOFS AND FLASH RE-ROOFED PORCH ROOFS AGAINST MASONRY WALL WITH 4" VERTICAL FLASHING, USING FULLY ADHERED FLEXIBLE MEMBRANE OR SEALED REGLET ON BRICK SHEET; PAINT, COLOR: TBD;

4"X 3" RECT. D.S. AT ALL GUTTERS TO 24" SPLASH BLOCKS AT GRADE;  SEE MATERIALS PAGE FOR CEILING MATERIAL.

R4. AT ROOF T.O. BRICK - TYP.  

**MENDOZA BRICK.**  

MEANS POSSIBLE. REMOVE EXISTING BROKEN BRICK AT VERTICALLY CRACKED AND REMOVE MIS-COLORED MORTAR AND PORTLAND CEMENT PATCHES BY THE GENTLEST WEST CORNER:

PREVIOUSLY REPAIRED AREAS AND REPLACE WITH NEW MATCHING BRICK FROM SALVAGED, PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.

CLEAN BRICK PRIOR TO USING TO REBUILD WALL.  IF INSUFFICIENT MATERIAL IS UNSLAVAGABLE. INSTALL NEW 6" WD. OR SMOOTH FINISH FIBER CEMENT FASCIA ON EXIST. RAFTERS;

INCHES UNTIL THE WALL IS COMPLETELY REBUILT.  SUBMIT METHOD OF SUPPORT TO STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION COMPLETE RUNNING BOND WALL CONSTRUCTION AND STRUCTURAL INTEGRITY.

SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK COURSING •USE TYPE 'O' STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING BRICK WALLS.

• ALL BRICK DETAILING TO BE REPLICATED AND SHALL MATCH EXISTING DESIGN INCLUDING SIZES OF BRICK PIECES.

• REMOVE EXISTING BROKEN BRICK AND STONE IN SEQUENCED FASHION AS REQUIRED BY THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION UNTIL THE WALL IS COMPLETELY REBUILT.  SUBMIT METHOD OF SUPPORT TO FOUNDATION COMPONENT NOTES.  WORK TO BE PERFORMED BY A LICENSED MASON WITH HISTORIC MASONRY.

WORK TO BE PERFORMED BY A LICENSED BRICK MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.
EXISTING ROOFING HAS BEEN REMOVED AND SHEATHING COVERED WITH EXPOSED AND REMOVE PEELING PAINT FROM BEAMS, SOFFITS, FASCIA & TRIM; PATCH AS REQUIRED
PAINT EXISTING RAILINGS AND PORCH COLUMNS; COLOR: TBD
REMOVE ALL VEGITATION FROM ROOFS, WALLS, AND FROM WITHIN 2 FEET MINIMUM MASON TO REMOVE AND REPLACE OR RESET MASONRY IN AREAS INDICATED . NORTH WALLS @ BAY AREA
INSTALL WOOD SHAKE SHINGLES TO MATCH EXISTING REMAINING FEW SHINGLES @ ALL FOUNDATION STABILIZATION REQUIRED. -- SEE ENGINEER’S ASSESSMENT. WORK TO BE REMOVE EXISTING COAL CHUTE PLYWOOD AND REPLACE WITH TREATED 3/4” PLYWOOD REPPOINT STONE FOUNDATIONS WHERE EXPOSED AT EXISTING PORCHES USING TYPE “S” FLASH RE-ROOFED PORCH ROOFS AGAINST MASONRY WALL WITH 4” VERTICAL CRACKED WALLS
C1; CLEAN AND REPAINT INCLUDING ACCENT COLOR SCROLL-WORK; COLORS: TBD VERTICALLY CRACKED WALLS INCLUDING BUT NOT LIMITED TO THE NORTH WALL AT WEST CORNER: REMOVE MIS-COLORED MORTAR AND PORTLAND CEMENT PATCHES BY THE GENTLEST MEANS POSSIBLE. REMOVE EXISTING BROKEN BRICK AT VERTICALLY CRACKED AND PREVIOUSLY REPAIRED AREAS AND REPLACE WITH NEW MATCHING BRICK FROM MENDOZA BRICK.
WORK TO BE PERFORMED BY A LICENSED BRICK MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.
• TOOTH IN REPLACED BRICKS INTO EXISTING SOUND BRICKS
• USE TYPE “O” STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING BRICK MASON TO REMOVE AND REPLACE OR RESET MASONRY IN AREAS INDICATED. PROVIDE SALVAGED BRICK TO MATCH EXISTING IF RESET OF EXISTING IS NOT SALVAGEABLE OR DOES NOT MATCH ORIGINAL HISTORIC BRICK. WORK TO BE PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.
• REMOVE EXISTING FACE BRICK AT MINIMUM. MASON TO EVALUATE INTERIOR WYTHES OF WALL AND REPLACE AS REQUIRED TO STABILIZE WALL.
• REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY.
• CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGED PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.
• USE TYPE “O” STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING REMAINING BRICK WALLS.
• SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK COURSING HEIGHT.
• TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE COMPLETE RUNNING BOND WALL CONSTRUCTION.
• ALL BRICK DETAILING TO BE REPLICATED AND SHALL MATCH EXISTING DESIGN INCLUDING SIZES OF BRICK PIECES.
• WHERE WORK IS AROUND WINDOWS, REMOVE, CLEAN AND RESET STONE WINDOW SILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE, OR REPLACE WITH NEW MATCHING SINGLE PIECE STONE SILLS.
• REPLACED EXISTING METAL COLUMNS WITH 6” DIA. TUSCAN COLUMNS RE MATERIALS SHEET AND ALSO PER SECTION ON PAGE 17, PAINT, COLOR TBD.
EXISTING ROOFING HAS BEEN REMOVED AND SHEATHING COVERED WITH EXPOSED AND FOUNDATION STABILIZATION REQUIRED. -- SEE ENGINEER'S ASSESSMENT. WORK TO BE REMOVE (E) CORNICE BLOCKS AS REQUIRED TO ALLOW BRICK WALL REBUILD PER NOTE

PAINT EXISTING RAILINGS AND PORCH COLUMNS; COLOR: TBD

REMOVE EXISTING COAL CHUTE PLYWOOD AND REPLACE WITH TREATED 3/4" PLYWOOD

REPONT STONE FOUNDATIONS WHERE EXPOSED AT EXISTING PORCHES USING TYPE 'S' FLASH RE-ROOFED PORCH ROOFS AGAINST MASONRY WALL WITH 4" VERTICAL

NORTH WALLS @ BAY AREA

REMOVE PEELING PAINT FROM BEAMS, SOFFITS, FASCIA & TRIM; PATCH AS REQUIRED TO DETERIORATED SURFACES, SEE NPS BRIEF #10 FOR PAINTING WOOD; PAINT, COLOR: TBD

PRESSURE WASH EXISTING BRICK WITH LESS THAN 100PSI WATER FROM 3.5 INCHES AWAY. SCRUB WITH PLAIN WATER AND NATURAL OR NYLON BRISTLE BRUSH.

MASON TO REMOVE AND REPLACE OR RESET MASONRY IN AREAS INDICATED. PROVIDE SALVAGED BRICK TO MATCH EXISTING IF RESET OF EXISTING IS NOT SALVAGEABLE OR DOES NOT MATCH ORIGINAL HISTORIC BRICK. WORK TO BE PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.

• REMOVE EXISTING FACE BRICK AT MINIMUM. MASON TO EVALUATE INTERIOR WYTHES OF WALL AND REPLACE AS REQUIRED TO STABILIZE WALL.
• REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY.
• CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGED PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.

• CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGED PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.

• USE TYPE 'O' STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING REMAINING BRICK WALLS.
• SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK COURSING HEIGHT.
• TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE COMPLETE RUNNING BOND WALL CONSTRUCTION.
• ALL BRICK DETAILING TO BE REPLACED AND SHALL MATCH EXISTING DESIGN INCLUDING SIZES OF BRICK PIECES.
• WHERE WORK IS AROUND WINDOWS, REPLACE, CLEAN AND RESET STONE WINDOWILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE; OR REPLACE WITH NEW MATCHING SINGLE PIECE STONE SILLS.

CLADDING (WALLS)

C1 REMOVE PEELING PAINT FROM BEAMS, SOFFITS, FASCIA & TRIM; PATCH AS REQUIRED TO DETERIORATED SURFACES, SEE NPS BRIEF #10 FOR PAINTING WOOD; PAINT, COLOR: TBD

C2 PRESSURE WASH EXISTING BRICK WITH LESS THAN 100PSI WATER FROM 3.5 INCHES AWAY. SCRUB WITH PLAIN WATER AND NATURAL OR NYLON BRISTLE BRUSH.

C6 MASON TO REMOVE AND REPLACE OR RESET MASONRY IN AREAS INDICATED. PROVIDE SALVAGED BRICK TO MATCH EXISTING IF RESET OF EXISTING IS NOT SALVAGEABLE OR DOES NOT MATCH ORIGINAL HISTORIC BRICK. WORK TO BE PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.

• REMOVE EXISTING FACE BRICK AT MINIMUM. MASON TO EVALUATE INTERIOR WYTHES OF WALL AND REPLACE AS REQUIRED TO STABILIZE WALL.
• REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY.
• CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGED PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.

• USE TYPE 'O' STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING REMAINING BRICK WALLS.
• SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK COURSING HEIGHT.
• TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE COMPLETE RUNNING BOND WALL CONSTRUCTION.
• ALL BRICK DETAILING TO BE REPLACED AND SHALL MATCH EXISTING DESIGN INCLUDING SIZES OF BRICK PIECES.
• WHERE WORK IS AROUND WINDOWS, REPLACE, CLEAN AND RESET STONE WINDOWILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE; OR REPLACE WITH NEW MATCHING SINGLE PIECE STONE SILLs.
EXISTING ROOFING HAS BEEN REMOVED AND SHEATHING COVERED WITH EXPOSED AND
NORTH WALLS @ BAY AREA
REMOVE ALL VEGETATION FROM ROOFS, WALLS, AND FROM WITHIN 2 FEET MINIMUM
FOUNDATION STABILIZATION REQUIRED. -- SEE ENGINEER’S ASSESSMENT. WORK TO BE
FLASH RE-ROOFED PORCH ROOFS AGAINST MASONRY WALL WITH 4" VERTICAL
PRESSURE WASH EXISTING BRICK WITH LESS THAN 100PSI WATER FROM 3.5 INCHES
NORTH WALLS @ BAY AREA

CLADDING (WALLS)
C1 REMOVE PEELING PAINT FROM BEAMS, SOFFITS, FASCIA & TRIM; PATCH AS REQUIRED
AT DETERIORATED SURFACES; SEE NPS BRIEF K2 FOR PAINTING WOOD; PAINT, COLOR: TBD
C2 PRESSURE WASH EXISTING BRICK WITH LESS THAN 100PSI WATER FROM 3.5 INCHES
AWAY; SCOUR WITH PLAIN WATER AND NATURAL OR NYLON BRISTLE BRUSH.
C4 REPOINT BRICK JOINTS AS NECESSARY WITH TYPE “O” STRENGTH MORTAR COLORED TO
EXISTING PREDOMINANT COLOR OF THE BUILDING; KEEP WALL COVERED WITH WET
BURLAP OR PLASTIC FOR 3 DAYS -- SEE NPS BRIEF K2
C6 MASON TO REMOVE AND REPLACE OR RESET MASONRY IN AREAS INDICATED.
PROVIDE SALVAGED BRICK TO MATCH EXISTING IF RESET OF EXISTING IS NOT
SALVAGEABLE OR DOES NOT MATCH ORIGINAL HISTORIC BRICK. WORK TO BE
PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH
HISTORIC MASONRY.
• REMOVE EXISTING FACE BRICK AT MINIMUM. MASON TO EVALUATE INTERIOR
WYTHES OF WALL AND REPLACE AS REQUIRED TO STABILIZE WALL.
• REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A
STABLE WALL SYSTEM AND CONSTRUCTION SAFETY.
• CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS
SALVAGED PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.
• USE TYPE “O” STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING REMAINING
BRICK WALLS.
• SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK COURSING
HEIGHT.
• TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE
COMPLETE RUNNING BOND WALL CONSTRUCTION.
• ALL BRICK DETAILING TO BE REPLACED AND SHALL MATCH EXISTING DESIGN
INCLUDING SIZES OF BRICK PIECES.
• WHERE WORK IS AROUND WINDOWS, REMOVE, CLEAN AND RESET STONE
WINDOW SILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF
POSSIBLE. OR REPLACE WITH NEW MATCHING SINGLE PIECE STONE SILLS.
C9 INSTALL WOOD SHAKE SHINGLES TO MATCH EXISTING REMAINING FEW SHINGLES @ ALL
MISSING LOCATIONS; PAINT, COLOR: TBD

cladding components
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MASON TO REMOVE AND REPLACE OR RESET MASONRY IN AREAS INDICATED.

REMOVE ALL VEGETATION FROM ROOFS, WALLS, AND FROM WITHIN 2 FEET MINIMUM.

REMOVE EXISTING COAL CHUTE PLYWOOD AND REPLACE WITH TREATED 3/4" PLYWOOD.

NORTH WALLS @ BAY AREA.

FLASH RE-ROOFED PORCH ROOFS AGAINST MASONRY WALL WITH 4" VERTICAL.

REMOVE EXISTING COAL CHUTE PLYWOOD AND REPLACE WITH TREATED 3/4" PLYWOOD.

FOUNDATION STABILIZATION REQUIRED.  --   SEE ENGINEER’S ASSESSMENT. WORK TO BE PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.

• REMOVE EXISTING FACE BRICK AT MINIMUM. MASON TO EVALUATE INTERIOR WYTHES OF WALL AND REPLACE AS REQUIRED TO STABILIZE WALL.

• REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY.

• CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS AVAILABLE, PROVIDE MATCHING BRICK FROM MENDOZA BRICK.

• SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK COURSING HEIGHT.

• TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE COMPLETE RUNNING BOND WALL CONSTRUCTION.

• ALL BRICK DETAILING TO BE REPLICATED AND SHALL MATCH EXISTING DESIGN INCLUDING SIZES OF BRICK PIECES.

• PROVIDE TEMPORARY INTERIOR SUPPORT OF ALL FLOORS AND ROOF AT THIS AREA OF WALL.

• USE TYPE ‘O’ STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING BRICK.

• PROVIDE SALVAGED BRICK TO MATCH EXISTING IF RESET OF EXISTING IS NOT SALVAGEABLE. PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.

• C5; CLEAN AND REPAINT INCLUDING ACCENT COLOR SCROLL-WORK; COLORS: TBD.

• C1; REMOVE BROKEN BRICK AT VERTICALLY CRACKED AND WEST CORNER.

• C9; FOR CLEAN NEW MORTAR JOINT IF POSSIBLE; OR REPLACE WITH NEW MATCHING BRICK WALLS.

• C4; REPOINT BRICK JOINTS AS NECESSARY WITH TYPE “O” STRENGTH MORTAR COLORED TO EXISTING PREDOMINANT COLOR OF THE BUILDING.

• C2; PRESSURE WASH EXISTING BRICK WITH LESS THAN 100PSI WATER FROM 3.5 INCHES AWAY. SCRUB WITH PLAIN WATER AND NATURAL OR NYLON BRISTLE BRUSH.

• C10; INSTALL NEW 6" WD. OR SMOOTH FINISH FIBER CEMENT FASCIA ON EXIST. RAFTERS;

• C5; CLEAN AND REPAINT INCLUDING ACCENT COLOR SCROLL-WORK; COLORS: TBD.

• C3; REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY.

• BRICK WALLS.

• WHERE WORK IS AROUND WINDOWS, REMOVE, CLEAN AND RESET STONE WINDOWSILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE, OR REPLACE WITH NEW MATCHING SINGLE PIECE STONE SILL.

C11 PAINT EXISTING RAILINGS AND PORCH COLUMNS; COLOR: TBD.

CLADDING (WALLS)

C1 REMOVE PEELING PAINT FROM BEAMS, SOFFIT, FASCIA & TRIM; PATCH AS REQUIRED AT DETERIORATED SURFACES; SEE NPS BRIEF #10 FOR PAINTING WOOD; PAINT, COLOR: TBD.

C2 PRESSURE WASH EXISTING BRICK WITH LESS THAN 100PSI WATER FROM 3.5 INCHES AWAY. SCRUB WITH PLAIN WATER AND NATURAL OR NYLON BRISTLE BRUSH.

C4 REPOINT BRICK JOINTS AS NECESSARY WITH TYPE “O” STRENGTH MORTAR COLORED TO EXISTING PREDOMINANT COLOR OF THE BUILDING. KEEP WALL COVERED WITH WET BURLAP OR PLASTIC FOR 3 DAYS — SEE NPS BREF #2.

C6 MASON TO REMOVE AND REPLACE OR RESET MASONRY IN AREAS INDICATED.

REPAIR EXISTING COAL CHUTE PLYWOOD AND REPLACE WITH TREATED 3/4" PLYWOOD.

NORTH WALLS @ BAY AREA.

FLASH RE-ROOFED PORCH ROOFS AGAINST MASONRY WALL WITH 4" VERTICAL.

REPLACE EXISTING METAL COLUMNS WITH 6" DIA. TUSCAN COLUMNS RE: MATERIALS.

C7 INSTALL MATCHING SOFFIT BOARDS WHERE MISSING AND REPAINT ALL TRIM; COLOR AT FOUNDATIONS PREVIOUSLY STABLIZED WITH COMPATIBLE CEMENTIOUS PRODUCT.

C8 INSTALL MATCHING SOFFIT BOARDS WHERE MISSING AND REPAINT ALL TRIM; COLOR AT FOUNDATIONS PREVIOUSLY STABLIZED WITH COMPATIBLE CEMENTIOUS PRODUCT.

C9 REPOINT BRICK JOINTS AS NECESSARY WITH TYPE “O” STRENGTH MORTAR COLORED TO EXISTING PREDOMINANT COLOR OF THE BUILDING.

C10 INSTALL NEW 6" WD. OR SMOOTH FINISH FIBER CEMENT FASCIA ON EXIST. RAFTERS;

C11 PAINT EXISTING RAILINGS AND PORCH COLUMNS; COLOR: TBD.

CLADDING COMPONENTS

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MASON TO REMOVE AND REPLACE OR RESET MASONRY IN AREAS INDICATED.

FOUNDATION STABILIZATION REQUIRED. SEE ENGINEER’S ASSESSMENT. WORK TO BE REMOVE (E) CORNICE BLOCKS AS REQUIRED TO ALLOW BRICK WALL REBUILD PER NOTE

FLASH RE-ROOFED PORCH ROOFS AGAINST MASONRY WALL WITH 4” VERTICAL

NORTH WALLS @ BAY AREA

PRESSURE WASH EXISTING BRICK WITH LESS THAN 100PSI WATER FROM 3.5 INCHES

REPOINT STONE FOUNDATIONS WHERE EXPOSED AT EXISTING PORCHES USING TYPE ‘S’

“bay” walls

entire area

Corner of Bay (Northeast)

Window/Gable (North)

CLADDING (WALLS)
C1 REMOVE PEELING PAINT FROM BEAMS, SOFFITS, FASCIA & TRIM; PATCH AS REQUIRED AT DETERIORATED SURFACES; SEE NPS BRIEF #10 FOR PAINTING WOOD, PAINT, COLOR: TBD

PRESSURE WASH EXISTING BRICK WITH LESS THAN 100PSI WATER FROM 3.5 INCHES AWAY. SCRUB WITH PLAIN WATER AND NATURAL OR NYLON BRISTLE BRUSH.

REPOINT BRICK JOINTS AS NECESSARY WITH TYPE ‘O’ STRENGTH MORTAR COLORED TO EXISTING PREDOMINANT COLOR OF THE BUILDING. KEEP WALL COVERED WITH WET BURLAP OR PLASTIC FOR 3 DAYS—SEE NPS BRIEF #2

NORTH WALLS @ BAY AREA. SEE SECTION ON PAGE 18

MASON TO REMOVE AND RESET ALL MASONRY AT THE BAY OF THE NORTH WALL FROM BOTTOM OF FOUNDATION TO THE TOP OF THE WALL AT THE ROOF, INCLUDING ALL WYTHES OF THE BRICK WALLS AND THE STONE FOUNDATIONS. SEE SITEWORK AND FOUNDATION COMPONENT NOTES. WORK TO BE PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.

• PROVIDE TEMPORARY INTERIOR SUPPORT OF ALL FLOORS AND ROOF AT THIS AREA UNTIL THE WALL IS COMPLETELY REBUILT. SUBMIT METHOD OF SUPPORT TO STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION

• REMOVE EXISTING BRICK AND STONE IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY.

• CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGED, PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.

• USE TYPE ‘O’ STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING REMAINING BRICK WALLS.

• SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK COURSING HEIGHT.

• TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE COMPLETE RUNNING BOND WALL CONSTRUCTION AND MATCHING INTEGRITY.

• ALL BRICK DETAILING TO BE REPLICATED AND SHALL MATCH EXISTING DESIGN INCLUDING SIZES OF BRICK PIECES.

• REMOVE, CLEAN AND RESET STONE WINDOWILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE, OR REPLACE WITH NEW MATCHING SINGLE PIECE STONE SILLS.

MASON TO REMOVE AND REPLACE OR RESET MASONRY IN AREAS INDICATED. PROVIDE SALVAGED BRICK TO MATCH EXISTING IF REMOVAL OF BRICK IS NOT SALVAGEABLE OR DOES NOT MATCH ORIGINAL HISTORIC BRICK. WORK TO BE PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.

• REMOVE EXISTING FACE BRICK AT MINIMUM. MASON TO EVALUATE INTERIOR WYTHES OF WALL AND REPLACE AS REQUIRED TO STABILIZE WALL.

• REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY.

• CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGED PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.

• USE TYPE ‘O’ STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING REMAINING BRICK WALLS.

• SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK COURSING HEIGHT.

• TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE COMPLETE RUNNING BOND WALL CONSTRUCTION.

• ALL BRICK DETAILING TO BE REPLICATED AND SHALL MATCH EXISTING DESIGN INCLUDING SIZES OF BRICK PIECES.

• WHERE WORK IS AROUND WINDOWS, REMOVE, CLEAN AND RESET STONE WINDOWILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE, OR REPLACE WITH NEW MATCHING SINGLE PIECE STONE SILLS.

• REMOVE (E) CORNICE BLOCKS AS REQUIRED TO ALLOW BRICK WALL REBUILD PER NOTE C5; CLEAN AND REPAINT INCLUDING ACCENT COLOR SCROLL-WORK; COLORS: TBD

MISSING LOCATIONS; PAINT, COLOR: TBD

• CLEAN AND CHIP EXISTING AS REQUIRED TO PREPARE SURFACE FOR CONTINUOUS AND COVER WITH CEMENT STUCCO ON STUCCO WRAP. COLOR AND TEXTURE TO MATCH EXISTING EXTERIOR WALLS. (ALL EXTERIOR WALLS REQUIRE CARTON.

• INSTALL CONTINUOUS FRENCH DRAIN PER WALL SECTION BEARING POINT TO START OF BRICK WORK

1.5” PER FOOT (4.5” TOTAL) MINIMUM

ACCOMPLISH COMPLETE STABLIZATION OF STONES AND INSTALL NEW MORTAR FROM BOTTOM TO TOP OF WALL AT THE ROOF, INCLUDING ALL WYTHES OF THE BRICK WALLS.

MISSING LOCATIONS; PAINT, COLOR: TBD

• WHERE WORK IS AROUND WINDOWS, REMOVE, CLEAN AND RESET STONE WINDOWILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE, OR REPLACE WITH NEW MATCHING SINGLE PIECE STONE SILLS.

• REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY.

• CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGED PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.

• USE TYPE ‘O’ STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING REMAINING BRICK WALLS.

• SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK COURSING HEIGHT.

• TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE COMPLETE RUNNING BOND WALL CONSTRUCTION.

• ALL BRICK DETAILING TO BE REPLICATED AND SHALL MATCH EXISTING DESIGN INCLUDING SIZES OF BRICK PIECES.

• WHERE WORK IS AROUND WINDOWS, REMOVE, CLEAN AND RESET STONE WINDOWILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE, OR REPLACE WITH NEW MATCHING SINGLE PIECE STONE SILLS.

• REMOVE (E) CORNICE BLOCKS AS REQUIRED TO ALLOW BRICK WALL REBUILD PER NOTE C5; CLEAN AND REPAINT INCLUDING ACCENT COLOR SCROLL-WORK; COLORS: TBD

MISSING LOCATIONS; PAINT, COLOR: TBD

• CLEAN AND CHIP EXISTING AS REQUIRED TO PREPARE SURFACE FOR CONTINUOUS AND COVER WITH CEMENT STUCCO ON STUCCO WRAP. COLOR AND TEXTURE TO MATCH EXISTING EXTERIOR WALLS. (ALL EXTERIOR WALLS REQUIRE CARTON.

• INSTALL CONTINUOUS FRENCH DRAIN PER WALL SECTION BEARING POINT TO START OF BRICK WORK

1.5” PER FOOT (4.5” TOTAL) MINIMUM

ACCOMPLISH COMPLETE STABLIZATION OF STONES AND INSTALL NEW MORTAR FROM BOTTOM TO TOP OF WALL AT THE ROOF, INCLUDING ALL WYTHES OF THE BRICK WALLS.

MISSING LOCATIONS; PAINT, COLOR: TBD

• WHERE WORK IS AROUND WINDOWS, REMOVE, CLEAN AND RESET STONE WINDOWILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE, OR REPLACE WITH NEW MATCHING SINGLE PIECE STONE SILLS.

• REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY.

• CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGED PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.

• USE TYPE ‘O’ STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING REMAINING BRICK WALLS.

• SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK COURSING HEIGHT.

• TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE COMPLETE RUNNING BOND WALL CONSTRUCTION.

• ALL BRICK DETAILING TO BE REPLICATED AND SHALL MATCH EXISTING DESIGN INCLUDING SIZES OF BRICK PIECES.

• WHERE WORK IS AROUND WINDOWS, REMOVE, CLEAN AND RESET STONE WINDOWILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE, OR REPLACE WITH NEW MATCHING SINGLE PIECE STONE SILLS.
**CLADDING (WALLS)**

**C1**
Remove peeling paint from beams, soffits, fascia & trim; patch as required at deteriorated surfaces; see NPS Brief #10 for painting wood, paint, color: TBD.

**C2**
Pressure wash existing brick with less than 100psi water from 3.5 inches away. Scrub with plain water and natural or nylon bristle brush.

**C3**
Vertically cracked walls, including but not limited to the north wall at west corner: remove mis-colored mortar and Portland cement patches by the gentlest means possible. Remove existing broken brick at vertically cracked and previously repaired areas and replace with new matching brick from Mendoza brick. Work to be performed by a licensed brick mason or contractor who has experience with historic masonry.

- Tooth in replaced bricks into existing sound bricks
- Use type 'O' strength mortar colored to match adjacent existing brick
- Clean brick prior to using to rebuild wall. If insufficient material is salvaged, provide matching brick and stone from Mendoza brick.

**C4**
Repoint brick joints as necessary with type 'O' strength mortar colored to match adjacent existing brick. Provide salvable brick or does not match original historic brick. Work to be performed by a licensed mason or contractor who has experience with historic masonry.

- Remove existing face brick at minimum. Mason to evaluate interior wythes of wall and replace as required to stabilize wall
- Remove brick in sequenced fashion as required by the mason to maintain a stable wall system and construction safety
- Clean brick prior to using to rebuild wall. If insufficient material is salvaged provide matching brick and stone from Mendoza brick
- Use type 'O' strength mortar colored to match adjacent existing remaining brick walls
- Set brick with mortar joint thickness to match existing brick coursing height.
- Tooth / lap all brick into existing adjacent remaining walls to provide complete running bond wall construction
- All brick detailing to be replicated and shall match existing design including sizes of brick pieces
- Where work is around windows, remove, clean and reset stone window sills. At broken stones cut neatly for clean new mortar joint if possible, or replace with new matching single piece stone sills

**C5**
Remove and reset all masonry at the bay of the north wall from bottom of foundation to the top of the wall at the roof, including all wythes of the brick walls and the stone foundations. See site work and foundation component notes. Work to be performed by a licensed mason or contractor who has experience with historic masonry.

- Provide temporary interior support of all floors and roof at this area until the wall is completely rebuilt. Submit method of support to structural engineer for review and approval prior to installation
- Remove existing brick and stone in sequenced fashion as required by the mason to maintain a stable wall system and construction safety
- Clean brick prior to using to rebuild wall. If insufficient material is salvaged, provide matching brick and stone from Mendoza brick
- Use type 'O' strength mortar colored to match adjacent existing remaining brick walls
- Set brick with mortar joint thickness to match existing brick coursing height.
- Tooth / lap all brick into existing adjacent remaining walls to provide complete running bond wall construction
- All brick detailing to be replicated and shall match existing design including sizes of brick pieces
- Where work is around windows, remove, clean and reset stone window sills. At broken stones cut neatly for clean new mortar joint if possible, or replace with new matching single piece stone sills

**C6**
Mason to remove and replace or reset masonry in areas indicated. Provide salvaged brick to match existing if reset of existing is not salvageable or does not match original historic brick. Work to be performed by a licensed mason or contractor who has experience with historic masonry.

- Remove existing face brick at minimum. Mason to evaluate interior wythes of wall and replace as required to stabilize wall
- Remove brick in sequenced fashion as required by the mason to maintain a stable wall system and construction safety
- Clean brick prior to using to rebuild wall. If insufficient material is salvaged provide matching brick and stone from Mendoza brick
- Use type 'O' strength mortar colored to match adjacent existing remaining brick walls
- Set brick with mortar joint thickness to match existing brick coursing height.
- Tooth / lap all brick into existing adjacent remaining walls to provide complete running bond wall construction
- All brick detailing to be replicated and shall match existing design including sizes of brick pieces
- Where work is around windows, remove, clean and reset stone window sills. At broken stones cut neatly for clean new mortar joint if possible, or replace with new matching single piece stone sills

**C7**
Install matching soffit boards where missing and repaint all trim, color TBD
CLADDING (WALLS)

C1. REMOVE PEELING PAINT FROM BEAMS, SOFFITS, FASCIA & TRIM; PATCH AS REQUIRED AT DETERIORATED SURFACES; SEE NPS BRIEF #10 FOR PAINTING WOOD; PAINT, COLOR: TBD

C2. PRESSURE WASH EXISTING BRICK WITH LESS THAN LOBOSI WATER FROM 3.5 INCHES AWAY. SCRUB WITH PLAIN WATER AND NATURAL OR NYLON BRISTLE BRUSH.

C3. VERTICALLY CRACKED WALLS, INCLUDING BUT NOT LIMITED TO THE NORTH WALL AT WEST CORNER. REMOVE MIX-COLORED MORTAR AND PORTLAND CEMENT PATCHES BY THE GENTLEST MEANS POSSIBLE; REMOVE EXISTING BROKEN BRICK AT VERTICALLY CRACKED AND PREVIOUSLY REPAIRED AREAS AND REPLACE WITH NEW MATCHING BRICK FROM MENDOZA BRICK.

WORK TO BE PERFORMED BY A LICENSED BRICK MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.

• TOOTH IN REPLACED BRICKS INTO EXISTING SOUND BRICKS
• USE TYPE ‘O’ STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING BRICK
• MASON TO REMOVE AND REPLACE OR RESORT MASONRY IN AREAS INDICATED.

C6. PROVIDE SALVAGED BRICK TO MATCH EXISTING IF RESET OF EXISTING IS NOT SALVAGEABLE OR DOES NOT MATCH ORIGINAL HISTORIC BRICK. WORK TO BE PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.

• REMOVED EXISTING FACE BRICK AT MINIMUM. MASON TO EVALUATE INTERIOR WYTHES OF WALL AND REPLACE AS REQUIRED TO STABILIZE WALL.
• REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY.
• CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGED PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.
• USE TYPE ‘O’ STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING REMAINING BRICK WALLS.

C7. REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A STABLE WALL SYSTEM AND CONSTRUCTION SAFETY.

• TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE COMPLETE RUNNING BOND WALL CONSTRUCTION.
• ALL BRICK DETAILING TO BE REPLACED AND SHALL MATCH EXISTING DESIGN INCLUDING SIZES OF BRICK PIECES.
• WHERE WORK IS AROUND WINDOWS, REMOVE, CLEAN AND RESET STONE WINDOWILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF POSSIBLE; OR REPLACE WITH NEW MATCHING SINGLE PIECE STONE SILLS.

C7. REPLACE EXISTING METAL COLUMNS WITH 6” DIA. TUSCAN COLUMNS RE: MATERIALS SHEET AND ALSO PER SECTION ON PAGE 17. PAINT, COLOR TBD
S1

SITEWORK AND FOUNDATIONS
S1 REMOVE ALL VEGETATION FROM ROOFS, WALLS, AND FROM WITHIN 2 FEET MINIMUM OF FOUNDATION.
S2 GRADE ALL EARTH AWAY FROM BUILDING FOR MINIMUM OF 3’ DISTANCE SLOPED @ 1.5" PER FOOT (4.5" TOTAL) MINIMUM
S4 AT FOUNDATIONS PREVIOUSLY STABILIZED WITH COMPATIBLE CEMENTIOUS PRODUCT, CLEAN AND CHIP EXISTING AS REQUIRED TO PREPARE SURFACE FOR CONTINUOUS CEMENTIOUS FACE AT MIN. 3/8" THICK. PAINT ALL SUCH FOUNDATIONS, COLOR: TBD
S5 REMOVE EXISTING COAL CHUTE PLYWOOD AND REPLACE WITH TREATED 3/4" PLYWOOD
S6 INSTALL WOOD SHAKE SHINGLES TO MATCH EXISTING REMAINING FEW SHINGLES @ TBD
S8 INSTALL MATCHING SOFFIT BOARDS WHERE MISSING AND REPAINT ALL TRIM; COLOR: TBD
S7 REPLACE EXISTING METAL COLUMNS WITH 6" DIA. TUSCAN COLUMNS RE: MATERIALS
S9
S6 REMOVE EXISTING FACE BRICK AT MINIMUM. MASON TO EVALUATE INTERIOR COMPLETE RUNNING BOND WALL CONSTRUCTION.
S5 REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A HISTORIC MASONRY.
S8 CLEAN AND CHIP EXISTING AS REQUIRED TO PREPARE SURFACE FOR CONTINUOUS CEMENTIOUS FACE AT MIN. 3/8" THICK. PAINT ALL SUCH FOUNDATIONS, COLOR: TBD
S10 EXCAVATE TO BOTTOM OF FOUNDATION AS REQUIRED FOR MASON TO ACCESS / COMPATIBLE CEMENTIOUS PRODUCT
S11 USE TYPE ‘S’ STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING STONEWORK.
S12 SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK COURSING ON STONE FOUNDATION
S13 REMOVE EXISTING FACE BRICK AT MINIMUM. MASON TO EVALUATE INTERIOR COMPLETE RUNNING BOND WALL CONSTRUCTION.
S14 CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGEABLE OR DOES NOT MATCH ORIGINAL HISTORIC BRICK. WORK TO BE PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.
S15 TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE COMPLETE RUNNING BOND WALL CONSTRUCTION.
S16 REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A HISTORIC MASONRY.
S17 REMOVE EXISTING FACE BRICK AT MINIMUM. MASON TO EVALUATE INTERIOR COMPLETE RUNNING BOND WALL CONSTRUCTION.
S18 CLEAN BRICK PRIOR TO USING TO REBUILD WALL. IF INSUFFICIENT MATERIAL IS SALVAGEABLE OR DOES NOT MATCH ORIGINAL HISTORIC BRICK. WORK TO BE PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.
Bay Corner Foundation (Northwest)

Bay Corner (Northwest)

entire North foundation

Rear Porch/Bay Corner (Northeast)

entire North foundation

SITWORK AND FOUNDATIONS

S1 REMOVE ALL VEGETATION FROM ROOFS, WALLS, AND FROM WITHIN 2 FEET MINIMUM OF FOUNDATION.

S2 GRADE ALL EARTH AWAY FROM BUILDING FOR MINIMUM OF 3’ DISTANCE SLOPED @ 1.5” PER FOOT (4.5” TOTAL) MINIMUM

S3 FOUNDATION STABILIZATION REQUIRED. -- SEE ENGINEER’S ASSESSMENT. WORK TO BE PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH HISTORIC MASONRY.

• EXCAVATE TO BOTTOM OF FOUNDATION AS REQUIRED FOR MASON TO ACCESS / ACCOMPLISH COMPLETE STABILIZATION OF STONES AND INSTALL NEW MORTAR FROM BEARING POINT TO START OF BRICK WORK

• USE TYPE ‘S’ STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING STONWORK.

• BACKFILL WORK WHEN COMPLETE PER NOTE S2

* INSTALL CONTINUOUS FRENCH DRAIN PER WALL SECTION

* SEE WALL SECTION ON PAGE 18.

S4 AT FOUNDATIONS PREVIOUSLY STABLISHED WITH COMPATIBLE CEMENTIOUS PRODUCT.

CLEAN AND CHIP EXISTING AS REQUIRED TO PREPARE SURFACE FOR CONTINUOUS CEMENTIOUS FACE. PAINT ALL SUCH FOUNDATIONS, COLOR: TBD

S5 REMOVE EXISTING COAL CHUTE PLYWOOD AND REPLACE WITH TREATED 3/4” PLYWOOD AND COVER WITH CEMENT STUCCO ON STUCCO WRAP. COLOR AND TEXTURE TO SIMULATE ADJACENT CEMENTIOUS COATING ON STONE FOUNDATION

S6 REPOINT STONE FOUNDATIONS WHERE EXPOSED AT EXISTING PORCHES USING TYPE ‘S’ MORTAR
S6

REMOVE EXISTING COAL CHUTE PLYWOOD AND REPLACE WITH TREATED 3/4” PLYWOOD

REMOVE (E) CORNICE BLOCKS AS REQUIRED TO ALLOW BRICK WALL REBUILD PER NOTE

MASON TO REMOVE AND REPLACE OR RESET MASONRY IN AREAS INDICATED

INSTALL WOOD SHAKE SHINGLES TO MATCH EXISTING REMAINING FEW SHINGLES @ ALL

FOUNDATION STABILIZATION REQUIRED. — SEE ENGINEER'S ASSESSMENT. WORK TO BE

REPOINT STONE FOUNDATIONS WHERE EXPOSED AT EXISTING PORCHES USING TYPE 'S'

PAINT EXISTING RAILINGS AND PORCH COLUMNS; COLOR: TBD

C5; CLEAN AND REPAINT INCLUDING ACCENT COLOR SCROLL-WORK; COLORS: TBD

SHEET AND ALSO PER SECTION ON PAGE 17; PAINT, COLOR T.B.D.

TBD

POSSIBLE; OR REPLACE WITH NEW MATCHING SINGLE PIECE STONE SILLS.

WINDOWSILLS. AT BROKEN STONES CUT NEATLY FOR CLEAN NEW MORTAR JOINT IF

TBD

• WHERE WORK IS AROUND WINDOWS, REMOVE, CLEAN AND RESET STONE

• ALL BRICK DETAILING TO BE REPLICATED AND SHALL MATCH EXISTING DESIGN

COMPLETE RUNNING BOND WALL CONSTRUCTION.

• TOOTH / LAP ALL BRICK INTO EXISTING ADJACENT REMAINING WALLS TO PROVIDE

STABILE WALL SYSTEM AND CONSTRUCTION SAFETY.

• REMOVE BRICK IN SEQUENCED FASHION AS REQUIRED BY THE MASON TO MAINTAIN A

• SET BRICK WITH MORTAR JOINT THICKNESS TO MATCH EXISTING BRICK COURSING

OF FOUNDATION.

• EXCAVATE TO BOTTOM OF FOUNDATION AS REQUIRED FOR MASON TO ACCESS /

ACCOMPISH COMPLETE STABLIZATION OF STONES AND INSTALL NEW MORTAR FROM

BEARING POINT TO START OF BRICK WORK

• USE TYPE 'O' STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING

REMAINING WALL CONSTRUCTION.

• REMOVE EXISTING FACE BRICK AT MINIMUM. MASON TO EVALUATE INTERIOR

SALVAGED PROVIDE MATCHING BRICK AND STONE FROM MENDOZA BRICK.

PERFORMED BY A LICENSED MASON OR CONTRACTOR WHO HAS EXPERIENCE WITH

HISTORIC MASONRY.

• EXCAVATE TO BOTTOM OF FOUNDATION AS REQUIRED FOR MASON TO ACCESS /

ACCOMPISH COMPLETE STABLIZATION OF STONES AND INSTALL NEW MORTAR FROM

BEARING POINT TO START OF BRICK WORK

• USE TYPE 'S' STRENGTH MORTAR COLORED TO MATCH ADJACENT EXISTING

STONWORK.

• BACKFILL WORK WHEN COMLETE PER NOTE S2

* INSTALL CONTINUOUS FRENCH DRAIN PER WALL SECTION

* SEE WALL SECTION ON PAGE 18.

56 REPOINT STONE FOUNDATIONS WHERE EXPOSED AT EXISTING PORCHES USING TYPE 'S'

MORTAR
### Door Description

<table>
<thead>
<tr>
<th>Location</th>
<th>Opening Number</th>
<th>Description/Notes</th>
<th>Operation</th>
<th>Material</th>
<th>Sash &amp; Jamb</th>
<th>Frame trim &amp; stops</th>
<th>Interior trim &amp; stops</th>
<th>Other &amp; exterior window</th>
<th>Lowest Rail</th>
<th>Muntins &amp; Mullions</th>
<th>Meeting Rails</th>
<th>Glazing parts &amp; handles</th>
<th>Operations, Mechanism, Locks</th>
<th>Weatherstripping</th>
<th>Operation Improved?</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1</td>
<td>4’1” x 6’9”, arched top, modified</td>
<td>FX</td>
<td>W</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>3</td>
<td>3</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>2nd</td>
<td>W2</td>
<td>4’1” x 6’6”</td>
<td>DH</td>
<td>W</td>
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<td>/</td>
<td>/</td>
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<td>3</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>W3</td>
<td>Queen Anne/Colored glass</td>
<td>C</td>
<td>W</td>
<td>3</td>
<td>3</td>
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<td>/</td>
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<td>3</td>
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</tr>
<tr>
<td>W4</td>
<td>2’2” x 4’1”</td>
<td>DH</td>
<td>W</td>
<td>2</td>
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<td>/</td>
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</tr>
<tr>
<td>W5</td>
<td>3’ x 6’10”, lower sash missing</td>
<td>DH</td>
<td>W</td>
<td>2</td>
<td>2</td>
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<td>/</td>
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</tr>
<tr>
<td>W6</td>
<td>2’8” x 6’10”</td>
<td>DH</td>
<td>W</td>
<td>2</td>
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</tr>
<tr>
<td>2nd</td>
<td>W7</td>
<td>3’ x 6’</td>
<td>DH</td>
<td>W</td>
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<td>3</td>
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<td>/</td>
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<td>/</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>W8</td>
<td>1’6” x 2’6”</td>
<td>H</td>
<td>W</td>
<td>3</td>
<td>2</td>
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<td>/</td>
<td>2</td>
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</tr>
<tr>
<td>W9</td>
<td>Inaccessible, not original</td>
<td>/</td>
<td>/</td>
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</tr>
<tr>
<td>W10</td>
<td>2’7” x 6’3”, not original</td>
<td>DH</td>
<td>V</td>
<td>/</td>
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</tr>
<tr>
<td>2nd</td>
<td>W11</td>
<td>Inaccessible, Dormer windows</td>
<td>C</td>
<td>W</td>
<td>3</td>
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<tr>
<td>W12</td>
<td>2’8” x 5’11”</td>
<td>DH</td>
<td>W</td>
<td>3</td>
<td>3</td>
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<td>/</td>
<td>2</td>
<td>3</td>
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</tr>
<tr>
<td>W13</td>
<td>2’9” x 6’11”, not original</td>
<td>/</td>
<td>/</td>
<td>/</td>
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</tr>
<tr>
<td>W14</td>
<td>2’9” x 6’11”, not original</td>
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<tr>
<td>2nd</td>
<td>W15</td>
<td>2’9” x 5’5”</td>
<td>DH</td>
<td>W</td>
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<td>2</td>
<td>/</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>W16</td>
<td>2’9” x 6’11”, not original</td>
<td>/</td>
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<td>/</td>
</tr>
<tr>
<td>B1</td>
<td>2’8” x 1’6”, sash missing</td>
<td>/</td>
<td>W</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>/</td>
<td>/</td>
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<td>2</td>
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</tr>
<tr>
<td>Garage</td>
<td>W17</td>
<td>2’2” x 9”, no sash</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
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</tr>
</tbody>
</table>

### 2234 Grove

<table>
<thead>
<tr>
<th>WINDOW DESCRIPTION</th>
<th>OP.</th>
<th>DOOR SIZE: FRAME/DR</th>
<th>MATERIAL</th>
<th>FRAME</th>
<th>CONDITION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>D1</td>
<td>SW 38’x92” / 38’x86”</td>
<td>ST/WD</td>
<td>Y</td>
<td>OK</td>
</tr>
<tr>
<td></td>
<td>D2</td>
<td>SW 36’x96” / 32’x72”</td>
<td>WD</td>
<td>Y</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>D3</td>
<td>SW 35’x82” / 30’x79”</td>
<td>WD</td>
<td>X</td>
<td>BAD</td>
</tr>
<tr>
<td></td>
<td>D4</td>
<td>SL 192’x92” / PR: 100’x92”</td>
<td>WD</td>
<td>Y</td>
<td>BAD</td>
</tr>
</tbody>
</table>

### Frame/Sash/Function

<table>
<thead>
<tr>
<th>WINDOW DESCRIPTION</th>
<th>FRAME/SASH/FUNCT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3- Advanc. Deterior.</td>
</tr>
<tr>
<td></td>
<td>2- Unstable</td>
</tr>
<tr>
<td></td>
<td>1- Maintenance Req.</td>
</tr>
<tr>
<td></td>
<td>0- Excellent</td>
</tr>
</tbody>
</table>

### Operation

<table>
<thead>
<tr>
<th>WINDOW DESCRIPTION</th>
<th>OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SH- Single hung</td>
</tr>
<tr>
<td></td>
<td>DH- Double hung</td>
</tr>
<tr>
<td></td>
<td>C- Casement</td>
</tr>
<tr>
<td></td>
<td>H- Horizontal Slider</td>
</tr>
<tr>
<td></td>
<td>FX- Fixed</td>
</tr>
<tr>
<td></td>
<td>H- Hopper</td>
</tr>
<tr>
<td></td>
<td>O- Other</td>
</tr>
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</table>

### Misc

<table>
<thead>
<tr>
<th>WINDOW DESCRIPTION</th>
<th>MISC</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>P5-Painted Shut</td>
</tr>
<tr>
<td></td>
<td>UPS-Upper painted shut</td>
</tr>
<tr>
<td></td>
<td>N/A- Not Applicable</td>
</tr>
</tbody>
</table>

---

**KEY**

- **F**: Vinyl
- **G**: Good
- **B**: Bad
- **M**: Missing Window or Door
- **P**: Paint Including Pref of Window
- **SH**: Single Hung
- **DH**: Double Hung
- **T**: Tied
- **SL**: Slider
- **SW**: Swing
- **AL**: Aluminum
- **ST**: Stained
- **COM**: Composite Materials
- **CALIF**: California

**Operation**

- **Repair**: Repair the affected parts as needed.
- **Replace**: Replace the affected parts.
- **Rebuild**: Rebuild the affected parts to match the existing components.

**Miscellaneous**

- **Painted Shut**: Painted shutters or related components.

---

**Wood Opening Repair Class**

- **Preservation Brief 9**

Wood window repair involves the removal of deteriorated parts and the installation of new matching components. The process typically includes the following steps:

1. **Removal**: Carefully remove the deteriorated parts from the window frame.
2. **Preparation**: Clean and prepare the affected areas to receive new materials.
3. **Installation**: Install new matching components, ensuring proper alignment and fit.
4. **Finishing**: Apply new paint or finishes to match the existing window. This may involve some degree of interior and exterior paint removal to accommodate the new components.

Wood window repair is completed by a trained professional who can ensure the longevity and aesthetic appeal of the final product.
<table>
<thead>
<tr>
<th>MARK</th>
<th>LOCATION</th>
<th>REPAIR / REBUILD</th>
<th>OPENING SIZE (a)</th>
<th>TYPE</th>
<th>OPERATION</th>
<th>GLAZING</th>
<th>SHILLS (b)</th>
<th>MAINTAIN (c)</th>
<th>FRAME TYPE</th>
<th>PELLA WINDOW (d)</th>
<th>HARDWARE</th>
<th>SCREENS (f)</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1</td>
<td>W ELEV., MAIN LVL., NORTH</td>
<td>REPLACE</td>
<td>2'-9&quot; X 6'-11&quot;</td>
<td>AL. CLAD WD.</td>
<td>SH</td>
<td>11/16&quot; LOW-E IG</td>
<td>YES</td>
<td>NO</td>
<td>BUILD NEW</td>
<td>YES</td>
<td>N/A</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>W2</td>
<td>W ELEV., 2ND LVL., NORTH</td>
<td>REPLACE</td>
<td>2'-9&quot; X 6'-0&quot;</td>
<td>AL. CLAD WD.</td>
<td>SH</td>
<td>11/16&quot; LOW-E IG</td>
<td>NO</td>
<td>NO</td>
<td>BUILD NEW</td>
<td>YES</td>
<td>OWNER SELECT</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>W3</td>
<td>W ELEV.; 2ND LVL.; SOUTH</td>
<td>REPAIR OR REBUILD PER APPENDIX</td>
<td>LYON'S HISTORIC RESTORATION (g)</td>
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<tr>
<td>W4</td>
<td>SELEV., 2ND LVL., WEST @ STAIR</td>
<td>REPAIR OR REBUILD PER APPENDIX; LYON'S HISTORIC RESTORATION (g)</td>
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<td>W5</td>
<td>SELEV., MAIN LVL., CENTER</td>
<td>REPLACE</td>
<td>2'-9&quot; X 6'-10&quot;</td>
<td>AL. CLAD WD.</td>
<td>SH</td>
<td>11/16&quot; LOW-E IG</td>
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<td>NO</td>
<td>BUILD NEW</td>
<td>YES</td>
<td>OWNER SELECT</td>
<td>YES</td>
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<tr>
<td>W6</td>
<td>SELEV.; MAIN LVL., EAST</td>
<td>REPAIR OR REBUILD PER APPENDIX; LYON'S HISTORIC RESTORATION (g)</td>
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<tr>
<td>W7</td>
<td>SELEV., 2ND LVL., CENTER</td>
<td>REPLACE</td>
<td>2'-6&quot; X 6'-0&quot;</td>
<td>AL. CLAD WD.</td>
<td>SH</td>
<td>11/16&quot; LOW-E IG</td>
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<td>NO</td>
<td>BUILD NEW</td>
<td>YES</td>
<td>OWNER SELECT</td>
<td>YES</td>
<td></td>
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<tr>
<td>W8</td>
<td>SELEV.; MAIN LVL., SOUTH</td>
<td>REPLACE</td>
<td>V.I.F. (2'-6&quot; X 6'-4&quot;)</td>
<td>AL. CLAD WD.</td>
<td>FIXED</td>
<td>1/4&quot; FLOAT GLASS</td>
<td>NO</td>
<td>YES</td>
<td>CLEAN AND</td>
<td>YES</td>
<td>REPAIR AND RESTORE</td>
<td>YES</td>
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<td>W9</td>
<td>SELEV., MAIN LVL.,</td>
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<tr>
<td>W10</td>
<td>SELEV.; MAIN LVL., NORTH @</td>
<td>REPLACE</td>
<td>2'-7&quot; X 6'-0&quot;</td>
<td>AL. CLAD WD.</td>
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<td>11/16&quot; LOW-E IG</td>
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<td>BUILD NEW</td>
<td>YES</td>
<td>OWNER SELECT</td>
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<td></td>
</tr>
<tr>
<td>W11</td>
<td>ELEV., 2ND LVL., DORMER</td>
<td>REPLACE</td>
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<td>NO</td>
<td>BUILD NEW</td>
<td>YES</td>
<td>OWNER SELECT</td>
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</tr>
<tr>
<td>W12</td>
<td>ELEV.; MAIN LVL., EAST</td>
<td>REPLACE</td>
<td>2'-8&quot; X 6'-11&quot;</td>
<td>AL. CLAD WD.</td>
<td>SH</td>
<td>11/16&quot; LOW-E IG</td>
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<td>NO</td>
<td>BUILD NEW</td>
<td>YES</td>
<td>OWNER SELECT</td>
<td>YES</td>
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</tr>
<tr>
<td>W13</td>
<td>ELEV.; MAIN LVL., NE ANGLE OF BAY</td>
<td>REPLACE</td>
<td>2'-9&quot; X 6'-11&quot;</td>
<td>AL. CLAD WD.</td>
<td>SH</td>
<td>11/16&quot; LOW-E IG</td>
<td>NO</td>
<td>NO</td>
<td>BUILD NEW</td>
<td>YES</td>
<td>OWNER SELECT</td>
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<tr>
<td>W14</td>
<td>ELEV., 2ND LVL., CENTER @ DORMER OF BAY</td>
<td>REPLACE</td>
<td>V.I.F. (APPROX. 2'-6&quot; X 2'-6&quot;)</td>
<td>AL. CLAD WD.</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>BUILD NEW</td>
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<td>W15</td>
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<td>2'-9&quot; X 6'-11&quot;</td>
<td>AL. CLAD WD.</td>
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<td>NO</td>
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<td>YES</td>
<td>OWNER SELECT</td>
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**WINDOWS-GARAGE: NOT APPLICABLE. GARAGE TO BE DEMOLISHED**

**WINDOW NOTES:**
1. ALL WINDOW OPENINGS TO BE FIELD VERIFIED FOR OPENING SIZE AFTER ALL REPAIRS TO WALLS ARE COMPLETED; ATTACH RE: MANUF. INSTRUCTIONS AND FULLY SEAL TO WOOD FRAME.
2. LYONS HISTORIC WINDOWS OR ALTERNATE WINDOW RESTORATION COMPANY APPROVED BY DENVER LANDMARK COMMISSION. SEE APPENDIX: HISTORIC WINDOWS RENOVATION
3. W=WEST; N=NORTH; E=EAST; S=SOUTH
4. METAL JOSE PUTTY GLAZED EXT., WOOD INT.
5. NEW WOOD WINDOW FRAME REQUIRED FOR PELLA WINDOW TO BE SET INSIDE RE: DETAILS ON PAGE 19
6. PELLA RESERVE PRECISION FIT TRADITIONAL SINGLE-HUNG ALUMINUM CLAD WINDOWS WITH WHITE EXTERIOR ARE BASIS OF SPECIFICATION. WITH WOOD PRIMED INTERIOR ALTERNATIVE MANUFACTURERS MAY BE ACCEPTABLE. WITH TRADITIONAL PROFILE AND PRE-APPROVAL BY DENVER LANDMARK COMMISSION. SEE WINDOW SPECIFICATIONS ON PAGE 44.
7. WINDOWS TO BE NFRC-CERTIFIED W/ MIN. U-FACTOR 0.25 & MIN. SHGC FACTOR 0.28
8. PELLA INVIEW: HALF SCREENS (IN OPERABLE SECTIONS ONLY)
9. OWNER SELECT
10. SIMULATED DIVIDED LIGHT W/ SPACER BAR
11. 2234 GROVE STREET | REMEDIAL PLAN | 19 JUNE 2023
<table>
<thead>
<tr>
<th>MARK</th>
<th>LOCATION</th>
<th>FRAME</th>
<th>DOOR</th>
<th>HARDWARE</th>
<th>SECURITY / SCREEN DOOR?</th>
<th>NOTES</th>
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<td>TYPE &amp; MATERIAL</td>
<td>EXIST TYPE</td>
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<td>TYPE &amp; MATERIAL</td>
<td>HARDWARE</td>
<td>NOTES</td>
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<tr>
<td>D1</td>
<td>W @ MAIN ENTRY</td>
<td>36&quot; X 91&quot; W/ ARCHED HD. &amp; W/ FILLER PANEL</td>
<td>36&quot; X 86&quot;</td>
<td>REPLACE</td>
<td>CUSTOM STAINED WOOD RAISED PANEL; SEE MATERIALS SHT.</td>
<td>HDWR GR #1</td>
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<tr>
<td>D2</td>
<td>E @ REAR PORCH</td>
<td>36&quot; X 96&quot; W/ TRANSOM PANEL</td>
<td>32&quot; X 72&quot;</td>
<td>REPLACE</td>
<td>CUSTOM STAINED WOOD RAISED PANEL; SEE MATERIALS SHT.</td>
<td>HDWR GR #1</td>
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**FRAME NOTES**
1. CLEAN AND REMOVE ANY ROT (REPAIR WITH EX. WOOD FILLER AS REQ'D. AND SAND); SEAL FRAME TO MAS OPENING; PT
2. CLEAN AND REMOVE ANY ROT (REPAIR WITH EX. WOOD FILLER AS REQ'D. AND SAND); SEAL FRAME TO MAS OPENING; PT; CLEAN & SAND TRANSOM PANEL & PT W/ FRAME

**DOOR NOTES**
(A) REMOVE AND REPLACE (E) DOOR W/ NEW DOOR TO FIT OPENING

**HARDWARE GROUPS**
1. 1.5 PR. BUTTS TO MATCH (E) FRAME; THRESHOLD; WEATHER-SEALS; LOCKSET; DEAD BOLT
2. 1.5 PR BUTTS; THRESHOLD; WEATHER SEALS; LOCKSET; DEAD BOLT

**SECURITY / SCREEN DOOR NOTES**
(a) SAND DOOR AND FRAME; REPAINT; ADJUST HARDWARE TO AS-NEW OPERATION

**ABBREVIATIONS**
EX | EXISTING (EXIST)
COMP | COMPOSITE
EXT | EXTERIOR
GL | GLASS OR GLAZING
MTC | METAL / STEEL
MAS | MASONRY
ORIG | ORIGINAL TO BUILDING OR ADDITION
PT | PAINT
R | REPLACE
SL | SLIDING
UK | UNKNOWN
WD | WOOD
WND | WINDOW
W | WITH
N; E; S; W | NORTH; EAST; SOUTH; WEST

**GARAGE: NOT APPLICABLE; GARAGE TO BE DEMOLISHED**
Pella® Reserve™ Traditional Precision-Fit Hung Window

Size and Performance Data

Frame
- Select softwood; immersion treated with Pella’s EnduraGuard® wood protection formula in accordance with WDMA U.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [clear pine] [mahogany] [aluminum] [framed].
- Exterior surfaces are clad with aluminum.
- Components are assembled with screws, staples and concealed corner locks.
- Pocket depth is 3-1/4” (83 mm).
- Vinyl jamb liner, includes wood clad inserts.

Performance
- Made to order in 1/4” increments
- Variable sash split
- Cottage Sash or Equal Sash Split

Sound Transmission Class / Outdoor-Indoor Transmission Class
- Design Pressure: 40-50 psf
- Meets or Exceeds AAMA / WDMA Ratings: H-CW40 - CW50

Gas Fill/High Altitude
- Black Satin Brass, Satin Nickel, Oil-Rubbed Bronze
- Champagne, White, Brown or Matte Silver

Design Pressure
- 40-50 psf
- Design Pressure: 40-50 psf

Screen System
- Unfinished Wood Factory primed 1, Factory prefinished paint 1, Factory prefinished stain 1

Performance Values
- Hallmark Certified, Made in the USA
- Sashes are tilted for easy cleaning.
- Lower sash has concealed wash locks in lower check rail.
- [Double-Hung: Upper sash has surface-mounted wash locks].

Optional Hardware
- Select softwood; immersion treated with Pella’s EnduraGuard® wood protection formula in accordance with WDMA U.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [clear pine] [mahogany] [aluminum] [framed].
- Exterior surfaces are clad with extruded aluminum butt-jointed at all corners of the sash with through-stile construction and sealed.
- Sash thickness is 3/4” (18 mm).
- Sash exterior profile is [ogee] [putty glaze], interior profile is ogee.
- Double Hung: Upper sash has surface wash locks.
- Lower sash has concealed sash locks in lower check rail.
- Sashes tilt for easy cleaning.

Weatherstripping
- Water stop: Sump-crowned wrapped foam at head and sill.
- Thermoplastic elastomer bulb with slip-coating set into lower sash for tight contact at check rail.
- Vinyl-wrapped foam inserted into jamb liner to seal against sides of sash.

Grilles
- Outdoor-Indoor Transmission Class
- Design Pressure: 40-50 psf
- Made to order in 1/4” increments
- Variable sash split
- Cottage Sash or Equal Sash Split

Details
- Hallmark Certified, Made in the USA
- Sashes are tilted for easy cleaning.
- Lower sash has concealed wash locks in lower check rail.
- [Double-Hung: Upper sash has surface-mounted wash locks].

Windows
- Custom and high altitude glazing available.
- Custom and high altitude glazing available.
- Custom and high altitude glazing available.
- Exterior grilles are [5/8” putty glass profile] [3/8” [putty glass] [ogee] profile] [1-1/4” [putty glass] [ogee] profile] that are extruded aluminum.
- Interior color is [White] [Primed] [Paint] [stain 2].
- Interior color is [White] [Primed] [Paint] [stain 2].
- Interior color is [White] [Primed] [Paint] [stain 2].

Screens
- Hallmark Certified, Made in the USA
- Sashes are tilted for easy cleaning.
- Lower sash has concealed sash locks in lower check rail.
- [Double-Hung: Upper sash has surface-mounted wash locks].

Hardware
- Hallmark Certified, Made in the USA
- Sashes are tilted for easy cleaning.
- Lower sash has concealed sash locks in lower check rail.
- [Double-Hung: Upper sash has surface-mounted wash locks].

Performance Criteria in Zones Shown
- Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown
- See Window Details on Page 19 for Window Sizes to Be V.I.F.

Performance Values
- Hallmark Certified, Made in the USA
- Sashes are tilted for easy cleaning.
- Lower sash has concealed sash locks in lower check rail.
- [Double-Hung: Upper sash has surface-mounted wash locks].

Hardware
- Hallmark Certified, Made in the USA
- Sashes are tilted for easy cleaning.
- Lower sash has concealed sash locks in lower check rail.
- [Double-Hung: Upper sash has surface-mounted wash locks].

Performance Criteria in Zones Shown
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- Hallmark Certified, Made in the USA
- Sashes are tilted for easy cleaning.
- Lower sash has concealed sash locks in lower check rail.
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Performance Criteria in Zones Shown
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- Hallmark Certified, Made in the USA
- Sashes are tilted for easy cleaning.
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Hardware
- Hallmark Certified, Made in the USA
- Sashes are tilted for easy cleaning.
- Lower sash has concealed sash locks in lower check rail.
- [Double-Hung: Upper sash has surface-mounted wash locks].

Performance Criteria in Zones Shown
- Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown
- See Window Details on Page 19 for Window Sizes to Be V.I.F.
6 inch diameter round, non-tapered, Tuscan Style, structural wood columns by: Pacific Columns, Architectural Series, Premier Wood Columns; field verify height at +/- 8'-0" prior to ordering; paint color TBD, see Section A, page 17

Custom Victorian Exterior Door (Phirst & Lassing Doors)

White Aluminum Downpipe (Spectra Metals)

White Aluminum K-Style Gutter (Spectra Metals)

Painted or Pre-Finished CetainTeed Beadboard Panels, see Section A, page 17 for location

Shingle Siding: Straight Edge Panel in Light Mist (James Hardie Siding)

Asphalt Shingles in Slatestone Gray (Owens Corning)
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<tr>
<td>Remediation Construction Completion</td>
<td>8-12 months after Permitting approval</td>
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<tr>
<td>Roof</td>
<td>120 days, Denver Landmark Preservation Certificate of Appropriateness received</td>
</tr>
<tr>
<td>Foundation</td>
<td>120 days</td>
</tr>
<tr>
<td>Wood Windows</td>
<td>120 days</td>
</tr>
<tr>
<td>Replacement Window Installation</td>
<td>120 days</td>
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<tr>
<td>Repointing</td>
<td>180 days</td>
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<tr>
<td>Painting</td>
<td>365 days</td>
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<td>General Site Cleanup</td>
<td>90 days</td>
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12/21/2022
As requested, a site visit and observation were performed at the property located at the address above on 12/12/2022 at approximately 2:00 p.m. by Kelly Hoiness, PE. The purpose for the site visit and observation was to review a portion of the structure for movement of the foundation.

The subject property is a single-family home with a partial basement and crawlspace located in an established neighborhood. The building is assumed to have been built in 1894 (based on an online search of the Denver County Assessor's records).

The foundation is constructed of stacked stone and is assumed to be on spread footings. The house appears to be constructed of wood with structural brick walls. The observation was visual and limited to the accessible portions of the exterior and the interior of the north wall of the house and the garage. Per the homeowner's request, no observation was performed on the roof structure, or any areas not mentioned in this report. No observation of the porch roof framing was completed. For purposes of this report, we assume that the house faces west.

**Observations**

- There was a slight slope of the front porch slab for drainage purposes. The slab appeared to be in good condition.
- Cracks in the brick walls, multiple areas on the north wall
- Separation of the stone mortar on the north wall in some areas
- Cracks in the interior finishes near the north wall
- Separation of the window frame in the bay window on the north wall
- Some of the stacked stone in the foundation appears to be loose. Access was limited to observe the foundation.
- There is cut soil adjacent to the north wall of the house. It appears there was a previous CMU retaining wall in this area, but it has collapsed in some areas.
- Bowing/rotation of the brick window header in the bay window on the north wall
- Separation between the bay window brick and the window frames
- Cracks in the garage brick on the southeast corner
- Crack in the foundation on the east wall of the garage
- The brick mortar is deteriorated in several areas on the south wall of the garage. It appears some of the brick has been previously replaced.
- Cracks in the foundation on the south wall of the garage
- Trees growing adjacent to the foundation on the south wall of the garage
- Cracks in the garage brick on the west wall

**Commentary**

At the time of the observation, there were multiple areas of concern. The cracks observed in the walls were likely caused by vertical movement of the foundation. The vertical movement was indicated by the cracks in the interior finishes, the uneven floors, the separation in the foundation stacked stone, the cracks in the brick walls, and the separation at the bay window. These movements were most likely caused by contraction and expansion of the soil due to changing moisture content. The mortar deterioration of the stacked stone foundation may also be a contributing cause of the vertical movement. The majority of the
crawlspace foundation walls were unable to be viewed due to limited access. The following is a list of recommended repairs that should be made in the areas observed, prioritized by severity.

**RECOMMENDED REPAIRS**

- A mason should be brought in to assess the stacked stone foundation and make repairs where needed. The house framing may need to be temporarily supported and/or lifted to allow for repairs and re-leveling where needed. The foundation does not appear to be a good candidate for underpinning with piers in the current state. It is likely any excavation beneath the foundation would cause damage/collapse of the stacked stone.
- The mason should also assess the brick walls, on the house and garage, to complete repairs as needed. This may include tuck-pointing, rebuilding, and/or adding brick ties where necessary.
- The retaining wall near the north wall in the crawlspace, where the soil is catt., should be rebuilt to help prevent undermining of the foundation.
- Install (6) new helical piers under the garage foundation to help mitigate vertical movement of these areas:
  - (5) new helical piers under the south wall foundation of the garage
  - (1) new helical pier under the east wall foundation of the garage, near the south end

**SUGGESTED MAINTENANCE AND REPAIRS**

- Monitor the home for further signs of vertical movement. These signs may include new or worsening cracks in the interior finishes, new or worsening cracks in the foundation mortar, new or worsening cracks in the brick walls, floors that become more out of level, and/or doors and windows that become difficult to operate. If further signs of vertical movement are observed, the homeowner should contact DL Engineering for further assessment.
- Ensure proper grading and drainage around the perimeter of the house to help prevent excess moisture accumulation in the soil surrounding the foundation. Doing so will help reduce soil volume fluctuations and pressure on the foundation. See best practices for foundation maintenance for additional information.
- Patch and monitor any cracks in interior finishes, brick walls, and foundation mortar. This will give a baseline for any new movement. If new movement is observed, contact DL Engineering Inc. for further assessment.
- **Differential vertical movement of the foundation is caused by several variables which are beyond our ability to control or forecast. This observation only addresses the areas that were observed and includes recommendations for these areas. With any vertical foundation movement, the only way to ensure complete stability is to fully underpin the entire foundation, which would necessitate a new foundation wall. The extent and aggressiveness of the foundation repairs should be carefully considered by the Owner and will depend on their tolerance for risk, the possibility of future damage, and cost.**

**BEST PRACTICES FOR FOUNDATION MAINTENANCE**

The following best practices are actions to maintain the service life of the foundation that can be applied to all structures. Proper site drainage and placement of vegetation alone may not prevent movement of a structure; however, they are prudent steps to avoid the contraction and expansion of the soil due to changing moisture content. We share the following information, which is not property specific, with all our clients.
SITE DRAINAGE

The moisture around foundation elements must be controlled for the useful life of the building. Lack of proper drainage is often a contributing factor to foundation damage observed. The site drainage around the structure must be maintained such that precipitations will quickly drain away. The use of proper slope slabs-on-grade, moisture barriers, swales, and surface/subsurface drainage systems are strongly recommended. Extensions should be attached to properly functioning downspouts and roof drains such that they discharge a minimum of 10 feet away from the structure.

SITE VEGETATION

The vegetation around the perimeter of the structure can eventually lead to foundation movements. Vegetation can hold moisture in soil and create excessive pressure on the foundation system. In order to reduce the risk, bushes, shrubs, and trees should be carefully removed by an experienced professional. Care should be taken to not further disturb or damage the existing foundation system.

Planters and other surface features which could retain water should be eliminated and properly graded to reduce the possibility of moisture infiltrating around the foundation.

SITE VISIT PHOTOS

Figure 1: There was a slight slope of the front porch slab for drainage purposes. The slab appeared to be in good condition.
Figure 2: Cracks in the brick walls, multiple areas on the north wall

Figure 3: Cracks in the brick walls, multiple areas on the north wall
Figure 4: Cracks in the brick walls, multiple areas on the north wall

Figure 5: Cracks in the interior finishes near the north wall
Figure 6: Cracks in the interior finishes near the north wall

Figure 7: Cracks in the interior finishes near the north wall
Figure 8: Cracks in the interior finishes near the north wall

Figure 9: Cracks in the interior finishes near the north wall
Figure 10: Cracks in the interior finishes near the north wall

Figure 11: Separation of the window frame in the bay window on the north wall
Figure 12: Separation of the window frame in the bay window on the north wall

Figure 13: Cracks in the interior finishes near the north wall
Figure 14: Cracks in the interior finishes near the north wall

Figure 15: Cracks in the interior finishes near the north wall
Figure 16: Separation of the window frame in the bay window on the north wall

Figure 17: Cracks in the interior finishes near the north wall
Figure 18: Cracks in the interior finishes near the north wall

Figure 19: Cracks in the interior finishes near the north wall
Figure 20: Cracks in the interior finishes near the north wall

Figure 21: Cracks in the interior finishes near the north wall
Figure 22: Cracks in the interior finishes near the north wall

Figure 23: Cracks in the interior finishes near the north wall
Figure 24: Some of the stacked stone in the foundation appears to be loose

Figure 25: Some of the stacked stone in the foundation appears to be loose
**Figure 25:** There is cut soil adjacent to the north wall of the house. It appears there was a previous CMU retaining wall in this area, but it has collapsed in some areas.

**Figure 27:** Cracks in the brick walls, multiple areas on the north wall
Figure 28: Bowing/rotation of the brick window header in the bay window on the north wall

Figure 29: Cracks in the brick walls, multiple areas on the north wall
Figure 30: Separation between the bay window brick and the window frames

Figure 31: Cracks in the brick walls, multiple areas on the north wall
Figure 32: Cracks in the brick walls, multiple areas on the north wall

Figure 33: Cracks in the brick walls, multiple areas on the north wall
**Figure 34: North wall**

**Figure 35: Cracks in the garage brick and foundation on the southeast corner**
Figure 36: Cracks in the garage brick on the southeast corner

Figure 37: The brick mortar is deteriorated in several areas on the south wall of the garage. It appears some of the brick has been previously replaced.
Figure 38: The brick mortar is deteriorated in several areas on the south wall of the garage. It appears some of the brick has been previously replaced.

Figure 39: The brick mortar is deteriorated in several areas on the south wall of the garage. It appears some of the brick has been previously replaced.
**Figure 40:** The brick mortar is deteriorated in several areas on the south wall of the garage. It appears some of the brick has been previously replaced.

**Figure 41:** Crack in the garage brick on the west wall
DISCLAIMER

In as much as the site review of an existing structure for the purpose of observing the structure conditions requires that certain assumptions be made regarding existing conditions and because some of these assumptions may not be verifiable without expending additional sums of money or destroying otherwise adequate or serviceable portions of the building, the Client agrees that, except for negligence on the part of the Engineer, the Client will hold harmless, indemnify and defend Engineer from and against any and all claims arising out of the professional services we have provided.

If you should have any further questions, please feel free to contact me at (720) 440-9450 or

kholiness@dlenineer.com

Sincerely,
Kelly Hoinness, PE

Digitally signed by
Kelly E Hoinness
Date: 2022.12.21
13:20:29 -0700
At your request I have designed a new retaining wall for the basement to retain the crawlspace soil. The following is a summary of the recommended designs in order to install the new retaining wall.

**DESIGN**

**Retaining Wall:** The designed retaining wall will retain approximately 3’ of soil. The base of the retaining wall is to be a minimum of 10” thick and 2’-8” wide. The length of the retaining wall will be determined by the contractor and owner. The base of the retaining wall is to contain horizontal #4 rebar @ 10” on center in the top edge of the concrete. The bottom edge should contain #4 rebar @ 10” on center. The base should also contain horizontal #4 rebar @ 18” on center spanning the length of the base. The stem wall should contain #4 vertical rebar @ 18” on center and horizontal #4 rebar @ 12” on center as shown in the detail attached below. All of the rebar should have a minimum of 3” clearance. Rebar should be lapped a minimum of 24” where it is not continuous.

**Design criteria:**
- 2021 IRC/IBC with City and County of Denver Amendments
- Surcharge LL: 100psf
- Soil Bearing Pressure: 1,500psf (assumed)
DISCLAIMER

In as much as the site review of an existing structure for the purpose of observing the structure conditions requires that certain assumptions be made regarding existing conditions and because some of these assumptions may not be verifiable without expending additional sums of money or destroying otherwise adequate or serviceable portions of the building, the Client agrees that, except for negligence on the part of the Engineer, the Client will hold harmless, indemnify and defend Engineer from and against any and all claims arising out of the professional services we have provided.

If you should have any further questions, please feel free to contact me at (720) 440-9450 or kmorales@dlengineer.com.

Sincerely,
Kevin Morales

Under the direct supervision of,
Kelly Hoiness, P.E.

Attached: Retaining Wall Detail
Retaining Wall Calcs
RETAINING WALL DETAIL

1" = 1'-0"

VERTICAL #4 REBAR @ 18" o.c.

HORIZONTAL #4 REBAR @ 20" o.c.

HORIZONTAL #4 REBAR @ 12" o.c.

#4 REBAR @ 10" o.c.

#4 REBAR @ 10" o.c.

E) SOIL
RETAINING WALL ANALYSIS

In accordance with International Building Code 2021

Tedds calculation version 2.9.11

Analysis summary

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Design summary

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<td>Transverse stem reinforcement</td>
<td>in²/ft</td>
<td>0.196</td>
<td>0.192</td>
<td>0.978</td>
<td>PASS</td>
</tr>
<tr>
<td>Transverse base reinforcement</td>
<td>in²/ft</td>
<td>0.262</td>
<td>0.216</td>
<td>0.825</td>
<td>PASS</td>
</tr>
</tbody>
</table>

Retaining wall details

<table>
<thead>
<tr>
<th>Description</th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Stem type</td>
<td>Cantilever</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stem height</td>
<td>hstem</td>
<td>= 4 ft</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stem thickness</td>
<td>stem</td>
<td>= 8 in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angle to rear face of stem</td>
<td>α</td>
<td>= 90 deg</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Stem density</td>
<td>γstem</td>
<td>= 150 pcf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toe length</td>
<td>tose</td>
<td>= 2 ft</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Base thickness</td>
<td>base</td>
<td>= 10 in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base density</td>
<td>γbase</td>
<td>= 150 pcf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height of retained soil</td>
<td>hret</td>
<td>= 3 ft</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Angle of soil surface</td>
<td>β</td>
<td>= 0 deg</td>
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</tr>
<tr>
<td>Depth of cover</td>
<td>dcover</td>
<td>= 0.5 ft</td>
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</table>

Retained soil properties

<table>
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</thead>
<tbody>
<tr>
<td>Soil type</td>
<td>Medium dense well graded sand</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Moist density</td>
<td>γmr</td>
<td>= 135 pcf</td>
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<tr>
<td>Saturated density</td>
<td>γsr</td>
<td>= 145 pcf</td>
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<tr>
<td>Effective angle of internal resistance</td>
<td>φr</td>
<td>= 30 deg</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Effective wall friction angle</td>
<td>δr</td>
<td>= 0 deg</td>
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</tbody>
</table>

Base soil properties

<table>
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<tr>
<th>Description</th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil type</td>
<td>Medium dense well graded sand</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Soil density</td>
<td>γb</td>
<td>= 115 pcf</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Cohesion</td>
<td>cb</td>
<td>= 0 psf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective angle of internal resistance</td>
<td>φb</td>
<td>= 30 deg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective wall friction angle</td>
<td>δb</td>
<td>= 15 deg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective base friction angle</td>
<td>δbb</td>
<td>= 30 deg</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Gross allowable bearing pressure

\[ q_{allow\_gross} = 1500 \text{ psf} \]

**Loading details**

*Live surcharge load*

\[ S_{ch} = 100 \text{ psf} \]

**Calculate retaining wall geometry**

**Base length**

\[ l_{base} = l_{toe} + t_{stem} = 2.667 \text{ ft} \]

**Moist soil height**

\[ h_{moist} = h_{soil} = 3.5 \text{ ft} \]

**Length of surcharge load**

\[ l_{sur} = h_{heel} = 0 \text{ ft} \]

- **Distance to vertical component**

\[ x_{sur\_v} = l_{base} - h_{heel} / 2 = 2.667 \text{ ft} \]

**Effective height of wall**

\[ h_{eff} = h_{base} + d_{cover} + h_{ret} = 4.333 \text{ ft} \]

- **Distance to horizontal component**

\[ x_{sur\_h} = h_{eff} / 2 = 2.167 \text{ ft} \]

**Area of wall stem**

\[ A_{stem} = h_{stem} \times t_{stem} = 2.667 \text{ ft}^2 \]

- **Distance to vertical component**

\[ x_{stem} = l_{toe} + t_{stem} / 2 = 2.333 \text{ ft} \]

**Area of wall base**

\[ A_{base} = l_{base} \times t_{base} = 2.222 \text{ ft}^2 \]

- **Distance to vertical component**

\[ x_{base} = l_{base} / 2 = 1.333 \text{ ft} \]

**Area of base soil**

\[ A_{pass} = d_{cover} \times l_{toe} = 1 \text{ ft}^2 \]

- **Distance to vertical component**

\[ x_{pass\_v} = l_{base} - (d_{cover} \times l_{toe} \times (l_{base} - l_{toe} / 2)) / A_{pass} = 1 \text{ ft} \]

**Area of excavated base soil**

\[ A_{exc} = h_{base} \times l_{toe} = 1 \text{ ft}^2 \]

- **Distance to vertical component**

\[ x_{exc\_v} = l_{base} - (h_{base} \times l_{toe} \times (l_{base} - l_{toe} / 2)) / A_{exc} = 1 \text{ ft} \]

**General arrangement - sketch pressures relate to bearing check**
Using Coulomb theory

Active pressure coefficient  
\[ K_A = \sin(\alpha + \phi_e)^2 / (\sin(\alpha)^2 \times \sin(\alpha - \delta_c) \times [1 + \sqrt{\sin(\phi_e + \delta_c) \times \sin(\phi_e - \beta) / (\sin(\alpha - \delta_c) \times \sin(\alpha + \beta))}])^2 = 0.333 \]

Passive pressure coefficient  
\[ K_P = \sin(90 - \phi_e)^2 / (\sin(90 + \delta_c) \times [1 - \sqrt{\sin(\phi_e + \delta_c) \times \sin(\phi_e) / (\sin(90 + \delta_c))}]^2) = 4.977 \]

From IBC 2021 cl.1807.2.3 Safety factor

Load combination 1  
1.0 \times \text{Dead} + 1.0 \times \text{Live} + 1.0 \times \text{Lateral earth}

**Sliding check**

**Vertical forces on wall**

Wall stem  
\[ F_{stem} = A_{stem} \times \gamma_{stem} = 400 \text{ plf} \]

Wall base  
\[ F_{base} = A_{base} \times \gamma_{base} = 333 \text{ plf} \]

Base soil  
\[ F_{exc,v} = A_{exc} \times \gamma_b = 115 \text{ plf} \]

Total  
\[ F_{total,v} = F_{stem} + F_{base} + F_{exc,v} = 848 \text{ plf} \]

**Horizontal forces on wall**

Surcharge load  
\[ F_{sur,h} = K_A \times \text{Surcharge}_L \times h_{eff} = 144 \text{ plf} \]

Moist retained soil  
\[ F_{moist,h} = K_A \times \gamma_{eff} \times h_{surf}^2 / 2 = 423 \text{ plf} \]

Total  
\[ F_{total,h} = F_{sur,h} + F_{moist,h} = 567 \text{ plf} \]

**Check stability against sliding**

Base soil resistance  
\[ F_{exc,n} = K_P \times \cos(\delta_c) \times \gamma_b \times (h_{pass} + h_{base})^2 / 2 = 491 \text{ plf} \]

Base friction  
\[ F_{friction} = F_{total,v} \times \tan(\delta_b) = 490 \text{ plf} \]

Resistance to sliding  
\[ F_{rest} = F_{exc,n} + F_{friction} = 981 \text{ plf} \]

Factor of safety  
\[ F_{os} = F_{rest} / F_{total,h} = 1.731 \geq 1.5 \]

**PASS - Factor of safety against sliding is adequate**

**Overturning check**

**Vertical forces on wall**

Wall stem  
\[ F_{stem} = A_{stem} \times \gamma_{stem} = 400 \text{ plf} \]

Wall base  
\[ F_{base} = A_{base} \times \gamma_{base} = 333 \text{ plf} \]

Base soil  
\[ F_{exc,v} = A_{exc} \times \gamma_b = 115 \text{ plf} \]

Total  
\[ F_{total,v} = F_{stem} + F_{base} + F_{exc,v} = 848 \text{ plf} \]

**Horizontal forces on wall**

Surcharge load  
\[ F_{sur,h} = K_A \times \text{Surcharge}_L \times h_{eff} = 144 \text{ plf} \]

Moist retained soil  
\[ F_{moist,h} = K_A \times \gamma_{eff} \times h_{surf}^2 / 2 = 423 \text{ plf} \]

Base soil  
\[ F_{exc,n} = -K_P \times \cos(\delta_c) \times \gamma_b \times (h_{pass} + h_{base})^2 / 2 = -491 \text{ plf} \]

Total  
\[ F_{total,h} = F_{sur,h} + F_{moist,h} + F_{exc,n} = 76 \text{ plf} \]

**Overturning moments on wall**

Surcharge load  
\[ M_{sur,OT} = F_{sur,h} \times x_{sur,h} = 313 \text{ lb-ft/ft} \]

Moist retained soil  
\[ M_{moist,OT} = F_{moist,h} \times x_{moist,h} = 610 \text{ lb-ft/ft} \]

Total  
\[ M_{total,OT} = M_{sur,OT} + M_{moist,OT} = 923 \text{ lb-ft/ft} \]

**Restoring moments on wall**

Wall stem  
\[ M_{stem,R} = F_{stem} \times x_{stem} = 933 \text{ lb-ft/ft} \]
Wall base  
\[ M_{\text{base}} = F_{\text{base}} \times x_{\text{base}} = 444 \, \text{lb-ft/ft} \]

Base soil  
\[ M_{\text{exec}} = F_{\text{exec}} \times x_{\text{exec}} - F_{\text{exec}} \times x_{\text{exec}} = 333 \, \text{lb-ft/ft} \]

Total  
\[ M_{\text{total}} = M_{\text{stem}} + M_{\text{base}} + M_{\text{exec}} = 1711 \, \text{lb-ft/ft} \]

Check stability against overturning

Factor of safety  
\[ \text{FoS}_{\text{ot}} = \frac{M_{\text{total}}}{M_{\text{total}}_{\text{OT}}} = 1.853 > 1.5 \]

**PASS - Factor of safety against overturning is adequate**

Bearing pressure check

Vertical forces on wall

Wall stem  
\[ F_{\text{stem}} = A_{\text{stem}} \times \gamma_{\text{stem}} = 400 \, \text{plf} \]

Wall base  
\[ F_{\text{base}} = A_{\text{base}} \times \gamma_{\text{base}} = 333 \, \text{plf} \]

Base soil  
\[ F_{\text{pass,v}} = A_{\text{pass}} \times \gamma_{b} = 115 \, \text{plf} \]

Total  
\[ F_{\text{total,v}} = F_{\text{stem}} + F_{\text{base}} + F_{\text{pass,v}} = 848 \, \text{plf} \]

Horizontal forces on wall

Surcharge load  
\[ F_{\text{sur}} = K_{A} \times \text{Surcharge} \times h_{\text{eff}} = 144 \, \text{plf} \]

Moist retained soil  
\[ F_{\text{moist}} = K_{A} \times \gamma_{mr} \times h_{\text{eff}}^{2} / 2 = 423 \, \text{plf} \]

Base soil  
\[ F_{\text{pass,h}} = -K_{P} \times \cos(\delta_{b}) \times \gamma_{b} \times (d_{\text{cover}} + h_{\text{base}})^{2} / 2 = -491 \, \text{plf} \]

Total  
\[ F_{\text{total,h}} = \max(F_{\text{sur}} + F_{\text{moist}} + F_{\text{pass,h}} - F_{\text{total,v}} \times \tan(\delta_{bb}), 0) = 0 \, \text{plf} \]

Moments on wall

Wall stem  
\[ M_{\text{stem}} = F_{\text{stem}} \times x_{\text{stem}} = 933 \, \text{lb-ft/ft} \]

Wall base  
\[ M_{\text{base}} = F_{\text{base}} \times x_{\text{base}} = 444 \, \text{lb-ft/ft} \]

Surcharge load  
\[ M_{\text{sur}} = -F_{\text{sur}} \times x_{\text{sur}} = -313 \, \text{lb-ft/ft} \]

Moist retained soil  
\[ M_{\text{moist}} = -F_{\text{moist}} \times x_{\text{moist}} = -610 \, \text{lb-ft/ft} \]

Base soil  
\[ M_{\text{pass}} = F_{\text{pass,v}} \times x_{\text{pass,v}} - F_{\text{pass,h}} \times x_{\text{pass,h}} = 333 \, \text{lb-ft/ft} \]

Total  
\[ M_{\text{total}} = M_{\text{stem}} + M_{\text{base}} + M_{\text{sur}} + M_{\text{moist}} + M_{\text{pass}} = 788 \, \text{lb-ft/ft} \]

Check bearing pressure

Distance to reaction  
\[ \tilde{x} = M_{\text{total}} / F_{\text{total,v}} = 0.929 \, \text{ft} \]

Eccentricity of reaction  
\[ e = \tilde{x} - l_{\text{base}} / 2 = -0.405 \, \text{ft} \]

Loaded length of base  
\[ l_{\text{load}} = l_{\text{base}} = 2.667 \, \text{ft} \]

Bearing pressure at toe  
\[ q_{\text{toe}} = F_{\text{total,v}} / l_{\text{base}} \times (1 - 6 \times e / l_{\text{base}}) = 608 \, \text{psf} \]

Bearing pressure at heel  
\[ q_{\text{heel}} = F_{\text{total,v}} / l_{\text{base}} \times (1 + 6 \times e / l_{\text{base}}) = 29 \, \text{psf} \]

Allowable bearing capacity  
\[ q_{\text{allow}} = 1500 \, \text{psf} \]

Factor of safety  
\[ \text{FoS}_{\text{bp}} = \frac{q_{\text{allow}}}{\max(q_{\text{toe}}, q_{\text{heel}})} = 2.468 \]

**PASS - Allowable bearing pressure exceeds maximum applied bearing pressure**

RETAINING WALL DESIGN

In accordance with ACI 318-11

Tedds calculation version 2.9.11

Concrete details

Compressive strength of concrete  
\[ f'_{c} = 4000 \, \text{psi} \]

Concrete type  
Normal weight

Reinforcement details

Yield strength of reinforcement  
\[ f_{y} = 60000 \, \text{psi} \]
Modulus of elasticity or reinforcement
\[ E_s = 29000000 \text{ psi} \]
Compression-controlled strain limit
\[ \epsilon_{ty} = 0.002 \]

**Cover to reinforcement**
- Front face of stem: \( c_{sf} = 1.5 \text{ in} \)
- Rear face of stem: \( c_{sr} = 2 \text{ in} \)
- Top face of base: \( c_{bt} = 2 \text{ in} \)
- Bottom face of base: \( c_{bb} = 3 \text{ in} \)

**From IBC 2021 cl.1605.1 Basic load combinations from ASCE 7**
- Load combination no.1: \( 1.4 \times \text{Dead} + 1.6 \times \text{Lateral earth} \)
- Load combination no.2: \( 1.2 \times \text{Dead} + 1.6 \times \text{Live} + 1.6 \times \text{Lateral earth} \)
- Load combination no.3: \( 1.2 \times \text{Dead} + 1.0 \times \text{Earthquake} + 1.0 \times \text{Live} + 1.6 \times \text{Lateral earth} \)
- Load combination no.4: \( 0.9 \times \text{Dead} + 1.0 \times \text{Earthquake} + 1.6 \times \text{Lateral earth} \)
Loading details - Combination No.2 - kips/ft

Shear force - Combination No.2 - kips/ft

Bending moment - Combination No.2 - kips*ft/ft

Loading details - Combination No.3 - kips/ft

Shear force - Combination No.3 - kips/ft

Bending moment - Combination No.3 - kips*ft/ft
Check stem design at base of stem

Depth of section  

**Rectangular section in flexure - Chapter 10**

Design bending moment combination 2

\[ M = 841 \text{ lb}_f \text{/ft} \]

Depth of tension reinforcement

\[ d = h - c_{sr} - \frac{d_{sr}}{2} = 5.75 \text{ in} \]

Compression reinforcement provided  

None  

Area of compression reinforcement provided  

\[ A_{sr,prov} = 0 \text{ in}^2/\text{ft} \]

Tension reinforcement provided  

No.4 bars @ 18" c/c  

Area of tension reinforcement provided

\[ A_{sr,prov} = \pi \times \frac{d_{sr}^2}{4} = 0.131 \text{ in}^2/\text{ft} \]

Maximum reinforcement spacing - cl.14.3.5

\[ s_{max} = \min(18 \text{ in}, 3 \times h) = 18 \text{ in} \]

**PASS - Reinforcement is adequately spaced**

Depth of compression block

\[ a = A_{sr,prov} \times f_y / (0.85 \times f_c) = 0.192 \text{ in} \]

Neutral axis factor - cl.10.2.7.3

\[ \beta_1 = \min(\max(0.85 - 0.05 \times (f_c - 4 \text{ ksi}) / 1 \text{ ksi}, 0.65), 0.85) = 0.85 \]

Depth to neutral axis

\[ c = a / \beta_1 = 0.226 \text{ in} \]

Strain in reinforcement

\[ \varepsilon_t = 0.003 \times (d - c) / c = 0.073169 \]

**Section is in the tension controlled zone**

Strength reduction factor

\[ \phi_t = \min(0.65 + 0.25 \times (\varepsilon_t - \varepsilon_{th}) / 0.003, 0.65, 0.9) = 0.9 \]

Nominal flexural strength  

\[ M_n = A_{sr,prov} \times f_y \times (d - a / 2) = 3700 \text{ lb}_f \text{/ft} \]

Design flexural strength

\[ M_\phi = \phi_t \times M_n = 3330 \text{ lb}_f \text{/ft} \]

\[ M / \phi M_n = 0.253 \]

**PASS - Design flexural strength exceeds factored bending moment**

By iteration, reinforcement required by analysis

\[ A_{sr,des} = 0.033 \text{ in}^2/\text{ft} \]

Minimum area of reinforcement - cl.10.5.3

\[ A_{sr,mod} = 4 \times A_{sr,des} / 3 = 0.044 \text{ in}^2/\text{ft} \]

**PASS - Area of reinforcement provided is greater than minimum area of reinforcement required**

**Rectangular section in shear - Chapter 11**

Design shear force

\[ V = 628 \text{ lb/ft} \]

Concrete modification factor - cl.8.6.1

\[ \lambda = 1 \]
Nominal concrete shear strength - eqn.11-3
\[ V_c = 2 \times \lambda \times \sqrt{(f_c' \times 1 \text{ psi}) \times d} = 8728 \text{ lb/ft} \]

Strength reduction factor
\[ \phi_s = 0.75 \]

Design concrete shear strength - cl.11.4.6.1
\[ \phi V_c = \phi_s \times V_c = 6546 \text{ lb/ft} \]
\[ \frac{V}{\phi V_c} = 0.096 \]

**PASS - No shear reinforcement is required**

**Horizontal reinforcement parallel to face of stem**

Minimum area of reinforcement - cl.14.3.3
\[ A_{sx,req} = 0.002 \times t_{stem} = 0.192 \text{ in}^2/\text{ft} \]

Transverse reinforcement provided
No.4 bars @ 12" c/c

Area of transverse reinforcement provided
\[ A_{sx,prov} = \pi \times \phi_{sx}^2 / (4 \times s_{sx}) = 0.196 \text{ in}^2/\text{ft} \]

**PASS - Area of reinforcement provided is greater than area of reinforcement required**

**Check base design at toe**

Depth of section
\[ h = 10 \text{ in} \]

**Rectangular section in flexure - Chapter 10**

Design bending moment combination 2
\[ M = 1087 \text{ lb} \cdot \text{ft/ft} \]

Depth of tension reinforcement
\[ d = h - c_{bb} - \phi_{bb} / 2 = 6.75 \text{ in} \]

Compression reinforcement provided
No.4 bars @ 10" c/c

Area of compression reinforcement provided
\[ A_{bt,prov} = \pi \times \phi_{bt}^2 / (4 \times s_{bt}) = 0.236 \text{ in}^2/\text{ft} \]

Tension reinforcement provided
No.4 bars @ 10" c/c

Area of tension reinforcement provided
\[ A_{bb,prov} = \pi \times \phi_{bb}^2 / (4 \times s_{bb}) = 0.236 \text{ in}^2/\text{ft} \]

Maximum reinforcement spacing - cl.10.5.4
\[ s_{max} = \min(18 \text{ in}, 3 \times h) = 18 \text{ in} \]

**PASS - Reinforcement is adequately spaced**

Depth of compression block
\[ a = A_{bb,prov} \times f_y / (0.85 \times f_c') = 0.346 \text{ in} \]

Neutral axis factor - cl.10.2.7.3
\[ \beta_1 = \min(\max(0.85 - 0.05 \times (f_c' - 4 \text{ ksi}) / 1 \text{ ksi}, 0.65), 0.85) = 0.85 \]

Depth to neutral axis
\[ c = a / \beta_1 = 0.408 \text{ in} \]

Strain in reinforcement
\[ \varepsilon = 0.003 \times (d - c) / c = 0.046675 \]

**Section is in the tension controlled zone**

Strength reduction factor
\[ \phi_t = \min(\max(0.65 + 0.25 \times (\varepsilon - \varepsilon_y) / 0.003, 0.65, 0.9)) = 0.9 \]

Nominal flexural strength
\[ M_n = A_{bb,prov} \times f_y \times (d - a / 2) = 7748 \text{ lb} \cdot \text{ft/ft} \]

Design flexural strength
\[ \phi M_n = \phi_t \times M_n = 6973 \text{ lb} \cdot \text{ft/ft} \]
\[ M / \phi M_n = 0.156 \]

**PASS - Design flexural strength exceeds factored bending moment**

By iteration, reinforcement required by analysis
\[ A_{bb,des} = 0.036 \text{ in}^2/\text{ft} \]

Minimum area of reinforcement - cl.7.12.2.1
\[ A_{bb,min} = 0.0018 \times h = 0.216 \text{ in}^2/\text{ft} \]

**PASS - Area of reinforcement provided is greater than minimum area of reinforcement required**

**Rectangular section in shear - Chapter 11**

Design shear force
\[ V = 715 \text{ lb/ft} \]

Concrete modification factor - cl.8.6.1
\[ \lambda = 1 \]

Nominal concrete shear strength - eqn.11-3
\[ V_c = 2 \times \lambda \times \sqrt{(f_c' \times 1 \text{ psi}) \times d} = 10246 \text{ lb/ft} \]

Strength reduction factor
\[ \phi_s = 0.75 \]

Design concrete shear strength - cl.11.4.6.1
\[ \phi V_c = \phi_s \times V_c = 7684 \text{ lb/ft} \]
\[ \frac{V}{\phi V_c} = 0.093 \]

**PASS - No shear reinforcement is required**
Transverse reinforcement parallel to base
Minimum area of reinforcement - cl.7.12.2.1 \[ A_{bx,req} = 0.0018 \times t_{base} = 0.216 \text{ in}^2/\text{ft} \]
Transverse reinforcement provided No.4 bars @ 18" c/c each face
Area of transverse reinforcement provided \[ A_{bx,prov} = 2 \times \pi \times d_{bx}^2 / (4 \times 8_{bx}) = 0.262 \text{ in}^2/\text{ft} \]

**PASS** - Area of reinforcement provided is greater than area of reinforcement required
WINDOW EVALUATION
FOR
2234 GROVE STREET
DENVER, CO 80211

PREPARED FOR:
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303-746-1602 : BARLOWPL@GMAIL.COM

OCTOBER 31, 2022
Summary of Findings:
Located in the Witter-Cofield historic district, 2234 Grove Street was built ca. 1886 as a residential home. The residence is one-and-one-half story in height with brick construction and asymmetrical massing. Decorative features include half-timbering with wood shingles in the upper gable end, exposed rafter tails, a Queen Anne colored glass window on the upper story over the entrance, and Tuscan pilasters on the front porch.

By owner request, the window evaluation was conducted from the exterior of the home. Operation was not tested, and no interior components were evaluated.

The overall form of the building appears to be intact. There is a roof dormer on the rear that may not be original and the front and rear porch joists have been replaced. Multiple windows have been replaced. Structural settling is a major concern, with large cracks and significant movement around window sills and lintels noted.

There are five distinct styles of older windows in the home.

1. One-over-one double-hung wood window. W2, W4, W5, W6, W7, W12
2. Queen Anne. Perimeter of smaller colored glass lites around a single large center pane. W3
4. Four-lite casement wood window (paired) W11
5. One-over-one double-hung wood arched-top window consisting of three straight top-rail segments. W15

The remainder of the windows have been replaced.

Conditions Assessment

All of the historic windows exhibit typical conditions associated with extended deferred maintenance, including peeling paint, large sections of bare wood, failed perimeter caulk, deterioration of the wood sill, deterioration of the bottom of the exterior wood trim, and glazing compound failure.

Other items of note include:

*Failure of the meeting rail joinery is a common condition.*
Window W5 is missing the lower sash.

Image 2: Window W5. Lower sash missing, storm window is sole barrier to the exterior elements.

Structural movement is a concern on many sections of the building.

NOTE: Masonry Stabilization may need to take priority before work begins on the windows.

Image 4: Window W16. Masonry has moved substantially. The historic wood frame is not attached to the masonry sufficiently and is well out of square

The garage window is missing. The sash style and materials is not apparent.

Image 5: Window W17
The following is the process necessary to return the original windows to functional condition:

**PLEASE NOTE:** The following procedure should only be undertaken after it has been determined that the building is stabilized and no longer in danger of substantial movement.

Removal of window jambs from the openings may be a reasonable option for this property to allow for adequate masonry repairs. In this case, the window restoration company should coordinate with the mason to ensure that the rebuilt openings and the jambs are in alignment.

**Wood Double-Hung, Casement, and Fixed Windows**

**On-Site Method of Procedure**

**Window Sash Removal:**
1.) When required per [EPA regulations](#), place poly-sheeting on the floor at the work area to collect any dust or debris created during the sash removal process. The sheeting will extend 10 feet from the window opening towards the interior of the room and 6 feet on either side of the opening. If these minimum distances cannot be achieved, the sheeting will extend as far as possible into the room as well as side to side in front of the window opening.
2.) Remove the left and right sash from the opening by removing the hinge pins or by unscrewing the hinge from the jamb.
4.) Number each sash for each opening according to the window schedule using a “Sharpie” to write the corresponding number on the unfinished side of the stile of each sash. Where multiple sashes are present in one opening, a dash (-) followed by a sequential numbering system will be used. For example; a window opening designated 236C has 4 total sashes. There are two upper sashes and two lower sashes. As viewed from the interior, if sash removal will begin in the lower left hand corner of the opening: The lower left hand sash will be labeled 236C-1, the upper left hand sash will be labeled 236C-2, the lower right hand sash will be labeled 236C-3, and the upper right hand sash will be labeled 236C-4. This system will be utilized in the same order where transom windows are present. The interior stop will be labeled with 236C and differentiated by an “L,” “C,” or “R” to designate its original location (Left, Center, or Right). The parting stop is not typically labeled or restored as it is most often time damaged beyond repair during the removal process and new parting stop will be fabricated to match the existing for every opening.
5.) When required per EPA regulations, bag or wrap all components; including sash, interior stop, parting stop and trash in heavy duty poly-sheeting or poly-bags to assure containment of any dust or debris during transport.
6.) When required per EPA regulations, cleaning verification will be provided following a thorough cleaning of the area using damp wipes and/or HEPA vacuums; including, but not limited to, all sills, stools, floors, weight pockets, poly-bags and poly-sheeting.

**Installation of Temporary Enclosures:**
1.) The material selected for use as the temporary enclosure, “Verolite” or similar, will be cut to fit inside the existing opening whenever possible. If not specified, plywood or OSB will be utilized. When required, the perimeter of the Verolite, plywood, or OSB will be wrapped in foam tape in an effort to create the
most effective weather seal possible. The wood backing for this will be screwed to the existing frame where the interior stop and/or parting stop was located. The screw holes created will be hidden by the interior stop or parting stop upon reinstallation of the restored components and causes little to no damage to the frame. The verolite will then be attached to this backing material utilizing screws.

**Existing Frame Restoration:**
1.) Loose and Flaking or failed paint is removed following the National Park Service Preservation Brief number 10. A “wet method” utilizing chemical strippers, carbide scrapers, or HEPA approved mechanical sanders (or a combination of all three) will ensure that no lead based paint dust is created. Following the paint stripping process, a thorough visual and tactile examination of the existing wood substrate will be performed.
2.) If there are any pieces or components that have shifted or become loose on the frame, counter-sunk coated screws and/or galvanized brad nails will be utilized to restore the integrity of the components.
3.) If it is determined that the existing substrate is beyond repair through the use of epoxy, the deteriorated wood will be “cut” out of the existing frame and a replacement piece fabricated to replicate the removed component, commonly referred to as a “Dutchman,” will be installed in its place. After all of the Dutchmen have been installed, epoxy will be utilized to make any other repairs that are deemed necessary.
4.) When the epoxy has dried, it will be sanded to shape. A thorough review by our staff will determine if any additional epoxy consolidate is required.
5.) All window frame components will then be primed, and an additional review completed to ensure that we have achieved the acceptable criteria set forth by the “Mock-up Review.” If more consolidation is deemed necessary, the primer at that location will be removed and steps 5-7 will be repeated.
6.) A modified polyurethane sealant will then be applied to any and all areas that require it. The sealant will either be color matched and/or paintable. It will be a low-modulus elastomeric product.
7.) A minimum of two finish coats of paint will then be applied and given ample drying time before the restored sash will be installed.

**Sash Installation:**
1.) The sash will be delivered pre-finished to site and will be installed per the plans and specifications. Depending on the specifications, metal interlocking weather stripping will be utilized in conjunction with compression bulb weatherstripping for casement sash. The sashes are installed in a manner which attempts to balance the ease of operation while still maintaining the best possible seal against air infiltration.
2.) The locking hardware will then be installed.
3.) All necessary caulking and paint touch up will be preformed after installation to provide a clean and seamless finished product.
4.) After the owner and architect have reviewed the finished product, all necessary punch-list items will be corrected.

**Off-site Method of Procedure**

**Receiving Sash:**
1.) When the sashes and interior stop arrive at the “Shop” the window designation numbers are “stamped” into the sash at the same location. This is to ensure that the number is not inadvertently removed during the restoration process.

**Glazing Putty, Glass Removal, and Glass Cleaning:**
1.) Steam ovens are utilized to soften the historic glazing putty and all existing putty is removed. This
ensures a wet method technique that is non-invasive and is the best method to avoid breakage of the glass during this process.

2.) When the glass has been removed, the corresponding sash number is written on a piece of tape and applied to the surface of the glass.

3.) This number will be removed temporarily when the glass is cleaned, but will be reattached after the cleaning is complete. Typical glass cleaners such as Windex are utilized. All glass that can be reused will be reused. Existing scratches on the glass that were not created during the removal or cleaning process will not dictate replacement of the glass unless directed by the architect and/or owner.

4.) When the sash has completed the restoration process in the shop, the original piece of glass will be installed in the same location from which it came.

**Sash Restoration:**
1.) All sashes, after they have been stripped, are re-squared prior to applying epoxy consolidates. This is achieved by clamping the sash and when 90 degree internal angles are achieved, dowels are utilized to maintain the shape.

2.) Before the glass is set and bedded, and after the sanding of the epoxy is completed, the glazing rabbit is primed.

3.) After sanding the epoxy consolidates, kerfs are cut for future installation of the bulb seal and, when specified, t-rail weather stripping.

**Sash Replication:**
1.) Where window sash are missing the jambs are carefully measured, including the diagonals to allow for adjustments for out-of-square openings and with careful notation of hinge and hardware location.

2.) Lumber is selected to match the existing wood, with care being taken regarding grain direction to prevent warping or twisting.

3.) Using the existing sash as a template, new sash are constructed mimicking the stile and rail dimensions, joinery details, and profiles

4.) Once constructed, the replica sash join the restored sash at the sanding phase and continue through the same steps in the Glazing and Painting and Staining processes.

**Interior Stop Restoration:**
1.) This process is similar to the Existing Frame Restoration section but may include some new fabrication to replace pieces which were damaged beyond repair during the sash removal process.

**Parting Stop Fabrication:**
1.) All parting stop will be fabricated to match existing and will be prefinished in the shop prior to installation on-site.

**Glazing Process:**
1.) Dap Glazing compound is applied to the glazing rabbit and the glass is installed using push points when traditional glazing putty is utilized. Push points are not used when glass stops (wood or other) are utilized.

2.) The residual Dap compound that “oozes” out is cleaned from the glass and wood sash surfaces.

3.) When the Dap has “set-up” Glazing putty or wood glass stop is applied.

4.) The sash is then placed vertically in a drying rack.

5.) Depending on the type of glazing compound utilized, dry time can range from a little as a few days to as long as 6 weeks.
**Painting and Staining Process:**

1.) The sashes are masked to protect the glass but still allow the finish paint to extend very slightly beyond the glazing bed to create a seal.
2.) They are transferred to painting racks, and the primer and two finish coats are applied with an airless or a HVLP paint sprayer.
3.) When the finish coat is dry, the masking is removed, the bulb seal installed, glass cleaned, and the sash delivered to the site for installation.

Thank you for the opportunity to visit this property. If you have any questions or comments please contact me at 303-746-1602, or barlowpl@gmail.com

Regards,

Phillip Barlow, Owner

**Enclosed Materials:**
- Labeled Floor Plans
- Window Evaluation Matrix
- Photo Documentation
Image 6: Floor plan labeled with window numbers

Image 7: Garage floor plan labeled with window numbers
<table>
<thead>
<tr>
<th>Location</th>
<th>Opening Number</th>
<th>Description/Notes</th>
<th>Material</th>
<th>Operation</th>
<th>Sill</th>
<th>Jambs</th>
<th>Exterior trim &amp; stops</th>
<th>Stool</th>
<th>Interior trim &amp; stops</th>
<th>Interior wall surfaces</th>
<th>Lowest Rail</th>
<th>Other rails &amp; sashes</th>
<th>Muntins and mullions</th>
<th>Meeting Rails</th>
<th>Glazing putty &amp; gaskets</th>
<th>Operators &amp; handles</th>
<th>Movement Mechanics</th>
<th>Locks</th>
<th>Square</th>
<th>Weatherstripping</th>
<th>Operation Impaired?</th>
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<td>Garage</td>
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**KEY**

**FRAME/SASH/FUNC**
- 3- Advanc. Deterior.
- 2- Unstable
- 1- Maintenance Req.
- 0- Excellent

**MATERIAL**
- S- Steel
- W- Wood
- A- Aluminum
- O- Other
- GB- Glass Block

**OPERATION**
- SH- Single hung
- DH- Double hung
- C- Casement
- HS- Horizontal Slider
- FX- Fixed
- P- Pivot
- H- Hopper
- O- Other

**MISC.**
- PS- Painted Shut
- UPS- Upper painted shut
- N/A- Not Applicable
General Notes:

1. Window restoration on the project to be coordinated with masonry and structural work, as masonry openings and jambs will be modified prior to both sash removal and installation of restored window sash.

2. All original, salvageable window components to be tagged per opening and re-installed in original locations.

1. SASH REMOVAL AND TEMPORARY PROTECTION (ON-SITE)

1.1 Inspect and document existing conditions and fit of sash in frame.

1.2 Remove interior stop, weatherstrip, and non-functioning pulleys and ropes. Mark and retain stops and hardware for reinstallation or matching if unsalvageable.

1.3 Remove parting stop and upper sash, noting dimensions of parting stop which will be replaced to match existing. Note any special on-site conditions.

1.4 Document any counterweight, pulleys, weight pocket covers, and hardware to remain in place.

1.5 Secure temporary window covers, cut to size, with 8mm double walled clear polycarbonate sheeting to interior face of blind stop.

2. SASH RESTORATION (OFF-SITE)

2.1 Assessment: Review field notes taken during sash removal. Assess and document each sash, interior stops, and hardware for condition and treatment, including component replacement, Dutchman repairs, and epoxy repairs, and removal of excess paint as needed for assessment.

2.2 Deglazing: Remove glazing putty and glass, if needed, with infrared heating. Clean glazing bed.

2.3 Component replacement: Replace stiles, rails, or muntins that are bowed, twisted, or have failed joinery. Match profiles and joinery of adjacent components.

2.4 Dutchman repairs: Repair with new wood areas of missing material with adjoining secure edges.
2.5 Epoxy repairs: Repair open grain or checked wood with Abatron 2-part epoxy system.

2.6 Paint removal: remove loose and failing paint to solid substrate with scraping and infrared heating methods.

2.7 Finish:
   a) Sand, prime, and fill minor voids.
   b) Final sand and apply first coat of finish paint.
   c) Kerf sash to receive weatherstrip at meeting rail, bottom rail, and stiles.

2.8 Glazing:
   a) Measure and cut new glass to match original thickness and type.
   b) Set new glass in place with caulk or glazing points. Cure, and remove excess caulk.
   c) Putty glaze glass with linseed oil glazing putty. Cure.
   d) Apply final finish paint, lapped 1/8” on to glass and aligned to interior sight lines.

2.9 Weigh and record restored sash for check with counterweights.

2.10 Wrap window sash with associated stops and other components for transport to site.

3. WINDOW FRAME AND SILL RESTORATION (ON-SITE)

3.1 Remove temporary window covers, inspect conditions (post masonry repairs) and review documentation from removal process.

3.2 Scrape loose paint from window jamb, and exterior wood sill to solid substrate and assess jamb and sill conditions.

3.3 Complete jamb epoxy repairs or partial replacement as needed.

3.4 Sand, fill, prime and finish paint jamb and sill.

3.5 Reinstall temporary window covers.

4. SASH INSTALLATION (ON-SITE)

4.1 Dry fit sash, plane if necessary for alignment with frame and meeting rails.

4.2 Install new pulleys if needed.

4.3 Install weight pocket covers, assuring even surface for lower sash operation.

4.4 Install weather strip to lower sash stiles and meeting rail.

4.5 Final clean of glass, interior and exterior.

4.6 Install upper sash against blindstop and fix in place.

4.7 Install new pre-finished parting stop, cut to size.
4.8 Install lower sash with new sash ropes appropriate to pulley and counterweights.
4.9 Test operation; adjust fit if as necessary.
4.10 Install new or refurbished sash lock and sash pulls, adjust for smooth operation.
4.11 Caulk joints and paint touch-ups.
4.12 Install new or refurbished sash lock and sash pulls, adjust for smooth operation.
<table>
<thead>
<tr>
<th>Product Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp covers</td>
<td>Verolite 8mm clear, twin walled polycarbonate</td>
</tr>
<tr>
<td>Wood components</td>
<td>Clear pine or Douglas fir, profiles to match existing</td>
</tr>
<tr>
<td>Glass (hung windows)</td>
<td>Clear annealed min. double strength 1/8”or  1/4”, match existing.</td>
</tr>
<tr>
<td>Glass Window W3</td>
<td>Colored art glass to match existing color, pattern, and scheme for perimeter lights. D&amp;L Glass</td>
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<tr>
<td>Glass Window W3</td>
<td>Clear double glue chip, clear for center light (existing missing).</td>
</tr>
<tr>
<td>Glazing putty</td>
<td>Sarco Type “M”</td>
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<tr>
<td>Epoxy</td>
<td>Abatron Liquid Wood and Wood Epox 2- part epoxy system</td>
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<td>Caulk</td>
<td>Dap Alex Plus Latex Acrylic Plus Silicon</td>
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<td>Weatherstrip</td>
<td>Silicon compression weather seal WS34</td>
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<tr>
<td>Weatherstrip</td>
<td>CRL ¼” pile A71320C</td>
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<tr>
<td>Sash rope</td>
<td>#8 Premium cotton sash rope CWC 120015</td>
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<tr>
<td>Primer</td>
<td>Benjamin Moore “Fresh Start” acrylic primer</td>
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<tr>
<td>Finish Paint</td>
<td>Benjamin Moore “Ben” acrylic low luster</td>
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</table>
Note:
Much of the glass in this sash is missing and broken, including the center light. It will be necessary to secure all existing glass in place prior sash removal and determination of the original color, texture, and arrangement of glass. All new glass is to be matched as closely as possible to the original. The center light was most likely a patterned clear glass of the period, such as double glue chip.
SECTION DETAILS

FULL SCALE

STILE/TOP RAIL

BOTTOM RAIL

MUNTIN

MEETING RAIL

MEETING RAIL LOWER

2234 GROVE ST
DENVER, CO
NRL 7-26-2023