

MEMORANDUM

TO: Heritage Preservation Commission

FROM: [Hilary Dvorak](#), Principal Planner, (612) 673-2639

DATE: October 25, 2016

SUBJECT: Armory, 500 South 6th Street

SITE DATA

Existing Zoning	B4S-2, Downtown Service District DP Downtown Parking Overlay District
Lot Area	109,230 square feet / 2.51 acres
Ward(s)	7
Neighborhood(s)	Elliot Park
Designated Future Land Use	Commercial
Land Use Features	Growth Center (Downtown)
Small Area Plan(s)	Downtown East/North Loop Neighborhood Master Plan (2003) Elliot Park Neighborhood Master Plan (2002) Update to the Historic Mills District Master Plan (2001)

HISTORIC PROPERTY INFORMATION

Current Name	The Minneapolis Armory
Historic Name	The Minneapolis Armory
Historic Address	500 South 6 th Street
Original Construction Date	1935 and 1936
Original Architect	Philip C. Bettenburg
Original Builder	Unknown
Original Engineer	Unknown
Historic Use	Armory
Current Use	Parking
Proposed Use	Parking and event center

CLASSIFICATION

Local Historic District	Not applicable
Period of Significance	Pending
Criteria of Significance	Pending; nomination identifies: <i>Criterion 3:</i> The property contains or is associated with distinctive elements of city or neighborhood identity. <i>Criterion 4:</i> The property embodies the distinctive characteristics of an architectural or engineering type or style, or method of construction. <i>Criterion 6:</i> The property exemplifies the works of master builders, engineers, designers, artists, craftsmen or architects.
Date of Local Designation	Nominated January 19, 2016
Date of National Register Listing	1985
Applicable Design Guidelines	<i>Secretary of the Interior’s Standards for the Treatment of Historic Properties</i>

BACKGROUND.

Constructed in 1935 and 1936, the Minneapolis Armory embodies the distinctive characteristics of the Public Works Administration Moderne style of architecture, possessing elements of both the Zigzag Moderne and Streamline Moderne styles, as evidenced by its minimal, angular decorations; rounded corners, smooth stone surfaces, and massing. Architect Philip C. Bettenburg designed the building for the Minnesota National Guard and Naval Militia units. Bettenburg experienced great success as a soldier, rising through the ranks of the Minnesota National Guard and eventually attaining the rank of Major General. As a civilian, his sizeable St. Paul-based architecture firm specialized in designing armories, many of which were constructed throughout the state. The building is also considered significant for its use of the Wheeler Shear Head, patented by Minneapolis engineer Walter Wheeler, to create a special flat-slab floor that does not require column capitals, beams, or dropped panels.

PROJECT DESCRIPTION

The applicant is in the process of rehabilitating the Minneapolis Armory. Prior to the building’s nomination in January of this year, the applicant did obtain several permits from the City of Minneapolis to make repairs to the building including a new roof, new windows and doors and interior modifications. In January, the Minneapolis Heritage Preservation Commission nominated the building for listing as an individual landmark. The designation study is currently in process. CPED anticipates having the designation study to the State Historic Preservation Office by early November. While the designation study is in process, the property is under interim protection and any major alterations proposed must be reviewed by the Heritage Preservation Commission.

At this time, the property owner is proposing to make modifications to the building that are considered per the preservation ordinance as major alterations. Those modifications include an elevator overrun on the existing head house, new egress doors on the northwest and northeast sides of the building, a new loading dock along South 5th Street and an addition on the Portland Avenue side of the building. CPED would like to discuss these alterations with the Heritage Preservation Commission and get feedback on them prior to the application coming forward as a public hearing item.

Statement of Proposed use and description of the project.

The Minneapolis Armory is located across from the new Downtown Commons Park at 500 Sixth Street South between Portland Avenue and Fifth Avenue South. Currently the building is under construction and the scope of work includes the following:

Exterior work to provide for a weather tight secure structure.

New membrane roof

New windows and doors

Brick repointing (100%) and limited brick replacement

Interior work to provide for the new event center use.

New HVAC

New electrical including new lighting

New plumbing including additional restrooms as required by code for new use and sprinkler system

New floor to be installed 10' above existing grade level floor to provide direct access into the building.

Two new mezzanine levels at the main room

Two new elevators, all equipment to be installed within interior space including shafts except at elevator that goes to exterior seasonal roof deck (item as part of HPC application)

Interior finishes update; ceiling, floors, walls

This application is a subset of the larger project, (already underway with scope outlined above) which addresses the required review of four items. These items will support the proposed event venue with required egress of attendees, improved access of supplies and equipment for events and additional facility amenities.

The four items include egress doors, loading dock, elevator overrun and garage addition with roof deck.

Egress doors: The modification of eight windows to four exit doors addresses required public egress from the building. The new doors will be installed within pairs of window openings located at the northwest and east corners of the building. The existing windows and stone will be salvaged and stored in the building.

Loading dock: The proposed dock is to be located at the Fifth Avenue façade, tucked between the non-contributing garage addition and the central entry. The proposed loading dock is constructed of steel with a concrete topping. The loading dock structure is an independent structure and is not connected to the Armory Building. Access from the loading dock to the building is through a new loading dock door located in the garage addition. No permanent changes will be made to the main building at the loading dock location. There will be a new overhead door installed at the Fifth Avenue façade of the garage addition as well as at the west façade where two window opening will be enlarged for the installation of an overhead and personal door. The garage and loading dock will accommodate various sizes of vehicles;

- A. Loading dock; 33'-0" long semi-trucks and smaller. Items will be unloaded onto the dock and then brought into the building through the garage door via forklifts or carts.

- B. 5th Avenue garage door: automobiles, boat trailers, delivery vans and low clearance trucks can enter the garage and into the building. Larger vehicles will not enter the main building.
- C. 5th Street garage doors: 33'-0" long semi-trucks and smaller can back up to the garage door and be unloaded and items brought into the garage via forklifts and carts.

Elevator overrun hoistway: At the Sixth Street façade, the existing elevator will be extended to allow for access to the central roof deck, over the front head house. To extend the elevator to this floor level requires the extension of the elevator overrun hoistway. The new structure will project just under eight feet above the existing parapet height and be clad in metal that matches the color of the existing limestone.

Garage Addition with Roof Deck: An addition to the non-contributing garage at Portland Avenue allows for an additional entertainment establishment. The new addition is tucked between the garage and the central entry to minimize the visual impact of the addition. The roof line of the existing garage and the new addition will allow access from the upper level main room of the Armory. Access to the roof deck is provided from doors in extended masonry openings. Access to the garage/addition will be from Portland Avenue at the new addition. The existing garage doors will be replaced with new garage doors with panels. The new addition will be clad in brick similar in color and size. The new window openings will be reflective of the garage doors. All new windows and doors will be custom sizes and will match the new windows and doors at the main building.

Photo No. 1: Historic View, post office circa 1938.



Photo No. 2: View from the corner of Fifth Avenue and Sixth Street HABS photograph



Photo No.3: View from the corner of Sixth Street and Portland Avenue HABS photograph



Photo No. 4 View of Fifth Avenue South HABS photograph



Photo No. 5: View from Portland Avenue HABS photograph



Photo No. 6 View from Fifth Street South HABS photograph



Photo No. 7: Existing windows at Portland Avenue to become egress doors



Photo No. 8: Area of proposed loading dock



Photo No. 9: Area of elevator overrun



Photo No. 10: Area of elevator overrun and new doors



Photo No. 11: Existing garage along Portland Avenue, location of proposed door.



Photo No. 12: Area of proposed Portland Avenue garage addition



Photo No. 13: Area of proposed Portland Avenue garage new doors

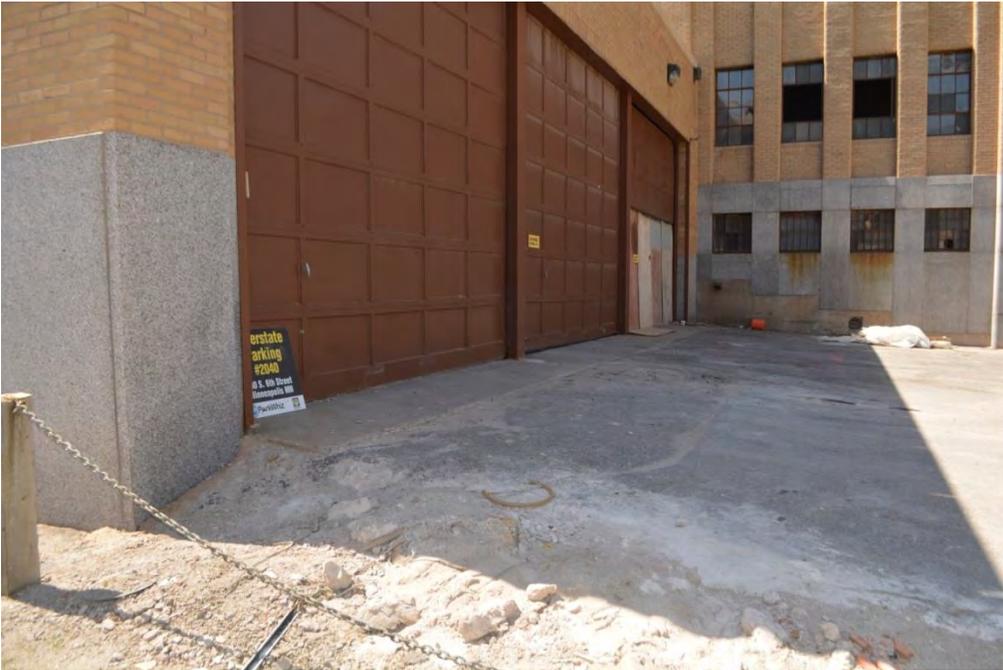
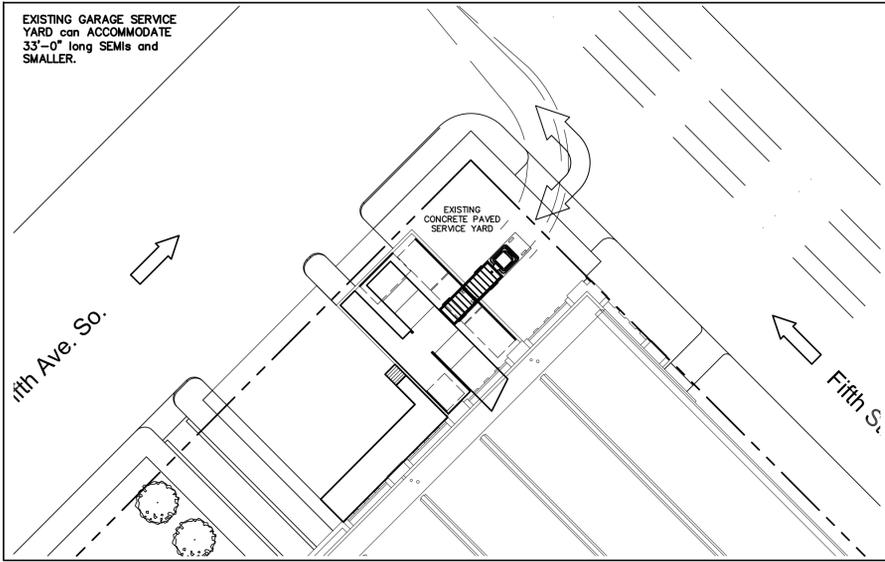
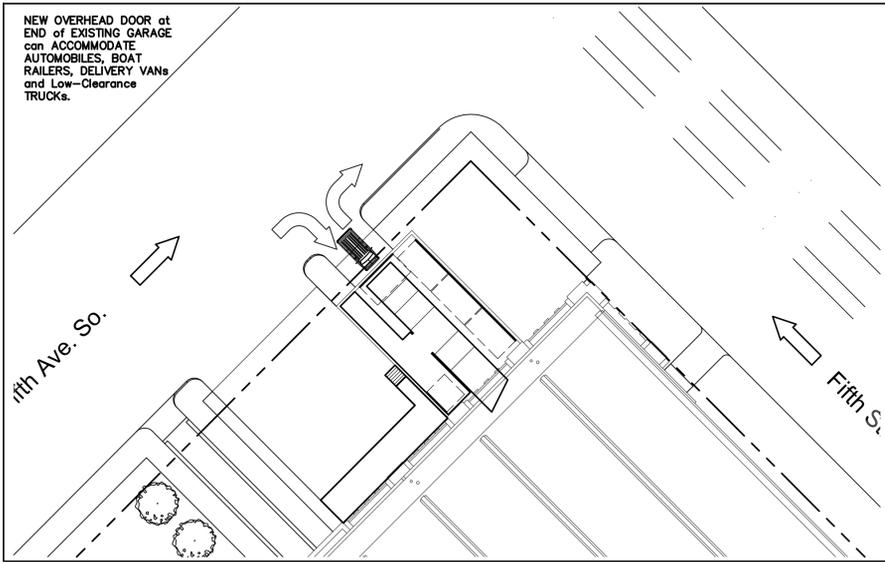


Photo 14: Proposed area of exterior doors to new roof deck at existing garage along Portland Avenue. Doors to be within existing infilled masonry openings and above. Existing masonry openings have been painted blue Existing concrete bleachers will be removed.

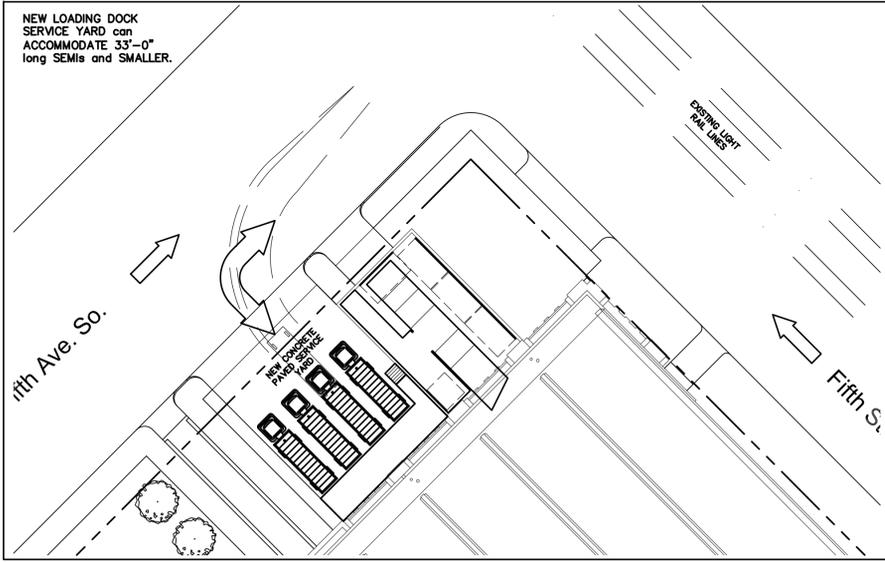




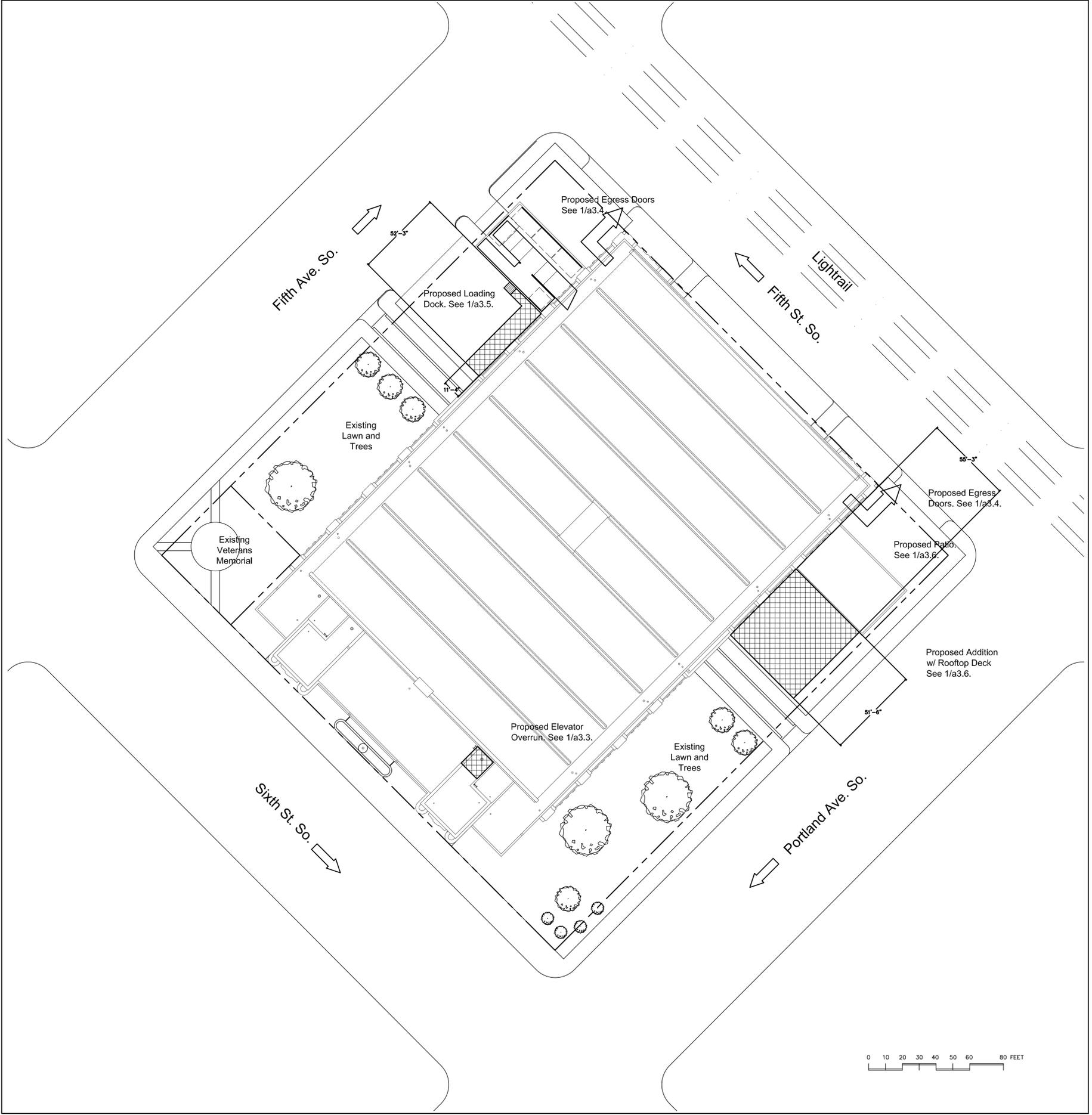
4 Garage Traffic Diagram
a1.1 Scale : 1" = 30'-0" North



3 5th Ave. So. Garage Traffic Diagram
a1.1 Scale : 1" = 30'-0" North



2 Loading Dock Traffic Diagram
a1.1 Scale : 1" = 30'-0" North



1 Site Plan
a1.1 Scale : 1" = 30'-0" North



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 Date Issued : 08.29.16
 Revisions :

Project

**Minneapolis
 Armory
 Renovation**

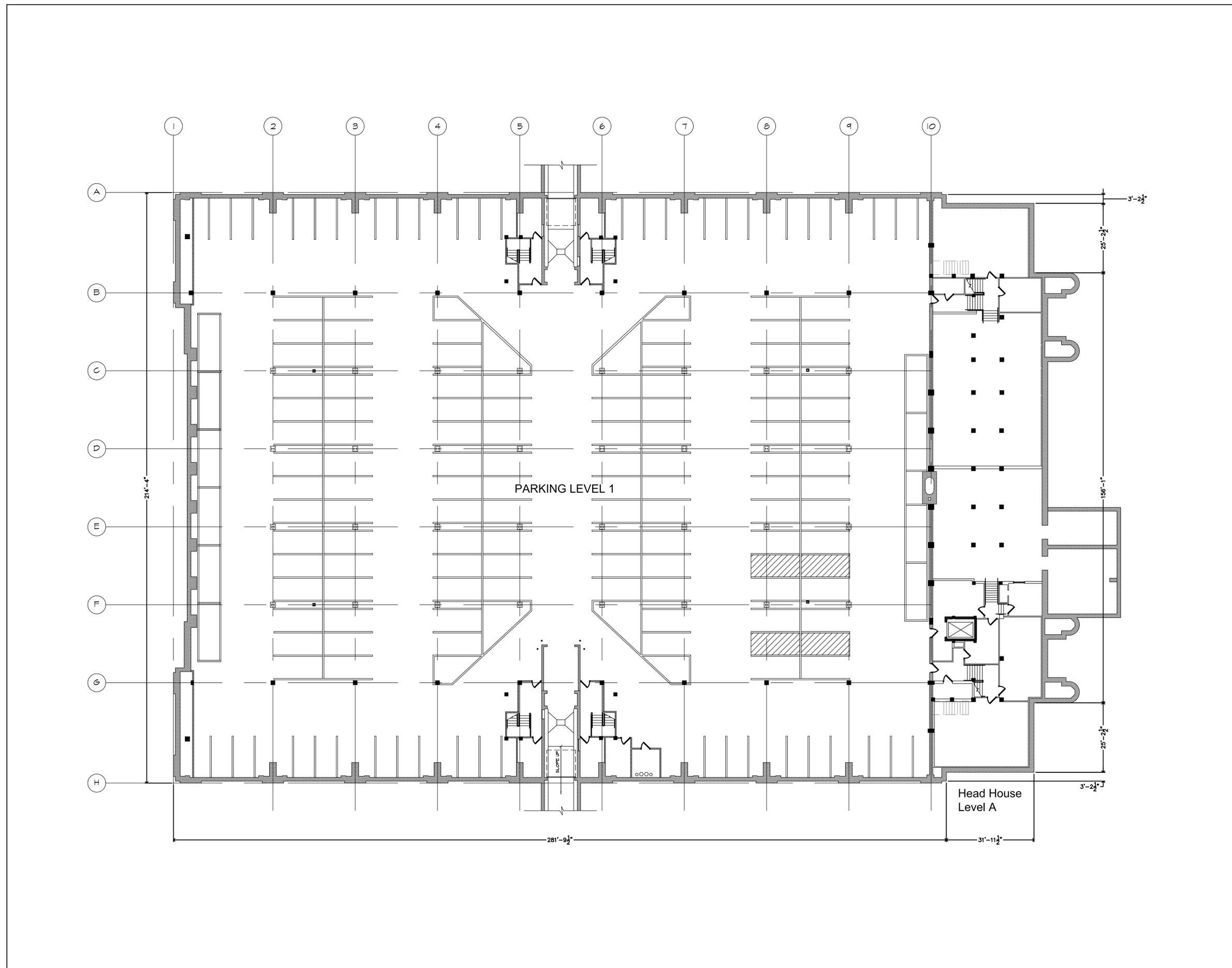
500 Sixth St. No.
 Minneapolis, MN

Drawing Title

Parking Level 1
 and Level A Floor Plan

Scale As Noted

Sheet Number



1 Parking Level 1 and Level A Floor Plan
 a2.1 Scale : 1/16" = 1'-0"

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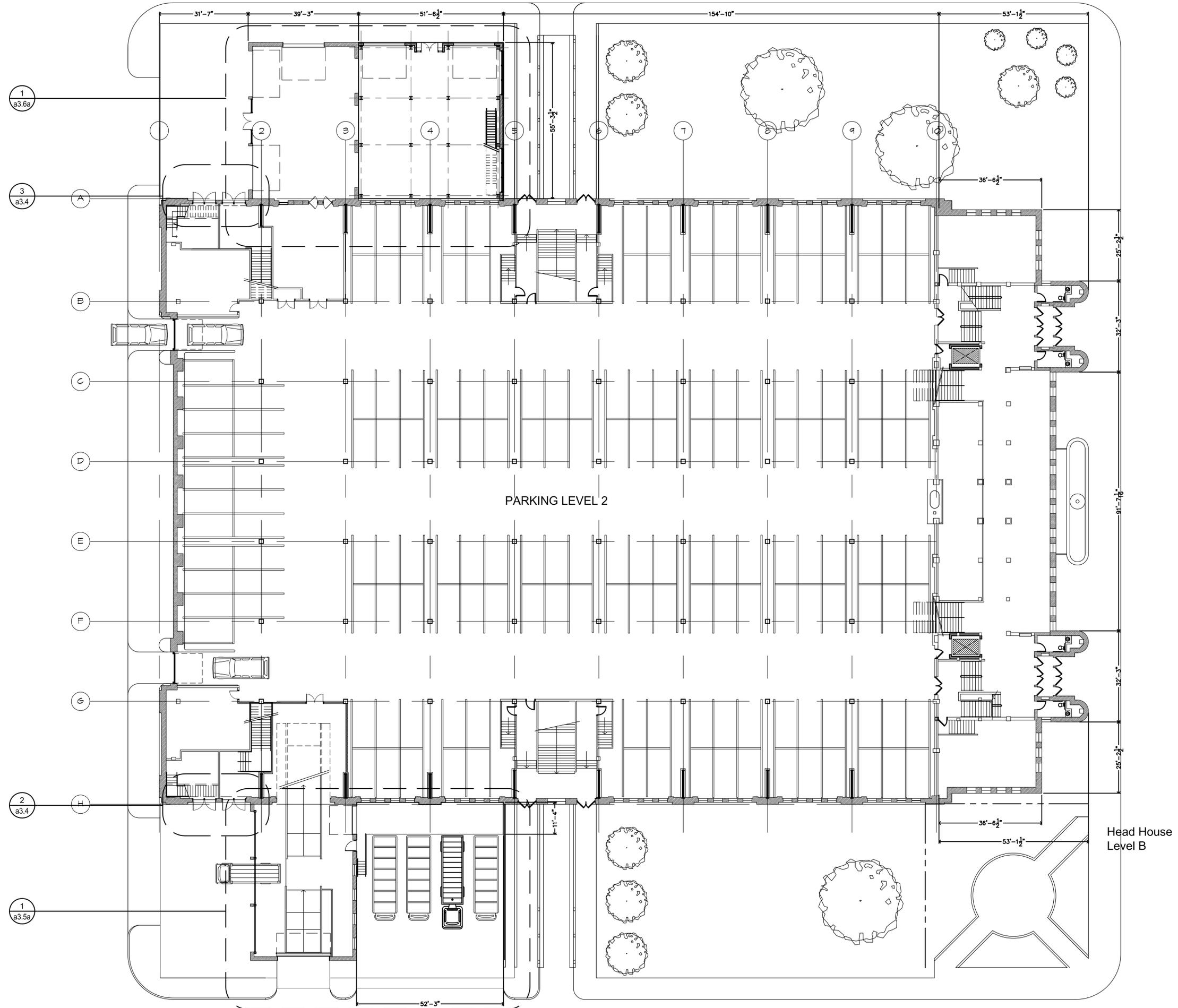
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Minneapolis, MN

Drawing Title

Parking Level 2
and Level B
Floor Plan

Scale As Noted

Sheet Number



1 Parking Level 2 and Level B Floor Plan
a2.2 Scale : 1/16" = 1'-0"

Project North

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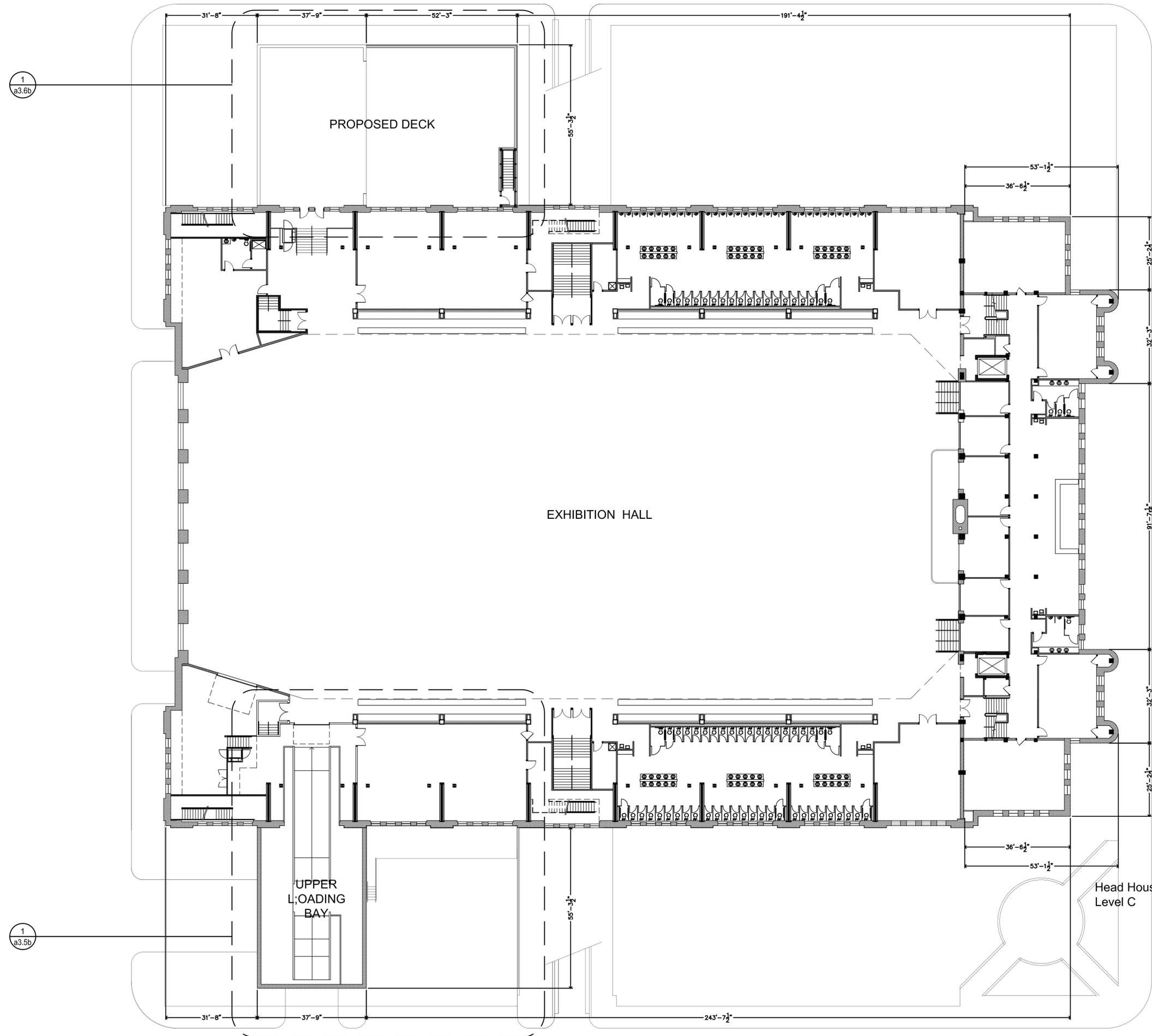
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Drawing Title

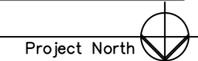
Exhibition Hall
and Level C
Floor Plan

Scale As Noted

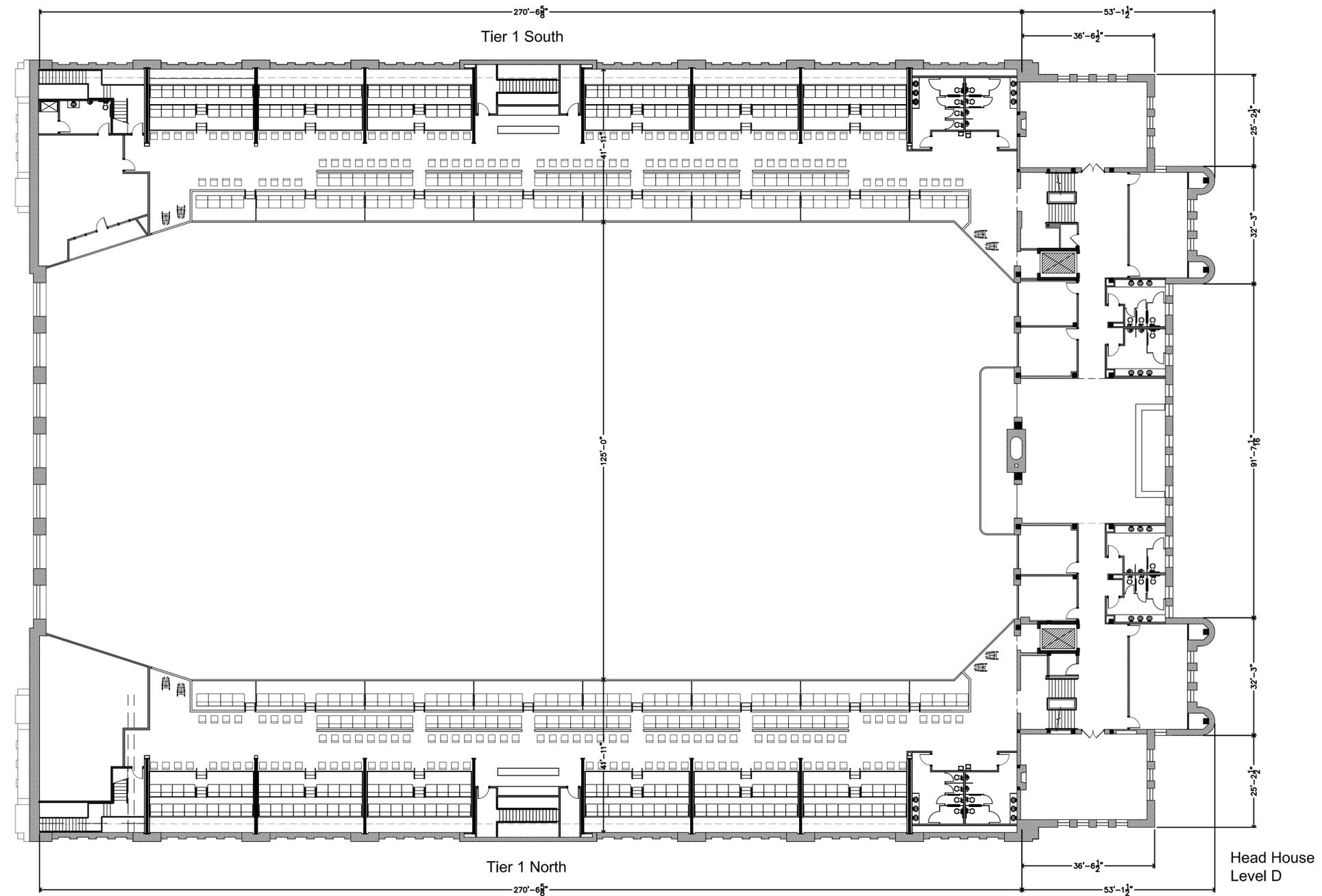
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1 Exhibition Hall and Level C Floor Plan
a2.3 Scale : 1/16" = 1'-0"



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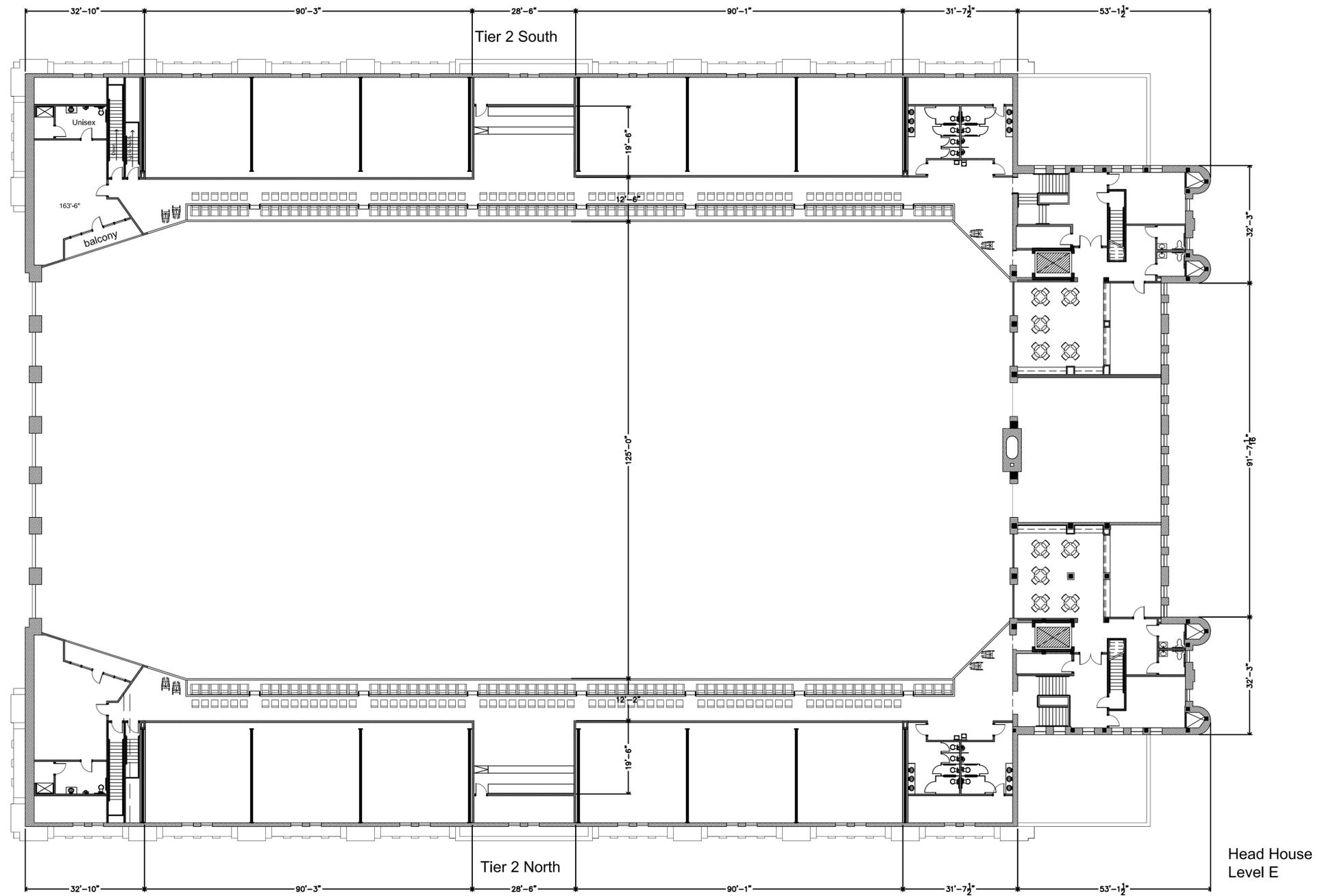
Drawing Title

Tier 1 and Level D
Floor Plan

Scale As Noted

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Project
Minneapolis Armory Renovation
 500 Sixth St. No. Minneapolis, MN

Drawing Title
 Tier 2 and Level E Floor Plan
 Scale As Noted
 Sheet Number

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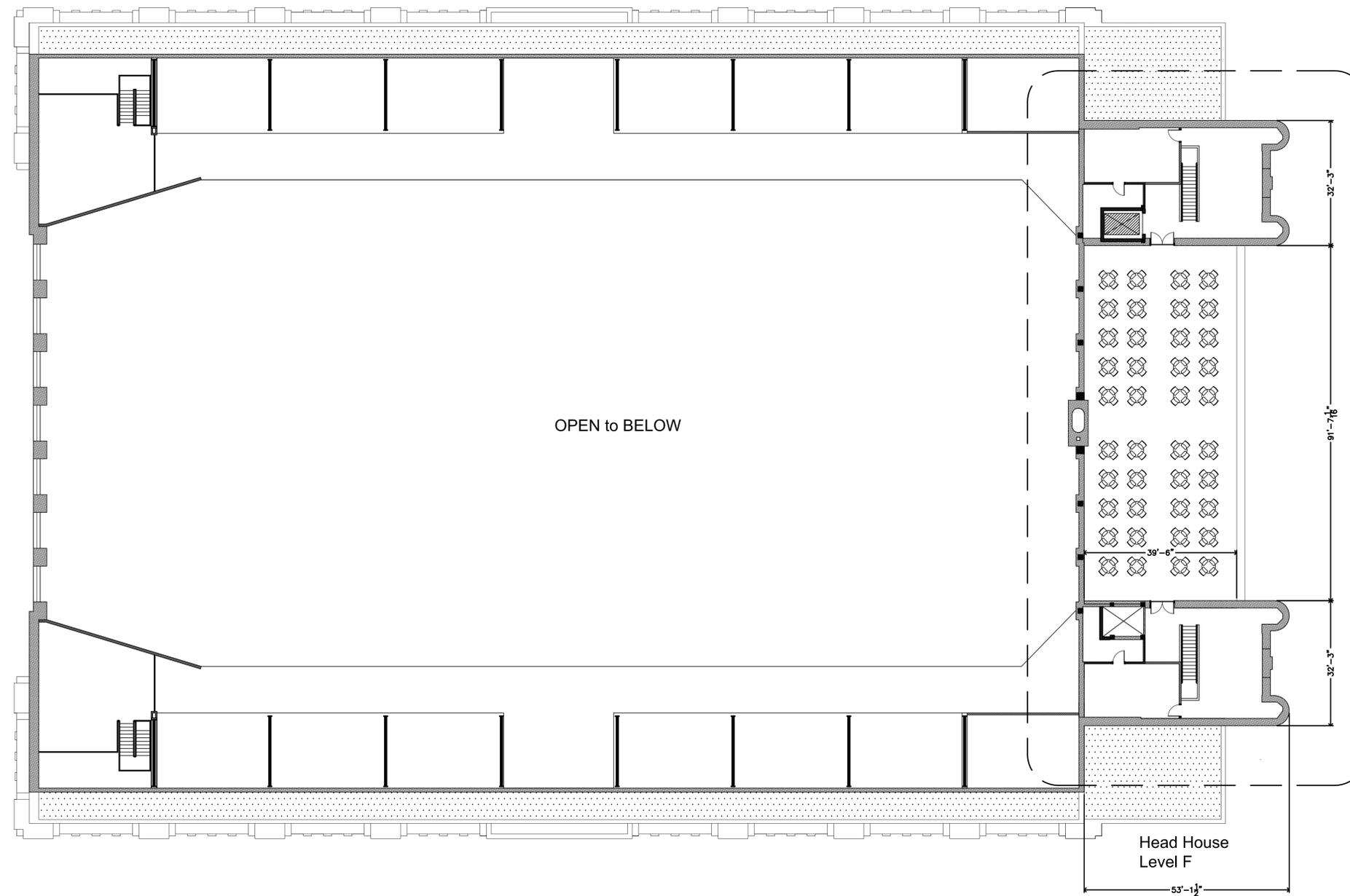
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Drawing Title

Level F
Floor Plan

Scale As Noted

Sheet Number



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Drawing Title

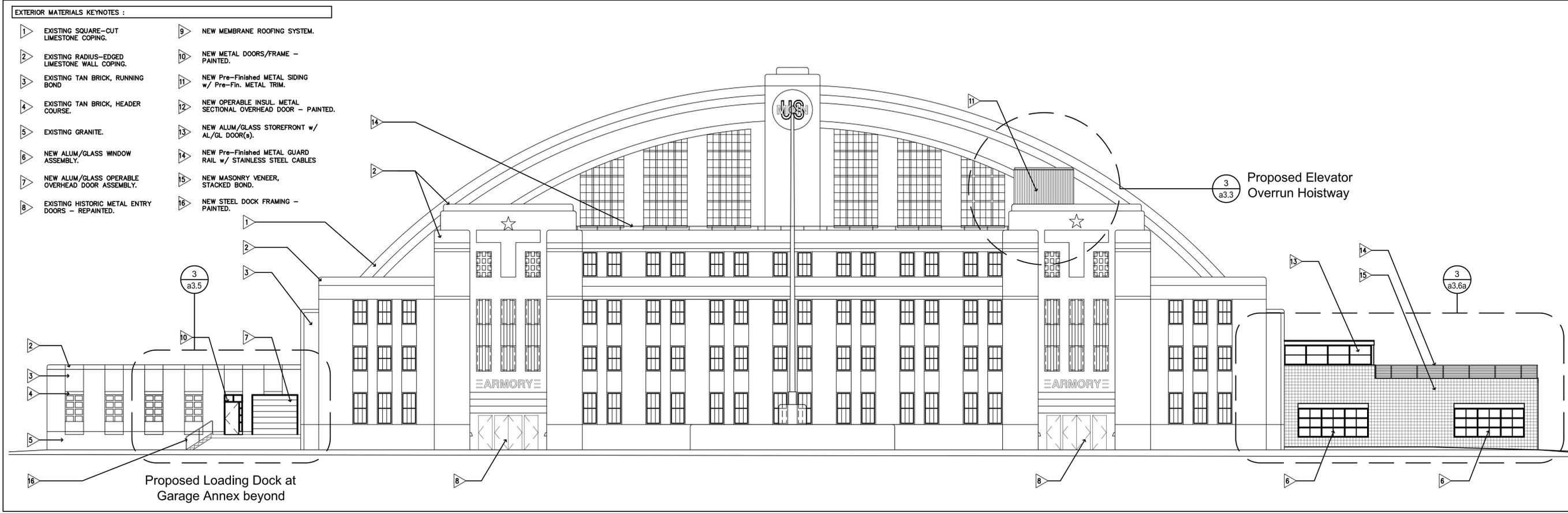
Exterior
Elevations

Scale As Noted

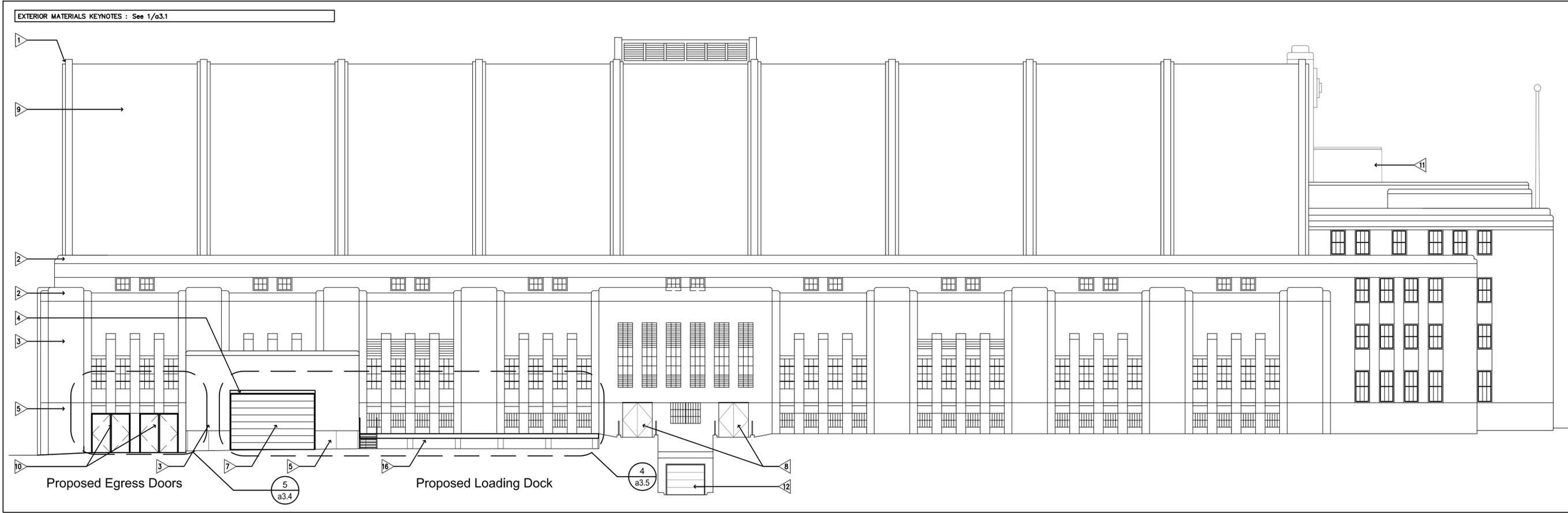
Sheet Number

For Review Only

a3.1



1 6th St. So. Exterior Renovation
a3.1 Scale : 3/32" = 1'-0"



2 5th Ave. So. Exterior Renovation
a3.1 Scale : 3/32" = 1'-0"

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500 Sixth St. No.
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Drawing Title

Exterior
Elevations

Scale As Noted

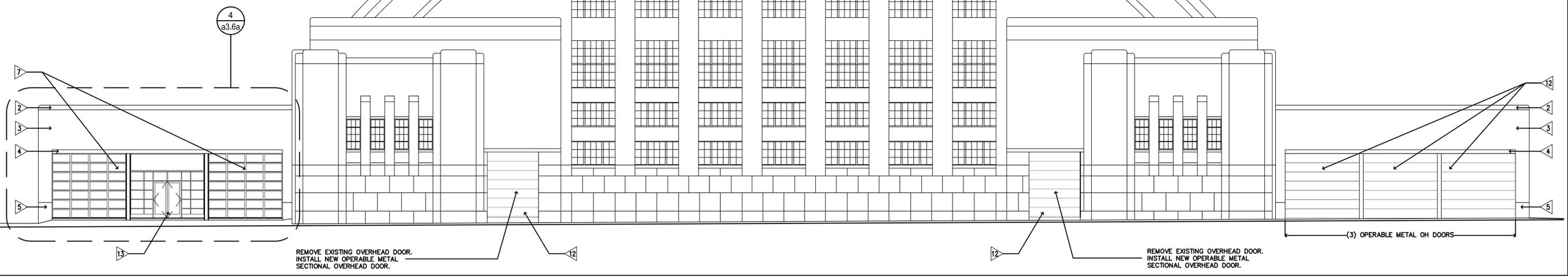
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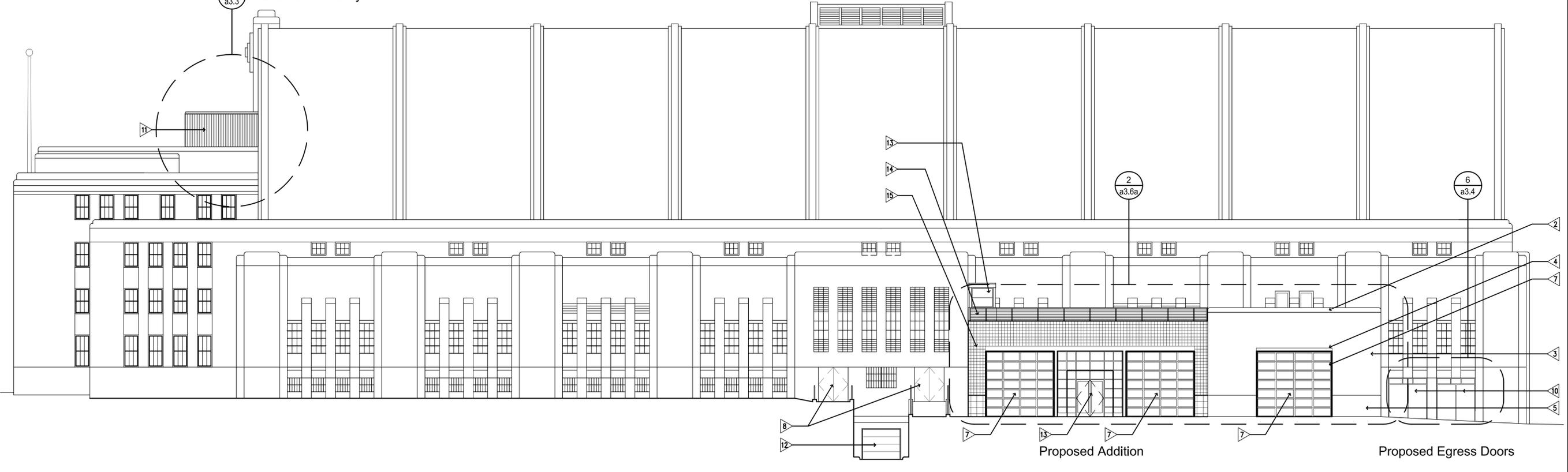
EXTERIOR MATERIALS KEYNOTES :

- | | | | |
|---|--|----|--|
| 1 | EXISTING SQUARE-CUT LIMESTONE COPING. | 9 | NEW MEMBRANE ROOFING SYSTEM. |
| 2 | EXISTING RADIUS-EDGED LIMESTONE WALL COPING. | 10 | NEW METAL DOORS/FRAME - PAINTED. |
| 3 | EXISTING TAN BRICK, RUNNING BOND | 11 | NEW Pre-Finished METAL SIDING w/ Pre-Fin. METAL TRIM. |
| 4 | EXISTING TAN BRICK, HEADER COURSE. | 12 | NEW OPERABLE INSUL. METAL SECTIONAL OVERHEAD DOOR - PAINTED. |
| 5 | EXISTING GRANITE. | 13 | NEW ALUM/GLASS STOREFRONT w/ AL/GL. DOOR(s). |
| 6 | NEW ALUM/GLASS WINDOW ASSEMBLY. | 14 | NEW Pre-Finished METAL GUARD RAIL w/ STAINLESS STEEL CABLES |
| 7 | NEW ALUM/GLASS OPERABLE OVERHEAD DOOR ASSEMBLY. | 15 | NEW MASONRY VENEER, STACKED BOND. |
| 8 | EXISTING HISTORIC METAL ENTRY DOORS - REPAINTED. | 16 | NEW STEEL DOCK FRAMING - PAINTED. |



1
a3.2
5th St. So. Exterior Renovation
Scale : 3/32" = 1'-0"

EXTERIOR MATERIALS KEYNOTES : See 1/a3.2



2
a3.2
Portland Ave. Exterior Renovation
Scale : 3/32" = 1'-0"

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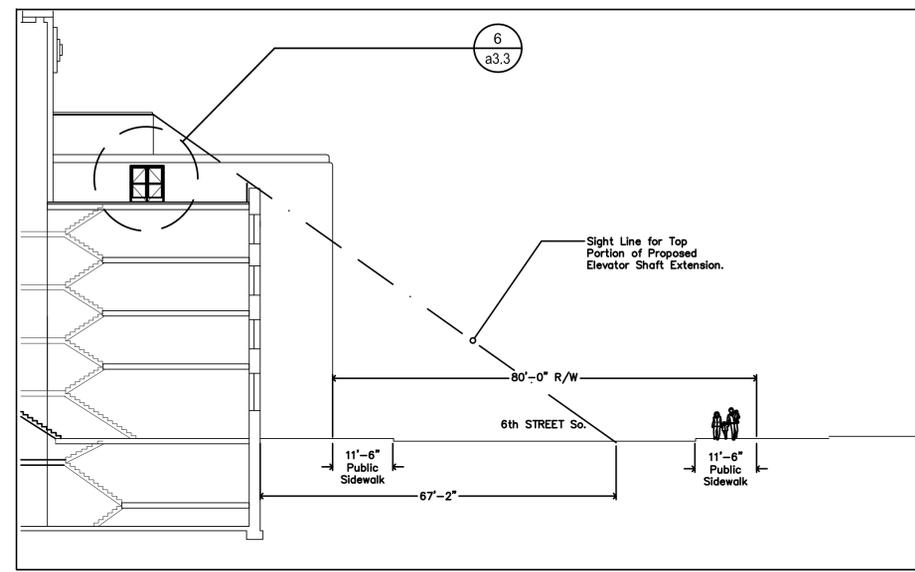
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Exterior Remodeling :
Elevator Hoistway
Details

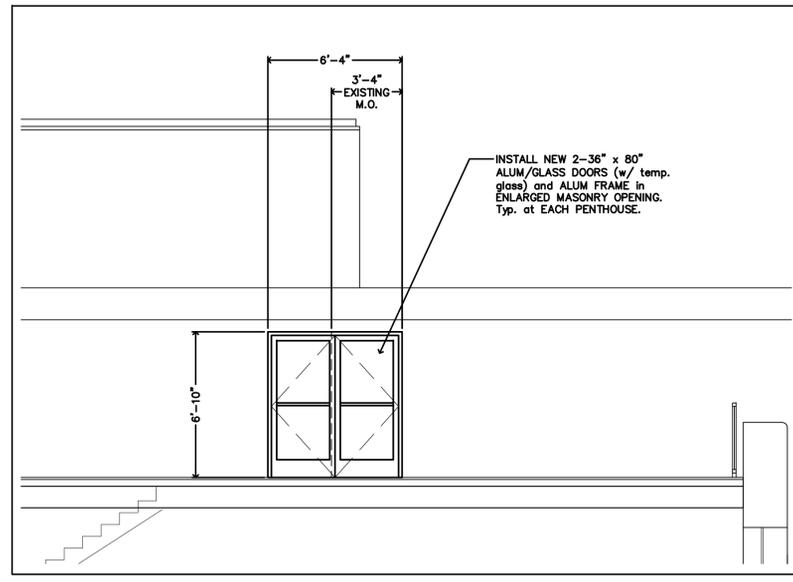
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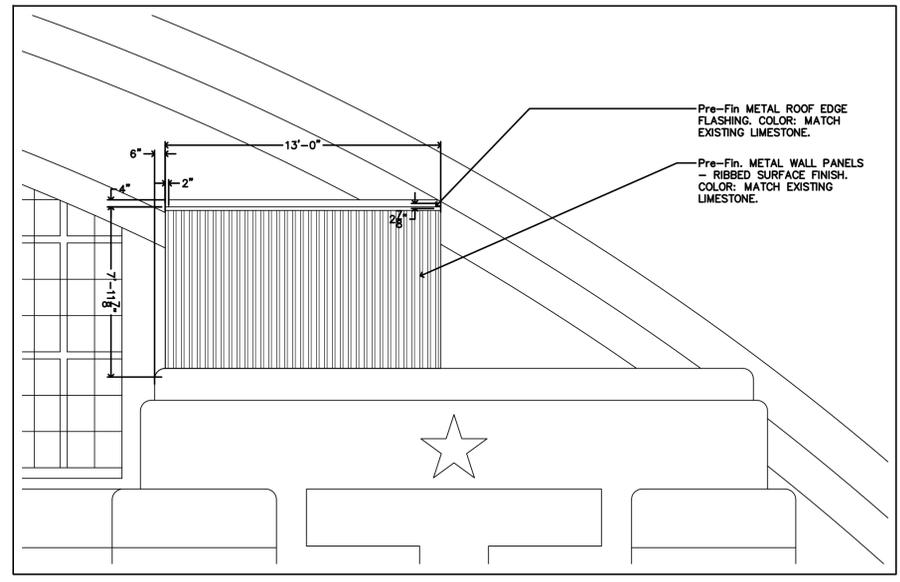
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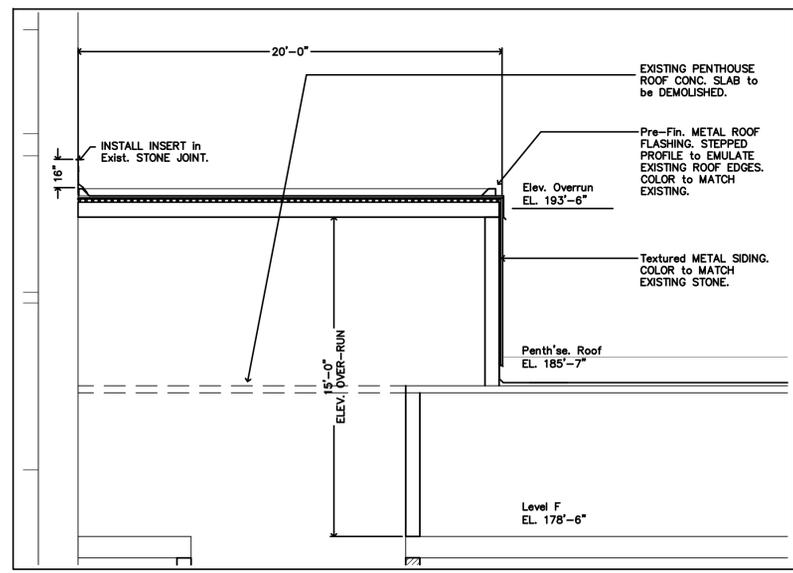
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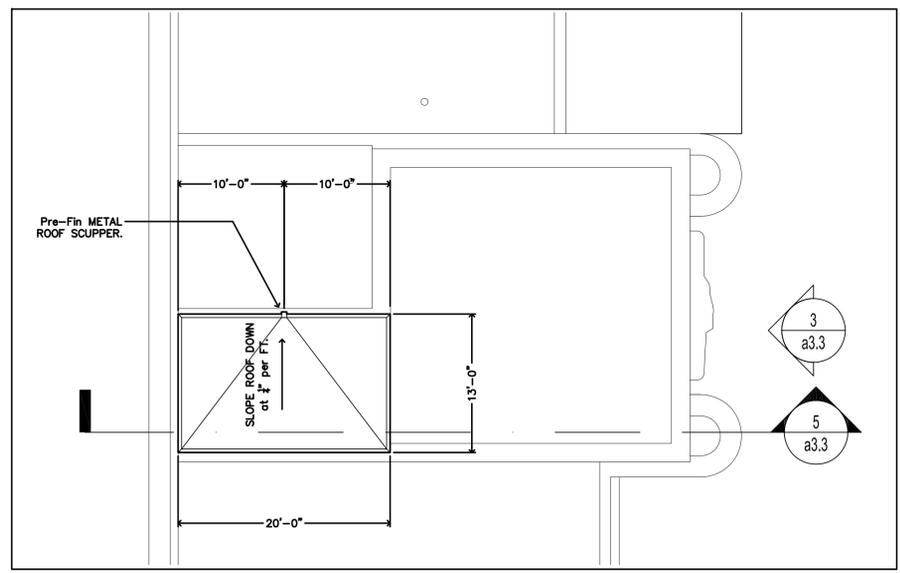
6 Elevation at Roof Deck Access Doors
Scale : 1/4" = 1'-0"



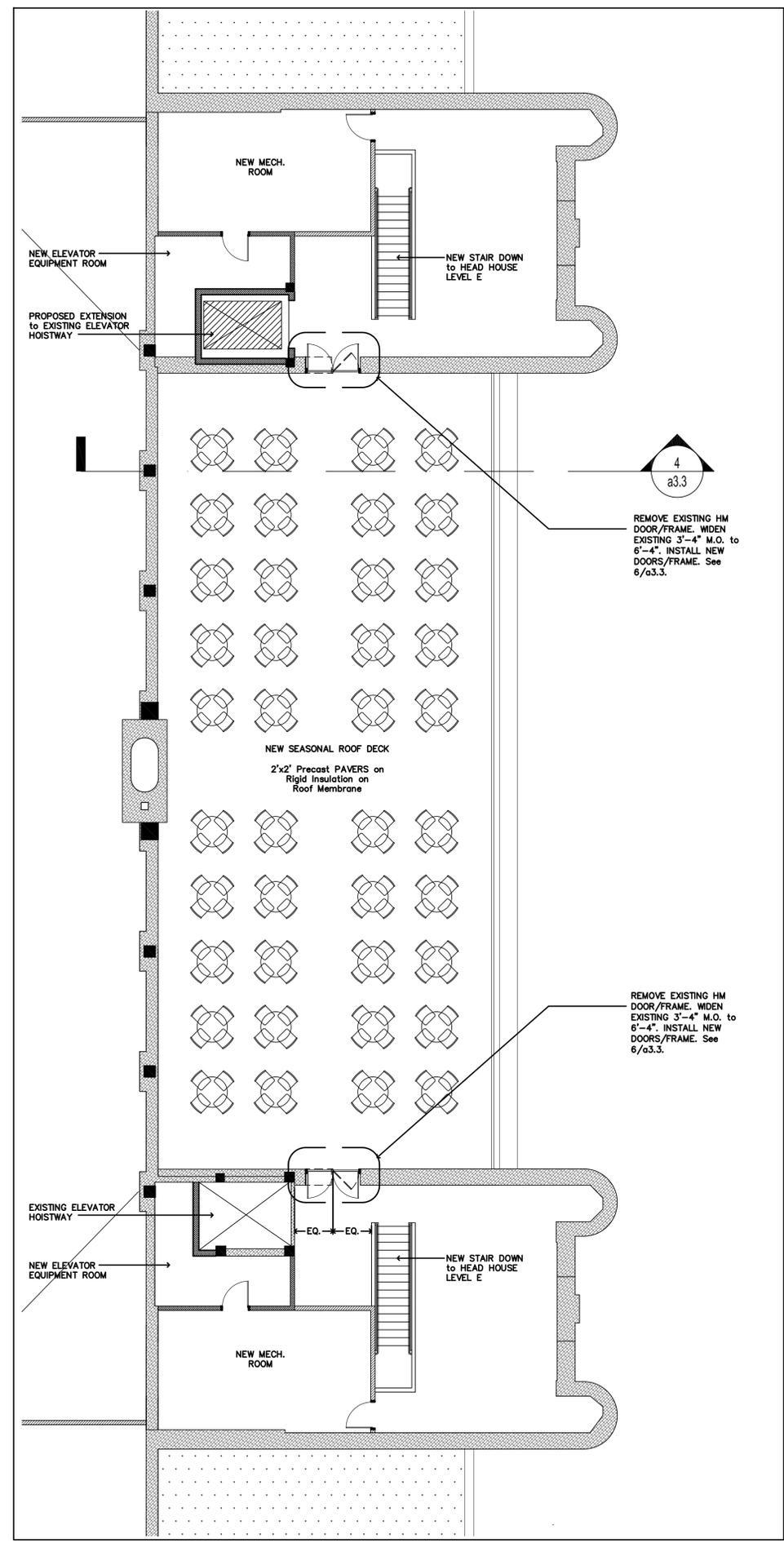
3 Enlarged Elevation at Elevator Hoistway
Scale : 1/4" = 1'-0"



5 Section thru Elevator Hoistway
Scale : 1/4" = 1'-0"



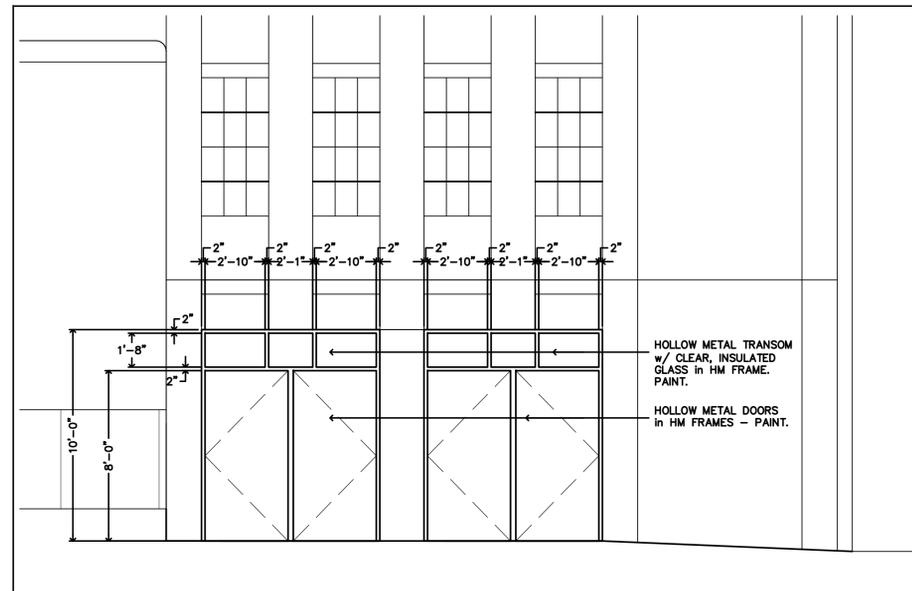
2 Enlarged Roof Plan at Elevator Hoistway
Scale : 1/8" = 1'-0"



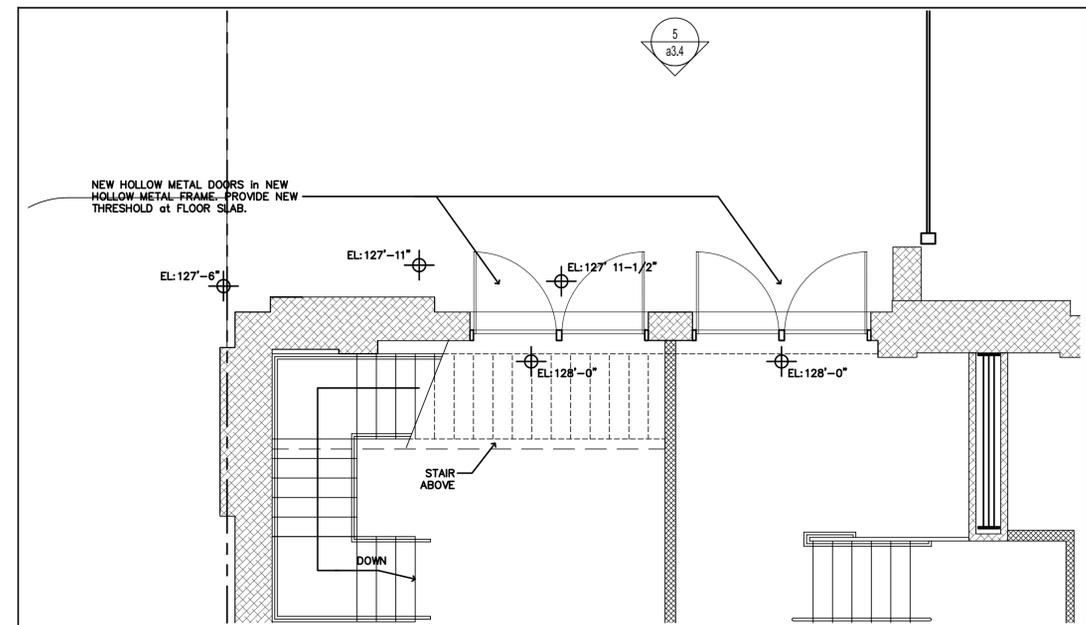
1 Enlarged Level F Floor Plan at Elevator Hoistway
Scale : 1/8" = 1'-0"



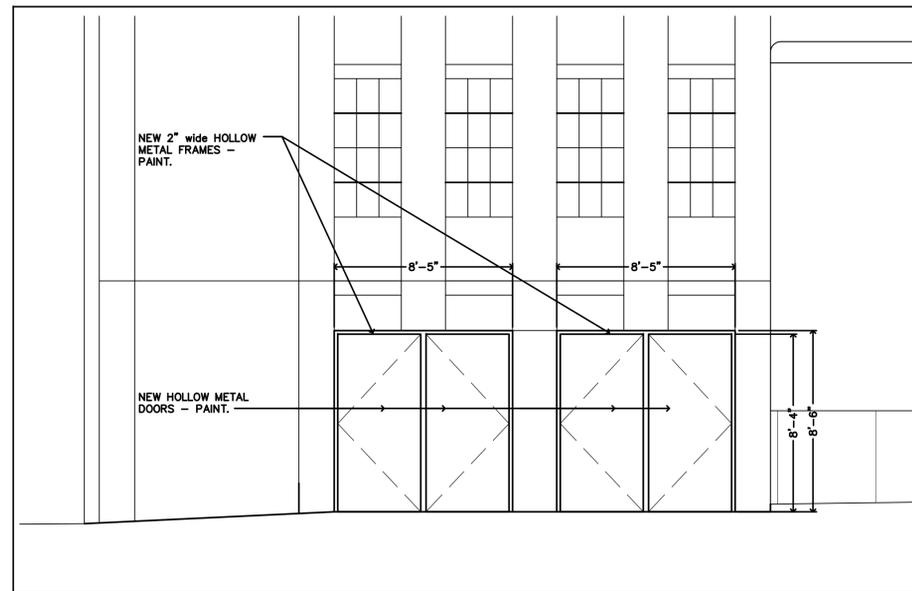
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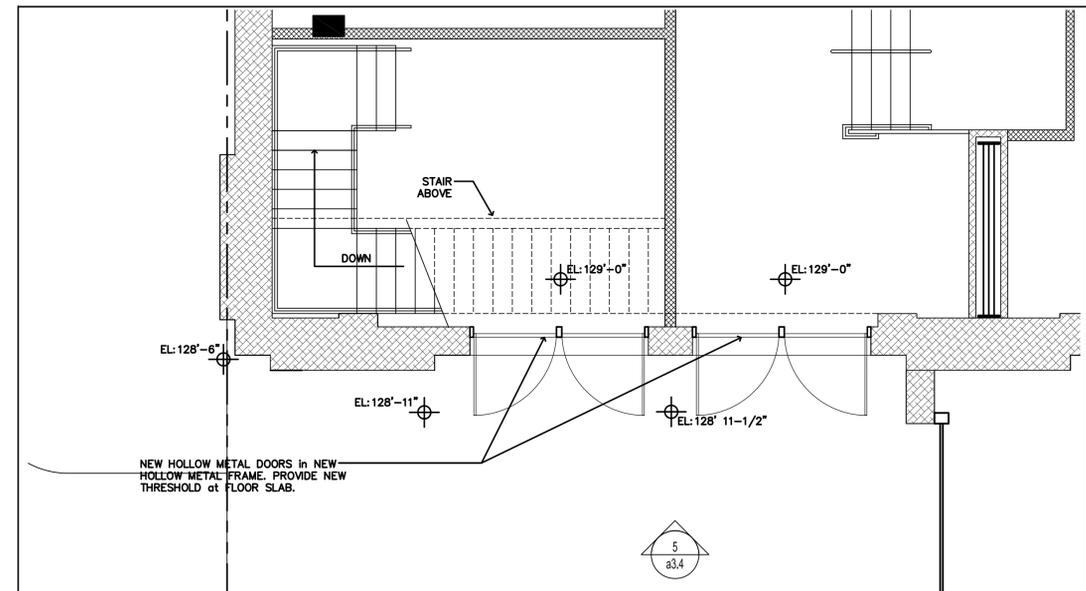
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a3.4 Enlarged Elevation at Proposed Portland Egress Doors : New Construction
Scale : 1/4" = 1'-0"



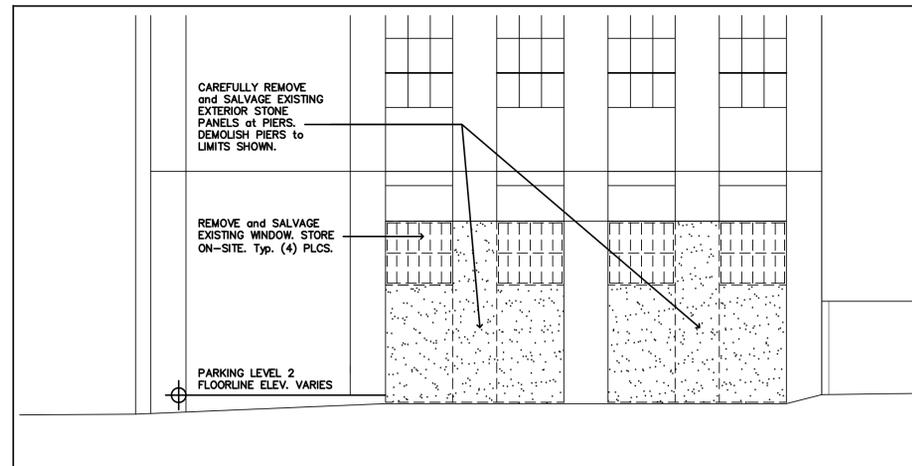
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a3.4 Enlarged Floor Plan at Proposed Portland Egress Doors : Revised Plan
Scale : 1/8" = 1'-0"



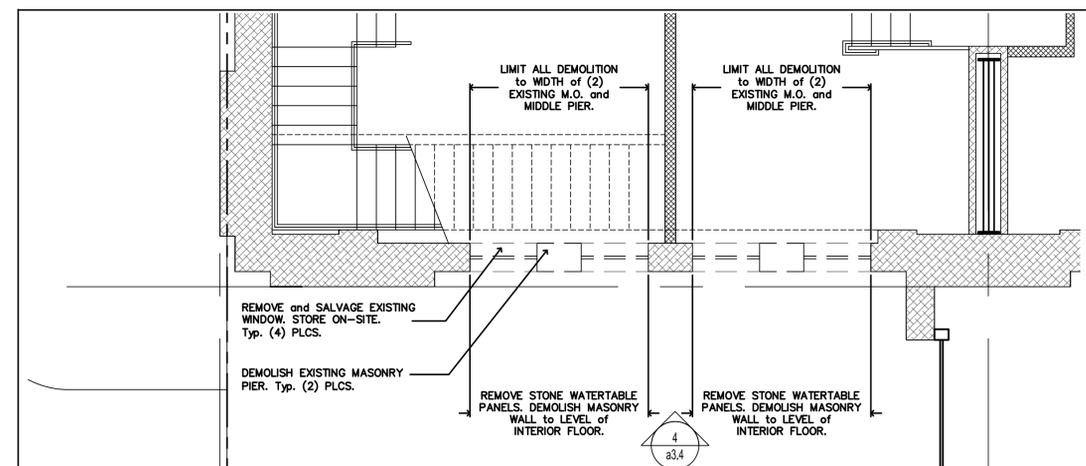
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a3.4 Enlarged Elevation at Proposed 5th Ave. So. Egress Doors : New Construction
Scale : 1/4" = 1'-0"



2
a3.4 Enlarged Floor Plan at Proposed 5th Ave. So. Egress Doors : Revised Plan
Scale : 1/8" = 1'-0"



4
a3.4 Enlarged Elevation at Proposed Egress Doors : Typical Demolition
Scale : 1/4" = 1'-0"



1
a3.4 Enlarged Floor Plan at Proposed Egress Doors : Typical Demolition
Scale : 1/4" = 1'-0"

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Armory
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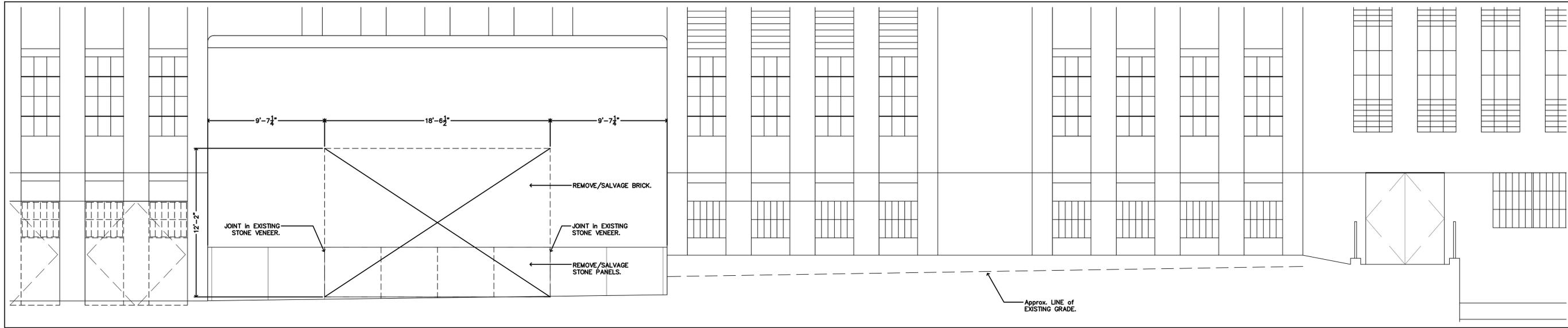
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Minneapolis, MN

Drawing Title

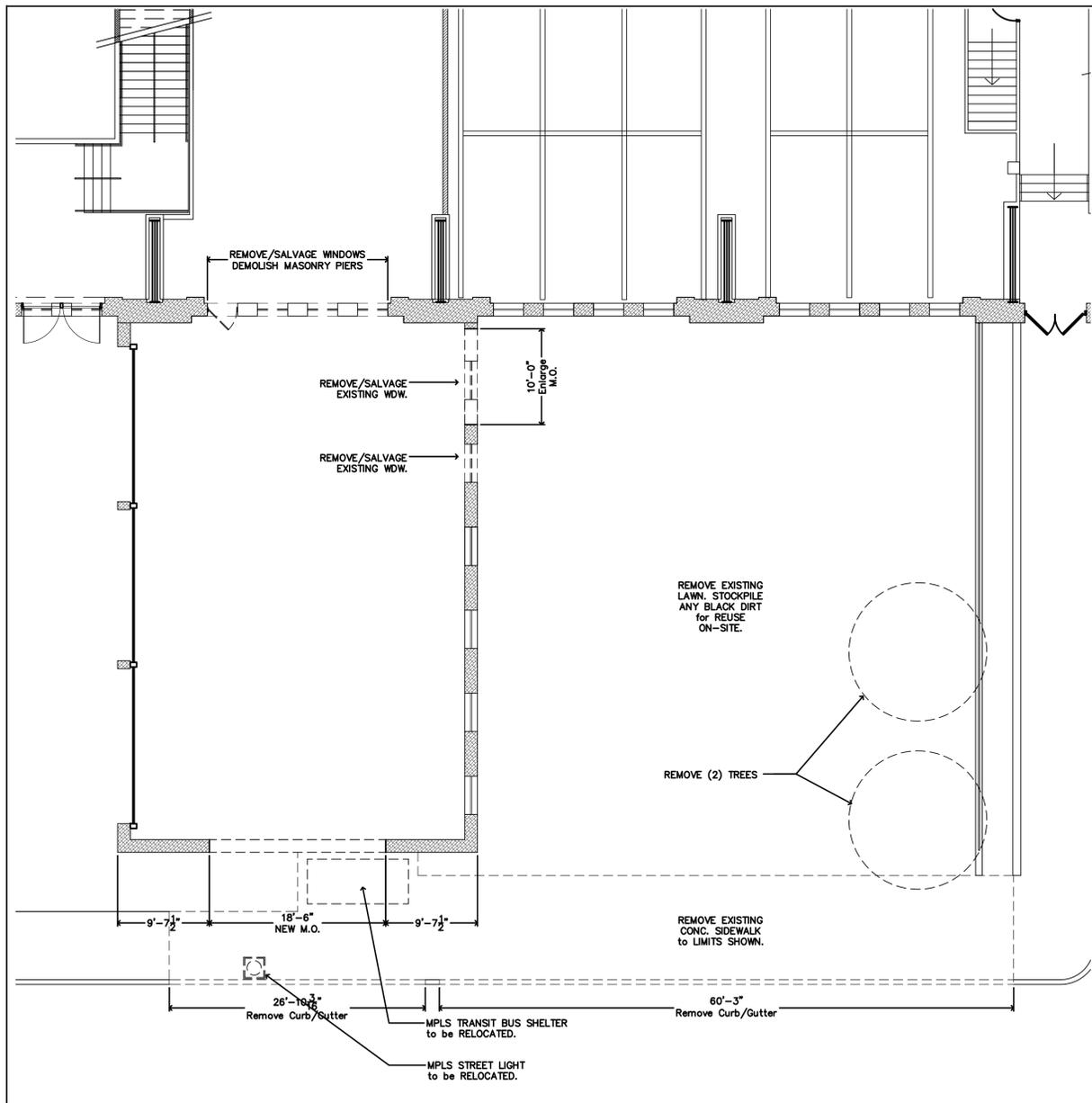
Exterior Remodeling :
5th St. S Egress Doors
Details

Scale As Noted

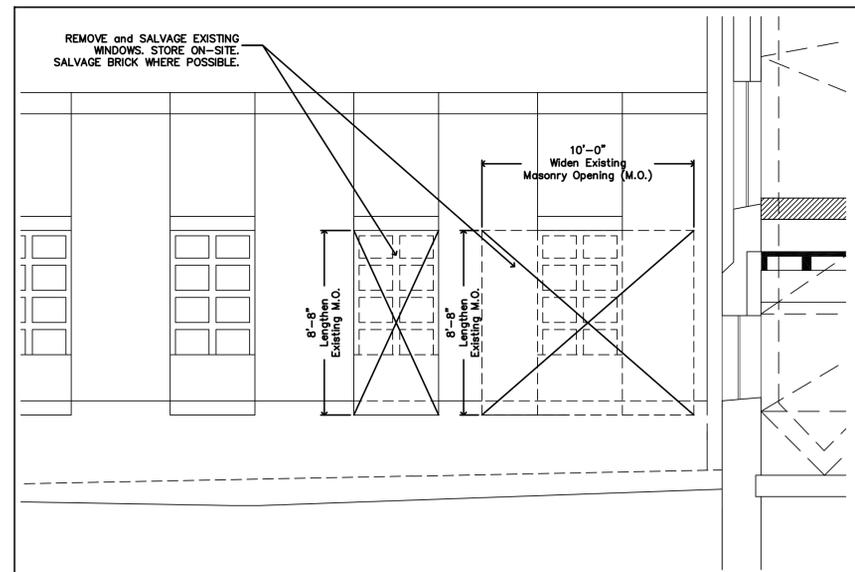
Sheet Number



4 Enlarged Elevation at Loading Dock
a3.5 Scale : 1/4" = 1'-0"



1 Enlarged Parking 2 Level Floor Plan at Loading Dock Area
a3.5 Scale : 1/8" = 1'-0"



2 Enlarged Elevation at Loading Dock
a3.5 Scale : 1/4" = 1'-0"

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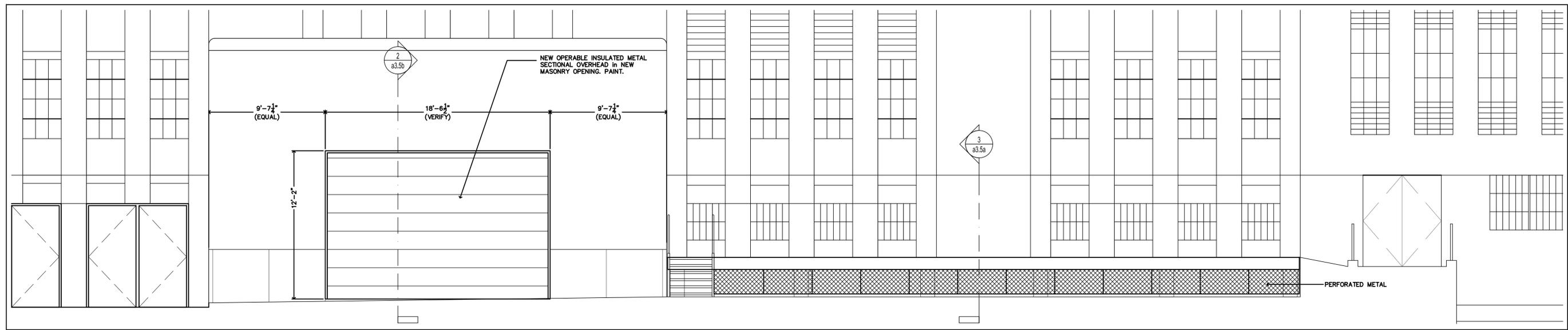
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Exterior Remodeling :
Loading Dock
Demolition

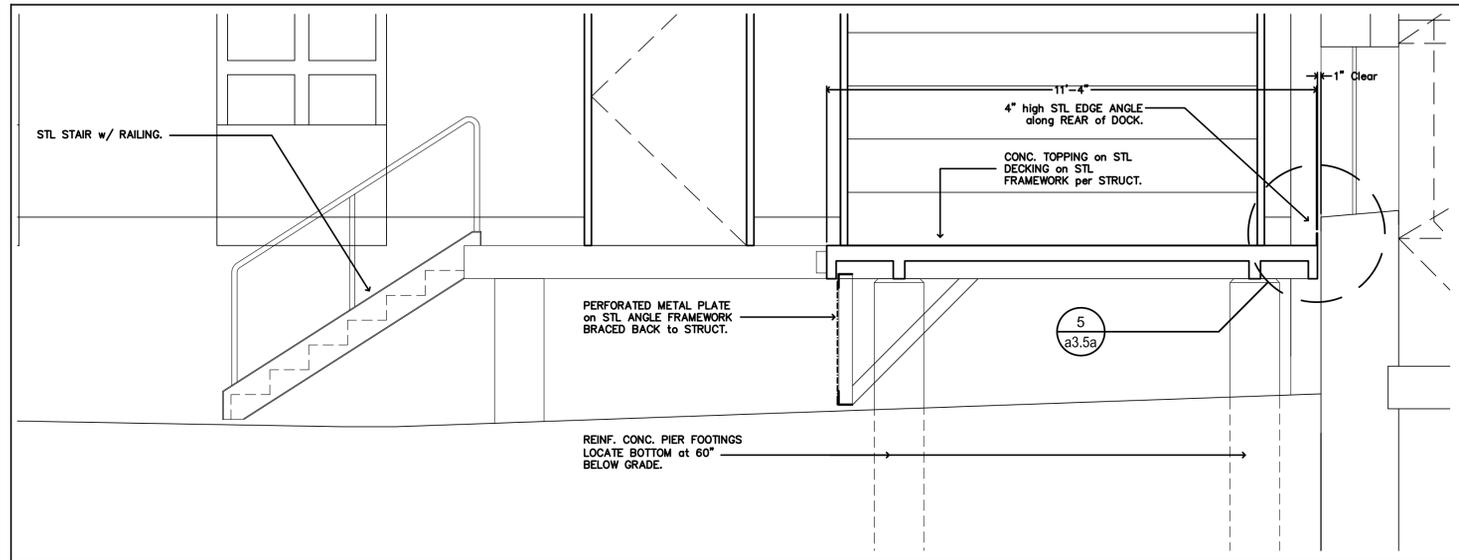
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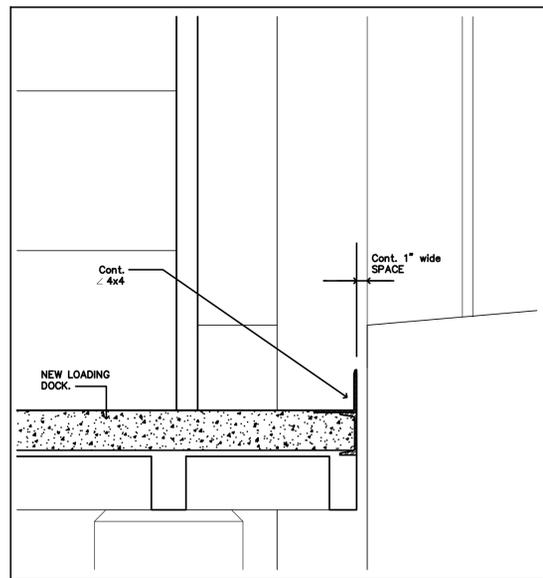




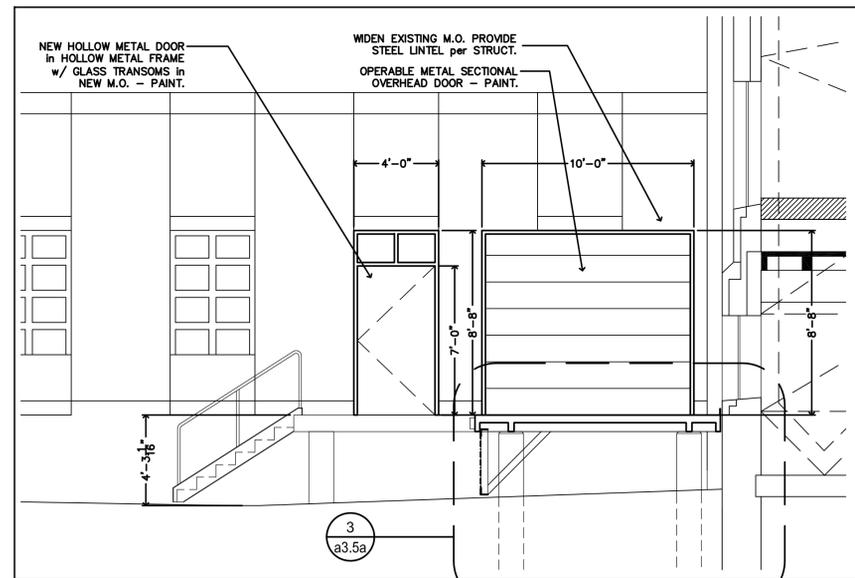
4 Enlarged Elevation at Loading Dock
Scale : 1/4" = 1'-0"



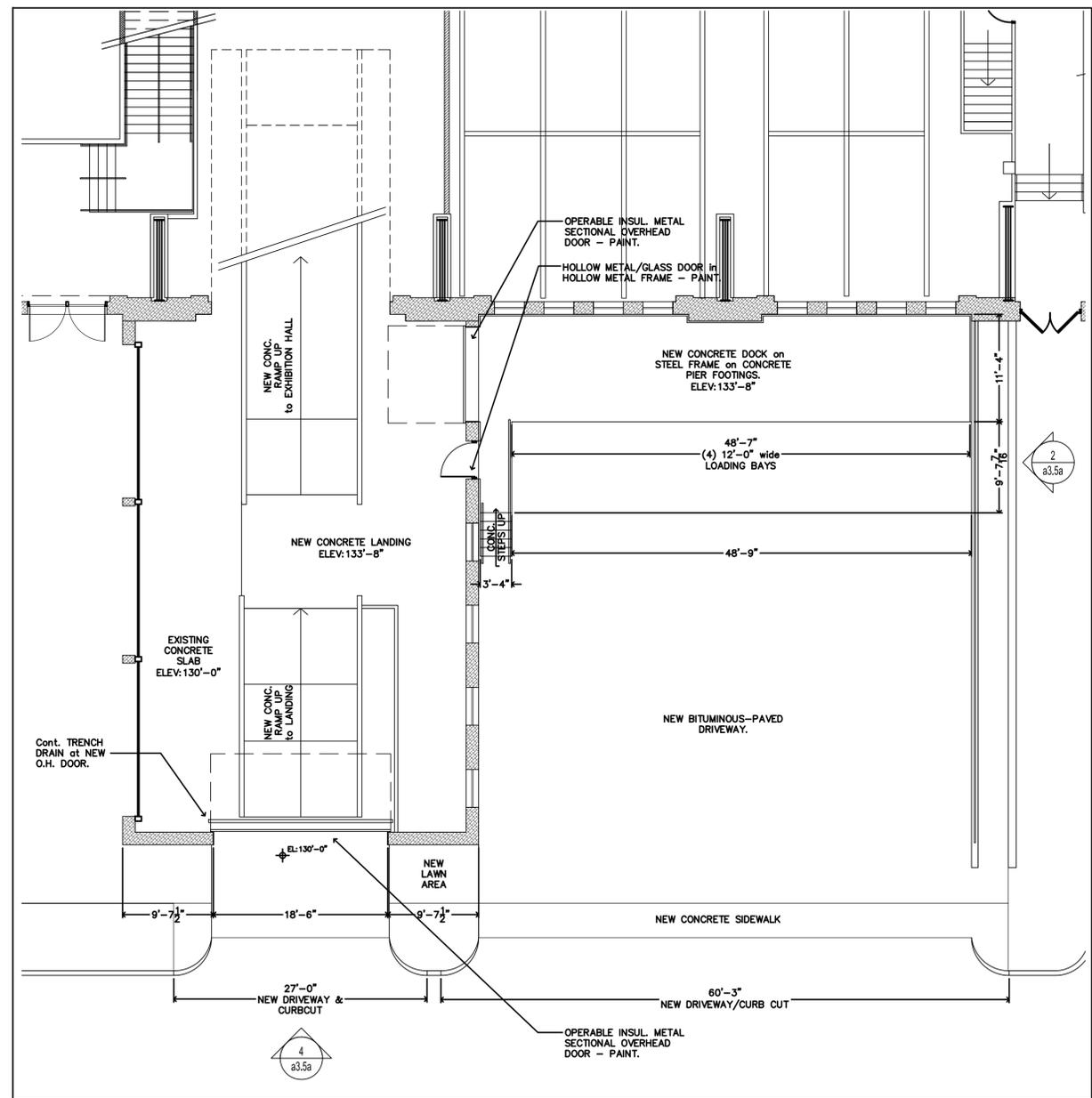
3 Section thru Loading Dock
Scale : 1/2" = 1'-0"



5 Edge Detail at Loading Dock along Building
Scale : 1-1/2" = 1'-0"



2 Enlarged Elevation at Loading Dock
Scale : 1/4" = 1'-0"



1 Enlarged Parking 2 Level Floor Plan at Loading Dock Area
Scale : 1/8" = 1'-0"

Certification
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Drawn By : djc
Date Issued : 08.29.16
Revisions :

Project

Minneapolis
Armory
Renovation

500 Sixth St. No.
Minneapolis, MN

Drawing Title

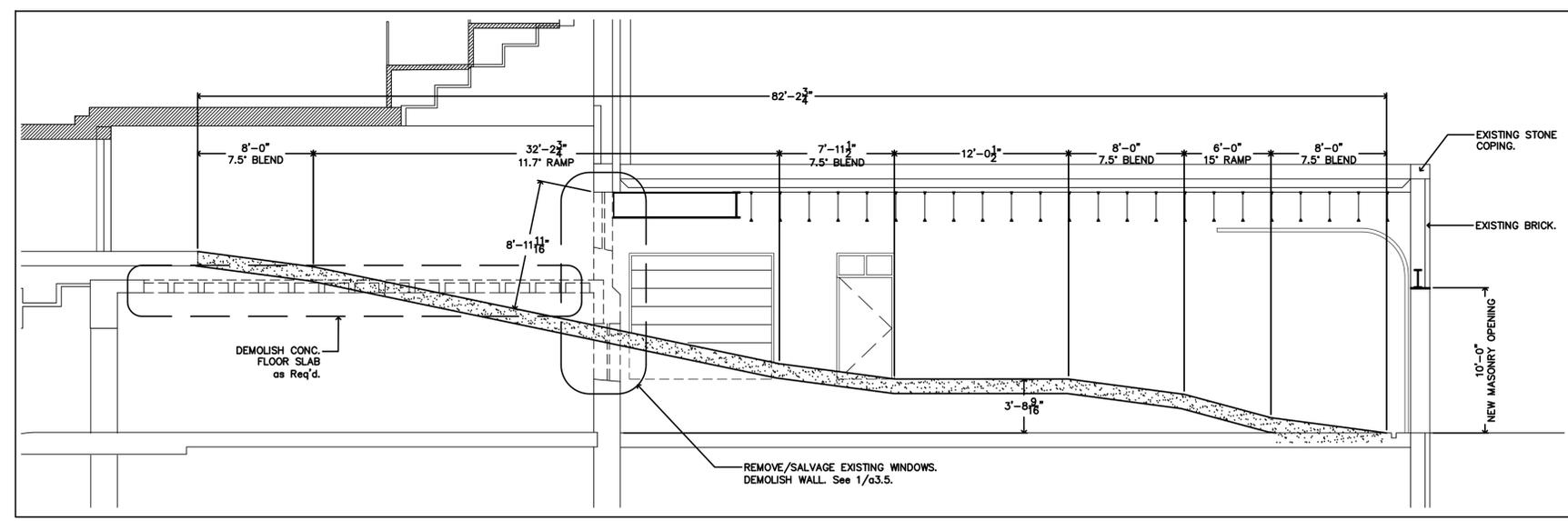
Exterior Remodeling :
Loading Dock
Details

Scale As Noted

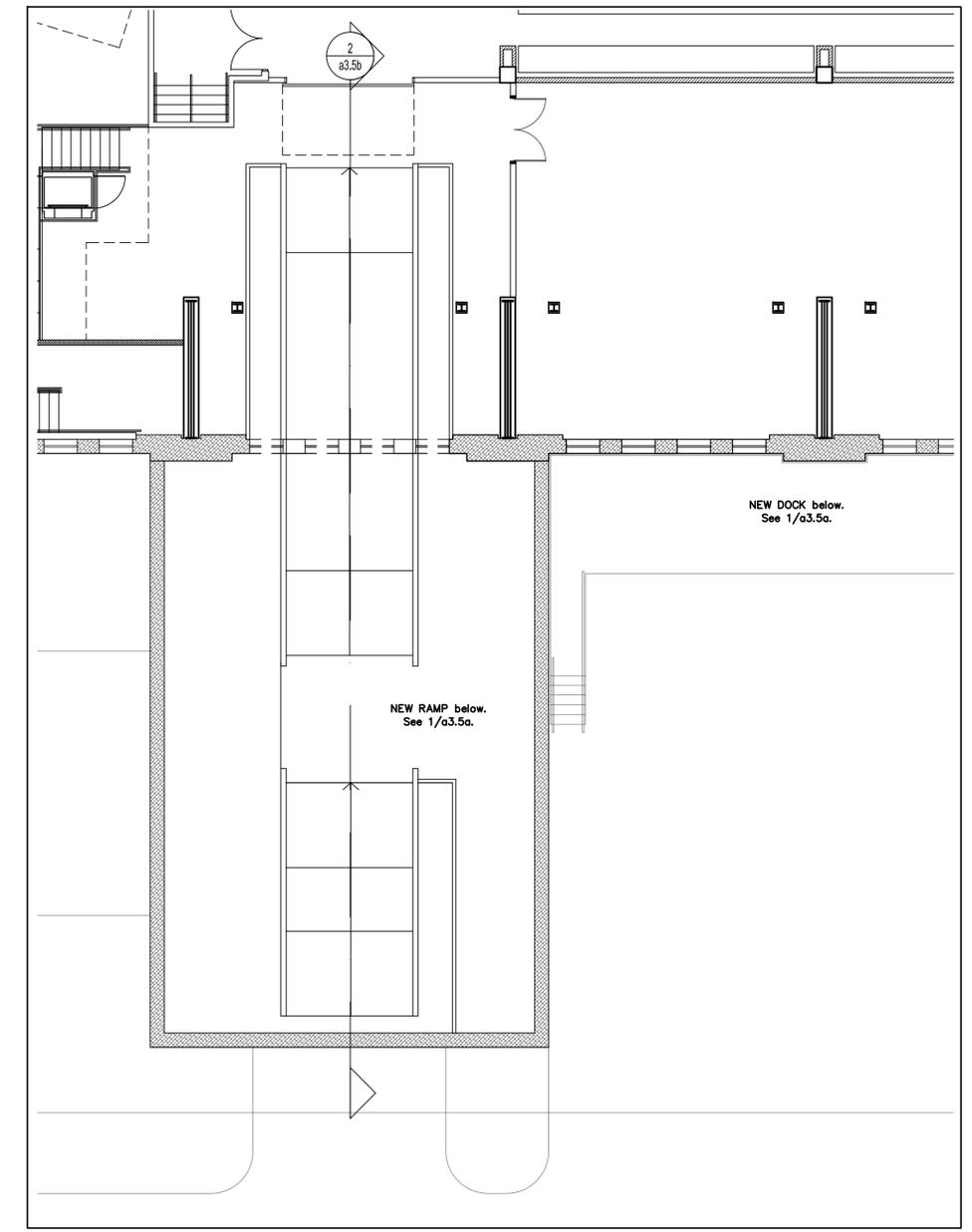
Sheet Number



Consultants



2 Section thru Garage Annex with New Ramp
Scale : 3/32" = 1'-0"



1 Enlarged Exhibition Hall Floor Plan at Loading Dock Area
Scale : 1/8" = 1'-0"

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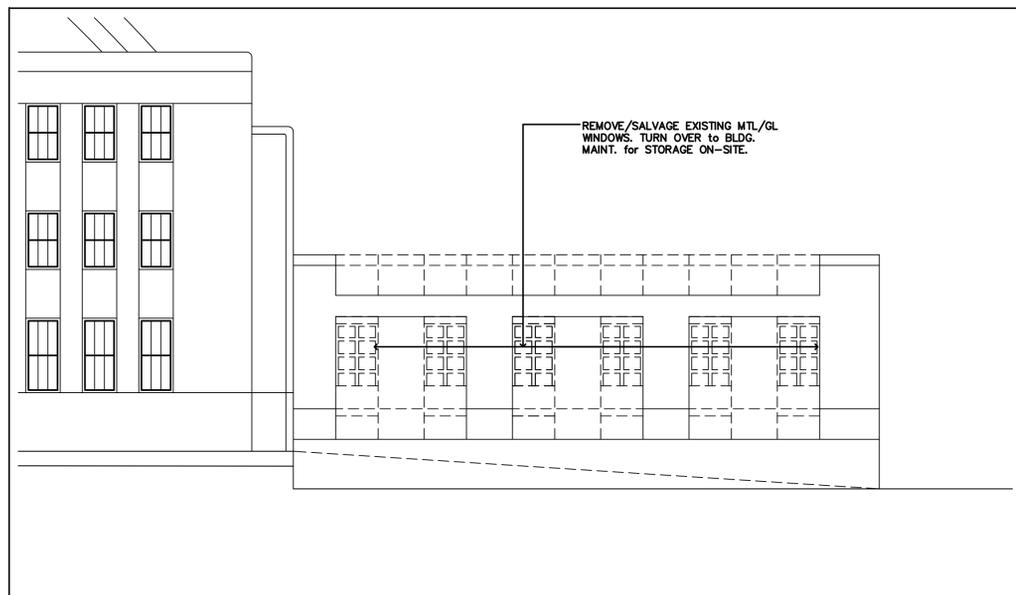
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Project
Minneapolis Armory Renovation
500 Sixth St. No. Minneapolis, MN

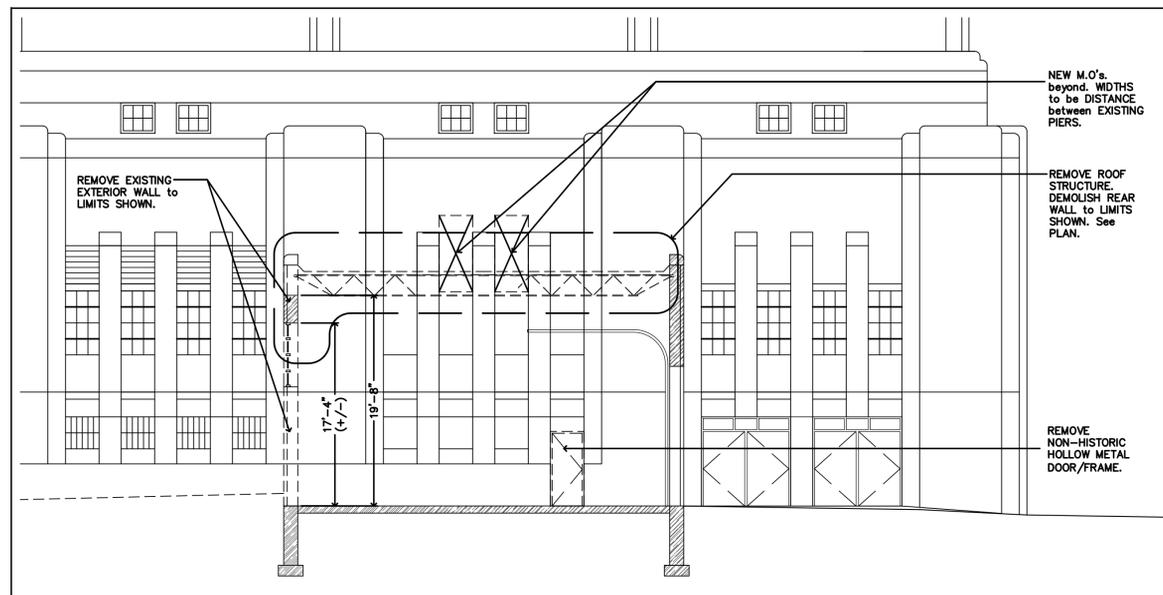
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Exterior Remodeling : Loading Dock Details
Scale As Noted
Sheet Number

a3.5b

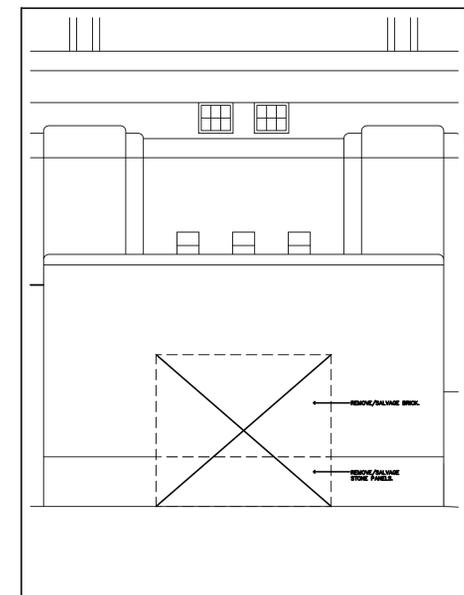




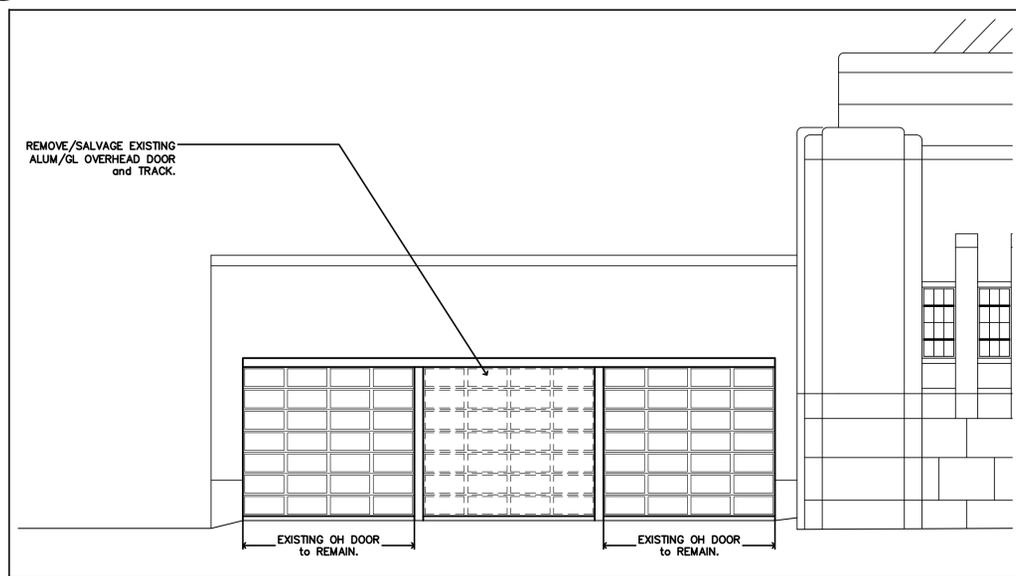
3 Elevation at Existing Garage Annex : Demolition
a3.6 Scale : 1/8" = 1'-0"



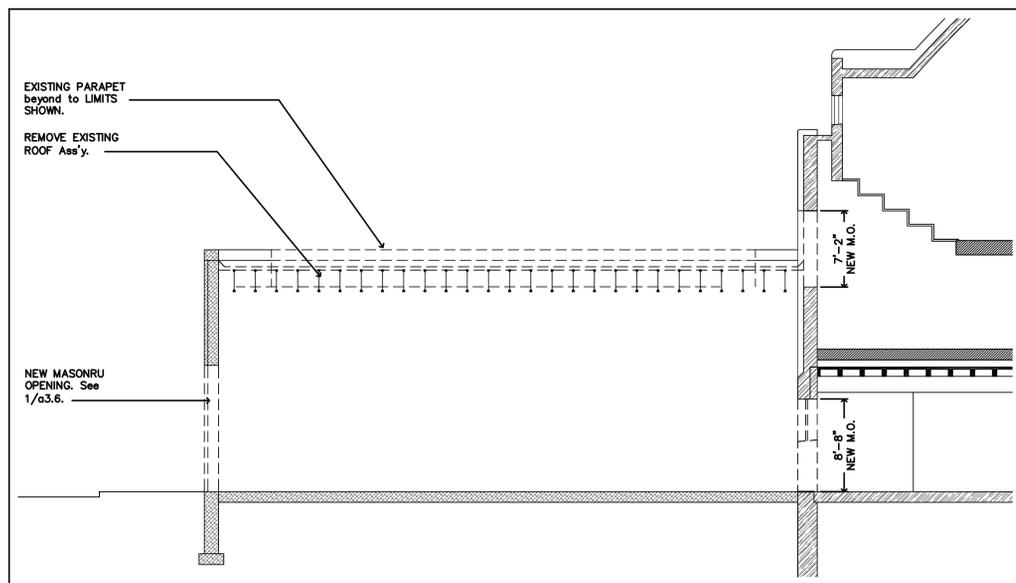
6 Partial Portland Ave. Elevation/Section : Demolition
a3.6 Scale : 1/8" = 1'-0"



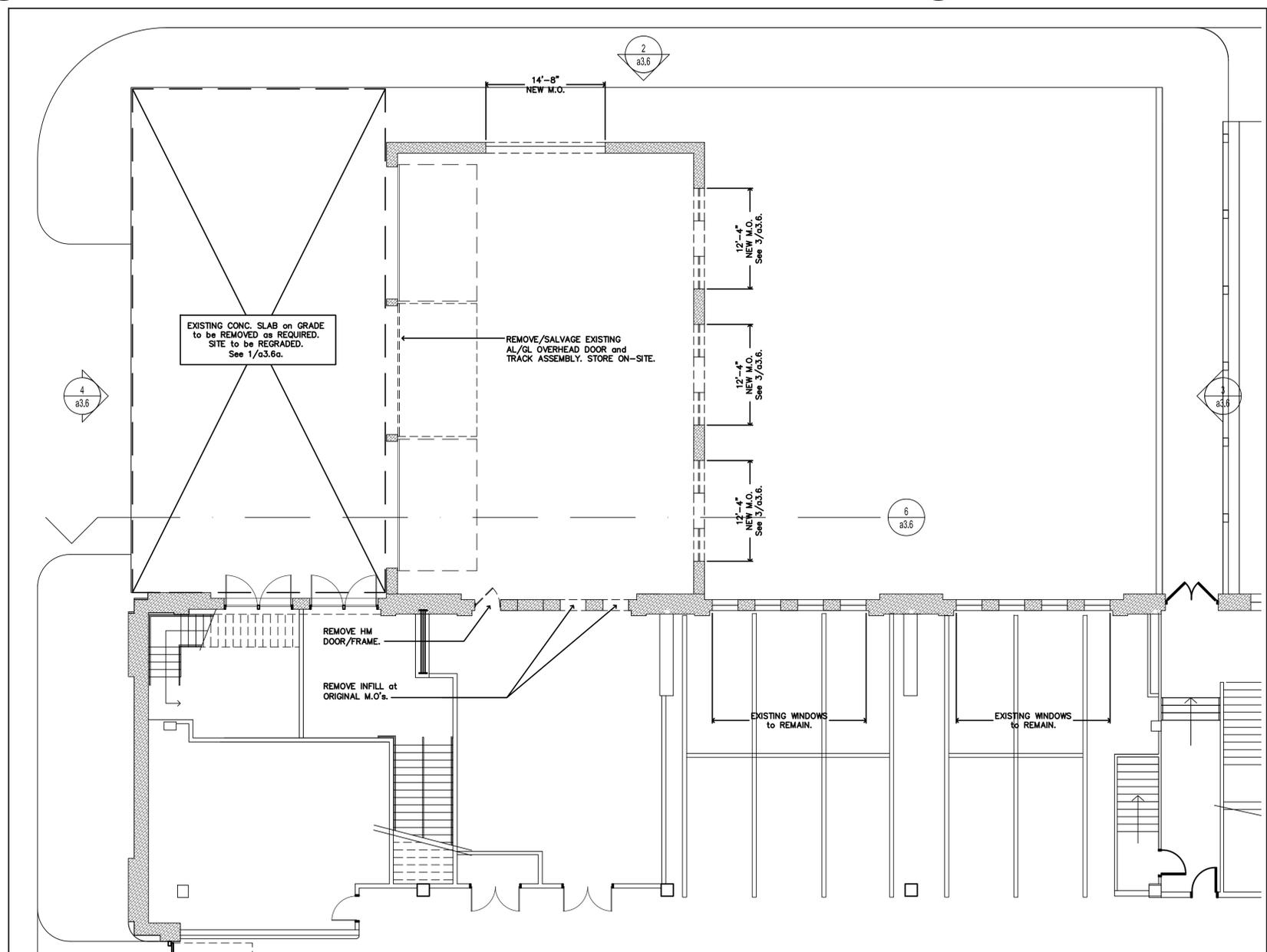
2 Elevation at Garage Annex
a3.6 Scale : 1/8" = 1'-0"



4 Partial Elevation at Proposed Addition
a3.6 Scale : 1/8" = 1'-0"



5 Section thru Existing Garage Annex : Demolition
a3.6 Scale : 1/8" = 1'-0"



1 Enlarged Parking 2 Level Floor Plan at Proposed Addition : Demolition
a3.6 Scale : 1/8" = 1'-0"

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Project

Minneapolis
Armory
Renovation

500 Sixth St. No.
Minneapolis, MN

Drawing Title

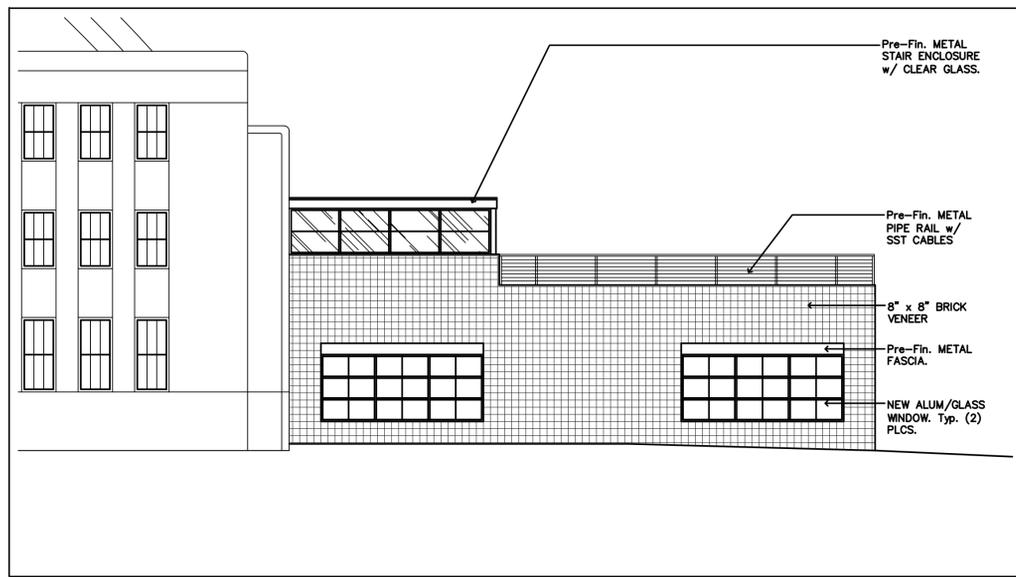
Exterior Remodeling :
Portland Ave. Addition
Demolition

Scale As Noted

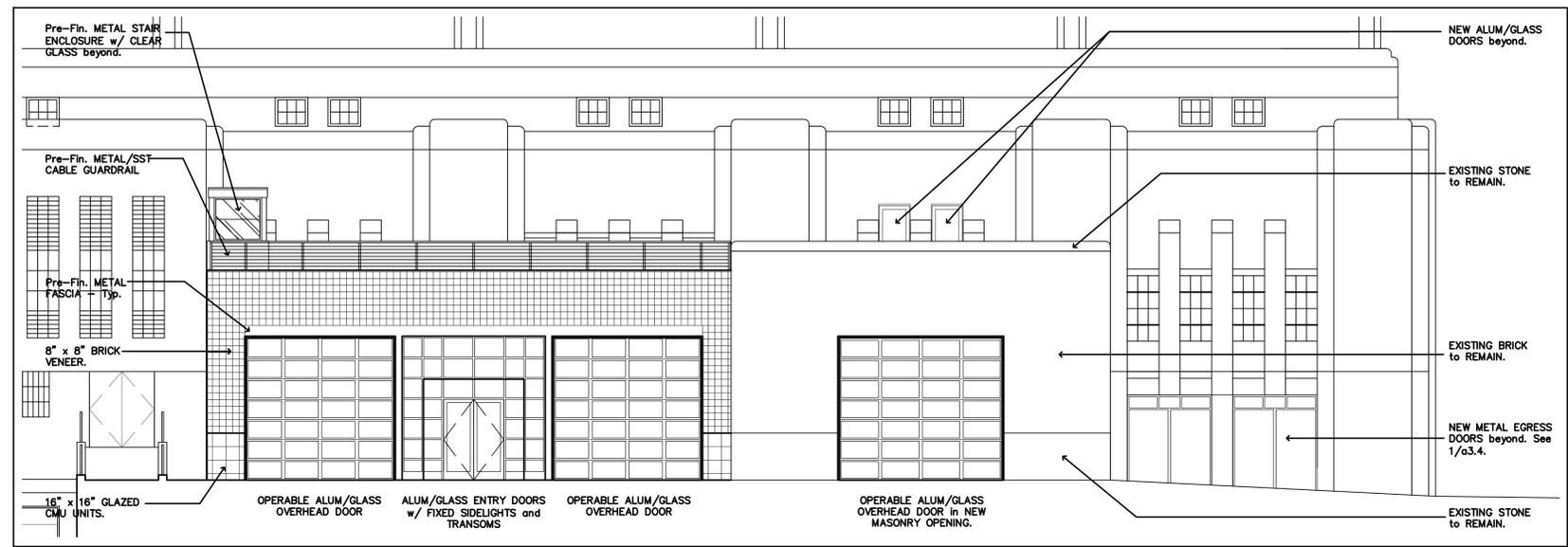
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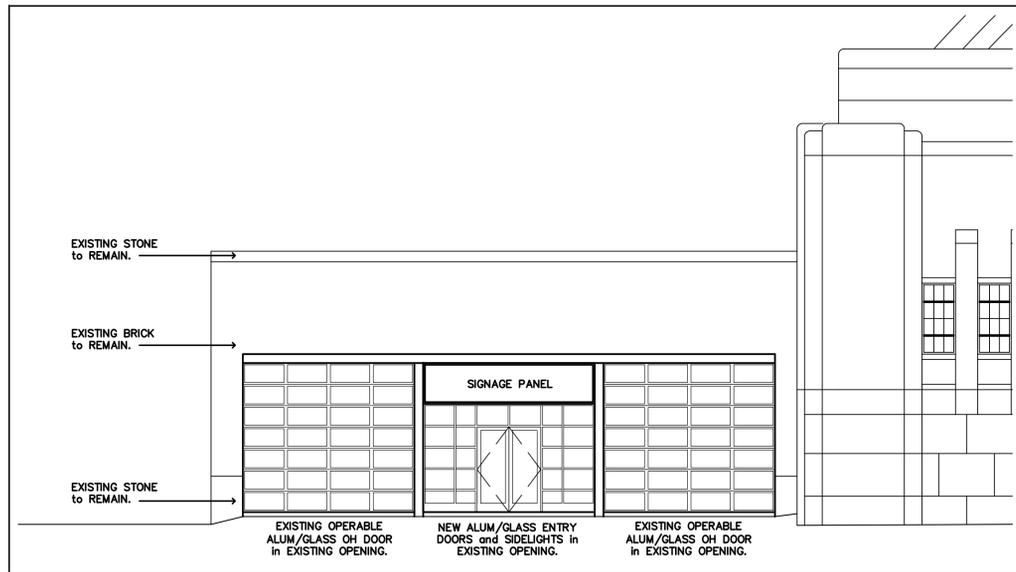




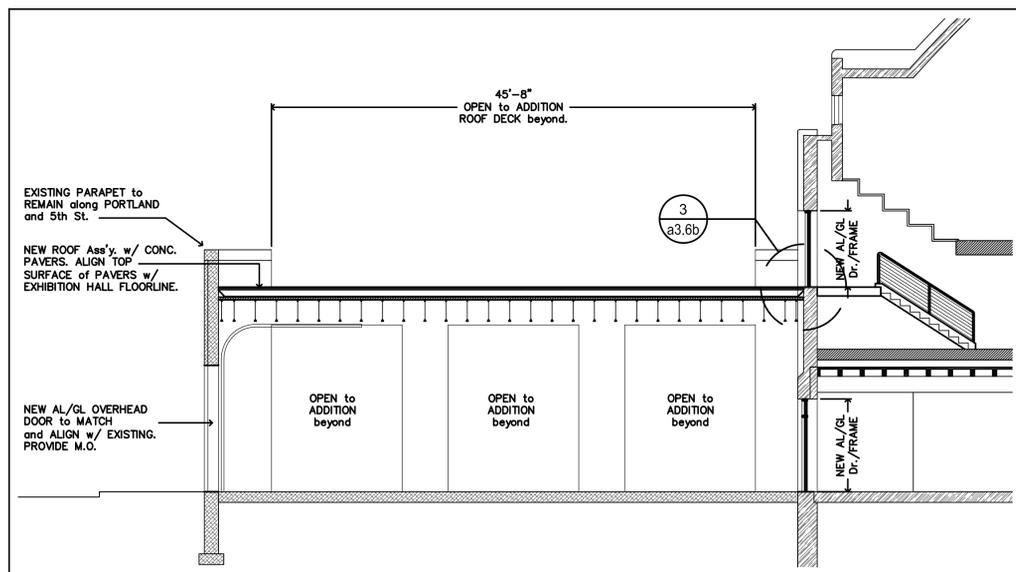
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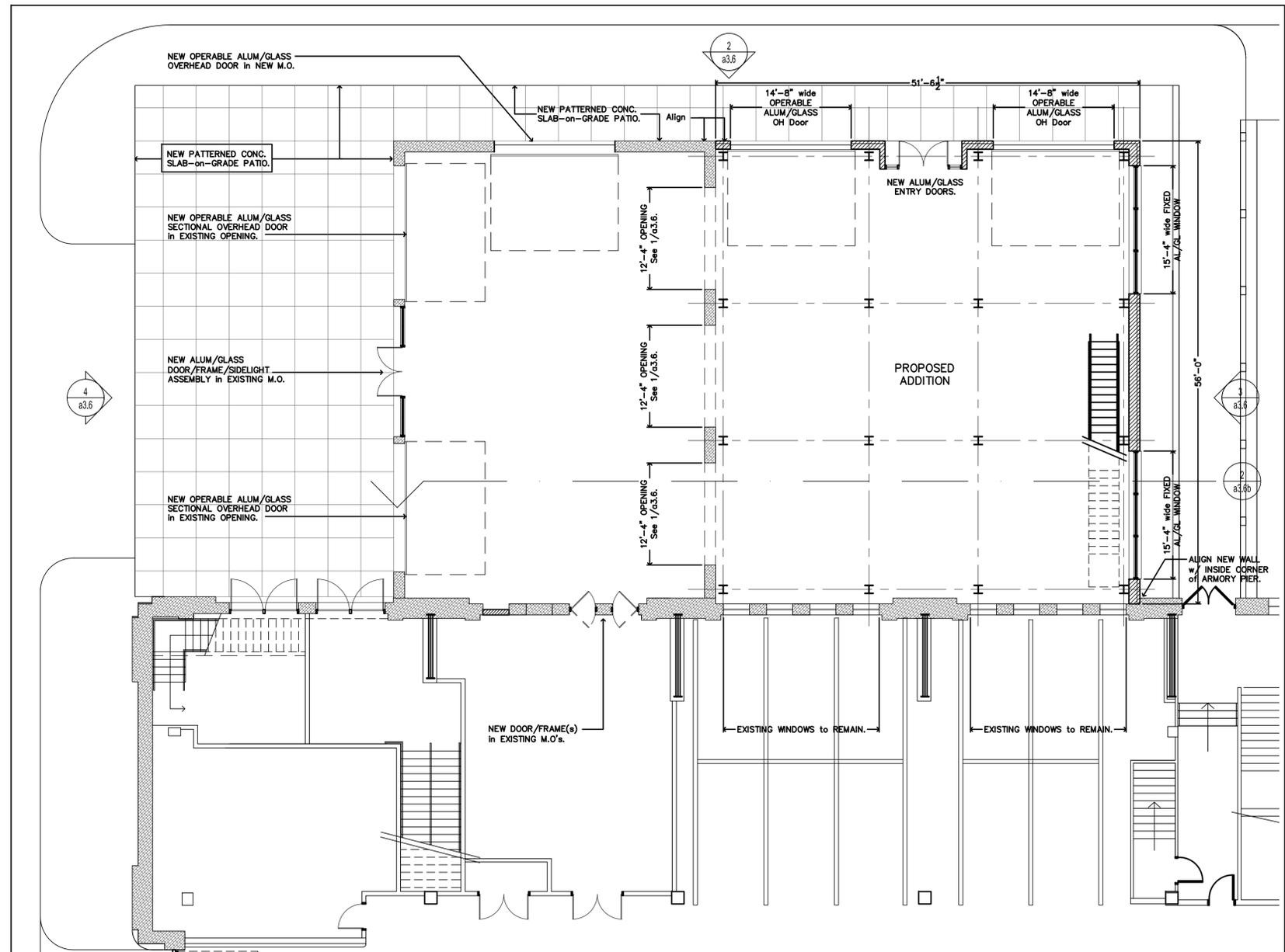
2 Partial Portland Ave. Elevation at Proposed Addition
 a3.6a Scale : 1/8" = 1'-0"



4 Partial Elevation at Proposed Addition
 a3.6a Scale : 1/8" = 1'-0"



5 Section thru Existing Garage Annex
 a3.6a Scale : 1/8" = 1'-0"



1 Enlarged Parking 2 Level Floor Plan at Proposed Addition
 a3.6a Scale : 1/8" = 1'-0"

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Drawing Title

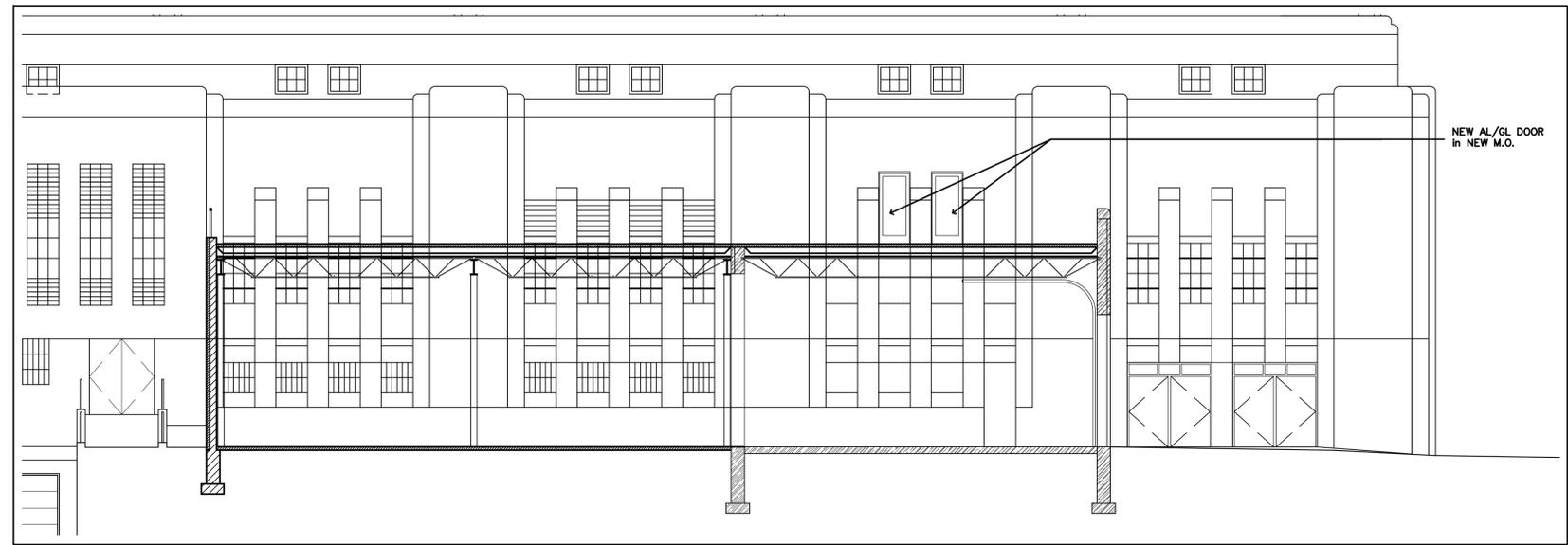
Exterior Remodeling :
 Portland Ave. Addition
 Details

Scale As Noted

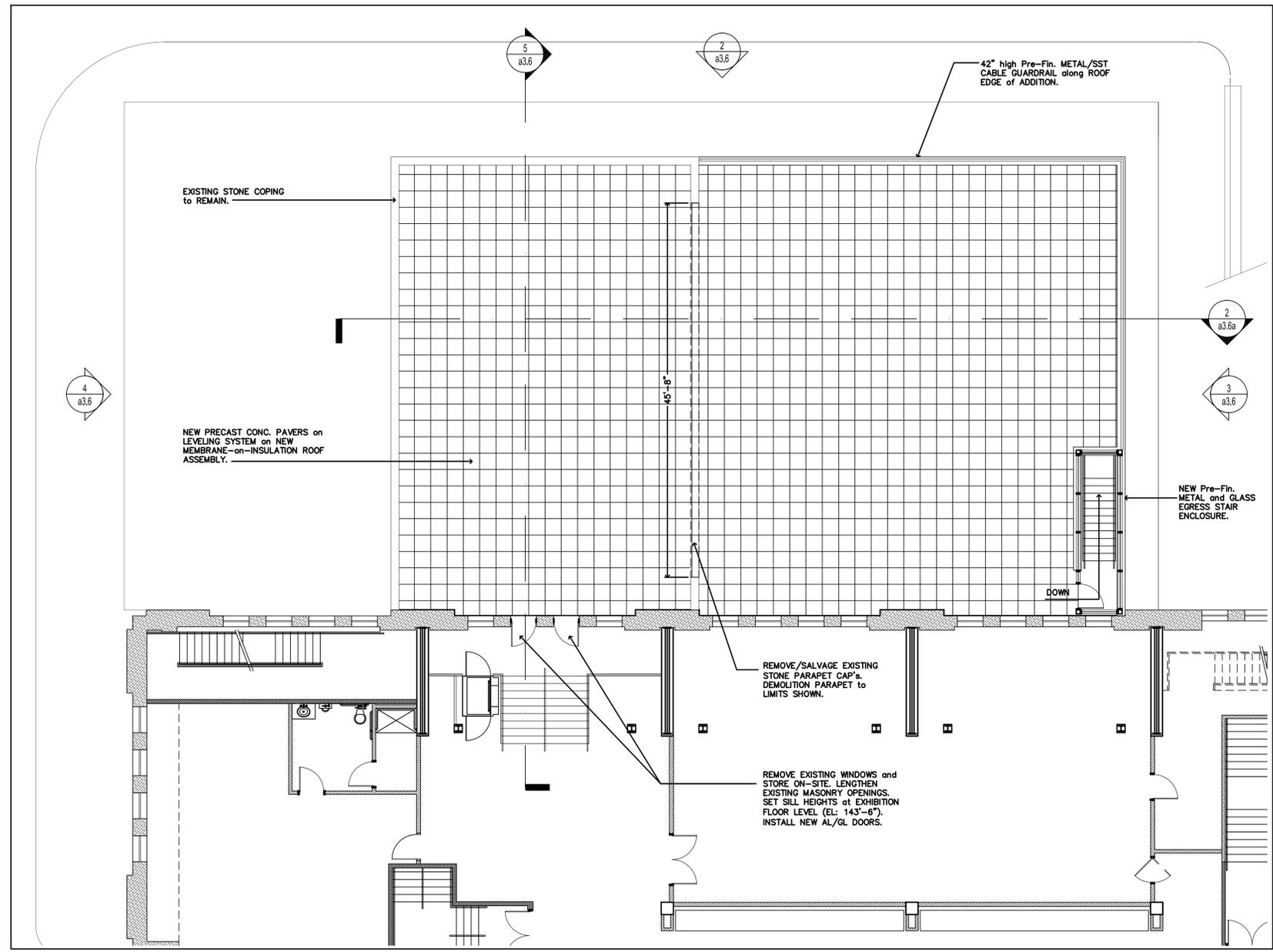
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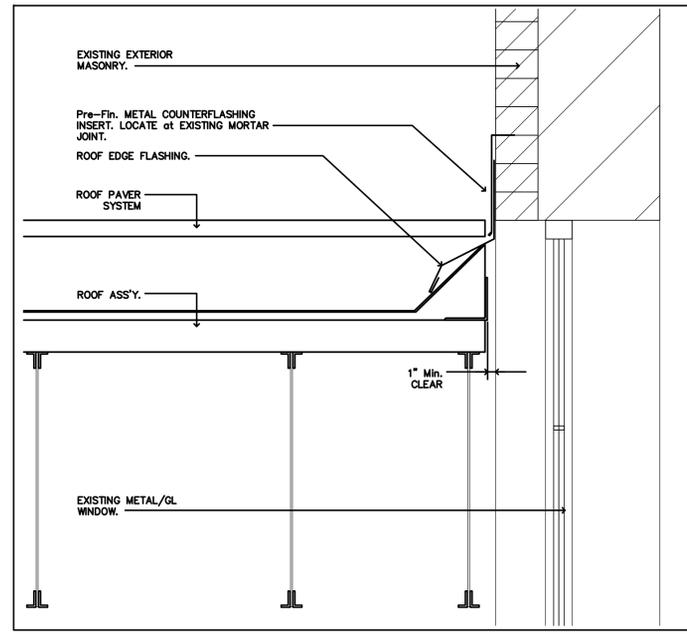




2 Section thru Proposed Addition
Scale : 1/8" = 1'-0"



1 Enlarged Exhibition Hall Floor Plan at Proposed Addition
Scale : 1/8" = 1'-0"



3 Detail at Existing Building
Scale : 1-1/2" = 1'-0"

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Project

**Minneapolis
Armory
Renovation**

500 Sixth St. No.
Minneapolis, MN

Drawing Title

Exterior Remodeling :
Portland Ave. Addition
Details

Scale As Noted

Sheet Number

a3.6b



Architectural Specifications

MIDLAND
GARAGE DOOR MFG CO

MODEL: 2 FV AND 3 FV (FULL VISION)

I. GENERAL

A. Work Included

The doors will be Model 2 FV and 3 FV as manufactured by Midland Garage Door Mfg. Co.

B. Other Work

Related Structure work, opening preparation, field painting and electrical work etc. falls into the responsibility of other trades.

II. PRODUCT

A. Sections

Material comprised of 6063-T6 aluminum alloy extrusion wall thickness of 0.062 inch. Stiles and rails joined together with 1/4" rods. If required aluminum filler panels 1/8" thickness of 6063-T6 alloy. PVC glazing strips.

2 FV (Full Vision) shall be 2" thick: Top rail 1 3/8", Bottom rail 1 3/8", Wide rail 4 3/8", End stile 3 3/8" and Center stile 2 3/4".

3 FV (Full Vision) shall be 3" thick: Top rail 1 5/8", Bottom rail 1 5/8", Wide rail 4 5/8", End stile 3 9/16", and Center stile 2 3/4".

B. Glazing

1/8" and 1/4" Non-insulated clear glass
1/2" Insulated clear glass.

1/8" and 1/4" Tempered clear glass
1/2" Insulated tempered glass.

1/8", 1/4" and 1/2" Plexiglas

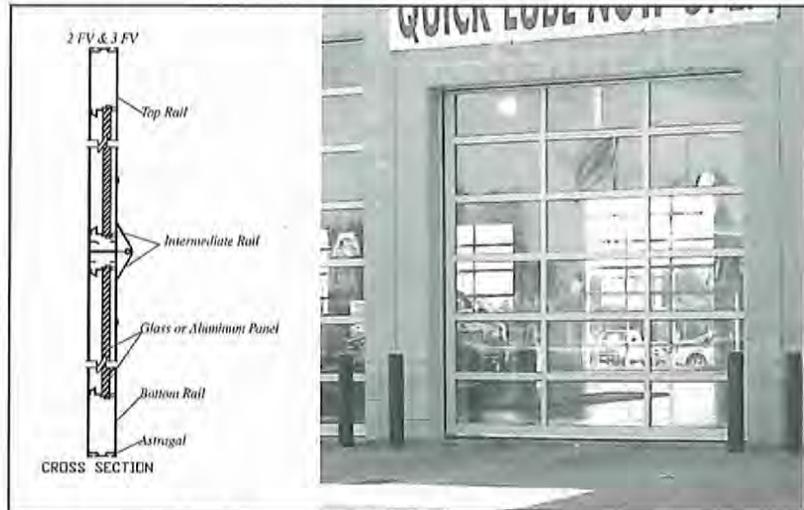
1/8", 1/4" and 1/2" Polycarbonate Coextruded

C. Windload

Doors will be designed to meet or exceed industry standards for windloads (ANSI/DASMA A102-1996), uniform pressure (velocity pressure) of 20 lbf/sq. ft. acting inward and outward. Deflection of door in the horizontal position will not exceed 1/120 of the door width. Consult factory for unusual requirements.

D. Hardware

Hinges and fixtures will be G-60 galvanized steel complying with ASTM A36 and ASTM A123. Full floating ball bearing rollers will have hardened steel races. Roller sizes will be adequate for design requirements and limitations.



G. Track

Track is 2" or 3" depending upon door size and requirements. Angle mounted depending upon door size and requirements.

H. Spring Counterbalance

Counterbalance shall be oil tempered, helical wound torsion springs complying with ASTM A229, mounted on a ball bearing cross header shaft engineered to comply with ANSI/DASMA 102-1996. Long life springs of 25,000, 50,000 or 100,000 cycles may be specified. Galvanized aircraft type lifting cables with minimum safety factor of 8 to 1 and cast aluminum drums are standard.

I. Lock

Lock will be interior mounted side lock. (Optional commercial keyed lock is available.)

J. Weatherstrip

Bottom weatherstrip will be U'd shape astragal fastened to the bottom of the door with an extruded aluminum holder for an effective seal at the sill.

K. Finish - *Bronze to match windows*

Mill aluminum or standard "white" powder-coat, consult factory for other colors.

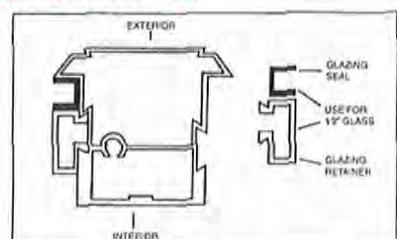
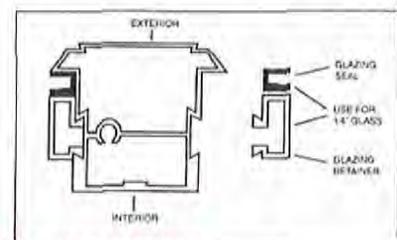
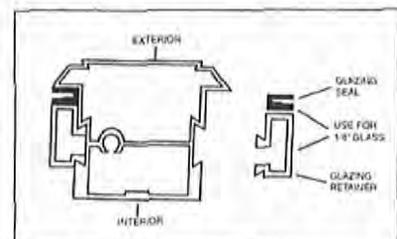
L. Operation

Operation will be by manual pull rope. Optional chain hoist and electric operators are available.

III. EXECUTION

Installation

Doors should be installed in compliance with Midland Garage Door Mfg. Co. instructions by authorized Midland Garage Door Installation Professionals.



CORNELL

Innovative door solutions.™

Rolling Service Doors

Model ESD10

Practical Design Applications

- Industry
- Distribution
- Healthcare
- Transportation
- Retail
- Utilities
- Education
- Hospitality/Public Space

Benefits

- Cornell can manufacture and ship most standard service doors in one to two weeks.
- Powder coated guides, bottom bar and bracket plates are standard.
- Size Flexibility - each unit is built to exact opening size requirements.
- Compact Storage - curtain stores in an overhead coil that is totally supported by the side guides.
- Low Life Cycle Cost - rugged construction and commercial quality materials assure long life.
- Maintenance - little to none.
- Repairs - job records are retained and parts are readily available.

Available Options

- Vision windows
- Perimeter weather-stripping
- Cylinder or slide bolt locking
- Bottom bar sensing edge for motorized units
- Project specific wind load
- Operator covers for exterior mounted units or exposed operators below 8'-0" high

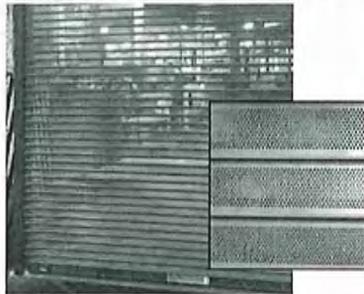


Specialty Service Doors



Matadoor®

A highly visible safety orange colored breakaway curtain bottom section that controls damage and opening downtime.



ScreenGard Door

Achieve visibility and ventilation while maintaining security and insect control. Perforated 20 ga. steel slats provide approximately 22% open space.



Graphics Door

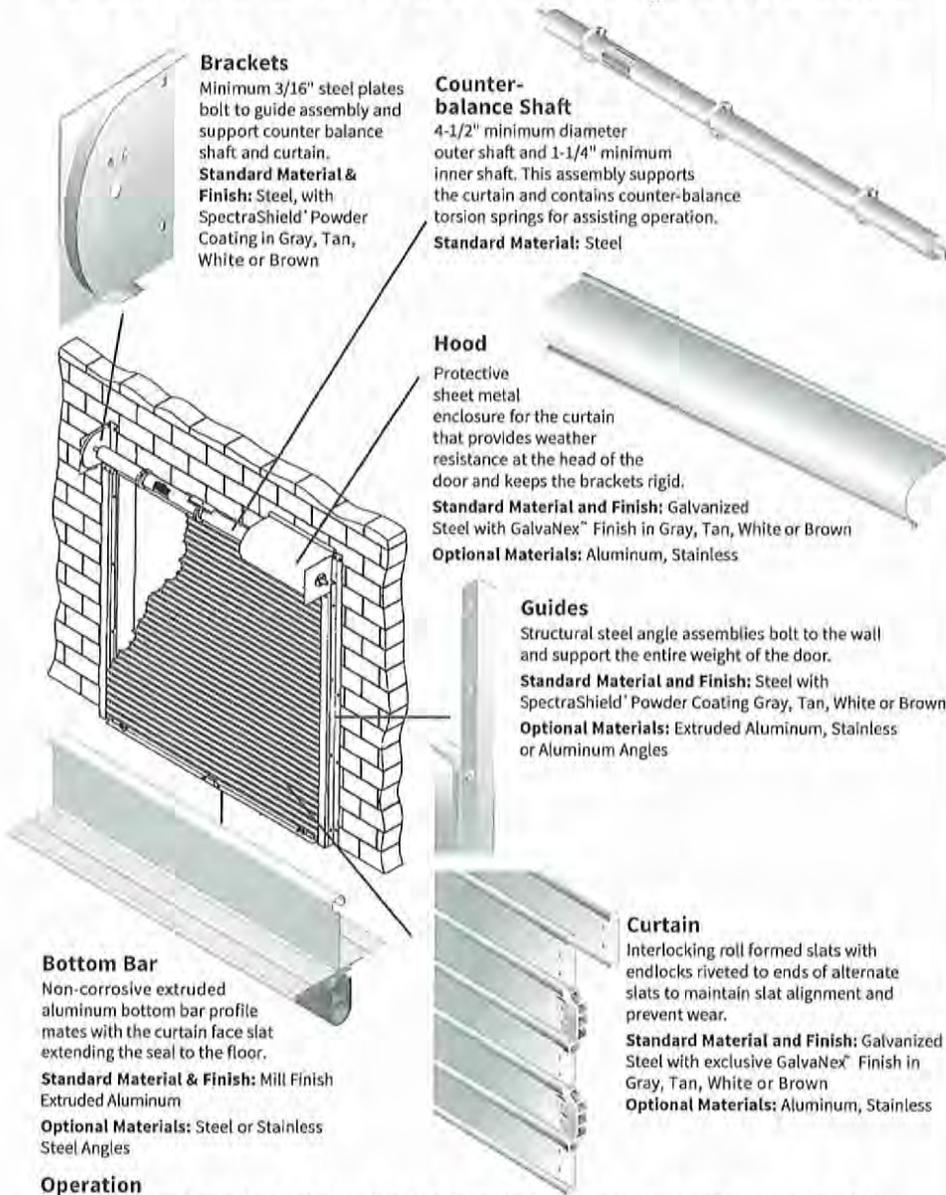
Durable, full color images applied to door curtains and hoods. Create sponsorship opportunities, educate, inform or add aesthetic interest.



RapidResponse Door

When impacted, extra curtain slats at the bottom of the curtain can be quickly removed and the door can be returned to normal operation during the initial service call.

Service Door Components



Brackets

Minimum 3/16" steel plates bolt to guide assembly and support counter balance shaft and curtain.

Standard Material & Finish: Steel, with SpectraShield® Powder Coating in Gray, Tan, White or Brown

Counter-balance Shaft

4-1/2" minimum diameter outer shaft and 1-1/4" minimum inner shaft. This assembly supports the curtain and contains counter-balance torsion springs for assisting operation.

Standard Material: Steel

Hood

Protective sheet metal enclosure for the curtain that provides weather resistance at the head of the door and keeps the brackets rigid.

Standard Material and Finish: Galvanized Steel with GalvaNex™ Finish in Gray, Tan, White or Brown
Optional Materials: Aluminum, Stainless

Guides

Structural steel angle assemblies bolt to the wall and support the entire weight of the door.

Standard Material and Finish: Steel with SpectraShield® Powder Coating Gray, Tan, White or Brown
Optional Materials: Extruded Aluminum, Stainless or Aluminum Angles

Curtain

Interlocking roll formed slats with endlocks riveted to ends of alternate slats to maintain slat alignment and prevent wear.

Standard Material and Finish: Galvanized Steel with exclusive GalvaNex™ Finish in Gray, Tan, White or Brown
Optional Materials: Aluminum, Stainless

Bottom Bar

Non-corrosive extruded aluminum bottom bar profile mates with the curtain face slat extending the seal to the floor.

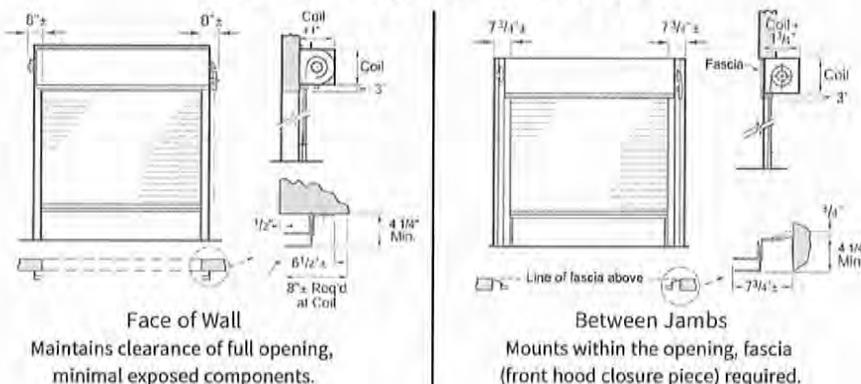
Standard Material & Finish: Mill Finish Extruded Aluminum

Optional Materials: Steel or Stainless Steel Angles

Operation

Push-up operation shown. Hand chain, hand crank and motors are available. Doors operate by rotating the shaft gear end. The opposite end of the shaft applies spring tension and is equipped with a spring adjusting wheel.

Mounting & Clearances



Face of Wall

Maintains clearance of full opening, minimal exposed components.

Between Jamb

Mounts within the opening, fascia (front hood closure piece) required.

Special Applications

- **Specified Wind Load** - doors can be configured to withstand the full range of specific wind load requirements. Third party performance validation.
- **High Cycle Construction** - for doors expected to operate more than 20 cycles per day such as parking garage doors, sally ports and certain industrial applications.
- **Fast Acting Doors** - doors designed to operate at a speed of 2 feet per second - more than twice the speed of typical rolling doors.
- **Horizontal Closures** - close off floor openings or cover tanks or machines.
- **Combination Doors** - combines two different curtains on the same opening. Typically an insulated door is used in conjunction with either a ScreenGuard™ door or an open design rolling grille.
- **Craneway Doors** - have curtains designed in the shape of a "T" to accommodate overhead crane rails.
- **Sloping or Irregular Sills** - special bottom bar designs meet odd floor conditions including slopes, curbs or rails.
- **Pass Doors** - a hollow metal man door and hinged frame within a rolling door curtain.
- **Removable Guide Mullions** - for wide openings that require full access on a limited basis.

Optional Finishes

- Galvanized Steel with exclusive GalvaNex™ Finish in Gray, Tan, White or Brown
- Aluminum in Mill, Clear or Color Anodized
- Stainless Steel, 300 Series #4 Finish
- Hot-dip Galvanizing on Steel components
- Powder Coat Finish in selected color
- Zinc Rich Gray Corrosion-Resistant Powder Coating

SpectraShield® Powder Coat Finish

Cornell's SpectraShield® Powder Coat Finish adds durability and aesthetic value to our products in a choice of over 200 colors. Surface preparation and the coating process produces a smooth, long lasting finish at controlled costs.



• Bronze to match windows

CORNELL

Innovative door solutions.™

An ISO 9001:2008 Registered Company

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Mountain Top, PA 18707
TEL 800.233.8366 • FAX 800.526.0841
Architect & Design Support: Ext. 4551
Website: www.cornelliron.com
Email: ADS@cornelliron.com

Standard service doors are built to order to fit specific dimensions up to 30' wide, 30' high standard construction. For large openings up to 50' wide by 40' high, consult the factory.

2500/2600/2800 Series Sliding Glass Doors 4 3/4" Jamb Depth



- Double pour and debridge polyurethane thermal breaks at the head and sill
- Shipped as knock-down frame kit, glass door panels completely fabricated and glazed
- Integral nailing fin standard, finless optional
- Marine glazed system, field replaceable
- Rolling screen frame of extruded aluminum with fiberglass cloth standard (aluminum cloth optional)
- Grade 20 forced-entry resistance
- 2500 model meets ADA clear opening width of 32" @ 6'-0" nominal width
- 2700 Series Transom/Side Lite are fixed only with optional field mull/stack
- Premium "D" style interior handleset, finger-pull exterior, black color standard
- White and bronze standard door finishes
- Clear Anodized Sill is standard
- Mortise lock of silver zinc standard, stainless steel track cover available

2500/2600/2800 Sliding Glass Door Product Performance Details

Series	Product Designation**	Structural/ Water/Air Test Size (W x H)	Air Infiltration (l/m²/24h @ 1.0)	Water Resistance (psf)	Deflection (in)	Structural* (psf)
2500 (2X0)	LC25	144"W x 83"H	0.19 @ 1.6 psf	3.76	25	37.5
	optional: R20	144"W x 98"H		3.13	20	30
2600 (2X0)	CW40	144"W x 83"H	0.05 @ 1.6 psf	6.06	40	60
	optional: CW40	144"W x 98"H		6.04	40	60
2800 (2X0)	CW55	96"W x 83"H	0.21 @ 1.6 psf	8.36	55	82.5
	LC25 (2500)	96"W x 83"H		3.76	25	37.5
2700 TR	CW30 (2600, 2800)	99"W x 60"H	.01 @ 6.2 psf	4.60	30	45
	optional: AW80			12.11	80	120
2700 SLT	LC25 (2500)	60"W x 99"H	.01 @ 6.2 psf	3.76	25	37.5
	CW30 (2600, 2800)			4.60	30	45
	optional: AW80			12.11	80	120

Additional Features and Options

All Wojan products carry commercial warranties of 1 year on window materials and workmanship and 10 years on standard IGUs. Ask about extended warranty bundles.

Thermal Breaks

Wojan products feature pour and debridge polyurethane thermal breaks utilizing Azo-Brader™ technology with a 10-year pass-through warranty against failure of the polymer.

Azo-Brader™ Technology: Abrasion "hooks" displace metal along the lips to improve adhesion in the thermal barrier pocket.

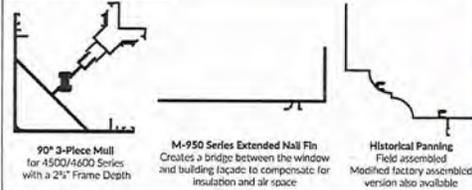


Grids and Simulated Divided Lites



1/2" Grids in Airspace 1" Grids in Airspace 2" Flat SDL 4" Colonial SDL 1" Colonial SDL

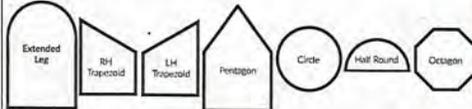
Custom Engineered Accessories



Certain Series Only

- Putty Glazing Options: Surface applied prior to glazing, ideal for historical applications
- 1 1/2" IGU to improve STC and thermal ratings
- 2" IGU as triple glazed to improve STC ratings

Special Shapes



Shapes shown are typical configurations for options. Contact the Estimating Department for details on these and other shapes.

HQ/Sales/Manufacturing
217 Stover Road
Charlevoix, MI 49720
fax (231) 547-4237



www.wojan.com | 800.632.9827

Manufacturing
340 Jay Street
Coldwater, MI 49036
fax (517) 279-9832



Quality Windows & Doors for All Seasons
Custom Aluminum Windows & Sliding Glass Doors
for Architectural and Commercial Applications

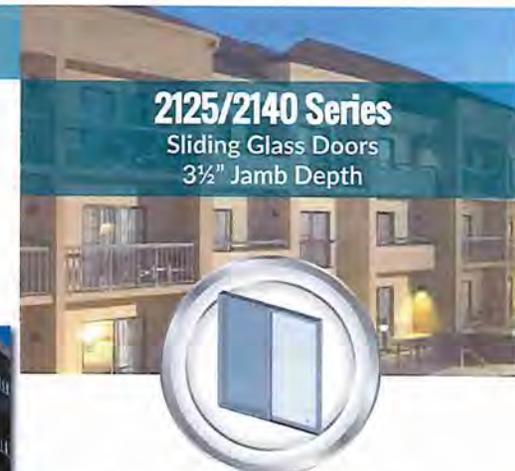


Constellation Apartments - Madison, WI
M-950 Series Single-Hung & Fixed Windows
2600 Series Sliding Glass Doors

www.wojan.com
800.632.9827



2125/2140 Series Sliding Glass Doors 3 1/2" Jamb Depth



- New sill design with a 4 1/16" width for maximum pocket coverage
- 3 1/2" jamb depth with integral accessory channels, interior and exterior
- 3/4" sealed insulated glass (IGU)
- Reversible frame kit shipped as knock-down (KD), panels completely assembled and glazed. Complete KD program available
- Legacy handleset with EZ handle - black color standard (custom color/finish options available)
- Roller adjustment screws are visible at corners for quick and easy adjustments
- New construction sizes are available and come with field applied nail fin, mill finished
- Rolling screen-extruded aluminum frame with fiberglass cloth standard (aluminum cloth optional)
- Standard finishes include white and bronze AAMA 2603
- Clear Anodized Sill is standard
- Pour and debridge polyurethane thermal break, utilizing Azo-Brader™ technology with a 10-year pass-through warranty (see warranty for details)

2125/2140 Sliding Glass Door Product Performance Details

Series	Product Designation**	Structural/ Water/Air Test Size (W x H)	Air Infiltration (l/m²/24h @ 1.0)	Water Resistance (psf)	Deflection (in)	Structural* (psf)
2125	LC25	87"W x 83"H	0.21 @ 1.57 psf	3.76	25	37.5
2140	optional: LC40			6.06	40	60

* The '05 fenestration standard utilized five performance classes: R, LC, C, HC and AW. NAFS-08 and -11 utilize four such classes: R, LC, CV and AW.
 ** Many window ratings can be increased by downsizing the window and determining maximum performance through testing. Contact your local Wojan sales representative or our office for details.
 * This is an intentional overload aspect at 1.5x window performance testing and should not be used in lieu of the window DP (Design Pressure) when evaluating a product for a specific project or use.

Bronze color
to match existing

M-85 Series

Single-Hung (side load), Horizontal Slider & Fixed
2³/₄" Nominal Frame Depth



Quality Windows & Doors for All Seasons

Performance and efficiency in a cost-effective choice for new construction and renovation

Structural Thermal Break: Pour and debridge thermal break, utilizing Azo-Brader™ Technology with a 10-year warranty against failure of the polymer

3/4" Sealed Insulated Glass (1" on Fixed): 10-year limited warranty. Numerous glass options available including Low-E, tinted, obscure, tempered, laminated, argon-filled and spandrel

- Commercial-grade aluminum extrusions offer strength with a solid, attractive appearance
- Custom installation accessories including receptors and subsills, face flange, nail fins, panning, snap trim and mullions
- Aluminum screen frame with fiberglass cloth standard - optional aluminum cloth
- Self-lock feature is standard, minimum Grade 10 forced entry resistance. Sweep lock available as an option
- Ergonomically designed lift and pull rails on operable sash
- Standard finishes include white or bronze (AAMA 2603); and clear or dark bronze anodized (AAMA 611). White or bronze 2-coat Kynar® (AAMA 2605) available with minimum order
Other non-standard colors with minimum order

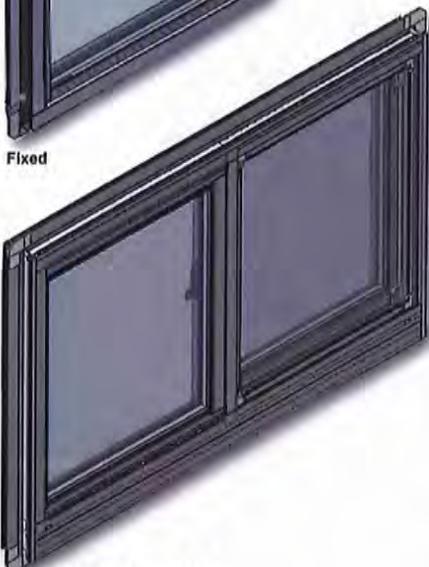
(Kynar® is a registered trademark of Arkema Inc.)
(Azo-Brader™ is a trademark of Azon USA Inc.)



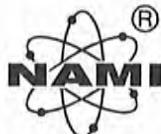
Single-Hung



Fixed



Horizontal Slider Single Vent



IGU & Structural
Certifications



Made in the U.S.A.



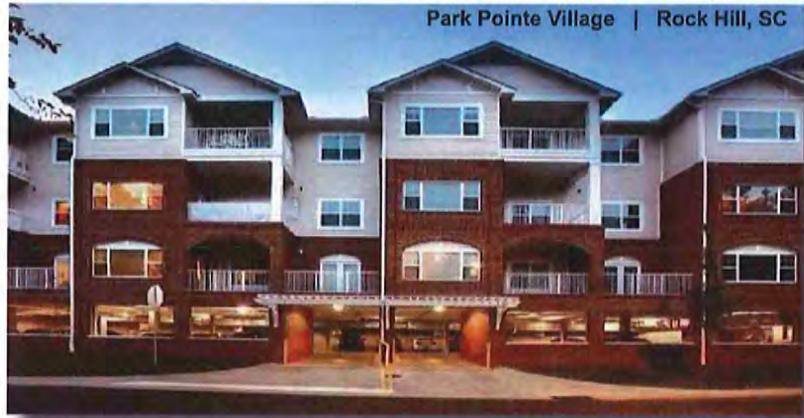
Proud Member



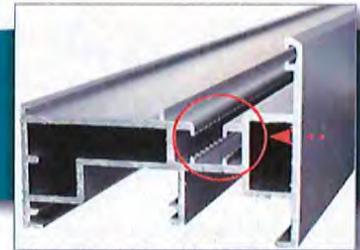
Terrace Towers | East Cleveland, OH



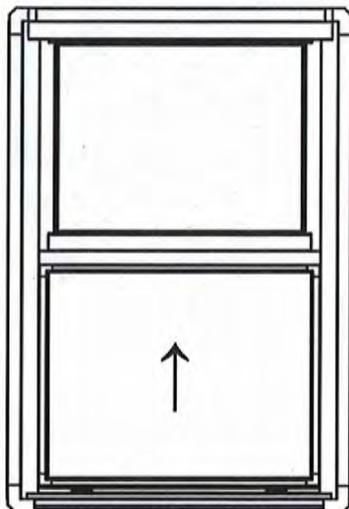
Park Pointe Village | Rock Hill, SC



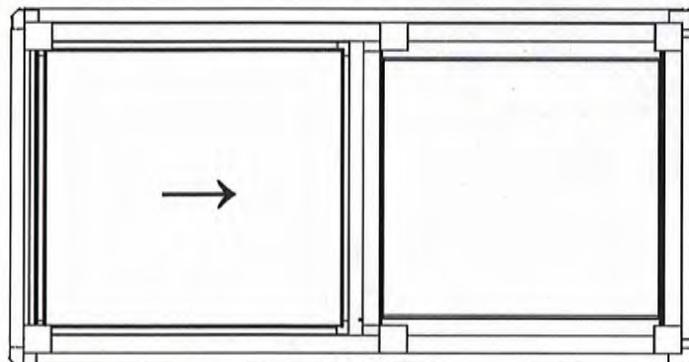
Products feature a pour and debridge polyurethane thermal break for better performance, utilizing Azo-Brader™ technology with a 10-year warranty against failure of the polymer.



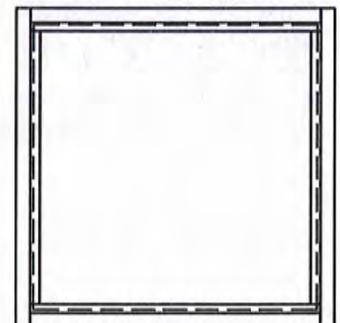
Azo-Brader™ Technology:
Abrasion "hooks" displace metal along the lugs to improve adhesion in the thermal barrier pocket.



Single-Hung



Horizontal Slider



Fixed

Visit www.wojan.com/products to view and download detailed elevation drawings.

Products

[Single-Hung](#)[Double-Hung](#)[Horizontal Slider](#)[Projected/Casement](#)[Fixed](#)[3 1/4" M-950](#)[2 11/16" M-85](#)[2 3/8" 4500 Series](#)[4 3/4" M-950B Blast](#)[3 1/4" Fixed Blast](#)[Blast-Resistant](#)[Large Missile Impact](#)[FBC Approved](#)[Sliding Glass Doors](#)[Accessories](#)[Glass and Grids](#)[Product Selector](#)[Home](#) > [Products](#) > [Fixed](#) > 2 11/16" M-85

2 11/16" M-85 Series Fixed Windows

NAMI Gold Label Product

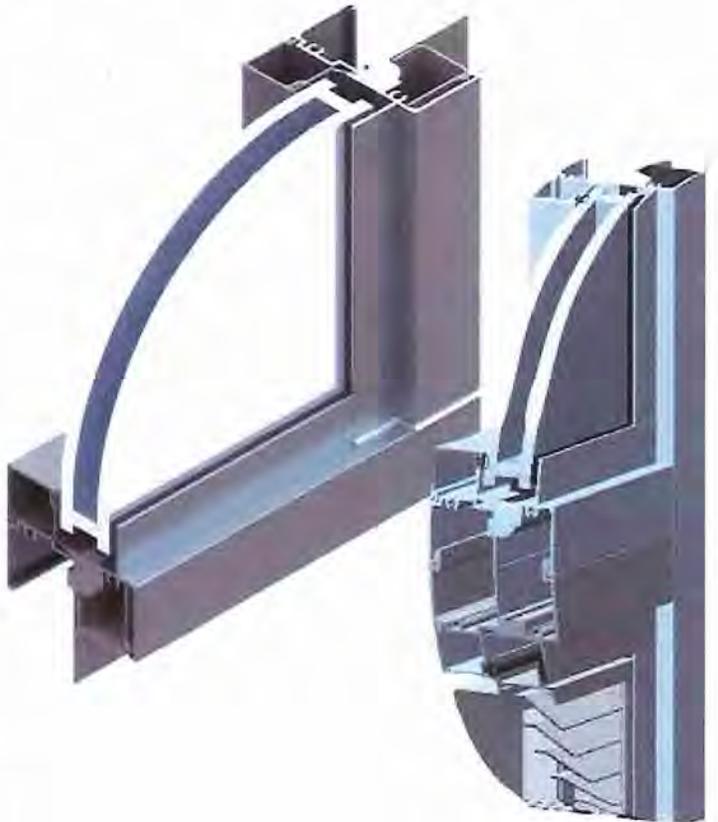
- 2 11/16" Frame Depth
- 1" Sealed Insulated Glass
- Pour and debridge polyurethane thermal break utilizing [Azo-Brader™](#) technology
- .050 Typical Wall Thickness – Aluminum Alloy 6063-T6
- Hurricane Impact-Resistant model passed Large Missile D Zone 3 Impact Testing
- Fixed over Louver configuration is factory stacked in one master frame, and available with all the same features and options as the standard model

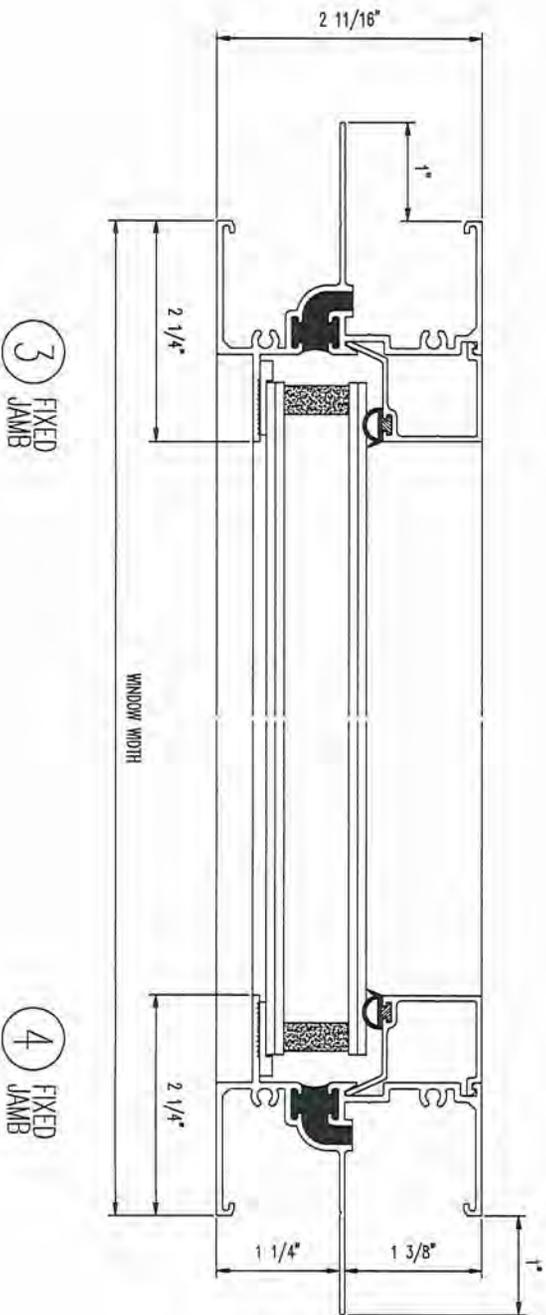
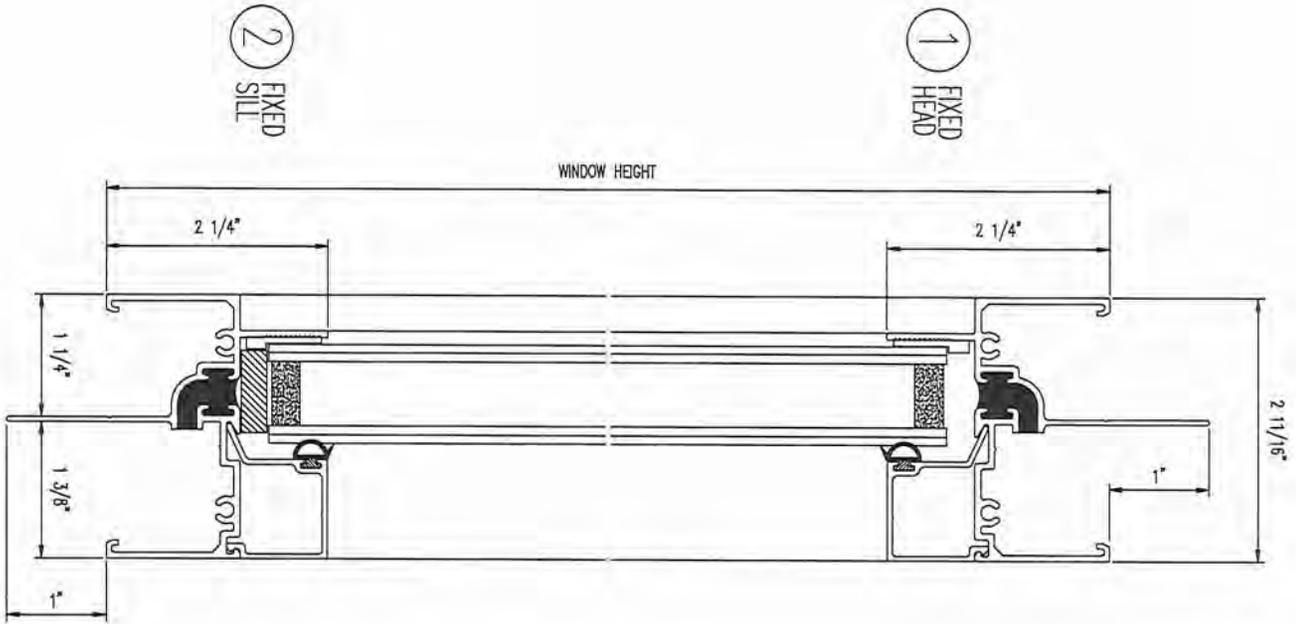
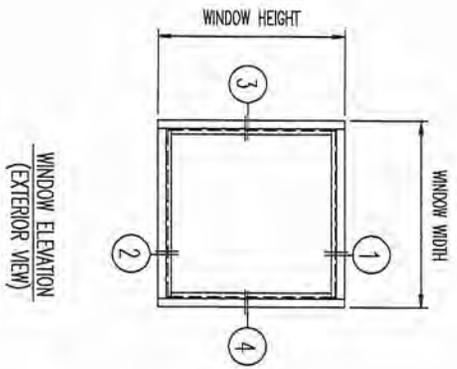
Finishes available:

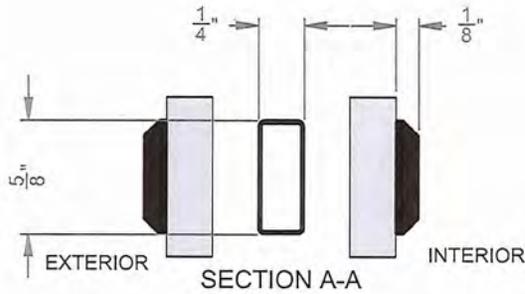
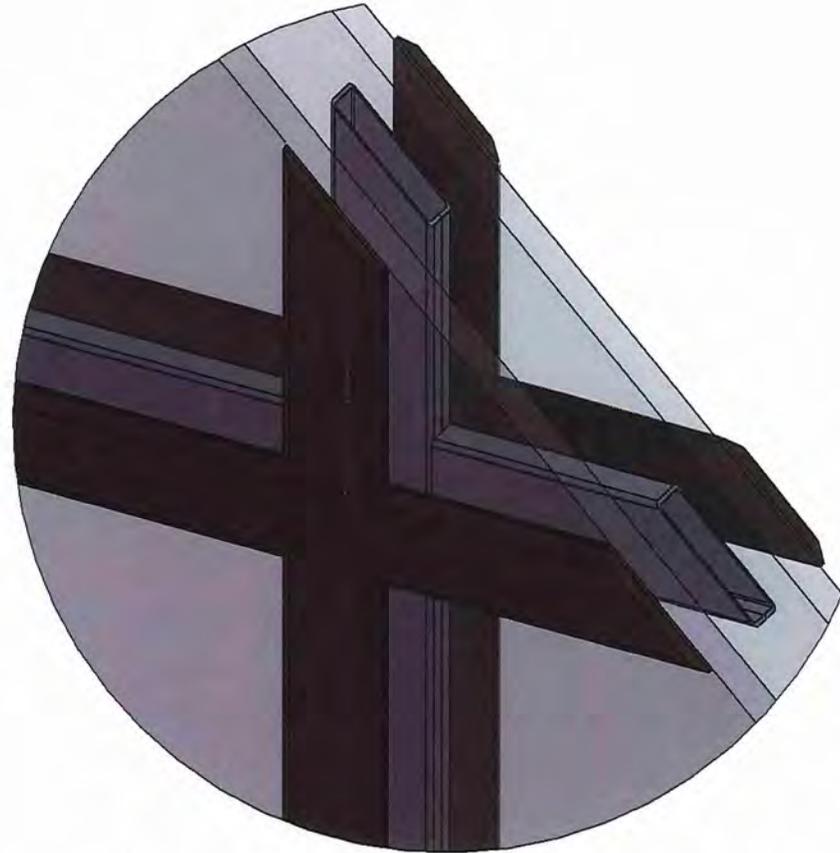
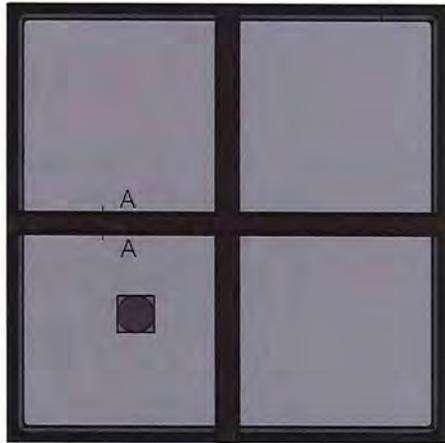
- White, Bronze (AAMA 2603)
- Anodized: Clear, Bronze (AAMA 611)

with minimum order quantity

- 70% Fluoropolymer: White or Bronze (AAMA 2605)
- Other non-standard colors







<p>PROPRIETARY AND CONFIDENTIAL</p> <p>WOJAN WINDOW & DOOR CORPORATION</p> <p>THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF WOJAN WINDOW & DOOR CORPORATION. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF WOJAN WINDOW & DOOR IS PROHIBITED.</p>							SERIES: GRID		
							GRID - .625x.094 SDL COLONIAL	REV	
REV.	DESCRIPTION	BY	DATE	PCN #	DRAWN	NAME	DATE	SCALE: 1:1	
	REVISIONS				CHECKED	D. DEWEY	-	SHEET 1 OF 8	

Bronze color



Stone Source Inc.
1000 W. 10th St.
Casper, WY 82401-2803
Phone: 307.234.7100 • Fax: 307.234.7100
www.stonesource.com

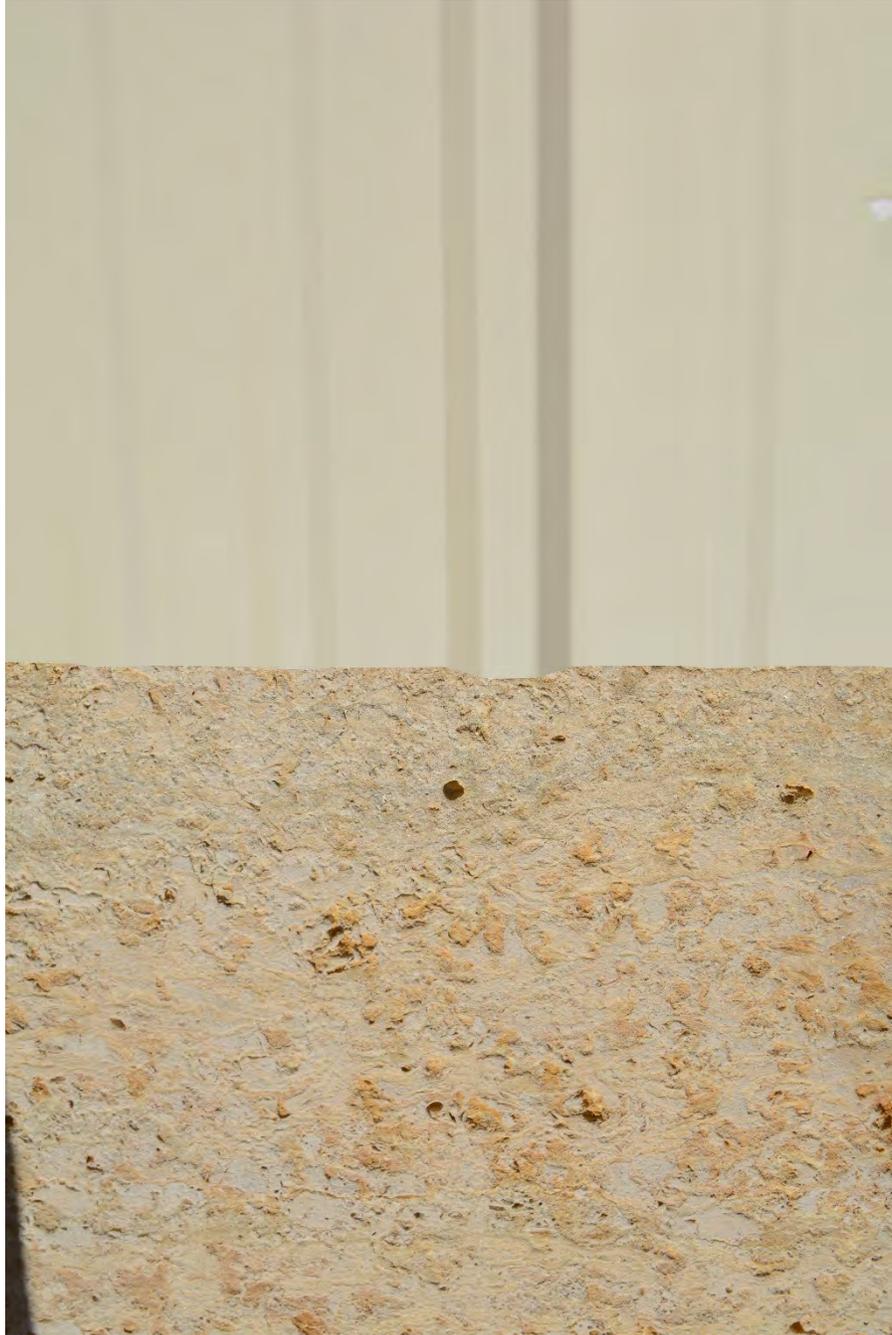


Marco Brick Inc.

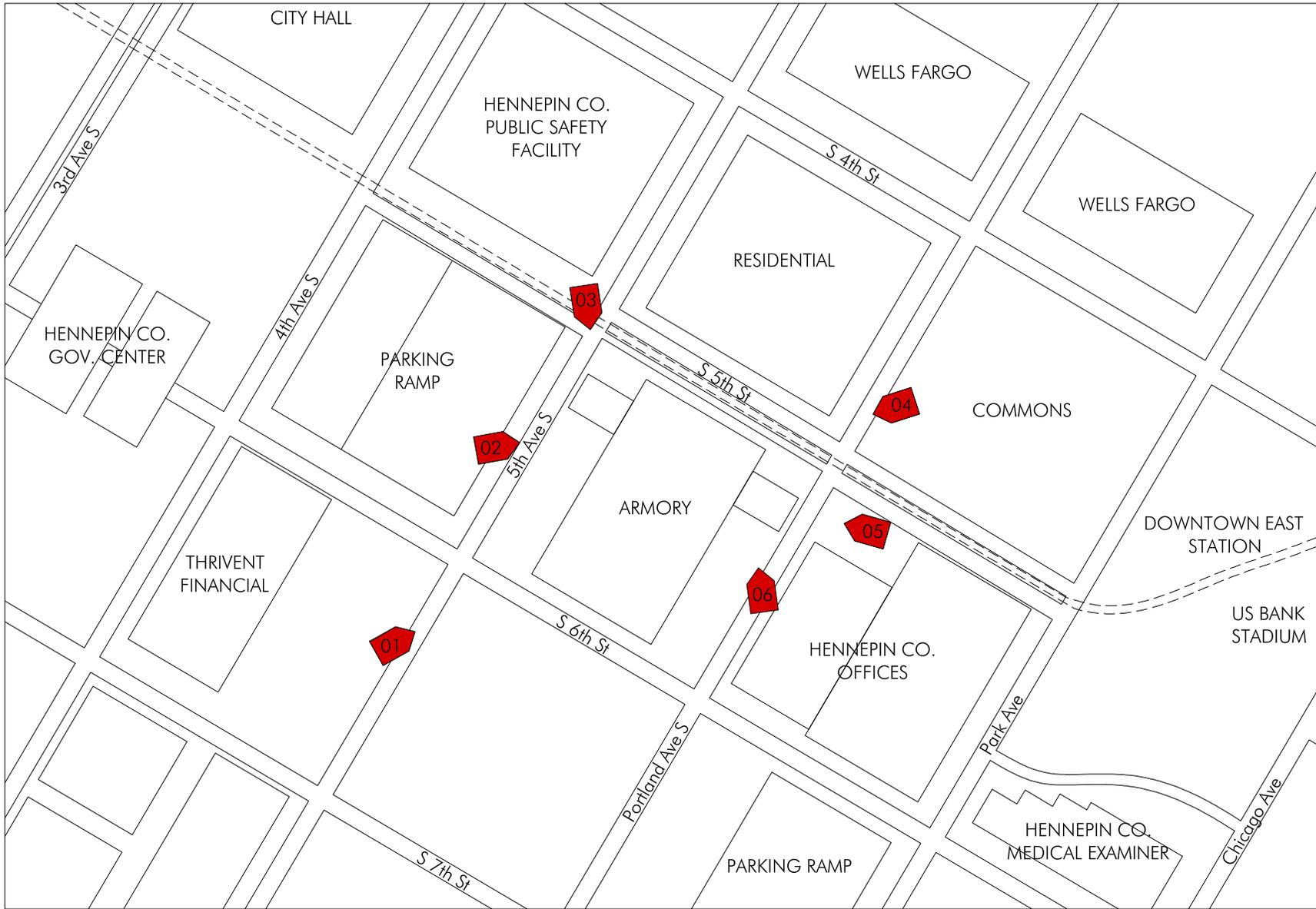
3314 Wispark Drive
Crystal, MN 55427-2063
Phone: 952-417-0200 • Fax: 952-417-0204
marcobrickinc.com





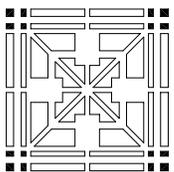


Photograph of proposed metal siding for elevator over-run at Minneapolis Armory



1 | RENDER KEY SITE PLAN

A00 | No scale



MACDONALD & MACK
ARCHITECTS

400 SOUTH FOURTH STREET STE 712 MINNEAPOLIS MINNESOTA 55415
P 612 341 4051 • F 612 337 5843 • WWW.MMARCHLTD.COM

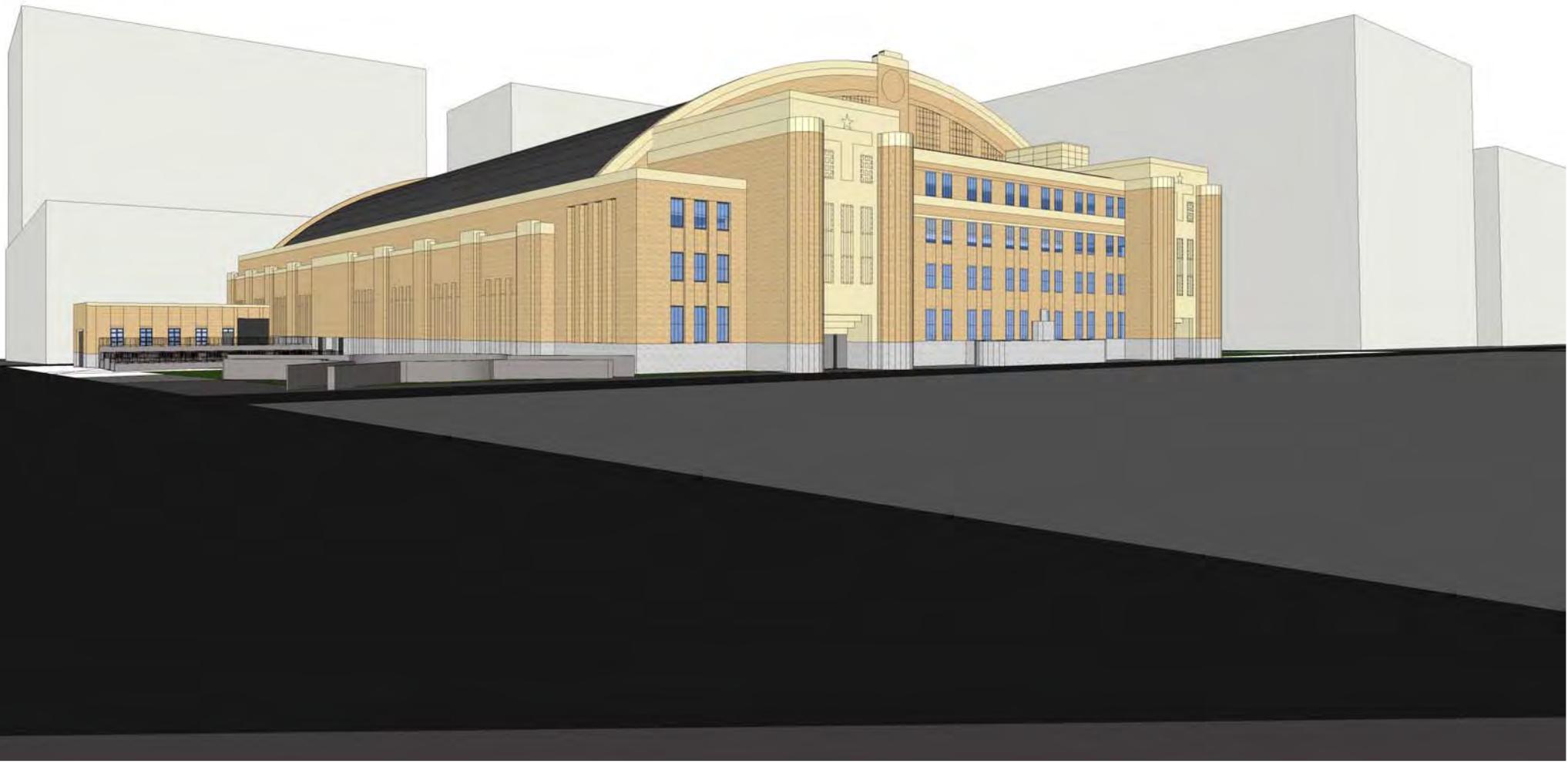
THE ARMORY

DATE 09.26.2016
REVISED

DRAWN avg
APPROVED

Key Site Plan

A00



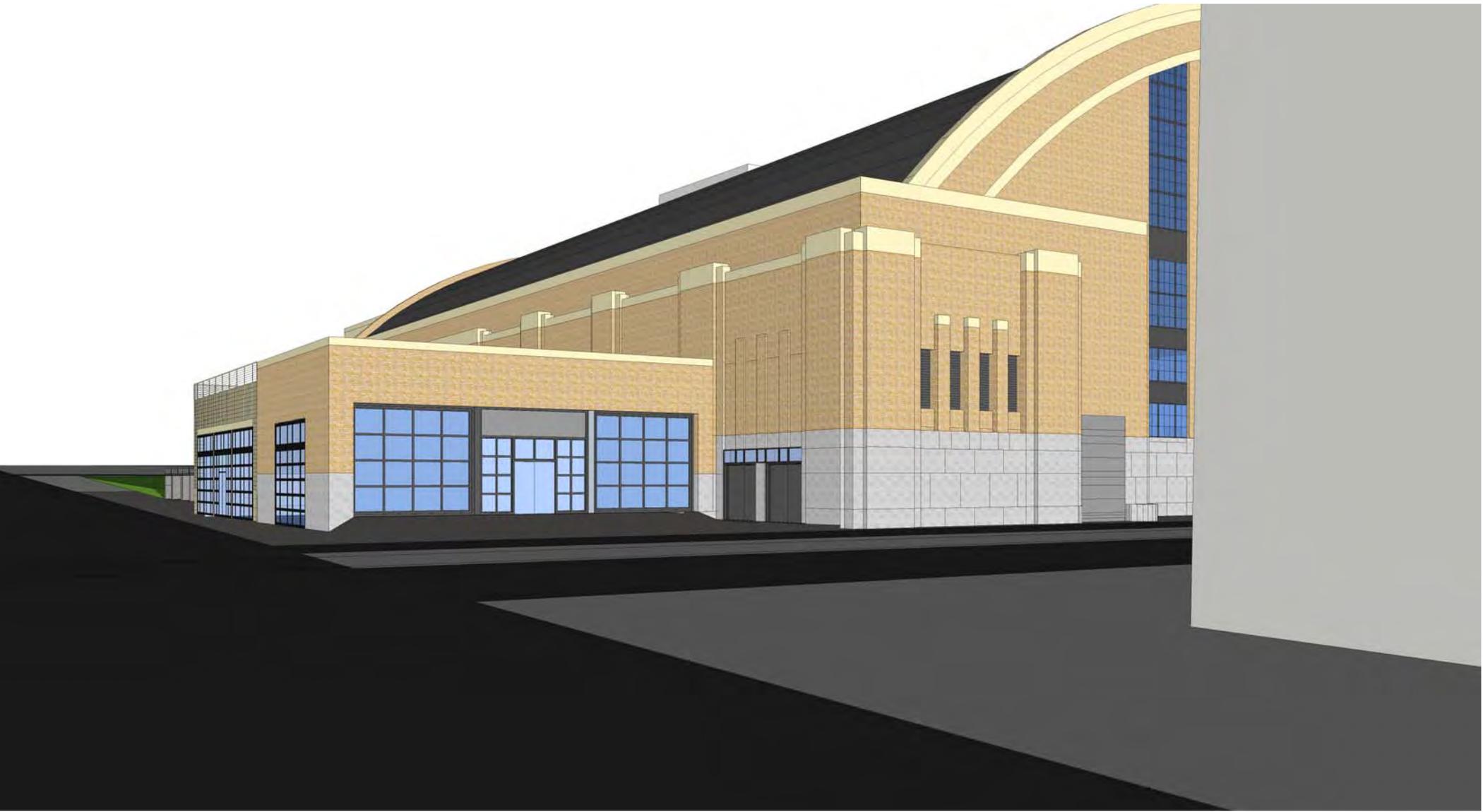
01 View of New Elevator Overrun



02 New Loading Dock



03 New egress doors and new garage door at existing garage in new masonry opening



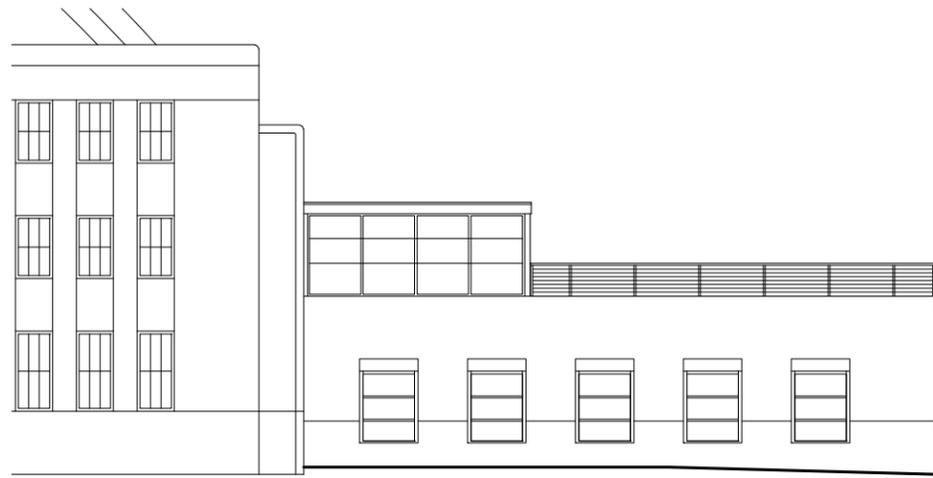
04 New egress doors and new addition



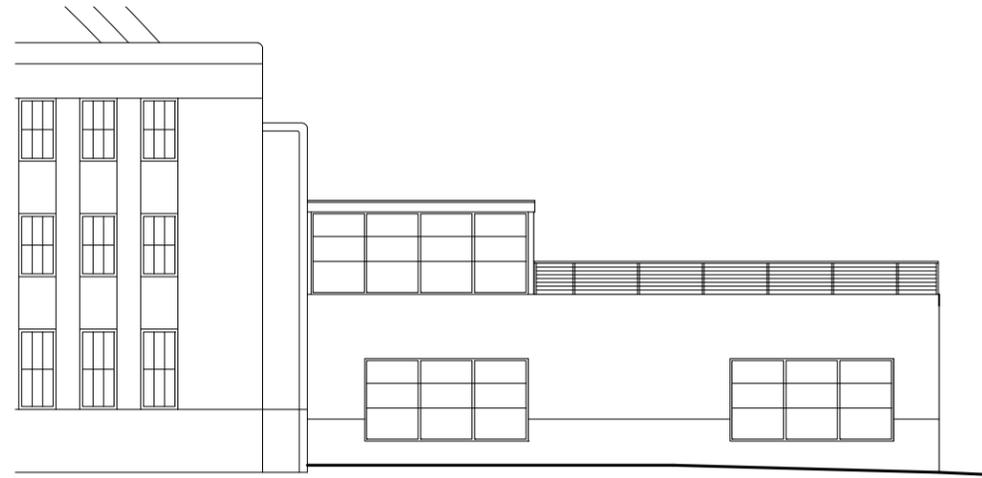
05 New addition and new garage door in new masonry opening in existing garage



06 New addition



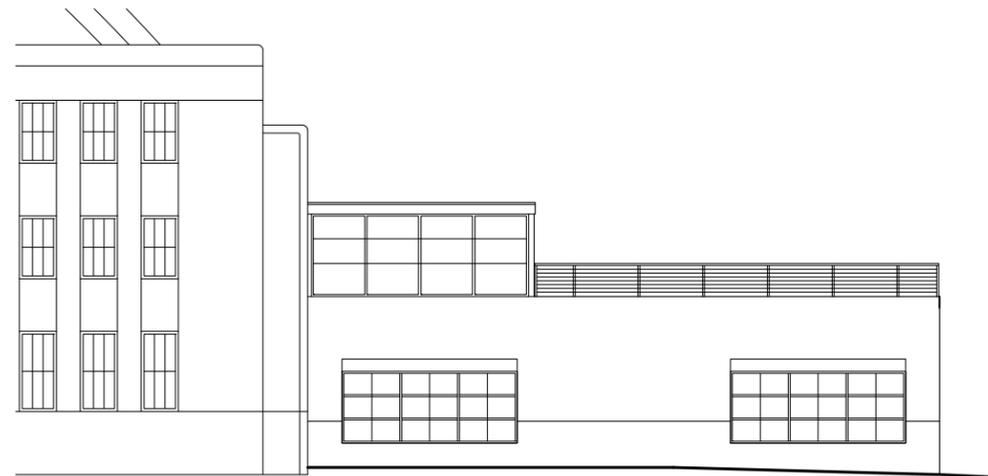
Sixth Street View - Option A



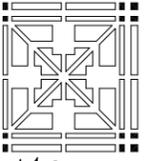
Sixth Street View - Option B



Sixth Street View - Option C



Sixth Street View - Option D



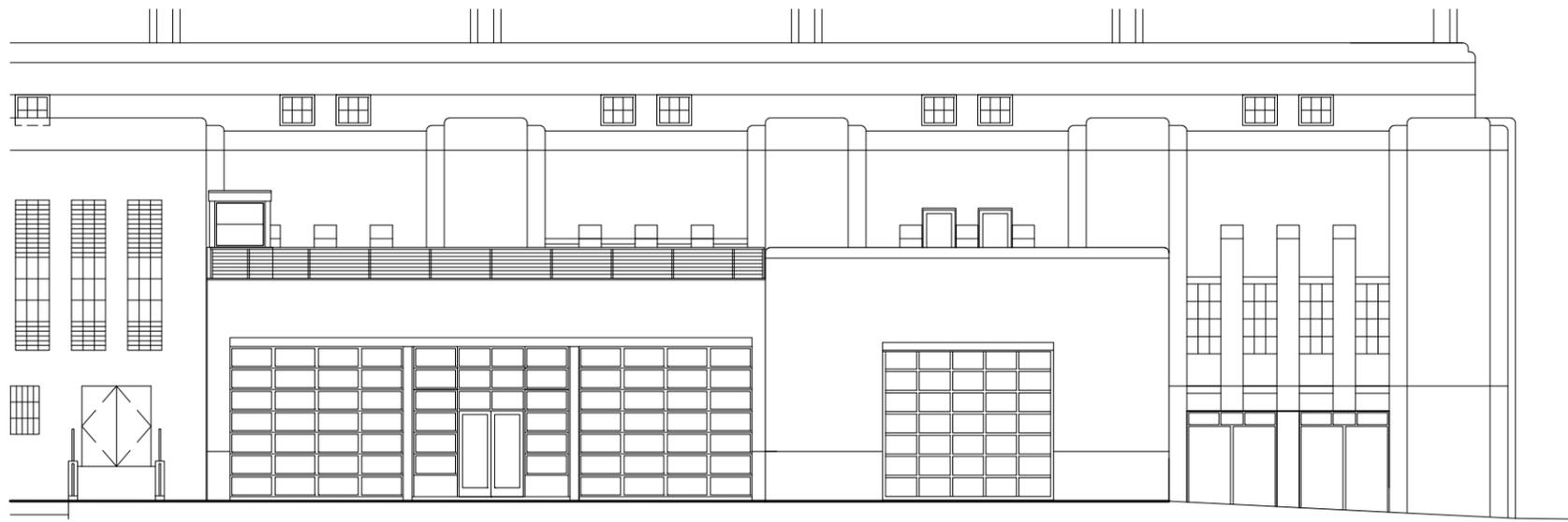
MACDONALD & MACK
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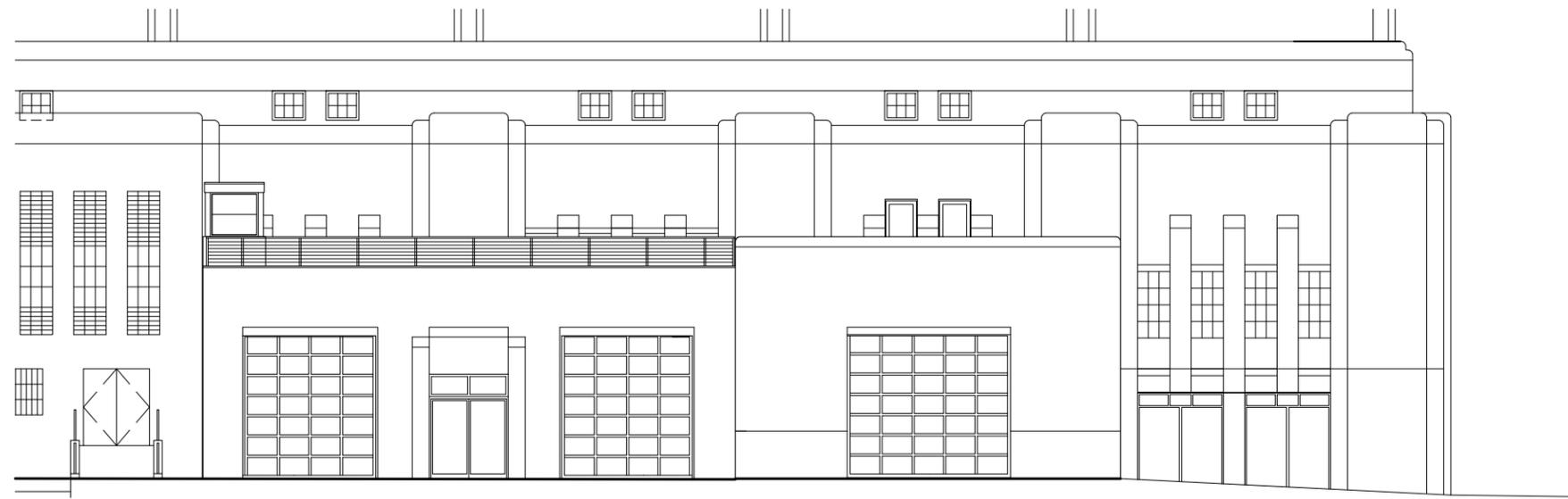
MINNEAPOLIS ARMORY
 ADDITION OPTIONS

DRAWN DKA & qtv (mma) DATE 10.13.2016 REVISION

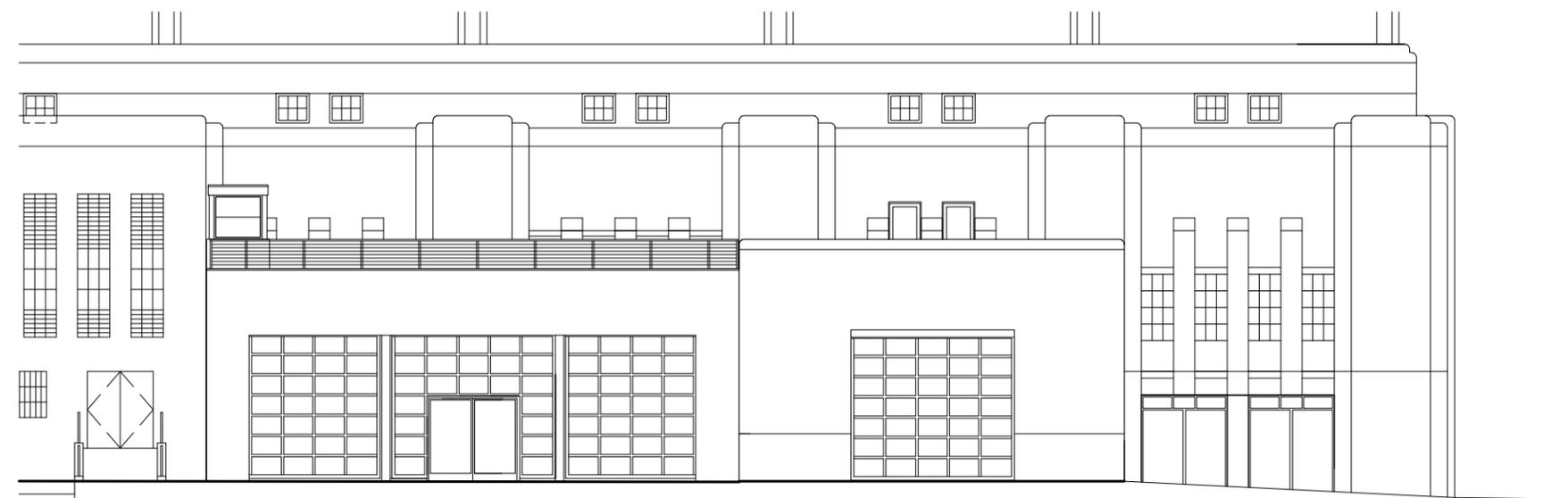
A03



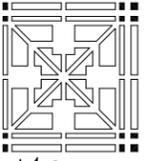
Portland Avenue View - Option A



Portland Avenue View - Option B



Portland Avenue View - Option C



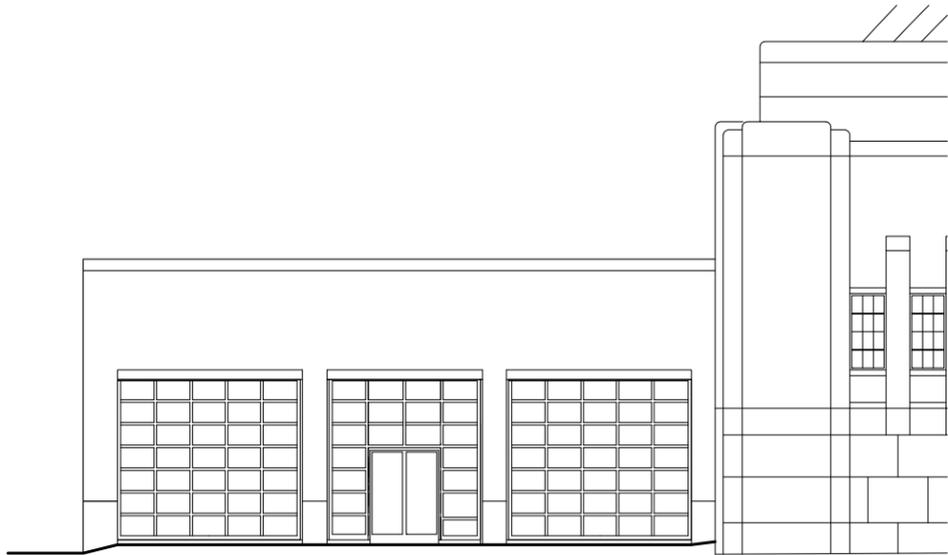
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 400 SOUTH FOURTH STREET STE 712 - MINNEAPOLIS MINNESOTA 55415
 P 612 341 4051 F 612 337 3843 WWW.MAMACKLTD.COM

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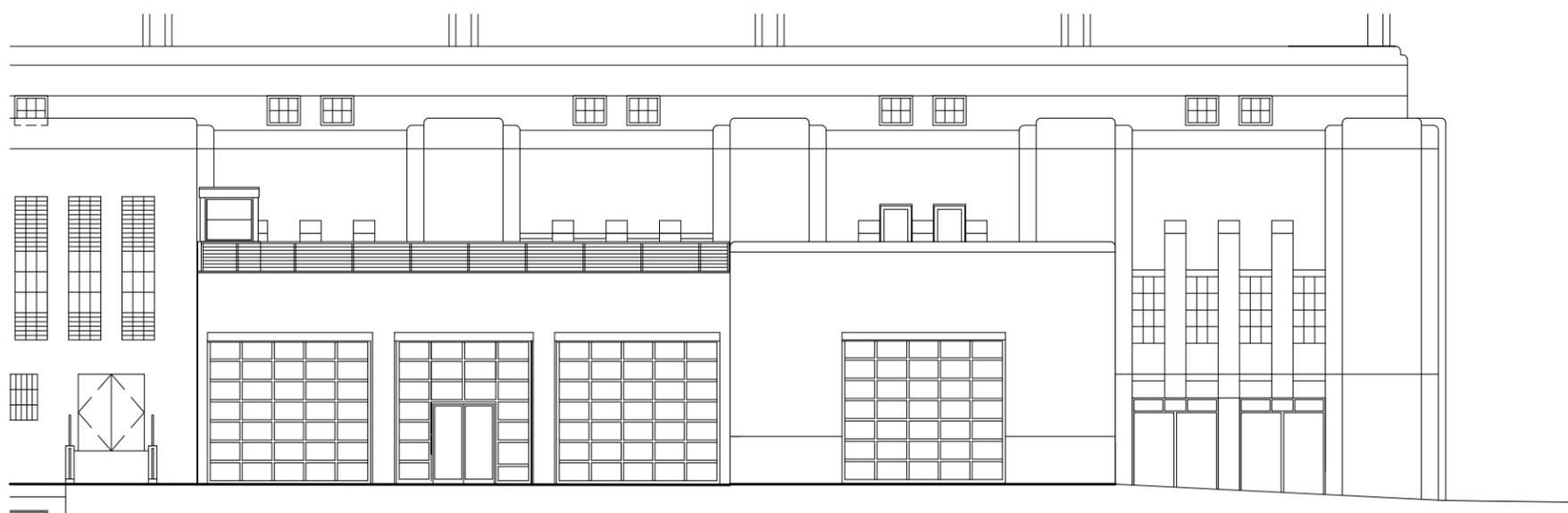
MINNEAPOLIS ARMORY
 ADDITION OPTIONS

DRAWN DKA & qtv (mm) DATE 10.13.2016 REVISION

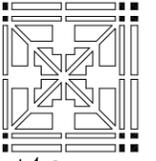
A02



Fifth Street South View - Proposed door replacement



Portland Avenue View - Option D



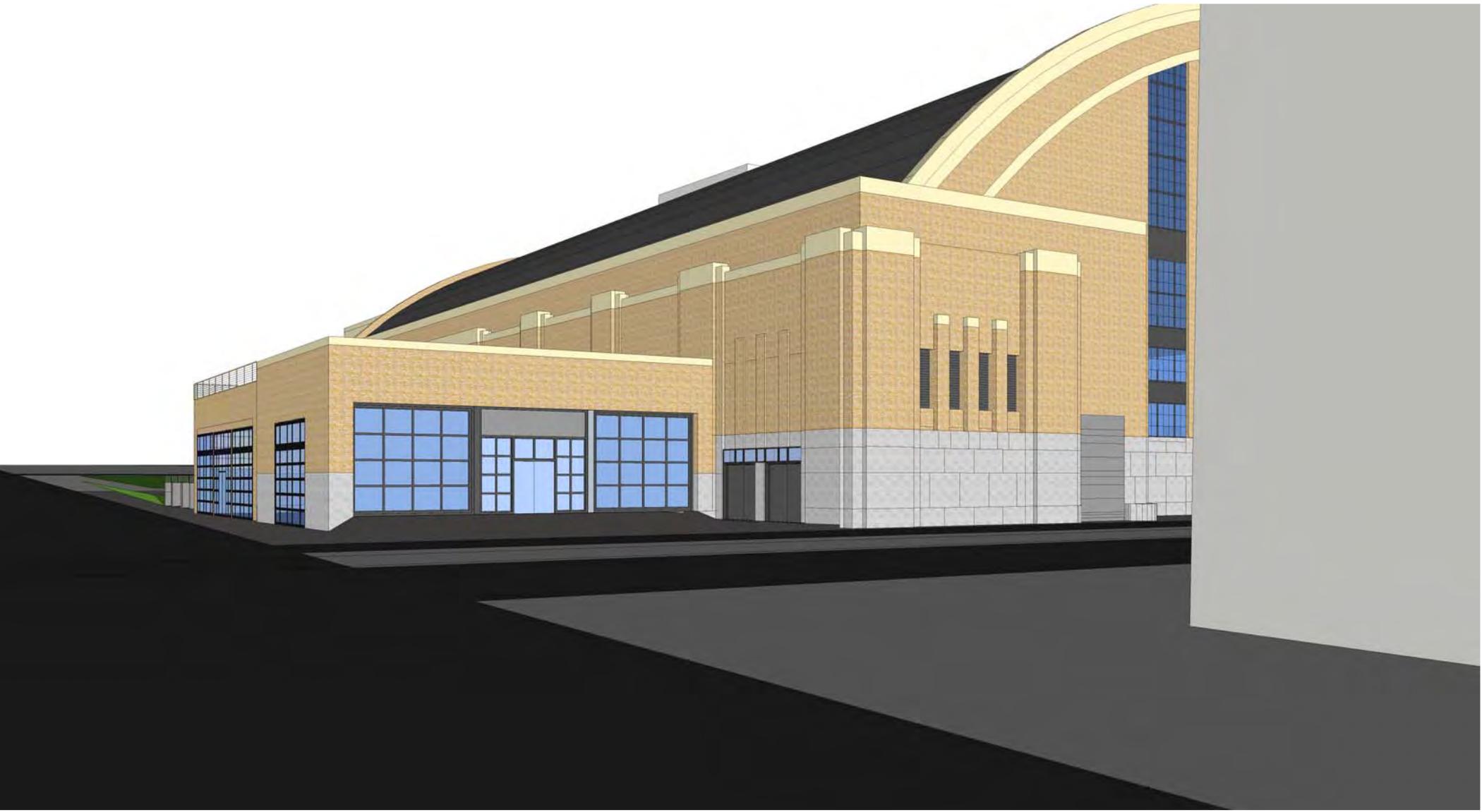
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MINNEAPOLIS ARMORY
 ADDITION OPTIONS

DRAWN DKA & qtv (mma) DATE 10.13.2016 REVISION

A01



04 New Egress Doors and Annex



05 New addition and new garage door in new masonry opening in existing garage



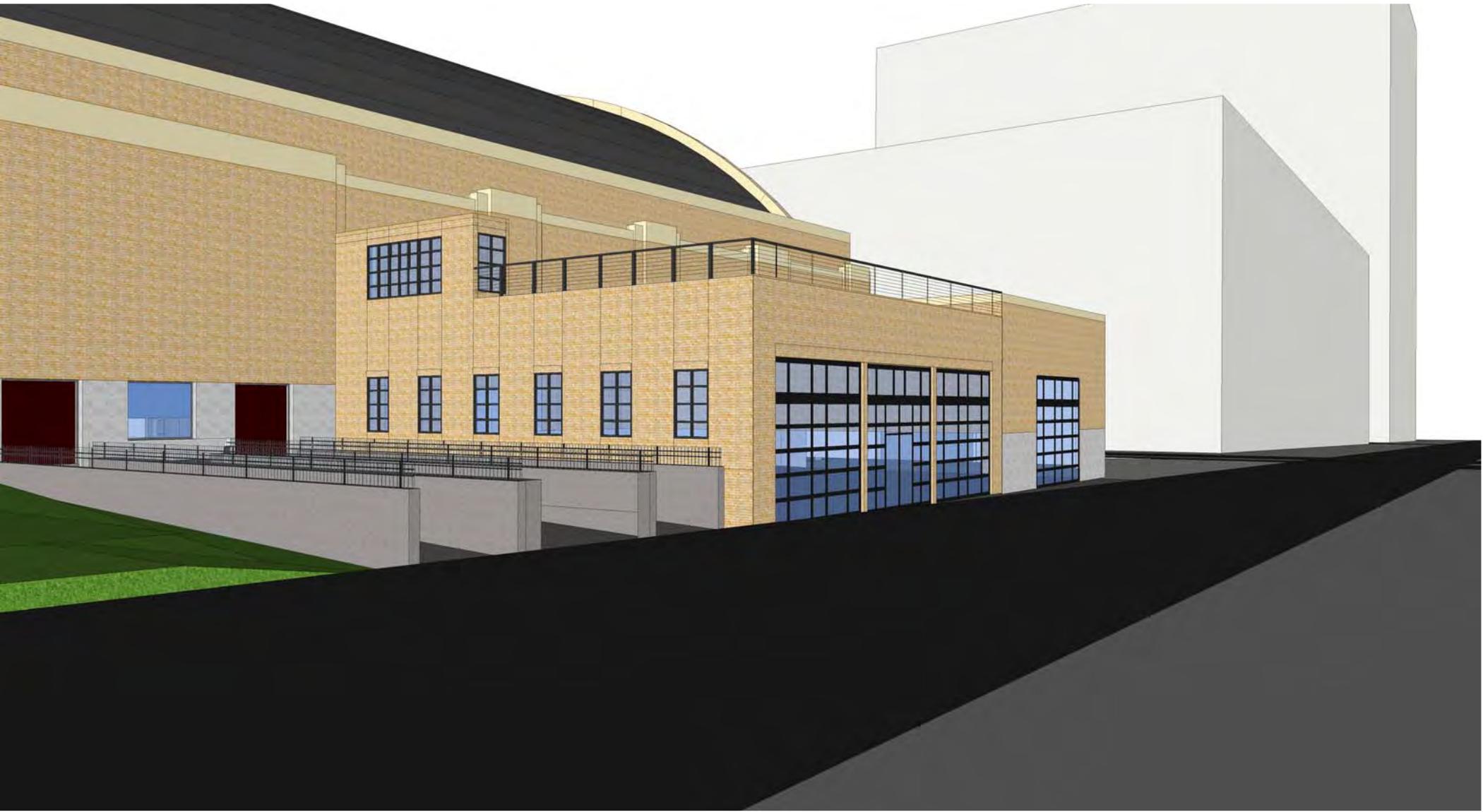
06a New addition



06b New addition



06c New addition



06d New addition