AGENDA

HISTORIC PRESERVATION COMMISSION
Regular Meeting
Thursday February 6, 2025 4:30 PM
2nd Floor Conference Room
City Hall, 10 First Street N.W.

Item 1: Call to Order

Item 2: Adopt the Agenda

Item 3: Approve Minutes:
- 3.1 January 2, 2025, regular meeting
- 3.2 January 27, 2025, special meeting

Item 4: New Business

- 4.1 Certificate of Appropriateness: 115 1st St. SE
- 4.2 Certificate of Appropriateness: 205 N. Federal Ave.

Item 5: Other Business

- 5.1 2025-2026 Workplan
- 5.2 Chair's update
- 5.3 Local project updates

Item 6: Adjourn

DRAFT

MINUTES

MASON CITY
Historic Preservation Commission
In person Meeting
Thursday, January 2, 2025 - 4:30 p.m.

Item 1: Call to Order and Roll Call 4:31 PM

Commissioners present: Kris Urdahl, Derek Arnold, Laura Little, Joyce Deike, Terry Harrison, Craig Binnebose, & Tom Drzycimski

Staff present: Steven Van Steenhuyse- Director of Development Services, Tricia Sandahl- Planning & Zoning Manager and Regina Card- Administrative Assistant for Development Services.

Urdahl called the meeting to order. Roll was called.

Item 2: Adopt the Agenda

The Agenda was adopted as submitted.

Item 3: Adopt the November 7, 2024, Regular Meeting Minutes

The Minutes for the November 7, 2024, meeting were adopted as submitted.

Item 4: New Business

4.1 Discussion: 2025 Preserve Iowa Summit Panel Proposals

Sandahl updated the Commission on the status of panel proposals for the 2025 Summit in Muscatine, Iowa.

4.2 Discussion: Recognition of local architects who have impacted Mason City

Sandahl informed the Commission of the details of possibly recognizing Tom Waggoner as a local architect. She mentioned that, rather than just recognizing Tom Waggoner that the Commission could consider recognizing all prominent architects from the area. She stated that it will need to be added to the Commission's 2025 Workplan. City staff and the Commission discussed other possible architects as well as contractors that could be recognized, along with Tom Waggoner. They plan to address this in May 2025 and at that time, maybe posting something about it on the website, Facebook, and in a press release, then maybe sending some sort of a certificate off to the Waggoner's at that time as well.

4.3 Discussion: Certified Local Government Report - 2024

Everyone discussed the 2024 Workplan and which items from that list that the Commission would like to focus on in 2025. There was discussion about initiating the process to have the Rock Crest-Rock Glen Historic District designated as a National Historic Landmark (if the CLG Grant for the downtown intensive level survey is not awarded) and the Commission decided to leave it on the 2025 Workplan list. Sandahl informed the Commission that there is no funding left in this fiscal

year's budget. Urdahl & Little added partnering with the MacNider Art Museum to the Workplan.

The Commission then added the Suzie Q Café to the 2025 Workplan.

Arnold stated that he will work on putting info. together for "Mason City, Iowa-An Architectural Heritage" to hopefully gather enough info. to deploy a web-based version of the book. A specific focus of the Commission's will be identifying lost structures and structures that should be included.

Issuing an RFP for the adaptive reuse of Engine House #2 was moved as low priority on the list.

Item 5: Old Business

5.1 Local project updates & 5.3 Staff update

Sandahl informed the Commission of the status of the Suzie Q Café and informed them of the process of possibly moving the structure, hopefully somewhere within the same historic district. She also informed the Commission that they will have a Certificate of Appropriateness to review during the February 6, 2025, meeting.

Urdahl informed the other Commissioners that Meredith Wilson's childhood home is still interested in attending a HPC meeting.

Commented [RC1]: Who is interested in attending?

5.2 Chairs update

None.

Commented [RC2]: Didn't know if I needed to add Kris's Retirement announcement to the Minutes. Please do so if you feel it's necessary. Thanks!

Item 6: Adjournment

The meeting adjourned at 5:30 PM

Next scheduled meeting: February 6, 2025, at 4:30 PM

ATTEST: Regina Card, Secretary

CHAIR: Kris Urdahl

DRAFT

MINUTES

MASON CITY
Historic Preservation Commission
In person Special Meeting
Monday, January 27, 2025 – 3:00 PM

Item 1: Call to Order and Roll Call 3:01 PM

Commissioners present: Kris Urdahl, Derek Arnold, Terry Harrison, Craig Binnebose, & Tom Drzycimski

Commissioners absent: Laura Little & Joyce Deike

Staff present: Steven Van Steenhuyse- Director of Development Services, Tricia Sandahl- Planning & Zoning Manager and Regina Card- Administrative Assistant for Development Services.

Urdahl called the meeting to order. Roll was called.

Item 2: Adopt the Agenda

The Agenda was adopted as submitted.

Item 3: New Business

3.1 Demolition review: Garage- 1640 12th St. NE

Sandahl gave the staff report.

Drzycimski moved to accept the staff report as the Commission's findings and determined that the building is not historic. Binnebose seconded.

Roll was called:

Harrison	Yes	Drzycimski	Yes
Arnold	Yes		
Urdahl	Yes		
Binnebose	Yes		

Item 4: Adjournment

The meeting adjourned at 3:07 PM

Next scheduled meeting: February 6, 2025, at 4:30 PM

ATTEST: Regina Card, Secretary

CHAIR: Kris Urdahl

Staff Report

Certificate of Appropriateness

Case Number 2025-COA-01, Iowa Hardware Company Building

Address: 115 1st St. SE

Owner: TD Young Rentals

Applicant: Dan Young

Applicant's Request: remove unsympathetic window infill on front and side facades and replace with traditional commercial style windows.

Historic Status: the building is contributing to the Downtown Mason City Historic District. The CoA is required because of this status.

Staff Recommendation: Approval of the request, subject to the conditions in this report.

Background and Analysis:

The subject property is locally known as the Iowa Hardware Company Building. The building was constructed in 1910 in the Neo-Classical Revival style as the headquarters of the Iowa Hardware Mutual Insurance Company. No architect or builder has been identified. This was the first commercial structure built on this half block and was an early part of the expansion of the downtown east of Delware Avenue. The ground floor houses commercial space; residential units may be located on the ground floor in the rear of the building. Residential space is found on the second floor. Most recently the commercial space on the ground floor was used as a beauty salon. During the survey and nomination of the Downtown Mason City Historic District, it was determined that the building was individually eligible for the National Register of Historic Places under Criterion A and Criterion C and is contributing to the district.

The building is constructed primarily of brick with stone accents including corbels, windowsills, an ogee pediment over both the front and side doors, and the storefront cornice. At some point, the building's windows were modified. Many of the upper story window openings were framed in and the original windows downsized with vinyl replacement units. The fill was covered with vinyl siding. On the first floor,

several windows received the same treatment. The windows on the front façade were covered with signs for a telephone answering service. Later, the window openings were further enclosed and covered with asphalt shingles. The owner has removed several of these layers revealing a portion of what are likely the original storefront windows.

The applicant proposes to replace the windows on the first floor of the front façade and the two north windows on the east façade with modern aluminum replacement units in black. Plans and specifications are attached. They also plan replacement of the arched window over the front entry, also in a black aluminum. The east entry to the building retains its original arched divided light window. Both arched windows are significant character defining features on the structure and are important. The arched windows should be retained, if possible. If the window over the front door is not present, or the condition is so deteriorated that restoration is not feasible, the replacement should be a true divided light wood-framed window to match the window on the east side of the building and painted to match.

In determining the appropriateness of any such construction, addition, or alteration, the commission shall determine that the project is consistent with the Secretary of the Interior's Standards for Rehabilitation, taking into consideration the economic and technical feasibility relative to any repair, renovation, preservation, or alteration of historic elements. To aid the Historic Preservation Commission in making their decision, the Commission is to refer to the standards and guidelines published in the "Rehabilitation" chapter of "The Secretary of the Interiors Standards for the Treatment of Historic Properties," published by the U. S. Department of the Interior National Park Service, Technical Preservation Services, 2017 edition.

Storefront rehabilitation is one of the most impactful changes that can be made to a historic building. Whenever possible, original materials should be retained and repaired. When a storefront must be rebuilt, it should utilize traditional materials. The size of the original storefront should be retained or restored. Large expanses of clear glass should be utilized if the glazing is replaced. Tinted or mirrored glass should be avoided. Entrance doors should have a large, glazed opening to provide a welcoming appearance. Secondary entrances should be differentiated from the primary entrance.

The applicant has provided a detailed scope of work and designs. The materials meet the requirements of the ordinance, and the windows are appropriately sized for a traditional storefront. The design of the windows is similar to the original windows in the building. The storefronts and doors are not; but they do not create a false sense of history.

Overall, staff does not believe that the proposed work would degrade the architectural integrity of this building or the architectural fabric of the district as a whole. However, the importance of the divided light arched windows to the integrity of the building cannot be ignored.

Recommended Action

The Commission should review this staff memo, the application from Mr. Young, and the pertinent sections of Titles 2 and 12 of the Municipal Code and determine if a Certificate of Appropriateness should be issued. The Commission should make a motion that summarizes the decision being made and the reason for the decision. If the decision is to approve a Certificate of Appropriateness, the motion should also identify the work being approved by the Certificate of Appropriateness, and any conditions of approval. Staff

recommends that the Certificate of Appropriateness for the proposed work be granted subject to these conditions:

1. The glazing on the first floor of the building shall meet the tint limits found in Title 12-13-6.D of the Zoning Ordinance: tinted glass with no less than 35% visible light transmission. The applicant shall provide the appropriate documentation to satisfy this requirement prior to installation.
2. If present, the arched divided light over the front door shall be retained, repaired, and restored. If the arched divided light over the front door is no longer present, or if the condition of the window is such that it cannot be restored, the replacement window shall be a wood framed divided light matching the window above the east entrance to the building. The applicant shall contact the Planning and Zoning Manager to discuss replacement before any replacement takes place. If the original window is present but cannot be restored, it should be packed and retained for archival purposes.
3. Any substitution of materials shall be approved by the Administrative Officer and shall be the minimum deviation from the proposed materials necessary to complete the project in a timely manner. This will allow the project to remain on schedule if supply chain issues become apparent.

Attachments:

- Application for a Certificate of Appropriateness, with attachments.
- Historic photos.

Additional Resources:

The Commission should consult these additional resources available on the Mason City web page at https://masoncityia.municipalone.com/pview.aspx?id=48892&catID=0:

- Title 2-12 of the Municipal Code: Powers of the Historic Preservation Commission.
- Title 12-13-6 of the Municipal Code: Z5 Central Business Zoning District, Interpretation of Standards.
- The Secretary of the Interior's Standards for the Treatment of Historic Properties-Guidelines for Preserving and Rehabilitating Historic Structures. National Park Service, US Department of the Interior. 2017. Introduction, pages 2-3; Windows, page 13; Entrances and porches, page 14; Storefronts, page 15; Guidelines for Rehabilitating Historic Buildings: Introduction, pages 77-79; Windows, pages 102-109; Entrances and Porches, pages ;110-112; Storefronts, pages 113-116.
- Preservation Brief 16. The Use of Substitute Materials on Historic Building Exteriors. National Park Service, US Department of the Interior.
- Downtown Design Guide. Main Street Iowa and the Iowa Economic Development Authority.

Certificate of Appropriateness

Application Form

(This form must be filled out completely before your application will be accepted.)

1. Property Historic Name: _____
2. Property Address: 115 1st SE
3. Parcel Identification Number: 071015600300
4. Historic Status of the property (Check all that apply):

   _____ Listed on the National Register of Historic Places

   X Contributing to the Mason City Downtown Historic District

   _____ Property has been designated as a local historic landmark or site by the city.

   _____ Property has frontage along Federal Avenue between Southbridge Mall and 4th St. NE/NW

5. Is the Certificate of Appropriateness being requested in conjunction with an application for a variance from the Zoning Board of Adjustment? Yes ____ No X
6. Existing and Proposed Use of the Property: The building has 5 rental apartments & 1 storefront. The use will not change.

7. Property Owner: TD Young Rentals
   Address (C/S/Z): PO Box 365 - Nora Springs, IA 50458
   Telephone: 641-430-0655 (Home or Business) _____ (Cell)
   Email: amber@ychomes.com
8. Applicant: Dan Young - TD Young Rentals
   Address (C/S/Z): Po Box 365 - Nora Springs, IA 50458
   Telephone: 641-430-0655 (Home or Business) _____ (Cell)
   Email: dan@youngconstructionnorthiowa.com

Property Owner's Consent Form

The Property Owner's Consent is required for each application for a Certificate of Appropriateness. If the applicant is not the property owner, a completed and signed copy of this form is required to be included with every application packet. **For property with more than one owner, each owner must sign a copy of this form**. In the event the owner of the property is an organization/entity, proof of signature authority on behalf of the organization/entity must be attached to this form.

Authorization by Property Owner(s)

I, Dan Young swear and affirm that I am

(property owner's printed legal name; include signatory name and title if signing for a company)

that I am the owner of property at 115 1st SE Mason City, as shown on the records of

(property address or legal description)

Cerro Gordo County, Iowa, which is the subject of this application. I further affirm that I am aware of the City's application, fee(s) and procedural requirements, and consent to this application.

I authorize Amber Morud to submit this application and serve

(applicant's printed name if different from the property owner)

as my representative for this request.

Property Owner's Signature: _____ Date: 1/7/25

(property owner's signature)

9. Contact Person: Amber Morud

Address (C/S/Z): _____

Telephone: 641-430-0655 _____
Home or Business *Cell*

Email: amber@ychomes.com

The undersigned understands that a Certificate of Appropriateness is required **before** work can begin. A Certificate of Appropriateness is required before any other necessary permits can be issued and obtaining approval of this Certificate of Appropriateness does not relieve the requirement to obtain any other applicable permits, such as Building Permits, Zoning Permits, or other applicable City, County, State of Federal permits. I (We) understand that work done without a Certificate of Appropriateness is a violation of the Mason City Municipal Code and could result in punitive actions.

I (We) certify that I (we) am (are) familiar with the applicable state and local codes and ordinances, the procedural requirements of the City of Mason City and have submitted all the required information.

Signed by _____ Date 1/7/25
Applicant

Dan Young
Print Name

Signed by _____ Date 1/7/25
Applicant

Amber Morud
Print Name

PROJECT NARRATIVE FOR CERTIFICATE OF APPROPRIATENESS APPLICATION

PROPERTY: 115 1ST SE, MASON CITY

PROPERTY OWNER: TD Young Rentals

The proposed project is to replace the current windows with more appropriate commercial "storefront" windows. At one time, before we owned the property, the original windows were boarded in so that residential windows could be installed. The plans submitted show the windows we will be installing. These windows emulate the original windows.

Elevation Drawing

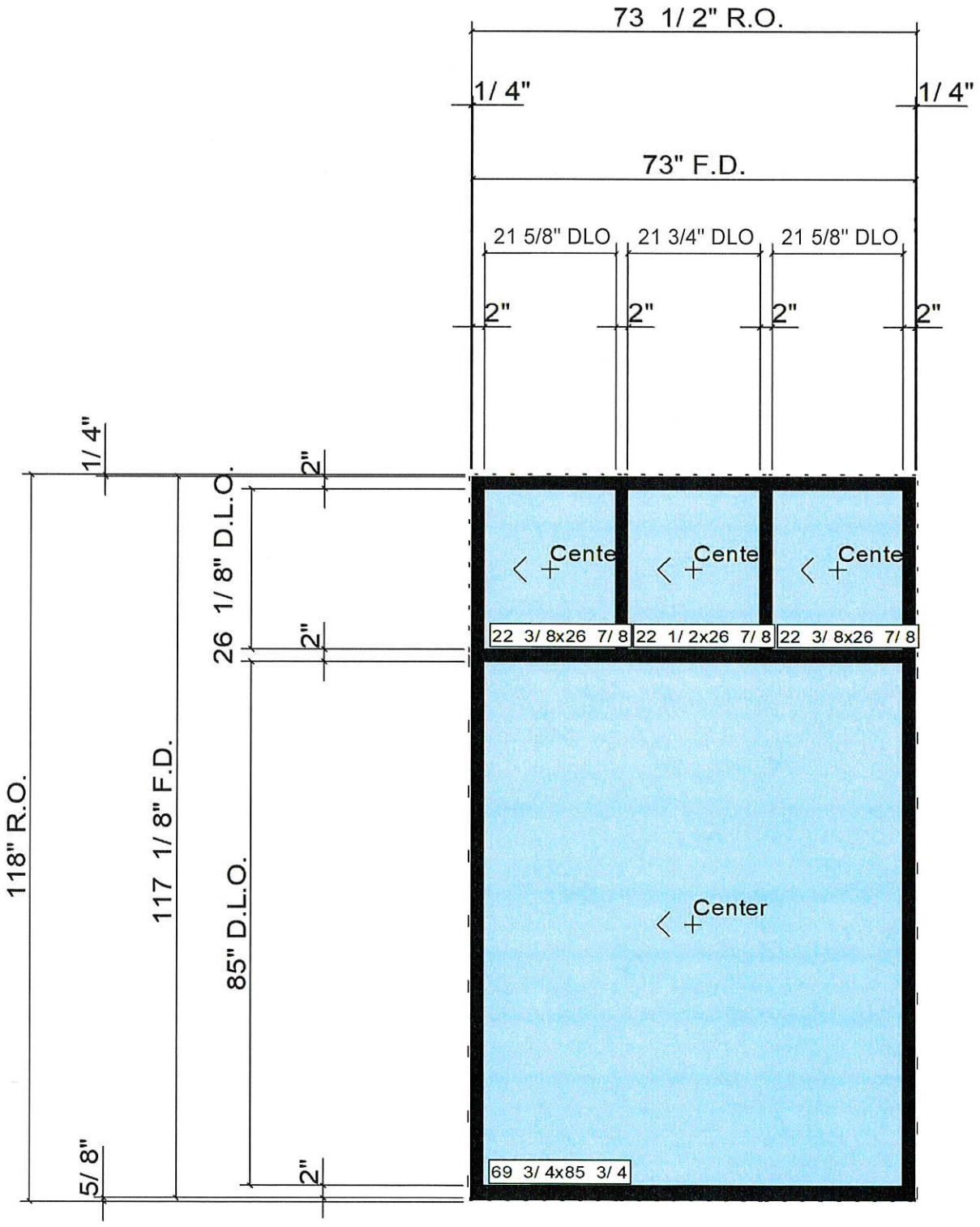
Date: 12/17/2024 / 16:12
Project: Young Const./YC Homes

Mason City, IA

Person in Charge: Joe Fierova

Elevation: #1-#2

Description:	Fixed Bay
Quantity:	2 Pcs.
System:	Kawneer TRIFAB™ VG 451T SCREW SPLINE OUTSIDE GLAZED SQUARE STOP (DOORS) Standard
Finish:	29 #29 BLACK
Frame:	73.500 x 118.000 in

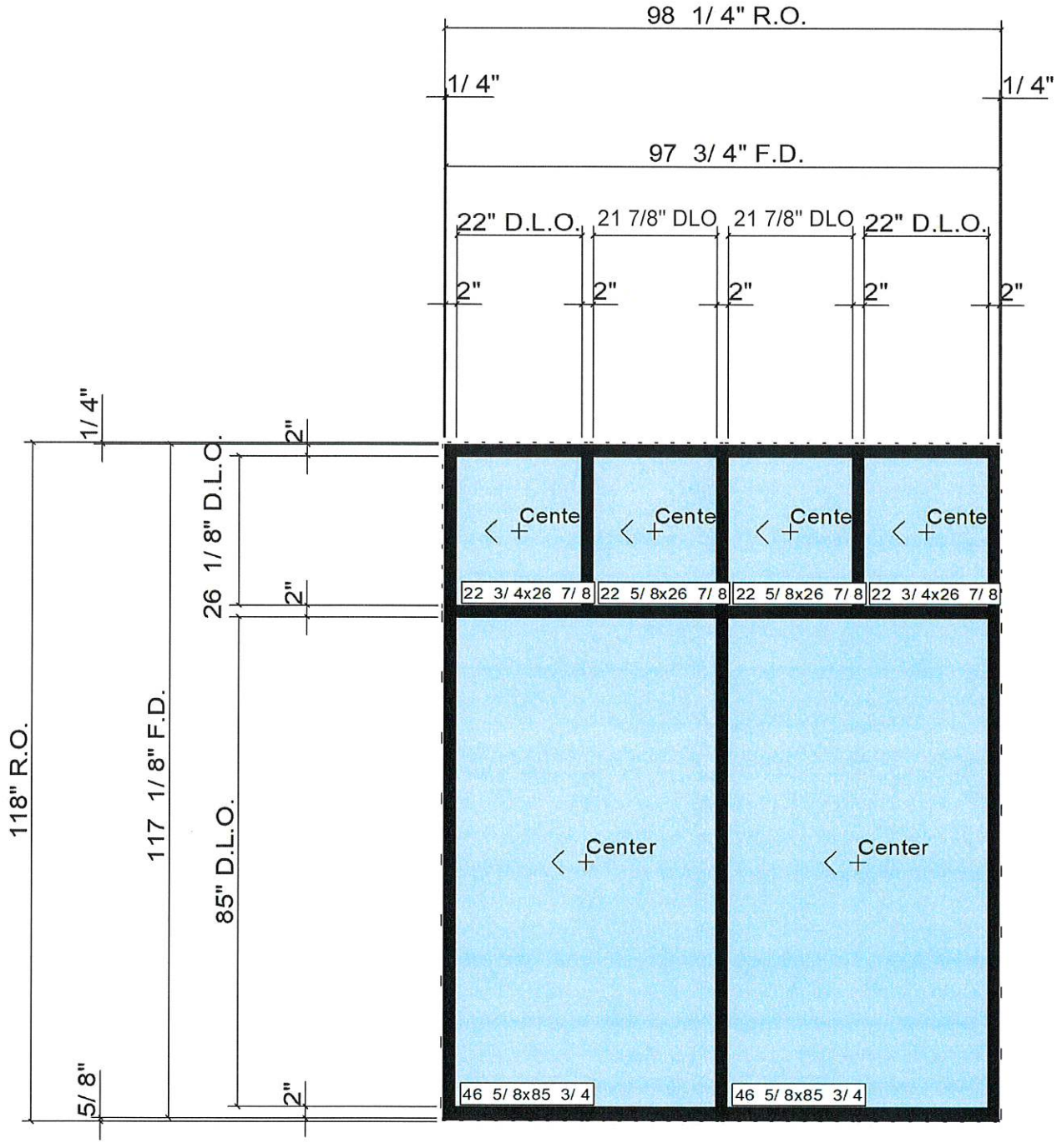


Elevation Drawing

Date: 12/17/2024 / 16:12
Project: Young Const./YC Homes

Elevation: #3

Description:	Fixed Bay
Quantity:	1 Pcs.
System:	Kawneer TRIFAB™ VG 451T SCREW SPLINE OUTSIDE GLAZED SQUARE STOP (DOORS) Standard
Finish:	29 #29 BLACK
Frame:	98.250 x 118.000 in

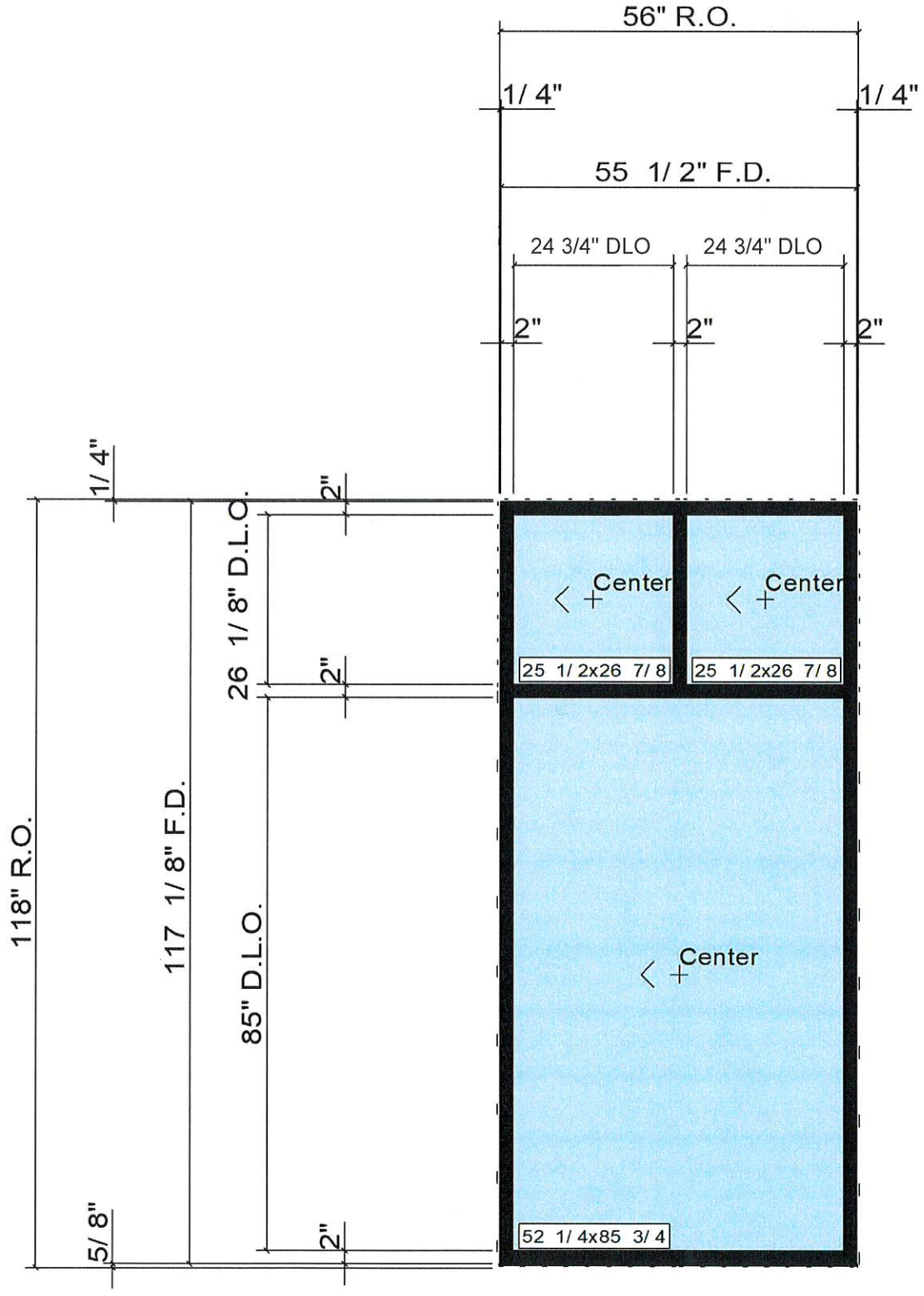


Elevation Drawing

Date: 12/17/2024 / 16:12
Project: Young Const./YC Homes

Elevation: #4-#5

Description:	Fixed Bay
Quantity:	2 Pcs.
System:	Kawneer TRIFAB™ VG 451T SCREW SPLINE OUTSIDE GLAZED SQUARE STOP (DOORS) Standard
Finish:	29 #29 BLACK
Frame:	56.000 x 118.000 in

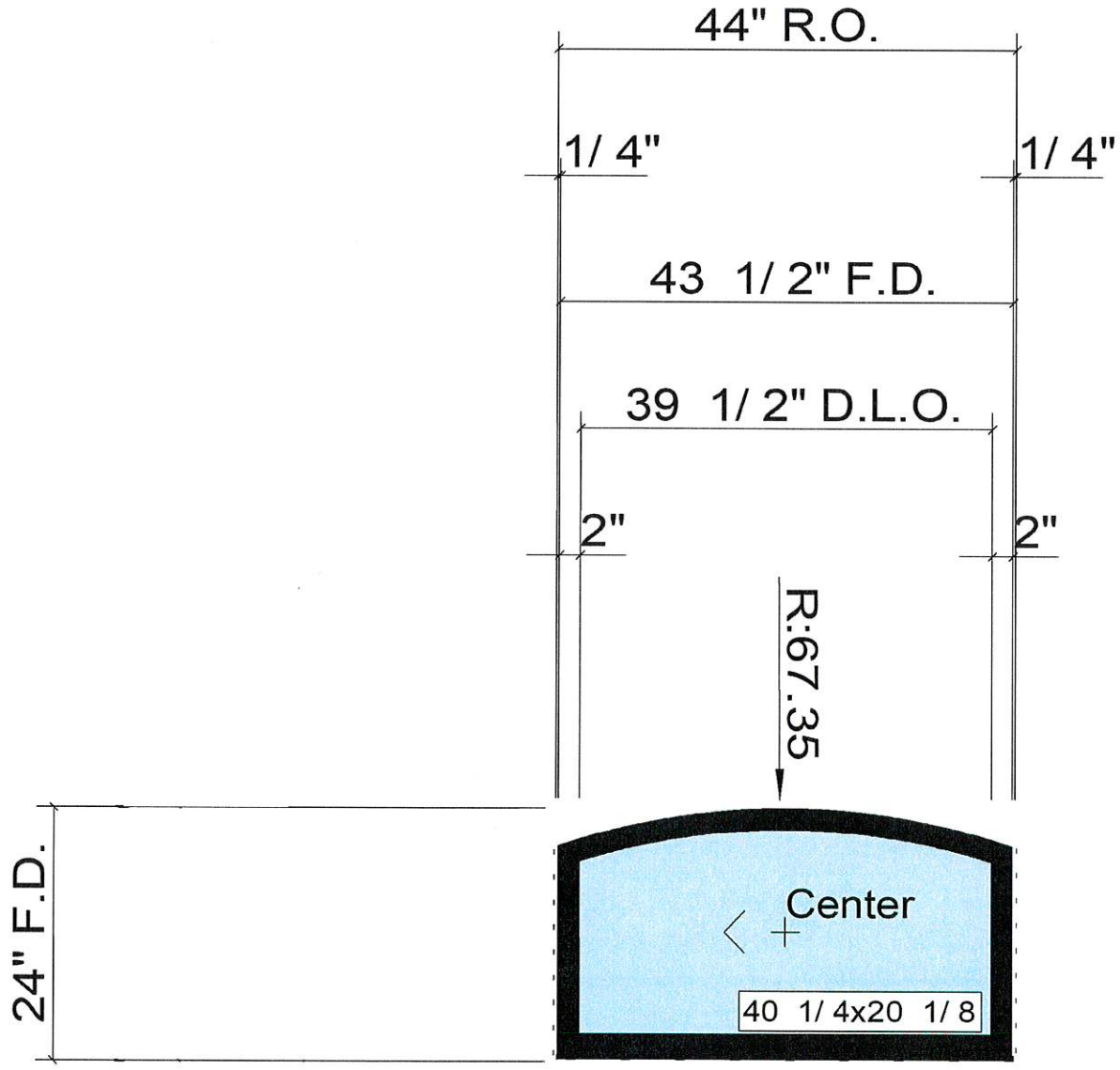


Elevation Drawing

Date: 12/17/2024 / 16:12
Project: Young Const./YC Homes

Elevation: Arch Window

Description:	Fixed Bay
Quantity:	1 Pcs.
System:	Kawneer TRIFAB™ VG 451T SCREW SPLINE OUTSIDE GLAZED SQUARE STOP (DOORS) Standard
Finish:	29 #29 BLACK
Frame:	43.766 x 23.757 in



ANSWER IOWA
INC
ELEPHONE ANSWERING
SERVICE
RADIO PAGING
ELITE BOXING ACADEMY
SANITARY
SEWER


ANSWER IOWA
INC
ELEPHONE ANSWERING
SERVICE
RADIO PAGING
ICC 854


Arch
5
4
3
2
1


THE IOWA HARDWARE MUTUAL BLDG. MASON CITY, IOWA.

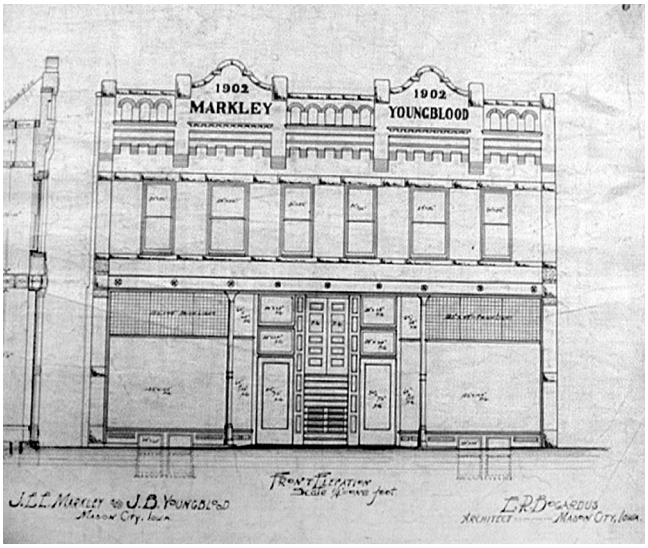

IOWA HARDWARE MUTUAL
IOWA HARDWARE MUTUAL
RETAIL HARDWARE ASSOCIATION


IOWA HARDWARE MUTUAL DEPARTMENT
MASON CITY - IOWA
UNITED HARDWARE & IMPLEMENT MUTUALS
FIRE - WINDSTORM - AUTOMOBILE
INSURANCE AT A SAVING
MARCH
1937
SUN MON TUE WED THU FRI SAT
1 2 3 4 5 6
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
29 30 31
PROMPT PAYMENT OF ALL CLAIMS

Staff Report

Certificate of Appropriateness

Case Number 2025-COA-02, Markley and Youngblood Building



Address: 205 N. Federal Ave.

Owner: Spash Real Estate LLC

Applicant: Eric Follmuth

Applicant's Request: remove unsympathetic modern façade and replace with a traditional commercial façade.

Historic Status: the building is contributing to the Downtown Mason City Historic District. The CoA is required because of this status.

Staff Recommendation: Approval of the request, subject to the conditions in this report.

Background and Analysis:

The subject property is locally known as the Markley and Youngblood Building. Designed by E. R. Bogardus, the building was constructed in 1902. It was determined to be individually eligible for the National Register of Historic Places under Criterion A and Criterion C and is contributing to the Downtown Mason City Historic District. The building is constructed primarily of brick with some stone sills. The SHPO's inventory identifies the building as being of the Romanesque style with a flat brick front.

As is apparent in the original Bogardus drawings, the building we see today is heavily modified from the original design. The drawings show Romanesque Revival pediments that are no longer present. Photos from 1939 suggest that the pediments were constructed but then removed; the stone and brick in these areas is different than the other areas of the cornice. Historic drawings and photos show that the original Bogardus design reflects the 5 basic functions of a storefront: structure, enclosure, entry, identity and display. The windows provided areas to display merchandise and were an invitation for shoppers to come inside. The façade featured also included transoms, display windows and bulkheads below the display windows. The front entry was recessed to accommodate the access to both storefronts and the upper story. It appears the façade was also supported by cast iron columns that are still present inside the first

floor front wall. At some point, likely in the 1970s or 80s, the original storefront was remodeled. The first floor façade retains no visible elements from the original design. The original storefront has been removed and replaced with concrete blocks. The original commercial glazing has been replaced with slit windows.

The applicant's work plan includes removing the existing first floor façade and reconstructing a façade reminiscent of the original Bogardus design. The scope of work includes removal of the existing façade; repointing and masonry repairs as necessary; and construction of new storefront using painted aluminum windows and doors. Rather than recess the entry as originally designed, the project creates a vestibule for energy efficiency and security.

In determining the appropriateness of any such construction, addition, or alteration, the commission shall determine that the project is consistent with the Secretary of the Interior's Standards for Rehabilitation, taking into consideration the economic and technical feasibility relative to any repair, renovation, preservation, or alteration of historic elements. To aid the Historic Preservation Commission in making their decision, the Commission is to refer to the standards and guidelines published in the "Rehabilitation" chapter of "The Secretary of the Interiors Standards for the Treatment of Historic Properties," published by the U. S. Department of the Interior National Park Service, Technical Preservation Services, 2017 edition.

Storefront rehabilitation is one of the most impactful changes that can be made to a historic building. Whenever possible, original materials should be retained and repaired. When a storefront must be rebuilt, it should utilize traditional materials. The size of the original storefront should be retained or restored. Large expanses of clear glass should be utilized if the glazing is replaced. Tinted or mirrored glass should be avoided. Entrance doors should have a large, glazed opening to provide a welcoming appearance. Secondary entrances should be differentiated from the primary entrance.

The applicant has provided a detailed scope of work and designs. The materials meet the requirements of the ordinance, and the windows are appropriately sized for a traditional storefront. The design of the windows is similar to the original windows in the building. The storefronts and doors are not; but they do not create a false sense of history. Overall, staff does not believe that the proposed work would degrade the architectural integrity of this building or the architectural fabric of the district as a whole.

Recommended Action

The Commission should review this staff memo, the application from Mr. Follmuth, and the pertinent sections of Titles 2 and 12 of the Municipal Code and determine if a Certificate of Appropriateness should be issued. The Commission should make a motion that summarizes the decision being made and the reason for the decision. If the decision is to approve a Certificate of Appropriateness, the motion should also identify the work being approved by the Certificate of Appropriateness, and any conditions of approval. Staff recommends that the Certificate of Appropriateness for the proposed work be granted subject to these conditions:

1. The glazing on the first floor of the building shall meet the tint limits found in Title 12-13-6.D of the Zoning Ordinance: tinted glass with no less than 35% visible light transmission.
2. Any substitution of materials shall be approved by the Administrative Officer and shall be the minimum deviation from the proposed materials necessary to complete the project in a timely

manner. This will allow the project to remain on schedule if supply chain issues become apparent.

Attachments:

- Application for a Certificate of Appropriateness, with attachments.
- Historic photos and drawings.

Additional Resources:

The Commission should consult these additional resources available on the Mason City web page at https://masoncityia.municipalone.com/pview.aspx?id=48892&catID=0:

- Title 2-12 of the Municipal Code: Powers of the Historic Preservation Commission.
- Title 12-13-6 of the Municipal Code: Z5 Central Business Zoning District, Interpretation of Standards.
- The Secretary of the Interior's Standards for the Treatment of Historic Properties-Guidelines for Preserving and Rehabilitating Historic Structures. National Park Service, US Department of the Interior. 2017. Introduction, pages 2-3; Windows, page 13; Entrances and porches, page 14; Storefronts, page 15; Guidelines for Rehabilitating Historic Buildings: Introduction, pages 77-79; Windows, pages 102-109; Entrances and Porches, pages ;110-112; Storefronts, pages 113-116.
- Preservation Brief 16. The Use of Substitute Materials on Historic Building Exteriors. National Park Service, US Department of the Interior.
- Downtown Design Guide. Main Street Iowa and the Iowa Economic Development Authority.

Certificate of Appropriateness

Application Form

(This form must be filled out completely before your application will be accepted.)

1. Property Historic Name: MARKLEY YOUNGBLOOD
2. Property Address: 205 N. FEDERAL
3. Parcel Identification Number: 071010400700
4. Historic Status of the property (Check all that apply):

   ____ Listed on the National Register of Historic Places

   X Contributing to the Mason City Downtown Historic District

   ____ Property has been designated as a local historic landmark or site by the city.

   X Property has frontage along Federal Avenue between Southbridge Mall and 4th St. NE/NW

5. Is the Certificate of Appropriateness being requested in conjunction with an application for a variance from the Zoning Board of Adjustment? Yes ____ No X
6. Existing and Proposed Use of the Property: LIGHT MFG & RETAIL
   THIS USE WILL NOT CHANGE
7. Property Owner: SPLASH REALESTATE LLC
   Address (C/S/Z): 205 N FEDERAL, MC, 50401
   Telephone: 641-201-1034 (Home or Business) 641-425-5357 (Cell)
   Email: ERIC @ SPLASHMULTI.COM
8. Applicant: ERIC FOLLMUTH
   Address (C/S/Z): 1271 330TH ST, OSAGE IA, 50461
   Telephone: 641-201-1034 (Home or Business) 641-425-5357 (Cell)
   Email: ERIC @ SPLASHMULTI.COM

9. Contact Person: ERIC FOLLMUTH

Address (C/S/Z): 205 N FEDERAL, MC, 50401

Telephone: 641-201-1034 (Home or Business) 641-425-5357 (Cell)

Email: ERIC@SPLASHMULTI.COM

The undersigned understands that a Certificate of Appropriateness is required **before** work can begin. A Certificate of Appropriateness is required before any other necessary permits can be issued and obtaining approval of this Certificate of Appropriateness does not relieve the requirement to obtain any other applicable permits, such as Building Permits, Zoning Permits, or other applicable City, County, State of Federal permits. I (We) understand that work done without a Certificate of Appropriateness is a violation of the Mason City Municipal Code and could result in punitive actions.

I (We) certify that I (we) am (are) familiar with the applicable state and local codes and ordinances, the procedural requirements of the City of Mason City and have submitted all the required information.

Signed by _____ Date 1/10/25
Applicant

ERIC FOLLMUTH
Print Name

Signed by _____ Date _____
Applicant

_____
Print Name

Property Owner's Consent Form

The Property Owner's Consent is required for each application for a Certificate of Appropriateness. If the applicant is not the property owner, a completed and signed copy of this form is required to be included with every application packet. **For property with more than one owner, each owner must sign a copy of this form.** In the event the owner of the property is an organization/entity, proof of signature authority on behalf of the organization/entity must be attached to this form.

Authorization by Property Owner(s)

I, ERIC FOLLMUTH swear and affirm that I am

(property owner's printed legal name; include signatory name and title if signing for a company)

that I am the owner of property at 205 N. FEDERAL, as shown on the records of

(property address or legal description)

Cerro Gordo County, Iowa, which is the subject of this application. I further affirm that I am aware of the City's application, fee(s) and procedural requirements, and consent to this application.

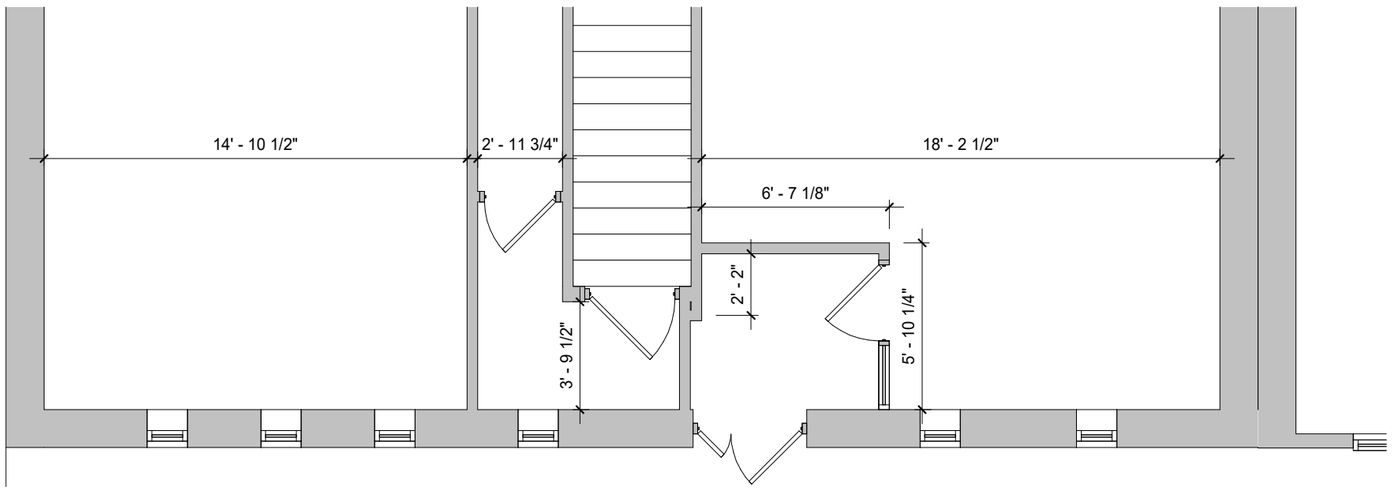
I authorize ERIC FOLLMUTH to submit this application and serve

(applicant's printed name if different from the property owner)

as my representative for this request.

Property Owner's Signature: _____ Date: 1-10-25

(property owner's signature)



1 EXISTING CONDITION

3/16" = 1'-0"

BERGLAND + CRAM
architecture | planning | interiors
115 South Delaware Ave
Mason City, Iowa 50401
t. 1.641.423.6349
f. 1.641.423.7514
e. info@berglandandcram.com
www.berglandandcram.com

SPLASH PRINTING CO.

SPLASH PRINTING CO. FACADE RENOVATION

205 N FEDERAL
MASON CITY, IOWA

PRELIMINARY
NOT FOR CONSTRUCTION
1.9.25

DRAWN BY: Author

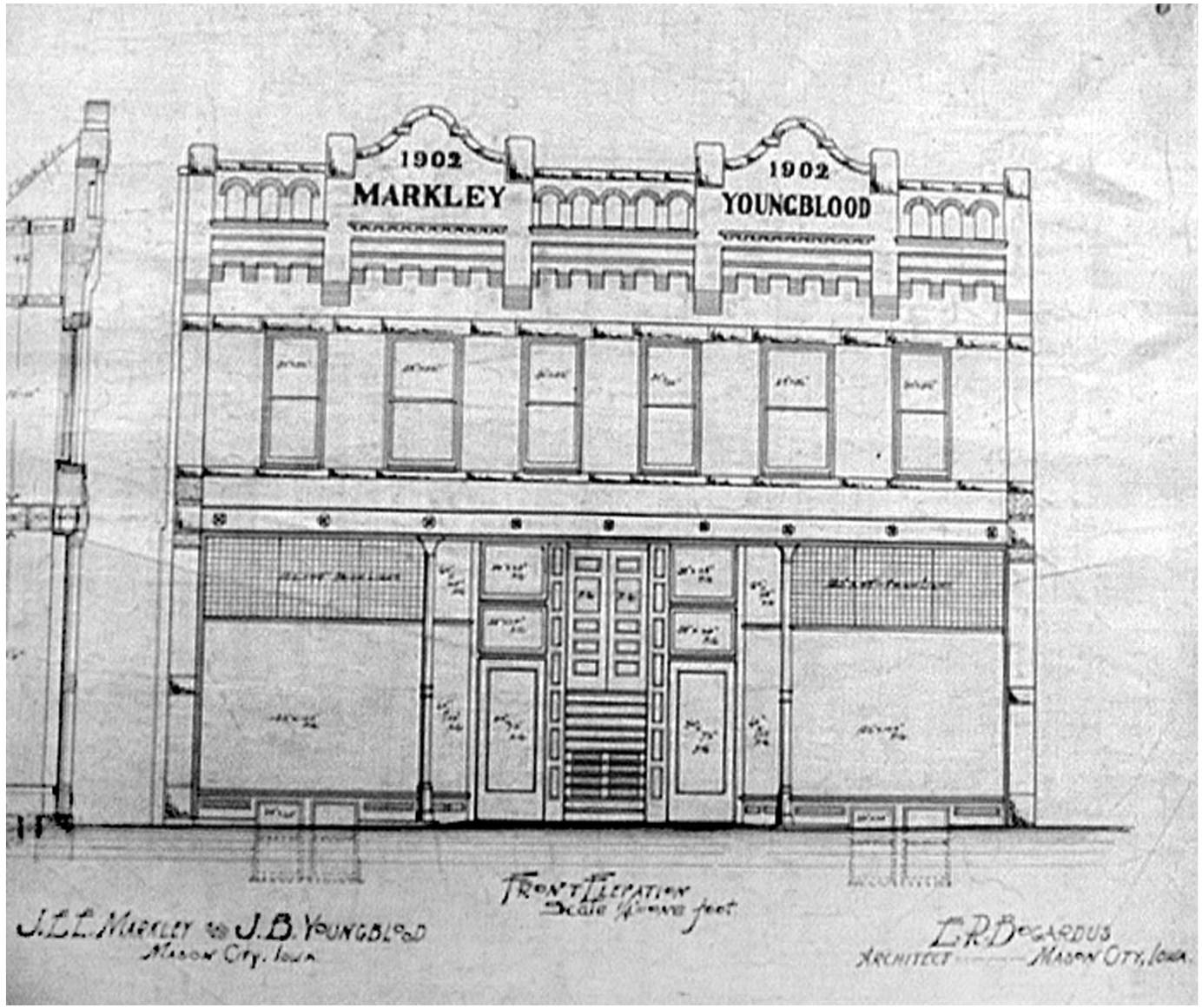
REVISIONS

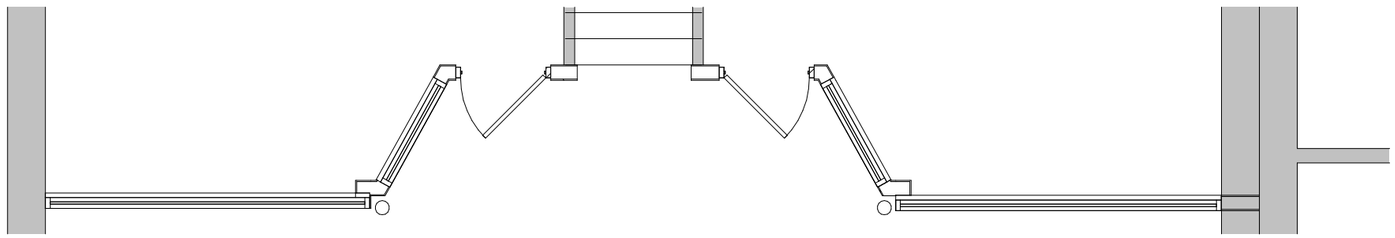
PROJECT # 24029

FLOOR PLAN

P1

1 OF 3





2 HISTORIC PLAN

3/16" = 1'-0"

BERGLAND + CRAM
architecture | planning | interiors
115 South Delaware Ave
Mason City, Iowa 50401
t. 1.641.423.6349
f. 1.641.423.7514
e. info@berglandandcram.com
www.berglandandcram.com

SPLASH PRINTING CO.

SPLASH PRINTING CO. FACADE RENOVATION

205 N FEDERAL
MASON CITY, IOWA

PRELIMINARY
NOT FOR CONSTRUCTION
1.9.25

DRAWN BY: Author

REVISIONS

PROJECT # 24029

EXTERIOR ELEVATION HISTORIC

P2

NOTES:

STRUCTURE OF EXISTING FACADE WALL TO BE REVIEWED BY STRUCTURAL ENGINEER.

IF HISTORIC COLUMNS REMAIN AND ARE IN GOOD CONDITION, THEY WILL BE MAINTAINED AND REFINISHED AND EXPOSED IN THE NEW DESIGN.

IF HISTORIC COLUMNS HAVE BEEN REMOVED AND NEW COLUMNS ARE REQUIRED, NEW COLUMNS WILL BE PLACED PER ENGINEERS SPECS. COLUMNS WILL BE BURIED IN NEW WALL CONSTRUCTION.

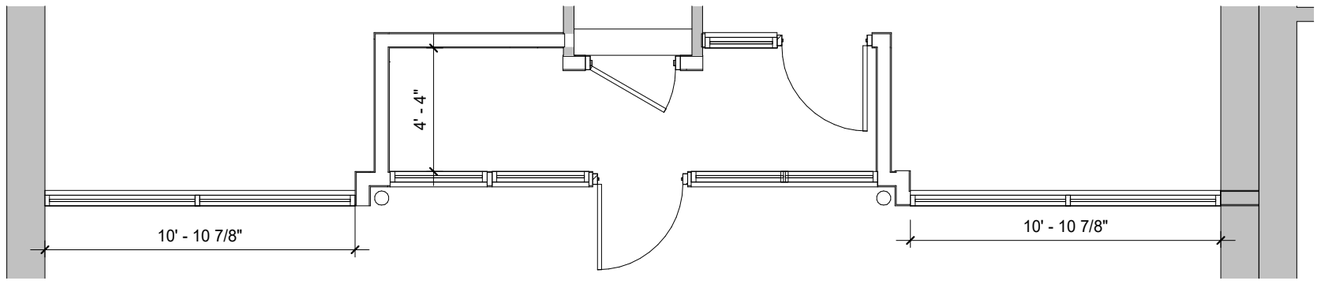
STEEL LINTEL TO BE CLEANED/PRIMED/PAINTED.

PAINTED WOOD ELEMENTS (KNEE WALL, COLUMN CONDITIONS) WILL BE MARINE GRADE MATERIALS.

ALUMINUM STOREFRONT WILL BE PAINTED. GLAZING WITHIN THE STOREFRONT WILL BE LOW E INSULATED GLASS, CLEAR OR TINTED WITHIN ALLOWANCE.

1 WEST ELEVATION

3/16" = 1'-0"



2 PROPOSED PLAN

3/16" = 1'-0"

BERGLAND + CRAM
architecture | planning | interiors
115 South Delaware Ave
Mason City, Iowa 50401
t. 1.641.423.6349
f. 1.641.423.7514
e. info@berglandandcram.com
www.berglandandcram.com

SPLASH PRINTING CO. FACADE RENOVATION
205 N FEDERAL
MASON CITY, IOWA

PRELIMINARY
NOT FOR CONSTRUCTION
1.9.25

DRAWN BY: Author

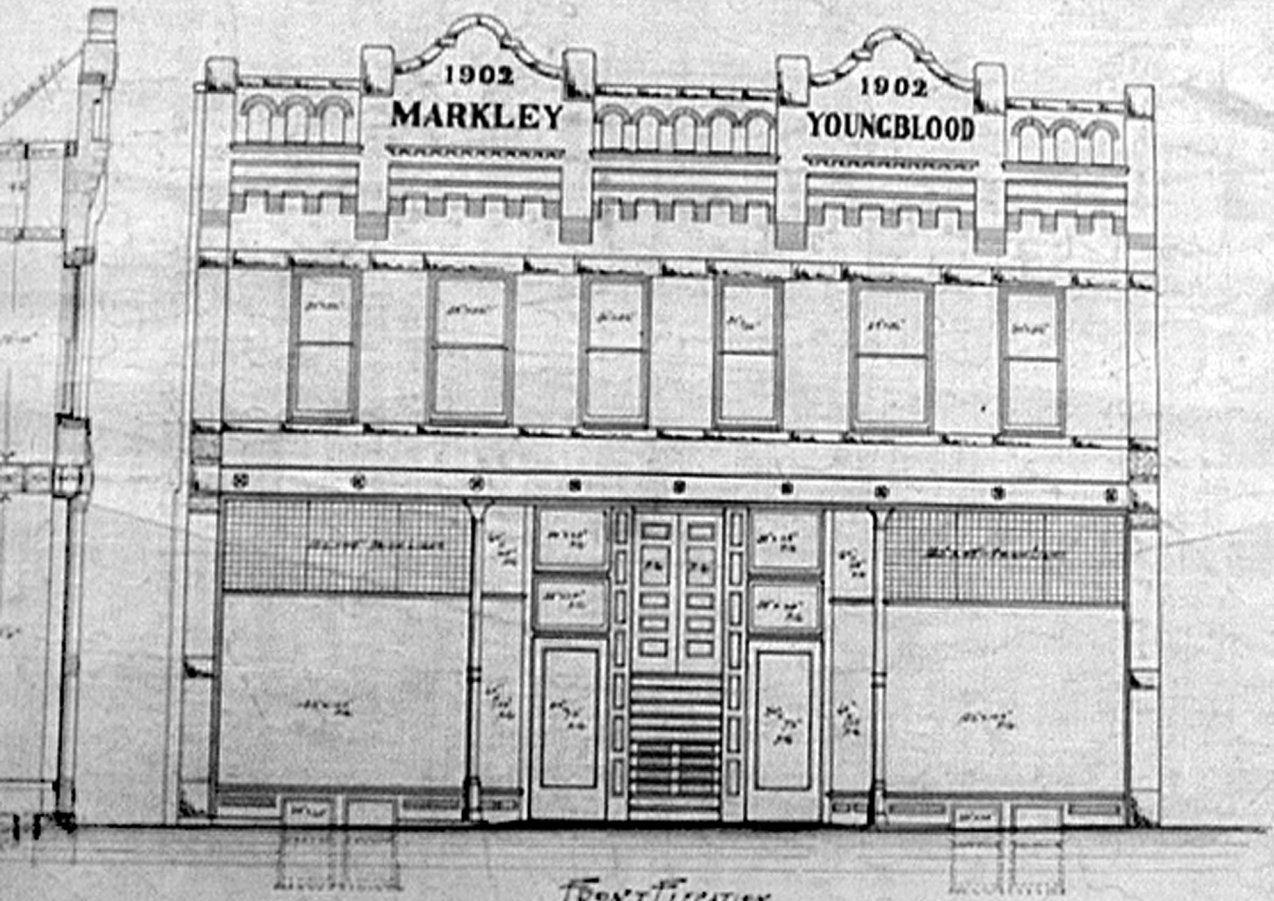
REVISIONS

PROJECT # 24029

EXTERIOR ELEVATION PROPOSED

P3

3 OF 3



FRONT ELEVATION
Scale 1/8 inch foot

J.L.L. MARKLEY & J.B. YOUNGBLOOD
MASON CITY, IOWA

E.R. BOGARDUS
ARCHITECT — MASON CITY, IOWA


DECKER BROS. SPORTING GOODS
CAMERAS PHOTO SUPPLIES
GUNS FISHING TACKLE
SPORTS WEAR ATHLETIC GOODS
LIFE · AUTOMOBILE HEALTH · ACCIDENT INSURANCE
MIDWESTERN CASUALTY CO. JAKE DOUGLAS, AGENT
NATIONAL TEA CO. FOOD STORE
CATSUP
BUTTER
HONEY
80th


MEATS
DIAMONDS
DECKER BROS.
SPORTING GOODS
GUNS FISHING TACKLE
SPORTS WEAR ATHLETIC GOODS
LIFE · AUTOMOBILE HEALTH · ACCIDENT
INSURANCE
NATIONAL TEA FOOD STORE
FOOD A&P STORES VEGETABLES
SHOULDER PORK ROAST 9
BREAKFAST BACON 9
POT ROAST OF BEEF 12
BACON SQUARES 11
FRESH GROUND BEEF 11
65


3¼ oz. TIN 5¢
COFFEE
NATIONAL DELUXE 2-lb. JAR 49¢
RAISINS
SYRUP 49¢
PURE HONEY 39¢
CHOCOLATE
SWANSDOWN
GRAPEFRUIT
CURRANTS
PEANUTS
COCOA
CALUMET
TOMATO JUICE
PRUNES
COME AGAIN CATSUP 3 25¢
COME AGAIN PUMPKIN 3 29¢
SHOP AT NATIONAL Everyday!
LOOK What 5¢ Will Buy!
CORN TOMATOES 4 27¢
POTATOES
COFFEE
GREEN TEA 19¢
NATIONAL TEA CO. Food Stores
SALE OF SALES
GELATIN
HAZEL DESSERT 3 13¢
DOUBLE YOUR MONEY BACK
SALT COD
OXYDOL
Rinso
Super Suds
Crystal White SOAP CHIPS
Chipso
FARINA
FLOUR
HERSHEY'S COCOA
Scotch Brand BARLEY
MINUTE TAPIOCA
MACARONI
FORT DEARBORN
FRESH
HERSHEY'S
SKY BAR
Oh Henry!
Butterfinger
OLD NICK
BIT O HONEY
SNICKERS

MARKLEY

YOUNGBLOOD

SPLASH MULTISPORT & CUSTOM

NO PARKING
1:00 AM
TO
6:00 AM
2 HR PARKING

205
NORTH FEDERAL

NOTICE
Please hold entry door open when opening and closing. No building key. Damaged for a fee.

SPLASH PRINTING CO

HOURS
MONDAY-FRIDAY
9:00-6:00
SATURDAY-SUNDAY
CLOSED
641-201-1034
SPLASHMULTI.COM

This project will be removing the brick facade, and replacing it with painted wood knee wall, painted aluminum framed glass. The current vestibule footprint will be kept, and appropriate ADA approved entry doors will installed.

SECTION 04 0120
BRICK ,STONE AND TERRA COTTA MASONRY RESTORATION AND REPOINTING

PART 1-GENERAL

1.01 SUMMARY OF WORK

A. Extent of masonry restoration work is as shown on the Drawings and as specified herein.
   1. The drawings endeavor to show the extent of masonry restoration work required. The contractor shall review the Drawings, Photographs and make a Pre-bid field visit to verify all work whether shown or not shown on the Drawings.

B. The work includes, but is not limited to: (Examples)
   1. Repairing cracks and voids in stone construction.
   2. Patching stone structures and stone sills.
   3. Repointing mortar joints.
   4. Application of water repellent/light consolidant.

1.02 QUALITY ASSURANCE

A. Restoration Specialist: Work must be performed by a firm having not less than 5 years successful experience in comparable masonry restoration projects and employing personnel skilled in the restoration process and operations indicated.
   1. Only skilled journeymen masons who are familiar and experienced with the materials and methods specified and are familiar with the design requirements shall be used for masonry restoration.
   2. One skilled journeyman mason, trained and Certified by the specified stone repair system manufacturer, shall be present at all times during masonry restoration and shall personally direct the work.

B. Field -Construction Mock-ups: Prior to start of general masonry restoration, prepare the following sample panels and sample areas on building where directed by Architect. Obtain Architect's acceptance of visual qualities before proceeding with the work. Retain acceptable panels in undisturbed condition, suitably marked, during restoration as a standard for judging completed work.
   1. Coating removal: Demonstrate materials and methods to be used for coating removal for each type of masonry surface and condition with sample panel 4 sq. ft. in area. The removal method or methods shall be tested on an inconspicuous area of the building.
   2. Crack Repair: Prepare a sample area for each type of crack repair required for stone. Repair shall demonstrate methods and quality of workmanship expected for crack repair.
   3. Patching: Prepare on-building sample of each type of stone and masonry construction to be patched. Patching and mold shall demonstrate methods and quality of workmanship expected of repair work.
   4. Repointing: Prepare 2 separate sample areas of approximately 5' high by 5' wide for each type of repointing required, one for demonstrating methods and quality of workmanship expected in removal of mortar from joints and the other for demonstrating quality of materials and workmanship expected in pointing mortar joints. Sample areas shall be located in an inconspicuous yet readily accessible place.

C. Patching, Repointing and coating work: The samples of each type of repair work shall be done in an area that will be exposed to the same weathering conditions as the building. Allow samples to cure at least three days before obtaining acceptance of color, texture and detailing match. Samples shall be viewed from an approved distance.

D. Source of Materials: Obtain materials for Patching, coating, sealing, crack repair and repointing from a single manufacturer source to ensure match quality, color, texture and detailing.

1.03 SUBMITTALS

A. Product Data: Submit manufacturer's technical data for each product specified recommendations for their application and use. Include test data and certifications substantiating that products comply with requirements.

B. Submit the following items in time to prevent delay of the work and to allow adequate time review and resubmittals, if needed. Do not order materials or start work before receiving the written approval:
   1. Written certificates from the patching materials manufacturer should be submitted stating that all installers of the patching material have successfully completed a training workshop for installation of the patching material or have met alternative workmanship qualifications acceptable to the manufacturer, or provide written certification from the manufacturer that on-site training services have been contracted for.
   2. Material Safety Data Sheets (MSDS) as appropriate.
   3. Certificates, except where the material is labeled with such certification, by the producers, of the materials, that all materials supplied comply with all the requirements of these specifications and the appropriate standards.

4. Color-match patch samples fabricated on pieces of appropriate masonry from or on the building using the specified repair mortar as required. A minimum of three color shades shall be provided, representing the range of colors present in the existing stonework.
5. Written verification that all specified items will be used. Provided purchase orders, shipping tickets, receipts, etc. to prove that the specified materials were ordered and received.

C. Restoration Program: Submit written program for each phase of restoration process including protection of surrounding material on building and site during operations. Describe in detail material methods and equipment to be used for each phase of restoration work.

D. Substitution
1. If alternative methods and materials to those indicated are proposed for any phase of restoration work, provide written description, including evidence of at least 10 years' successful use on other, comparable projects, and program of testing to demonstrate effectiveness for use on this project. Provide documentation showing compliance with the requirements for substitutions and the following information:
   a. Coordination information, including a list of changes needed to other work that will be necessary to accommodate the substitution.
   b. A comparison of the substitution with the specified products and methods, including performance, durability, and visual effect.
   c. Product data, including specifications for products and installation procedures.
   d. Samples, where applicable, or as requested.
   e. A statement indicating the effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the substitution on Contract completion time.
   f. Cost information, including a proposal of the net change, if any, in the contract sum.
   g. Certification that the substitution conforms to the contract documents and is appropriate for the applications indicated. Material substitution requests must be accompanied by independent laboratory test reports from a lab designated by the architect to establish equivalent performance levels and specification compliance. Testing shall be paid for by the submitting party.
   h. The Contractor's waiver of rights to additional payment or time that may become necessary because of the failure of the substitution to perform adequately.

1.04 DELIVERY, STORAGE AND HANDLING:

A. Deliver materials to site in manufacturer's original unopened containers and packaging, bearing labels as to type and names of products and manufacturers, color numbers and batch numbers.

B. Deliver and store restoration material in manufacturer's original, unopened containers with the grade, batch and production data shown on the container or packaging.

C. Protect restoration materials during storage and construction from wetting by rain, snow or ground water, and from staining or intermixture with earth or other types of materials.

D. Protect grout, mortar and other materials from deterioration by moisture and temperature. Store in a dry location or in waterproof containers. Keep containers tightly closed and away from open flames. Protect liquid components from freezing. Comply with manufacturer's recommendations for minimum and maximum temperature requirements for storage.

E. Comply with the manufacturer's written specifications and recommendations for mixing, application, and curing of grouts and patching materials.

1.05 PROTECTION / SITE CONDITIONS

A. Protect persons, motor vehicles, building site and surrounding buildings from injury resulting from masonry restoration work.

B. Do not perform any masonry patching unless air temperatures are between 50 degrees Fahrenheit (10 deg. C) and 90 degrees Fahrenheit (32 deg. C) and will remain so for at least 48 hours after completion of work.

C. Prevent masonry patching materials from staining the face of masonry or other surfaces to be left exposed. Immediately remove all patching materials that come in contact with such surfaces.

D. Cover partially completed work when work is not in progress.

E. Protect sills, ledges and projections from droppings.

1.06 SEQUENCING / SCHEDULING:

A. Perform masonry restoration work in the following sequence:
1. Repair and/or replace existing roof gutters, flashing, drains and/or leaders as indicated.
2. Remove coatings, stains and foreign material from all stone surfaces.
3. Rake-out existing mortar from joints of masonry indicated to be restored.

4. Repoint existing mortar joints of masonry indicated to be repointed.
5. Pressure-wash building exterior.
6. Patch and repair existing stone structures as indicated.
7. Provide water repellent/consolidant treatment for masonry structures as indicated.

PART 2 - PRODUCTS

2.01 REPOINTING MORTAR MATERIALS:

A. Repointing mortar shall be a pre-mixed, pre-colored, custom-matched mixture formulated to be identical to the existing mortar of each individual façade. Mortar is required to match density and permeability of the existing adjacent mortar at each instance of application. Contractor shall provide written documentation of utilized mortar characteristics and composition as matching that of the existing masonry wall in which it is introduced. The General Contractor is responsible for submitting and paying for testing. An independent testing laboratory shall be utilized. One such lab has been identified as: David Arbogast, 1803 Pineacre Ave, Davenport, IA 52803. Phone: 563-355-1553. A lab report of the sample and proposed matching mortar mix will need to be submitted to the Architect for approval prior to the installation of new mortar.

1. Products: The following shall be assumed to meet the quality and performance requirements specified:
   a. SPEC-JOINT 46, as manufactured by Edison Coatings, Inc., Plainville, CT, Phone (800) 697-8055.

2.02 CRACK INJECTION MATERIALS

A. Cementitious crack filler shall be an ultra-fine, superplasticized, polymer- modified injection grout. Cementitious grout shall be suitable for application in wet or dry cracks, shall develop direct tensile bond strength of 200 psi minimum, shall exhibit less than 0.06% drying shrinkage, and shall have a linear coefficient of thermal expansion of 0.000004 to 0.000008 inches/inch per degree Fahrenheit.

1. Products: The following shall be assumed to meet the quality and performance requirements specified:
   a. PUMP-X 53i, as manufactured by Edison Coatings, Inc., Plainville, CT, Phone (800) 697-8055.

2.03 PATCHING MATERIAL:

A. Patching material shall be a premixed, cementitious material with acrylic latex-modifier, formulated to match the color and texture of the existing cast stone. Material must be vapor permeable, frost and salt resistant, shall develop direct tensile bond strength of 200 psi minimum, shall exhibit less than 0.06% drying shrinkage, and shall have a linear coefficient of thermal expansion of 0.000005 to 0.000008 inches/inch per degree Fahrenheit. Material shall be compatible with substrate, including but not limited to, porosity, tensile, and compressive strength. Modulus of elasticity shall be 50,000 to 100,000 psi. Non-latex mortars shall be unacceptable. Material shall have a minimum 10-year successful performance history for similar projects.

1. Products: Subject to compliance with requirements, provide the following:
   a. "CUSTOM SYSTEM 45" by Edison Coatings, Inc., Plainville, Ct (800) 341-6621.
      1.) Utilize the appropriate products for the materials to be applied to for compatibility. Consult manufacturer representatives for guidance.
   b. If proposed substitute is submitted, thorough lab testing shall be required to establish equivalent performance levels. An independent testing laboratory shall be utilized as determined by the Architect and paid for by the submitting party.

2.04 REINFORCING MATERIALS

A. Pins / Threaded rods: Type and size are specified herein and as indicated on the Contract Drawings, if not indicated, as per patching materials manufacturer's recommendation. Anchors and dowels shall be fabricated from ANSI Type 302/304 stainless steel.

B. Mechanical anchors and dowels (for deep repairs and overhanging repairs): Stainless steel threaded road (ASTM F-593) with a diameter as indicated on Contract Drawings, bent and cut to lengths required to achieve embedments shown on Contract Drawings. Cut end of rod square.

C. Adhesive: Adhesive shall be a two component epoxy gel, with minimum 4% elongation, 300 psi direct tensile bond strength, 10,000 psi tensile strength. Product shall be applicable to metals, masonry, concrete and other substrates as required, and shall be appropriate for use at ambient temperatures from zero degrees to 100 degrees Fahrenheit (-18 to 38 degrees Celsius).

1. Products: Subject to compliance with requirements, provide the following:
   a. FLEXI-WELD 520T, as manufactured by Edison Coatings, Inc., Plainville, CT (800) 341-6621.
   b. If proposed equal is submitted, thorough lab testing shall be required to establish equivalent performance levels. An independent testing laboratory shall be utilized as determined by the Architect and paid for by the submitting party.

D. Water Repellent/Consolidant: Water repellent/light consolidant shall be a breathable, two-component, proprietary self-crosslinking hybrid system. Product shall be colorless, low viscosity, two component penetrating treatment with minimum 96% moisture vapor transmission per Oklahoma DOT method, maximum 1% water absorption per Ontario MTC method, and which meets the freeze-thaw requirements of Ontario MTC (50 cycles) and the wind-driven rain resistance requirements of US Federal Specification TT-C-555B. Product shall be non-yellowing and UV resistant for a minimum 1500 hours per ASTM G53-84.
   1. Products: Subject to compliance with requirements, provide the following:
      a. SYSTEM 90-II, as manufactured by Edison Coatings, Inc., Plainville, CT (800) 341-6621.

PART 3 - EXECUTION

3.01 CLEANING EXISTING MASONRY AND STONE

A. General:
   1. Proceed with cleaning in an orderly manner, work from top to bottom of each staging area and from one end of each elevation to the other.
   2. Use only those cleaning methods indicated for each masonry material and location.
   3. Perform each cleaning method indicated in a manner which results in uniform coverage of all surfaces, including corners, moldings, interstices and which produces an even effect without streaking or damage to masonry surfaces.
   4. Rinse off chemical residue and soil working upwards from bottom to top of each treated area at each stage or scaffold setting.

3.02 MASONRY REPOINTING

A. Sealant Removal & Stone Repointing
   1. Carefully remove existing sealants from stone joints using approved methods. Damage to edges of stone units must be avoided. Remove sealant to its full depth and rake back existing masonry mortar beneath the sealants to provide a minimum of 3/4" depth for repointing, or until sound mortar is reached, whichever is greater.
   2. Wet surfaces to ensure that stone is nearly saturated but surface dry when repointed. Completely fill bed, head and collar joints. Maintain joint width to match existing.
   3. When mortar is thumbprint hard, tool exposed mortar joints to match joints of original stonework

3.03 LOCATE AND MARK AREA TO BE REPAIRED / RESTORED

A. Work areas are approximately shown on drawing. Locate areas to be repaired /restored by sounding with a hammer to detect hollow and deteriorated areas.
B. Mark locations using chalk or crayon.

3.04 WORKMANSHIP OF PATCHING MATERIAL:

A. Patching material workmanship shall comply with all applicable recommendations of material manufacturer's written specifications and requirements and/or as modified in this and following sections.
B. Mixing of patching material: Mix the patching material in accordance with Manufacturer's printed instructions.
C. Do not use any additives, such as bonding agents, accelerators, or retarders, in the patching material without prior written approval from the Manufacturer.

3.05 SURFACE PREPARATION: (for all patching work)

A. Patching and repair work for spalled and deteriorated materials shall be accomplished with the approved Patching material, according to manufacturer's printed instructions and as specified herein.
B. At areas to receive patches, remove all loose, spalled and deteriorating materials. If required cut away an additional 1/4 to 1/2 inch of the substrate that may be in the process of deteriorating and to ensure the surface to be patched is solid and stable. Saw cut edges of all repair areas to a minimum 1/4" depth. "Sound" remaining substrate with a hammer to verify its integrity.
C. Remove any soil, mortar, dust and other debris or foreign material from areas to receive patch.
D. Cut out sections shall be squared off at the edges. Do not overcut corners of the patch; stop short of corner and chip out remainder by hand without damaging surrounding masonry. Do not allow any feathered edges in the patch areas.
E. Roughen the substrate surface as necessary to achieve the surface roughness required by manufacturer for good bond, but do not damage the substrate surface. Moisten substrate surfaces as per manufacturer's directions.
F. For very dry or porous surfaces, pre-wet the substrate ahead of time to prevent the substrate from drawing moisture out of the patch too quickly. Re-wet the surface just before applying the patching material.

3.06 PATCHING REPAIR WORK:

A. Prepare and mix Patching material in accordance with manufacturer's directions.

B. Patching material shall be applied by trowel, casting-in-place or other techniques recommended by approved materials manufacturer for each specific field condition.

C. Air, surface and product temperature must all be above minimum temperature of 50 deg F (10 deg C) at time of application and must be maintained above minimum until product has dried thoroughly.

D. Apply patching material in one layer or several layers, according to the depth of the repairs. Comply with manufacturer's instructions when applying multiple layers for thickness of each layer, setting-up time for each layer, surface preparation between layers, etc., to ensure sound adhesion between layers. Final application of repair mortar shall be at the desired surface level and shall be tooled, shaped or carved as required to achieve proper surface profile and texture. Surfaces shall be tooled to replicate the texture and detailing of the original surface. Do not sponge float the patch. Keep tools clean by frequent washing in clean water but remove excess water to avoid introducing water into patch surfaces.

E. Under hot conditions, as directed by Manufacturer, moisten repaired areas, cover and cure in accordance with manufacturer's directions. Keep patches moist and out of direct sun for at least the first day.

F. To avoid rapid evaporation, do not patch in direct sunlight. If necessary, shade or cover work with tarpaulin or wet burlap.

3.07 PATCHING FOR DEEP OR OVERHANGING REPAIR:

A. At areas of large, deep and overhanging repairs the installation of mechanical keying or anchoring is required. The decision whether to anchor and how frequently to provide anchors shall be based on structural requirements, the conditions of the substrate, patch dimensions and weight, and the extent to which patch integrity will rely on self adhesion alone. Typical procedures are outlined in this section and shall be modified as required.

B. Drill 1/4" to 1/2" diameter holes at various angles, spaced 4 to 6 inches apart in staggered rows. Clean holes using compressed, oil-free air.

C. Insert stainless steel rods into drilled holes. Set depth and projection of rods so that at least 3/4" of patching material is placed over the rods, which are secured into the holes with the specified adhesive.

D. Prepare and mix patching material in accordance with manufacturer's directions. Comply with all safety precautions, environmental limitations and work time limitations.

E. Dampen patch area immediately prior to application of patching material and apply bond coat to create a good bond Using a masonry brush, apply bondcoat to patch area, working into corners, edges and profile. Apply bond coat only to area of patch that can be covered with patch material mix before bond coat dries. Work bond coat into pieces of the substrate and under and around mechanical anchors. Do not apply excess bond coat; do not leave standing in puddles on the substrate. Do not allow bond coat material to run down onto surfaces which will not be repaired.

F. Apply patching material to deep sections by building up in a series of multiple lifts. Comply with manufacturer's instructions for thickness of each layer, setting-up time for each layer, and surface preparation between layers to ensure sound restoration. Work patching material into all corners of patch area and under and around mechanical anchors; including the existing coated reinforcements.

G. To re-create original ornamentation, apply an extra-thick patch. Then after the patch is partially cured the patching material shall be carved, using molding profiles and/or straight edges to restore original ornamentation. In all cases, finish patch so that it is as indistinguishable as possible from adjacent surfaces.

H. Clean any patching material residue from area surrounding the patch by sponging as many times as necessary with clean water. This should be done before patching material sets.

I. Moisten, cover and cure repaired areas in accordance with manufacturer's directions.

3.08 CASTING NEW ELEMENTS OR SECTIONS

A. In designated areas, new elements or sections shall be cast in place using specified patching compound with superplasticized admixture.

B. Prepare surfaces and install anchors in accordance with Section 3.7, above.

C. Construct molds made of wood, sheet metal, plastic, rubber molding compound or other suitable material, and fasten mold to repair area as required to secure mold during casting process.

D. Interior face of mold shall be treated for clean release of patching compounds. This may be achieved by use of polyethylene lining, high-gloss polyurethane coating, or use of approved proprietary form release agent. No form oils, silicones or Teflon release agents shall be used.

E. Prepare mixture of superplasticized patching compound, using slow speed (250-450 rpm) paddle mixer. Mix consistency should be a viscous, plastic mortar. Do not add excessive liquid to produce an excessively thinned mixture.

F. Pour, pump or pack the mixture into the mold, rodding, vibrating or tapping the mold with a rubber mallet while filling. Add material in shallow increments, vibrating or tapping to remove air bubbles and to allow the material to completely slump into the mold pattern after each addition. Once filling has begun, do not interrupt the process until the m old is completely filled.

G. Allow mold to remain in place for 24 to 48 hours to assure complete through-set. Carefully strip forms to avoid damaging the “green” casting. Rub, sand or stone surfaces as required to match texture of adjacent surfaces.

3.09 REPAIRING CRACKS AND VOIDS

A. Prepare cracked area in accordance to manufacturer's written instructions. Typical procedures are outlined in this section and shall be modified according to approved materials manufacturer.

B. Crack repair for hairline and microscopic cracks:
   1. Inject cementitious crack repair material into designated cracks, using syringes, grouting pumps, or other types of injection apparatus suitable for size of crack, distance crack injection material must travel and viscosity of material used. Seal surfaces as required to prevent crack injection material from leaking out and to facilitate pumping. Take caution not to strain the face of adjacent surfaces.
   2. Immediately wipe spills off surfaces with clean, wet rag and allow injection material to cure as required.

C. Crack repair for cracks larger than 1/16" and voids larger than 1/8" mm:
   1. Remove loose and spalling materials, cut into crack to a minimum depth of 3/8 inches and a width of 3/16 inch. If embedded reinforcements are rusted, then cut-material deep enough to expose the rusting reinforcements and remove material around reinforcement to provide a minimum of 3/4 inch clearance for patch material.
   2. Clean and coat exposed reinforcements at patch work with an approved rust-preventative agent.
   3. Fill enlarged areas of crack repair with patching material, following repair procedures outlined in this section under Part 3, "Patch for typical repair work" and/or Part 3, "Patching for deep or overhanging repair."

D. Inject cementitious crack repair material into designated voids and cracks, using syringes, grouting pumps, or other types of injection apparatus suitable for size of crack, distance crack repair material must travel, and viscosity of material used. Seal surfaces as required to prevent crack injection material from leaking out and to facilitate pumping. Take caution not to strain the face of adjacent surfaces. Immediately wipe spills off surfaces with clean rag and compatible solvent.

E. Unacceptable patches are defined as those with hairline cracks or showing separation from repair edges, or on which "hollow spots" can be detected by light impact. Remove unsound patches and refill to provide patches free of those defects.

F. Final Cleaning: No steam cleaning or additional pressure cleaning shall be performed within 28 days of patch installation. No acid or alkali cleaning agents shall be used except as recommended and/or approved by patch manufacturer.

END OF SECTION

SECTION 04 1000
MORTAR AND GROUTING

PART 1 -GENERAL

1.01 SUMMARY OF WORK
A. This section relates to new masonry work apart from restoration and/or repointing of existing masonry walls consisting of existing brick and stone units. If a wall is to be demo'd and rebuilt in its entirety. This section covers the new material application for complete rebuild of wall assemblies.

1.02 RELATED WORK SPECIFIED ELSEWHERE
A. Masonry Accessories: Section 04 1500.
B. Unit Masonry: Section 04 2000.

1.03 PRODUCT DELIVER, STORAGE AND HANDLING
A. Store materials under cover in a dry place and in a manner to prevent damage or intrusion of foreign matter.

PART 2 -PRODUCTS

2.01 MATERIALS
A. Cement shall be Portland Cement, ASTM C150-84, Type 1, II or III grey unless otherwise specified. Use one brand throughout. Adhere to Brick Institute written recommendations for mortar type application.
B. Lime shall meet requirement of ASTM C207, high pressure hydrated Type "S".
C. Sand shall conform to requirements of ASTM C144, 100% passing #8 sieve.
D. Water shall be clean and potable.
E. Admixtures (anti-freeze compounds, salts, chlorides, etc.,) shall not be used.
F. Mortar Colors:
   1. Use standard natural grey mortar for exterior work.
   2. Use standard natural grey mortar for interior cement block.

2.02 MIXES
A. Mortar for new brick and concrete block shall be ASTM C270, Type S. mixed in proportions of 1 part cement, ½ part lime and 4 parts sand by volume.
   1. See Section 04 0120 for Repointing of existing masonry.
B. Core Grouting shall be 3000 or 4000 PSI concrete mix with 3/8" maximum pea gravel aggregate. Place in cores w/low slump.
C. Use water proofing agent in mortar at all sill locations by one of the following manufacturers:
   1. Laticrete - Hydro Ban
   2. ACM Chemistries – RainBloc
   3. BASF Corp. - Construction Chemicals – MasterPel 210D

PART 3 - EXECUTION

3.01 PERFORMANCE
A. Carefully control and accurately maintain proportions during entire progress of work. Use 1 c. ft. box containers for full bag batches of mortar and smaller containers for batches requiring less than full bags of cement and lime.
B. Mix all cementious materials and sand in a mechanical batch mixer for at least 5 minutes with enough water to produce a workable consistency. If mortar stiffens from evaporation of water, re-temper by adding water and re-mixing. All mortar shall be used with 2 ½ hours of initial mixing and none shall be used after it has begun to set.
C. Pre-mixed Masons cement will be permitted on this project. Manufacturer's mix must be submitted for approval in the shop drawing procedure for approval by the Architect.

END OF SECTION

THIS PAGE IS
INTENTIONALLY LEFT BLANK

SECTION 04 1500
MASONRY ACCESSORIES

PART 1 - GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE
A. Mortar: Section 04 1000.
B. Unit Masonry: Section 04 2000.

1.02 REFERENCES
ASTM A82—Spec. for Cold Drawn Steel Wire
ASTM A153—Class B-2, Spec. Zinc Coating (Hot dip) on Iron and Steel Hardware (Canada same)
ASTM A167, Spec. for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip
ASTM A580, Spec. for Stainless Steel Wire
ASTM C144, Spec. for Aggregate for Masonry (Canada – A179-94)
ASTM C150, Spec. for Portland Cement (Canada – CAN/CSA-A5-93)
ASTM E2010 and NFPA 257, Fire Test of Window Assemblies (equivalent to UL® 9 and CAN 4-S106-M80)
ASTM C207, Spec. for Hydrated Lime for Masonry Purposes (Canada same)
ASTM C270, Spec. for Mortar for Unit Masonry (Canada – A179-94)
ASTM D1187, Type II—Spec. for Asphalt-Base Emulsions (For Metal Surfaces)
K. ASTM D1227, Type III—Spec. for Emulsified Asphalt (For Porous Surfaces)

1.03 PRODUCT DELIVERY, STORAGE AND HANDLING
A. Joint reinforcements, etc., shall be stored to provide protection from the elements, preventing rust or other foreign coatings.

PART 2 - PRODUCTS

2.01 MATERIALS
(Note: Dur-O-Wall was acquired by Hohmann & Barnard in 2010. Dual product numbering is provided for cross referencing.)

A. Anchors, Ties In conditions of veneer brick tying to existing CMU or Concrete back-up wythe, Ties shall be galvanized coated steel, Hohmann & Barnard #DW10-HS (Dur-O-Wall #DA-210) or Heckmann #315-D Anchors, with Hohmann & Barnard # VBT – Vee-Byna Tie (Dur-O-Wall #DA-700) or Heckmann #316 wire ties, or approved equal, as needed for specific conditions or where veneer ties are required, conforming to ASTM A153-82.

B. Joint reinforcement: prefabricated type, cold drawn steel wire, conforming to ASTM A951. Reinforcement shall be of proper width for wall thickness, insulation thickness, and air space, and shall be Hohmann & Barnard, Lox-All Ladder type #270 (Dur-O-Wall Inc., Ladur-Eye #DA 3600), or approved equal for all double-wythe assemblies.

C. Thru Wall Flashing: Perm-A-Barrier, by W.R. Grace & Co., Air Shield by W.R. Meadows, AB-100 by NEI, CCW-705-TWF by Carlisle, Polyguard 400, or approved equal. 40 mil membrane, 32 mils of pliable rubberized asphalt compound, bonded to a 8 mil high density cross laminated polyethylene film, with release paper, or DuPont Thru-Wall Flashing of DuPont Elvaloy. Provide pre-molded corners and end dams. Install per mfr's written instructions.

D. Stainless Steel Drip Edge under thru wall flashing and cast stone caps shall be Hohmann & Barnard #DP Drip Plate, equal by Illinois Products Corp. or approved equal.

E. Cleaning Agent: shall be Vanatrol by Sure Kleen, EaCo Chem NMD 80, or approved equal manufacturer.

F. Cavity wall drainage mat: 10" high x 1"thick, apply at all through-wall flashing locations.
1. Mortar Trap by Hohmann & Barnard, Inc. 30 Rasons Court, Hauppauge, NY 11788, Ph. 800-645-0616;
2. Mortar Net USA, 541 S. Lake Street, Gary, Indiana, 46403, (800) 664-6638, Fax (319) 938-5405.

G. Weeps: Hohmann & Barnard, Inc. (HB)
1.) At Base of wall and Window Lintels and at upper wall vent, install - #QV-Quadro-Vent, Gray color, honeycomb design, or approved equal. Install full height in head joint of brick, and full depth of brick.
2.) 100% Cotton with 12" long leg horz. in cavity.

H. Glass Block Panel Reinforcement: - Ladder-type units, butt welded complying with ASTM A951/A951M. Hot-dip galvanized, carbon steel wire.

I. Glass Block Panel Anchors: - Standard perforated steel strips, 1-3/4" wide by 24" long, hot-dip galvanized after fabrication complying with ASTM A 153/A153M.

PART 3 - EXECUTION

3.01 PREPARATION

A. Anchors, ties, and joint reinforcement shall be cleaned of all loose rust, scale, or other foreign coatings before use. Accessories not capable of developing bond with mortar shall not be used.

3.02 INSTALLATION

A. Anchors and ties where required shall be spaced not over 16" vertically and 24" horizontally.

B. Joint reinforcement shall be placed in alternate horizontal joints of all concrete block masonry and shall be placed in each horizontal joint of concrete masonry laid in stacked bond. Joint reinforcement shall be used to bond back-up and face units as specified hereafter.

C. Install cotton weeps @ 24" o.c. horizontally. See general notes on plan.

D. Install mortar net continuously @ all through wall flashing locations.

E. Thru Wall Flashing shall be installed in strict accordance with manufacturers' instructions regarding cleaning of placement, overlap of product components, (sheet, premolded corners, end dams) for proper seal, and all related conditions for a full seal of the wall cavity and redirection of moisture to the exterior.

END OF SECTION

SECTION 06 1600
SHEATHING

PART 1 - GENERAL

1.01 SUMMARY
A. Section Includes:
1. Wall sheathing.
2. Roof sheathing.

1.02 ACTION SUBMITTALS
A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements.
2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements.

1.03 INFORMATIONAL SUBMITTALS
A. Evaluation Reports: For following products, from ICC-ES:
1. Preservative-treated plywood.

PART 2 - PRODUCTS
See drawings for product application locations and extent. Not all products listed may be employed.

2.01 WOOD PANEL PRODUCTS
A. Emissions: Products shall meet the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers." Compare requirements of Iowa Green Streets Criteria with these sited Standards.
B. Plywood**:** Either DOC PS 1 or DOC PS 2 unless otherwise indicated.
C. Oriented Strand Board: DOC PS 2.

2.02 PRESERVATIVE-TREATED PLYWOOD
A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction, Use Category UC3b for exterior construction.
B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
C. Application: Treat items indicated on Drawings and plywood in contact with masonry or concrete or used with roofing, flashing, vapor barriers, and waterproofing.

2.03 WALL SHEATHING
Verify qualifications of products with historic preservation standards where applicable. See drawing elevations and details for locations of product application.
A. Plywood Wall Sheathing: Exposure 1, Structural I sheathing.
1. Type and Thickness: Regular, 5/8 inch thick nominal, or as noted on drawings.
B. Oriented-Strand-Board Wall Sheathing: Exposure 1, Structural I sheathing.
1. Type and Thickness: Regular, 5/8 inch thick nominal, or as noted on drawings.
C. Glass-Mat Gypsum Wall Sheathing: ASTM C 1177-91/1177M.
1. Type and Thickness: Regular, 5/8 inch thick. – Georgia-Pacific, “Dens-Glass Gold”

2.04 FINISH (EXPOSED) WALL SHEATHING / SIDING
Verify qualifications of products with historic preservation standards where applicable. See drawing elevations and details for locations of product application.
A. Plywood Wall Sheathing: Exposure 1, Structural I sheathing. APA A-C facing. A face exposed for finishing.
1. Type and Thickness: Regular, 5/8 inch thick nominal, or as noted on drawings.
B. Fiber-Cement Board: James Hardie: HardiePanel Vertical panel board. Texture: - Smooth.
1. 48”x96”x 0.312”(5/16”) Color – Primed and ready for final paint finish on site. Color as selected by Architect.
C. LP Smart Siding (OSB) 48”x96”x0.354 (3/8”) Texture: – Smooth. Color – Primed and ready for final paint finish on site. Color as selected by Architect.

2.05 ROOF SHEATHING
A. Plywood Roof Sheathing: Exposure 1, Structural I sheathing.
B. Oriented-Strand-Board Roof Sheathing: Exposure 1, Structural I sheathing.

2.06 FASTENERS
A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
1. For roof and wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A 153.

2.07 MISCELLANEOUS MATERIALS

A. Adhesives for Field Gluing Panels to Framing: Formulation complying with APA AFG-01 that is approved for use with type of construction panel indicated by manufacturers of both adhesives and panels.
   1. Adhesives shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
   2. Adhesives shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

PART 3 – EXECUTION

3.01 INSTALLATION, GENERAL

A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.
B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
C. Securely attach to substrate by fastening as indicated, complying with the following:
   1. NES NER-272 for power-driven fasteners.
   2. Table 2304.9.1, "Fastening Schedule," in ICC's "International Building Code."
   3. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's "International Residential Code for One- and Two-Family Dwellings."
D. Coordinate wall and roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

3.02 GYPSUM SHEATHING INSTALLATION

A. Comply with GA-253 and with manufacturer's written instructions.
   1. Fasten gypsum sheathing to wood framing with **screws.**
   2. Fasten gypsum sheathing to cold-formed metal framing with screws.
   3. Install boards with a 3/8-inch gap where non-load-bearing construction abuts structural elements.
   4. Install boards with a 1/4-inch gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.
B. Seal sheathing joints according to sheathing manufacturer's written instructions.
   1. Apply elastomeric sealant to joints and fasteners and trowel flat. Apply sufficient amount of sealant to completely cover joints and fasteners after troweling. Seal other penetrations and openings.
   2. Apply glass-fiber sheathing tape to glass-mat gypsum sheathing joints and apply and trowel silicone emulsion sealant to embed entire face of tape in sealant. Apply sealant to exposed fasteners with a trowel so fasteners are completely covered. Seal other penetrations and openings.

END OF SECTION

SECTION 06 2000
FINISH CARPENTRY

PART 1 - GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE
A. Rough Carpentry: Section 06 1000.
B. Sheathing: Section 06 1600.
B. Painting: Section 09 9100.

1.02 QUALITY ASSURANCE
A. Manufacturer shall comply with requirements of Architectural Woodwork Institute "Quality Standards Illustrated" as specified for various items.

1.03 SUBMITTALS
A. Submit to Architect for approval shop drawings of all work specified herein. Shop drawings shall indicate sizes, shapes and thicknesses of members, material used, and method of construction, fastening and erection.

PART 2 - PRODUCTS

2.01 MATERIALS
A. Materials and fabrication shall be custom grade for transparent finish in accordance with AWI "Quality Standards Illustrated".
B. Lumber: DOC PS 20 and applicable grading rules of inspection agencies certified by ALSC's Board of Review.
C. Particleboard: ANSI A208.1, Grade M-2/ M-2-Exterior Glue, made with binder containing no urea-formaldehyde resin
D. Exterior Trim and millwork shall be as specified below unless otherwise noted:
   1. Exterior Clear paintable Western Cedar. See drawing details for locations and applications.
      a. Nominal 1x_ sizes as noted on drawings. Smooth finish texture, unless noted otherwise.
   2. Synthetic (Poly-ash) Trim: Boral TruExterior® Trim. See drawing details for locations and applications.
      a. Nominal 1x_ sizes as noted on drawings. Smooth side texture to be exposed, unless noted otherwise.
   3. Install by fasteners and adhesives as recommended in writing by the product manufacturer.
      Follow mfr's written instructions to account for the anticipated expansion and contraction of materials.
E. Interior trim and millwork shall be as specified below unless matching existing species of project area and otherwise noted:
   1. Exposed solid wood: Clear paintable Pine or Fir plain sliced.
   2. Semi-exposed solid wood: Clear paintable Pine or Fir plain sliced.
   3. Concealed solid wood: at option of mill.
   4. Exposed Plywood; paintable Pine or Fir, rotary cut, premium veneer.
   5. Semi-exposed plywood: paintable Pine or Fir, rotary cut.
   6. Concealed plywood: at option of mill.
F. High Pressure Laminate Plastic, color and pattern as selected by the Architect, Nevamar, Wilsonart, Pionite or Formica. See Section 06 4023 Architectural Woodwork for specifications and color selections.
G. Ornamental Polyurethane Trim shall be Fypon, LLC., 1750 Indian Wood Circle, Maumee, Ohio 43537,), Phone: 800/446-3040 (U.S. or Canada), Fax: 800/446-9373 (U.S. or Canada), http://www.fypon.com
   1. At Property 1103 Central Ave. – Fypon Crown Mold/ Cornice - #MLD543-12.
   2. At Property 1104 Central Ave. – Fypon Crown Mold/Cornice - #MLD521-8.
H. Cement Board Lap Siding – Shall be James Hardie HardiPlank Lap Siding. Verify Lap exposure and selected texture with Architect and building Owner. Color shall be selected from manufacturer's standard range by the Owner.
   1. See Section 06 1600 for James Hardie Vertical Sheet Siding/sheathing products.
I. Miscellaneous Materials Use wood glue that has a VOC content of 30 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
   1. Paneling Adhesive: Comply with paneling manufacturer's written recommendations. Use adhesive that has a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
J. Epoxy Wood Filler and Penetrant.
   1. Abatron Wood Restoration & Maintenance Products.
   2. P.C. Products, PC Woody
   3. Approved by Architect.

2.02 FABRICATION AND MANUFACTURE
A. All work shall be performed in accordance with reference standards, thoroughly smooth, sanded, scraped and prepared for finishing and shall be free from machine or tool marks, abrasions, raised grain, slivers, etc. All moldings shall be struck clean and smooth in accordance with details and shall be bradded in quirks with all nails set for putty fill. Drill holes for nails to prevent splitting. Joints shall be absolutely tight, and all work shall be plumb, square, level and true. Trim shall be furnished in single pieces for lengths up to 16' and shall not be over 2 pieces where longer lengths are required. Splices shall be bevel cut, glued, and nailed. See Room Schedule and Trim Details.

PART 3 - EXECUTION

3.01 INSPECTION

A. Examine all grounds, stripping, and blocking to secure casework, trim, etc. Do not install millwork until all defects are corrected.

3.02 INSTALLATION

A. Standing and running trim shall be installed in single lengths except where splices are permitted in running trim. Splices shall be located only where solid fastenings can be made. Cope molded work at returns and interior angles. Miter at corners.

3.03 ADJUST AND CLEAN

A. Provide protection necessary for all millwork to prevent damage prior to acceptance. Remove and replace any damaged or defective millwork at no extra costs to Owner.

END OF SECTION

SECTION 07 27 26
FLUID APPLIED AIR AND VAPOR (WEATHER) BARRIERS

PART 1 — GENERAL

1.01 RELATED DOCUMENTS
A. All of the Contract Documents, including General and Supplementary Conditions and Division 1 General Requirements, apply to the work of this section.

1.02 SUMMARY
A. The work of this section includes, but is not limited to, the following:
   1. Materials and installation methods for fluid applied air and vapor barrier membrane system located in the non-accessible part of the wall.
   2. Materials and installation methods to bridge and seal air leakage pathways in roof and foundation junctions, window and door openings, control and expansion joints, masonry ties, piping and other penetrations through the wall assembly.

B. Related Sections: Other specification sections which directly relate to the work of this section include, but are not limited to, the following:
   1. Section 01 4000 – Quality Control
   2. Section 04 2000 – Unit Masonry
   3. Section 07 2000 – Thermal Insulation
   4. Section 07 6200 – Flashing and Sheet Metal
   5. Section 07 9200 – Joint Sealers

C. See Section 06 1000 – Rough Carpentry, for exterior wall inside (warm side) Vapor Barrier membrane.

1.03 REFERENCE STANDARDS
A. The following standards and publications are applicable to the extent referenced in the text.

B. American Society for Testing and Materials (ASTM)
   1. C 836 Standard Specifications for High Solids, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course
   2. D 412 Standard Test Methods for Rubber Properties in Tension
   3. D 903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
   4. D 1644 Test Methods for Non-volatile Content of Varnishes
   5. D 1970 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
   6. D 3767 Standard Practice for Rubber - Measurements of Dimensions
   7. D 4541 Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
   8. E 96 Standard Test Methods for Water Vapor Transmission of Materials
   9. E 283 Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
   10. E 2178 Standard Test Method for Air Permeance of Building Materials
   11. E2357 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies

1.04 ADMINISTRATIVE REQUIREMENTS
A. Coordinate with the installation of other components that comprise the exterior building envelope.

B. Provide necessary compatibility information for Building Envelope Commissioning.

C. Maintain and provide to the BECxP/A, a set of As-Built shop drawings for closeout documentation.

1.05 SUBMITTALS
A. See Section 01 3300 – Submittals

B. Shop Drawings: Submit shop drawings showing locations and extent of air and vapor barrier assemblies and details of all typical conditions, intersections with other envelope assemblies and materials, membrane counter-flashings, and details showing how gaps in the construction will be bridged, how inside and outside corners are negotiated, how materials that cover the air and vapor barrier are secured with air-tight condition maintained, and how miscellaneous penetrations such as conduits, pipes, electric boxes and similar items are sealed. Indicate special joint or termination conditions and conditions of interface with adjacent materials.

C. Warranty: Submit manufacturer warranty and ensure forms have been completed in the Owner's name and registered with the manufacturer.

D. Compatibility: Submit letter from manufacturer stating that materials proposed for use are permanently chemically compatible and adhesively compatible with adjacent materials proposed for use. Submit letter from manufacturer stating that cleaning materials used during installation are chemically compatible with each of the adjacent materials proposed for use.

E. Building Envelope Commissioning Submittals:
   1. Submit BECx Submittal information requested and copies of relevant documentation.
   2. Product Data: Submit manufacturer's product data, installation instructions, use limitations and recommendations. Submit manufacturer's product data, shop drawings as indicated, installation instructions, supplemental installation details, use limitations and recommendations, test data, and compatibility test results. All elements of the submittal shall be submitted complete. If not complete the submittal will be considered revise and resubmit.
   3. Include certification of data indicating VOC (Volatile Organic Compound) content of all components of waterproofing system.
   4. Samples: Include representative samples of the following for approval:
      a. Fluid applied air barrier membrane
      b. Transition Membrane
      c. Through Wall Flashing

1.06 QUALITY ASSURANCE

A. Manufacturer: System shall be manufactured and marketed by a firm with a minimum of 20 years experience in the production and sales of waterproofing and air barrier products. Manufacturers proposed for use but not named in these specifications shall submit evidence of ability to meet all requirements specified and include a list of projects of similar design and complexity completed within the past 5 years.

B. Installer Qualifications:
   1. Company specializing is performing the work of this section as a primary occupation, which has at least 3 years experience and is certified by the manufacturer.
   2. Installer must show evidence of adequate equipment and trained field personnel to successfully complete the project in a timely manner.
   3. Company performing the work of this section will also perform the work of other related air and weather barrier sections, including, but not limited to:
      a. Section 07 5323 Fully Adhered Membrane Roofing
      b. Section 07 62 00 Flashing and Sheet metal.

C. Materials: Fluid applied air and vapor barrier material shall be cold vulcanized two part synthetic rubber based systems free of solvents, isocyanates and bitumen. For each type of material required for the work of this section and related sections of performance, provide primary materials, associated materials, and material assemblies which are the products of one manufacturer.

D. Pre-Installation Conference: A pre-installation conference shall be held two weeks prior to commencement of field operations to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work. Agenda for meeting shall include but not be limited to the following:
   1. Requirements for commissioning
   2. Review of submittals.
   3. Review of surface preparation, minimum curing period and installation procedures.
   4. Review of special details and flashings.
   5. Sequence of construction, responsibilities and schedule for subsequent operations.
   6. Review of mock-up requirements.
   7. Review of inspection, testing, protection and repair procedures.

1.08 DELIVERY, STORAGE AND HANDLING

A. Deliver materials and products in labeled packages. Store and handle in strict compliance with manufacturer's instructions, recommendations and material safety data sheets. Protect from damage from sunlight, weather, excessive temperatures and construction operations. Remove damaged material from the site and dispose of in accordance with applicable regulations.

B. Do not double-stack pallets of fluid applied membrane components on the job site. Provide cover on top and all sides, allowing for adequate ventilation.

C. Protect fluid-applied membrane components from freezing and extreme heat.
D. Sequence deliveries to avoid delays but minimize on-site storage.

1.09 PROJECT CONDITIONS

A. Perform work only when existing and forecasted weather conditions are within the limits established by the manufacturer of the materials and products used.
B. Proceed with installation only when substrate construction and preparation work is complete and in condition to receive air and vapor membrane.

1.10 WARRANTY

A. Provide written 15 year water tightness warranty issued by the membrane manufacturer upon completion of the work.
B. See Section 00 73 13 – Supplementary Conditions, for additional warranty requirements.
C. Contractor shall correct defective work within a two year period after date of substantial completion, remove and replace materials concealing waterproofing at no extra cost to the Owner.

PART 2 — PRODUCTS

2.01 MATERIALS

A. Basis of Design: W.R. Grace (GCP Applied Technologies) **Perm-A-Barrier ® Liquid System**. Water based Fluid applied membrane, two part, self-curing, synthetic rubber based material.
B. Other Acceptable Manufacturers: Other manufacturers requesting approval to bid their product as an equal must submit the following information fifteen days prior to close of bidding.
   1. Product Data supporting the achievement of the required Minimum Physical Properties.
   2. Installer certification program details.
   3. Manufacturer qualifications as stated in 1.06A.
   4. Product line capable of fulfilling the requirements of 1.06B and 1.06C.
   5. Written warranty information as stated in 1.10
C. Potential alternate manufacturers products. Submit to architect per instruction to bidders.
   1. TK Products www.tkproducts.com - AirMax 2103
   2. Henry: www.henry.com – Air-Bloc 32MR
   3. Carlisle: www.carlisle-ccw.com -- CCW Fluid-applied air barrier.
   4. W.R. Meadows – Air Shield LM
D. Cold Weather application complications: Communicate with the Architect any anticipated issue with construction schedule and the potential for cold temperature application of air and vapor barrier products. Solvent based products may be considered in cold temperature conditions. Listed manufacturers comparable solvent based products may be considered for those construction conditions. Example:
   1. TK – TK-AirMax 2102
E. Performance Requirements:

MINIMUM PHYSICAL PROPERTIES

Property	**Test Method**	**Typical Value**
Cured Film Thickness	ASTM D 3767 Method A	1.5 mm (0.060 in.) nominal
Volatile Organic Compound content		< 75 g/L
Air Permeance at 75Pa (0.3 in. water) Differential Pressure	ASTM E 2178	<0.001 L/(s.m^2) (<0.0002 cfm/ft^2)
Assembly Air Permeance at 75Pa (0.3 in. water) Differential Pressure	ASTM E 2357	<0.004 L/s*m^2 (<0.0008 cfm/ft^2)
Water Vapor Permeance	ASTM E 96, Method BW	Less than 4.6 ng/Pa.s.m^2 (0.08 Perms)
Pull Adhesion to Concrete Block (CMU)	ASTM D 4541-02	0.24 N/mm² (35 psi)
Pull Adhesion to Glass Faced Wall Board	ASTM D 4541-02	0.12 N/mm² (18 psi)
Peel Adhesion to Concrete	ASTM D 903 Modified[1]	880 N/m (5 lb./in.)

Elongation	ASTM D 412	500% minimum
Pliability, 180° Bend over 25 mm (1 in.) Mandrel at -30°C (-23°F)	ASTM D 1970	Unaffected
Low Temperature Flexibility and Crack Bridging 3.2mm (1/8in.) crack cycling at –26°C (-15°F)	ASTM C836	Pass
Extensibility over 6.4mm (1/4in.) crack after heat aging	ASTM C836	Pass
Maximum UV Exposure		60 days
Minimum Application Temperature		20°F (-7°C)

Footnote:

The membrane is applied to concrete and allowed to cure. Peel adhesion of the membrane is measured at a rate of 50 mm (2 in.) per minute with a peel angle of 90° at room temperature.

2.03 TRANSITION MEMBRANE

A. Description: 0.9 mm (36 mils) of self-adhesive rubberized asphalt integrally bonded to 0.1 mm (4 mil) of cross-laminated, high-density polyethylene film to provide a min. 0.1 mm (40 mil) thick membrane. Membrane shall be interleaved with disposable silicone-coated release paper until installed.

B. Performance Requirements:

1. Water Vapor Transmission: ASTM E 96, Method B: 2.9 ng/m2sPa (0.05 perms) max.
2. Air Permeance at 75Pa (0.3 in. water) pressure difference: 0.0006 L/(s.m^2) (0.00012 cfm/ft^2) max.
3. Puncture Resistance: ASTM E 154:178 N (40 lbs.) min.
4. Lap Adhesion at –4°C (25°F), ASTM D 1876: 880 N/m (5.0 lbs./in.) of width min.
5. Low Temperature Flexibility, ASTM D 1970: Unaffected to –43°C (-45°F).
6. Tensile Strength, ASTM D 412, Die C Modified: min. 2.7 MPa (400 psi)
7. Elongation, Ultimate Failure of Rubberized Asphalt, ASTM D 412 Die C: min. 200%

Basis of Design:

Perm-A-Barrier Detail Membrane manufactured by Grace Construction Products.

2.04 FLEXIBLE MEMBRANE WALL FLASHING

A. Description: 0.8 mm (32 mils) of self-adhesive rubberized asphalt integrally bonded to 0.2 mm (8 mil) of cross-laminated, high-density polyethylene film to provide a min. 1.0 mm (40 mil) thick membrane. Membrane shall be interleaved with disposable silicone-coated release paper until installed.

B. Performance Requirements:

1. Water Vapor Transmission, ASTM E 96, Method B:2.9 ng/m2sPa (0.05 perms) max.
2. Water Absorption, ASTM D 570: max. 0.1% by weight
3. Puncture Resistance, ASTM E 154: 356 N (80 lbs.) min.
4. Tear Resistance
   a. Initiation ASTM D 1004: min. 58 N (13.0 lbs.) M.D.
   b. Propagation ASTM D 1938: min. 40 N (9.0 lbs.) M.D.
5. Lap Adhesion at -4ºC (25ºF), ASTM D 1876: 880 N/m (5.0 lbs./in.) of width
6. Low Temperature Flexibility, ASTM D 1970: Unaffected to -43ºC (-45ºF)
7. Tensile Strength, ASTM D 412, Die C Modified: min. 5.5 MPa (800 psi)
8. Elongation, Ultimate Failure of Rubberized Asphalt, ASTM D412, Die C: min. 200%

Basis of Design:

Perm-A-Barrier Wall Flashing manufactured by Grace Construction Products.

2.05 AIR & VAPOR BARRIER ACCESSORIES

A. Description: Water-based primer which imparts an aggressive, high tack finish on the treated substrate

1. Flash Point: No flash to boiling point
2. Solvent Type: Water
3. VOC Content: Not to exceed 10 g/l

4. Application Temperature: -4°C (25°F) and above
5. Freezing point (as packaged): -7°C (21°F)

Basis of Design:
Perm-A-Barrier WB Primer manufactured by Grace Construction Products.

B. Description: Two part, elastomeric, trowel grade material designed for use with self-adhered membranes and tapes. 10 g/l max. VOC Content.
Basis of Design:
Bituthene® Liquid Membrane manufactured by Grace Construction Products.

PART 3 — EXECUTION

3.01 EXAMINATION

A. The installer shall examine conditions of substrates and other conditions under which this work is to be performed and notify the contractor, in writing, of circumstances detrimental to the proper completion of the work. Do not proceed with work until unsatisfactory conditions are corrected.

3.02 PREPARATION OF SUBSTRATES

A. Protect adjacent services not designated to receive waterproofing.
B. Refer to manufacturer's literature for requirements for preparation of substrates. Surfaces shall be structurally sound and free of voids, spalled areas, loose aggregate and sharp protrusions. Remove contaminants such as grease, oil and wax from exposed surfaces. Remove dust, dirt, loose stone and debris. Use repair materials and methods which are acceptable to manufacturer of fluid applied air and vapor barrier.
C. Cast-In-Place Concrete Substrates:
   1. Do not proceed with installation until concrete has properly cured and dried
   2. Fill form tie rod holes with concrete and finish flush with surrounding surface.
   3. Repair bugholes over 13 mm (0.5 in.) in length and 6 mm (0.25 in.) deep and finish flush with surrounding surface.
   4. Remove scaling to sound, unaffected concrete and repair exposed area.
   5. Grind irregular construction joints to suitable flush surface.
D. Exterior sheathing panels: Ensure that the boards are sufficiently stabilized with corners and edges fastened with appropriate screws. Pre-treat all board joints with 50 - 75mm (2-3 in.) wide, reinforced self-adhesive tape or fiberglass mesh style wallboard tape. Gaps greater than 6mm (1/4 in.) should be filled with mastic or caulk, allowing sufficient time to fully cure before application of the tape and fluid applied membrane.
E. Masonry Substrates: Apply air and vapor barrier over concrete block and brick with smooth flush mortar joints. Fill all voids and holes, particularly in the mortar joints, with a lean mortar mix, non-shrinking grout or parge coat.
F. Related Materials: Treat construction joints and install flashing as recommended by manufacturer.

3.03 INSTALLATION

A. Refer to manufacturer's literature for recommendations on installation
B. Application of Fluid Applied Membrane
   1. Spray or trowel apply a continuous uniform film at min. 60 mils (1.5 mm or .060 in.) dry film thickness using multiple, overlapping passes.
   2. When spraying use a cross-hatching technique (alternating horizontal and vertical passes) to ensure even thickness and coverage.
   3. When spraying use high pressure, multi-component, airless spray equipment approved by material manufacturer.
   4. Carry membrane into any openings a minimum of 50mm (2 in.).
   5. Seal all brick-ties and other penetrations as work progresses.
C. Application of Transition Membrane
   1. After allowing the Fluid Applied Membrane to cure to tack-free, apply transition membrane with a minimum overlap of 75mm (3 in.) onto each surface at all beams, columns and joints as indicated in detail drawings.
   2. Tie in to window and door frames, spandrel panels, roof and floor intersections and changes in substrate.
   3. Use pre-cut, easily handled lengths for each location.
   4. Remove silicone-coated release paper and position membrane flashing carefully before placing it against the surface.
   5. When properly positioned, place against surface by pressing firmly into place by hand roller.
   6. Overlap adjacent pieces 50 mm (2 in.) and roll all seams with a hand roller.

7. Seal top edge of flashing with termination mastic.
8. When transition flashing is pre-installed prior to application of Fluid Applied Membrane, apply transition flashing as above. Spray or trowel a continuous uniform film of Fluid Membrane at min. 60 mils (1.5 mm or .060 in.) dry film thickness using multiple, overlapping passes, with a minimum overlap of 75 mm (3 in.) onto transition flashing. For sill condition, spray or trowel Fluid Membrane onto pre-installed sill flashing and onto horizontal section of sill.

D. Application of Flexible Membrane Wall Flashing
1. Precut pieces of flashing to easily handled lengths for each location.
2. Remove silicone-coated release paper and position flashing carefully before placing it against the surface.
3. When properly positioned, place against surface by pressing firmly into place by hand roller. Fully adhere flashing to substrate to prevent water from migrating under flashing.
4. Overlap adjacent pieces 50 mm (2 in.) and roll all seams with a hand roller.
5. Trim bottom edge 13 mm (1/2 in.) back from exposed face of the wall. Flashing shall not be permanently exposed to sunlight.
6. At heads, sills and all flashing terminations, turn up ends a minimum of 50 mm (2 in.) and make careful folds to form an end dam, with the seams sealed.
7. Seal top edge of flashing with termination mastic.
8. Do not allow the rubberized asphalt surface of the flashing membrane to come in contact with poly-sulfide sealants, creosote, uncured coal tar products or EPDM.

3.04 CLEANING AND PROTECTION

A. Remove any masking materials after installation. Clean any stains on materials that would be exposed in the completed work using procedures as recommended by manufacturer.

B. Perm-A-Barrier Liquid is not suitable for permanent exposure and should be protected from the effects of sunlight.

C. Schedule work to ensure that the Perm-A-Barrier Liquid system is covered as soon as possible after installation. Protect Perm-A-Barrier Liquid system from damage during subsequent operations. If the Perm-A-Barrier Liquid system cannot be covered within 60 days after installation, apply temporary UV protection such as dark plastic sheet or tarpaulins.

3.05 FIELD QUALITY CONTROL

A. Do not cover installed fluid applied air and vapor barrier until required inspections have been completed by the BECx provider/agent.

B. The Contractor's BECxC shall contact the BECx when an agreed upon amount of area has been installed and is ready for inspection, providing adequate time for scheduling the inspection without adversely affecting the project timeline.

C. Contractor's BECxC and/or the testing agency shall verify proper application thickness via a wet mil gauge during the application process.

3.06 SCHEDULE

A. Follow the installation sequence as directed by the manufacturer specification, the direction of BECx and Section 01 91 19.

END OF SECTION

SECTION 07 6200
FLASHING AND SHEET METAL

PART 1 - GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE
A. Unit Masonry: Section 04 2000.
B. Metal Fabrication: Section 05 5000.

1.02 GUARANTEE
A. Furnish 5 year written guarantee against all failures in Sheet Metal Work due to faulty workmanship or materials.

PART 2 – PRODUCTS

2.01 METAL FLASHING MATERIALS
A. Thru-Wall Flashing see Masonry Accessories – Section 04 1500.
B. Aluminum Extrusions shall be Alloy 6063.
C. Aluminum Sheets shall be Alloy 32 - 0.040 gauge, unless otherwise noted.
D. Steel shall be hot dipped galvanized of gauges specified. Galvanizing shall comply with ASTM A123 or ASTM A386 as applicable.
E. Prefinished Roof Edge Flashing: 24 gauge galvanized G-90, in standard prefinished Kynar 500 color.
   1. Hickman
   2. Ryerson Metals "Colorklad"
   3. Approved equal
F. Flashings shall be per 2.01E.
G. Downspouts and gutters shall be 24 gauge seamless prefinished metal. (Aluminum or Steel). Provide concrete splash blocks at all downspout locations. Profile shall be square style 3 ¾" x 5" wide with 2 ¼" x 4" corrugated downspouts. Color as selected from standard colors.
H. Prefinished Metal Soffit System. Equal to MBCI #L12 "Artisan" Series Soffit Panels. See drawings for installation details.
I. Through-wall Flashing and Stainless Steel Drips: see masonry accessories – Section 041500

2.02 MEMBRANE FLASHING MATERIALS (EPDM)
A. Manufacturers:
   1. Carlisle - Sure-Seal
   2. Versico - VersiGard
   3. Gen-Flex - EPDM Fully Adhered System
   4. Firestone - F.A.S. EPDM
   5. GAF - EverGuard
   6. Approved Equal
B. Membrane: 60 mil thick, conforming to ASTM D4637 and the following criteria:

PROPERTIES	TEST	RESULTS
Tensile Strength	ANSI/ASTM D412	1305 lbf. min
Elongation	ANSI/ASTM D412	350 min
Tear Strength	ASTM (D624)	175 lbf. Min.
Moisture Vapor - perms	ASTM E96	0.03 perms
Low Temperature Brittleness	ANSI/ASTM D746 -	-49

C. Seaming Materials and Flashings per Manufacturer's Warranty Standards.

2.03 ADHESIVE MATERIALS
A. Surface Conditioner: Type compatible with membrane, as required by manufacturer.
B. Membrane Adhesive: Type recommended by membrane manufacturer.

PART 3 - EXECUTION

3.01 PREPARATION
A. All steel not otherwise finished shall be shop primed with a coat of Tnemec #1009 Gray Metal Primer.
B. Where aluminum is used, coat backside and any surface in contact with concrete, masonry, mortar, plaster, other alkaline materials or dissimilar metals with heavy brush coat of alkali resistant bituminous paint.

3.02 INSTALLATION
A. Install thru-wall flashing as indicated over door and window heads, under stone sills and elsewhere as shown. Cut and bend at site to lengths permitting imbedding at least 6" into masonry joints on each side of openings. Follow manufacturer's directions.
B. Install two-piece metal flashing where roof adjoins vertical walls. Use "Colorklad". Build upper part into masonry. Rake joint back 3/4" for caulking. Cover joints between lengths of built-in piece with 3" wide cover strip. Install lower part of flashing

after roofing felts are laid; end lapping 2". Fasten to upper part of flashing with sheet metal screws. Pieces shall be not over 10'-0" long.

C. Provide a prefinished flashing over the termination bar at offsets in roof from roof edges to a minimum of 8' back from roof edge, for visual concealment of termination return from building approach by pedestrians.

3.03 ADJUST AND CLEAN

A. Take special precautions to prevent contact with corrosive or staining materials. At completion, remove all marks, stains, smudges, etc. Use commercial aluminum cleaner on aluminum.

END OF SECTION

**THIS PAGE IS
INTENTIONALLY LEFT BLANK**

SECTION 08 4113
ALUMINUM ENTRANCES AND STORE FRONTS

PART 1 -GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE
A. Unit Masonry: Section 04 2000.
B. Metal Fabrications: Section 05 5000.
C. Metal Doors and Frames: Section 08 1113.
D. Glazing: Section 08 8000.

1.02 SUBMITTALS
A. Submit Shop Drawings of all items specified herein to Architect for approval. Shop Drawings shall indicate elevations of all windows, full size sections, method of installation, details of construction and glazing, materials, etc.
B. Provide sample window for owner's approval prior to contract awarding.

1.03 SYSTEM DESCRIPTION
A. Storefront System Performance Requirements
1. Wind loads: Provide storefront system; include anchorage, capable of withstanding wind load design pressures of 20 lbs./sq. ft. inward and -16 lbs./sq. ft. outward. The design pressures are based on the IBC Building Code; 2006 Edition.
2. Air Infiltration: The test specimen shall be tested in accordance with ASTM E 283. Air infiltration rate shall not exceed 0.06 cfm/ft^2 (0.3 l/s · m^2) at a static air pressure differential of 6.24 psf (300 Pa).
3. Water Resistance: The test specimen shall be tested in accordance with ASTM E 331. There shall be no leakage at a minimum static air pressure differential of 8 psf (383 Pa) as defined in AAMA 501.
4. Uniform Load: A static air design load of 20 psf (958 Pa) shall be applied in the positive and negative direction in accordance with ASTM E 330. There shall be no deflection in excess of L/175 of the span of any framing member. At a structural test load equal to 1.5 times the specified design load, no glass breakage or permanent set in the framing members in excess of 0.2% of their clear spans shall occur.
5.. Deflection Normal to Wall Plane: Limited to edge of glass in a direction perpendicular to glass plane shall not exceed L/175 of the glass edge length for each individual glazing lite or an amount that restricts edge deflection of individual glazing lites to 3/4 inch , whichever is less.
6. Thermal Transmittance (U-factor): When tested to AAMA Specification 1503, the thermal transmittance (U-factor) shall not be more than:
   a. Per Iowa Green Street Criteria – Unit U-Factor of 0.31. Center of Glass – 0.29
7. Shading Coefficient:
   a. Per Iowa Green Street Criteria – SC - 0.68
8. Visible Light Transmittance
   a. Per Iowa Green Street Criteria - VLT – 0.79
9. Condensation Resistance (CRF): When tested to AAMA Specification 1503, the condensation resistance factor shall not be less than:
   a. Glass to Exterior – 70_{frame} and 69_{glass} (low-e) or 69_{frame} and 58_{glass} (clear).
   b. Glass to Center – 62_{frame} and 68_{glass} (low-e) or 63_{frame} and 56_{glass} (clear).
   c. Glass to Interior – 56_{frame} and 67_{glass} (low-e) or 54_{frame} and 58_{glass} (clear).
10. Sound Transmission Class (STC) and Outdoor-Indoor Transmission Class (OITC): When tested to AAMA Specification 1801 and in accordance with ASTM E1425 and ASTM E90, the STC and OITC Rating shall not be less than:
   a. Glass to Exterior – 38 (STC) and 31 (OITC)
   b. Glass to Center – 37 (STC) and 30 (OITC)
   c. Glass to Interior – 38 (STC) and 30 (OITC)

1.04 WARRANTY
A. The window manufacturer shall warrant that all material supplied in connection with the aluminum windows including the thermal barrier system, to be in accordance with the plans and specifications. The warranty shall be ten (10) years from the date of acceptance of shipment and cover all materials and workmanship. The window manufacturer shall repair or replace at the manufacturer's expense any materials or workmanship found to be defective under conditions of normal use during this period. The warranty shall further state that the parts used in the manufacture of the window, or suitable replacements, shall be available throughout the warranty period.
B. The thermal barrier manufacturer shall warrant that the thermal barrier as supplied and installed in the window shall have ten (10) year warranty from date of final acceptance of window assembly against failure resulting from thermal break shrinkage, longitudinal and transverse, structural failure of the thermal barrier material, or loss of adhesion, loss of prescribed edge pressure on the glass or other glazed materials, and resulting excessive air infiltration and/or water infiltration or required structural characteristics.

PART 2 -PRODUCTS

2.01 MATERIALS

A. Metal Curtain Wall, Window and Entrance Door Framing System: shall be Kawneer "451T" Thermal Framing System or approved equal manufacturer. Units shall be stationary, extruded aluminum as detailed on plans. Provide all necessary mullions, mutins, trims, pans, and accessories for complete installation. Equal systems by Tubelite, Manko, United States Aluminum, Efco.

B. Aluminum Doors Frames & Sidelights shall be Kawneer 350 Medium Stile door (welded corners) with 451T frames. The doors noted in item A. above shall be 451T frames, and 1" infill system frames, with stiles, rails, inserts, hinges, stops, LCN 4040 Super Smoothee closers, and weatherstripping etc., as detailed, or equal. Pulls on aluminum doors shall be Kawneer No. CO-9. Provide panic devices at all exterior aluminum doors with keyed cylinders at all aluminum doors. Key cylinders to match existing building system. Provide all accessories required for full operation. See Section 088000 Glazing for additional requirements. Equal systems by Tubelite, Manko, United States Aluminum, Efco.
   1. Door "C" at 1108 Central Ave. may have Kawneer #190 Narrow Stile as appropriate match to existing. Verify.

C. Aluminum extruded shapes shall be ASTM B 221; 6063-T6 alloy and temper.

D. Aluminum Sheets shall be alloy 55.

E. Aluminum Castings shall be Alloy 214.

F. Aluminum bolts, nets, etc., shall be Alloy 2024.

2.02 FINISH AND GLAZING

A. Aluminum finish shall be Kawneer No. #14 Clear Anodized, as dictated by the specific storefront renovation history. Door Pulls to match.

B. Glazing shall be 1" insulating low E glass, Clear tinted, argon filled, in locations indicated on plans. Exterior and interior lite shall be 1/4" tempered glass where glass is within 18" of floor and elsewhere where required by Code. See GLAZING Section 08 8000.
   a. Reference: ANSI Z97.1, CPSC 16 CFR 1201 and GANA Glazing Manual

PART 3 - EXECUTION

3.01 INSTALLATION

A. General: Install framing system in accordance with manufacturer's instructions and AAMA storefront and entrance guide specifications manual.
   1. Dissimilar Materials: Provide separation of aluminum materials from sources of corrosion or electrolytic action contact points.
   2. Weathertight Construction: Install sill members and other members in a bed of sealant or with joint filler or gaskets, to provide weathertight construction. Coordinate installation with wall flashings and other components of construction.
   3. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
   4. Provide alignment attachments and shims to permanently fasten system to building structure.
   5. Align assembly plumb and level, free of warp and twist. Maintain assembly dimensional tolerances aligning with adjacent work.

B. Set frames accurately in correct locations. Plumb, align and brace securely until permanent anchors are set. Anchor bottoms of frames to floors or masonry with expansion bolts or power fasteners. Build wall anchors into walls or secure to adjoining construction as indicated, with not less than three anchors per jamb.

3.02 PROTECTION AND CLEAN

A. Protection: Protect installed product's finish surfaces from damage during construction. Protect aluminum storefront system from damage from grinding and polishing compounds, plaster, lime, acid, cement, or other harmful contaminants.

B. Cleaning: Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris.

END OF SECTION

SECTION 087100
DOOR HARDWARE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes commercial door hardware for the following:
   1. Swinging doors.
   2. Other doors to the extent indicated.

B. Door hardware includes, but is not necessarily limited to, the following:
   1. Mechanical door hardware.
   2. Electromechanical door hardware.
   3. Automatic operators.
   4. Cylinders specified for doors in other sections.

C. Related Sections:
   1. Division 08 Section “Door Hardware Schedule”.
   2. Division 08 Section “Hollow Metal Doors and Frames”.
   3. Division 08 Section “Flush Wood Doors”.
   4. Division 08 Section “Automatic Door Operators”.
   5. Division 08 Section “Access Control Hardware”.

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
   1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
   2. ICC/IBC - International Building Code.
   3. NFPA 70 - National Electrical Code.
   4. NFPA 80 - Fire Doors and Windows.
   5. NFPA 101 - Life Safety Code.
   6. NFPA 105 - Installation of Smoke Door Assemblies.
   7. UL/ULC and CSA C22.2 – Standards for Automatic Door Operators Used on Fire and Smoke Barrier Doors and Systems of Doors.
   8. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards:
   1. ANSI/BHMA Certified Product Standards - A156 Series
   2. UL10C – Positive Pressure Fire Tests of Door Assemblies

1.03 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
   1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
   2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
   3. Content: Include the following information:
      a. Type, style, function, size, label, hand, and finish of each door hardware item.
      b. Manufacturer of each item.
      c. Fastenings and other pertinent information.
      d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
      e. Explanation of abbreviations, symbols, and codes contained in schedule.
      f. Mounting locations for door hardware.
      g. Door and frame sizes and materials.

h. Warranty information for each product.

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Shop Drawings: Details of electrified access control hardware indicating the following:

1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:
   a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
   b. Complete (risers, point-to-point) access control system block wiring diagrams.
   c. Wiring instructions for each electronic component scheduled herein.
2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.

D. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

E. Informational Submittals:

1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals.

1.04 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

D. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.

1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.

E. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

F. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:

1. Function of building, purpose of each area and degree of security required.
2. Plans for existing and future key system expansion.
3. Requirements for key control storage and software.
4. Installation of permanent keys, cylinder cores and software.
5. Address and requirements for delivery of keys.

G. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and

wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.

2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
3. Review sequence of operation narratives for each unique access controlled opening.
4. Review and finalize construction schedule and verify availability of materials.
5. Review the required inspecting, testing, commissioning, and demonstration procedures

H. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.06 COORDINATION

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.

C. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.07 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of the hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
4. Electrical component defects and failures within the systems operation.

C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.

D. Special Warranty Periods:

1. Ten years for mortise locks and latches.
2. Five years for exit hardware.
3. Twenty five years for manual surface door closer bodies.
4. Five years for motorized electric latch retraction exit devices.
5. Two years for electromechanical door hardware.

1.08 MAINTENANCE SERVICE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.01 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced

section that products are to be supplied under.

B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
   1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.02 HANGING DEVICES

A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles as specified in the Door Hardware Sets.
   1. Quantity: Provide the following hinge quantity, unless otherwise indicated:
      a. Two Hinges: For doors with heights up to 60 inches
      b. Three Hinges: For doors with heights 61 to 90 inches
      c. Four Hinges: For doors with heights 91 to 120 inches
      d. For doors with heights more than 120 inches provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches
   2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
      a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
      b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.
   3. 3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
      a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
      b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
   4. Hinge Options: Comply with the following where indicated in the Hardware Sets or on Drawings:
      a. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.
   5. Acceptable Manufacturers:
      a. McKinney Products, ASSA ABLOY Architectural Door Accessories (MK).
      b. Stanley Hardware (ST) – CB Series.

B. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 certified continuous geared hinge. with minimum 0.120-inch thick extruded 6060 T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.
   1. Acceptable Manufacturers:
      a. Penko Products, ASSA ABLOY Architectural Door Accessories (PE).
      b. Bommer Industries (BO).

2.03 POWER TRANSFER DEVICES

A. Concealed Quick Connect Electric Power Transfers: Provide concealed wiring pathway housing mortised into the door and frame for low voltage electrified door hardware. Furnish with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.
   1. Acceptable Manufacturers:
      a. Pemko Manufacturing (PE) – EL-CEPT Series.
      b. Securitron (SU) - EL-CEPT Series.

B. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.

1. Provide one each of the following tools as part of the base bid contract:
   a. McKinney Products (MK) - Electrical Connecting Kit: QC-R001.
   b. McKinney Products (MK) - Connector Hand Tool: QC-R003.
2. Acceptable Manufacturers:
   a. McKinney Products (MK) – QC-C Series.

2.04 DOOR OPERATING TRIM

A. Flush Bolts and Surface Bolts: ANSI/BHMA A156.3 and A156.16, Grade 1, certified.
1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
2. Furnish dust proof strikes for bottom bolts.
3. Surface bolts to be minimum 8” in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.
5. Acceptable Manufacturers:
   a. Rockwood Manufacturing (RO).
   b. Trimco (TC).

2.05 CYLINDERS AND KEYING

A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.

C. Cylinders: Original manufacturer cylinders complying with the following:
1. Mortise Type: Threaded cylinders with rings and cams to suit hardware application.
2. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
3. Bored-Lock Type: Cylinders with tailpieces to suit locks.
4. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
5. Keyway: Match Facility Standard.

D. Patented Cylinders: ANSI/BHMA A156.5, Grade 1, certified cylinders employing a utility patented and restricted keyway requiring the use of patented controlled keys. Provide bump resistant, fixed core cylinders as standard with solid recessed cylinder collars. Cylinders are to be factory keyed where permanent keying records will be established and maintained.
1. Provide a 6 pin multi-level master key system comprised of patented controlled keys and security and high security cylinders operated by one (1) key of the highest level. Geographical exclusivity to be provided for all security and high security cylinders and UL437 certification where specified.
   a. Level 1 Cylinders: Provide utility patented controlled keyway cylinders that are furnished with patented keys available only from authorized distribution.
2. Manufacturers:
   a. Sargent Manufacturing (SA) - Degree Series.
   b. Corbin Russwin (RU) – Access 3 Series.

E. Keying System: Each type of lock and cylinders to be factory keyed.
1. Conduct specified "Keying Conference" to define and document keying system instructions and requirements.
2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
3. Existing System: Key locks to Owner's existing system.

F. Key Quantity: Provide the following minimum number of keys:
1. Change Keys per Cylinder: Two (2)
2. Master Keys (per Master Key Level/Group): Five (5).
3. Construction Keys (where required): Ten (10).

G. Construction Keying: Provide construction master keyed cylinders.

H. Key Registration List (Bitting List):
1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

I. Key Control Cabinet: Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet. Key control cabinet shall have expansion capacity of 150% of the number of locks required for the project.

1. Acceptable Manufacturers:
    a. Lund Equipment (LU).
    b. MMF Industries (MM).
    c. Telkee (TK).

2.06 MECHANICAL LOCKS AND LATCHING DEVICES

A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 certified. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.
    1. Extended cycle test: Locks to have been cycle tested in ordinance with ANSI/BHMA 156.13 requirements to 10 million cycles.
    2. Acceptable Manufacturers:
        a. Sargent Manufacturing (SA) – 8200 Series.
        b. Corbin Russwin Hardware (RU) – ML200 Series.

B. Multi-Point Locksets: Vertical rod locking devices designed for openings requiring multiple latching points within one locking mechanism. Rods are retracted by dual mounted outside lever trim controls available in a variety of ANSI/BHMA operational functions. Option for single top latching only eliminates the need for bottom strikes.
    1. Manufacturers:
        a. Corbin Russwin Hardware (RU) – MP9800 Series.
        b. Sargent Manufacturing (SA) - 7000 Series.

2.08 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
    1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
    2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
    3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
    4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:
    1. Strikes for Mortise Locks and Latches: BHMA A156.13.
    2. Strikes for Bored Locks and Latches: BHMA A156.2.
    3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
    4. Dustproof Strikes: BHMA A156.16.

2.09 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:
    1. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
    2. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer’s catalog and template book for specific requirements.
    3. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
    4. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
    5. Energy Efficient Design: Provide lock bodies which have a holding current draw of 15mA maximum, and can operate on either 12 or 24 volts. Locks are to be field configurable for fail safe or fail secure operation.
    6. Electromechanical Options: Subject to same compliance standards and requirements as mechanical exit devices, electrified devices to be of type and design as specified in hardware sets. Include any specific controllers when conventional power supplies are not sufficient to provide the proper inrush current.
    7. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.
        a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.

b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.

8. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
9. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
10. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
11. Extended cycle test: Devices to have been cycle tested in ordinance with ANSI/BHMA 156.3 requirements to 9 million cycles.
12. Rail Sizing: Provide exit device rails factory sized for proper door width application.
13. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 certified panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Exit device latch to be stainless steel, pullman type, with deadlock feature.
1. Acceptable Manufacturers:
a. Sargent Manufacturing (SA) - 80 Series.
b. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.

2.10 DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:
1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.
2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
3. Cycle Testing: Provide closers which have surpassed 15 million cycles in a test witnessed and verified by UL.
4. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.
5. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
6. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
7. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (Large Body Cast Iron): ANSI/BHMA A156.4, Grade 1 surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control.
1. Acceptable Manufacturers:
a. Norton Door Controls (NO) – 9500 Series.
b. Sargent Manufacturing (SA) - 281 Series.
c. Corbin Russwin Hardware (RU) - DC8000 Series.

2.12 ARCHITECTURAL TRIM

A. Door Protective Trim
1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
3. Where plates are applied to fire rated doors with the top of the plate more than 16" above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer's catalog and template book for specific requirements for size and applications.
4. Protection Plates: ANSI/BHMA A156.6 certified protection plates (kick, armor, or mop), fabricated from the following:
a. Stainless Steel: 300 grade, 050-inch thick.

5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
6. Manufacturers:
    a. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
    b. Trimco (TC).

2.12 DOORSTOPS AND HOLDERS

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
1. Acceptable Manufacturers:
    a. Rockwood Manufacturing, ASSA ABLOY Architectural Door Accessories (RO).
    b. Trimco (TC).

C. Overhead Door Stops and Holders: ANSI/BHMA A156.6, Grade 1 certified overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.
1. Acceptable Manufacturers:
    a. Rixson Door Controls (RF).
    b. Sargent Manufacturing (SA).

2.13 ARCHITECTURAL SEALS

A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.
1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.

D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

F. Acceptable Manufacturers:
1. Pemko Manufacturing (PE).
2. Reese Enterprises, Inc. (RE).

2.14 ELECTRONIC ACCESSORIES

A. Door Position Switches: Door position magnetic reed contact switches specifically designed for use in commercial door applications. On recessed models the contact and magnetic housing snap-lock into a 1" diameter hole. Surface mounted models include wide gap distance design complete with armored flex cabling. Provide SPDT, N/O switches with optional Rare Earth Magnet installation on steel doors with flush top channels.
1. Acceptable Manufacturers:
    a. Securitron (SU) - DPS Series.

B. Power Supplies: Provide Nationally Recognized Testing Laboratory Listed 12VDC or 24VDC (field selectable) filtered and regulated power supplies. Include battery backup option with integral battery charging capability in addition to operating the DC load in event of line voltage failure. Provide the least number of units, at the appropriate amperage level, sufficient to exceed the required total draw for the specified electrified hardware and access control equipment.
1. Acceptable Manufacturers:
    a. Securitron (SU) - BPS Series.

2.15 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.16 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.02 PREPARATION

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.03 INSTALLATION

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
   1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
   1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
   2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
   3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
   4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.04 FIELD QUALITY CONTROL

A. Field Inspection: Supplier will perform a final inspection of installed door hardware and state in report whether work complies with or deviates from requirements, including whether door hardware is properly installed, operating and adjusted.

3.05 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.06 CLEANING AND PROTECTION

A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
B. Clean adjacent surfaces soiled by door hardware installation.
C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.07 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.08 DOOR HARDWARE SETS

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
B. The supplier is responsible for handing and sizing all products and providing the correct option for the appropriate door type and material where more than one is presented in the hardware sets. Quantities listed are for each pair of doors, or for each single door.
C. Manufacturer's Abbreviations:
D. Legend
1. MK – McKinney
2. RF – Rixson
3. RO – Rockwood
4. SA – Sargent
5. SU – Securitron
6. VD – Von Duprin
7. HS – HES
8. LC – LCN Closers
9. HO – Horton Automatics
10. IV – Ives
11. PE – Pemko
12. TC - Trimco

Address 107 S. Broadway. Drawing A420.107
Door "**A**" - Embossed Steel Door w/glass.

3	Hinges	TA2714 4 1/2 X 4 1/2 NRP	26D	MC
1	Entry Lock	11 8256 LNJ	26D	SA
1	Closer	351 P9	EN	SA
1	Kick Plate	KO 050 10" x 34" B4E C-SUNK-KP	630	TR
1	Surf Overhead Stop	9-X36	630	RF
1	Gasketing	S88 BL 17'		PE
1	Threshold	253x3AFG		PE
1	Rain Guard	346A TKSP8		PE
1	Sweep	3452CNB TKSP8		PE

Verify actual hardware requirements with the building Owner and the Architect. Verify and coordinate desired finishes with existing conditions.

Address 115 South Broadway. Drawing A420.115
Door "**A**" - Wood. Door w/glass.

3	Hinges	BT-TA2714 4 1/2 X 4 1/2 NRP	10BE/613E	MC
1	Entry Lock	11 8256 TE(Escu)-T1(Thumb) – MY(lever)	613E	SA
1	Closer	351 P9	10BE	SA
1	Kick Plate	KO 050 10" x 34" B4E C-SUNK-KP	613	TR
1	Surf Overhead Stop	9-X36	613E	RF
1	Gasketing	S88 BL 17'		PE
1	Threshold	253x3AFG		PE
1	Rain Guard	346A TKSP8		PE
1	Sweep	3452CNB TKSP8		PE

Address: 119 South Broadway. Drawing A420.119
Door "**A**", - Aluminum Door.

1	Continuous Hinge	CFM83SLI-HD1 x Height Required		PE
1	Entry Lock	11 8256 LNJ	26D	SA
1	Closer	351 P9	EN	SA
1	Surf Overhead Stop	9-X36	630	RF
1	Gasketing	S88 BL 17'		PE
1	Threshold	253x3AFG		PE
1	Rain Guard	346A TKSP8		PE
1	Sweep	3452CNB TKSP8		PE

Verify actual hardware requirements with the building Owner and the Architect. Verify and coordinate desired finishes with existing conditions.

Address 121 South Broadway. Drawing A420.121
Door "**A**" - Double Aluminum Door.

2	Continuous Hinge	CFM83SLI-HD1 x Height Required		PE
1	CVR Exit Device (nightlatch)	DG1 AD8410 106	US32D	SA
1	Exit Device (exit only)	AD8410	US32D	SA
2	Pull	RM201 Mtg-Type 1XHD	US32D	RO
2	Surf Overhead Stop	9-X36	630	RF
2	Door Closer	281 P10	EN	SA
2	Drop Plate	281D	EN	SA
2	Blade Stop Spacer	581-2	EN	SA
1	Threshold	253x3AFG		PE
1	Rain Guard	346A TKSP8		PE
2	Sweep	3452CNB TKSP8		PE

Verify actual hardware requirements with the building Owner and the Architect. Verify and coordinate desired finishes with existing conditions.

Address 201South Broadway. Drawing A420.201
Door "**A and 6**" - Wood. Door w/glass.

3	Hinges	TA2714 4 1/2 X 4 1/2 NRP	26D	MC
1	Entry Lock	11 8256 LNJ	26D	SA
1	Closer	351 P9	EN	SA
1	Kick Plate	KO 050 10" x 34" B4E C-SUNK-KP	630	TR
1	Surf Overhead Stop	9-X36	630	RF
1	Gasketing	S88 BL 17'		PE
1	Threshold	253x3AFG		PE
1	Rain Guard	346A TKSP8		PE
1	Sweep	3452CNB TKSP8		PE

Verify actual hardware requirements with the building Owner and the Architect. Verify and coordinate desired finishes with existing conditions.

Address 203 South Broadway. Drawing A420.203
Door "**A and B**" - Wood Door w/glass.

3	Hinges	TA2714 4 1/2 X 4 1/2 NRP	26D	MC
1	Entry Lock	11 8256 LNJ	26D	SA
1	Closer	351 P9	EN	SA
1	Kick Plate	KO 050 10" x 34" B4E C-SUNK-KP	630	TR
1	Surf Overhead Stop	9-X36	630	RF
1	Gasketing	S88 BL 17'		PE
1	Threshold	253x3AFG		PE
1	Rain Guard	346A TKSP8		PE
1	Sweep	3452CNB TKSP8		PE

Verify actual hardware requirements with the building Owner and the Architect. Verify and coordinate desired finishes with existing conditions.

Address 208 South Broadway. Drawing A420.208
Door "**A**" - H.M. Door and frame.

3	Hinges	TA2714 4 1/2 X 4 1/2 NRP	26D	MC
1	Entry Lock	11 8256 LNJ	26D	SA
1	Closer	351 P9	EN	SA
1	Kick Plate	KO 050 10" x 34" B4E C-SUNK-KP	630	TR
1	Surf Overhead Stop	9-X36	630	RF
1	Gasketing	S88 BL 17'		PE
1	Threshold	253x3AFG		PE
1	Rain Guard	346A TKSP8		PE
1	Sweep	3452CNB TKSP8		PE

Verify actual hardware requirements with the building Owner and the Architect. Verify and coordinate desired finishes with existing conditions.

Address: 209 South Broadway. Drawing A420.209
Door "**A**", - Aluminum Door.

1	Continuous Hinge	CFM83SLI-HD1 x Height Required		PE
1	Entry Lock	11 8256 LNJ	26D	SA
1	Closer	351 P9	EN	SA
1	Surf Overhead Stop	9-X36	630	RF
1	Gasketing	S88 BL 17'		PE
1	Threshold	253x3AFG		PE
1	Rain Guard	346A TKSP8		PE
1	Sweep	3452CNB TKSP8		PE

Verify actual hardware requirements with the building Owner and the Architect. Verify and coordinate desired finishes with existing conditions.

Address 220 South Broadway. Drawing A420.220
Door "**A**" - H.M. Door and frame.

3	Hinges	TA2714 4 1/2 X 4 1/2 NRP	26D	MC
1	Entry Lock	11 8256 LNJ	26D	SA
1	Closer	351 P9	EN	SA
1	Kick Plate	KO 050 10" x 34" B4E C-SUNK-KP	630	TR
1	Surf Overhead Stop	9-X36	630	RF
1	Gasketing	S88 BL 17'		PE
1	Threshold	253x3AFG		PE
1	Rain Guard	346A TKSP8		PE
1	Sweep	3452CNB TKSP8		PE

Verify actual hardware requirements with the building Owner and the Architect. Verify and coordinate desired finishes with existing conditions.

END OF SECTION

SECTION 08 8000
GLAZING

PART 1 - GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE
A. Metal Doors and Frames: Section 08 1113.
B. Aluminum Entrance and Store Front: Section 08 4113.

1.02 QUALITY ASSURANCE
A. All glass shall be graded in accordance with Federal Specification DD-G-4512 for the type specified and shall bear manufacturer's label denoting quality.
B. Glazing Sub shall be responsible to dispose of demo and waste in a responsible manner. Recycling of aluminum and glass shall be recycled to the greatest extent possible. Contact Iowa Waste Exchange representative, Ben Kvigne,229 E. Park Ave, Waterloo, IA 50703 Ph (319) 235-0311 ext. 131 Fax: (319) 235-2891 bkvigne@inrcog.org

1.03 DEFINITIONS
A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.
B. Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.
C. Interspace: Space between lites of an insulating-glass unit.

1.04 PERFORMANCE REQUIREMENTS
A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.
   1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

1.05 SUBMITTALS
A. Product Data: For each glass product and glazing material indicated.
B. Samples: 12-inch- square, for each type of glass product indicated, other than monolithic clear float glass.
C. Glazing Schedule: Use same designations indicated on Drawings.
D. Preconstruction Adhesion and Compatibility Test Report: From glazing sealant manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING
A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.
B. Comply with insulating-glass manufacturer's written recommendations for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.07 PROJECT CONDITIONS
A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.
   1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or below 40 deg F (4.4. deg C).

1.08 GUARANTEE
A. Mirrors shall have a five year warrantee against silver spoilage.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Glass not otherwise noted or specified shall be 3/16" sheet glass, Federal Specification DD-G451A or approved equal.

B. Insulating Glass:
   1. 1" thick Low E 180, clear, argon filled insulating glass (Unit U-Factor 0.31, COG U-Factor 0.29, Shading Coefficient 0.68, Visible Transmittance 0.79) or approved by Iowa Green Streets Criteria.

C. Insulating Spandrel Glass shall be 1" overall thickness insulated tempered glass, opaque Solargray color. Submit samples. Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190, and complying with other requirements specified.
   1. Sealing System: Dual seal, with manufacturer's standard polyisobutylene primary and manufacturer's standard secondary.
   2. Spacer: Mill Finish Aluminum.
   3. Desiccant: Molecular sieve or silica gel, or blend of both.
   4. Gas: Argon

D. Plate Glass & Tempered Glass shall be 1/4" thick**.**

E. Glazing Compound VOC Content: For sealants used inside of the weatherproofing system, not more than 250 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24). For face glazing shall be Pecora M-242 or approved equal, conforming to Interim Federal Specification TT-G-00410C and to Federal Specification TT-P-781A, Type 1, as well as VOC requirements.

2.02 INSULATING GLASS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Viracon
   2. Insulite
   3. Lisec
   4. Oldcastle Building Envelope
   5. Sanxin

2.03 SILVERED FLAT GLASS MIRRORS

A. Tempered Glass Mirrors: Mirror Glazing Quality for blemish requirements and complying with ASTM C 1048 for Kind FT, Condition A, tempered float glass before silver coating is applied. Nominal Thickness – ¼".

2.04 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.

D. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

F. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

G. Perimeter Insulation for Fire-Resistive Glazing: Product that is approved by testing agency that listed and labeled fire-resistant glazing product with which it is used for application and fire-protection rating indicated.

2.05 FABRICATION OF GLAZING UNITS

A. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

B. Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.

C. Grind smooth and polish exposed glass edges and corners.

PART 3 - EXECUTION

3.01 INSPECTION

A. Inspect all sash, etc., to be glazed and notify Architect of defects or improper materials or workmanship which will affect satisfactory glass installation. Do not proceed until such conditions have been corrected.

3.02 PREPARATION

A. Glass and rabbets shall be thoroughly cleaned prior to glazing. Prime wood and ferrous metal.

B. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

C. Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that will leave visible marks in the completed work.

3.03 INSTALLATION

A. Center glass to maintain proper clearances to perimeter on all four sides. Provide setting blocks or spacer shims as required.

B. For Stop Bead Glazing, apply glazing compound uniformly in glazing rabbet (back putty) so it will ooze out when glass is pressed into position. Secure glass in place by application of stop beads or snap-in glazing beads. Bed beads against glass and bottom of rabbet with glazing compound leaving proper thickness between glass and stops or beads. Secure stops in place with suitable fastenings, strip surplus compound from both sides of glass and tool at slight angle to shed water and provide clean sight lines.

C. For Face Glazing, back putty as specified above. Secure glass with glazing points or metal clips. Face putty with compound to form a smooth neat bevel 1/16" short of sight line sloping away from glass. Miter bevel corners. Strip all excess compound.

3.04 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Adjust glazing channel dimensions as required by Project conditions during installation to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.

C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.

D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.

E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

G. Provide spacers for glass lites where length plus width is larger than 50 inches (1270 mm).
   1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
   2. Provide 1/8-inch (3-mm) minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

I. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

J. Set glass lites with proper orientation so that coatings face exterior or interior as specified.

3.05 CLEANING AND PROTECTION

A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer.

C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains; remove as recommended in writing by glass manufacturer.

D. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.

E. Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

3.06 ADJUST AND CLEAN

A. At completion of work, all glass shall be free from cracks and other defects not allowed by the Specifications. Any defective glass that may appear before acceptance or within one year warranty period (that is a direct result of manufacturing, transporting or performance of the Contractor), shall be removed and replaced with new glass without cost to the Owner.

B. After glazing, remove all putty, compounds or sealants from patterned glass or rough finish glass before it hardens. Remove excess sealants from glass and adjoining surfaces during working time of material.

C. At completion of the Work, Contractor shall thoroughly clean all glass, removing all glazing or putty stains, paint spots or smears and other materials.

END OF SECTION

SECTION 09 2900
GYPSUM WALLBOARD

PART 1 - GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Rough Carpentry: Wood blocking products and execution requirements – Section 06 1000
B. Insulation – Section 07 2000
C. Metal Doors and Frames: Section 08 1113.
D. Painting: Section 09 9100.

1.02 SUBMITTALS

A. Product Data: For each type of product indicated.

1.03 QUALITY ASSURANCE

A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver materials in original wrappings and carton with seals intact.
B. Stockpile wallboard at project flat on floors. Leave in original wrappings or containers until ready for use. Protect wallboard from moisture damage.
C. Transport wallboard to protect against physical damage.
D. Store adhesives in dry area, provide protection against freezing at all times.

1.05 JOB CONDITIONS

A. During cold weather, in areas receiving wallboard installation, maintain temperature range between 55 degrees to 70 degrees F. for 24 hours before, during, and after gypsum wallboard and joint treatment application.
B. Provide ventilation during and following adhesives and joint treatment applications. Use temporary air circulators in enclosed areas lacking natural ventilation.
C. Under slow drying conditions, allow additional drying time between coats of joint treatment.
D. Protect installed materials from drafts during hot, dry weather. Protect adjacent surfaces against damage and stains.

PART 2 – PRODUCTS

2.01 RECYCLED CONTENT OF GYPSUM PANELS

A. Provide gypsum panel products with recycled content such that postconsumer recycled content plus one-half of preconsumer recycled content constitutes a minimum of 20 percent by weight.

2.02 MATERIALS

A. Wallboard shall be 5/8" thick, USG SheetRock Mold Tough gypsum panels with Eased-SW edges. Type-X Fire rated where required.
   1. Approved equal.
      a. Georgia-Pacific ToughRock Mold-Guard
      b. National Gypsum Gold Bond Brand XP
B. Water-Resistant Wallboard shall be G-P 5/8" "DensShield" type where exposed to water damage (shower ceilings, toilets, utility rooms, etc.). Wallboard shall be furnished in lengths sufficient to extend from floor to ceiling in one piece.
   1. Approved equal
      a. USG FiberRock Aqua-Tough.
B. Cementitious Backer Board (Wetboard) behind and under non-radiant TILE finish, ANSI A118.9 and ASTM C 1288 or 1325, with manufacturer's standard edges. Install ¼" board behind/under existing wall/floor subsurface condition and 5/8" board in new wall sheathing conditions. See drawings for application to this project.
   1. CertainTeed Corp.; FiberCement Underlayment, BackerBoard.
   2. James Hardie Building Products, Inc.; Hardiebacker.
   3. National Gypsum Company, Permabase Cement Board.
   4. USG Corporation; DUROCK Cement Board.
B. Exterior Sheathing – See Section 06 1600 Sheathing.
C. Sound Attenuation Blankets: for sound partitions shall be as specified in Section 07 2000.
D. Screws shall be type for wallboard to metal framing application.
E. Accessories & Furring Channels shall be as specified in Section 054000.
F. Laminating Adhesives and joint compound shall be in accordance with wallboard manufacturers recommendations.

PART 3 - EXECUTION

3.01 INSPECTION

A. Check framing for accurate spacing and alignment. Verify that frames are set for thickness of wallboard to be used.

B. Do not proceed with installation of wallboard until deficiencies are corrected and surfaces to receive wallboard are acceptable. Protrusions of framing, twisted framing members, or unaligned members must be repaired before installation of wallboard is started.

3.02 APPLICATION

A In general, use wallboard of sufficient length to extend from floor to ceiling in one piece. Stagger joints on opposite sides of partitions. Abut wallboard without forcing. Neatly fit ends and edges of wallboard. Do not place butt ends against tapered edges. Support ends and edges of wallboard panels on framing or furring members.

B. For single layer application apply "Firecode" at right angles to studs using screws spaced 8" o.c. at joints and 12" o.c. in field with 3/8" minimum edge clearance. Stagger screws at adjoining edges.

C. For double layer application, (fire and sound resistant partitions) apply base layer specified similar to above. Apply 5/8" thick "Firecode" face layer over base, staggering joints from base layer and on opposite sides of partitions. Laminate face layer to base layer with adhesive and screw through base layer into studs with screws spaced similar to above.

D. Install sound attenuating blanket in stud spaces of sound resistant partitions. Extend full height of partition. Sound resistant partitions shall extend from floor to roof trusses.

E. Install expansion and control joints as indicated and/or required to control cracking.

F. Caulk perimeter joints of sound resistant partitions at floors, ceilings, partition penetrations, etc., using USG Acoustical Sealant in accordance with manufacturer's directions.

G. To avoid moisture wicking, undercut outer layer of gypsum wallboard by ½" at base and caulk with moisture resistant caulk that meets fire rating for walls.

3.03 FINISHING

A. Finish screw heads and joints with joint compound and perforated paper tape as recommended by wallboard manufacturer. Install metal corner beads at all exterior corners and metal trim wherever exposed edges of wallboard occur. (Use USG "Per-a-Tape", or "Dur-a-Bead", and 200 Series Metal Trim or approved equal).

B. Where water-resistant wallboard is required, coat wallboard edges, ends, and fastener heads as recommended by wallboard manufacturer.

C. Walls and ceilings shall be finished smooth if exposed for painting.

END OF SECTION

Mason City Historic Preservation Commission
Work Plan – February 2025 – June 2026

- Develop a public education program, to be deployed on the Commission's web page, for the citizens of Mason City to address the most frequent questions we receive: Why is preservation important? What should I consider when rehabbing my historic building? Are there financial incentives for historic preservation? How do I find a qualified preservation tradesperson?
- Recognize architects and builders who have impacted the built environment in Mason City.
- Partner with the MacNider Art Museum on an exhibit highlighting design in mason City.
- Reactivate the Suzie Q Cafe
- Work with the Save St. John's Committee to advocate for the restoration and adaptive reuse of St. John's Baptist Church.
- Edit and digitally publish an update of "Mason City, Iowa-An Architectural Heritage" and deploying a web-based version of the book. Specific focus in this year will be identifying lost structures and structures that should be included.
- Continue the quarterly collaboration meetings with other history and preservation-focused groups in the County.
- Identify structures and building elements to be included in the "Frankly, there's more…" campaign that highlights the unique historic structures and features found in Mason City. The campaign will include online elements, video, photography and print materials. A primary resource will be the SHPO database of structures that have been evaluated for historic value. Examples include the Nick Netzel houses; residential and commercial structures designed E.R. Bogardus; the Bob White fused-glass installations; the Waggoner and Waggoner mid-century modern structures; Prairie School structures outside of the Rock Crest-Rock Glen Historic District; and the Forest Park Historic District.
- Continue to advocate for the relocation and rehabilitation and adaptive reuse of the Milwaukee Road Depot.
- Educate property owners of regulated buildings in the Z5 Central Business Zoning Districts about the process to obtain a Certificate of Appropriateness, when required, from the Commission.
- Complete an intensive level survey of Mason City's downtown to identify resources that may be included in the Downtown Historic District in a future district amendment (pending CLG funding).
- Initiate the process to have the Rock Crest-Rock Glen Historic District designated as a National Historic Landmark.
- Issue an RFP for the adaptive reuse of Engine House #2.