

3/4/2024

CDS
Attn: Kyle Osterhart AIA
800 E. Ellis Rd.
Norton Shores, MI 49441
Ph: 231-799-4838

Job Name: Brewster Wheeler Recreation Center
Job Location: 637 Brewster Ave.

HISTORIC WINDOW SITE REVIEW:

BlackBerry Systems is providing the following information to review the existing condition of windows on the Brewster Wheeling Recreation Center. This is based on two site visits and discussion with Kyle Osterhart architect on the project from CDS. One of the site visits included a walk through with the architect. The information included follow the guidelines from the NPS and SHPO offices. Our review and recommendations are also based on over 30 years of historic window restoration and replication experience and over 80 Federal Historic Tax Credit projects completed. Please be aware that all work may require approval prior to proceeding from NPS, SHPO, and the local HDC.

Hot Rolled Steel Windows: (8) Openings @ 850 Sq. Ft. of window area.

These existing windows are in "Poor and Failing Condition". In our inspection all windows are heavily corroded, both on the exterior and interior surfaces. Glazing compound has fully failed and over 50% of the glazing is broken or has fallen out. Perimeter caulking has fully failed allowing constant water penetration into the building and masonry cavity. Because of the decades of exposure to the weather with little of no protection the steel frames have excessive separation at joinery and bent and warped components as well as sill rails deterioration. Structural mullions embedded in the masonry sills have failed requiring full replacement as well as masonry sill repair and replacement. Because of the overall failure of the existing steel frames and components the only recommendation if a full replacement of all windows with an historic replica product.

We would recommend a Thermally Broken Aluminum window product designed to replicate the hot rolled narrow line steel window. We suggest the Quaker H450 Series or an equal product. This product has been approved on numerous historic and tax credit projects both in Michigan and throughout the country. Our budget pricing allows for the design, shop drawings, material and installation.

Wood Double Hung and Fixed Windows: (74) Openings, @ 1,700 Sq. Ft.

These windows were present in both the administrative area in the Gymnasium Building and throughout the Library Building. Over 95% of these original openings no longer had any of the original (no any window) windows in the opening having been previously removed. The few exceptions to this are some below grade windows in the Library Building. Of these, 3 existing windows provided us with details to document to provide suggested details for replication. Obviously, with all windows removed and the few left have full "Failure " the of all wood components these window will need full replication.

We recommend a Thermally Broken Aluminum Hung window product designed to replicate the existing wood double hung windows including mullions, exterior casing, sill, frame, and sashes. We would suggest the Quaker H650 SH historic replica or equal window. This product has likewise been approved on previous historic projects.

Proposed details for both these suggested products has been previously been provided.

Please contact us with any questions or concerns.

Sincerely,

____MKS_____

**Michael K Shields
President**

____3/4/20214_____

Date

Subject: BREWSTER WHEELER

Date: 12/22/23

Field Sketch
Wood Double Hung
Existing

JAMB DETAIL

B-1

1 3/4"

1"

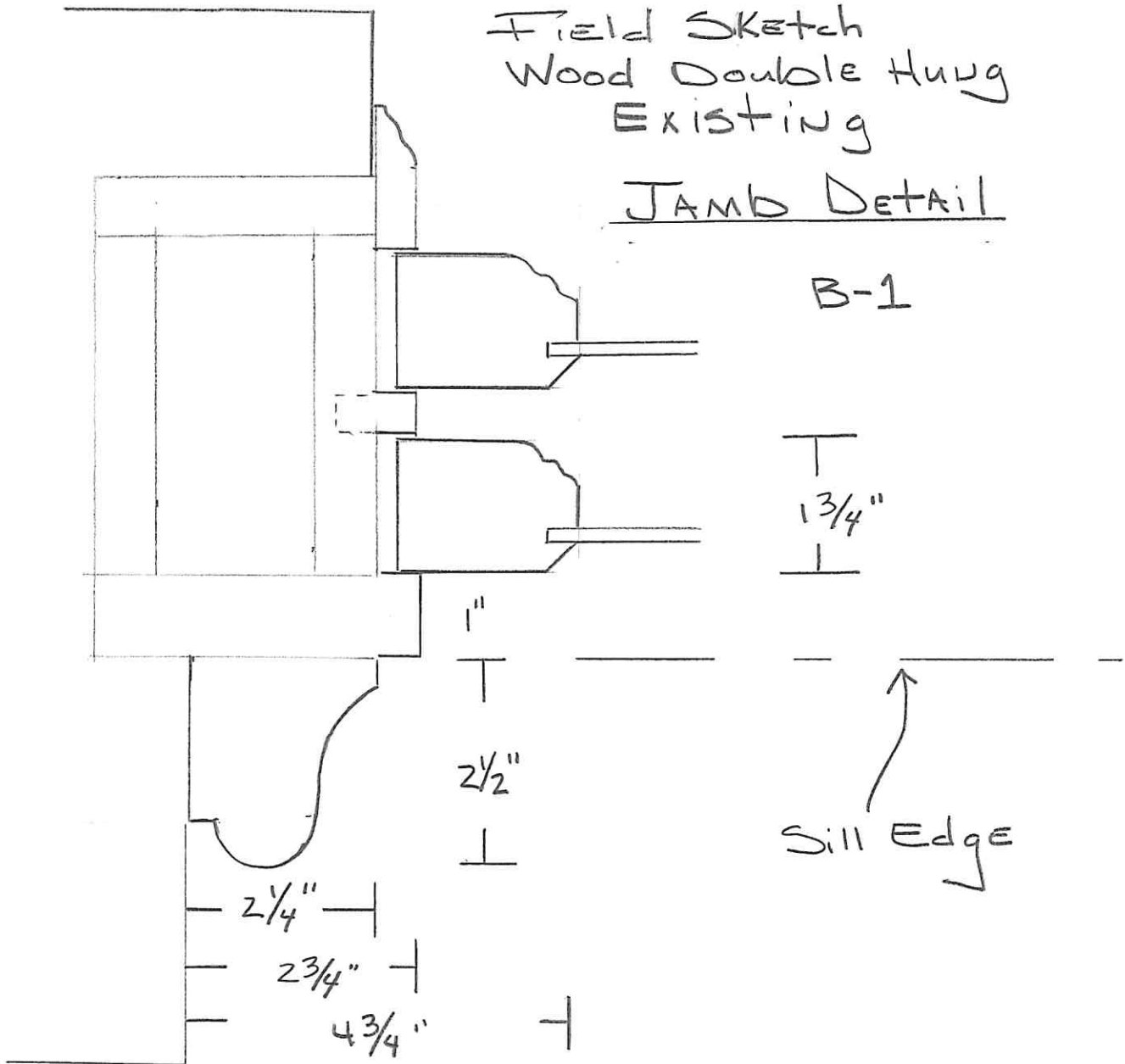
2 1/2"

2 1/4"

2 3/4"

4 3/4"

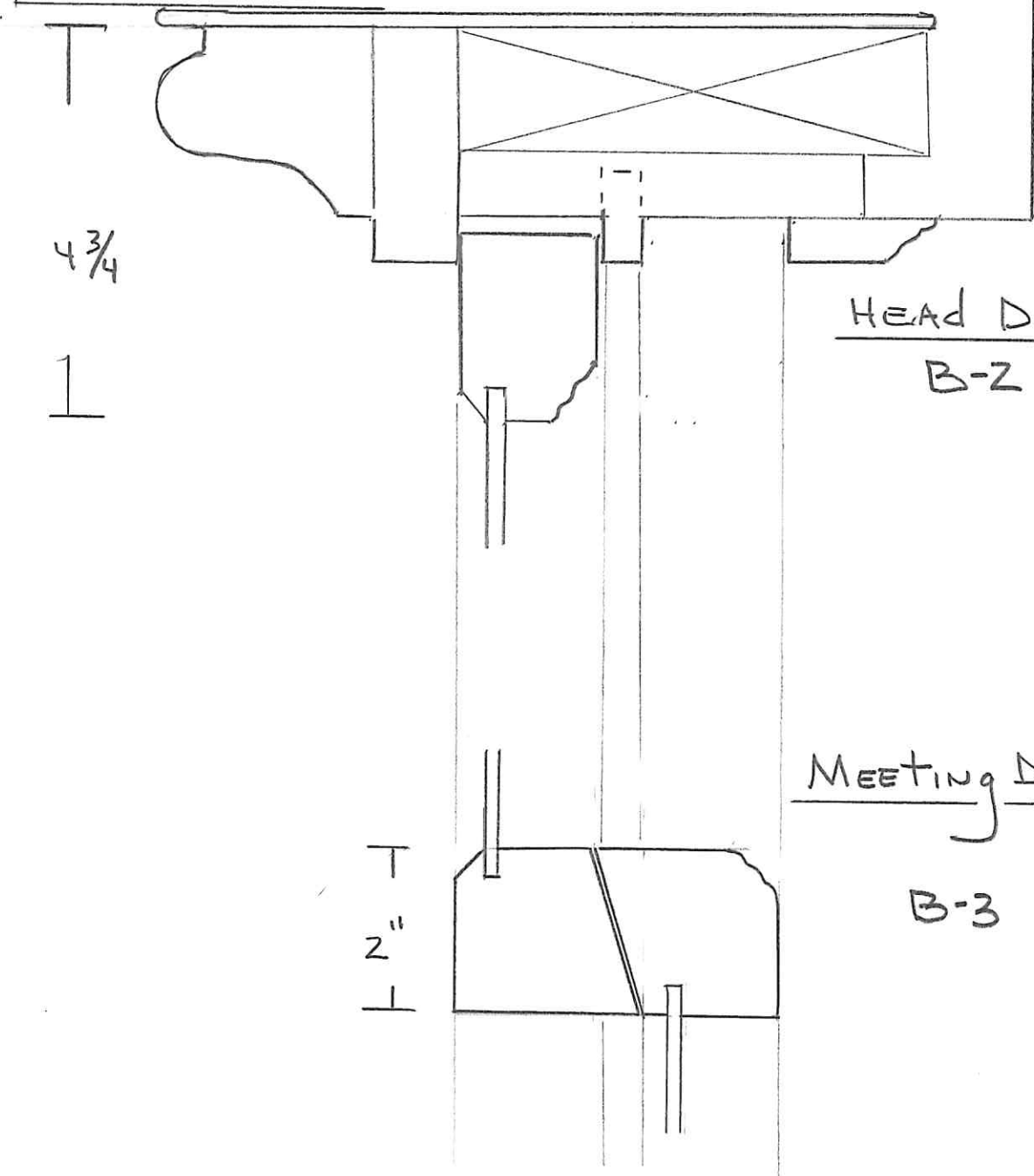
Sill Edge



Subject: BREWSTER WHEELER

Date: 12/22/23

Field Sketch
Wood Double Hung
Existing



4 3/4

1

HEAD Detail
B-2

MEETING Detail

B-3

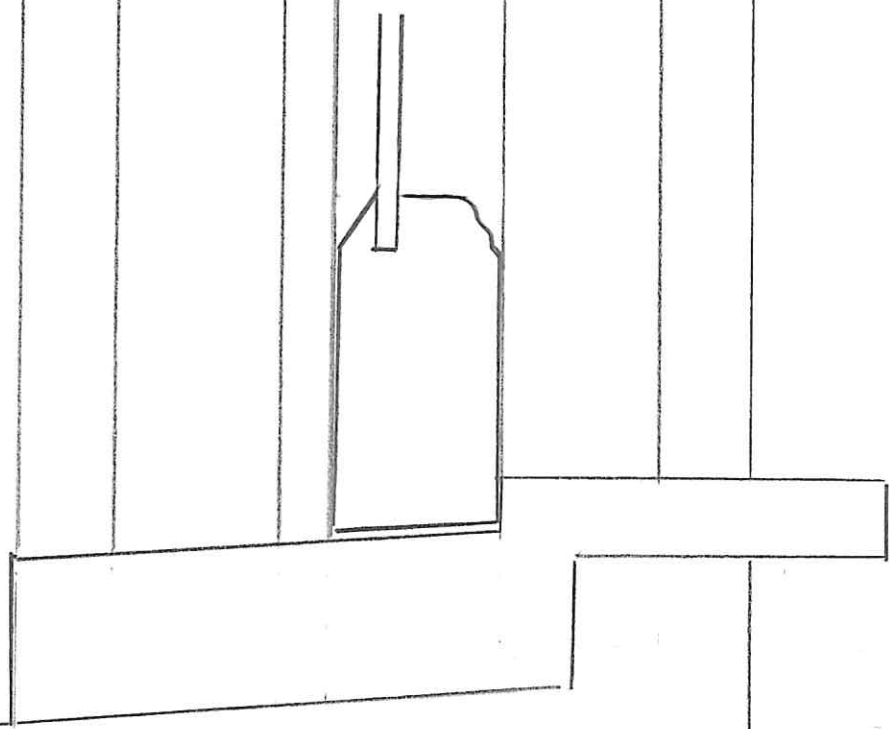
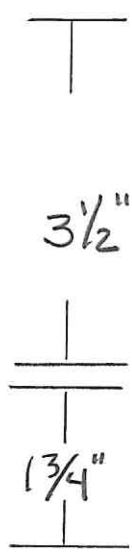
T
2"
1



Information Sheet

Subject: BREWSTER WHEELER

Date: 12/22/23



Sill Detail

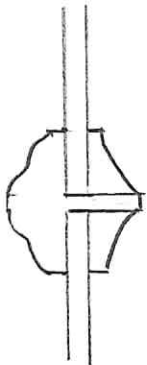
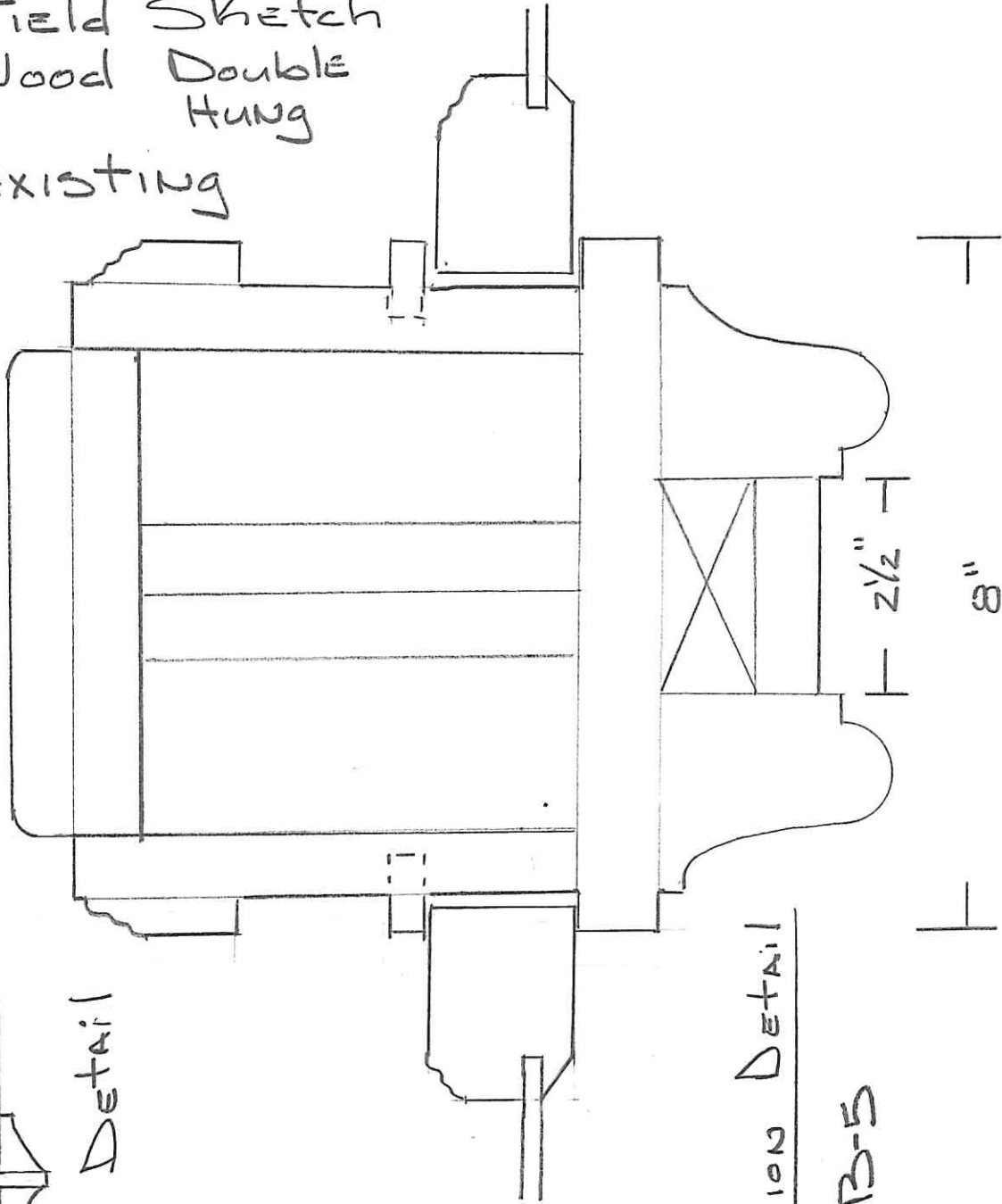
Existing

B-4

Subject: BREWSTER WHEELER

Date: 12/22/23

Field Sketch
Wood Double
Hung
Existing



Muntin Detail

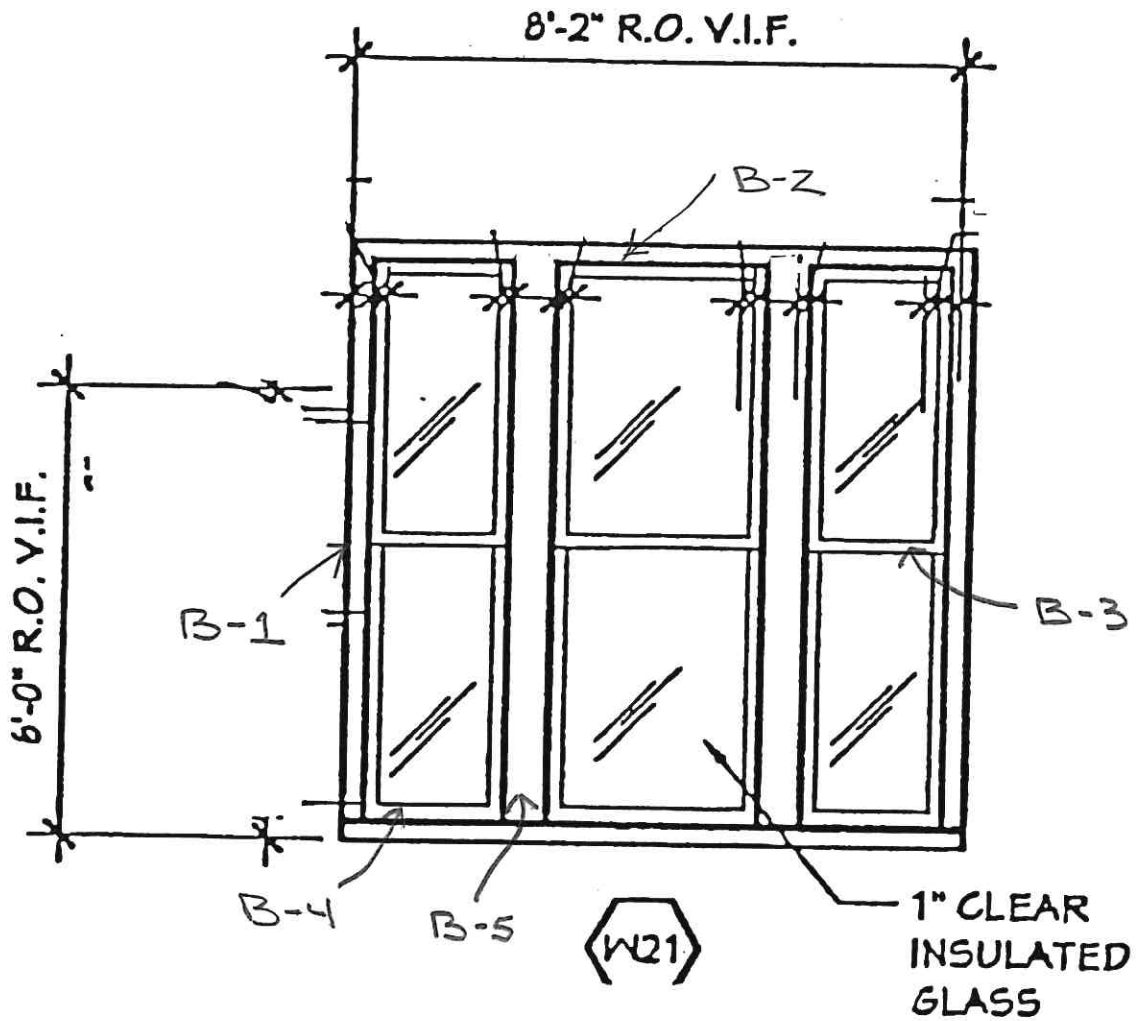
Mullion Detail

B-5

Subject: BREWSTER Wheller

Date: 12/23/23

EXISTING Wood Double Hung

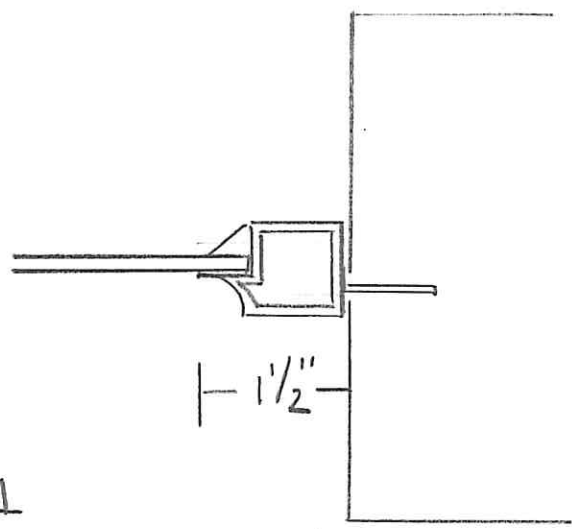


Subject: BREWSTER WHEELER

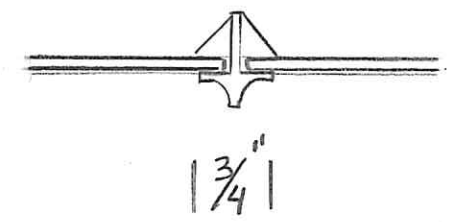
Date: 12/22/23

Field Sketch
Steel Window

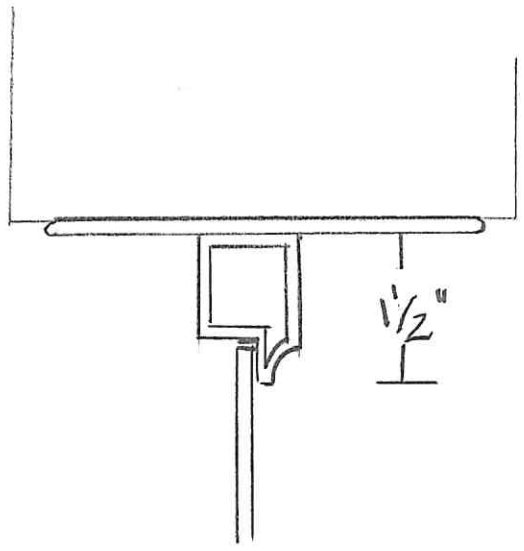
Existing



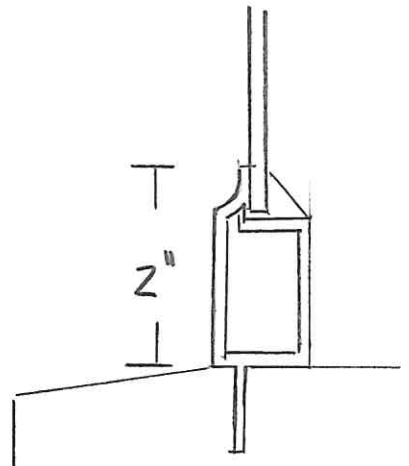
A-1
JAMB Detail



1 3/4"
MUNTIN Detail
A-2



HEAD Detail
A-3



Bottom Rail
A-4

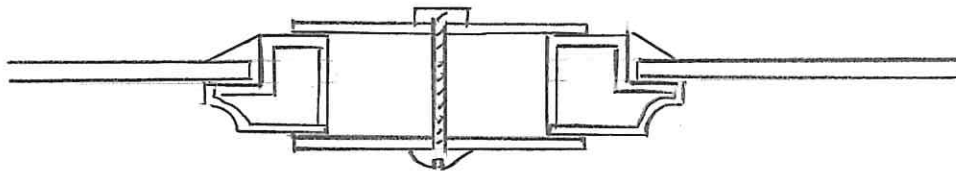
Subject: BREWSTER WHEELER

Date: 12/23/23

Field Sketch

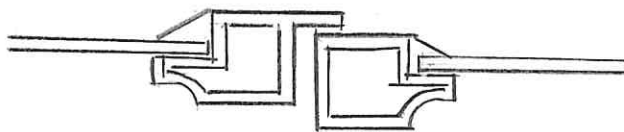
Steel Window

Existing



5"

Mullion Detail A-5

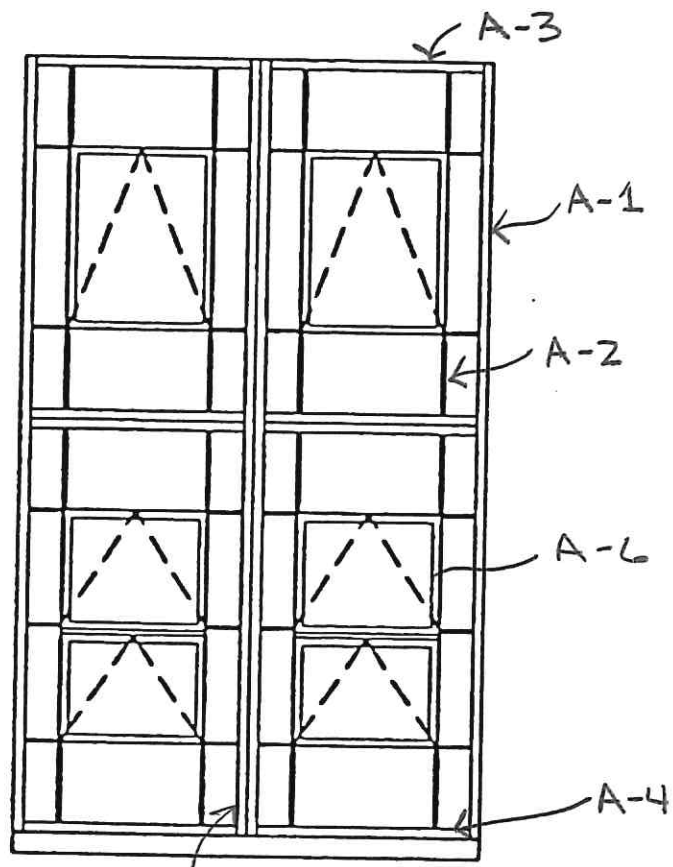


2 1/4"

VENT RAIL A-6

Subject: BREWSTER WHEELER Date: 12/23/23

EXISTING Hot Rolled Steel Window



A-5  EXISTING WINDOW

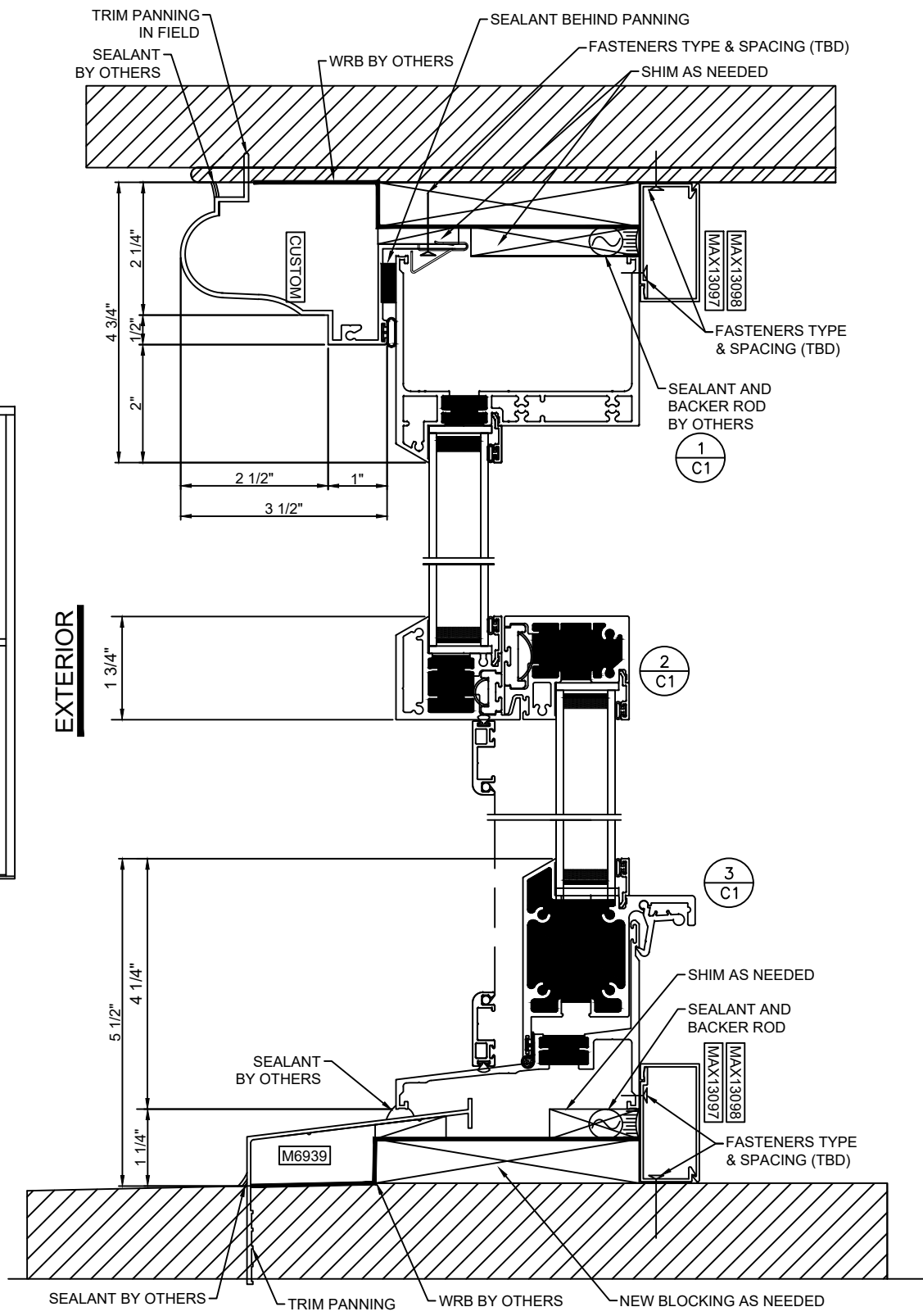
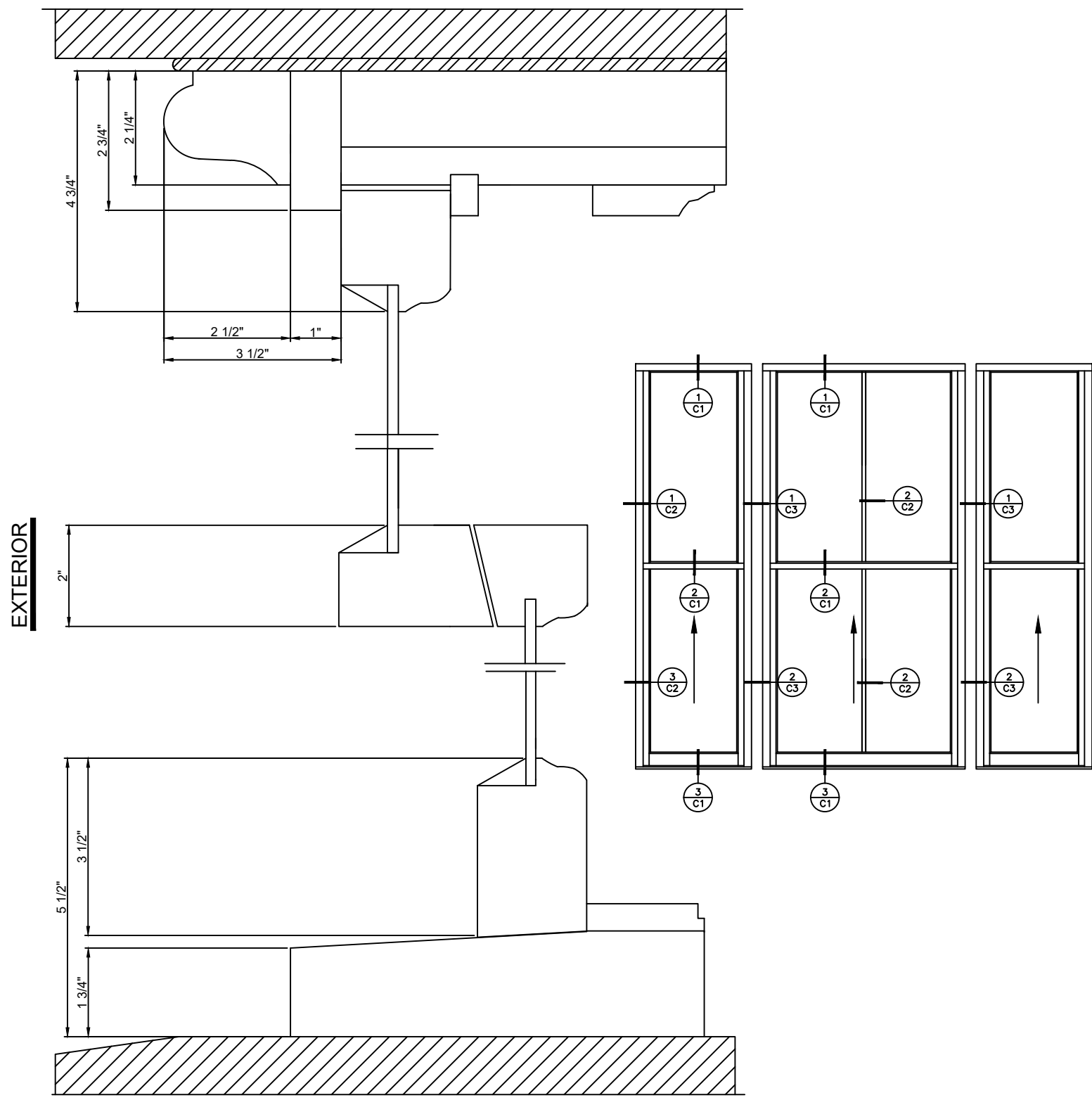
SEALANT MUST MEET OR EXCEED
ASTM C920-11 SPECIFICATION

VERIFY INSTALLATION
VERIFY WALL DETAILS

PROVIDE ADEQUATE BLOCKING TO
SUPPORT THE SILL OF THE WINDOW

NAILING FLANGES AND DRIP CAPS (INTEGRAL OR APPLIED) DO NOT TAKE THE PLACE OF WINDOW FLASHING. ALL WINDOWS AND DOORS MUST BE PROPERLY FLASHED AND SEALED WITH MATERIAL COMPATIBLE SEALANT FOR PROTECTION AGAINST WATER AND INFILTRATION AROUND THE ENTIRE PERIMETER. FAILURE TO DO SO COULD RESULT IN PRODUCT OR PROPERTY DAMAGE.

NOTICE:
QUAKER DOES NOT SUPPLY ANY FASTENERS, SHIMS, BACKER ROD, OR SEALANTS. UNLESS OTHERWISE NOTED.



EXTERIOR

EXTERIOR

Project Name: **BREWSTER WHEELER
DETROIT, MI**

Description: **TYPICAL CUT DETAILS**

PHONE (573)-744-5211
FAX (573)-744-5586
COMMERCIAL
FAX (573)-744-5822

QUAKER
COMMERCIAL

Scale: **3/8"=1"**
Sheet #: **C1**

504 Highway 63 South
Freeburg, MO 65035

Drawn By: **J S**
Checked By: _____

Drawing Created
1/15/24

QUAKER WINDOW PRODUCTS
WILL NOT BE RESPONSIBLE
FOR FIELD MEASUREMENT,
QUANTITIES, & INSTALLATION
DESIGN. CONTRACTOR MUST
VERIFY ALL DIMENSIONS.

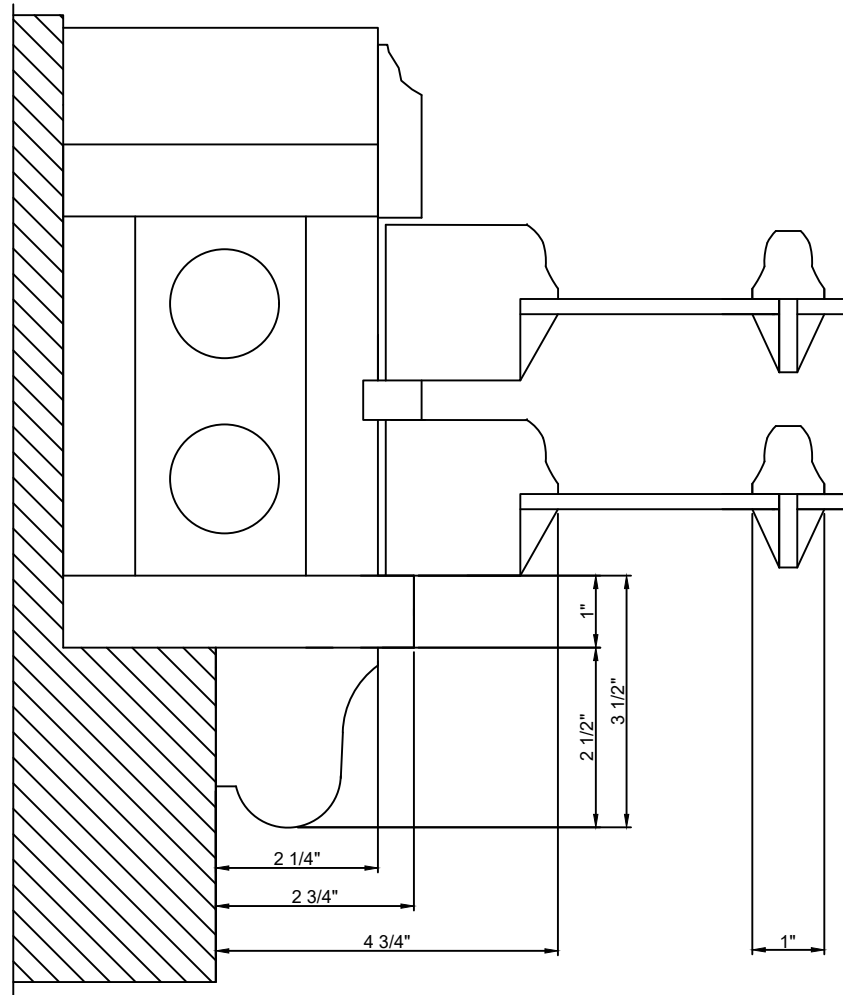
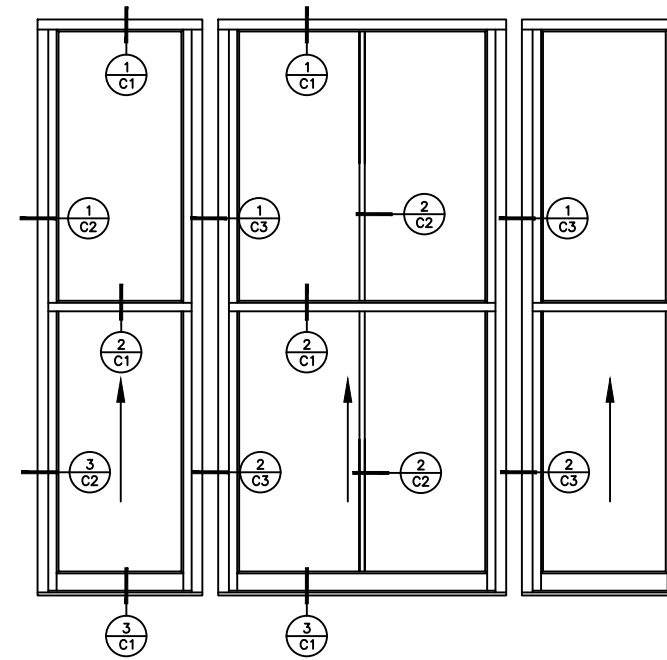
NAILING FLANGES AND DRIP CAPS (INTEGRAL OR APPLIED) DO NOT TAKE THE PLACE OF WINDOW FLASHING. ALL WINDOWS AND DOORS MUST BE PROPERLY FLASHED AND SEALED WITH MATERIAL COMPATIBLE SEALANT FOR PROTECTION AGAINST WATER AND INFILTRATION AROUND THE ENTIRE PERIMETER. FAILURE TO DO SO COULD RESULT IN PRODUCT OR PROPERTY DAMAGE.

NOTICE:
QUAKER DOES NOT SUPPLY ANY FASTENERS, SHIMS, BACKER ROD, OR SEALANTS, UNLESS OTHERWISE NOTED.

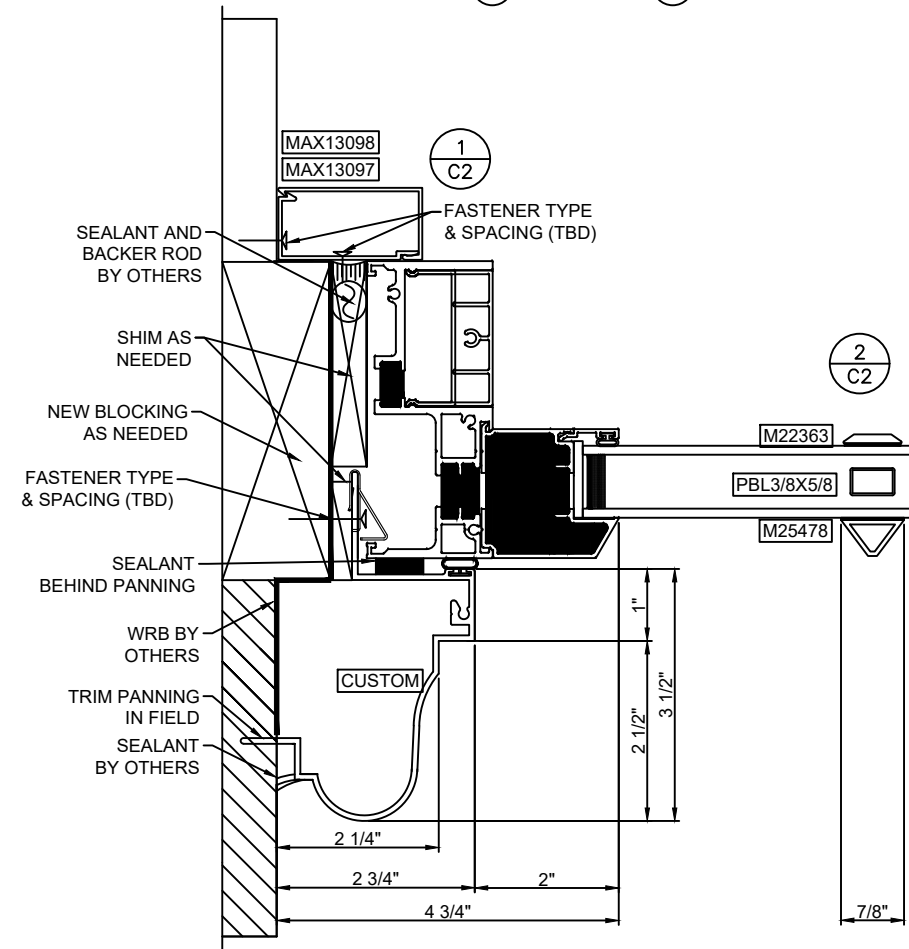
VERIFY INSTALLATION
VERIFY WALL DETAILS

SEALANT MUST MEET OR EXCEED
ASTM C920-11 SPECIFICATION

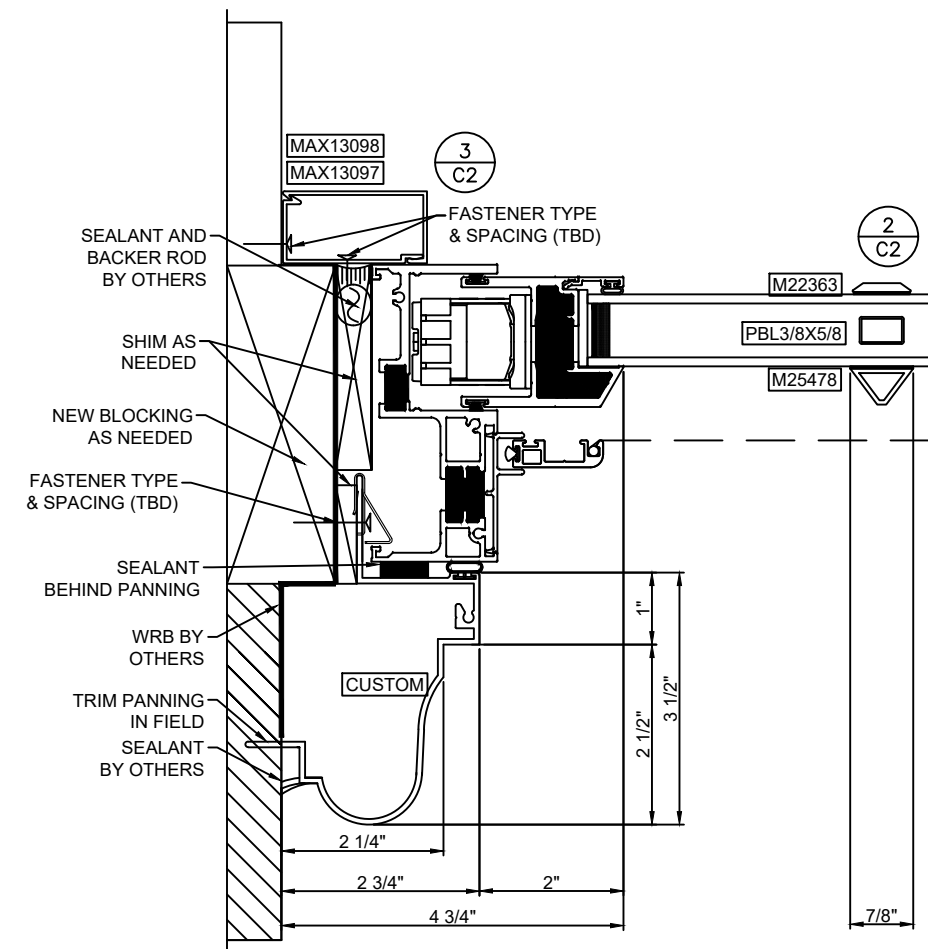
PROVIDE ADEQUATE BLOCKING TO
SUPPORT THE SILL OF THE WINDOW



**EXISTING
EXTERIOR**



**PROPOSED
EXTERIOR**



**PROPOSED
EXTERIOR**

Project Name:
**BREWSTER WHEELER
DETROIT, MI**

Description:
TYPICAL CUT DETAILS

PHONE (573)-744-5211
FAX (573)-744-5586
COMMERCIAL
FAX (573)-744-5822

QUAKER
COMMERCIAL

504 Highway 63 South
Freeburg, MO 65035

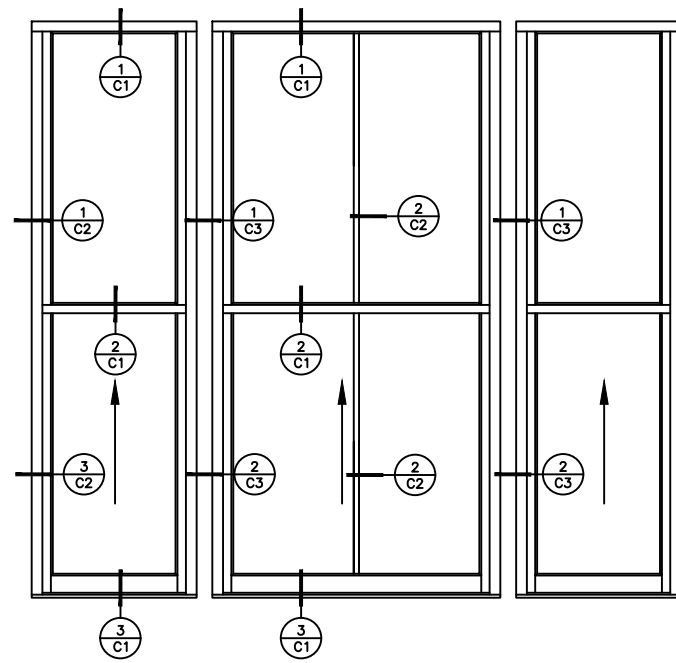
Scale: 3/8"=1"
Sheet #: C2

QUAKER WINDOW PRODUCTS
WILL NOT BE RESPONSIBLE
FOR FIELD MEASUREMENT
QUANTITIES, & INSTALLATION
DESIGN. CONTRACTOR MUST
VERIFY ALL DIMENSIONS.

Drawn By:
J S

Checked By:

Drawing Created
1/15/24

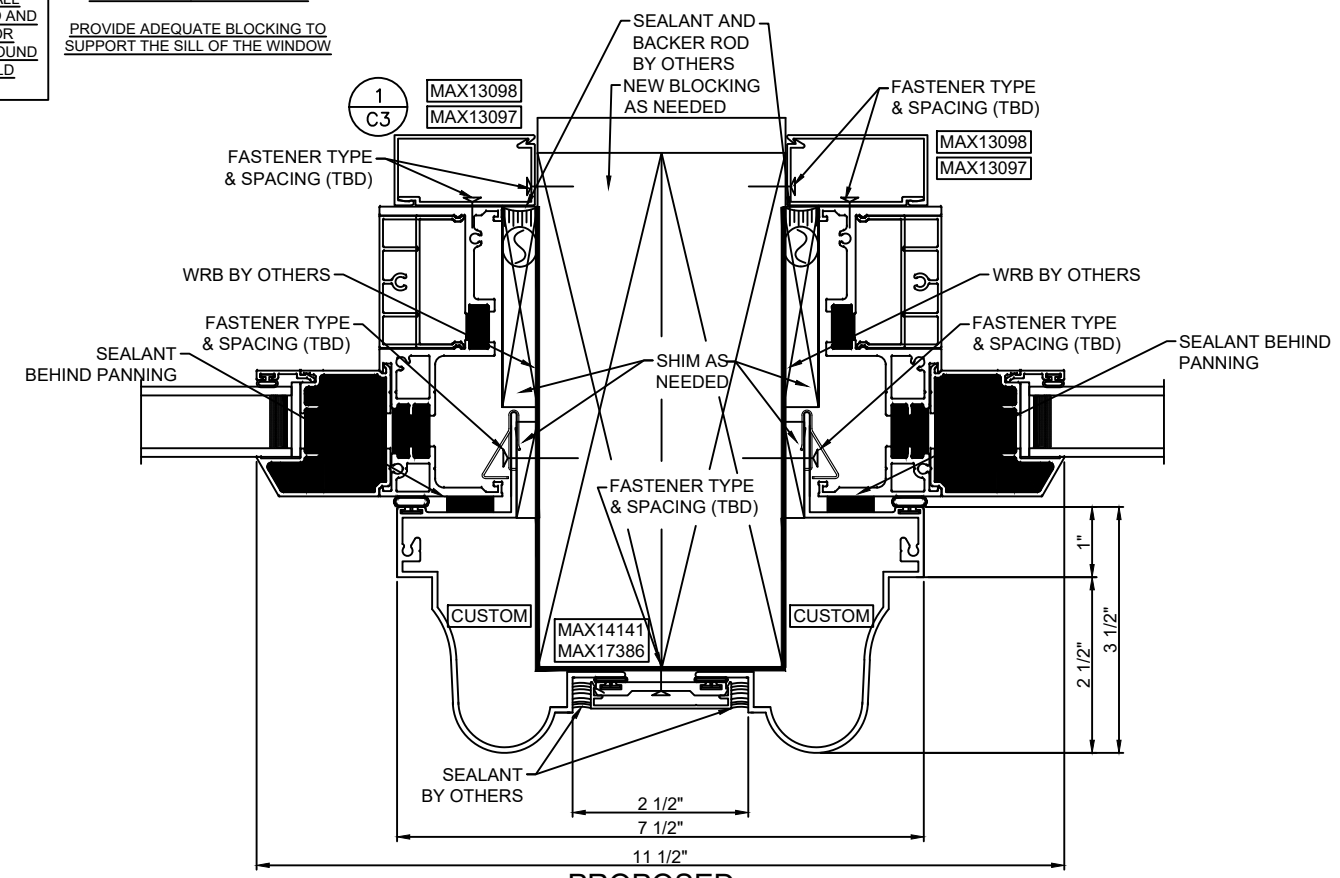


NAILING FLANGES AND DRIP CAPS (INTEGRAL OR APPLIED)
 DO NOT TAKE THE PLACE OF WINDOW FLASHING. ALL WINDOWS AND DOORS MUST BE PROPERLY FLASHED AND SEALED WITH MATERIAL COMPATIBLE SEALANT FOR PROTECTION AGAINST WATER AND INFILTRATION AROUND THE ENTIRE PERIMETER. FAILURE TO DO SO COULD RESULT IN PRODUCT OR PROPERTY DAMAGE.

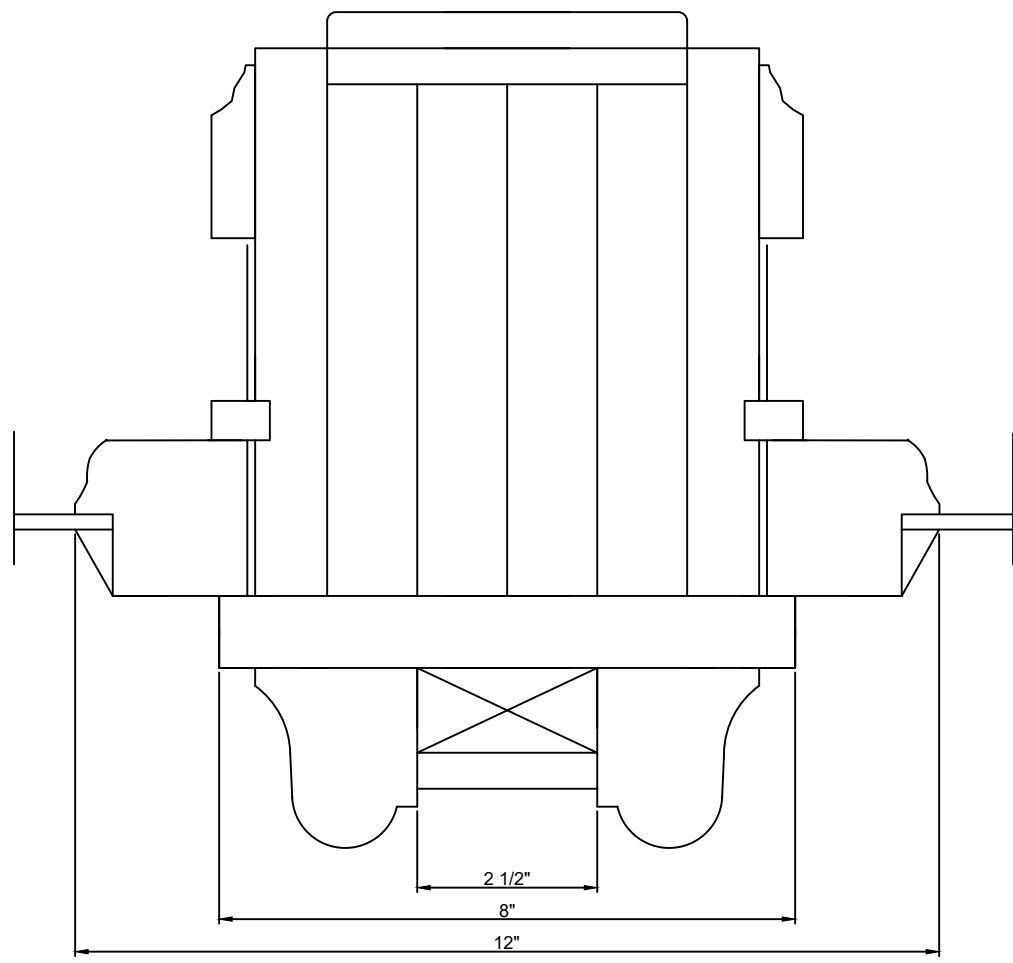
NOTICE:
 QUAKER DOES NOT SUPPLY ANY FASTENERS, SHIMS, BACKER ROD, OR SEALANTS, UNLESS OTHERWISE NOTED.

VERIFY INSTALLATION
 VERIFY WALL DETAILS

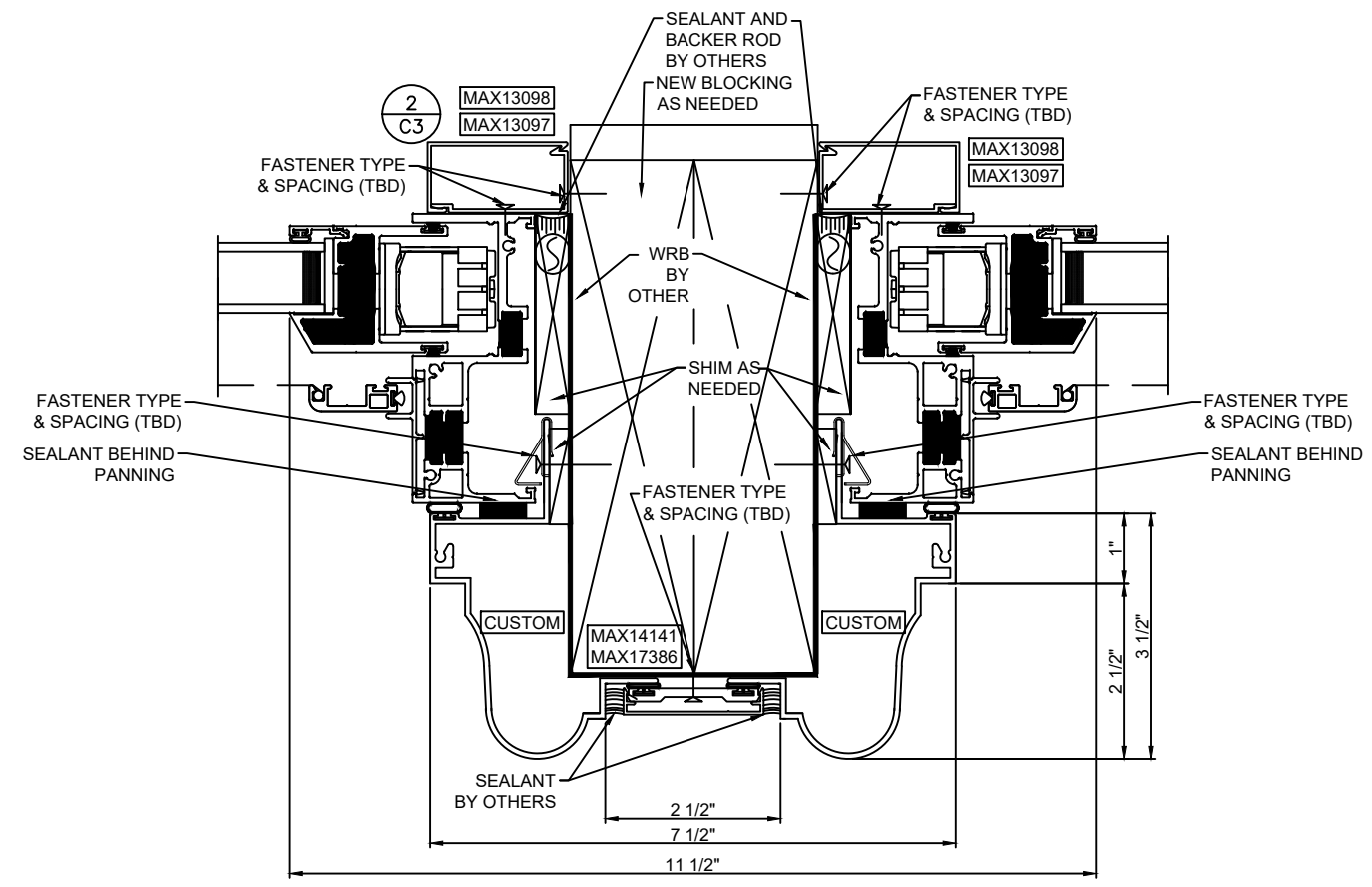
SEALANT MUST MEET OR EXCEED ASTM C920-11 SPECIFICATION
 PROVIDE ADEQUATE BLOCKING TO SUPPORT THE SILL OF THE WINDOW



PROPOSED EXTERIOR



EXISTING EXTERIOR



PROPOSED EXTERIOR

Project Name: **BREWSTER WHEELER
 DETROIT, MI**

Description: **TYPICAL CUT DETAILS**

QUAKER WINDOW PRODUCTS WILL NOT BE RESPONSIBLE FOR FIELD MEASUREMENT, QUANTITIES, & INSTALLATION DESIGN. CONTRACTOR MUST VERIFY ALL DIMENSIONS.

PHONE (573)-744-5211
 FAX (573)-744-5886
 COMMERCIAL
 FAX (573)-744-5822

QUAKER
 COMMERCIAL

Scale: **3/8"=1"**
 Sheet #: **C3**
 504 Highway 63 South
 Freeburg, MO 65035

Drawn By: **J S**
 Checked By: _____

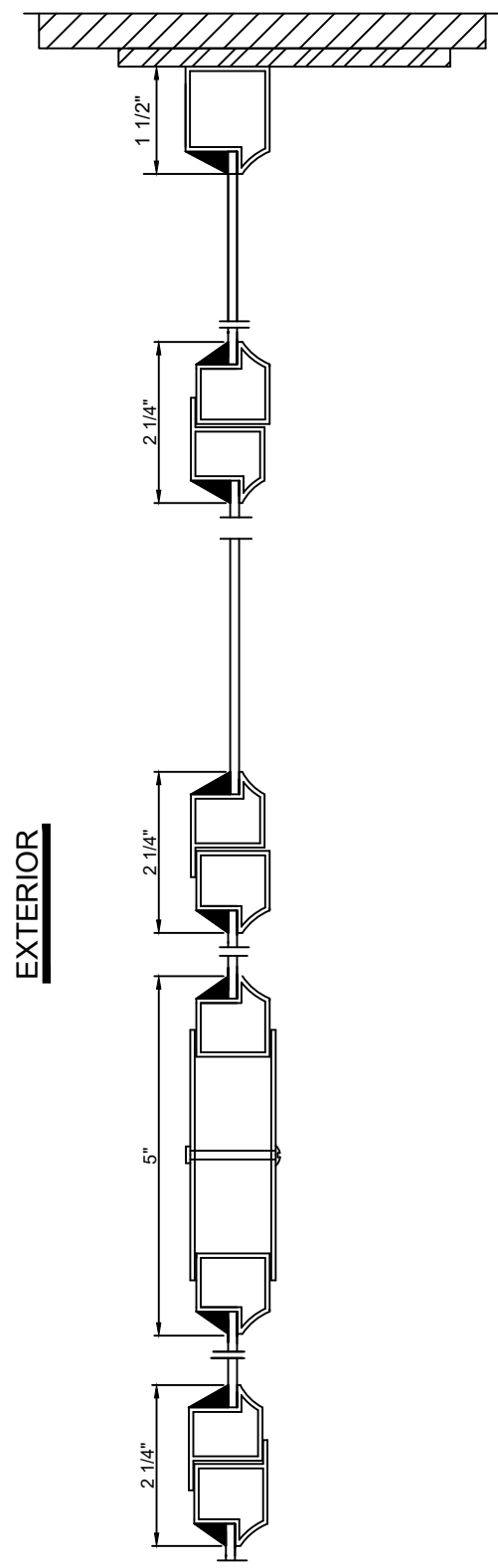
Drawing Created **1/15/24**

VERIFY INSTALLATION
VERIFY WALL DETAILS

NAILING FLANGES AND DRIP CAPS (INTEGRAL OR APPLIED) DO NOT TAKE THE PLACE OF WINDOW FLASHING. ALL WINDOWS AND DOORS MUST BE PROPERLY FLASHED AND SEALED WITH MATERIAL COMPATIBLE SEALANT FOR PROTECTION AGAINST WATER AND INFILTRATION AROUND THE ENTIRE PERIMETER. FAILURE TO DO SO COULD RESULT IN PRODUCT OR PROPERTY DAMAGE.

SEALANT MUST MEET OR EXCEED ASTM C920-11 SPECIFICATION
PROVIDE ADEQUATE BLOCKING TO SUPPORT THE SILL OF THE WINDOW

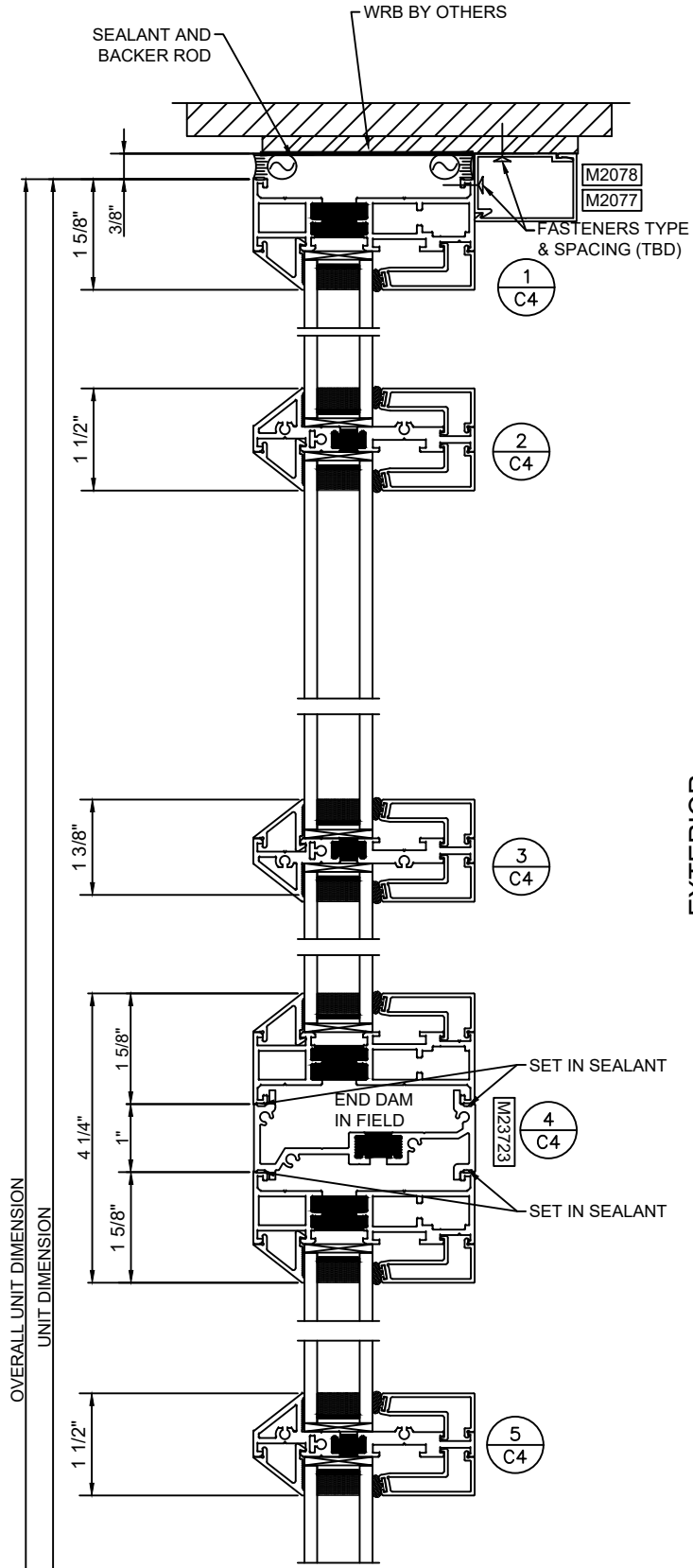
NOTICE:
QUAKER DOES NOT SUPPLY ANY FASTENERS, SHIMS, BACKER ROD, OR SEALANTS, UNLESS OTHERWISE NOTED.



EXISTING

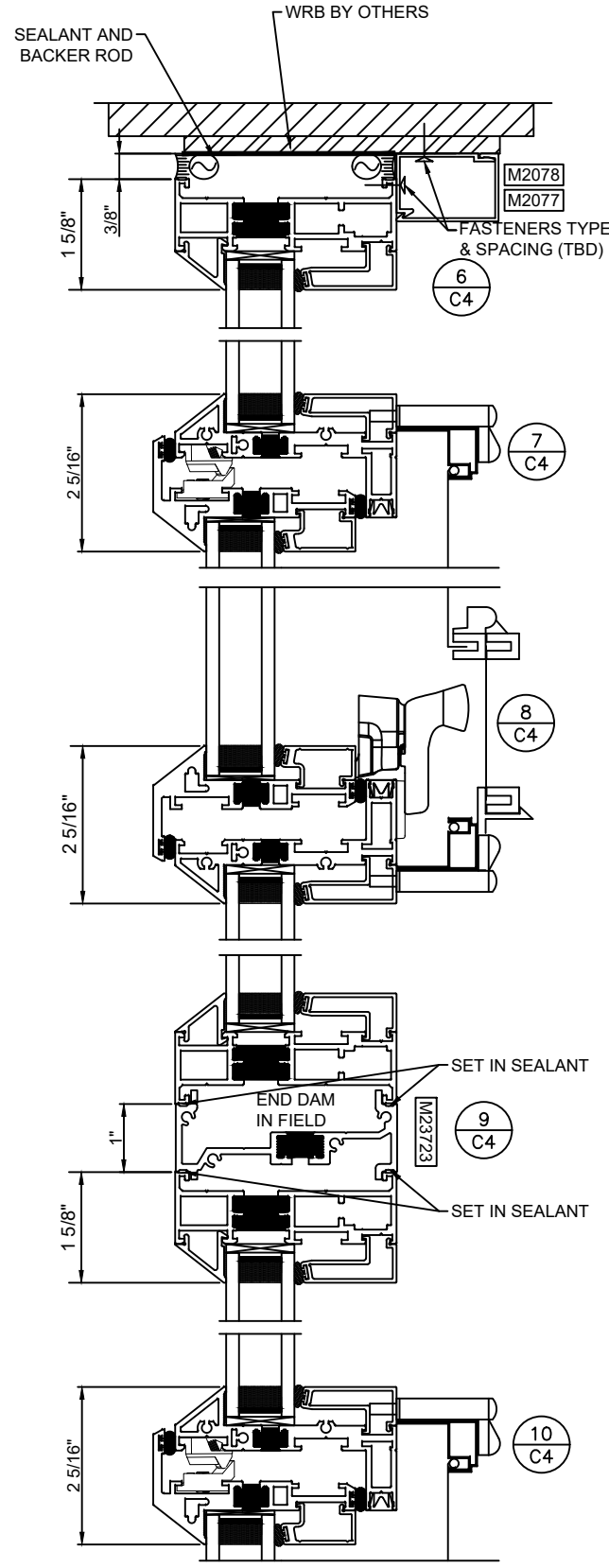
EXTERIOR

EXTERIOR

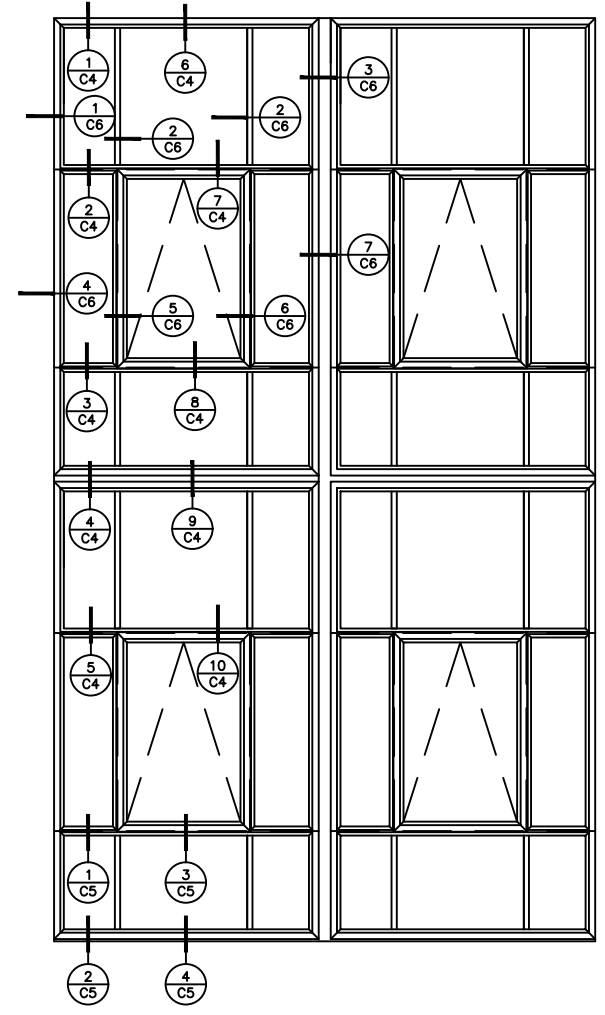


PROPOSED

EXTERIOR



PROPOSED



Project Name: **BREWSTER WHEELER
DETROIT, MI**

Description: **TYPICAL CUT DETAILS
STEEL WINDOWS**

PHONE (573)-744-5211
FAX (573)-744-5586
COMMERCIAL
FAX (573)-744-5822

QUAKER
COMMERCIAL

504 Highway 63 South
Freeburg, MO 65035

QUAKER WINDOW PRODUCTS
WILL NOT BE RESPONSIBLE
FOR FIELD MEASUREMENT,
QUANTITIES, & INSTALLATION
DESIGN. CONTRACTOR MUST
VERIFY ALL DIMENSIONS.

Scale: **3/8"=1"**
Sheet #: **C4**

Drawn By: **J S**
Checked By: _____

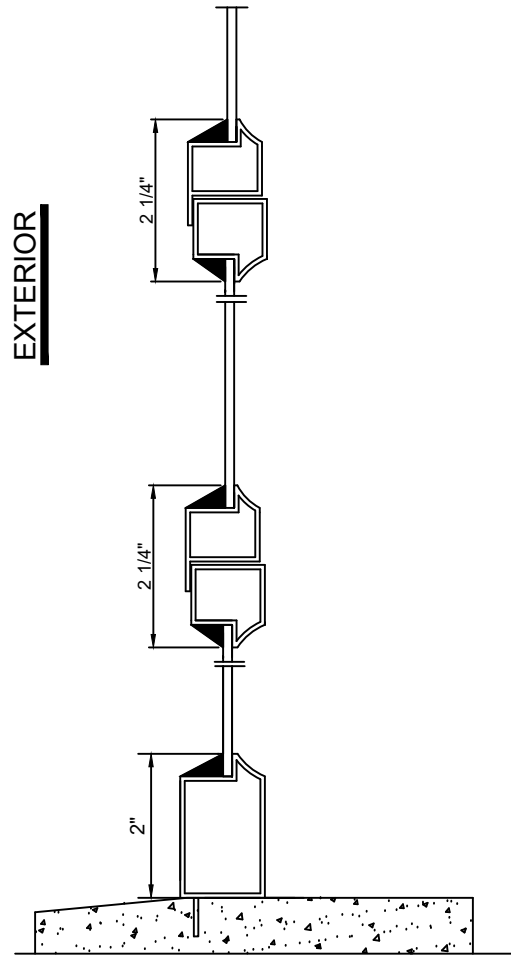
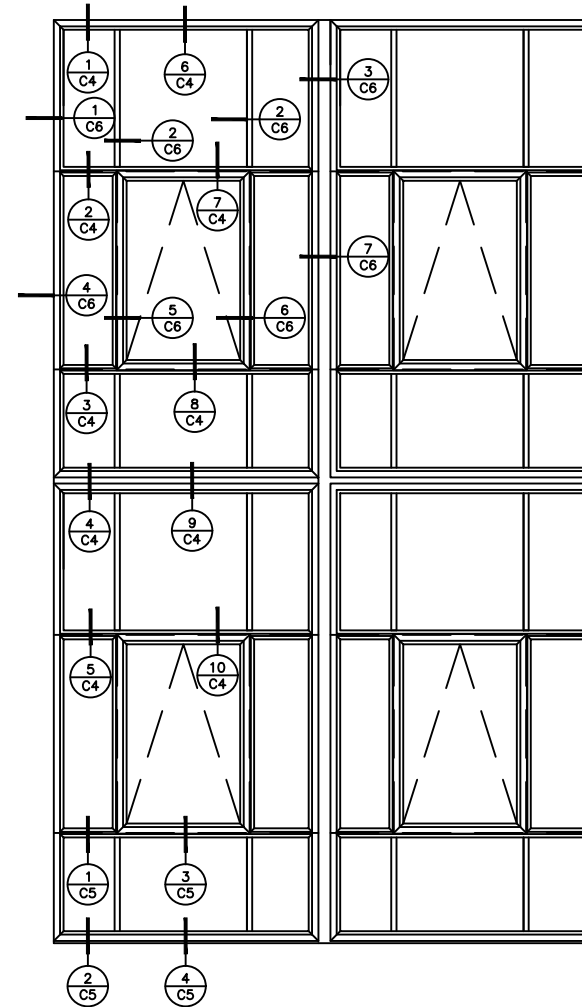
VERIFY INSTALLATION
VERIFY WALL DETAILS

NAILING FLANGES AND DRIP CAPS (INTEGRAL OR APPLIED) DO NOT TAKE THE PLACE OF WINDOW FLASHING. ALL WINDOWS AND DOORS MUST BE PROPERLY FLASHED AND SEALED WITH MATERIAL COMPATIBLE SEALANT FOR PROTECTION AGAINST WATER AND INFILTRATION AROUND THE ENTIRE PERIMETER. FAILURE TO DO SO COULD RESULT IN PRODUCT OR PROPERTY DAMAGE.

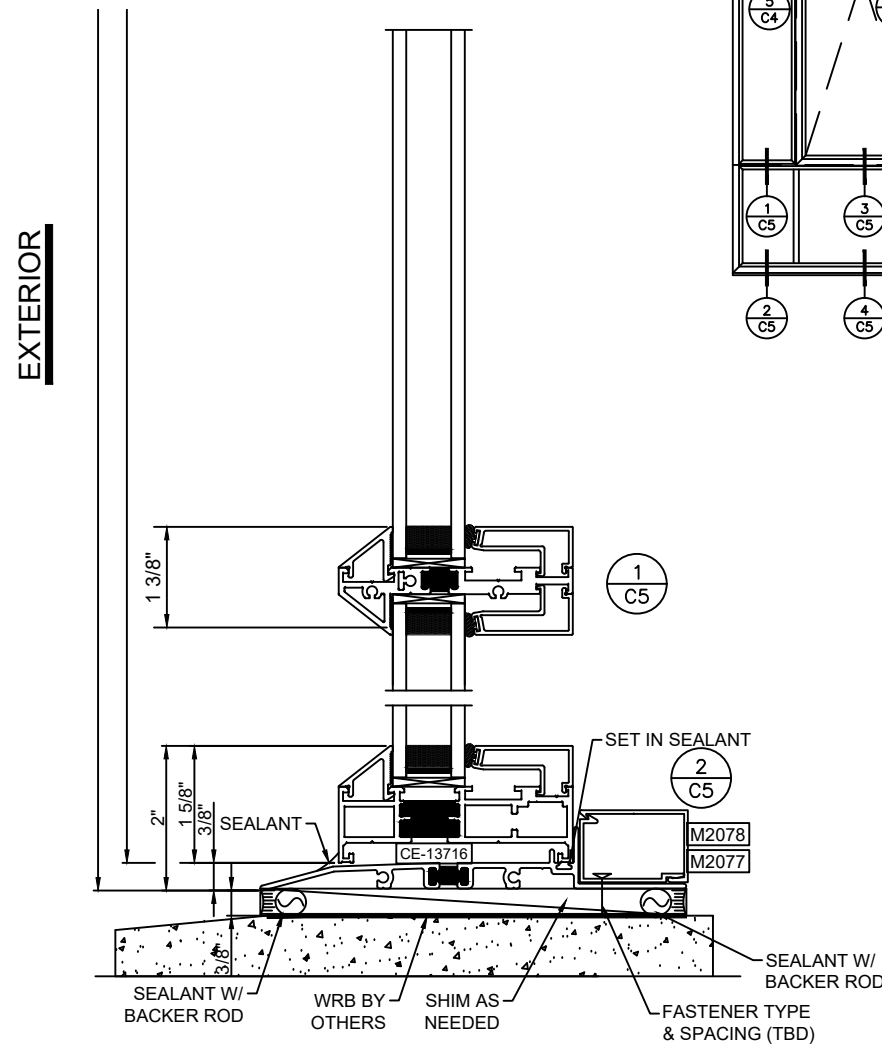
SEALANT MUST MEET OR EXCEED
ASTM C920-11 SPECIFICATION

PROVIDE ADEQUATE BLOCKING TO
SUPPORT THE SILL OF THE WINDOW

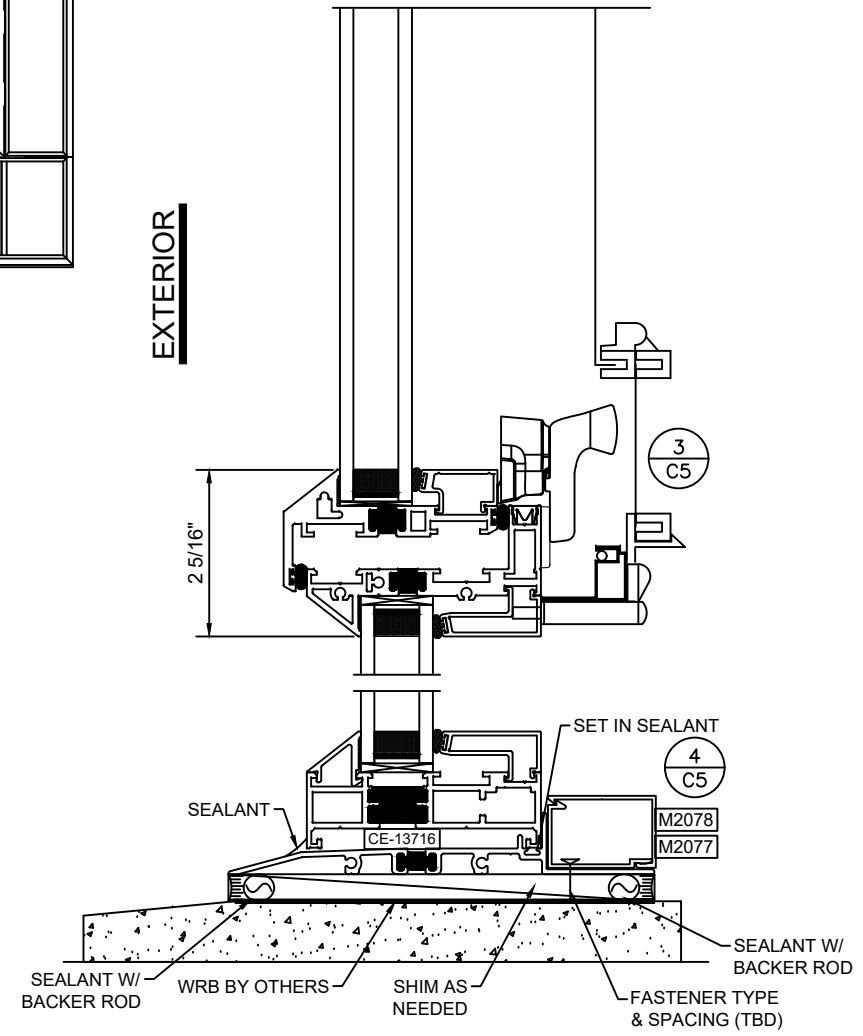
NOTICE:
QUAKER DOES NOT SUPPLY ANY
FASTENERS, SHIMS, BACKER ROD, OR
SEALANTS. UNLESS OTHERWISE NOTED.



EXISTING



PROPOSED



PROPOSED

Project Name:
**BREWSTER WHEELER
DETROIT, MI**

Description:
**TYPICAL CUT DETAILS
STEEL WINDOWS**

PHONE (573)-744-5211
FAX (573)-744-5886
COMMERCIAL
FAX (573)-744-5822

QUAKER
COMMERCIAL

Drawn By:
J S

Checked By:

Drawing Created
1/15/24

QUAKER WINDOW PRODUCTS
WILL NOT BE RESPONSIBLE
FOR FIELD MEASUREMENT
QUANTITIES, & INSTALLATION
DESIGN. CONTRACTOR MUST
VERIFY ALL DIMENSIONS.

Scale:
3/8" = 1"

504 Highway 63 South
Freeburg, MO 65035

Sheet #:
C5

NAILING FLANGES AND DRIP CAPS (INTEGRAL OR APPLIED) DO NOT TAKE THE PLACE OF WINDOW FLASHING. ALL WINDOWS AND DOORS MUST BE PROPERLY FLASHED AND SEALED WITH MATERIAL COMPATIBLE SEALANT FOR PROTECTION AGAINST WATER AND INFILTRATION AROUND THE ENTIRE PERIMETER. FAILURE TO DO SO COULD RESULT IN PRODUCT OR PROPERTY DAMAGE.

NOTICE:
QUAKER DOES NOT SUPPLY ANY FASTENERS, SHIMS, BACKER ROD, OR SEALANTS, UNLESS OTHERWISE NOTED.

VERIFY INSTALLATION
VERIFY WALL DETAILS

SEALANT MUST MEET OR EXCEED
ASTM C920-11 SPECIFICATION

PROVIDE ADEQUATE BLOCKING TO
SUPPORT THE SILL OF THE WINDOW

Project Name:
**BREWSTER WHEELER
DETROIT, MI**

Description:
**TYPICAL CUT DETAILS
STEEL WINDOWS**

QUAKER WINDOW PRODUCTS
WILL NOT BE RESPONSIBLE
FOR FIELD MEASUREMENT
QUANTITIES, & INSTALLATION
DESIGN. CONTRACTOR MUST
VERIFY ALL DIMENSIONS.

PHONE (573)-744-5211
FAX (573)-744-5586
COMMERCIAL
FAX (573)-744-5822

QUAKER
COMMERCIAL

Scale: **3/8"=1"**
Sheet #: **C6**

504 Highway 63 South
Freeburg, MO 65035

Drawn By: **J S**
Checked By: **---**
Drawing Created
1/15/24

