



Procurement #: 49336>

CITY OF PROVIDENCE, RHODE ISLAND

Department: Public Property

RFP Title: General Contractor Services For Joslin Recreation Center CPF Improvements

Opening Date: 06/16/2025

Addendum #: 3

Issue Date: 06/02/2025

The purpose of this addendum is to answer Bidder RFIs, issue new Drawings and Technical Specifications

Providence City Hall
25 Dorrance Street
Providence, RI 02903

*****ADDENDUM THREE*****

**City of Providence
Department of Public Property
Joslin Recreation Center – CPF Renovation
17 Hyatt Street
Providence, RI 02903**

June 02, 2025

NOTICE:

This Addendum modifies, amends and supplements designated part of the CONTRACT DOCUMENTS for the project identified as "Joslin Recreation Center – CPF Renovation" at 17 Hyatt Street, Providence, RI 02903, 100% CD Submission, dated May 5, 2025, and is hereby made a part thereof by reference, and shall be as binding as though inserted in its entirety in the locations designated hereunder. It shall be the responsibility of the Contractor to notify all subcontractor and suppliers he proposes to use for the various parts of the work of any changes or modifications contained in this Addendum. No claim for additional compensation due to lack of knowledge of the contents of this Addendum will be considered.

DRAWINGS:

1. Remove the following drawings and Replace with attached Revised drawings for Addendum #3 Dated 06.02.2025:

AD1.00	First Floor Demolition Plan
A1.00	First Floor Plan
A1.01	Basement & Second Floor Plans
A1.02	Roof Plan
A2.00	Enlarged Floor Plans
A3.00	Building Elevations
A6.00	Door Schedule
A6.01	Interior Aluminum Frames
A6.03	Room Finish Schedule
P1.01	Plumbing First Flr Pln – Sanitary Waste Vent & Storm
P1.02	Plumbing First Flr Pln & Partial Second Flr Pln – Domestic Water
FP0.01	Fire Protection Legend Notes & Details
ES1.00	Electrical Site Plan
ES1.01	Electrical Details
E1.00	Electrical First Flr Pln – Lighting
E1.01	Electrical First Flr Pln – Power
E1.02	Electrical Roof Plan
E2.01	Electrical Power Riser Diagram & Details
FA0.00	Fire Alarm Legend Notes & Abbreviations
FA1.00	Fire Alarm First Floor Plan

2. Add the following attached New Drawing:

A6.05	Exterior Door Details
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SPECIFICATIONS:

1. Remove the following specification sections:

Section 075423	TPO Roofing System
Section 102800	Toilet and Bath Accessories
Section 093000	Ceramic Tile

2. Add the following specification sections:

Section 055213	Pipe and Tube Railings – Dated 05.28.2025
Section 075423	TPO Roofing System – Dated 05.28.2025
Section 081743	FRP Doors and Frames – Dated 05.28.2025
Section 093000	Ceramic Tile – Dated 05.28.2025
Section 098400	Tectum Design-Art Shapes – Dated 05.28.2025
Section 102800	Toilet and Bath Accessories – Dated 05.28.2025

CLARIFICATIONS:

- a. Contractor to be aware that there is to be a concurrent project at the Joslin Park Splashpad behind the Rec Center. Some coordination will be necessary with this project and access to basement water supply.
- b. All work associated with Removing and Replacing exterior doors E09 and E10 shall be priced separately as Add Alternate No. 1 to the Base Bid.

1. RFI #4:

- Please identify hand dryers' locations on the electrical and architectural drawings.

Answer – There will be No Hand dryers in the project.

- What is the specification for the baby changing stations, mirrors & fire extinguishers. Please provide locations on the drawings.

Answer – Refer to Revised Specification section 102800 – Toilet and Bath Accessories for information on Mirror and Baby Changing Station. Refer to Specification section 104413 – Fire Extinguishers and Cabinets for information. Fire Extinguisher locations shown on included floorplan sheet A1.00.

- Please clarify if there is ceramic base. The finish schedule shows all VBG.

Answer – Gender Neutral Shower Room 110 shall have Ceramic tile base and not VB. A revised Ceramic tile specification is included.

- Please clarify size of wall tile.

Answer – Refer to revised specification section 093000 for Ceramic Tile.

- What is the specification for the shower enclosure?

Answer – Roll-in shower surround will be by BestBath Model #5LES26337A75B and will include: Folding Seat, Grab bars, Soap dish, Mixing valve assembly, Curtain Rod and brackets, Curtain, T-shaped water-stop, and Drain assembly.

- Please provide elevations for aluminum storefronts segments “as single flat plane” so we can estimate glazing and framing. Please include heights.

Answer – Refer to included Sheet A2.00 for information.

2. **RFI #5:**

- The reflective ceiling demolition Note 6 call to remove and dispose of plywood assembly, but it does not appear that plywood is in fact on the majority of the ceilings, they appear to be plaster & wire lath. Please clarify material for R&D throughout.

Answer – The existing “hard” ceilings are to be removed in their entirety, as occurs. The existing was noted as existing painted plywood, however, the actual material may in fact be a plastered wire and lath as the contractor has questioned. Contractor is to field verify the actual existing ceiling material to be removed as indicated.

- Please clarify removal of “ceiling assembly”.

Answer – Extent of existing ceiling removal shall be coordinated with New work, as occurs, in each individual area and space.

- Reflective ceiling demo plan Note 7 calls for removal and disposal of the existing 2 x 2 acoustical ceiling in room 120. It appears there is an additional plaster ceiling above as well. It also has unidentified ductwork. Is the plaster ceiling above & ductwork expected to stay?

Answer – Any modification or removal of existing “plaster” ceilings above existing to be removed acoustical drop ceilings shall be coordinated with all New work to be completed. Refer to Mechanical, Plumbing, etc... for extent of New work.

- Are plaster ceilings above the 2 x 2 ceilings “typical” in the areas of work?

Answer – It can be assumed that there are “plaster” ceilings above the existing acoustical drop ceiling systems, however, contractor shall field verify existing conditions prior to beginning work.

- Has the plaster been tested for asbestos?

Answer – Some ceilings on the First and Second floor were tested during the previous project renovations. According to that report, it appears that all collected ceiling related samples came back negative for Asbestos containing materials.

3. **RFI #6:**

- Please provide wall elevation of “tectum wall panels”. Provide specification section for tectum panels.

Answer – See attached specification section 098400 Tectum Designart Shapes. Please carry full square footage of wall(s) indicated on plans for pricing purposes. Actual layout and colors will be selected during the Submittal process.

- Please clarify the “displays” shown in the 4- & 6-person meeting rooms.

Answer – Meeting Room 103B will have a 50” display, while meeting rooms 103E and 103C will have 43” displays.

- Please confirm the freezer and the fridge are by “others”.

Answer – The Freezer and Refrigerator are existing equipment that shall be removed, salvaged and reinstalled by the contractor.

- Please provide header detail for framing/ceiling tie-in of aluminum storefronts.

Answer – Refer to included Sheet A6.01 for information.

4. **RFI #7:**

- Please confirm if there is going to be a locker specification?

Answer – There will be No locker specification.

- Please confirm if there will be ACT -2 2x4 panels. It is in RCP Legend/A1.03 however not shown in drawing.

Answer – All Acoustical ceiling tiles will be 2x2 panels.

- Note 19/A1.03 states to remove existing roof in its entirety; please clarify if we are replacing the entire existing roof?

Answer – Only the roofs indicated on A1.03, are to be removed and replaced to the existing decking to remain.

- Detail 6/A5.01 is not shown on any floor plan only shown once as a detail; please clarify if there is rigid insulation?

Answer – Please refer to Enlarged Floor Plan of Cyber Lobby, 2/ A2.00 for callout of Detail 6/ A5.01 at upper right-hand corner of plan. There is no “rigid” insulation in this wall assembly. Wall type is indicated as “A1” but shall be “A” type, refer to sheet G0.01 for wall type information.

- Rooms at doors 103F and 103D and the open cubby next to 103F appear to have counters in them but are not elevated or sectioned as such -Do we need to carry anything in these rooms?

Answer – Yes, these spaces shall have countertops with supporting metal brackets. Refer to Addendum No. 1 for additional information.

- The Cubbies on A8.02 are noted to have a Southco model 3-50-420-050 swing handle latch. The model number provided is for a keyed lock. Do they want all 72 of these locks keyed differently? Note that when I was reviewing the spec sheet on these locks it appears they also make a version of this lock with a padlock hasp which would allow each user to provide their own padlock.

Answer – Yes, please provide version with the PadLock Hasp. Refer to Addendum No. 1 for additional information.

- Please clarify, notice the bathroom accessories are calling out two different items, 2.2 A. want to be used Bobrick or ASI, but they have list items from Bradley and LoCor by Solaris

Answer – Bradley Corporation is the Basis of Design for most of the items in the specification, however there are some items listed that will want to be LoCor by Solaris as requested by the owner to maintain a standard throughout the facility. Bobrick and ASI are listed “or equals.”

- Please confirm if all rooms are getting new signage or only the rooms that are being worked on?

Answer – All rooms will be receiving Signage.

- With the new service being installed from the utility pole to the utility XFMR. Is the EC expected to install a service drop for the telecom supplying the building as well inside but separated in the duct bank going to the building?

Answer – Yes, see drawings included with Addendum No.3

- Is the EC expected to form and pour the concrete pad/ bollards for the utilities XFMR to be installed?

Answer – Yes

- Is the EC expected to conduct an arc flash study to procure arc-flash labels for equipment per NFPA110.16?

Answer – Yes

- Is the EC expected to provide a BDA system site survey prior to submittal?

Answer – No, include in Bid.

- Is an ELKOR or shark meter sufficient for customer metering? Or is metering expected to be enclosed within or part of the building switchgear?

Answer – The meter shall be per RIE standards and mounted on the transformer.

- Is the EC expected to megger all branch circuit breakers installed? Also, is the EC expected to megger all motors? Even ones not provided by the EC?

Answer – Yes, but not motors by others.

- The new first-floor demo drawings AD1.00 of Addendum 1, contradict the structural drawings. Note 21 talks about prepping existing angles whereas the structural drawings indicate new angles at the openings. We don't have existing elevation drawings to show if there are existing windows in these locations, where using the existing angles would be acceptable. Something to look into because that would reduce the cost?

Answer – Note #21 on drawing AD1.00 of Addendum No.1, should only refer to existing openings at door locations. Structural drawings and notes for New steel at these openings shall take precedence.

5. RFI #8:

- Has an asbestos survey been conducted for this building, particularly in the basement and other potentially impacted demo areas? If so, can the results or report be made available to bidders?

Answer – There is an Asbestos report from the previous renovation project completed at this facility. The “findings” of the report can be made available to the successful bidder.

- What are the specific areas where trenching is expected (e.g., basement slab, exterior, corridors)?

Answer – The extent of “trenching” will need to be field verified, but would primarily happen in the “new” Multi-Purpose room 105. There are existing toilet and lav fixtures that will be removed. The existing drain lines will need to be removed or capped, depending on existing conditions. The slab will then need to be infilled as required, providing new cleanout(s) as occurs. Also, in Multi-Purpose room 120, two floor drains shall be removed, and the slab will need to be infilled as required here as well.

- The specification references a range of colors for the Hexagon-Shaped SoundScape panels. However, no drawing, finish schedule, or elevation appears to indicate which color is to be used at which location. Please confirm:

- a. Is a finish key or color assignment layout available for the hexagon panels?

Answer – There is no finish key currently available.

- b. If not, should we allow the architect to select the color layout during the submittal process?

Answer – Yes, Architect shall select color options from manufacturer's full line.

- The specification references multiple hanging kit options for the hexagon sound panels. Each carton includes four panels, and the spec lists several kit types, but no details are provided about which kit is intended for this project.
- c. Are the hexagon panels to be individually hung or grouped (e.g., in clusters of 4)

Answer – Panels will most likely be individually hung, refer to First Floor Ceiling Plan 1/ A1.03 for panel heights off finish floor.

- d. Which specific hanging kit should be used for installation?

Answer – Primarily Individual hanging, however this will need to be field determined.

- e. Are hanging locations coordinated or field-determined?

Answer – These locations will need to be coordinated in the field.

- The drawings indicate trenching will be required for portions of the work. What are the specific areas where trenching is expected (e.g., basement slab, exterior, corridors)?

Answer – Refer to “trenching” question and answer above.

- Please advise all areas that are plenum airspaces?

Answer – There are no dedicated plenum airspaces on this project. The proposed system is VEF with DOAS, which typically do not use plenum airspaces.

- Per Shure’s manufacturer recommendation, the ULXD4Q wireless microphone receiver performs optimally with (2) antennas for proper diversity reception. Currently, only (1) Shure UA874 antenna is shown. Please confirm that a second antenna is required.

- a. If so, please identify the location for the second antenna.

Answer – Provide 2nd antenna. Mount one antenna on the north wall (plan view) and the other on the south wall (plan view).

- Per Shure’s manufacturer recommendation, the ULXD4Q wireless microphone receiver performs optimally with (2) antennas for proper diversity reception. Currently, only (1) Shure UA874 antenna is shown. Please confirm that a second antenna is required.

- b. If so, please identify the location for the second antenna.

Answer – See Response above.

- All display input plates call for USB inputs. For displays that do not have Jabra Panacast 50 Soundbars associated, are USB inputs desired or required on the input plates?

- c. If USB inputs are required or desired, what would be the destination of the USB cable?

Answer – USB cable shall be located in the AV box behind display for future use.

- On Page A2.07 the wall plate detail depicts USB A input jack. When inputting to a Jabra Panacast 50 Soundbar, this jack would be USB B. Please clarify required USB jack type for input plates.

Answer – USB cable shall be USB-A at the faceplate and USB-B at the soundbar.

- Please clarify whether a data jack is required in addition to HDMI and USB at any or all single gang AV faceplate locations.

Answer – Data shall be provided by the Telecom Contractor.

- Please confirm whether the three (3) Meeting Owl 3 units and eight (8) wireless dongles noted in Section 1.4, B.10 and B.11 are intended to be: Standalone general-use inventory, to be deployed flexibly throughout the facility, or included as part of the quantities already itemized under each room-specific AV system elsewhere in the specifications or AV drawings?

Answer – Owls and dongles shall be stand-alone, general use

NOTICE TO ALL CONTRACTORS:

Contractors shall call our office to verify number of Addendum issued at least 24 hours in advance of bid submission. Failure to acknowledge receipt of this addendum on the bid form may, at the sole discretion of the Owner, serve as justification to reject bid.

END OF WRITTEN ADDENDUM

JOSLIN RECREATION
CENTER - CPF
RENOVATION

17 Hyatt St., Providence, RI 02903



Owner:
City of Providence, Dept. of Public Property
25 Dorrance Street
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GENERAL NOTES

1. CONTRACTOR SHALL VISIT SITE PRIOR TO BID, AND CAREFULLY INVESTIGATE AND EXAMINE THE AREA OF WORK SO AS TO SATISFY HIMSELF AS TO THE NATURE AND LOCATION OF THE WORK. CONTRACTOR TO NOTE THE CHARACTER, QUALITY, QUANTITIES OF MATERIALS REQUIRED AND DIFFICULTIES TO BE ENCOUNTERED. THE KIND AND EXTENT OF EQUIPMENT AND FACILITIES NEEDED FOR PERFORMANCE OF THE WORK AND OTHER ITEMS WHICH MAY, IN ANY WAY, AFFECT THE WORK OR CONTRACTOR'S PERFORMANCE.

2. DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.

Date: 05/28/2025

Drawn by: JMA

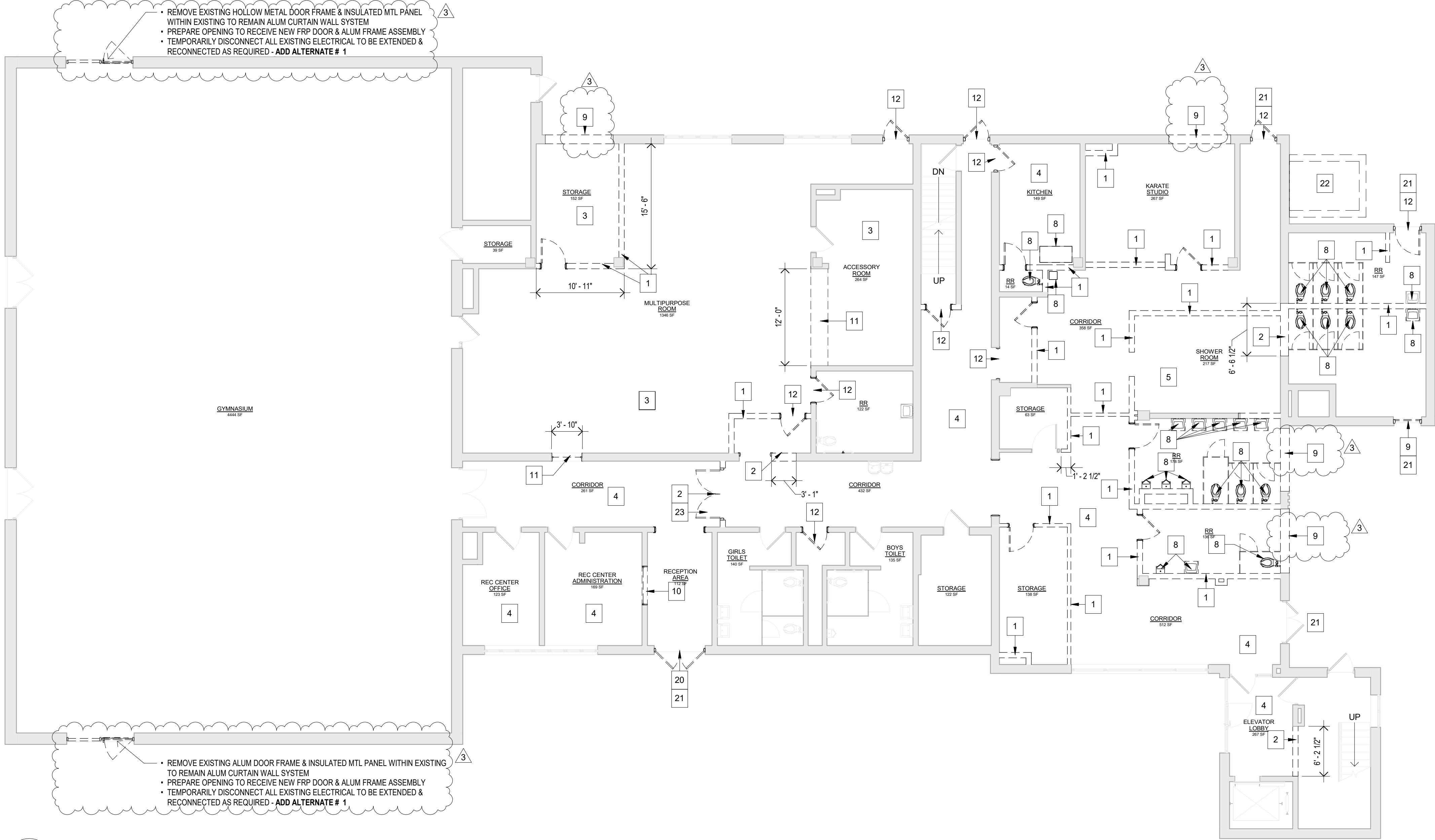
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Revisions

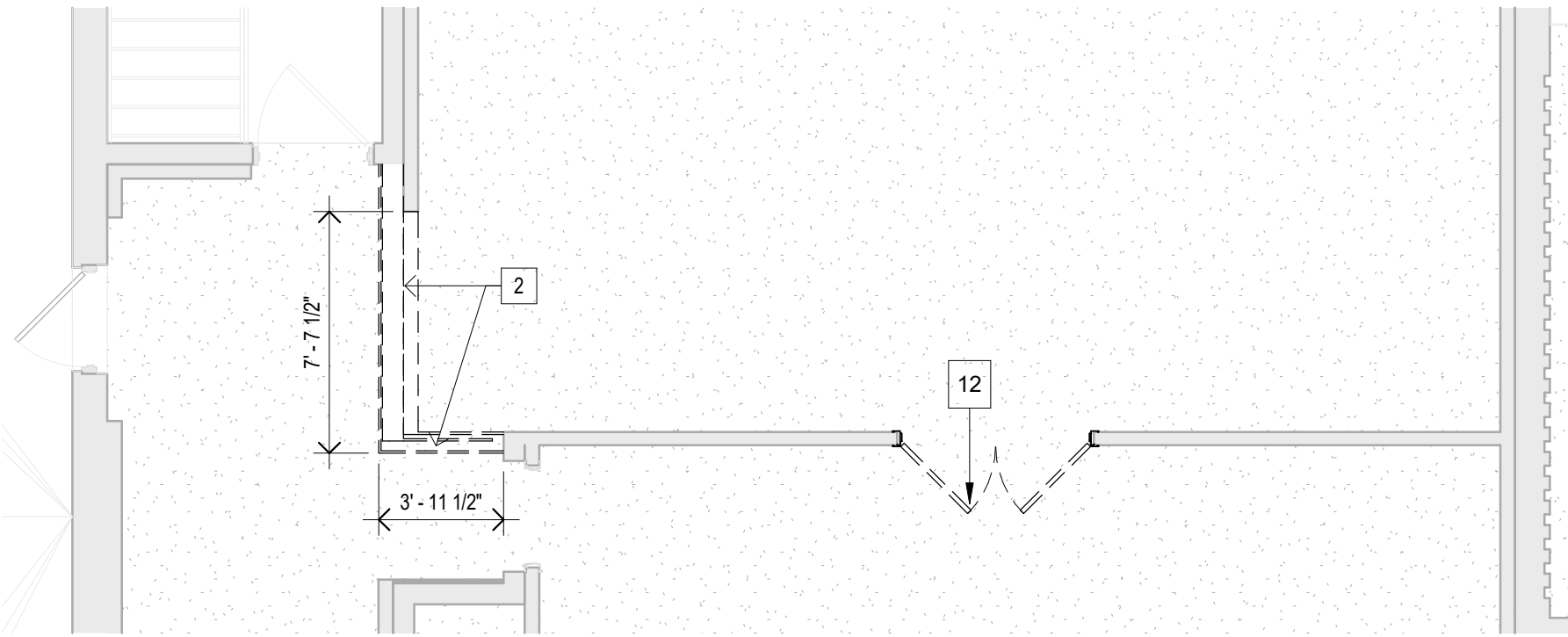
No.	Date	Description
1	5/21/2025	ADDENDUM 1
3	6/2/2025	ADDENDUM 3

FIRST FLOOR DEMOLITION
PLAN

AD1.00



1 First Floor Demolition Plan
AD1.00 1/8" = 1'-0"

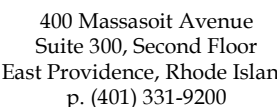
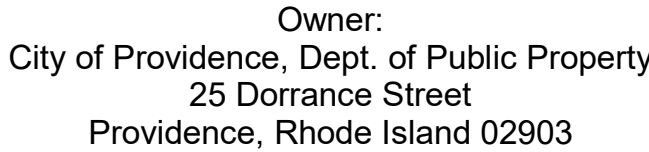


2 Second Floor Partial Demolition Plan
AD1.00 3/16" = 1'-0"

DEMOLITION NOTES

1. REMOVE AND DISPOSE OF WALL ASSEMBLY IN ITS ENTIRETY, INCLUDING BUT NOT LIMITED TO ALL DOORS, FRAMES, AND TRIM, AS REQ'D FOR NEW WORK. REMOVE AND MAKE SAFE ALL ELECTRICAL COMPONENTS REQ'D FOR NEW WORK.
2. REMOVE AND DISPOSE OF PORTION OF EXISTING WALL ASSEMBLY, AS REQ'D FOR NEW WORK.
3. SHOP BLAST TO REMOVE EXISTING EPOXY FLOORING SYSTEM, INCLUDING ALL WALL BASE AS OCCURS. TO PREPARE SURFACE TO RECEIVE NEW FLOORING, PER MANUFACTURER'S RECOMMENDATIONS.
4. REMOVE AND DISPOSE OF EXISTING VCT AND VINYL WALL BASE AS OCCURS. PREPARE SURFACE TO RECEIVE NEW FLOORING, PER MANUFACTURER'S RECOMMENDATIONS.
5. REMOVE AND DISPOSE OF EXISTING CERAMIC TILE FLOORING ASSEMBLY. PREPARE SURFACE TO RECEIVE NEW FLOORING, PER MANUFACTURER'S RECOMMENDATIONS.
6. REMOVE AND DISPOSE OF EXISTING PLYWOOD CEILING ASSEMBLY. TEMPORARILY HANG AND SUPPORT ALL CONDUIT, PIPING, AND LIGHTING AS REQ'D FOR NEW WORK. PROVIDE TEMPORARY LIGHTING WHERE REQUIRED.
7. REMOVE AND DISPOSE OF EXISTING 2X2 ACT CEILING ASSEMBLY; REMOVE AND MAKE SAFE ALL EXISTING LIGHT FIXTURES.
8. REMOVE AND DISPOSE OF PLUMBING FIXTURES, TOILET ACCESSORIES, AND TOILET PARTITIONS IN ITS ENTIRETY. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
9. REMOVE AND DISPOSE OF WINDOW IN FILLED MATERIAL, CONSISTING OF PLYWOOD AND MASONRY. PREPARE EXISTING OPENING TO RECEIVE NEW WINDOW.
10. REMOVE AND DISPOSE OF EXISTING INTERIOR RECEPTION WINDOW. PREPARE OPENING TO RECEIVE NEW COUNTER.
11. REMOVE AND DISPOSE OF EXISTING COUNTER AND WINDOW ASSEMBLY IN MULTIPURPOSE ROOM.
12. REMOVE AND DISPOSE OF EXISTING DOOR AND/OR FRAME AS REQUIRED; PREPARE OPENING FOR NEW WORK AS REQ'D.
13. REMOVE EXISTING SCUPPER AND DOWNSPOUT.
14. REMOVE EXISTING EXHAUST FAN AND ROOF CURB.
15. REMOVE EXISTING VENTILATOR AND ROOF CURB.
16. REMOVE EXISTING DRAIN.
17. REMOVE EXISTING VENT STACK.
18. REMOVE AND SALVAGE EXIST ROOF HATCH ASSEMBLY FOR RE-INSTALLATION.
19. REMOVE EXISTING ROOF ASSEMBLY AND INSULATION IN ITS ENTIRETY TO EXISTING ROOF DECK AS OCCURS.
20. REMOVE AND DISPOSE OF EXISTING PAIR OF HOLLOW METAL DOORS AND HARDWARE IN THEIR ENTIRETY. REMOVE AND DISPOSE OF CENTER MULLION ASSEMBLY. EXISTING FRAME TO REMAIN.
21. SCRAPE, SAND, AND PREPARE EXISTING STEEL LINTELS TO RECEIVE NEW PAINT FINISH AS SPECIFIED.
22. REMOVE AND DISPOSE OF EXISTING STEEL PLATFORM. EXISTING PERIMETER STRUCTURAL ANGLES AND SUPPORTS TO REMAIN. SCRAPE, SAND, AND PREPARE AS REQUIRED TO RECEIVE NEW GRATING ASSEMBLY.
23. REMOVE AND SALVAGE EXISTING PAIR OF DOORS AND HARDWARE FOR RELOCATION AT NEW LOCATION DENOTED AS DOOR #17. PREPARE AND MODIFY EXISTING FRAME, AT NEW LOCATION, AS REQUIRED TO RE-INSTALL SALVAGED PAIR OF DOORS.

7 Hyatt St., Providence, RI 02903



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2. DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.

Date: 05/28/2025

Drawn by: JA

Proj. Mgr.: REG

Revisions

No.	Date	Description
2	5/27/2025	ADDENDUM 2
3	6/2/2025	ADDENDUM 3

A1.00

NOTE:
ALL ROOMS AND SPACES TO RECEIVE INTERIOR
SIGNAGE AS SPECIFIED IN SECTION 101400.
REFER TO SHEET G0.01 FOR ADDITIONAL
INFORMATION

JOSLIN RECREATION
CENTER - CPF
RENOVATION

17 Hyatt St., Providence, RI 02903



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City of Providence, Dept. of Public Property
25 Dorrance Street
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Date: 05/28/2025

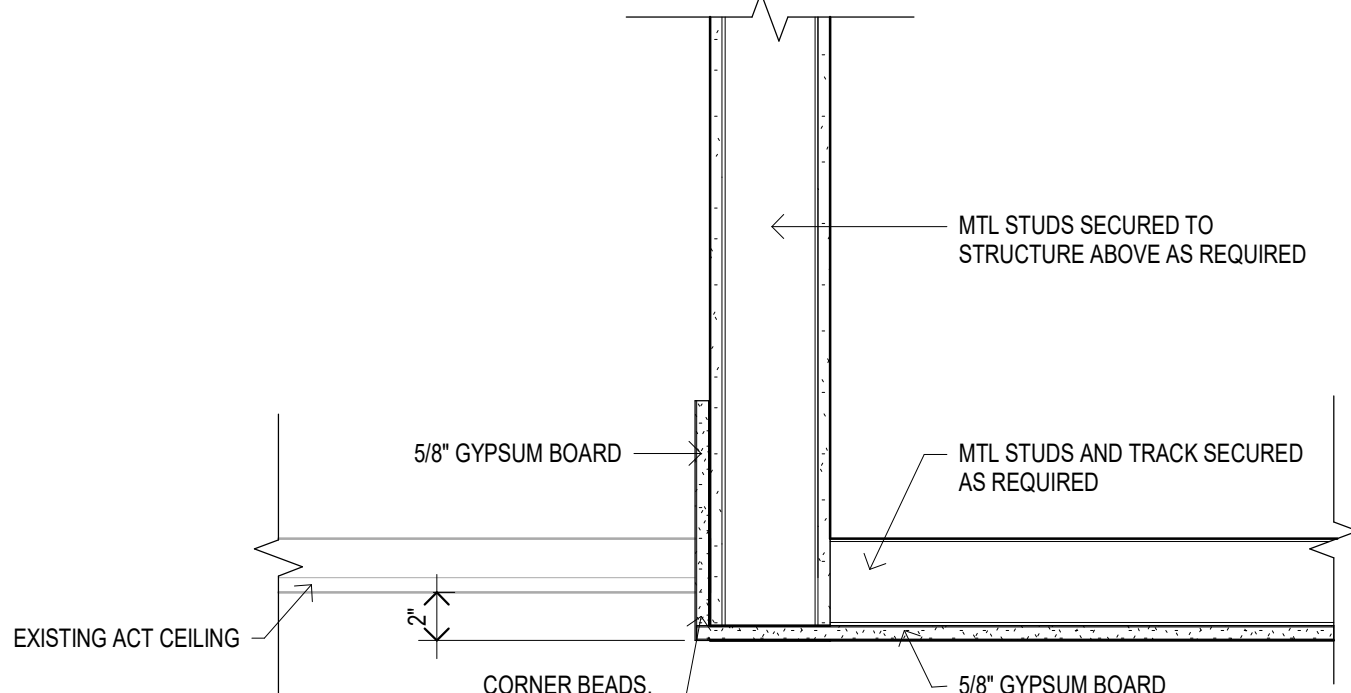
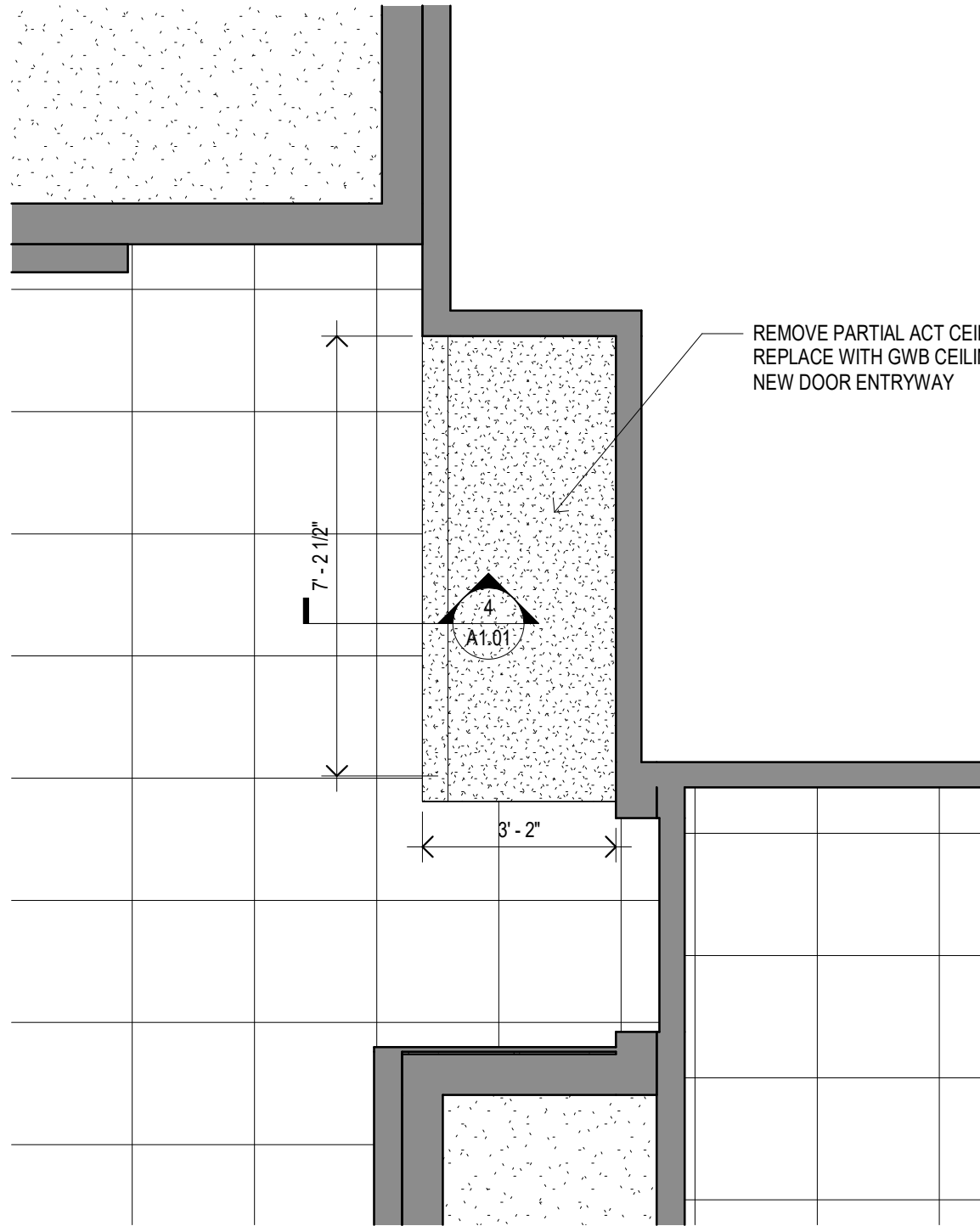
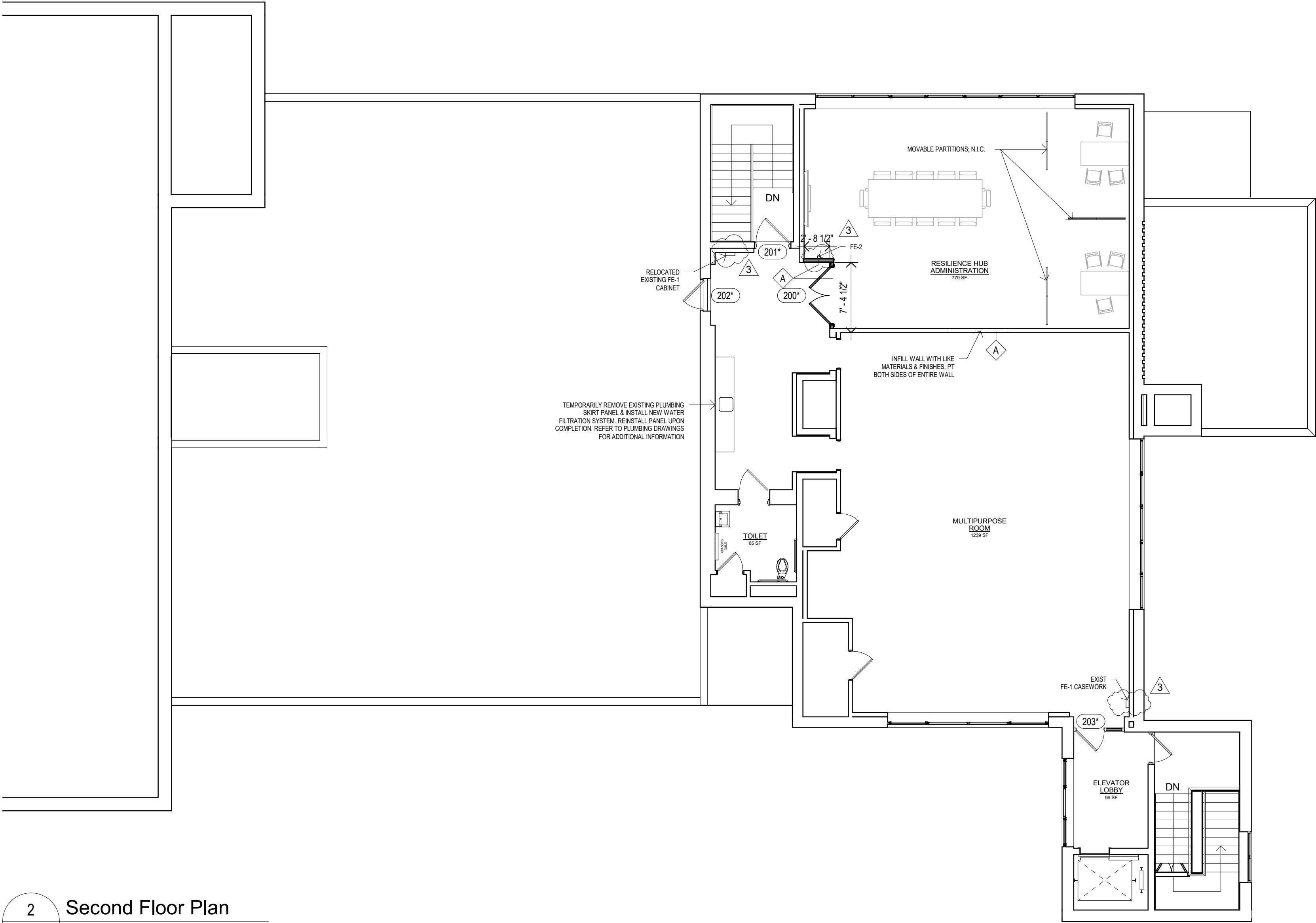
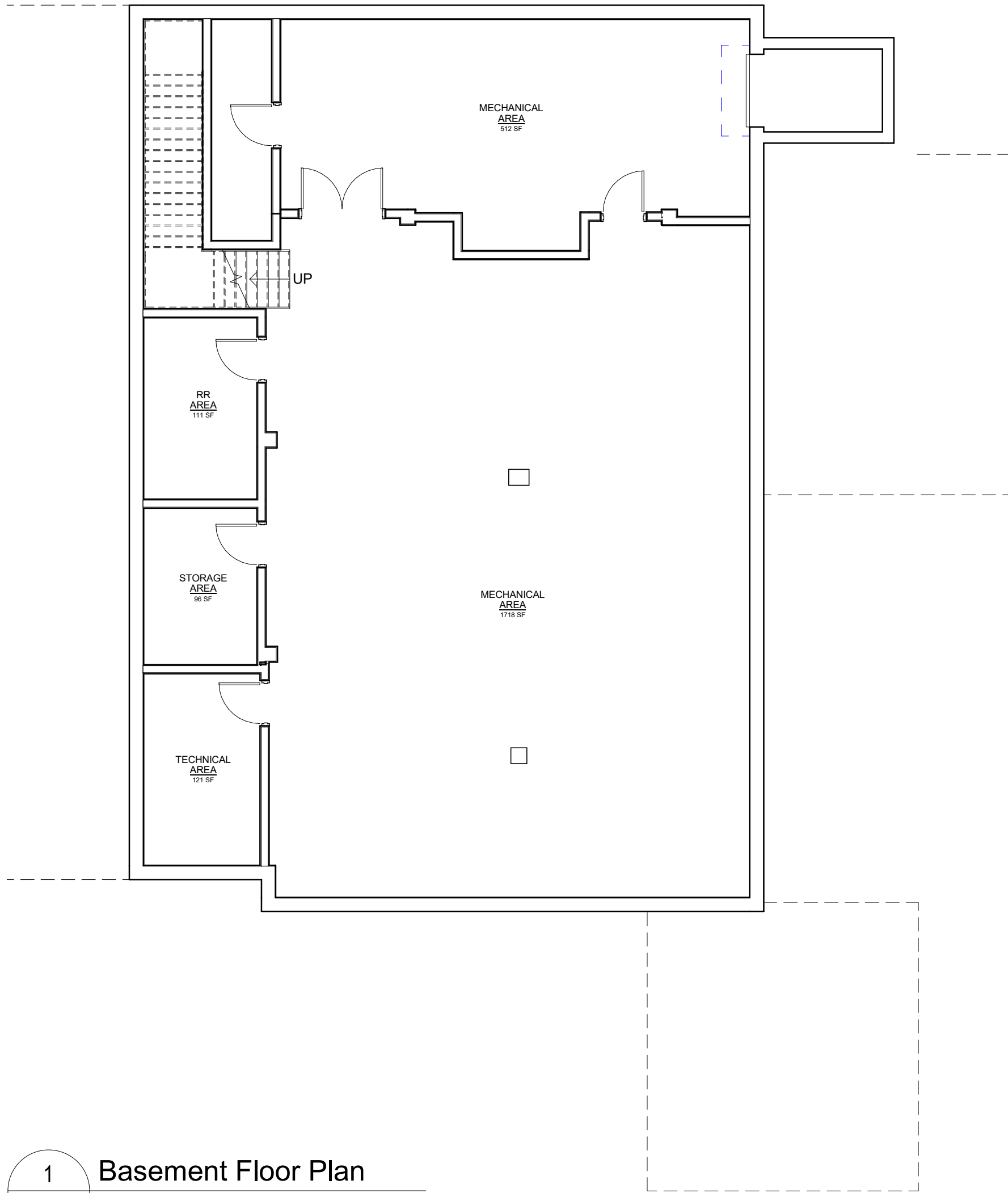
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Revisions

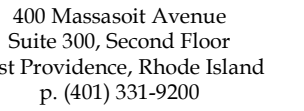
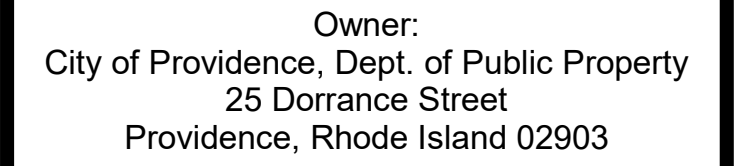
No.	Date	Description
1	5/21/2025	ADDENDUM 1
2	5/27/2025	ADDENDUM 2
3	6/2/2025	ADDENDUM 3

BASEMENT & SECOND
FLOOR PLANS

A1.01



7 Hyatt St., Providence, RI 02903



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GENERAL NOTES

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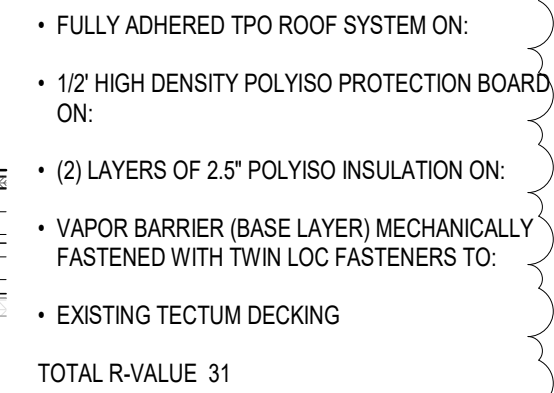
Date: 05/28/2025

Drawn by: Author **Proj. Mgr.:** Checker

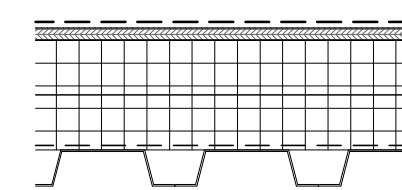
Revisions

ROOF PLAN

A1.02

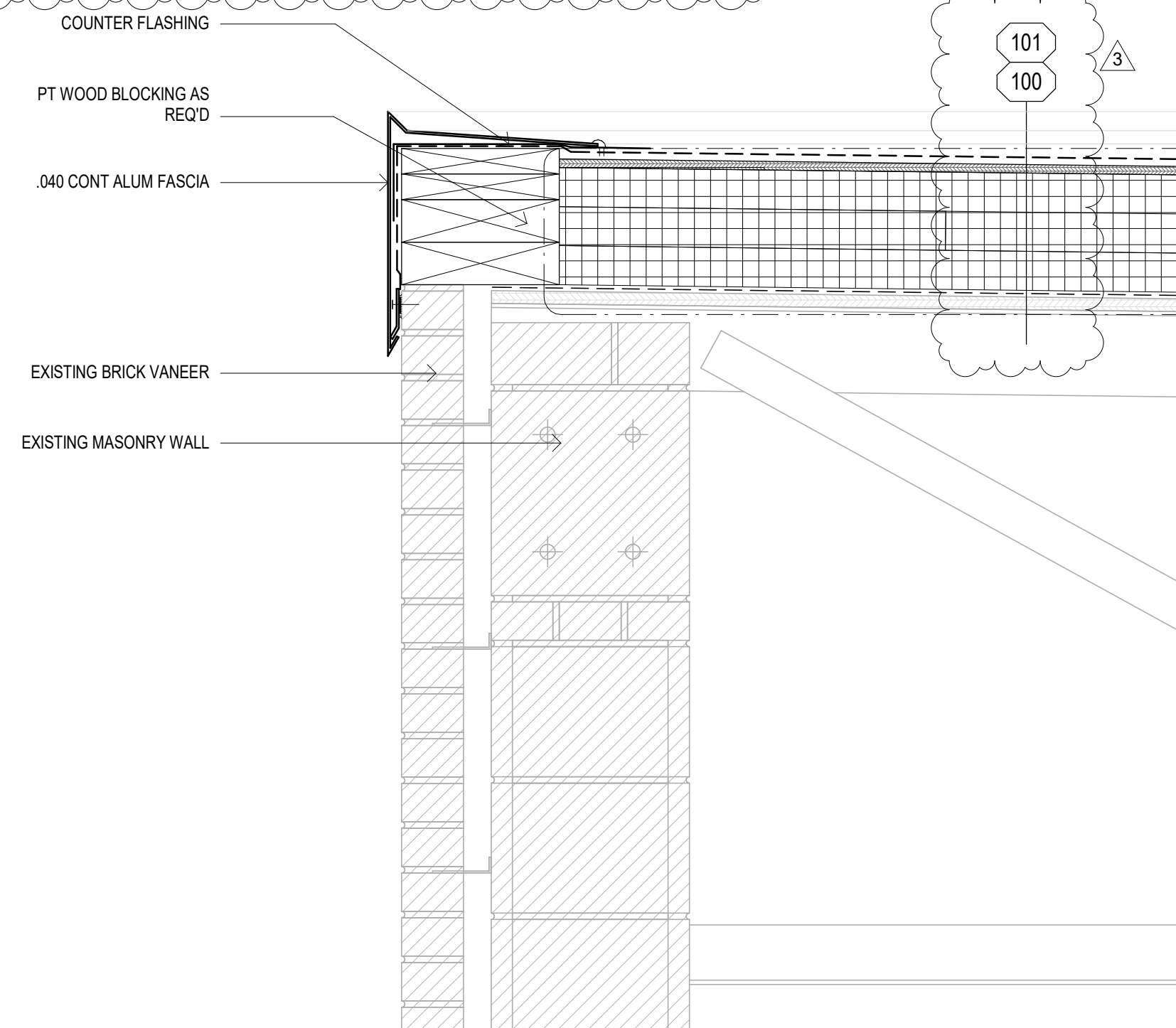


6 ROOF TYPE 101
A1.02 1 1/2" = 1'-0"

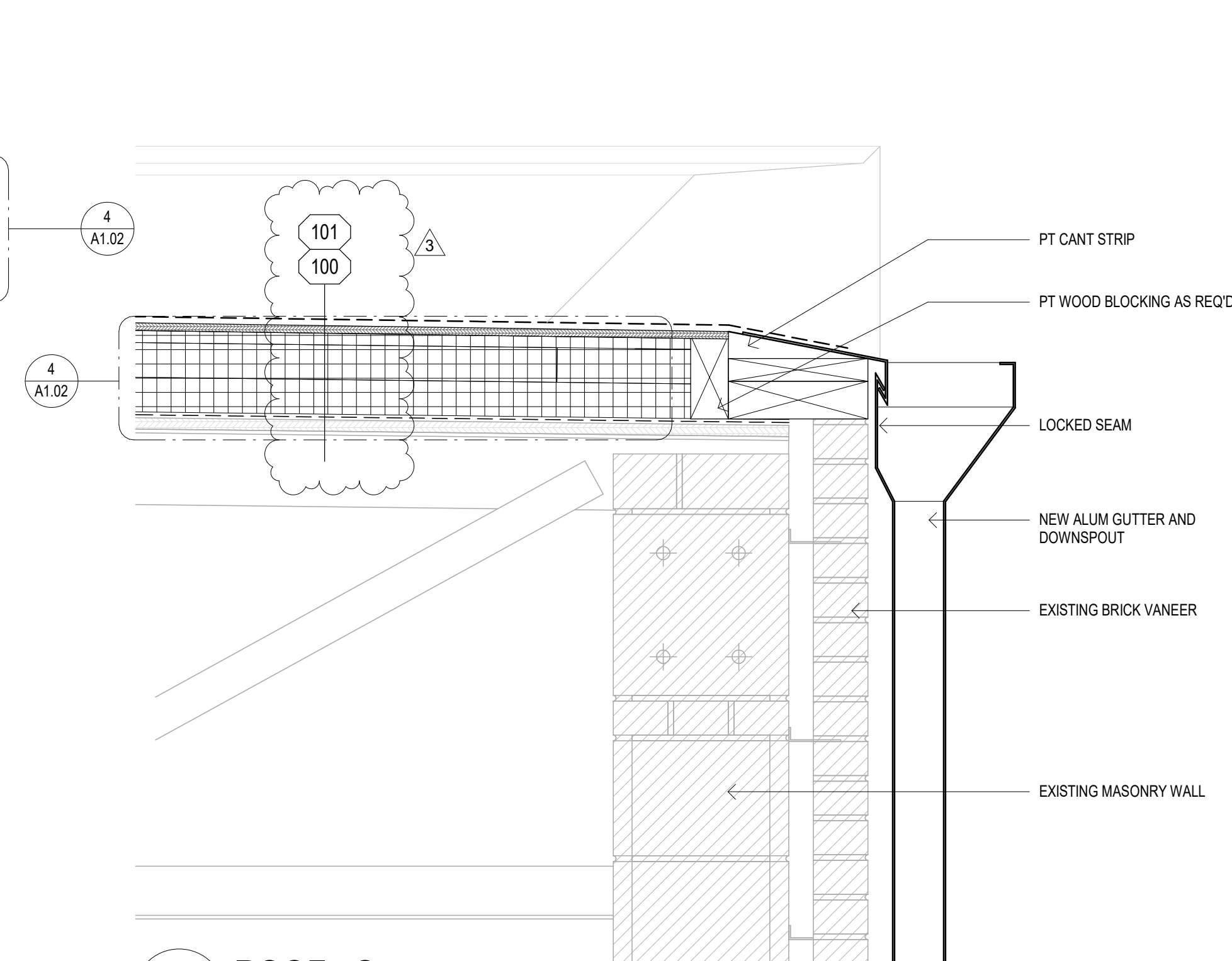


4 ROOF TYPE 100
A1.02 1 1/2" = 1'-0"

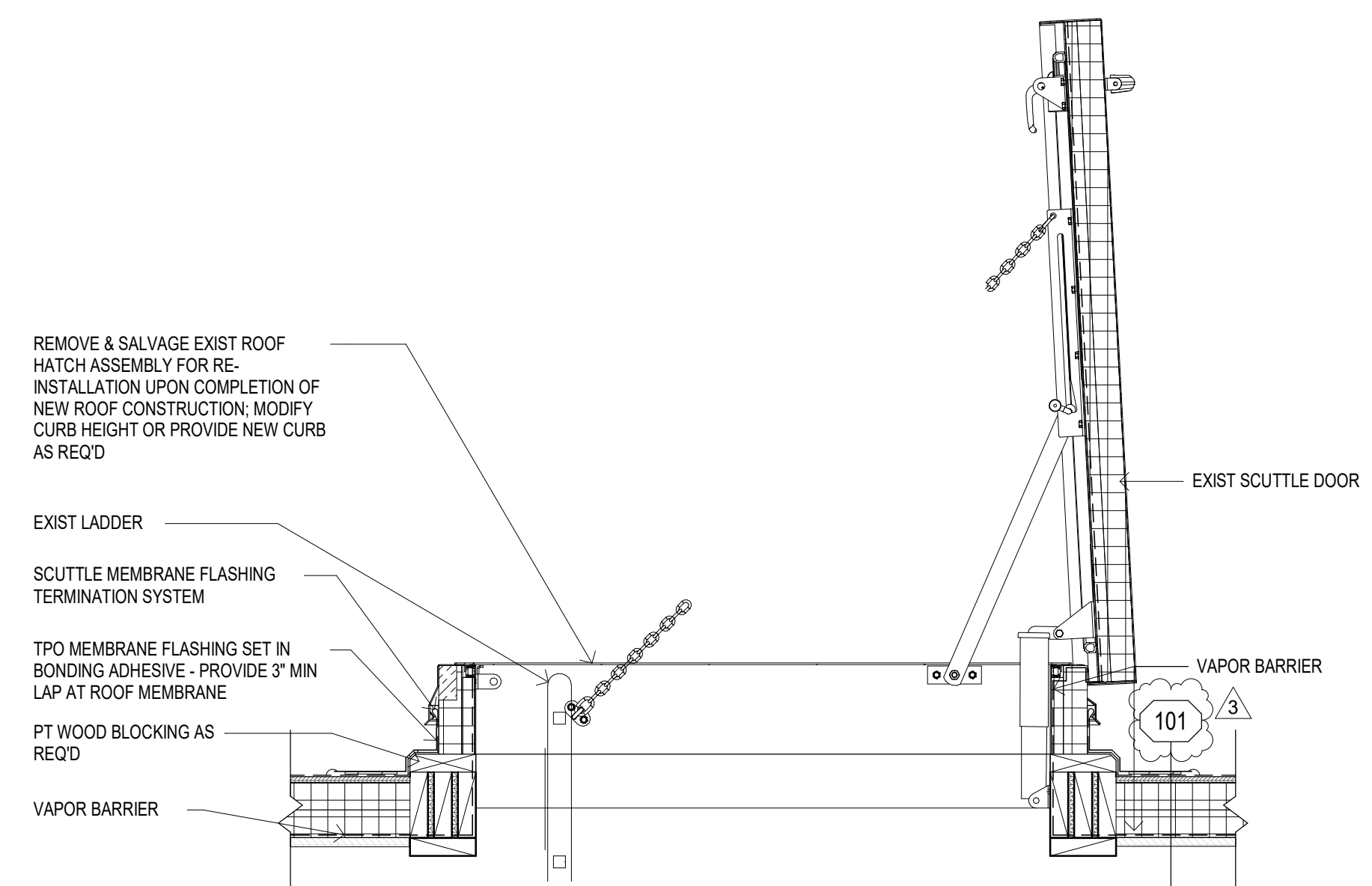
1 Roof Plan
A1.02 1/8" = 1'-0"



2	ROOF - Edge
A1.02	1 1/2" = 1'-0"



3	ROOF - Scupper
A1.02	1 1/2" = 1'-0"



5 ROOF - Roof Hatch Detail
A1.02 1" = 1'-0"

JOSLIN RECREATION
CENTER - CPF
RENOVATION

17 Hyatt St., Providence, RI 02903



Owner:
City of Providence, Dept. of Public Property
25 Dorrance Street
Providence, Rhode Island 02903



400 Massachusetts Avenue
Suite 300, Second Floor
East Providence, Rhode Island
p. (401) 331-9200

2 Hampshire Street
Suite 106, First Floor
Foxboro, Massachusetts
p. (774) 215-0290

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Date: 05/28/2025

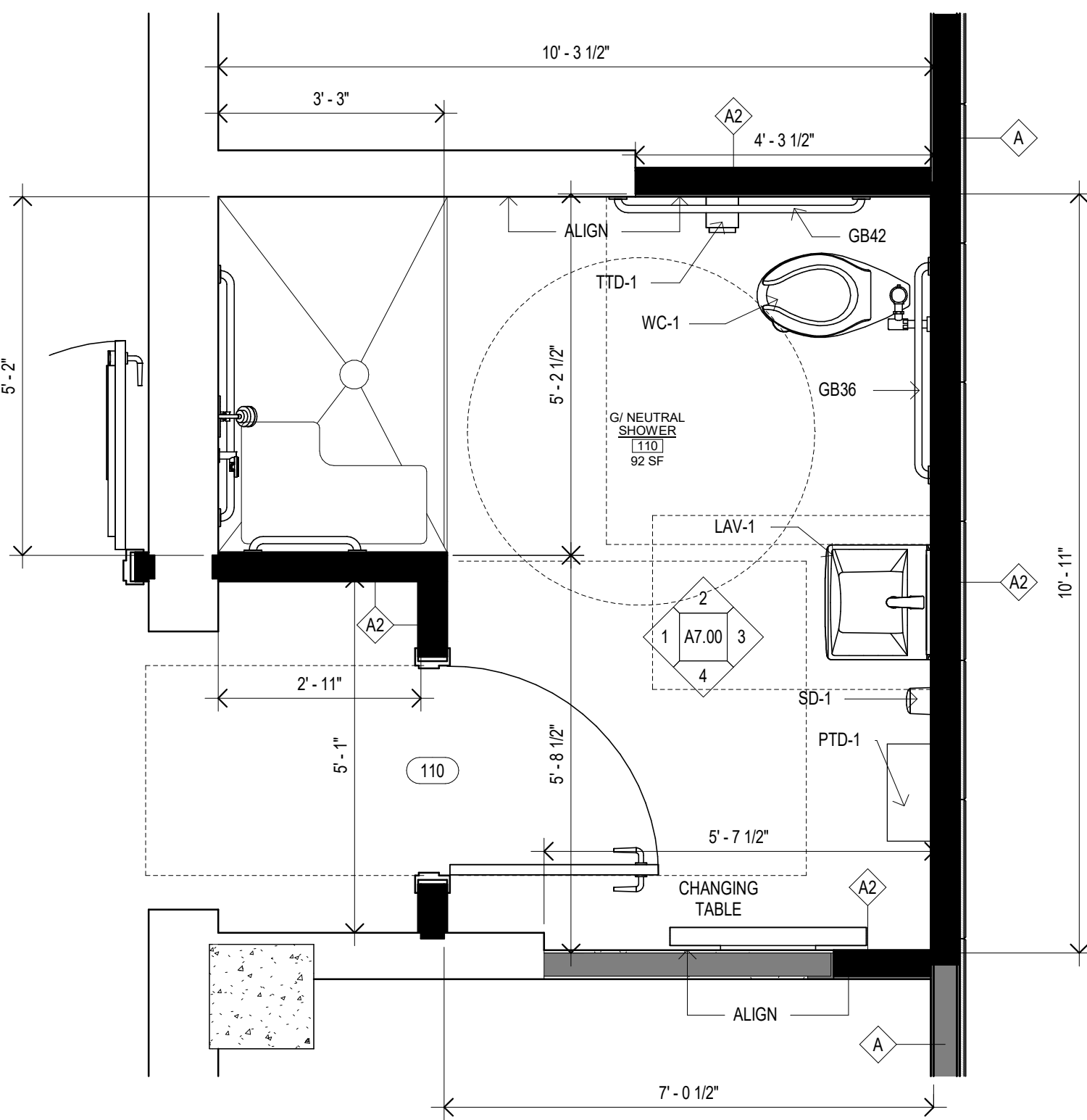
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Revisions

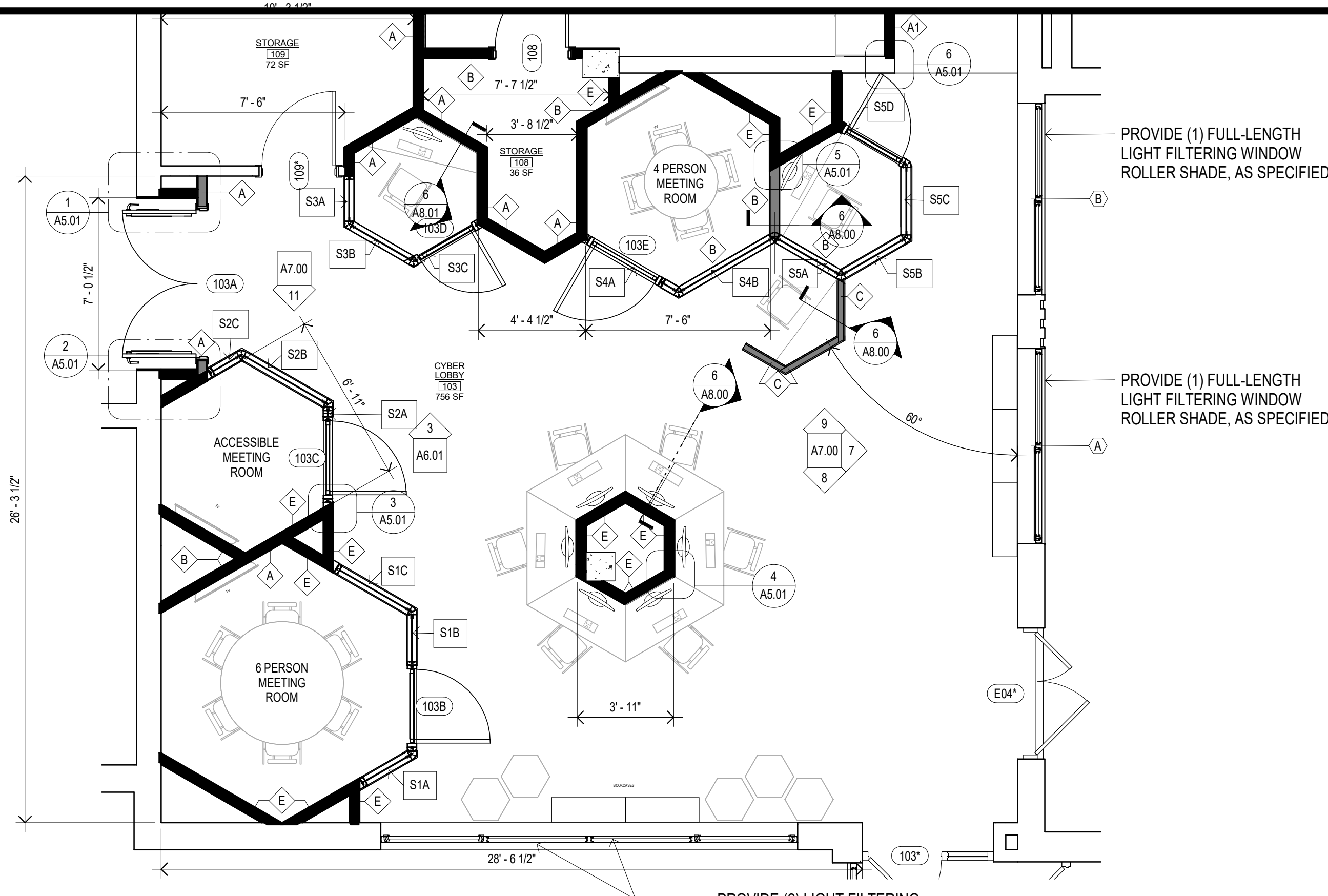
No.	Date	Description
2	5/27/2025	ADDENDUM 2
3	6/2/2025	ADDENDUM 3

ENLARGED FLOOR PLANS

A2.00

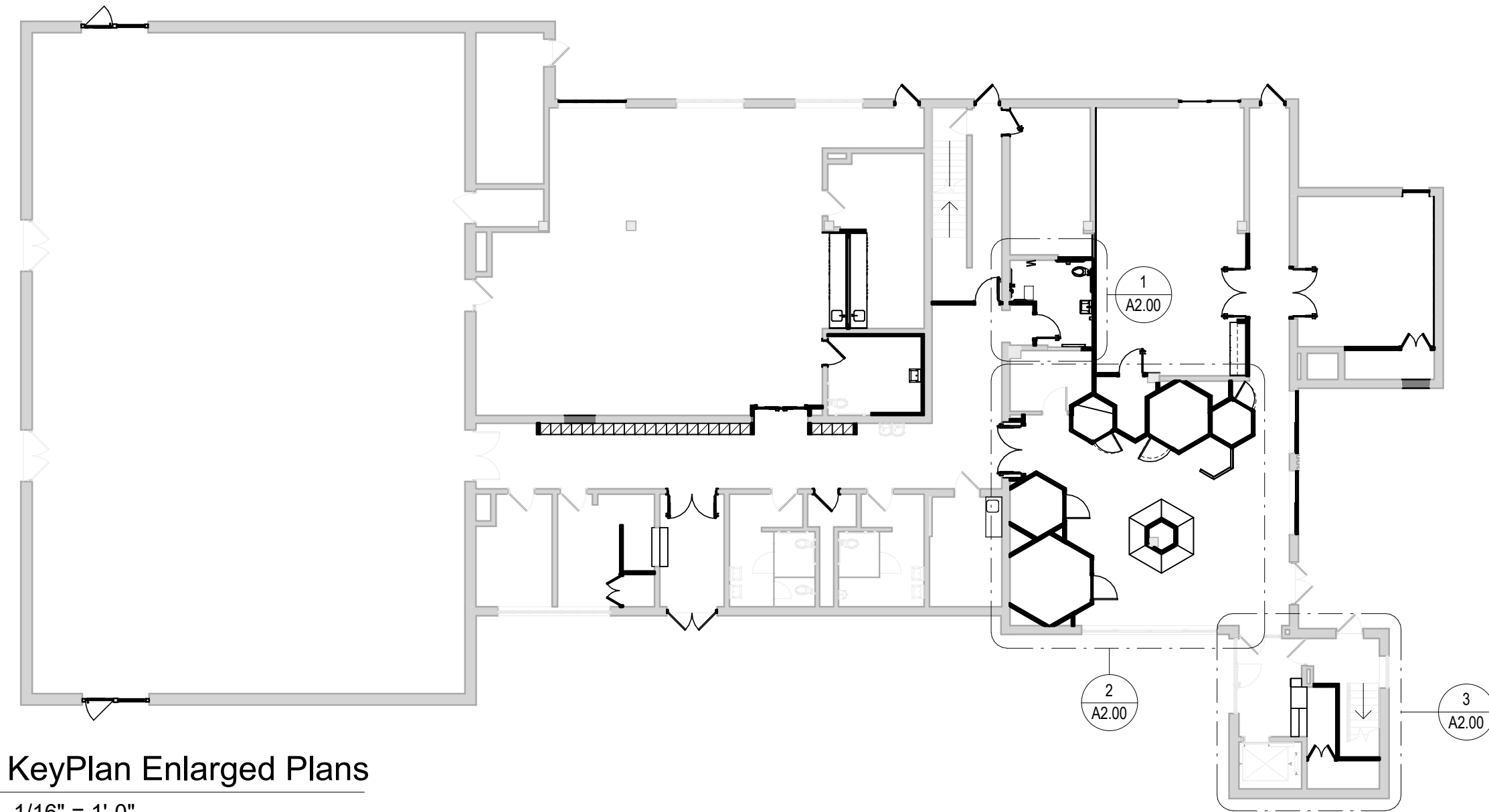
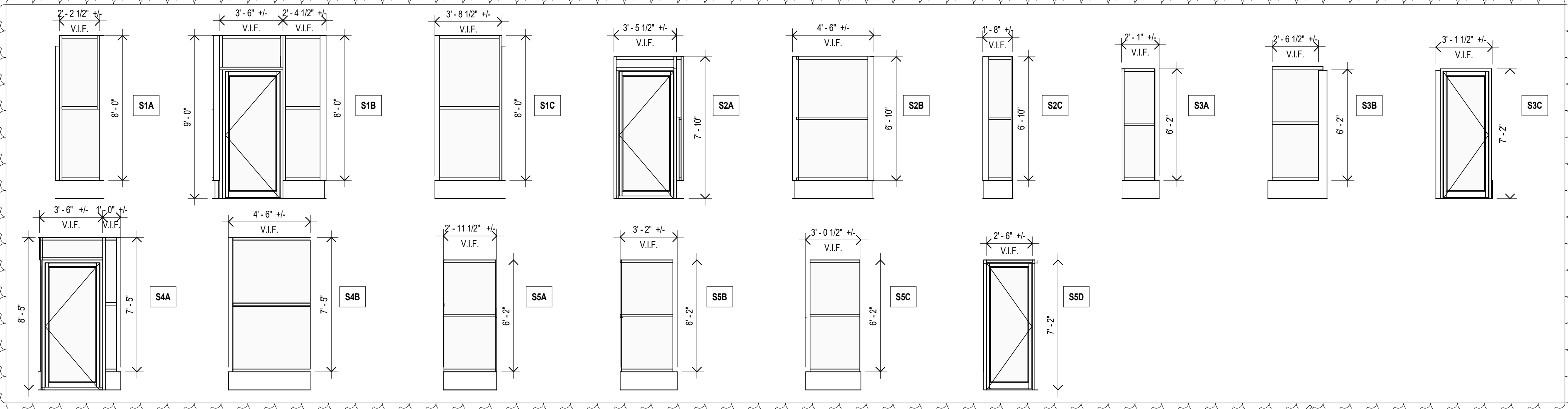


1 Shower Room
A2.00 1/2" = 1'-0"

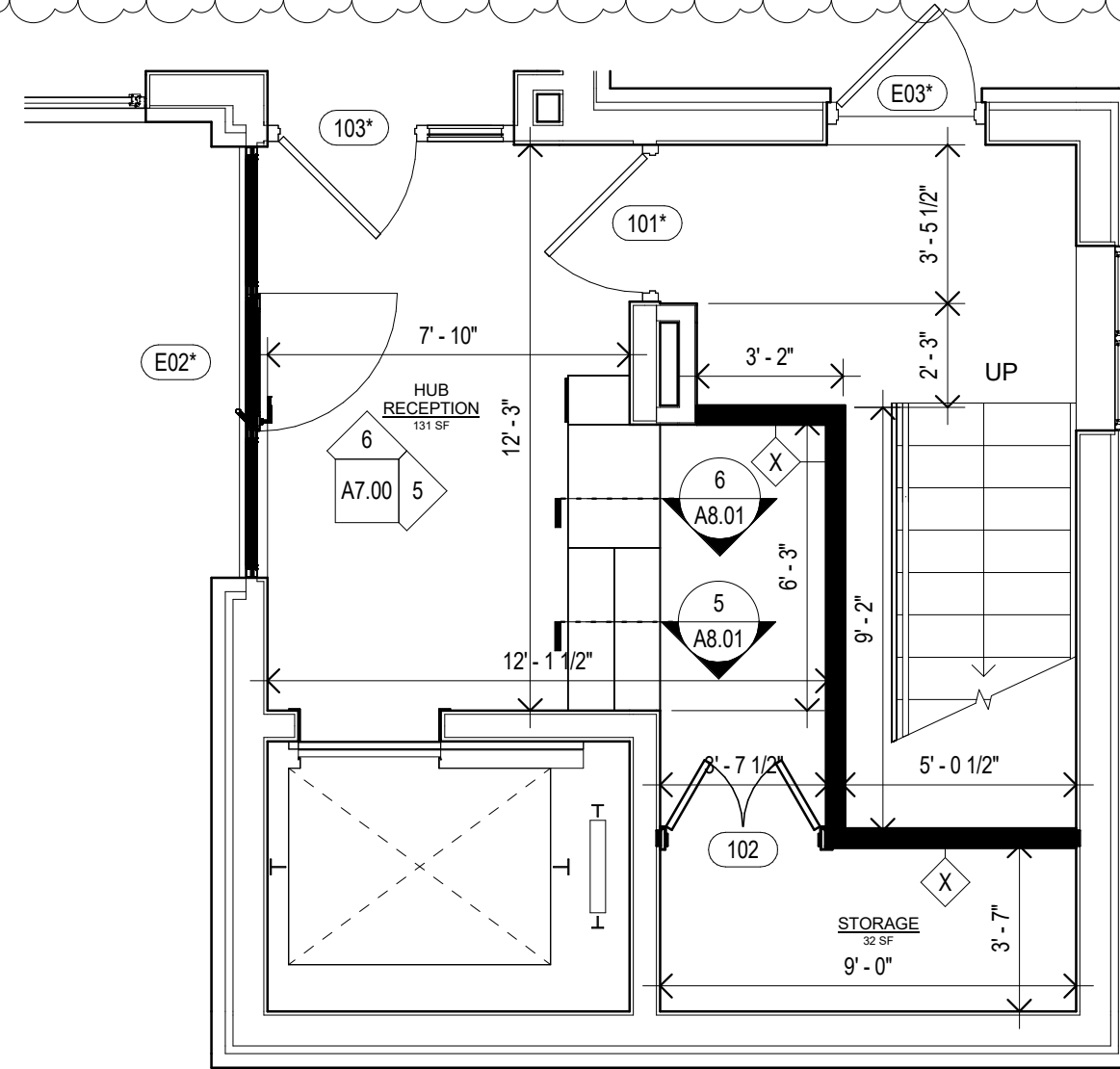


2 ENLARGED FLOOR
PLAN CYBER LOBBY
A2.00 1/4" = 1'-0"

STOREFRONT GLAZING



KeyPlan Enlarged Plans
1/16" = 1'-0"

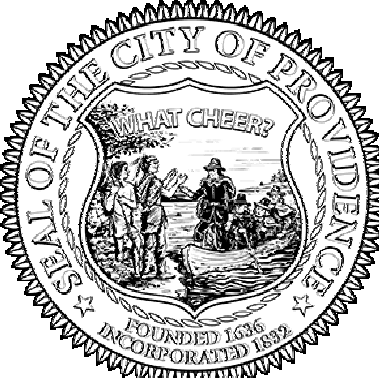


3 ENLARGED FLOOR
PLAN HUB RECEPTION
A2.00 1/4" = 1'-0"

NOTE:
ALL ROOMS AND SPACES TO RECEIVE INTERIOR
SIGNAGE AS SPECIFIED IN SECTION 101400.
REFER TO SHEET G0.01 FOR ADDITIONAL
INFORMATION

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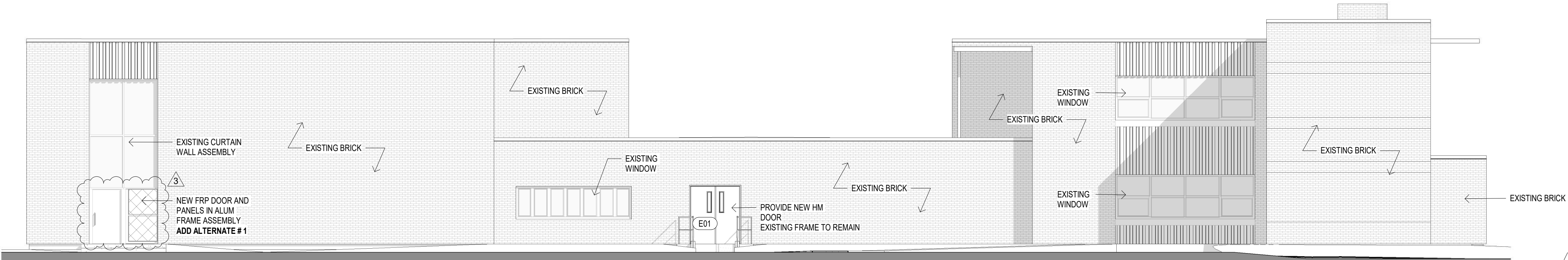
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Revisions

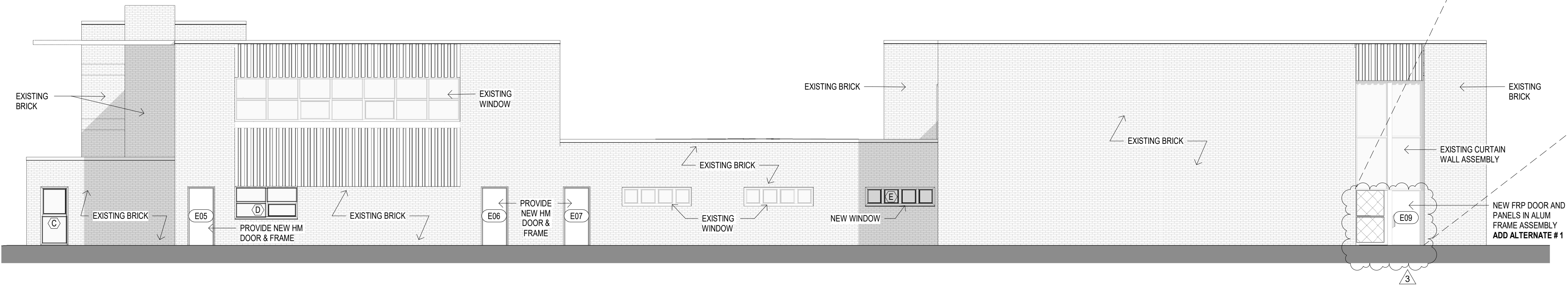
No.	Date	Description
2	5/27/2025	ADDENDUM 2
3	6/2/2025	ADDENDUM 3

BUILDING ELEVATIONS

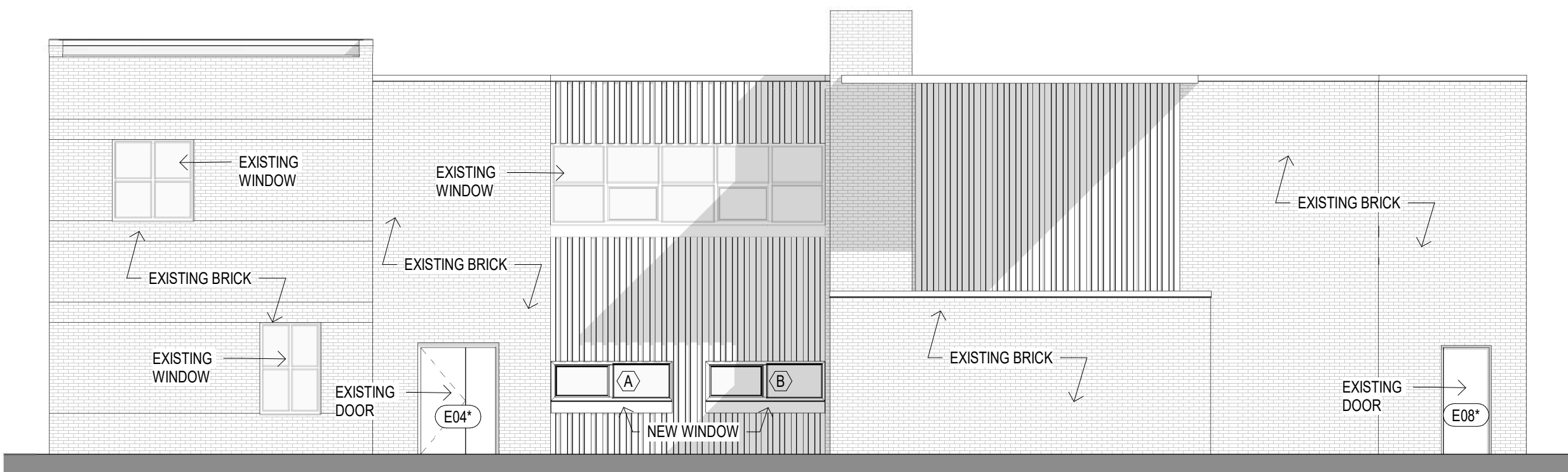
A3.00



1 NW Elevation
A3.00 1/8" = 1'-0"



2 SE Elevation
A3.00 1/8" = 1'-0"

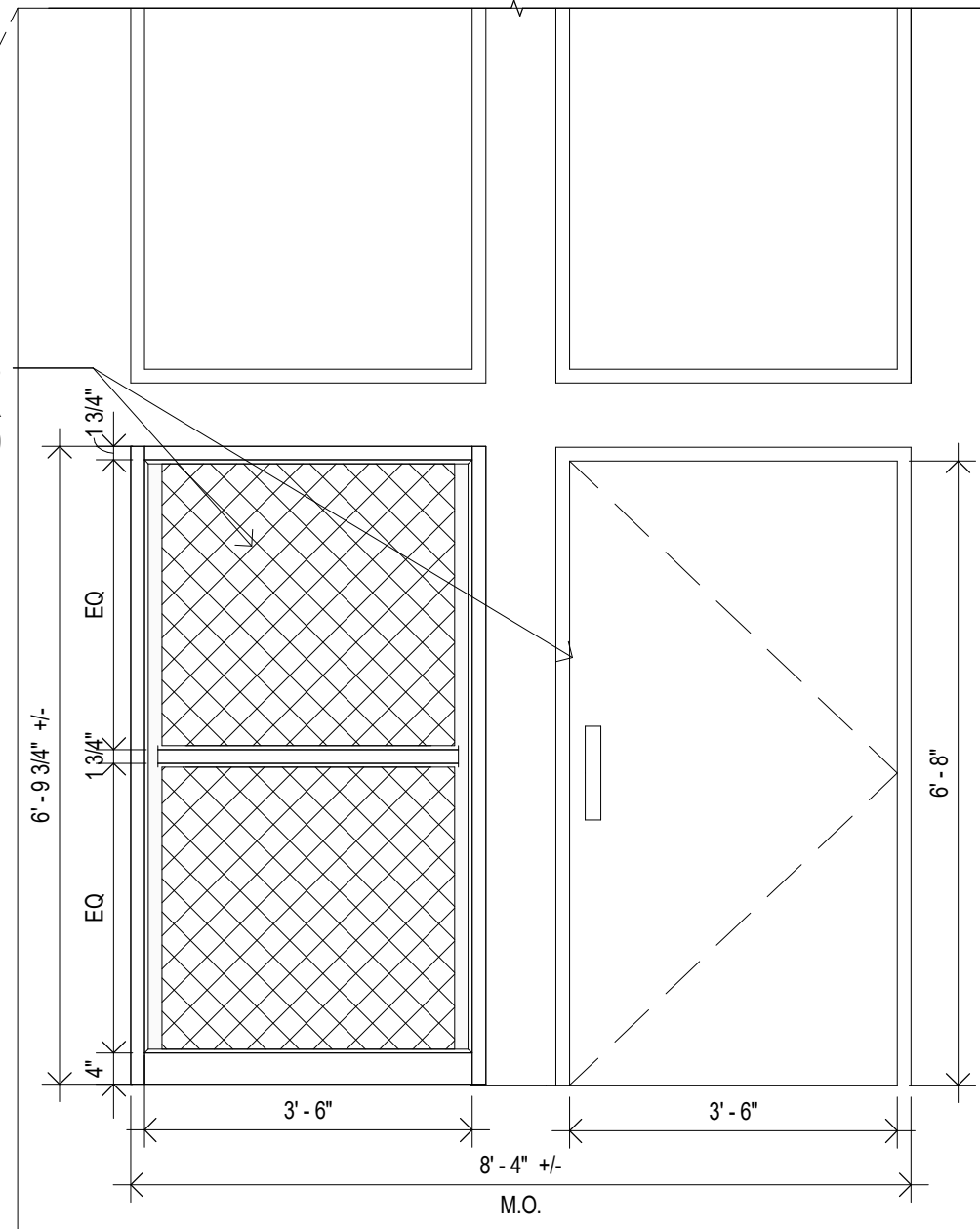


3 SW Elevation
A3.00 1/8" = 1'-0"



4 NE Elevation
A3.00 1/8" = 1'-0"

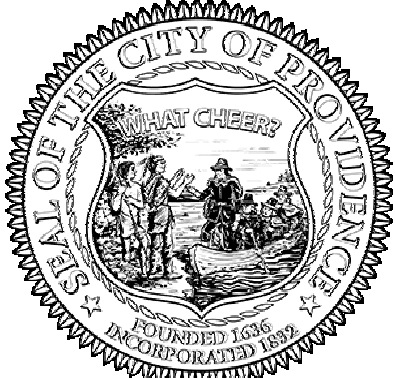
THIS DOOR SHOWS
E09. FLIP VIEW FOR
DOOR E10



E09 and E10 Doors
1/2" = 1'-0" ADD ALTERNATE #1

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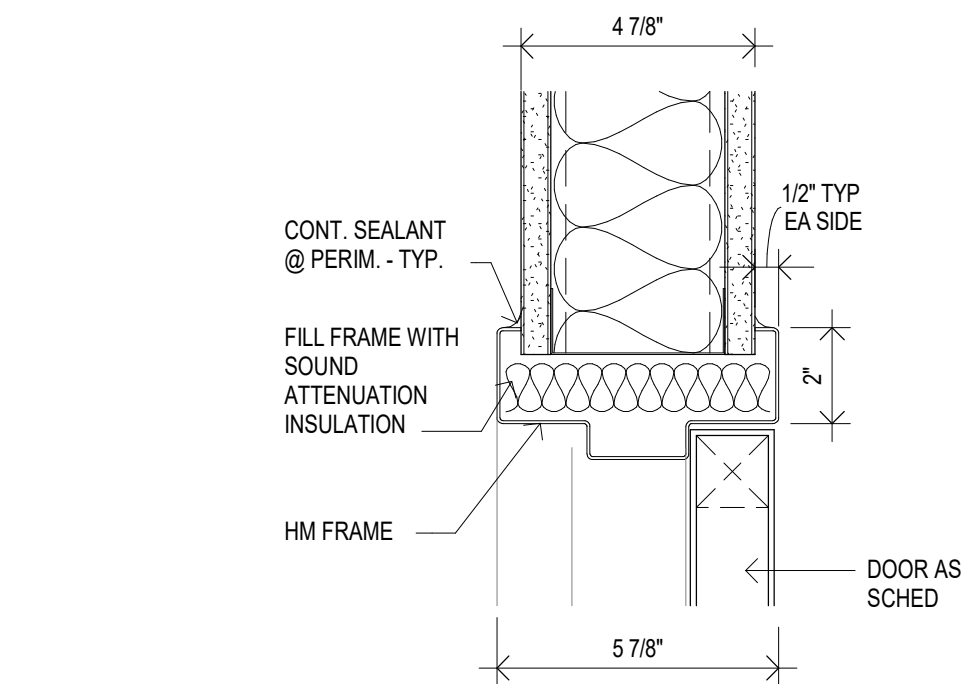
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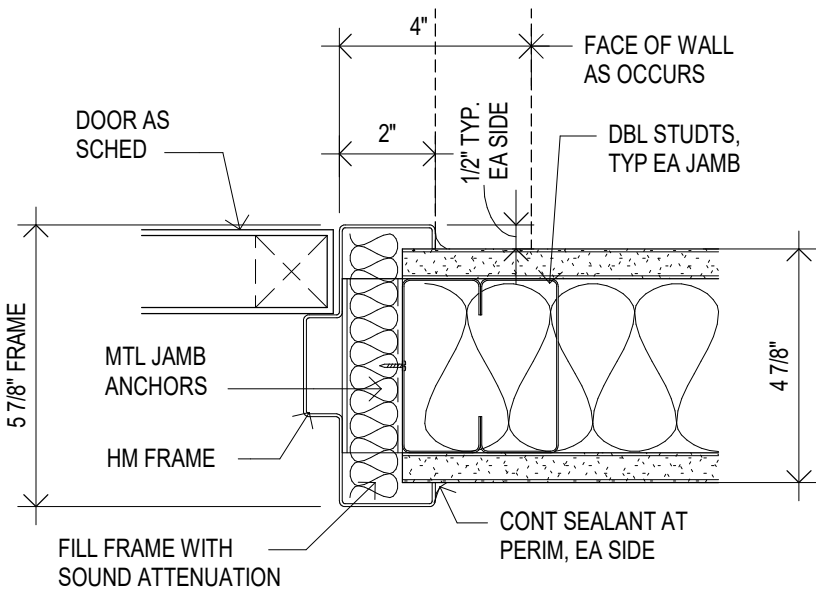
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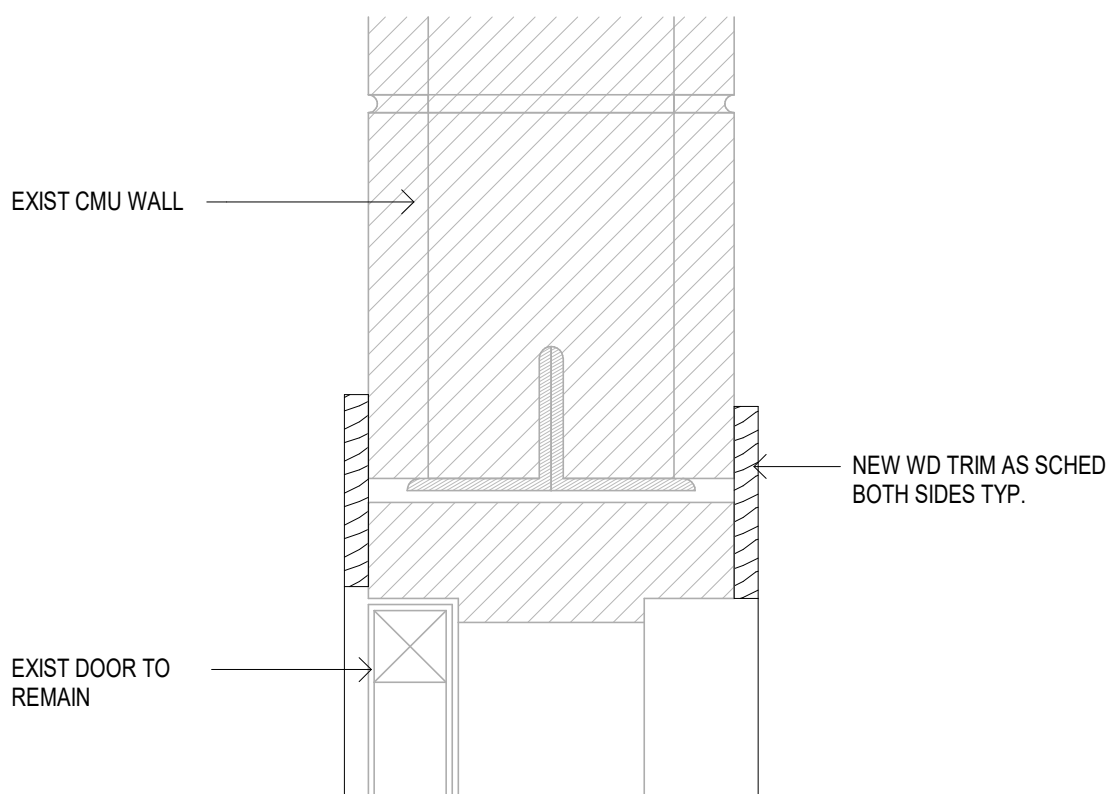
1 Door - HEAD - HM TYP

A6.00 3" = 1'-0"



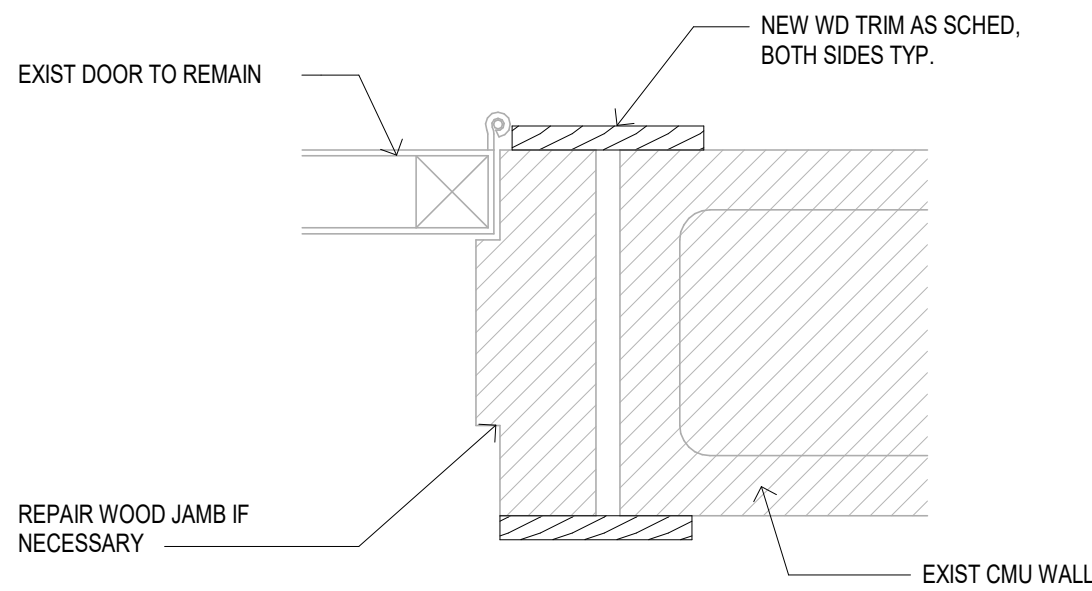
2 Door - JAMB - HM TYP

A6.00 3" = 1'-0"



3 JAMB - EXIST WOOD ON CMU

A6.00 3" = 1'-0"

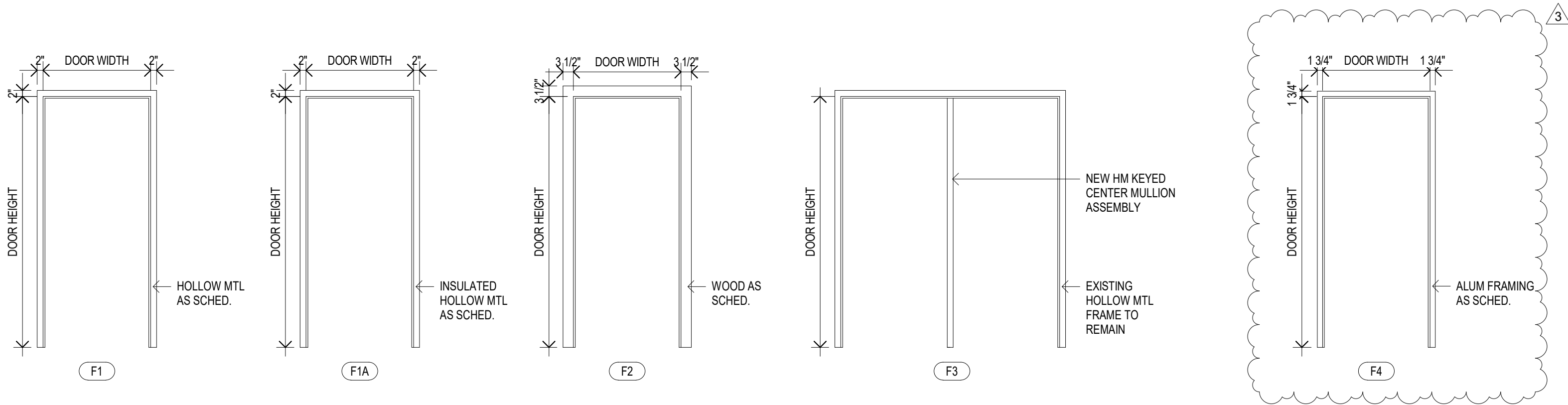


4 JAMB - EXIST WOOD ON CMU

A6.00 3" = 1'-0"

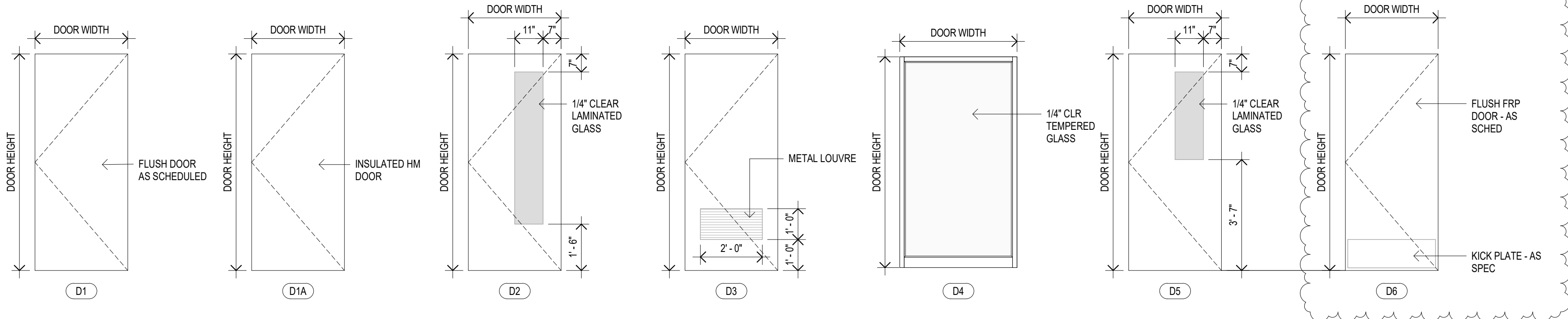
DOOR SCHEDULE														* DENOTES EXISTING DOOR & FRAME			* DENOTES EXISTING DOOR & FRAME		
#	DOOR						FRAME TYPE	FRAME MATERIAL	FRAME FINISH	FRAME			WIDTH	HW SET	LABEL	REMARKS			
	WIDTH	HEIGHT	THICK	TYPE	MAT	FIN				HEAD	JAMB	SILL							
1st Floor																			
101*		3' - 0"	7' - 0"	1 3/4"	-	-	-	-	-	-	-	-	-	ETR	-	Existing to Remain			
102		3' - 4"	7' - 0"	1 3/4"	D1	WD	PNT	F1	HM	PNT	1/A6.00	2/A6.00	-	7 1/8"	1	90 FIRE RATED			
103*		3' - 0"	7' - 0"	1 3/4"	-	-	-	-	-	-	-	-	-	-	13	Existing to Remain			
103A	PAIR	6' - 0"	7' - 0"	1 3/4"	D2	WD	PNT	F1	HM	PNT	1/A6.00	2/A6.00	-	5 7/8"	2	-			
103B		3' - 0"	7' - 0"	1 3/4"	D4	-	-	F4	AL	-	10/A.601	11/A6.01	-	5 7/8"	3	- KAWNEER190 DOOR			
103C		3' - 0"	7' - 0"	1 3/4"	D4	-	-	F4	AL	-	10/A.601	11/A6.01	-	5 7/8"	3	- KAWNEER190 DOOR			
103D		2' - 6"	7' - 0"	1 3/4"	D4	-	-	F4	AL	-	10/A.601	11/A6.01	-	5 7/8"	3	- KAWNEER190 DOOR			
103E		3' - 0"	7' - 0"	1 3/4"	D4	-	-	F4	AL	-	10/A.601	11/A6.01	-	5 7/8"	3	- KAWNEER190 DOOR			
105	PAIR	6' - 0"	7' - 0"	1 3/4"	D2	WD	PNT	F1	HM	PNT	3/A6.00	4/A6.00	-	5 3/4"	4	-			
106		3' - 8"	7' - 0"	1 3/4"	D1	WD	PNT	F1	HM	PNT	1/A6.00	2/A6.00	-	5 7/8"	1	-			
107	PAIR	6' - 0"	7' - 0"	1 3/4"	D2	WD	PNT	F1	HM	PNT	1/A6.00	2/A6.00	-	5 7/8"	4	-			
108		3' - 0"	7' - 0"	1 3/4"	D1	WD	PNT	F1	HM	PNT	1/A6.00	2/A6.00	-	5 7/8"	5	-			
109*		3' - 0"	7' - 0"	1 3/4"	-	-	-	-	-	-	-	-	-	-	-	ETR			
110		3' - 0"	7' - 0"	1 3/4"	D1	WD	PNT	F1	HM	PNT	1/A6.00	2/A6.00	-	5 7/8"	6	-			
111		3' - 0"	7' - 0"	1 3/4"	D1	WD	PNT	F1	HM	PNT	3/A6.00	4/A6.00	-	5 3/4"	7	90 FIRE RATED			
112		3' - 0"	7' - 0"	1 3/4"	D1	WD	PNT	F1	HM	PNT	1/A6.00	2/A6.00	-	7 1/8"	8	90 FIRE RATED			
112A*		3' - 0"	7' - 0"	1 3/4"	-	-	-	-	-	-	-	-	-	-	-	ETR			
113*		3' - 0"	7' - 0"	1 3/4"	-	-	PNT	F2	HM	PNT	3/A6.00	4/A6.00	-	-	-	ETR			
114*		3' - 0"	7' - 0"	1 3/4"	-	-	PNT	F2	HM	PNT	3/A6.00	4/A6.00	-	-	-	ETR			
115		3' - 0"	7' - 0"	1 3/4"	D3	WD	PNT	F2	HM	PNT	3/A6.00	4/A6.00	-	-	-	ETR			
116		2' - 6"	7' - 0"	1 3/4"	-	-	-	-	-	-	-	-	-	-	-	-			
116*		3' - 0"	7' - 0"	1 3/4"	-	-	PNT	F2	HM	PNT	3/A6.00	4/A6.00	-	-	-	ETR			
117	PAIR	6' - 0"	7' - 0"	1 3/4"	-	-	PNT	F2	HM	PNT	3/A6.00	4/A6.00	-	-	-	20			
118*		3' - 0"	7' - 0"	1 3/4"	-	-	PNT	F2	HM	PNT	3/A6.00	4/A6.00	-	-	-	ETR			
118A		3' - 8"	7' - 0"	1 3/4"	D1	WD	PNT	F1	HM	PNT	1/A6.00	2/A6.00	-	5 7/8"	1	-			
119*		3' - 0"	7' - 0"	1 3/4"	-	-	PNT	F2	HM	PNT	3/A6.00	4/A6.00	-	-	-	ETR			
120	PAIR	6' - 0"	7' - 0"	1 3/4"	D2	WD	PNT	F1	HM	PNT	1/A6.00	2/A6.00	-	5 7/8"	9	-			
120A*		3' - 0"	7' - 0"	1 3/4"	-	-	PNT	-	-	PNT	-	-	-	-	-	ETR			
121		3' - 0"	7' - 0"	1 3/4"	D3	WD	PNT	F2	HM	PNT	3/A6.00	4/A6.00	-	-	-	ETR			
122*		3' - 0"	7' - 0"	1 3/4"	-	-	PNT	F2	HM	PNT	3/A6.00	4/A6.00	-	-	-	ETR			
123*	PAIR	6' - 0"	7' - 0"	1 3/4"	-	-	PNT	-	-	PNT	-	-	-	-	-	18			
E01	PAIR	6' - 0"	7' - 0"	1 3/4"	D5	HM	PNT	F3	-	PNT	10/A6.04	8/A6.04	-	7 1/8"	14	-			
E02*		3' - 0"	7' - 0"	1 3/4"	-	-	-	-	-	-	-	-	-	-	-	15			
E03*		3' - 0"	7' - 0"	1 3/4"	-	-	PNT	-	-	PNT	-	-	-	-	-	ETR			
E04*		5' - 0"	7' - 0"	1 3/4"	-	-	PNT	-	-	PNT	-	-	-	-	-	16			
E05		3' - 0"	7' - 0"	1 3/4"	D1A	HM	PNT	F1A	-	PNT	12/A6.04	9/A6.04	-	5 3/4"	19	-			
E06		3' - 0"	7' - 0"	1 3/4"	D1A	HM	PNT	F1A	-	PNT	12/A6.04	9/A6.04	-	5 3/4"	19	-			
E07		3' - 0"	7' - 0"	1 3/4"	D1A	HM	PNT	F1A	-	PNT	12/A6.04	9/A6.04	-	5 3/4"	19	-			
E08*		3' - 0"	7' - 0"	1 3/4"	-	-	PNT	-	-	PNT	-	-	-	-	-	ETR			
E09		3' - 6"	6' - 8"	1 3/4"	D6	FRP	-	F4	AL	-	4/A6.05	6/A6.05	5/A6.05	4 1/2"	17	-			
E10		3' - 6"	6' - 8"	1 3/4"	D6	FRP	-	F4	AL	-	4/A6.05	6/A6.05	5/A6.05	4 1/2"	17	-			

DOOR SCHEDULE SECOND FLOOR																
#	DOOR						FRAME TYPE	FRAME MATERIAL	FRAME FINISH	FRAME			HW SET	LABEL	REMARKS	
	WIDTH	HEIGHT	THICK	TYPE	MAT	FIN				HEAD	JAMB	SILL				WIDTH
2nd Floor																
200*	6' - 0"	7' - 0"	1 3/4"	-	HM	PNT	-	HM	PNT	-	-	-	-	-	-	EXISTING RELOCATED PAIR OF DOORS & FRAME. RE-USE AND INSTALL EXISTING HARDWARE AS REQUIRED.
201*	3' - 6"	7' - 0"	1 3/4"	-	HM	PNT	-	HM	PNT	-	-	-	-	11	-	NEW HARDWARE AS SCHEDULED
202*	3' - 0"	5' - 4"	1 3/4"	-	HM	PNT	-	HM	PNT	-	-	-	-	12	-	Existing to Remain - Provide new hardware set as scheduled
203*	3' - 0"	7' - 0"	1 3/4"	-	HM	PNT	-	HM	PNT	-	-	-	-	10	-	Existing to Remain - Provide new hardware set as scheduled



FRAME TYPES

3/8" = 1'-0"



DOOR TYPES

3/8" = 1'-0"

DOOR SCHEDULE

A6.00

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Date: 05/28/2025

Drawn by: Author Proj. Mgr.: Checker

Revisions

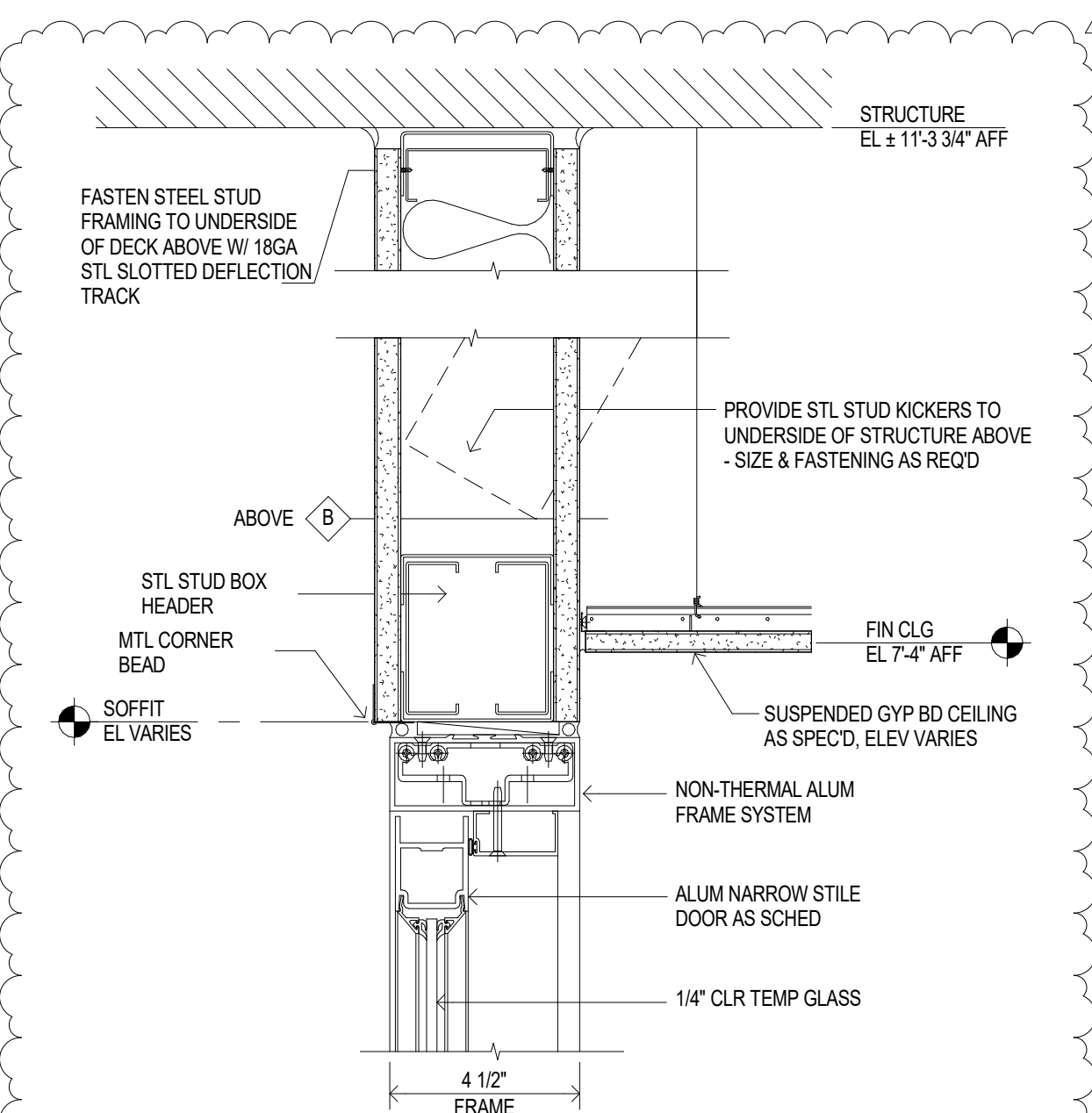
No.	Date	Description
1	5/21/2025	ADDENDUM 1
3	6/2/2025	ADDENDUM 3

INTERIOR ALUMINIUM
FRAMES

A6.01

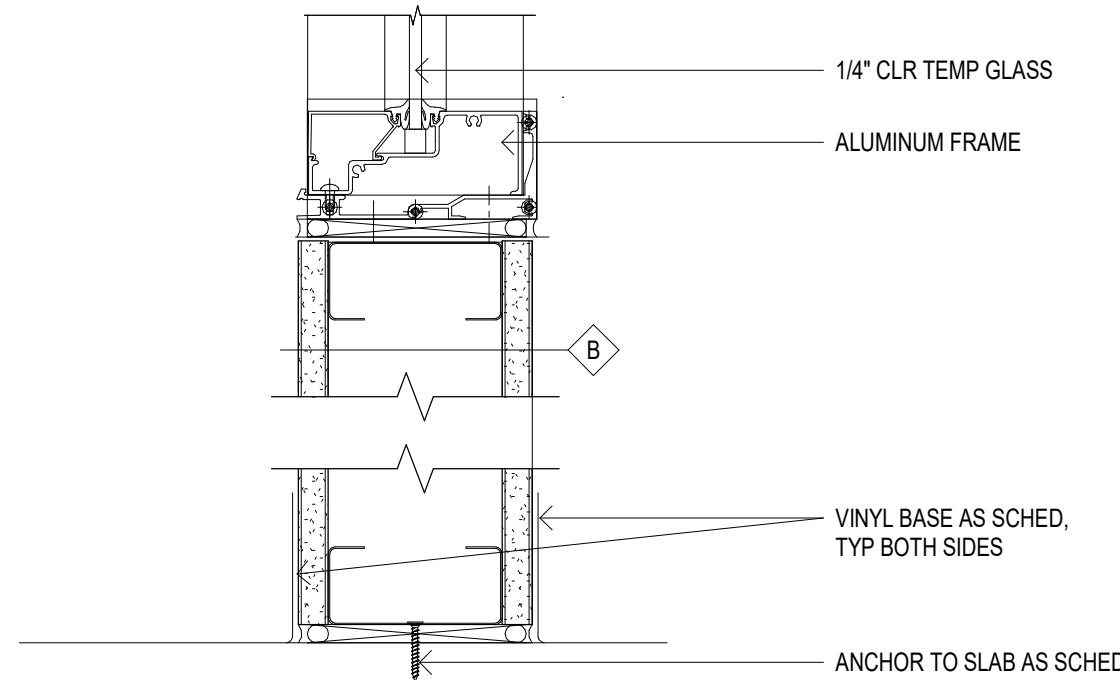
23068 - A6.01

17 of 87



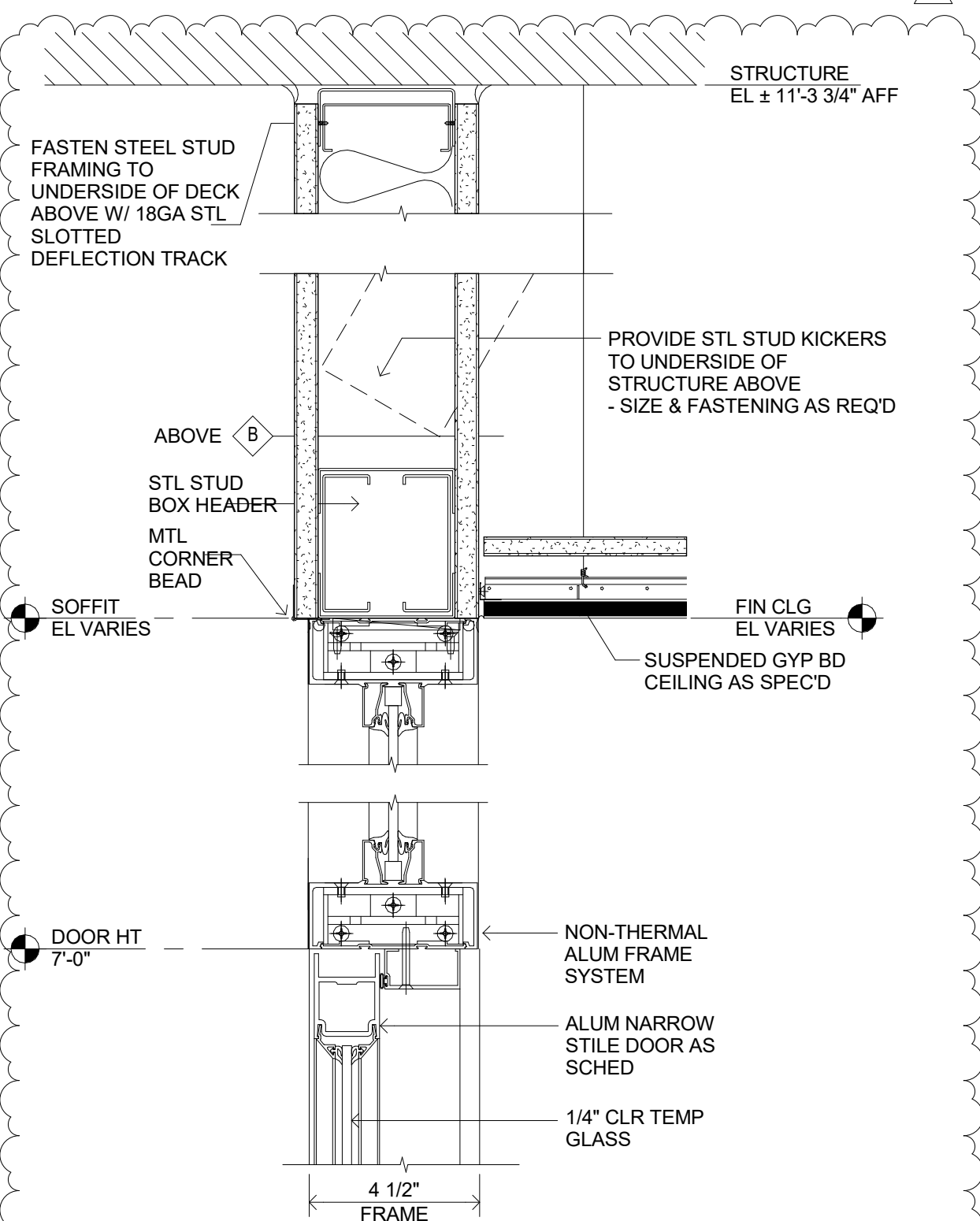
7 Kawneer Storefront Head Detail

A6.01 3" = 1'-0"



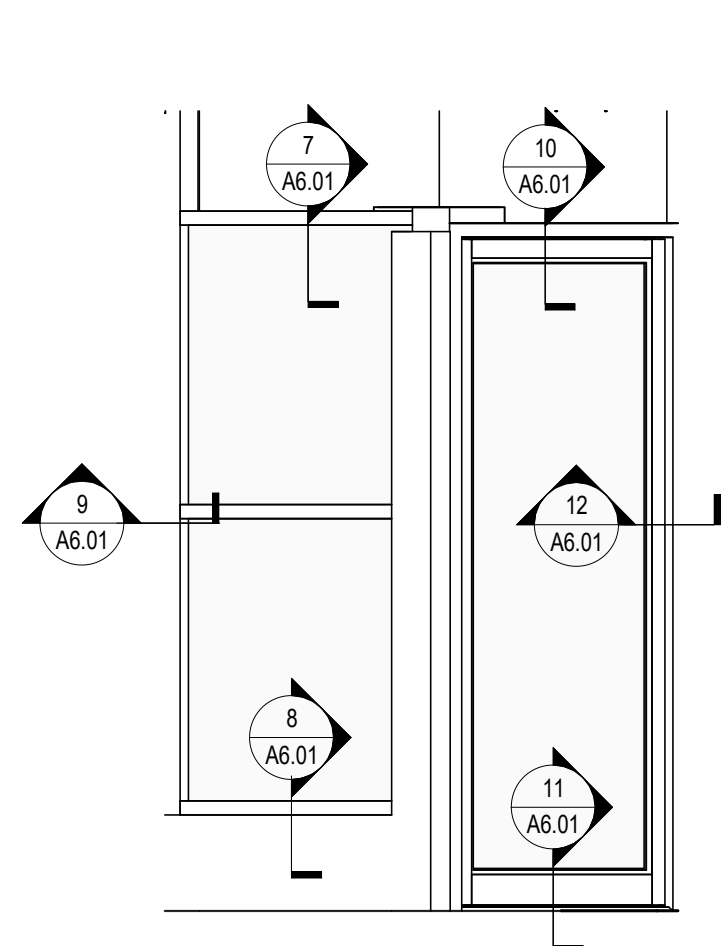
8 Kawneer Storefront Sill Detail

A6.01 3" = 1'-0"



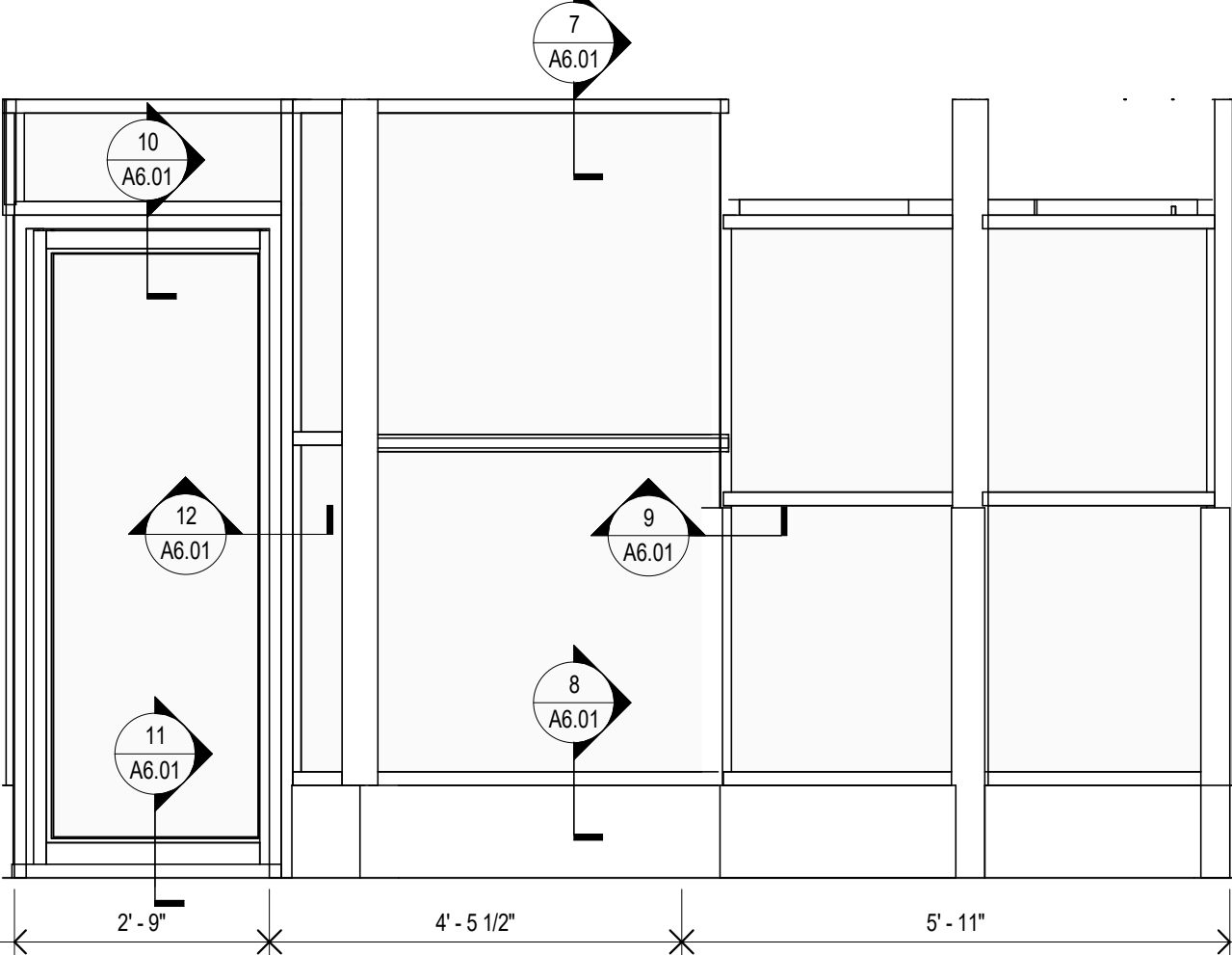
10 Kawneer Door Head Detail

A6.01 3" = 1'-0"



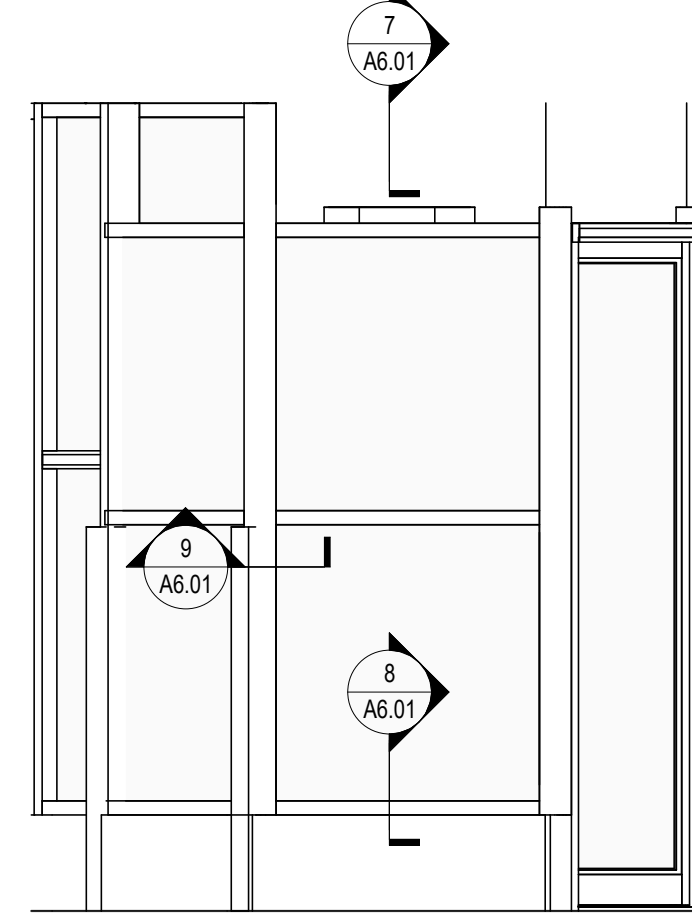
3 ALUMINUM STOREFRONT S3

A6.01 1/2" = 1'-0"



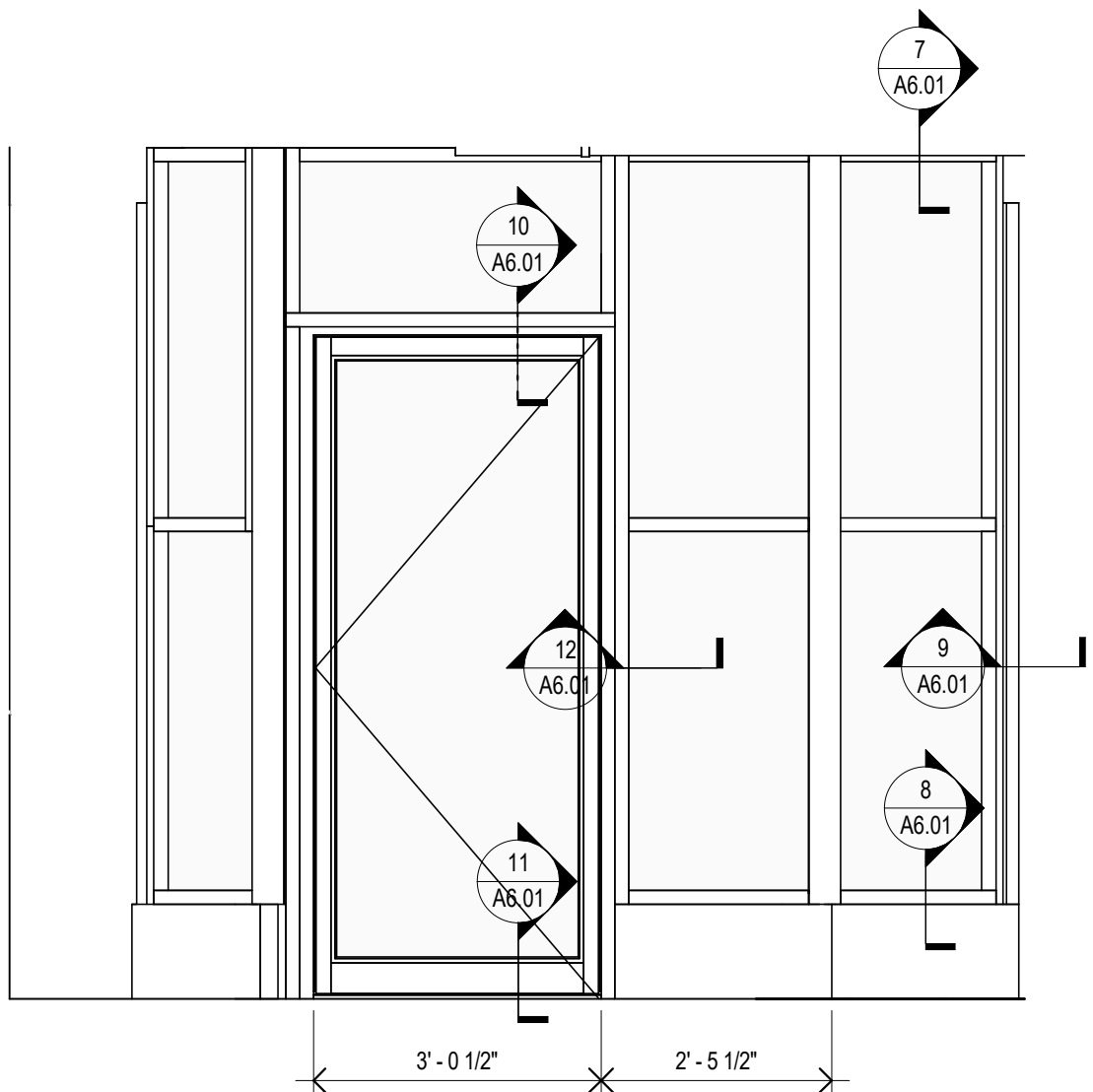
2 ALUMINUM STOREFRONT S2

A6.01 1/2" = 1'-0"



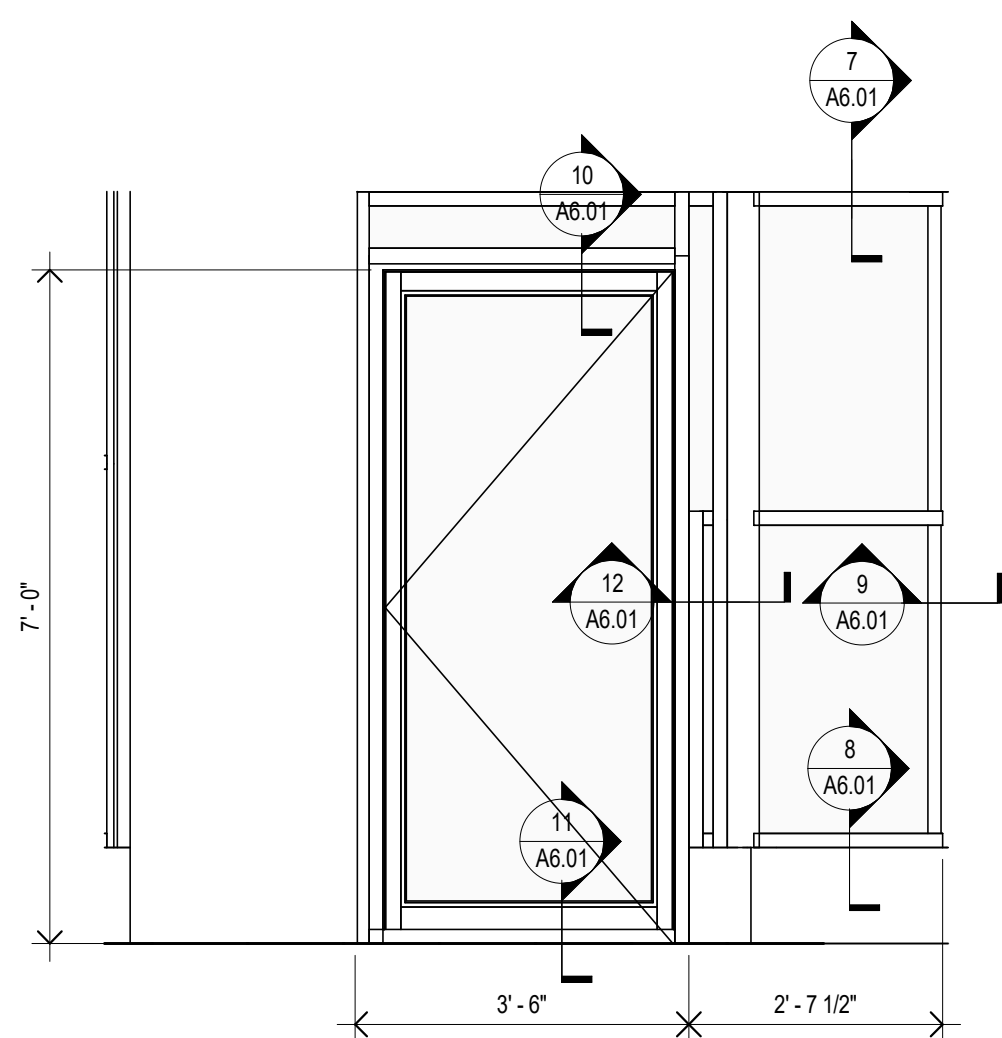
1 ALUMINUM STOREFRONT S1

A6.01 1/2" = 1'-0"



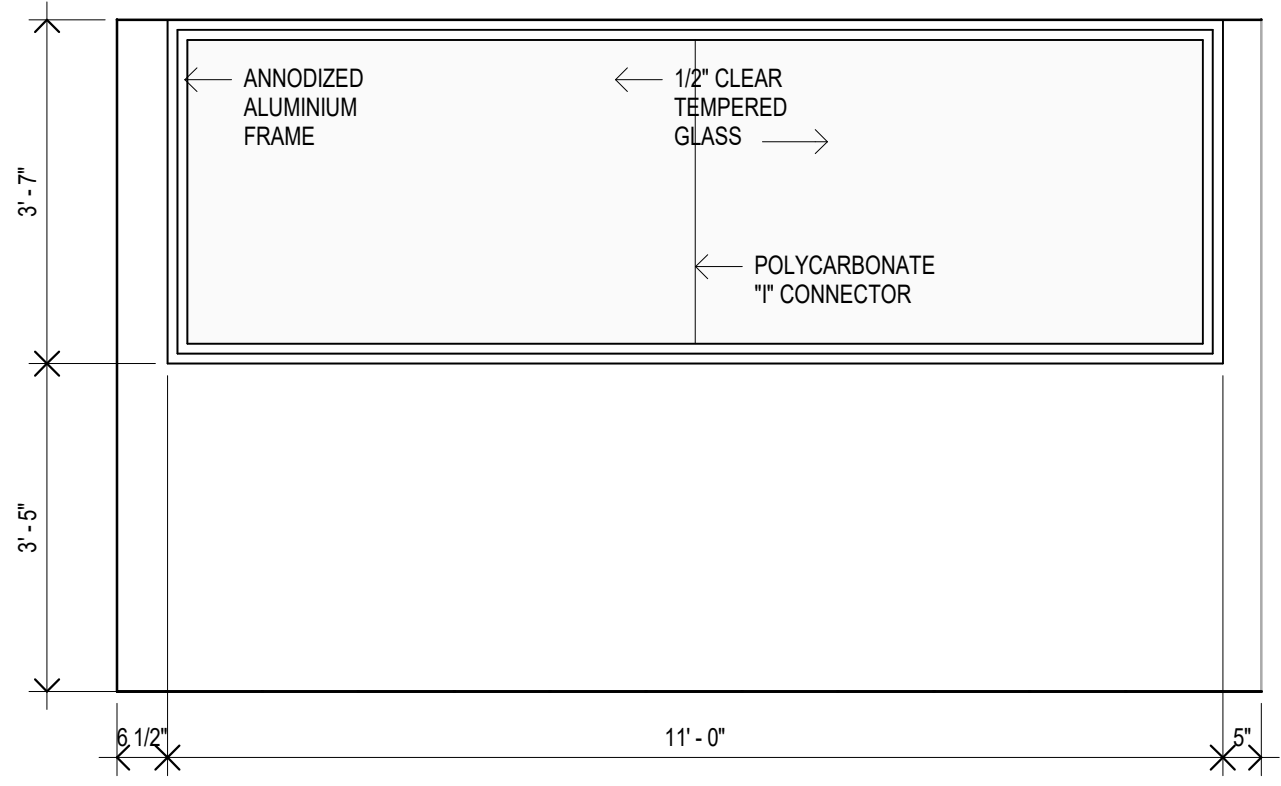
5 ALUMINUM STOREFRONT S5

A6.01 1/2" = 1'-0"



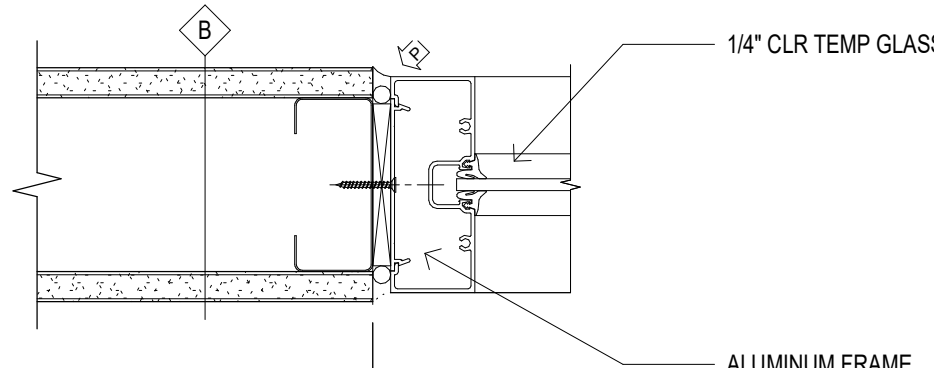
4 ALUMINUM STOREFRONT S4

A6.01 1/2" = 1'-0"



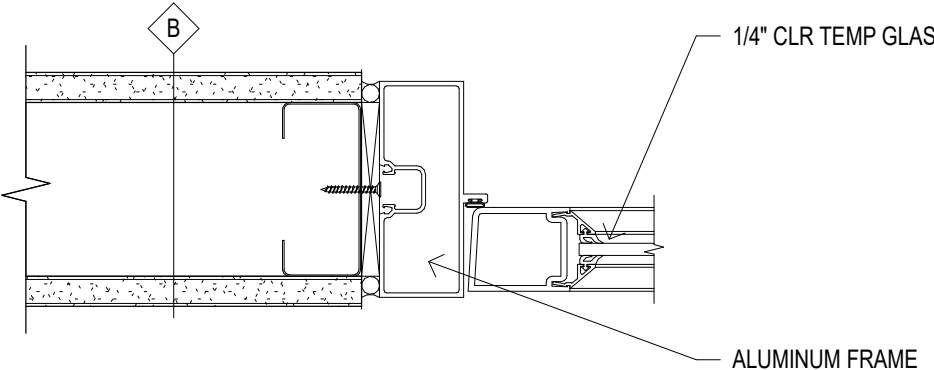
6 PASS THROUGH WINDOW

A6.01 1/2" = 1'-0"



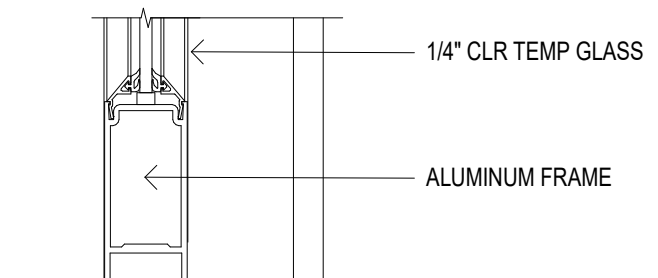
9 Kawneer Storefront Jamb Detail

A6.01 3" = 1'-0"



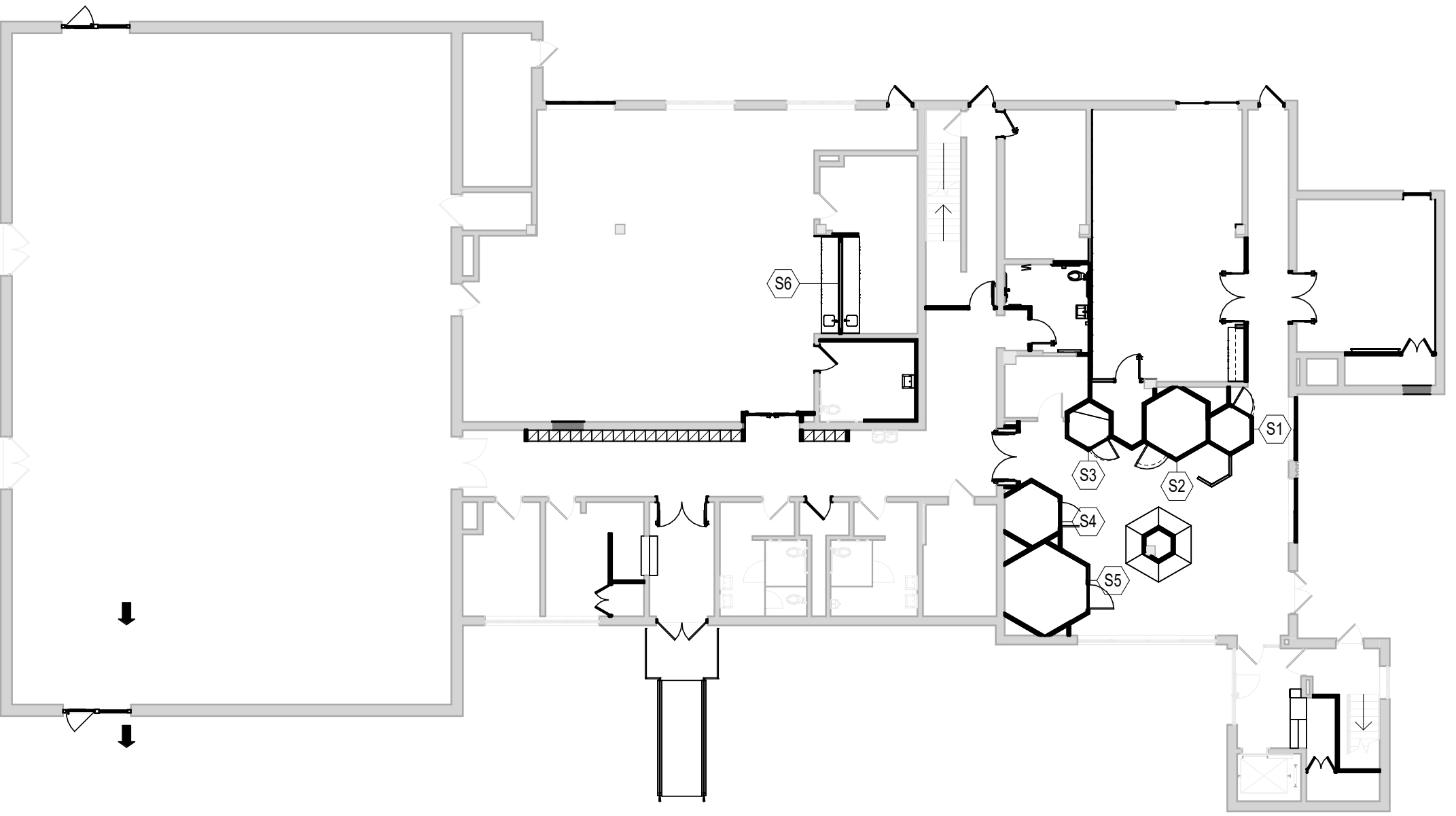
12 Kawneer Door Jamb Detail

A6.01 3" = 1'-0"



11 Kawneer Door Sill Detail

A6.01 3" = 1'-0"



KeyPlan

1/16" = 1'-0"

JOSLIN RECREATION
CENTER - CPF
RENOVATION

17 Hyatt St., Providence, RI 02903



Owner:
City of Providence, Dept. of Public Property
25 Dorrance Street
Providence, Rhode Island 02903



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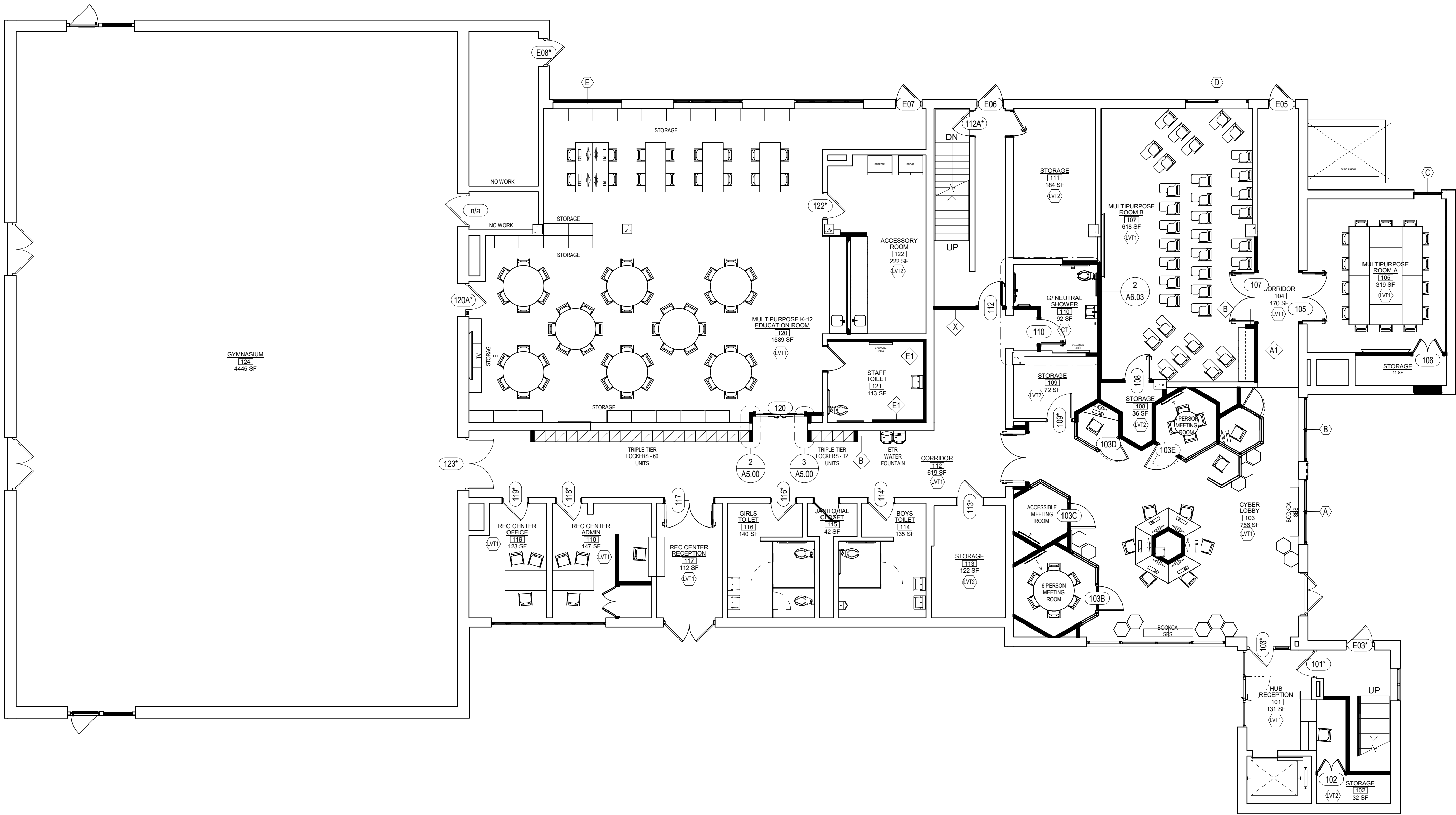
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GENERAL NOTES

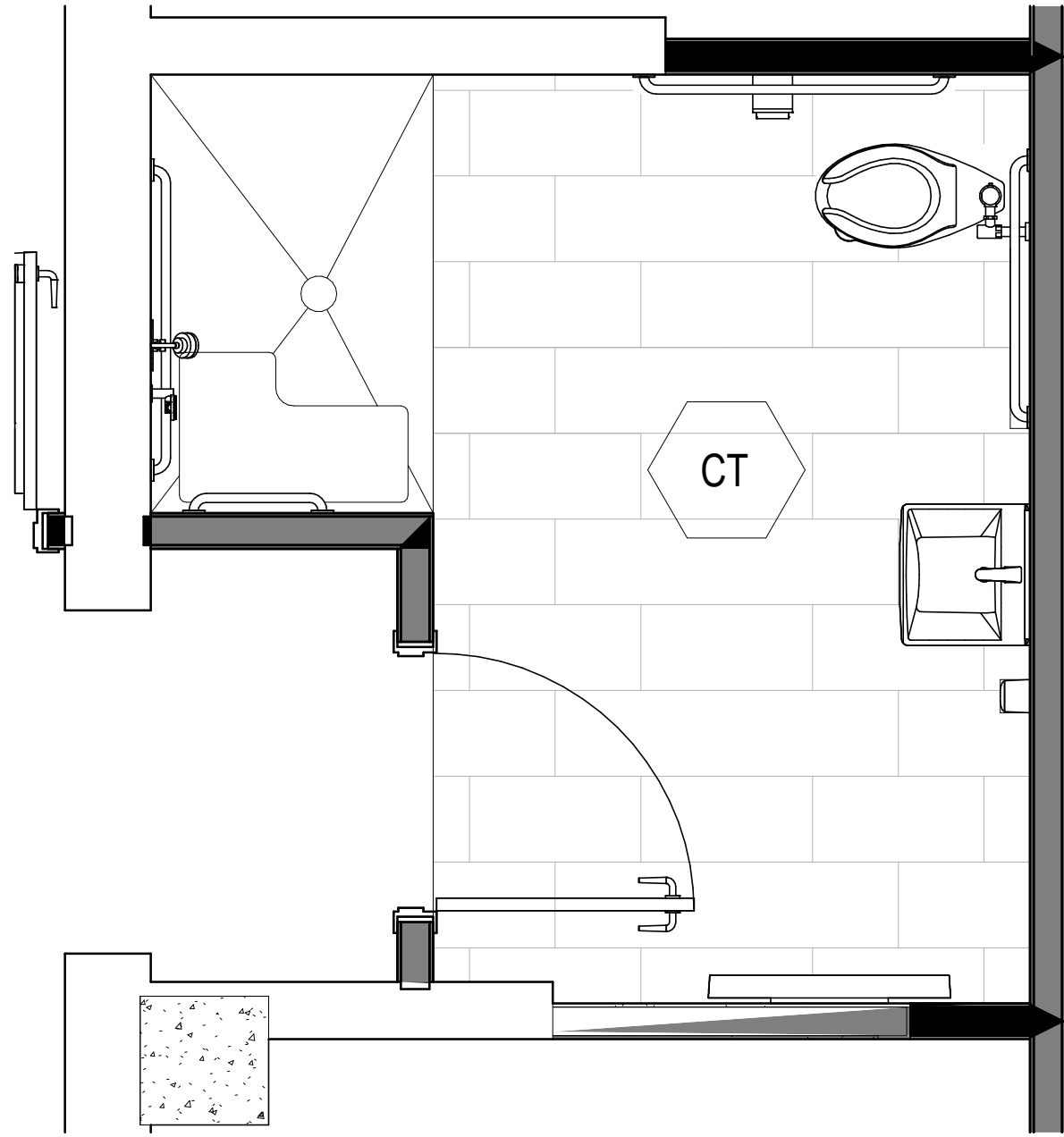
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2. DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.



1 First Floor Floor Finish
A6.03 1/8" = 1'-0"

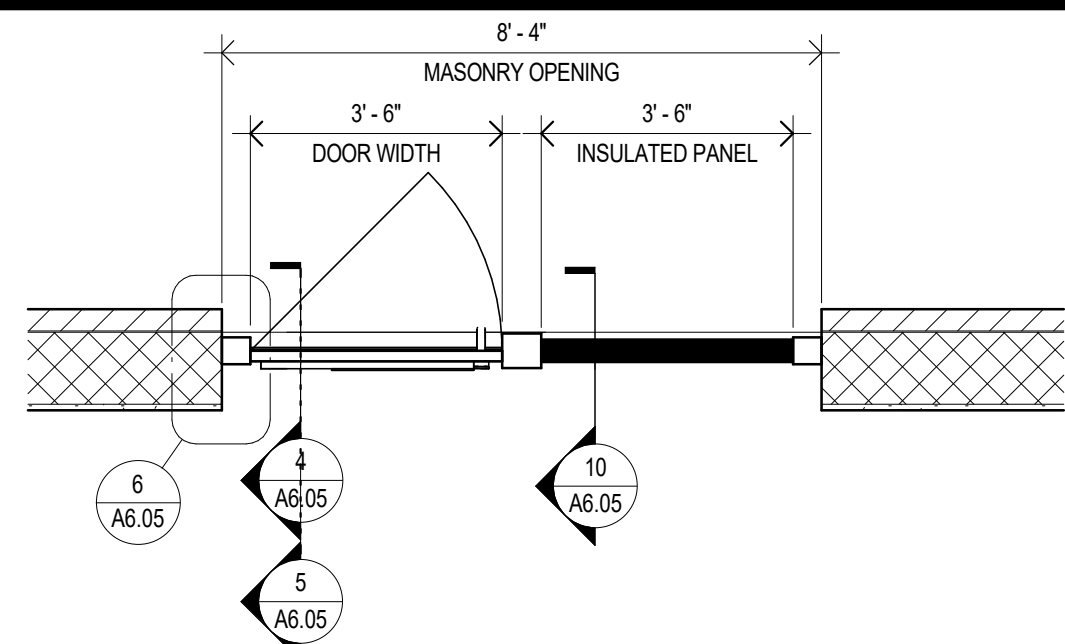
ROOM FINISH SCHEDULE										
#	ROOM NAME	FLOOR			WALLS		CEILING		HEIGHT	REMARKS
		MAT	FINISH	BASE	MAT	FINISH	MAT	FINISH		
101	HUB RECEPTION	CONC*	LVT1	VB	CMU/GYP	PNT	ACT/GB	-/PNT	9'-0"	
102	STORAGE	CONC*	LVT2	VB	CMU/GYP	PNT	GB	PNT	6'-0"	
103	CYBER LOBBY	CONC*	LVT1	VB	CMU/GYP	PNT	GB/TECT/EXP	PNT/-/PNT	VARIES/11'-4"	
104	CORRIDOR	CONC*	LVT1	VB	CMU/GYP	PNT	ACT	-	8'-3"	
105	MULTIPURPOSE ROOM A	CONC*	LVT1	VB	CMU	PNT	ACT	PNT	8'-11"	
106	STORAGE	CONC*	LVT2	VB	CMU/GYP	PNT	EXP	PNT	11'-4"	
107	MULTIPURPOSE ROOM B	CONC*	LVT1	VB	CMU/GYP	TECT/PNT	ACT/GB	-/PNT	9'-0"	
108	STORAGE	CONC*	LVT2	VB	CMU/GYP	PNT	EXP	PNT	11'-4"	
109	STORAGE	CONC*	LVT2	VB	CMU/GYP	PNT	EXP	PNT	11'-4"	
110	G/ NEUTRAL SHOWER	CONC*	CT	CTB	CMU/GYP	CT1/PNT	GB	PNT	9'-0"	
111	STORAGE	CONC*	LVT2	VB	CMU	PNT	EXP	PNT	11'-4"	
112	CORRIDOR	CONC*	LVT1	VB	CMU/GYP	PNT	ACT	-/PNT	8'-3"	
113	STORAGE	CONC*	LVT1	VB	CMU	PNT	EXP	PNT	9'-0"	
114	BOYS TOILET	CONC*	-	-/VB	CMU	CT/PNT	ACT	-	8'-3"	
115	JANITORIAL CLOSET	CONC*	LVT1	VB	CMU	PNT	EXP	PNT	11'-4"	
116	GIRLS TOILET	CONC*	-	-/VB	CMU	CT/PNT	ACT	-	8'-3"	
117	REC CENTER RECEPTION	CONC*	LVT1	VB	CMU	PNT	ACT	-/PNT	8'-3"	
118	REC CENTER ADMIN	CONC*	LVT1	VB	CMU	PNT	ACT	-	8'-3"	
119	REC CENTER OFFICE	CONC*	LVT1	VB	CMU	PNT	ACT	-	8'-3"	
120	MULTIPURPOSE K-12 EDUCATION ROOM	CONC*	LVT1	VB	CMU/GYP	PNT	ACT	-/PNT	8'-0"/10'-0"	
121	STAFF TOILET	CONC*	-	-/VB	CMU/GYP	CT/PNT	ACT	-	8'-0"	
122	ACCESSORY ROOM	CONC*	LVT2	VB	CMU/GYP	PNT	ACT	-	9'-0"	
124	GYMNASIUM	CONC*	-	-	CMU	-	EXP	-		



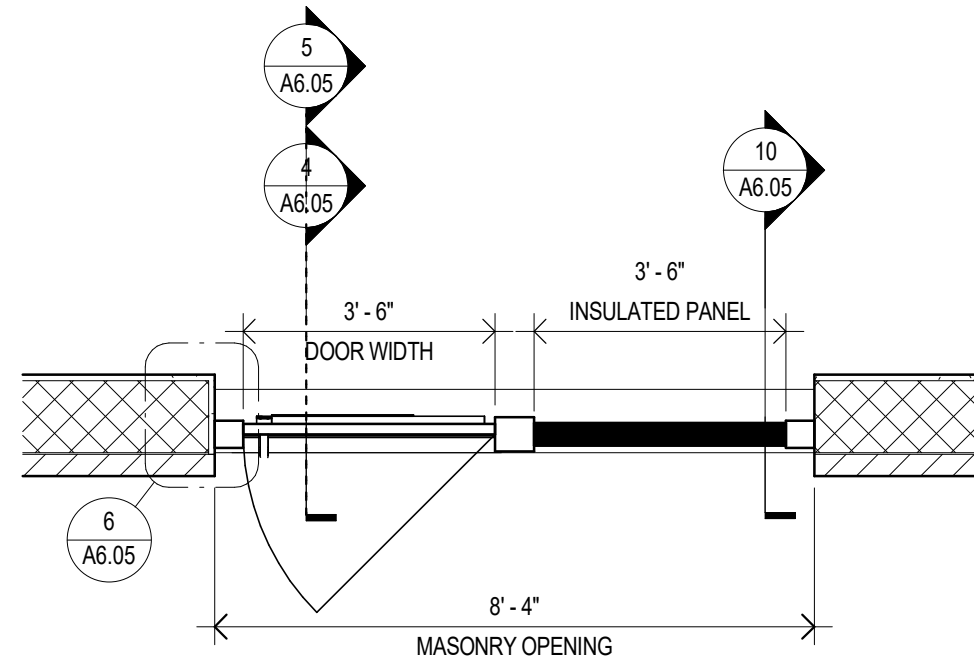
2 Shower Room Tile Pattern
A6.03 1/2" = 1'-0"

ROOM FINISH SCHEDULE

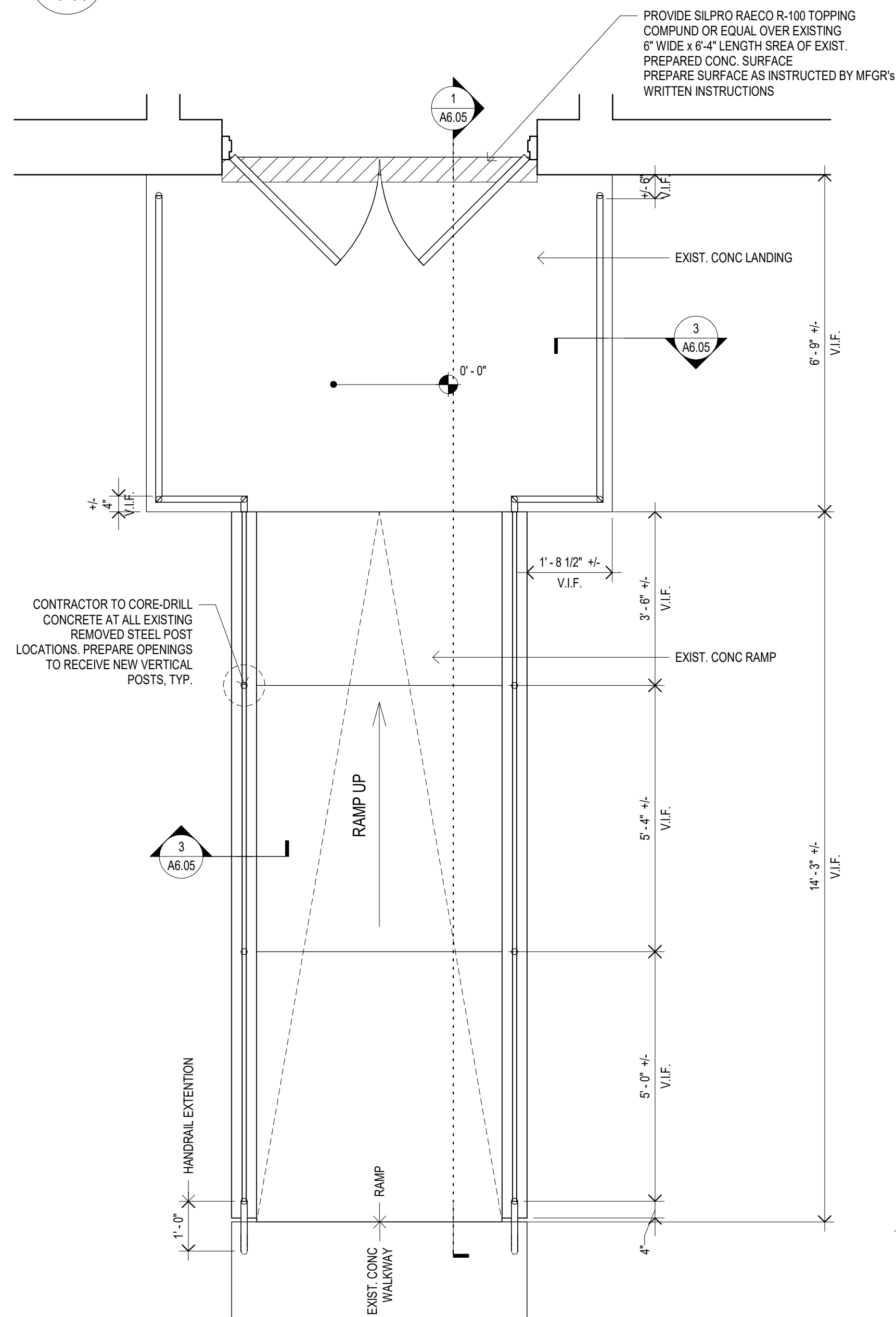
A6.03



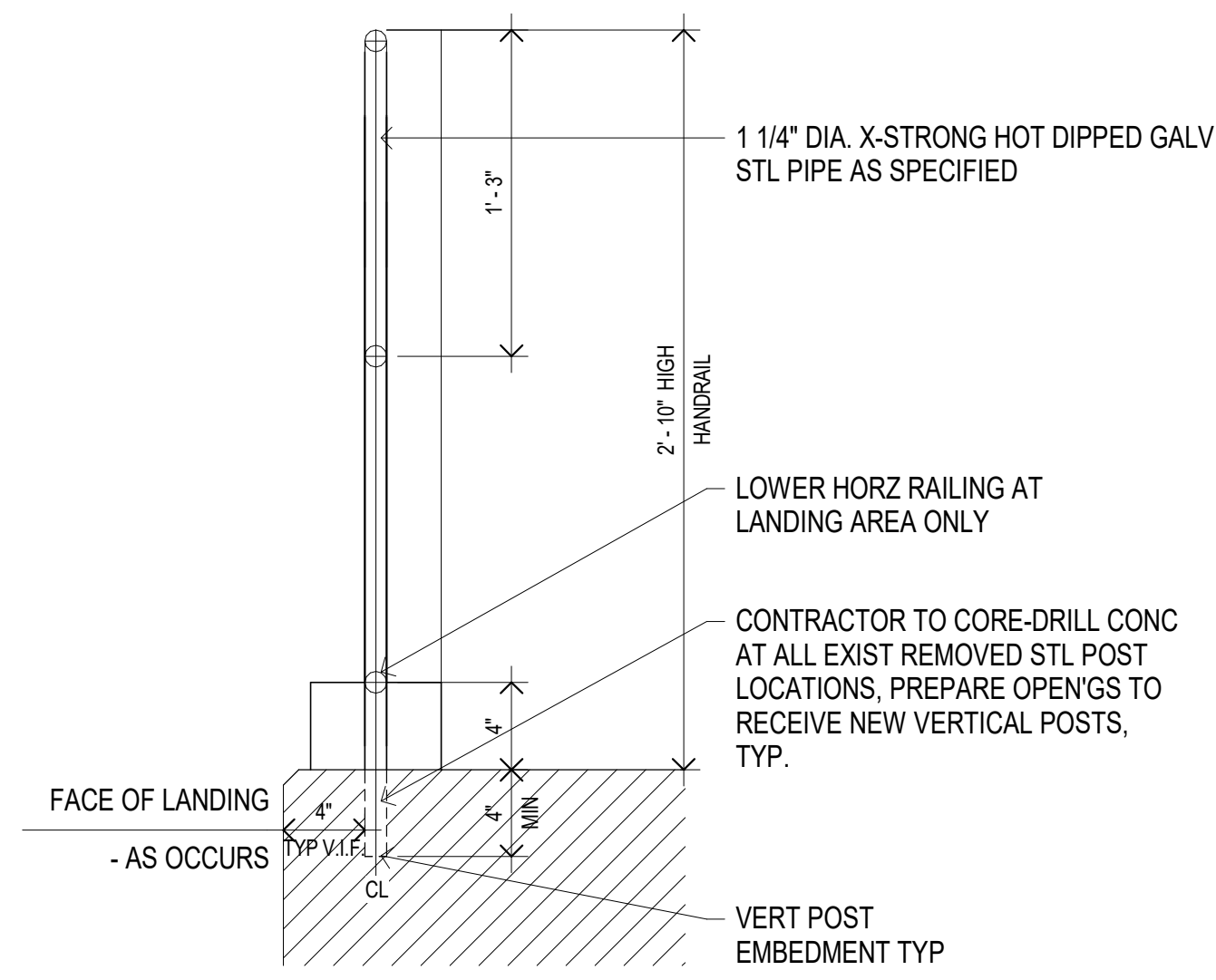
8 ENLARGED DOOR E09 GYMNASIUM
A6.05 3/8" = 1'-0" ADD ALTERNATE #1



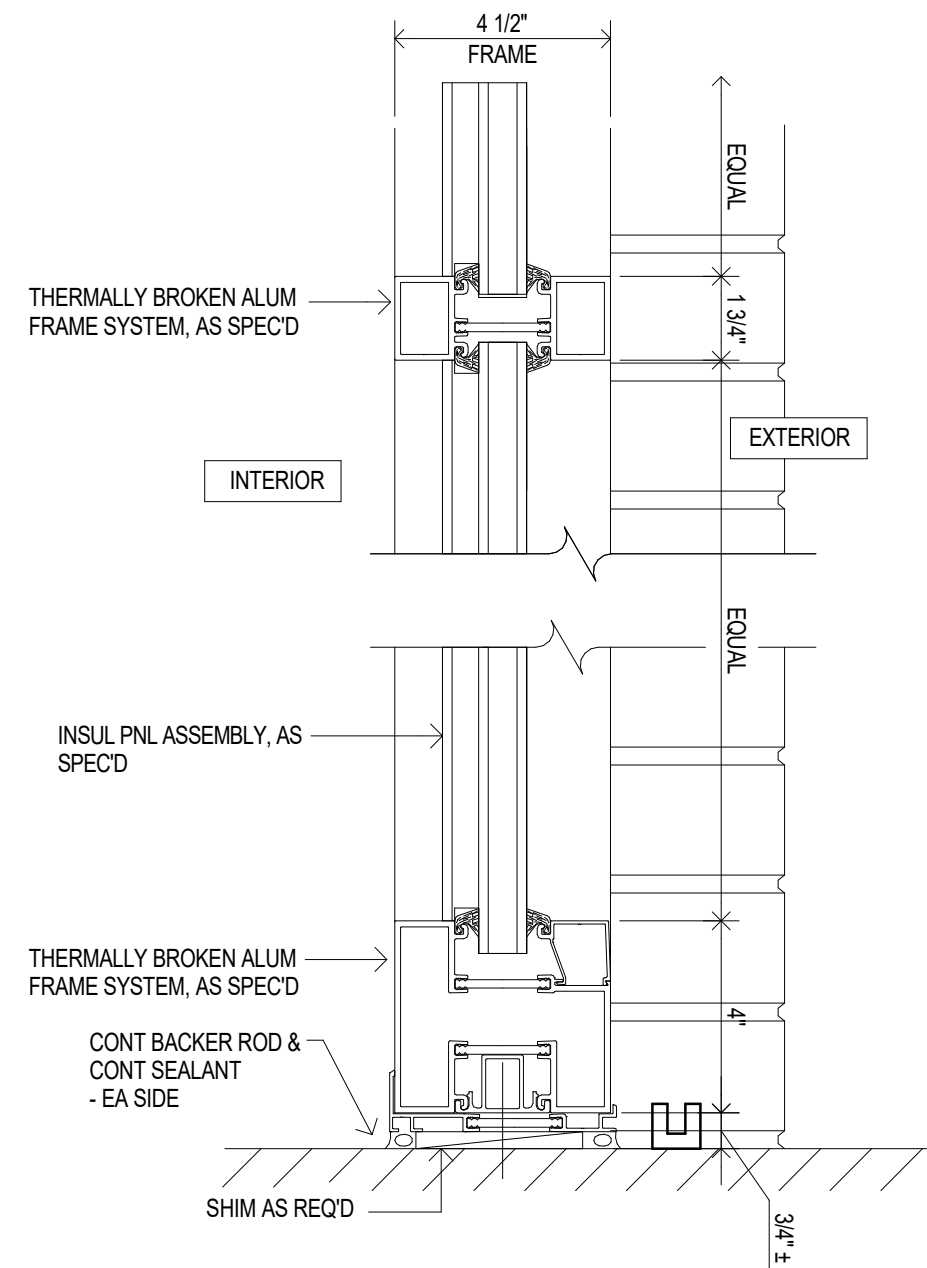
9 ENLARGED DOOR E10 GYMNASIUM
A6.05 3/8" = 1'-0" ADD ALTERNATE #1



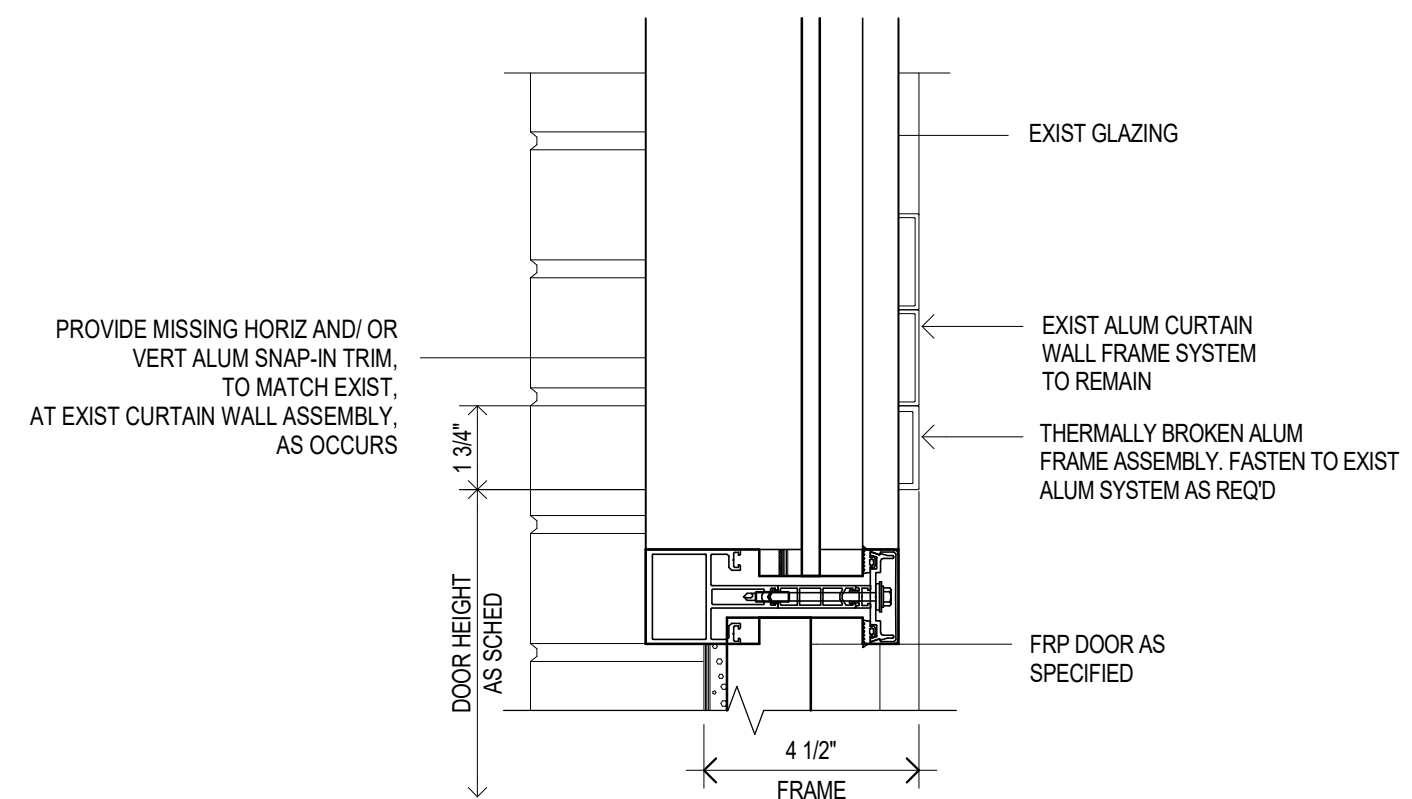
2 FRONT ENTRY RAMP - PLAN VIEW
A6.05 1/2" = 1'-0"



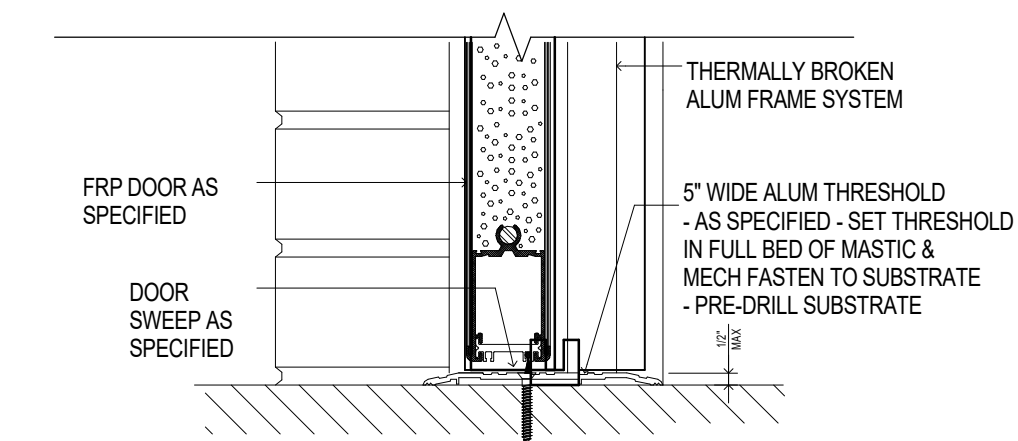
3 FRONT ENTRY RAMP - SECTION 2
A6.05 1 1/2" = 1'-0"



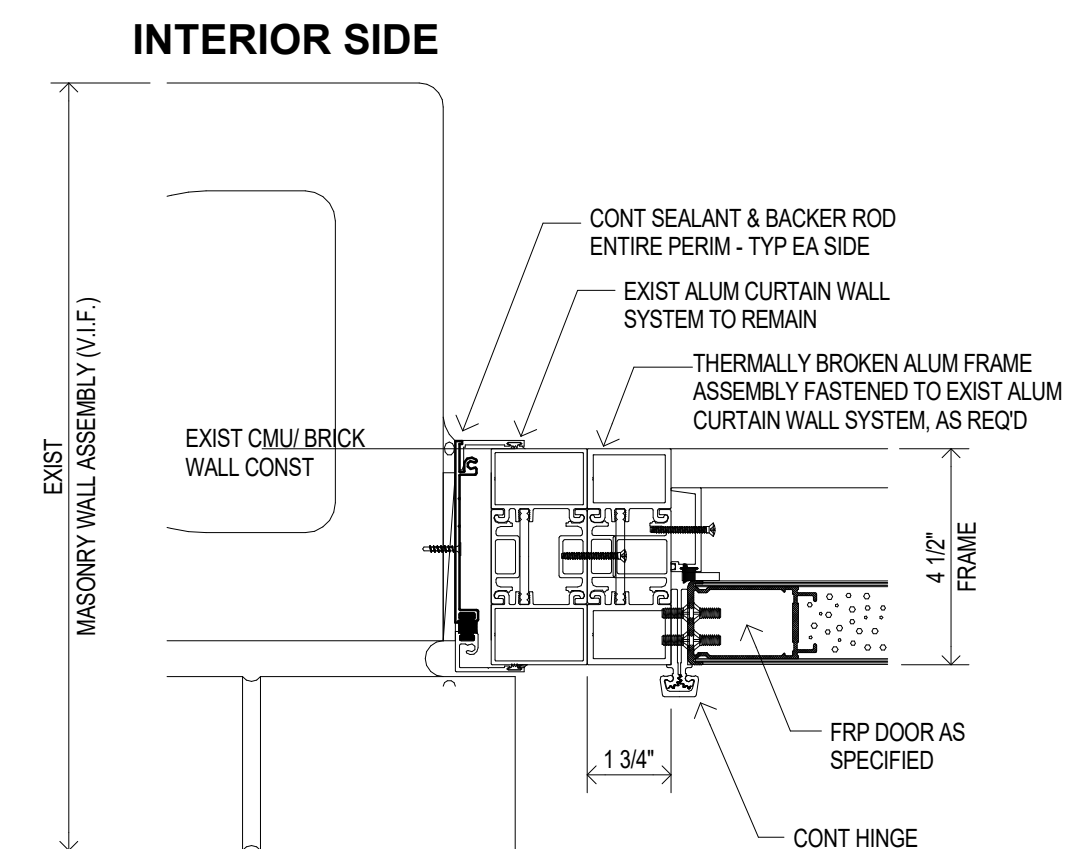
10 PANEL SILL DETAIL
A6.05 3" = 1'-0" ADD ALTERNATE #1



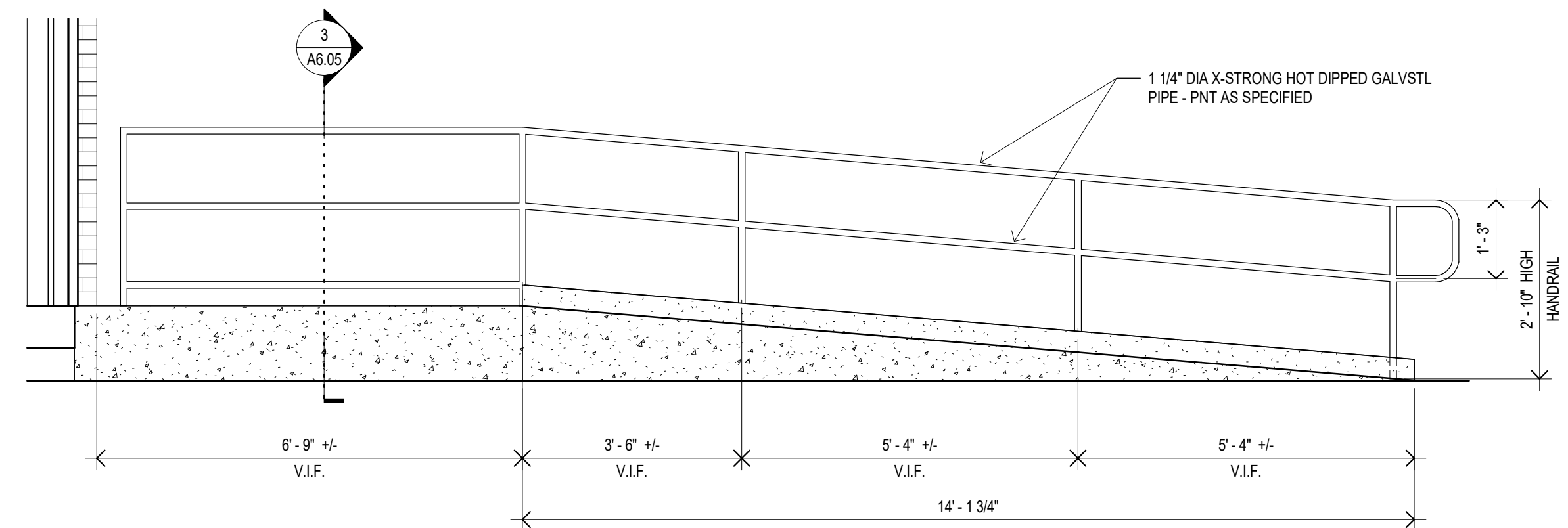
4 DOOR HEAD DETAIL
A6.05 3" = 1'-0" ADD ALTERNATE #1



5 DOOR SILL DETAIL
A6.05 3" = 1'-0" ADD ALTERNATE #1



6 DOOR JAMB DETAIL
A6.05 3" = 1'-0" ADD ALTERNATE #1



1 FRONT ENTRY RAMP - SECTION 1
A6.05 1/2" = 1'-0"

JOSLIN RECREATION CENTER - CPF RENOVATION

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Date: 05/28/2025

Drawn by: Author Proj. Mgr.: Checker

Revisions

No.	Date	Description

EXTERIOR DOOR AND RAILING DETAILS

A6.05

JOSLIN RECREATION
CENTER - CPF
RENOVATION

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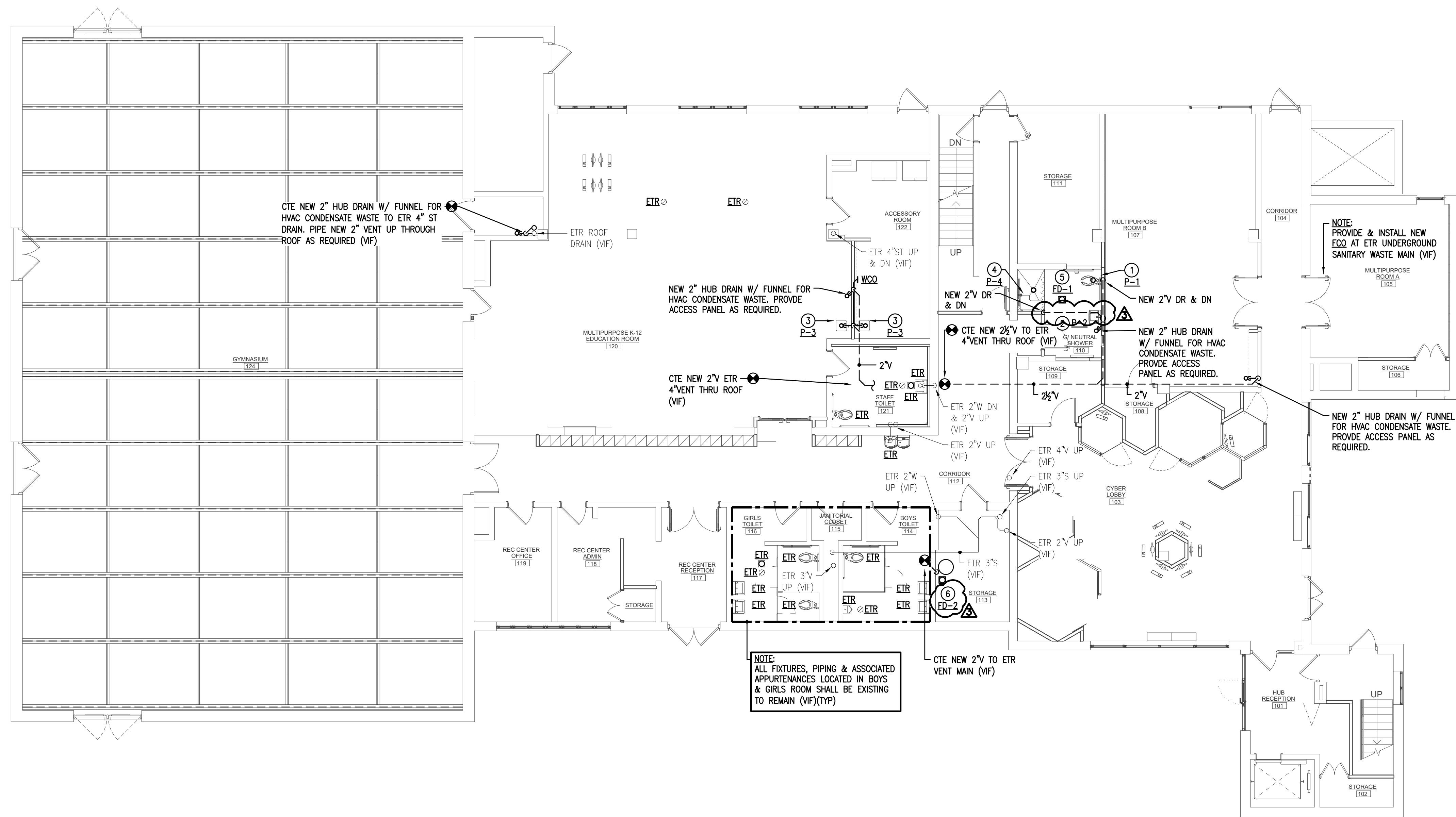
BUILDING ENGINEERING RESOURCES, INC.
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ber@ber-engineering.com
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PLUMBING KEY NOTES

- NEW FLOOR MOUNTED WATERCLOSET W/ FLUSH VALVE:
1" CW DR, 4" S DN & 2" V DR
- NEW WALL HUNG LAVATORY & FAUCET:
1/2" CW DR, 1/2" HW DR, 1 1/2" W DN, 1 1/2" V DR
- NEW COUNTER MOUNTED SINK & FAUCET:
1/2" CW DR, 1/2" HW DR, 2" W DN, 1 1/2" V DR
- NEW SHOWER ENCLOSURE & VALVE SYSTEM:
1/2" CW DR, 1/2" HW DR, 2" W DN, 1 1/2" V DR
- NEW 2" FLOOR DRAIN:
2" W DN, 2" V DN
- NEW 4" FLOOR DRAIN:
4" W DN, 2" V DN
- NEW WALL MOUNTED HOSE BIBB:
3/4" CW DR
- NEW EXTERIOR WALL HYDRANT:
3/4" CW DR
- NEW 50 GALLON ELECTRIC WATER HEATER:
1" CW DR, 1" HW DR, 3/4" W
- NEW THERMOSTATIC MIXING VALVE:
1" CW DR, 1" HW (140°F) DR, 1" HW (120°F) DR, 3/4" HW DR

NOTE:
CONNECT ALL DOMESTIC WATER, SANITARY WASTE & VENT AND NATURAL GAS SUPPLY PIPING FROM NEW FIXTURES & EQUIPMENT TO RESPECTIVE MAIN LINES. COORDINATE EXACT LOCATIONS IN FIELD PRIOR TO INSTALLATION. TRENCH PIPING AS REQUIRED.

1 FIRST FLOOR PLAN - SANITARY, WASTE, VENT, & STORM
P1.01 1/8" = 1'-0"

PLUMBING
FIRST FLOOR PLAN -
SANITARY, WASTE, VENT &
STORM

P1.01

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GENERAL NOTES

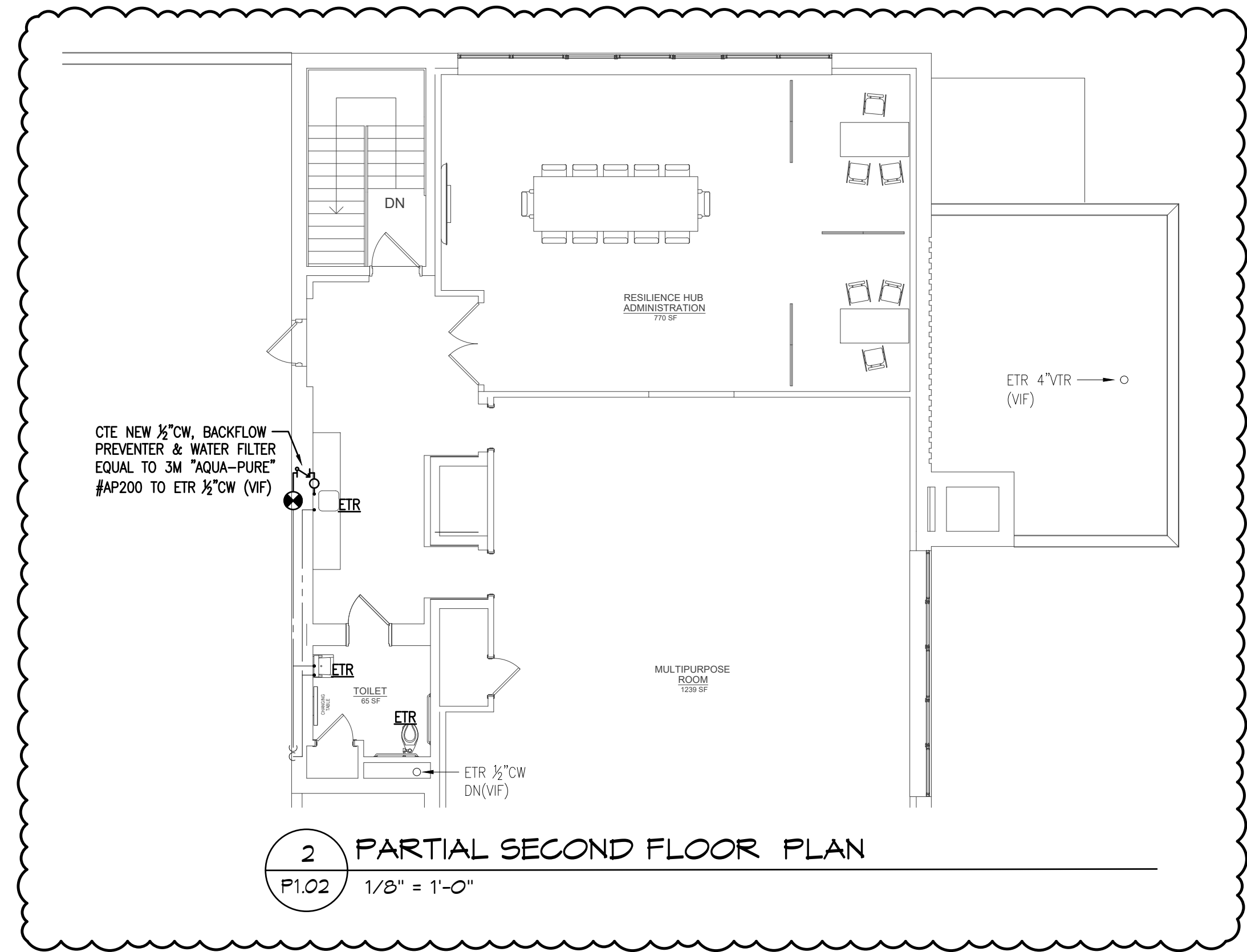
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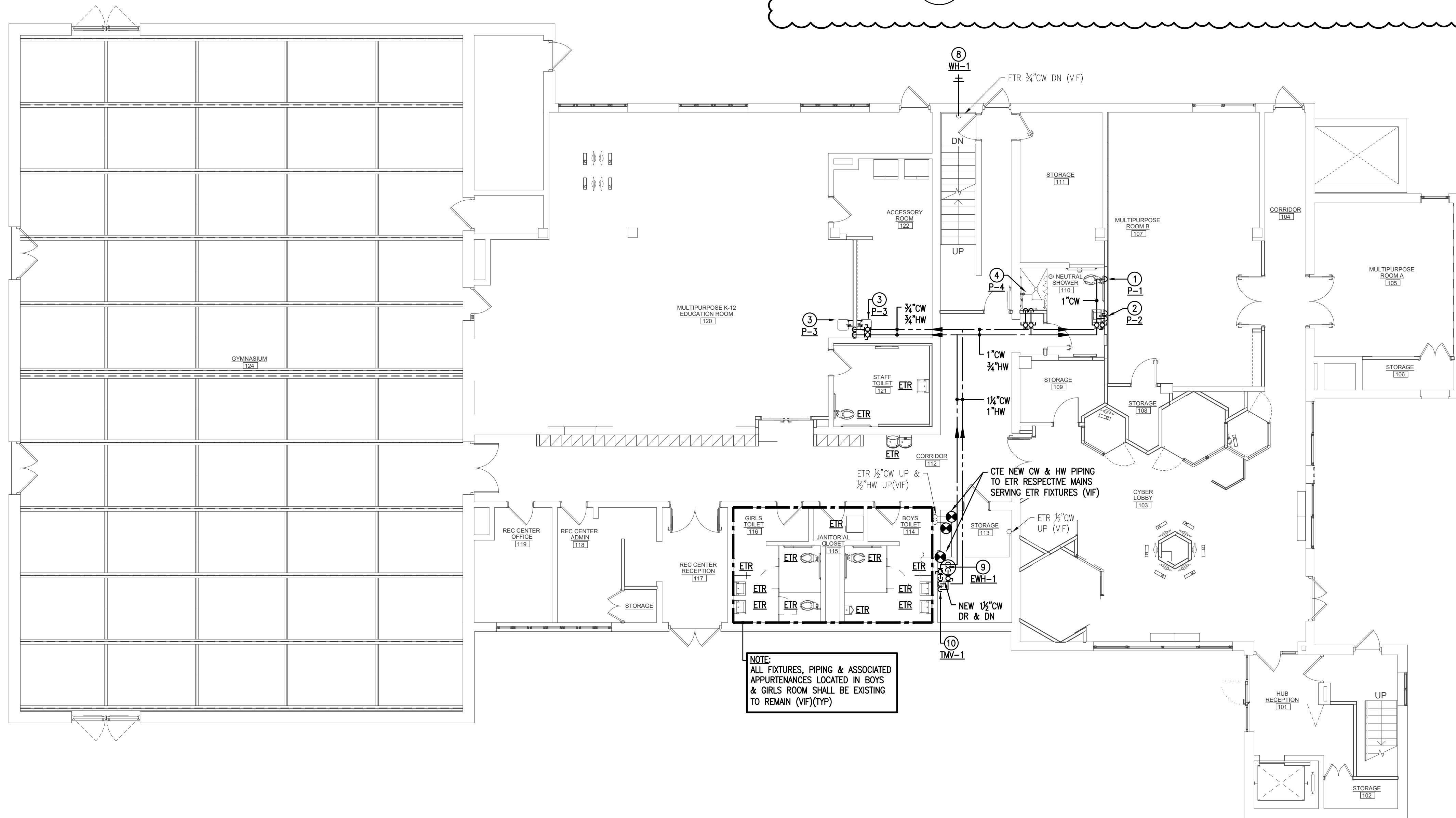
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- NEW THERMOSTATIC MIXING VALVE:
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NOTE:
CONNECT ALL DOMESTIC WATER, SANITARY WASTE & VENT AND NATURAL GAS SUPPLY PIPING FROM NEW FIXTURES & EQUIPMENT TO RESPECTIVE MAIN LINES. COORDINATE EXACT LOCATIONS IN FIELD PRIOR TO INSTALLATION. TRENCH PIPING AS REQUIRED.



2 PARTIAL SECOND FLOOR PLAN
P1.02 1/8" = 1'-0"

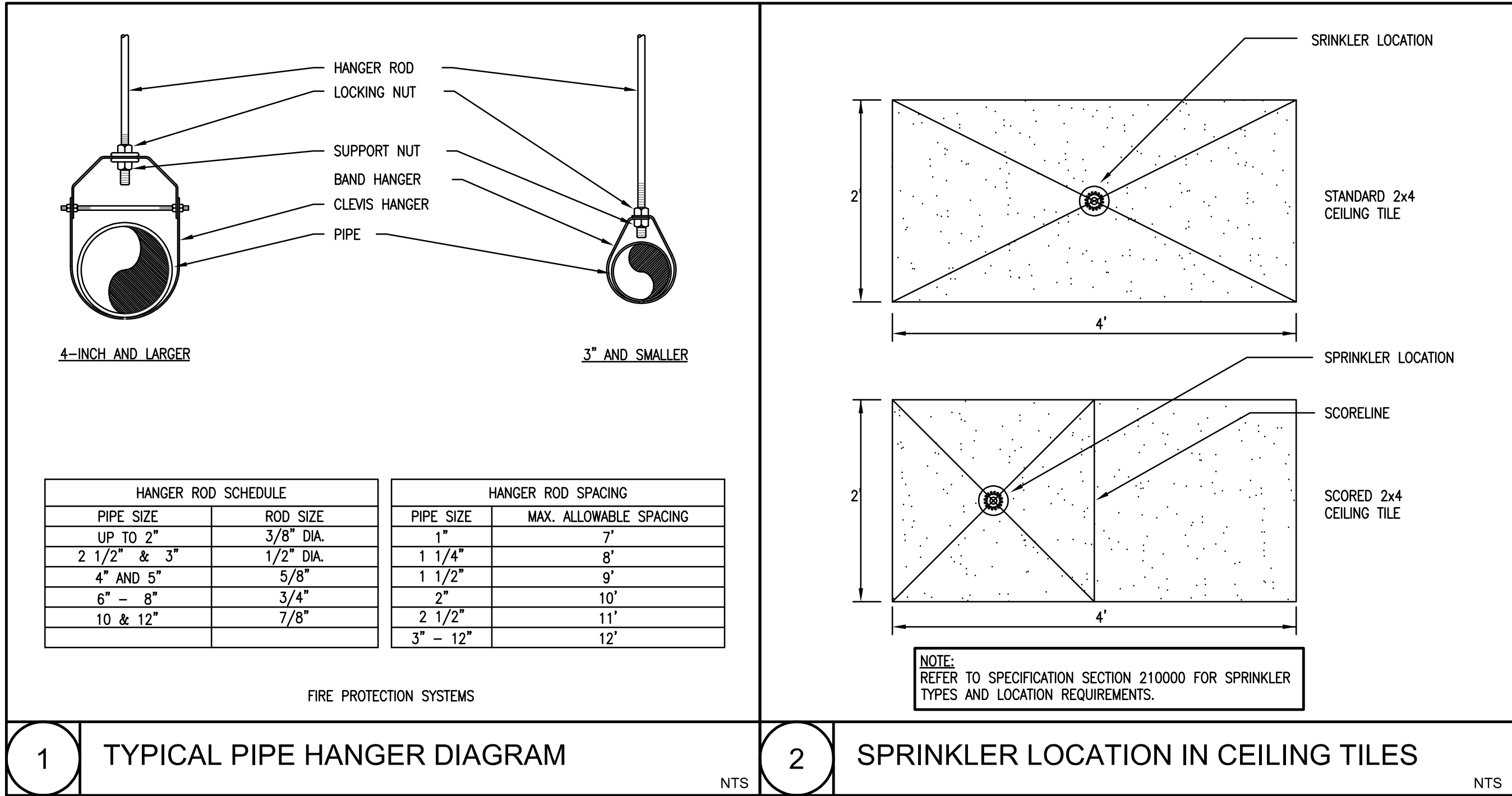


NOTE:
ALL FIXTURES, PIPING & ASSOCIATED APPURTENANCES LOCATED IN BOYS & GIRLS ROOM SHALL BE EXISTING TO REMAIN (VIF)(TYP)

1 FIRST FLOOR PLAN - DOMESTIC WATER
P1.02 1/8" = 1'-0"

PLUMBING
FIRST FLOOR PLAN &
PARTIAL SECOND FLOOR
PLAN - DOMESTIC WATER

P1.02



FIRE PROTECTION DEMOLITION NOTES:

- PRIOR TO SUBMITTING DEMOLITION BID, THE CONTRACTOR SHALL VISIT THE PROJECT SITE TO BECOME FAMILIAR WITH ALL EXISTING CONDITIONS AND TO DETERMINE THE EXTENT OF WORK TO REMOVE THE EXISTING SPRINKLER SYSTEM COMPLETELY. IF DISCREPANCIES EXIST BETWEEN DRAWINGS AND/OR SITE CONDITIONS, THE FIRE PROTECTION DEMOLITION CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER AND THE OWNER PRIOR TO SIGNING OF CONTRACT. REQUESTS FOR COMPENSATION FOR EXTRA WORK, WHICH WOULD HAVE BEEN EVIDENT BY COMPLIANCE WITH THE PREVIOUS STATEMENT, WILL NOT BE CONSIDERED.
- DISCONNECT, DISMANTLE AND DEMOLISH EXISTING SPRINKLERS, BRANCH PIPING AND ACCESSORIES IN AREA OF WORK. REMOVE ALL DEBRIS AND DISCONNECTED EQUIPMENT AND CLEAN OUT EXISTING SPACES. EXISTING SPRINKLERS SYSTEM TO REMAIN IN OCCUPIED FLOORS AND EXISTING STAIRWELLS. REFER TO ARCHITECTURAL AND FIRE PROTECTION DEMOLITION PLANS FOR DEMOLITION WORK.
- REMOVE ALL EXISTING SPRINKLER SYSTEM SUPPLY PIPING, SPRINKLERS, ACCESSORIES INDICATED TO BE DEMOLISHED AND CAP BACK TO EXISTING MAIN LINES TO REMAIN. OBTAIN EXISTING RECORD DRAWINGS FROM OWNER. MAINTAIN EXISTING SPRINKLER SYSTEMS, STANDPIPE RISERS AND HOSE VALVES IN EACH FLOOR LEVEL TO REMAIN.
- VERIFY PIPING SERVES ONLY SPRINKLER SYSTEMS INDICATED FOR DEMOLITION BEFORE SHUT-DOWN FOR DISCONNECTION. IDENTIFY EXISTING PIPING WHICH SERVES SPRINKLER SYSTEMS TO REMAIN DURING PHASING. PROMPTLY NOTIFY ARCHITECT/ENGINEER & GENERAL CONTRACTOR OF ACTIVE PIPING TO BE MAINTAINED WHEN LOCATED IN PARTITIONS TO BE DEMOLISHED.
- COORDINATE ALL SHUT-DOWNS, TIE-INS, ETC., WITH THE GENERAL CONTRACTOR. ELECTRICAL MAKE-SAFE OF SPRINKLER SYSTEM EQUIPMENT REQUIRING DEMOLITION SHALL BE COMPLETED BY THE ELECTRICAL SUBCONTRACTOR.
- DEMOLITION SUBCONTRACTOR MUST PROTECT EXISTING SLAB, WALL, FENCING AND BUILDING STRUCTURE DURING DEMOLITION PHASE. DAMAGE TO EXISTING STRUCTURE SHALL BE REPAIRED AT DEMOLITION SUBCONTRACTOR'S EXPENSE.
- ALL DEMOLITION WORK PERFORMED SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE NATIONAL, STATE AND LOCAL CODES, LAWS AND ORDINANCES.

FIRE PROTECTION GENERAL NOTES:

- THE WORK COVERED CONSISTS OF FURNISHING ALL LABOR AND MATERIALS NECESSARY TO INSTALL, COMPLETE AND READY FOR CONTINUOUS OPERATION, THE FIRE PROTECTION SYSTEMS, APPARATUS AND EQUIPMENT FOR THIS PROJECT. AS SHOWN ON DRAWING, PLUS AS REQUIRED BY NFPA-13, NFPA-14 AND NFPA-20 AS REFERENCED IN THE STATE & LOCAL BUILDING & FIRE CODES AND THE AUTHORITY HAVING JURISDICTION.
- ALL EQUIPMENT AND MATERIALS FURNISHED UNDER THE FIRE PROTECTION SUBCONTRACT, LABOR AND TESTING PERFORMED HEREIN SHALL BE IN COMPLETE ACCORDANCE WITH THE STATE & LOCAL BUILDING & FIRE CODES.
- ANY AND ALL PERMITS REQUIRED FOR INSTALLATION OF ANY MATERIAL SHALL BE OBTAINED AS PART OF THE WORK INCLUDING ALL FEES OR EXPENSES INCURRED.
- THESE DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW EACH AND EVERY OFFSET WITH REGARD TO THE PIPING THAT IS TO BE INSTALLED. THE CONTRACTOR SHALL VISIT THE SITE, READ ALL DRAWINGS, AND MAKE DETAILED NOTES OF ALL NECESSARY OFFSETS REQUIRED WITH THE INSTALLATION OF THEIR WORK. NO EXTRA PAYMENT WILL BE ALLOWED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE AND PROJECT CONDITIONS.
- UNLESS OTHERWISE NOTED, IT IS THE INTENT OF THESE DOCUMENTS THAT THIS AREA SHALL BE 100% SPRINKLERED.
- ALL SPRINKLERS PROTECTING LIGHT HAZARD AREAS SHALL BE QUICK RESPONSE.
- THE FIRE PROTECTION CONTRACTOR IS RESPONSIBLE TO PROVIDE A COMPLETE SET OF SHOP DRAWINGS AND HYDRAULIC CALCULATIONS WHICH SHALL BEAR THE SEAL OF A FIRE PROTECTION ENGINEER DULY LICENSED IN THE STATE WHERE WORK IS PERFORMED.
- THE SPRINKLER CONTRACTOR SHALL PERFORM A HYDRANT FLOW TEST AND SHALL BASE THEIR HYDRAULIC CALCULATIONS ON THEIR TEST RESULTS.
- THE SPRINKLER CONTRACTOR SHALL PREPARE THEIR OWN FABRICATION/WORKING DRAWINGS OF THE SPRINKLER WORK AND OBTAIN APPROVALS FROM AUTHORITIES HAVING JURISDICTION PRIOR TO INSTALLATION, AND SUBMIT TO THE ARCHITECT/ENGINEER FOR APPROVAL.
- SPRINKLERS SHALL BE LOCATED ABOVE AND BELOW ALL DUCTWORK GREATER THAN 4'-0" WIDE.
- ROUTING OF SPRINKLER MAINS, BRANCHES AND SPRINKLERS SHALL BE THOROUGHLY COORDINATED WITH OTHER TRADES AND BUILDING STRUCTURE PRIOR TO SUBMISSION OF COORDINATED SHOP DRAWINGS. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR COORDINATING, PREPARING, AND SUBMITTING COORDINATION DRAWINGS FOR APPROVAL.
- ALL SLEEVES THROUGH CONCRETE FLOORS AND FIRE RATED WALLS OR PARTITIONS SHALL BE FIRE STOPPED WITH UL RATED ASSEMBLIES OF EQUAL FIRE RATING.
- THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL, STORAGE AND CUTTING OF ANY CEILING TILES TO ACCOMMODATE SPRINKLERS. THEY SHALL ALSO REINSTALL THE CEILING TILES AND REPLACE ANY DAMAGED TILES.
- SPRINKLERS IN AREAS WITH NO FINISHED CEILING SHALL BE LOCATED AS HIGH AS POSSIBLE. SPRINKLERS SUBJECT TO PHYSICAL DAMAGE SHALL BE INSTALLED WITH PROTECTIVE CAGES.
- PATCH PIPE CORES WHERE FIRE PROTECTION PIPING HAS BEEN INSTALLED. PAINT PATCH WORK TO MATCH SURFACES.
- CONTRACTOR IS TO CLEAN/FLUSH ENTIRE SYSTEM BACK TO THE STREET WATER MAIN.
- AT THE COMPLETION, TEST ENTIRE SYSTEM PER NFPA-13, NFPA-14, NFPA-20, AND NFPA-25. FILE ALL REPORTS AND CERTIFICATIONS. SUBMIT TO OWNER COPIES OF ALL REPORTS AND CERTIFICATIONS, TOGETHER WITH A COPY OF NFPA-25.
- INSTRUCT THE OWNER ON MAINTENANCE PROCEDURES AND SYSTEM OPERATION.
- SUBMIT ACCURATE AS-BUILT DRAWINGS.
- PROVIDE PROPER SEISMIC RESTRAINTS FOR ALL REQUIRED FIRE PROTECTION PIPING PER NFPA AND LOCAL BUILDING CODES.
- PRESSURE TEST ALL PIPING AND ALARMS PER NFPA.
- WHERE ALL SPRINKLER PIPING IS EXPOSED, COORDINATE PAINTING PIPING AND SPRINKLERS WITH ARCHITECT/ENGINEER. SPRINKLERS SHALL BE FACTORY PAINTED AND NOT FIELD PAINTED.
- EXTERIOR CANOPIES CONSTRUCTED OF NON-COMBUSTIBLE CONSTRUCTION DO NOT REQUIRE SPRINKLER PROTECTION PER NFPA-13.
- INSTALL ALL PENDENT SPRINKLERS LOCATED ON SUSPENDED CEILINGS ON CENTER OF CEILING TILES BOTH WAYS. IF SPRINKLERS ARE LOCATED IN GYPSUM CEILINGS, INSTALL AND ALIGN HORIZONTALLY AND VERTICALLY WITH LIGHT FIXTURES AS MUCH AS POSSIBLE SPACING REQUIREMENTS ALLOW.

FIRE PROTECTION LEGEND

	NEW WORK PIPING (INDICATED AS HEAVY LINE)
	EXISTING TO REMAIN (INDICATED AS LIGHT LINE)
	RE EXISTING PIPING / EQUIPMENT TO BE REMOVED
	CTE CONNECT TO EXISTING
	F FIRE SERVICE BELOW GRADE OR BURIED
	WS WET SPRINKLER PIPE
	D SPRINKLER DRAIN
	FDC FIRE DEPARTMENT CONNECTION PIPE
	PIPE TEE LOOKING UP
	PIPE TEE LOOKING DOWN
	UP/RISE PIPE RISER
	DN/DR PIPE ELBOW DOWN OR DROP
	CONTINUATION
	FLOW IN DIRECTION OF ARROW
	UN UNION
	FS FLOW SWITCH
	GV GATE VALVE
	OS&Y OS&Y GATE VALVE
	BV BALL VALVE
	VV VALVE IN VERTICAL
	WACV ALARM CHECK VALVE (WET SYSTEM)
	DV DRAIN VALVE WITH HOSE END
	FDV FIRE DEPARTMENT VALVE
	FDC SIAMESE FIRE DEPARTMENT CONNECTION
	U UPRIGHT WET SPRINKLER
	P PENDENT WET SPRINKLER
	P PENDENT WET SPRINKLER W/ UPRIGHT ABOVE
	S SIDEWALL WET SPRINKLER
	UG UPRIGHT W/ GUARD
	EB / WMG ELECTRIC BELL / WATER MOTOR GONG
	EX EXISTING
	TYP TYPICAL
	TS TAMPER SWITCH
	AFF ABOVE FINISHED FLOOR
	FFE FINISHED FLOOR ELEVATION
	AFG ABOVE FINISHED GRADE
	LFPC LIMIT OF FIRE PROTECTION CONTRACT
	NFPC NOT IN FIRE PROTECTION CONTRACT
	GC GENERAL CONTRACTOR
	FPC FIRE PROTECTION CONTRACTOR
	PC PLUMBING CONTRACTOR
	EC ELECTRICAL CONTRACTOR
	HVAC HVAC CONTRACTOR

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GENERAL NOTES

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2. DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.

Date: 05/05/2025		
Drawn by: AG Proj. Mgr.: ARV		
Revisions		
No.	Date	Description
3	06-02-2025	ADDENDUM #3

FIRE PROTECTION LEGEND, NOTES, & DETAILS

FP0.01

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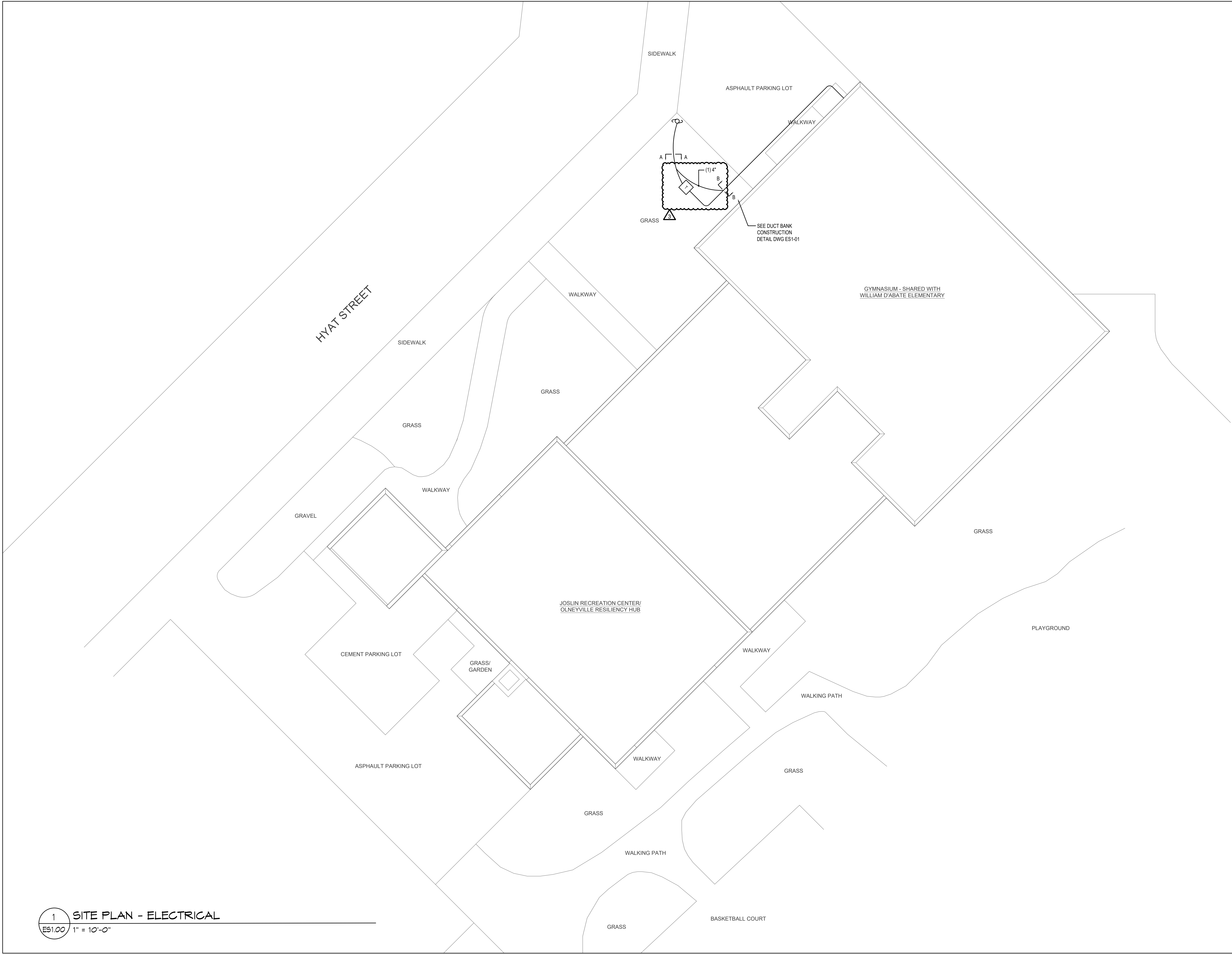
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Date: 05/05/2025		
Drawn by: DD/DC		Proj. Mgr.: ARV
Revisions		
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3	06-02-2025	ADDENDUM #3

ELECTRICAL
SITE PLAN

ES1.00



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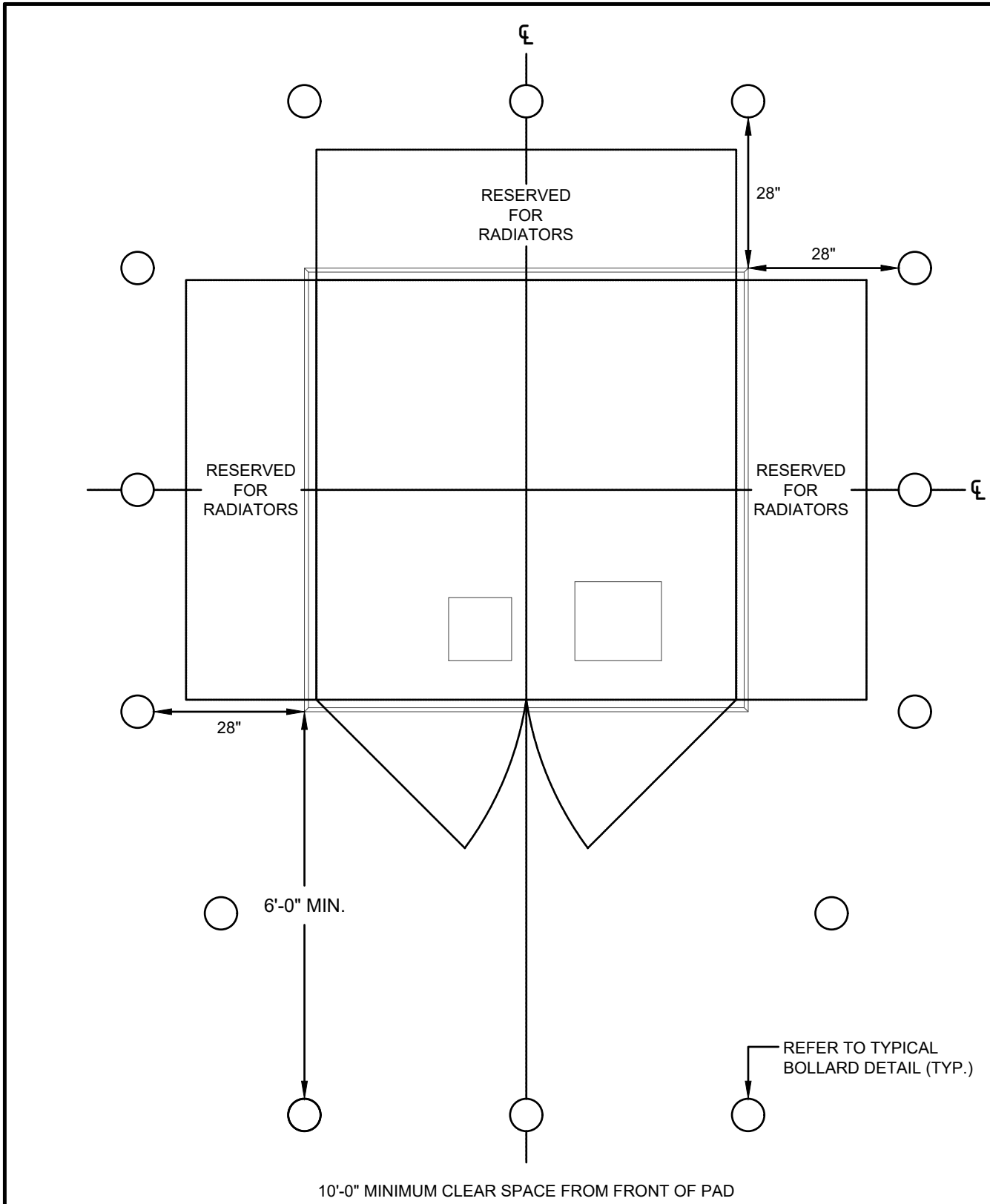
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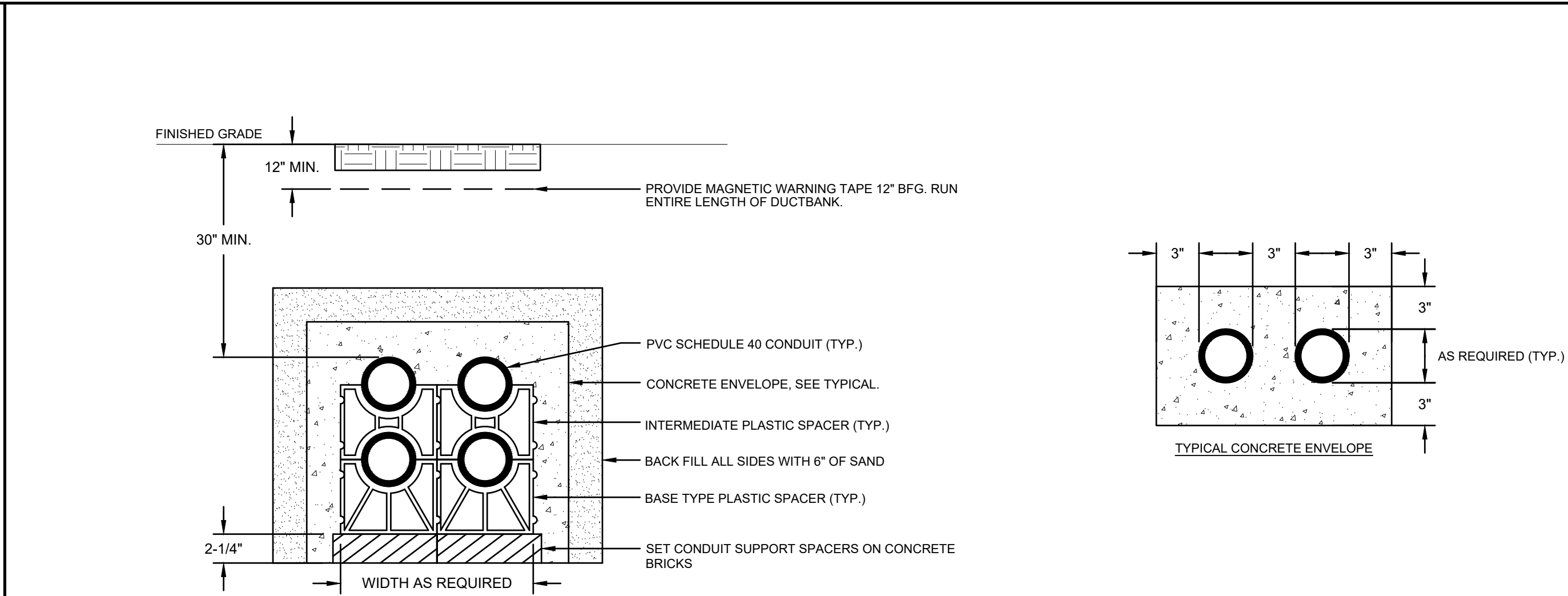
2. DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.



- NOTES:
- UTILITY COMPANY DESIGN/PLANNING SHALL DESIGNATE THE NUMBER AND LOCATION OF BOLLARDS.
 - LOCATION OF BOLLARDS SHALL NOT IMPEDE A DOOR OPENING 100 DEGREES.
 - SPACING SHALL NOT EXCEED 5'-0" BETWEEN EACH BOLLARD.
 - THIS DETAIL IS FOR BIDDING PURPOSES ONLY. CONFORM TO UTILITY COMPANY DETAILS.

TRANSFORMER BOLLARD PLACEMENT DETAIL

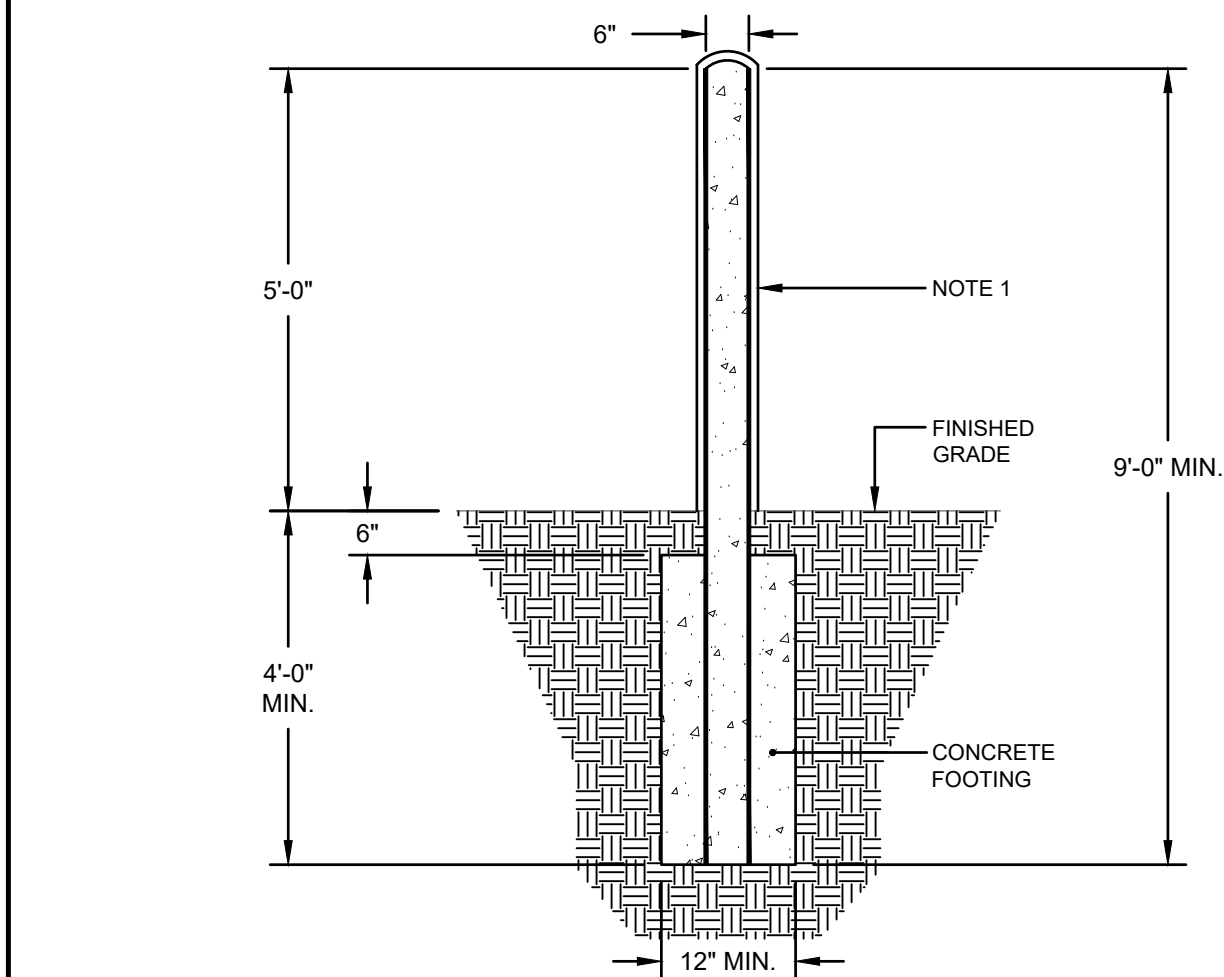
NTS



- NOTES:
- PRIOR TO INSTALLATION AND BACKFILL THE DUCTBANK CROSS SECTION AND TRENCH MUST BE COORDINATED, INSPECTED, AND APPROVED BY THE UTILITY COMPANY.
 - ALL TRENCHING, CONCRETE WORK, BACKFILLING, GRADING, AND RESURFACING SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.
 - ALL SWEEPS AT FOUNDATION AND RISER SHALL BE RIGID STEEL CONDUIT WITH A MINIMUM RADIUS OF 3'-0".
 - DIRECT-BURIED CONDUIT SHALL BE INSTALLED TO MEET THE MINIMUM COVER REQUIREMENTS OF NEC TABLE 300.5 AND 300.50.
 - THERE SHALL NOT BE MORE THAN THE EQUIVALENT OF FOUR 90° BENDS (360° TOTAL) BETWEEN PULL POINTS (NEC 352.26). BEND RADIUS SHALL NOT BE LESS THAN SHOWN IN TABLE 2, CHAPTER 9 OF THE NEC.
 - MINIMUM PITCH OF CONDUITS SHALL BE 3" PER ONE 100'-0". PITCH OF DUCTS SHALL CAUSE ALL DUCTS TO DRAIN TOWARD ONE END OR BOTH EQUIPMENT FOUNDATIONS OR PULL BOXES.
 - ALL BASE AND INTERMEDIATE PLASTIC SPACERS SHALL BE INTERLOCKING TYPE, CONSTRUCTED OF HIGH IMPACT PVC. SPACERS SHALL INSTALLED A MAXIMUM OF 5'-0" APART ALONG ENTIRE LENGTH OF RUN.
 - ELECTRIC UTILITY DUCTBANK SHALL NOT SHARE A CONCRETE ENCASUREMENT WITH FOREIGN UTILITIES. ELECTRIC UTILITY CONDUIT SHALL NOT BE DIRECTLY ABOVE OR BELOW TELECOMMUNICATION CONDUIT OR WATER, GAS, AND SEWER UTILITIES EXCEPT WHEN CROSSING AT APPROXIMATELY RIGHT ANGLES. WHERE THE PATHS OF THESE UTILITIES CROSS, TELECOMMUNICATIONS CONDUIT SHALL BE SEPARATED BY A MINIMUM OF 3" OF CONCRETE AND THE MINIMUM VERTICAL SEPARATION OF WATER, GAS, AND SEWER UTILITIES SHALL BE 12". A MINIMUM SEPARATION OF 12" SHALL BE MAINTAINED WHEN TELECOMMUNICATIONS CONDUIT RUNS PARALLEL TO ELECTRIC UTILITY CONDUIT. A MINIMUM SEPARATION OF 24" SHALL BE MAINTAINED WHEN WATER, GAS, AND SEWER UTILITIES RUN PARALLEL TO ELECTRIC UTILITY CONDUIT.
 - ELECTRICAL CONTRACTOR SHALL MANDREL ALL PRIMARY CONDUITS TO ENSURE THEIR INTEGRITY AND PROVIDE PULL ROPE IN EACH CONDUIT RUN, INCLUDING RISERS AND SPARES. ALL SPARE CONDUITS SHALL BE PLUGGED.
 - DETAIL IS SHOWN FOR BIDDING PURPOSES ONLY. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND COORDINATE EXACT SPECIFICATIONS WITH THE UTILITY COMPANY.

TYPICAL DUCTBANK CONSTRUCTION DETAIL

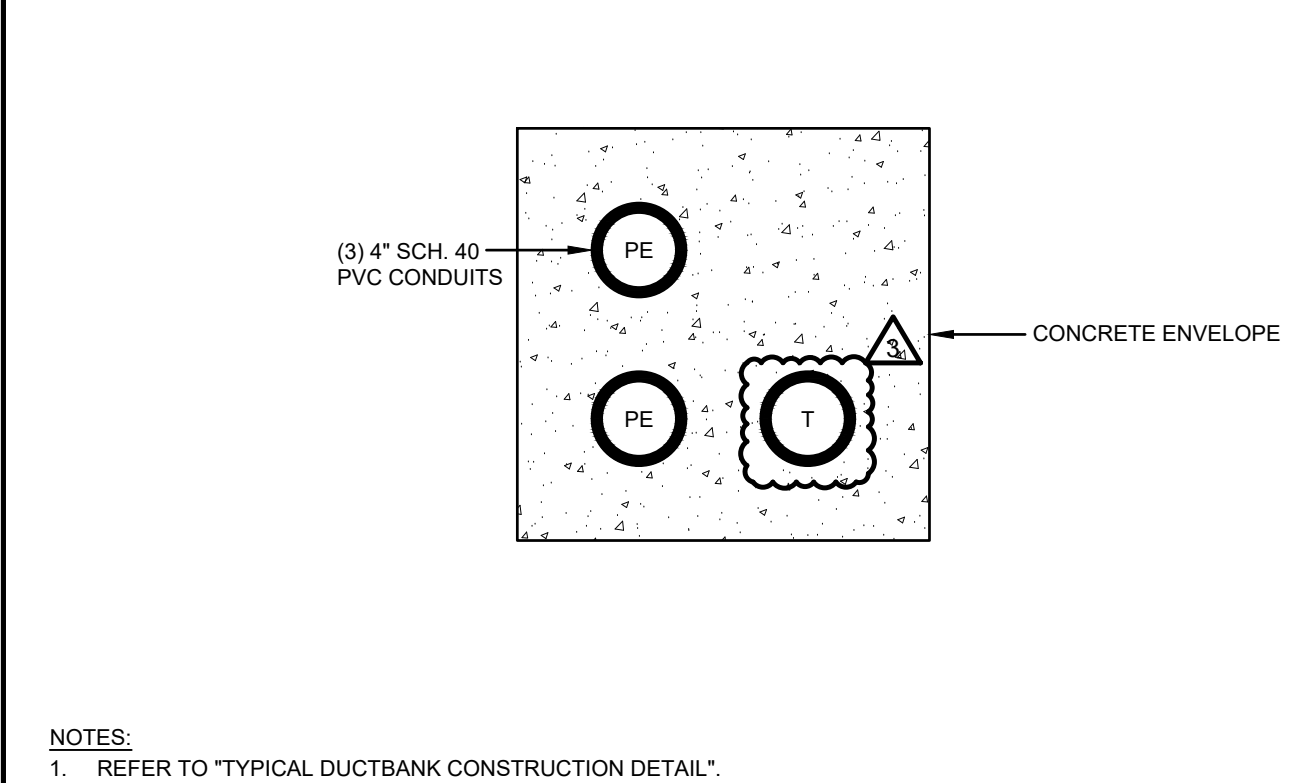
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- NOTES:
- CONCRETE FILLED 6" RIGID GALVANIZED STEEL PIPE. CONCRETE SHALL BE CROWNED ON TOP OF ALL BOLLARDS. WHEN BOLLARDS CAN NOT BE PAINTED PROVIDE PROTECTIVE BOLLARD COVER EQUAL TO INNOPLAST #BC760YV.
 - FOR BIDDING PURPOSES ONLY. CONFORM TO UTILITY COMPANY STANDARDS.

TYPICAL BOLLARD DETAIL

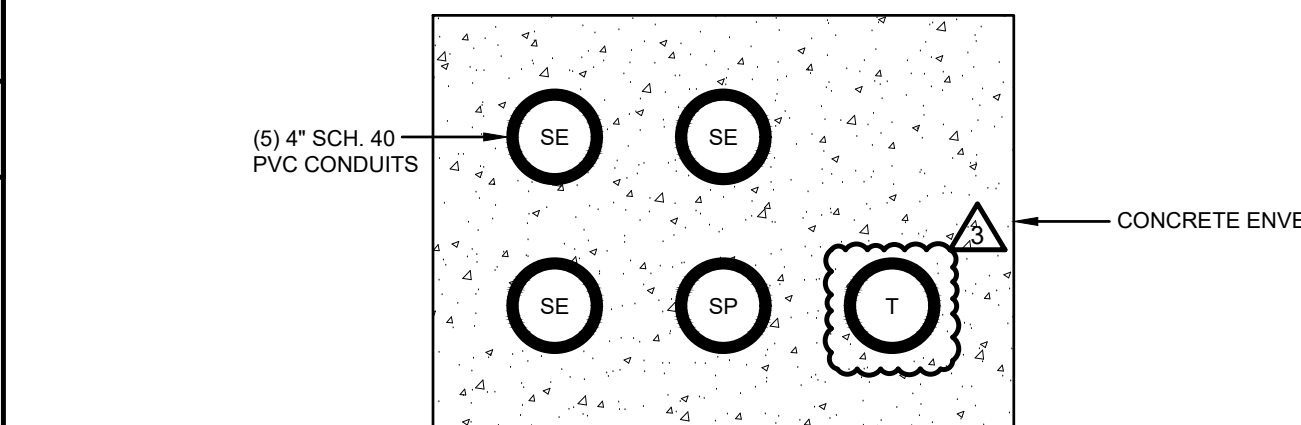
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- NOTES:
- REFER TO "TYPICAL DUCTBANK CONSTRUCTION DETAIL".

DUCTBANK DETAIL "A-A"

NTS



- NOTES:
- REFER TO "TYPICAL DUCTBANK CONSTRUCTION DETAIL".

DUCTBANK DETAIL "A-A"

NTS

ELECTRICAL
DETAILS

ES1.01

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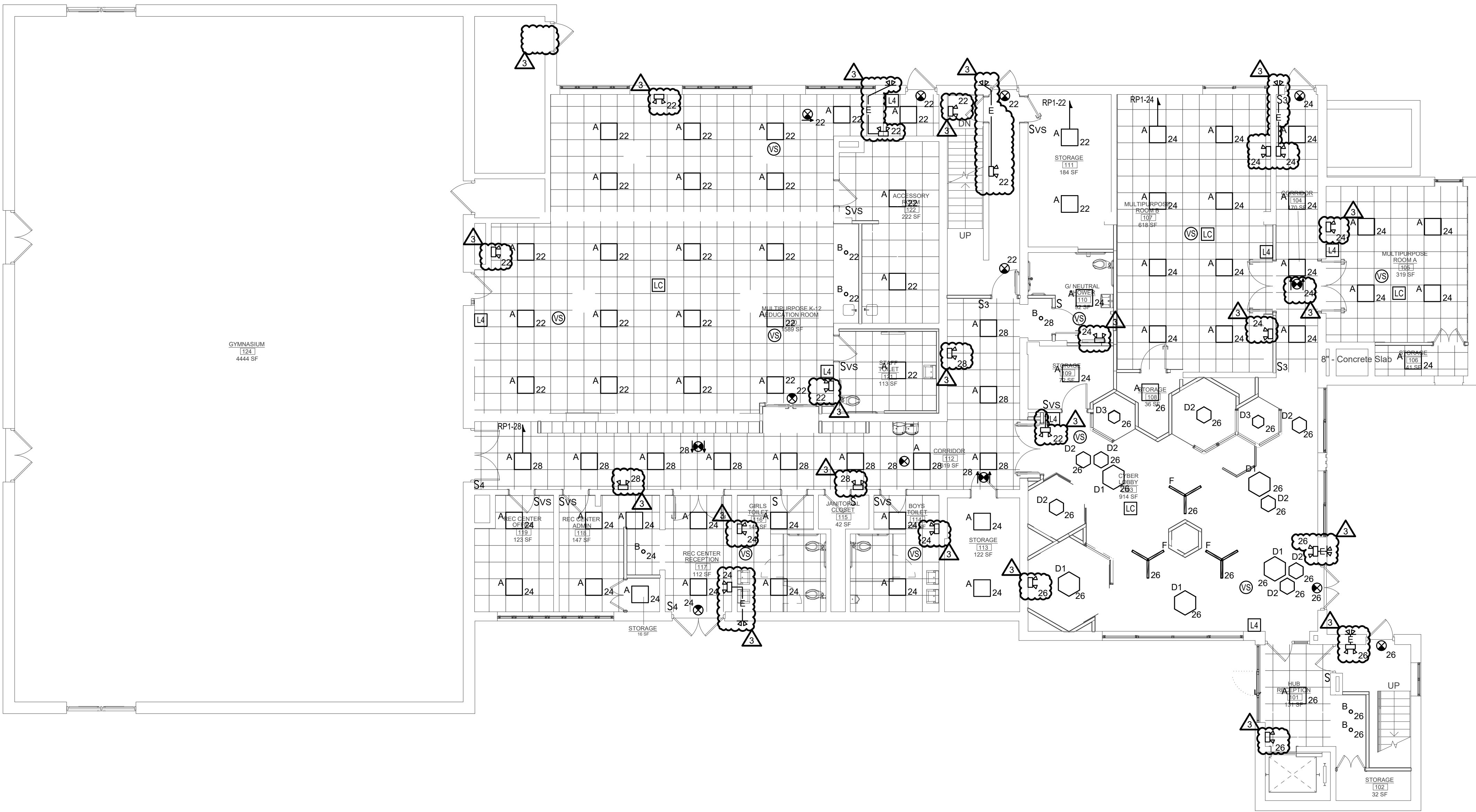
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1 FIRST FLOOR PLAN - LIGHTING
E1.00 1/8" = 1'-0"

Date: 05/05/2025		
Drawn by: DD/DC Proj. Mgr.: ARV		
Revisions		
No.	Date	Description
3	06-02-2025	ADDENDUM #3

ELECTRICAL
FIRST FLOOR PLAN -
LIGHTING

E1.00

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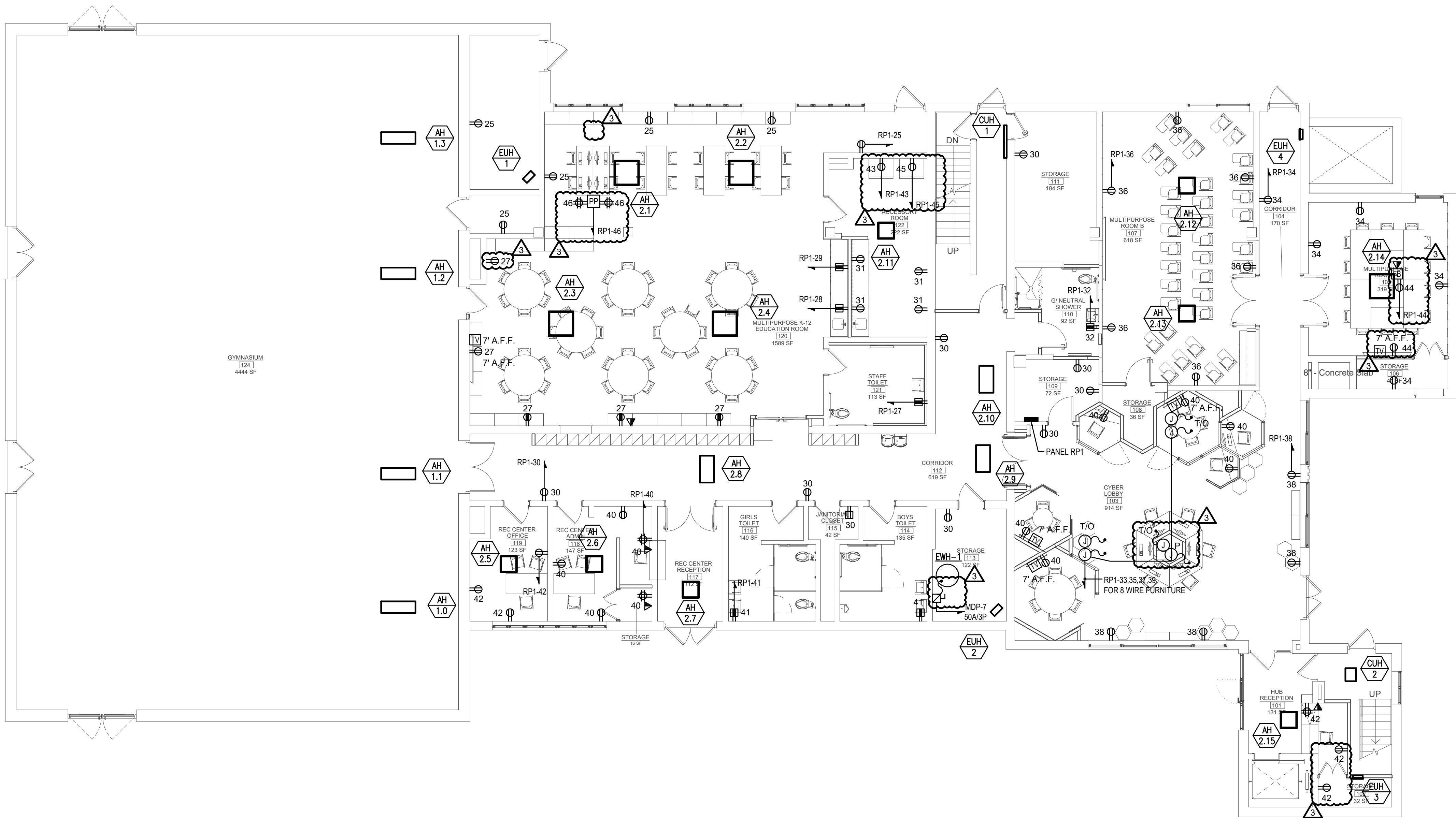
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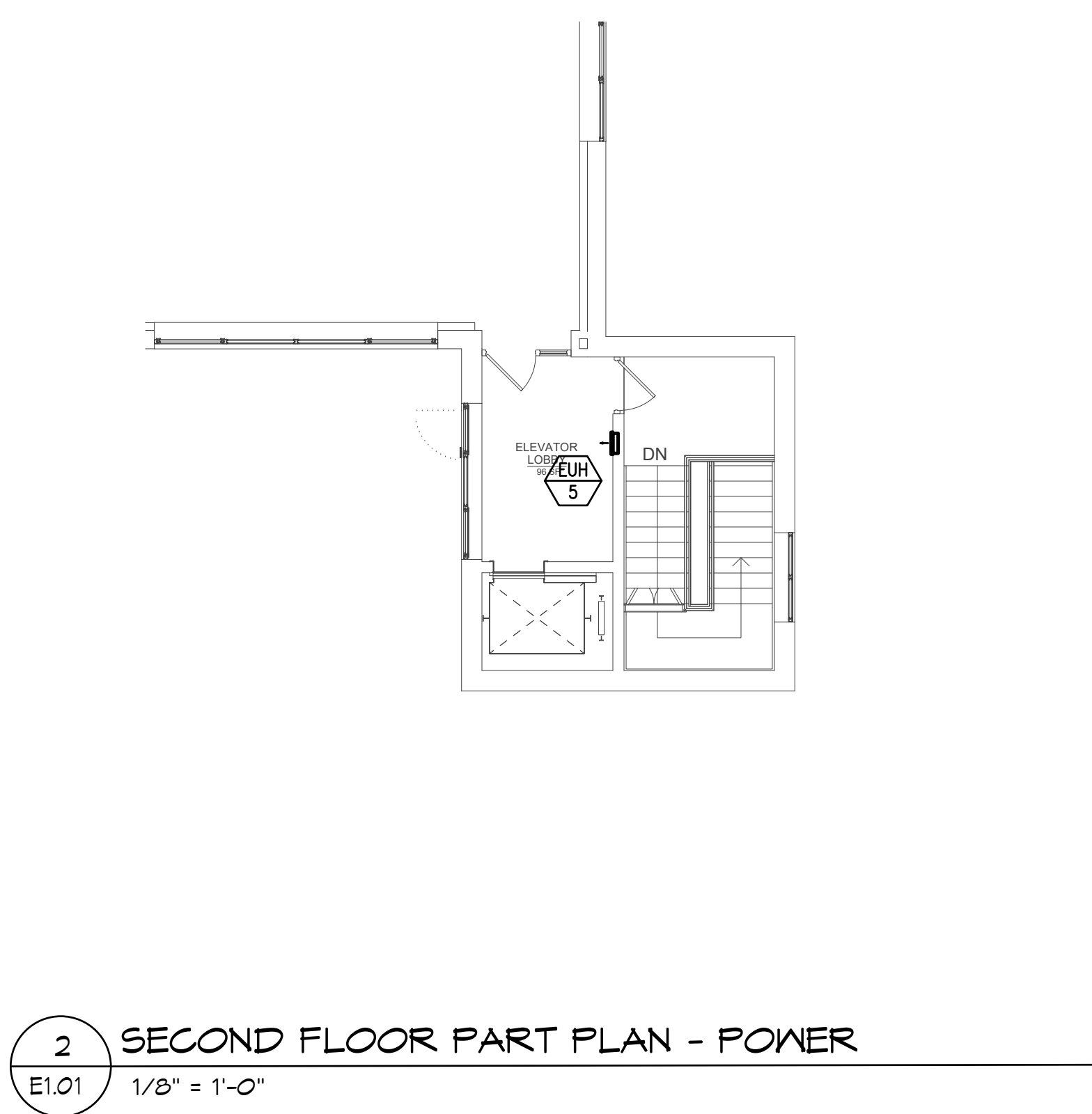
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1 FIRST FLOOR PLAN - POWER
E1.01 1/8" = 1'-0"



2 SECOND FLOOR PART PLAN - POWER
E1.01 1/8" = 1'-0"


ELECTRICAL
FIRST FLOOR PLAN -
POWER

E1.01

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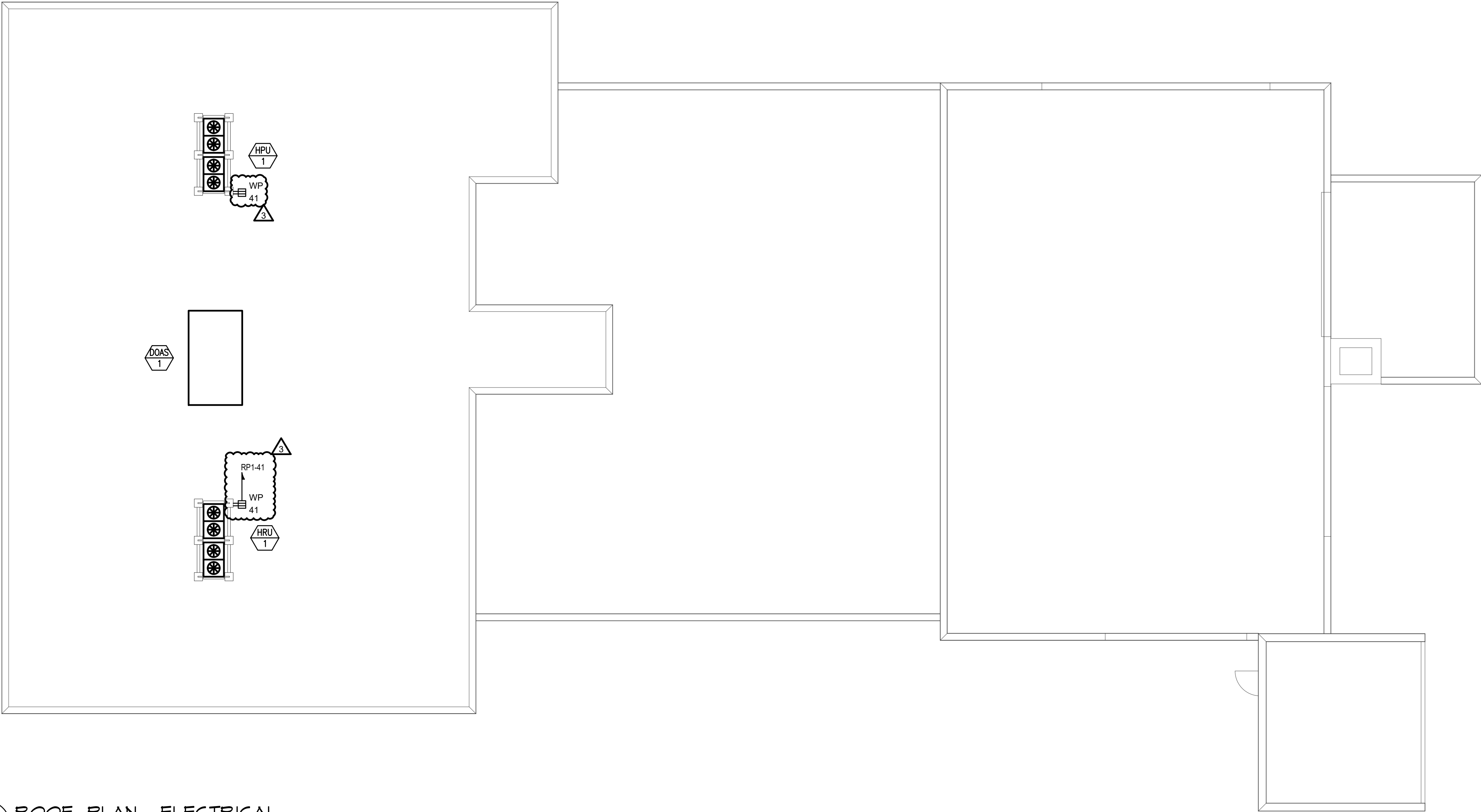
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1 ROOF PLAN - ELECTRICAL
E1.02 1/8" = 1'-0"

Date: 05/05/2025		
Drawn by: DD/DC		Proj. Mgr.: ARV
Revisions		
No.	Date	Description
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ELECTRICAL
ROOF PLAN

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Drawn by: DD/DC Proj. Mgr.: ARV

Revisions		
No.	Date	Description
3	06-02-2025	ADDENDUM #3

ELECTRICAL
POWER RISER DIAGRAM &
DETAILS

E2.01

KEYED SHEET NOTES

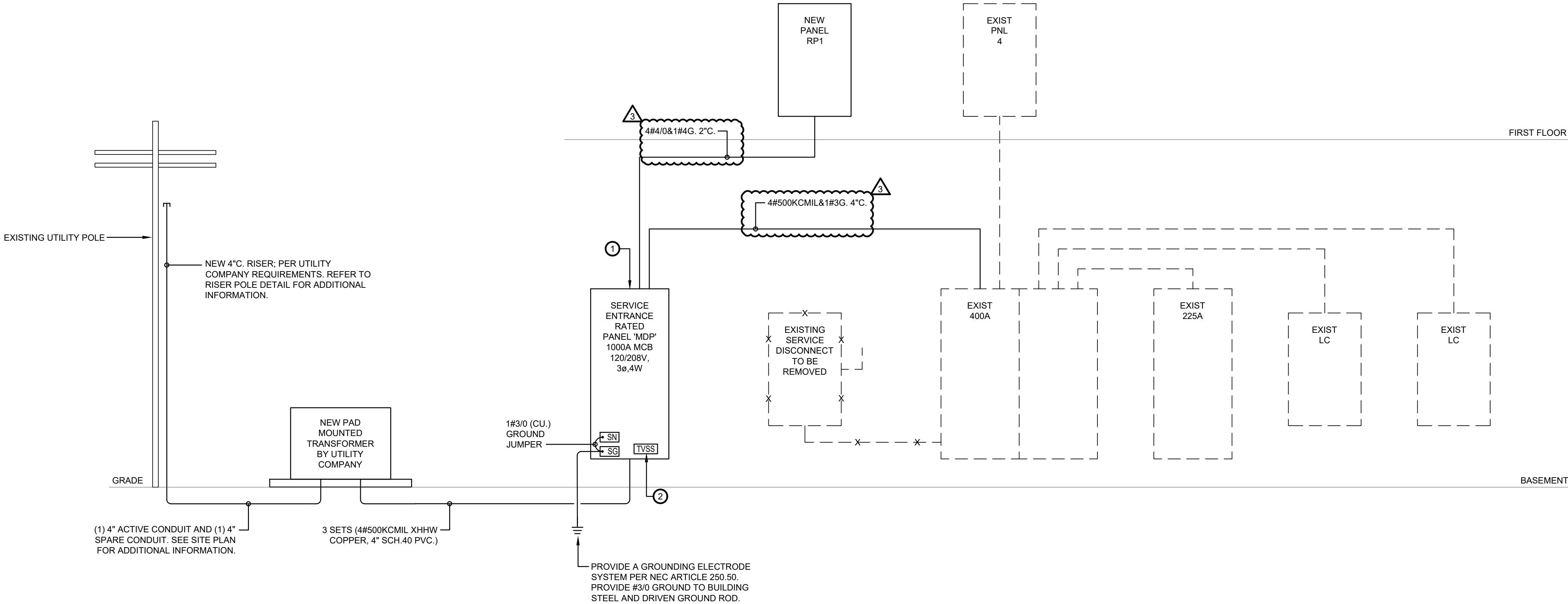
- ① 1,000A/3P SERVICE ENTRANCE RATED, 100% RATED MCB WITH LSG AND ARC FAULT MAINTENANCE SWITCH.
- ② PROVIDE TRANSIENT VOLTAGE SURGE SUPPRESSION DEVICE WITH MEDIUM EXPOSURE LEVEL (160KA) EQUAL TO EATON#SPD-160-K. MANUFACTURER OF SURGE PROTECTION DEVICE (SPD) SHALL MATCH THE PANELBOARD MANUFACTURER. PROVIDE 4#6-1#10G, 1" C. VIA 60A/3P CIRCUIT BREAKER TO SPD. EXACT LOCATION SHALL BE DETERMINED IN FIELD. PROVIDE WORKING CLEARANCES IN ACCORDANCE WITH THE NEC.

PANELBOARD SCHEDULE

PANELBOARD SCHEDULE																									
PANEL DESIGNATION	ELECTRICAL CHARACTERISTICS							BRANCH DEVICES													NOTES				
	VOLTS	Ø	WIRE	A/C	BUS SIZE	MAIN		BKG POLES	CIRCUIT BREAKER AMPS										TOTAL POLES	MOUNTING S S S S		GROUND BUS	TNS DEVICE	ADDITIONAL BRANCH CIRCUIT BREAKERS	
						MCB AMPS	MLO AMPS		15	20	25	30	35	40	45	50	60	70							
RP1	120/208	3	4	22K	225	225	-	1	-	30	-	-	-	-	-	-	-	-	-	60	S	✓	✓	-	-

MAIN DISTRIBUTION PANEL "MDP"

VOLTAGE: 120/208V BUS RATING (CU): 1000 AMPS MAINS: 800A MAIN CIRCUIT BREAKER					PHASE: 3 WIRE: 4 A/C: - 65K	
CKT NO	OVERCURRENT DEVICE (AMP)			DESCRIPTION OF LOAD	REMARKS	CONNECTED LOAD (KW)
	FRAME	TRIP	POLES			
1	400	400	3	EXISTING 400A MDP BACKFEED	SEE RISER DIAGRAM DWG E2.01	-
2	125	60	3	HRU-1 SECTION 1	SEE MECHANICAL SCHEDULE DWG E2.00	-
3	125	60	3	HRU-1 SECTION 2	SEE MECHANICAL SCHEDULE DWG E2.00	-
4	125	100	3	HPU-1	SEE MECHANICAL SCHEDULE DWG E2.00	-
5	225	225	3	DOAS-1	SEE MECHANICAL SCHEDULE DWG E2.00	-
6	225	225	3	PANEL RP-1	SEE RISE DIAGRAM DWG E2.01	-
7	125	50	3	EW-1	SEE MECHANICAL SCHEDULE DWG E2.00	-
8	125	100	3	-	-	-
9	100	60	3	SPARE	-	-
10	100	30	3	SPARE	-	-
11	-	-	-	SPACE & PROVISIONS	-	-
12	-	-	-	SPACE & PROVISIONS	-	-
13	-	-	-	SPACE & PROVISIONS	-	-
14	-	-	-	SPACE & PROVISIONS	-	-



1 POWER RISER DIAGRAM
E2.01 NTS

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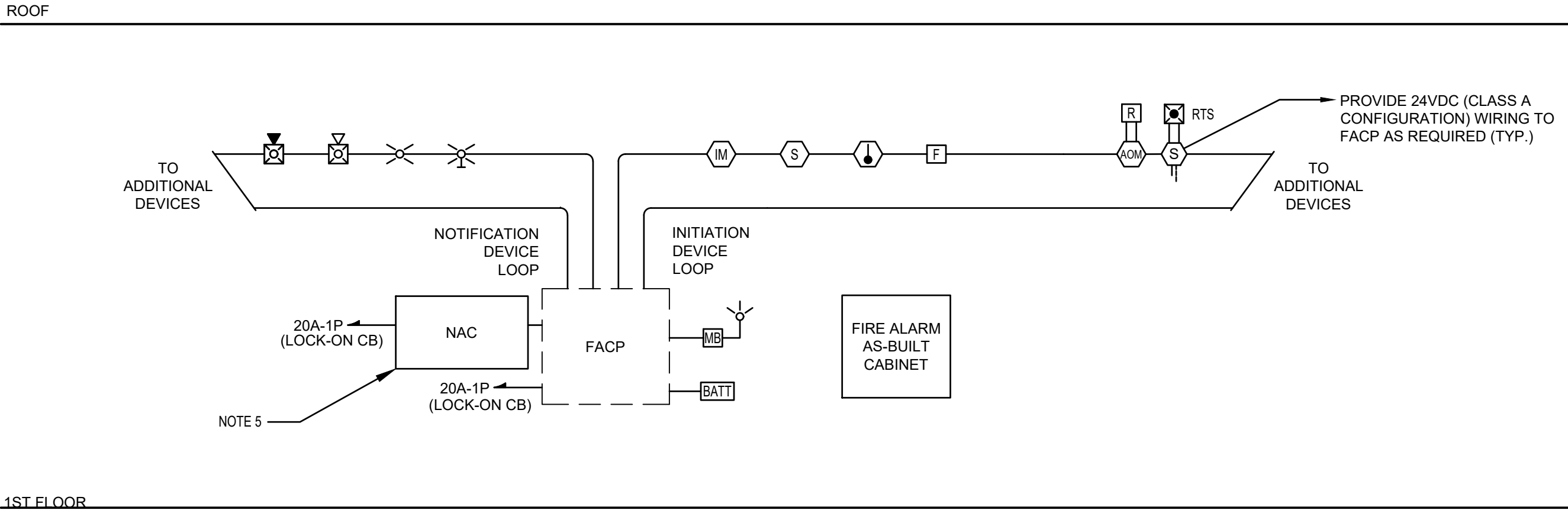
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FIRE ALARM SYSTEM		
FIRE ALARM SYSTEM: ALL NOTIFICATION DEVICES SHALL BE MOUNTED 80" AFF, UNLESS OTHERWISE NOTED. THE FOLLOWING DESIGNATIONS SHALL APPLY TO ALL FIRE ALARM DEVICES:		
AC =	ABOVE CEILING	
C =	CEILING MOUNTED	
LF =	LOW FREQUENCY	
WG =	WIRE GUARD	
WP =	WEATHERPROOF	
[F]	MANUAL PULL STATION; MOUNTED 48" AFF	
[K]	ACCESS FEATURE-FIRE DEPARTMENT KEY REPOSITORY.	
[BATT]	BATTERY CABINET	
[FACP]	FIRE ALARM CONTROL PANEL	
[S]	SMOKE DETECTOR/SENSOR - BASIC SHAPE ORIENTATION NOT TO BE CHANGED.	
[SS]	SMOKE DETECTOR - SINGLE STATION, 120V WITH BATTERY BACKUP.	
[L S]	DUCT MOUNTED SMOKE DETECTOR, INSTALLED BY MECHANICAL CONTRACTOR, WIRED AND FURNISHED BY ELECTRICAL CONTRACTOR.	
[S]SB	SOUNDER BASE	
[S]BR	BEAM SMOKE DETECTOR RECEIVER.	
[S]BT	BEAM SMOKE DETECTOR TRANSMITTER.	
[D]	HEAT DETECTOR/SENSOR - BASIC SHAPE ORIENTATION NOT TO BE CHANGED.	
[D]R	HEAT DETECTOR/SENSOR, RATE-OF-RISE.	
[D]F	HEAT DETECTOR/SENSOR, FIXED TEMPERATURE (135°) F.	
[D]F	HEAT DETECTOR/SENSOR, FIXED TEMPERATURE (190°) F.	
[D]R/F	HEAT DETECTOR/SENSOR, COMBINATION RATE-OF-RISE AND FIXED TEMPERATURE (135°) F.	
[CO]	CARBON MONOXIDE DETECTOR	
[CD]	CARBON DIOXIDE DETECTOR	
[S][CO]	SMOKE/CARBON MONOXIDE DETECTOR COMBINATION	
[S][D]	SMOKE/HEAT DETECTOR/SENSOR COMBINATION	
[S][D][CO]	SMOKE/HEAT DETECTOR/CARBON MONOXIDE DETECTOR	
[15cd][F]	VISIBLE ONLY (STROBE) - CEILING MOUNT CD=CANDELA RATINGS/SETTING	
[15cd][F]	VISIBLE ONLY (STROBE) - WALL MOUNT CD=CANDELA RATING/SETTING	
[F]H	HORN ONLY	
[F]M	MINI-HORN	
[S]	SPEAKER ONLY, WALL MOUNT	
[15cd][F]	COMBINATION HORN/VISIBLE CD= CANDELA RATING/SETTING	
[15cd][F]	COMBINATION SPEAKER/VISIBLE CD= CANDELA RATING/SETTING	
[RI]	REMOTE ALARM INDICATOR; CEILING MOUNT	
[RI]	REMOTE ALARM INDICATOR; WALL MOUNT	
[R]	ROTATING BEACON	
[F]	FIRE BELL, FURNISHED AND INSTALLED BY FIRE PROTECTION SUBCONTRACTOR, WIRED BY THE ELECTRICAL SUBCONTRACTOR	
[RTS]	REMOTE ALARM INDICATING AND TEST SWITCH; MOUNTED 7'-0" AFF.	
[AOM]	ADDRESSABLE OUTPUT CONTROL MODULE	
[AIM]	ADDRESSABLE INPUT MONITOR MODULE	
[AIO #]	ADDRESSABLE INPUT/OUTPUT MODULE. # DENOTES NUMBER OF INPUTS AND OUTPUTS.	
[OM]	ADDRESSABLE OUTPUT CONTROL MODULE	
[MB]	FIRE ALARM MASTER BOX	
[DH]	MAGNETIC DOOR HOLD OPEN DEVICE	
[WF]	FLOW SWITCH (WATER), FURNISHED AND INSTALLED BY FIRE PROTECTION SUBCONTRACTOR, WIRED BY THE ELECTRICAL SUBCONTRACTOR.	
[VS]	TAMPER SWITCH, FURNISHED AND INSTALLED BY FIRE PROTECTION SUBCONTRACTOR, WIRED BY THE ELECTRICAL SUBCONTRACTOR.	
[PS]	PRESSURE SWITCH, FURNISHED AND INSTALLED BY FIRE PROTECTION SUBCONTRACTOR, WIRED BY THE ELECTRICAL SUBCONTRACTOR.	
[DK]	FIRE ALARM DRILL KEY	



- FIRE ALARM RISER NOTES:**
- THE NEW DEVICES AND CIRCUITS ARE AN EXTENSION OF THE EXISTING FIRE ALARM SYSTEM. ALL EXISTING DEVICES IN NON-RENOVATED AREAS SHALL REMAIN.
 - REFER TO FLOOR PLANS FOR EXACT QUANTITIES AND LOCATIONS OF ALL DEVICES.
 - THE FIRE ALARM SYSTEM SHALL CONFORM WITH THE REQUIREMENTS OF THE RHODE ISLAND FIRE SAFETY CODE AND THE CITY OF PROVIDENCE FIRE DEPARTMENT. SHOP DRAWINGS SHALL BE SUBMITTED TO THE FIRE DEPARTMENT FOR APPROVAL.
 - ALL FIRE ALARM WIRING SHALL BE CLASS A PER EST OR APPROVED EQUAL RECOMMENDATIONS AND SHALL BE INSTALLED IN MINIMUM 3/4" EMT CONDUIT.
 - ALL FIRE ALARM WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF NFPA, STATE, AND LOCAL BUILDING CODES AND THE AMERICANS WITH DISABILITIES ACT (ADA).
 - PROVIDE REMOTE BOOSTER POWER SUPPLY PANELS AS REQUIRED.
 - PROVIDE FAULT ISOLATION MODULES ON THE SIGNAL LINE CIRCUIT TO PROTECT THE SYSTEM FROM LINE TO LINE FAULTS. MODULES SHALL BE PROVIDED AS REQUIRED, WITH A MINIMUM OF (1) MODULE PER EVERY 25 DEVICES.
 - RADIO MASTER BOX TO BE IN ACCORDANCE WITH THE CITY OF NORTH KINGSTOWN FIRE DEPARTMENT REQUIREMENTS.
 - PROVIDE REMOTE TEST SWITCH AND DUCT SMOKE DETECTORS FOR ALL HVAC EQUIPMENT > 2000 CFM. COORDINATE WITH MECHANICAL CONTRACTOR FOR EQUIPMENT AND DUCT DETECTOR LOCATIONS. COORDINATE REMOTE TEST SWITCH LOCATION WITH AHJ. ALL ROOFTOP EQUIPMENT SHALL SHUTDOWN UPON ANY ALARM CONDITION.

1
FA0.00
PARTIAL FIRE ALARM RISER DIAGRAM
NOT TO SCALE

FIRE ALARM
LEGEND, NOTES, &
ABBREVIATIONS

FA0.00

JOSLIN RECREATION
CENTER - CPF
RENOVATION

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City of Providence, Dept. of Public Property
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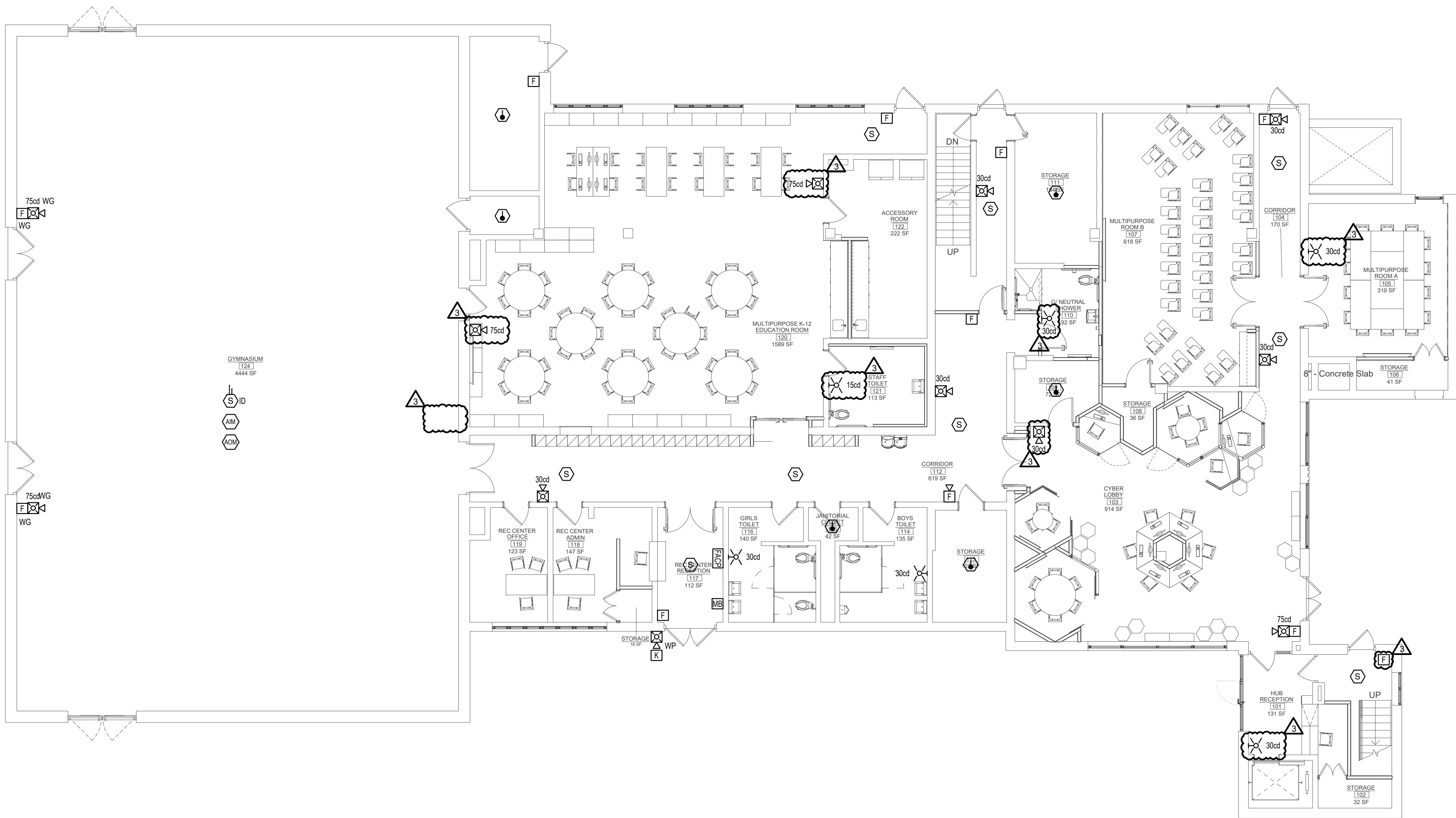
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- GENERAL NOTES
- CONTRACTOR SHALL VISIT SITE, PRIOR TO BID, AND CAREFULLY INVESTIGATE AND EXAMINE THE AREA OF WORK SO AS TO SATISFY HIMSELF AS TO THE NATURE AND LOCATION OF THE WORK. CONTRACTOR TO NOTE THE CHARACTER, QUALITY, QUANTITIES OF MATERIALS REQUIRED AND DIFFICULTIES TO BE ENCOUNTERED, THE KIND AND EXTENT OF EQUIPMENT AND FACILITIES NEEDED, FOR PERFORMANCE OF THE WORK AND OTHER ITEMS WHICH MAY, IN ANY WAY, AFFECT THE WORK OR CONTRACTOR'S PERFORMANCE.
 - DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.



1 FIRST FLOOR PLAN - FIRE ALARM
FA1.00 1/8" = 1'-0"

Date: 05/05/2025		
Drawn by: DD/DC Proj. Mgr.: ARV		
Revisions		
No.	Date	Description
3	06-02-2025	ADDENDUM #3

FIRE ALARM
FIRST FLOOR PLAN

FA1.00

SECTION 055213 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Steel pipe railings.
- B. Related Requirements:
 - 1. Section 099100 "Painting" for field applied finish paint coats beyond this the primer coats specified in this Section.

1.3 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- C. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

1.4 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Manufacturer's product lines of mechanically connected railings.
 - 2. Railing brackets.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Delegated-Design Submittal: For railings, including analysis data signed and sealed by the qualified professional engineer registered in the state of Rhode Island responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

- A. Welding certificates.

1.6 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.7 DELIVERY, STORAGE, AND HANDLING

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

1.8 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer registered in the state of Rhode Island, as defined in Section 014000 "Quality Requirements," to design railings, including attachment to building construction.
- B. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
1. Handrails and Top Rails of Guards:
 - a. Uniform load of 50 lbf/ ft. (0.73 kN/m) applied in any direction.
 - b. Concentrated load of 200 lbf (0.89 kN) applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.
 2. Infill of Guards:
 - a. Concentrated load of 50 lbf (0.22 kN) applied horizontally on an area of 1 sq. ft. (0.093 sq. m).
 - b. Infill load and other loads need not be assumed to act concurrently.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C, material surfaces).

2.2 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.

- B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

- 1. Provide type of bracket with predrilled hole for exposed bolt anchorage and that provides 2-1/4-inch (57-mm) clearance from inside face of handrail to finished wall surface.

2.3 STEEL AND IRON

- A. Pipe: ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.

- 1. Provide galvanized finish for exterior installations and where indicated.

- B. Plates, Shapes, and Bars: ASTM A 36/A 36M.

2.4 FASTENERS

- A. General: Provide the following:

- 1. Hot-Dip Galvanized Railings: Type 304 stainless-steel or hot-dip zinc-coated steel fasteners complying with ASTM A 153/A 153M or ASTM F 2329 for zinc coating.
 - 2. Stainless-Steel Components: Type 304 stainless-steel fasteners.
 - 3. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.

- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.

- C. Fasteners for Interconnecting Railing Components:

- 1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless otherwise indicated.

- D. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors capable of sustaining, without failure, a load equal to 6 times the load imposed when installed in unit masonry and 4 times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.

- 1. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, unless otherwise indicated.
 - 2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 (A1) stainless-steel bolts, ASTM F 593 (ASTM F 738M), and nuts, ASTM F 594 (ASTM F 836M).

2.5 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

- B. Etching Cleaner for Galvanized Metal: Complying with MPI#25.

- C. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- D. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
 - 1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.
- E. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.
- F. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.
- G. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound.
 - 1. Water-Resistant Product: At exterior locations provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use.

2.6 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.
- B. Shop assemble railings to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately **1/32 inch (1 mm)** unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- D. Form work true to line and level with accurate angles and surfaces.
- E. Fabricate connections that are exposed to weather in a manner that excludes water. Provide weep holes where water may accumulate.
- F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- G. Connections: Fabricate railings with welded connections unless otherwise indicated.
- H. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove flux immediately.
 - 4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.

- I. Welded Connections for Aluminum Pipe: Fabricate railings to interconnect members with concealed internal welds that eliminate surface grinding, using manufacturer's standard system of sleeve and socket fittings.
- J. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
 - 1. Fabricate splice joints for field connection using an epoxy structural adhesive if this is manufacturer's standard splicing method.
- K. Form Changes in Direction as Follows:
 - 1. As detailed.
 - 2. By bending or by inserting prefabricated elbow fittings.
 - 3. By flush bends or by inserting prefabricated flush-elbow fittings.
 - 4. By radius bends of radius indicated or by inserting prefabricated elbow fittings of radius indicated.
- L. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- M. Close exposed ends of railing members with prefabricated end fittings.
- N. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is 1/4 inch (6 mm) or less.
- O. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.
 - 1. At brackets and fittings fastened to plaster or gypsum board partitions, provide crush-resistant fillers or other means to transfer loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.
- P. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.
- Q. For railing posts set in concrete, provide stainless-steel sleeves not less than 6 inches (150 mm) long with inside dimensions not less than 1/2 inch (13 mm) greater than outside dimensions of post, with metal plate forming bottom closure.
- R. Woven-Wire Mesh Infill Panels: Fabricate infill panels from woven-wire mesh as indicated on Drawings.
 - 1. Orient wire mesh as indicated on Drawings.
- S. Toe Boards: Where indicated, provide toe boards at railings around openings and at edge of open-sided floors and platforms. Fabricate to dimensions and details indicated.

2.7 STEEL AND IRON FINISHES

- A. Galvanized Railings:
 - 1. Hot-dip galvanize exterior and other steel railings where indicated on Drawings, including hardware, after fabrication.

2. Comply with ASTM A 123/A 123M for hot-dip galvanized railings.
 3. Comply with ASTM A 153/A 153M for hot-dip galvanized hardware.
 4. Fill vent and drain holes that are exposed in the finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.
- B. For galvanized railings, provide hot-dip galvanized fittings, brackets, fasteners, sleeves, and other ferrous components.
- C. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with requirements indicated below:
1. Exterior Railings: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 2. Other Railings: SSPC-SP 3, "Power Tool Cleaning."
- D. Primer Application: Apply shop primer to prepared surfaces of railings unless otherwise indicated. Comply with requirements in SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel," for shop painting. Primer need not be applied to surfaces to be embedded in concrete or masonry.
1. Shop prime uncoated railings with universal shop primer indicated.
 2. Do not apply primer to galvanized surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine plaster and gypsum board assemblies, where reinforced to receive anchors, to verify that locations of concealed reinforcements are clearly marked for Installer. Locate reinforcements and mark locations if not already done.

3.2 INSTALLATION, GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
1. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).
 3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (6 mm in 3.5 m).
- C. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
1. Coat, with a heavy coat of bituminous paint, concealed surfaces of aluminum that are in contact with grout, concrete, masonry, wood, or dissimilar metals.
- D. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- E. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.3 RAILING CONNECTIONS

- A. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.
- B. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve extending 2 inches (50 mm) beyond joint on either side, fasten internal sleeve securely to one side, and locate joint within 6 inches (150 mm) of post.

3.4 ANCHORING POSTS

- A. Core drilling existing steel post sleeves and concrete and infilling with "super por-rock" into concrete for installing posts. After posts have been inserted, fill annular space between post and concrete with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.
- B. Use metal sleeves preset and anchored into concrete for installing posts. After posts are inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.
- C. Leave anchorage joint exposed with 1/8-inch (3-mm) buildup, sloped away from post.

3.5 ATTACHING RAILINGS

- A. Anchor railing ends at walls with round flanges anchored to wall construction and welded to railing ends.
- B. Anchor railing ends to metal surfaces with flanges bolted to metal surfaces and welded to railing ends.
- C. Attach railings to wall with wall brackets, except where end flanges are used. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
- D. Secure wall brackets and railing end flanges to building construction as follows:
 - 1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.
 - 2. For hollow masonry anchorage, use toggle bolts.
 - 3. For steel-framed partitions, use hanger or lag bolts set into wood backing between studs. Coordinate with stud installation to locate backing members.

3.6 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop painting to comply with SSPC-PA 1 requirements for touching up shop-painted surfaces.
 - 1. Apply by brush or spray to provide a minimum 2.0-mil (0.05-mm) dry film thickness.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas, and repair galvanizing to comply with ASTM A 780/A 780M.

3.7 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

END OF SECTION 055213

SECTION 07 54 23 - THERMOPLASTIC POLYOLEFIN (TPO) ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Self-Adhered TPO membrane roofing system.
 - 2. Vapor barrier membrane.
 - 3. Roof insulation.
 - 4. Protection / cover boards

- B. Related Sections:

- 1. Section 061053 "Miscellaneous Rough Carpentry" for wood nailers, curbs, and blocking.
 - 2. Section 076200 "Sheet Metal Flashing and Trim" for metal roof penetration flashings, flashings, and counter-flashings.
 - 3. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.3 DEFINITIONS

- A. TPO: Thermoplastic polyolefin.
- B. Roofing Terminology: See ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" for definitions of terms related to roofing work in this Section.

1.4 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience.
- C. Roofing System Design: Provide membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE/SEI 7. The risk factor for this project is 3 / 4, The wind zone for this project 139 mph.

- D. Energy Performance: Provide roofing system with initial Solar Reflectance Index not less than 78 when calculated according to ASTM E 1980, based on testing identical products by a qualified testing agency.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Base flashings and membrane terminations.
 - 2. Tapered insulation, including slopes.
 - 3. Roof plan showing orientation of steel framing, tectum deck and/ or steel deck along with orientation of membrane roofing and fastening spacing's and patterns for mechanically fastened assemblies.
 - 4. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
- C. Samples for Verification: For the following products:
 - 1. Sheet roofing, of color specified, including T-shaped side and end lap seam.
 - 2. Roof insulation.
 - 3. Walkway pads or rolls.
- D. Qualification Data: For qualified Installer and manufacturer.
- E. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - 1. Submit evidence of compliance with performance requirements.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of membrane roofing system.
- G. Field quality-control reports.
- H. Maintenance Data: For roofing system to include in maintenance manuals.
- I. Warranties: Sample of special warranties.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is FM Approvals approved for membrane roofing system identical to that used for this Project.
- B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by membrane roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.
- C. Source Limitations: Obtain components including roof insulation, fasteners, adhesives for membrane roofing system from same manufacturer as membrane roofing or approved by membrane roofing manufacturer].

- D. Exterior Fire-Test Exposure: ASTM E 108, Class A for application and roof slopes indicated, as determined by testing identical membrane roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.
- E. Fire-Resistance Ratings: Where indicated, provide fire-resistance-rated roof assemblies identical to those of assemblies tested for fire resistance per ASTM E 119 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.8 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.9 WARRANTY

- A. Special Warranty: Manufacturer's standard or customized form, without monetary limitation, in which manufacturer agrees to repair or replace components of membrane roofing system that fail in materials or workmanship within specified warranty period.
 - 1. Special warranty includes edge metal, membrane roofing, base flashings, roof insulation, fasteners, cover boards, vapor retarders, and other components of membrane roofing system.
 - 2. Warranty Period: 20 years from date of Substantial Completion.
 - 3. Wind speed warranty shall be for 90 mph by the roofing manufacturer as measured 12 meters above grade

PART 2 - PRODUCTS

2.1 TPO MEMBRANE ROOFING

- A. Fabric-Reinforced Self-Adhered Thermoplastic Polyolefin Sheet: ASTM D 6878, internally fabric or scrim reinforced, uniform, flexible TPO sheet.
- a. Firestone Building Products Company – UltraPly TPO SA.
 - b. Carlisle SynTec Incorporated.
 - c. Approved Equal.
2. Thickness: 60 mils, nominal.
3. Exposed Face Color: White.

2.2 AUXILIARY MEMBRANE ROOFING MATERIALS

- A. General: Auxiliary membrane roofing materials recommended by roofing system manufacturer for intended use, and compatible with membrane roofing.
- 1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
 - 2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - a. Plastic Foam Adhesives: 50 g/L.
 - b. Insulation and Panel Adhesives: 50 g/L.
 - c. Multipurpose Construction Adhesives: 70 g/L.
 - d. Fiberglass Adhesives: 80 g/L.
 - e. Contact Adhesive: 80 g/L.
 - f. Other Adhesives: 250 g/L.
 - g. Single-Ply Roof Membrane Sealants: 450 g/L.
 - h. Nonmembrane Roof Sealants: 300 g/L.
 - i. Sealant Primers for Nonporous Substrates: 250 g/L.
 - j. Sealant Primers for Porous Substrates: 775 g/L.
- B. Sheet Flashing: Manufacturer's standard unreinforced thermoplastic polyolefin sheet flashing, 55 mils (1.4 mm) thick, minimum, of same color as sheet membrane.
- C. Bonding Adhesive: Manufacturer's low VOC adhesive where necessary.
- D. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.
- E. Metal Battens: Manufacturer's standard, aluminum-zinc-alloy-coated or zinc-coated steel sheet, approximately 1 inch wide by 0.05 inch thick (25 mm wide by 1.3 mm thick), pre-punched.
- F. Fasteners: Factory-coated steel heavy duty fasteners and metal plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening reinforced perimeter fastening (RPF) strip to substrate, and acceptable to membrane roofing system manufacturer.

- G. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.3 PROTECTION OR COVER BOARD

- A. Protection or Cover Board: ASTM C 1289, Type II, Class 4, Grade 2, high density, closed-cell, polyisocyanurate foam and coated glass facers, 1/2 inch thick (12.7 mm) with a compressive strength of 80 PSI, and a LTTR R-Value of 2.5.
1. Products: Subject to compliance with requirements, provide the following include, but are not limited to, the following:
 - a. Firestone Building Products; ISOGARD HD Cover Board or an approved or equal.
- B. Foam Adhesive: Two-component low-rise polyurethane adhesive solvent free and VOC free insulation adhesive (I.S.O. Twin Pack Adhesive as manufactured by Firestone Building Products or equal) for installing insulation to concrete decks and cover boards to polyisocyanurate at designated areas.

2.4 VAPOR BARRIER MEMBRANE

- A. Steel Deck- Self-Adhered Vapor Barrier: ASTM E 2178 and ASTM D 1970, 30 mils SBS modified bitumen adhesive, factory laminated to a tri-laminated woven, high density polyethylene top surface, class I vapor retarder (perm rating = .02) "V-Force" vapor barrier membrane as manufactured by Firestone Building Products or equal.
1. Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.
 2. All joints and terminations must be sealed with manufacturers tape.
- B. Tectum Deck – MB Base Sheet fasten to Tectum decking

2.5 ROOF INSULATION resistance per ASTM D3273.

1. Density shall be 20 psi.
 2. Provide 4.0" minimum tapered thickness at low points on designated roof areas that have existing insulation totally removed down to existing roof deck substrate as is indicated on the drawings.
- B. Tapered Insulation: Provide factory-tapered insulation boards fabricated to slope of 1/4 inch per 12 inches (1:48) with a 1" minimum thickness at low points at locations indicated on drawings or unless otherwise indicated on the drawings.
- C. Provide preformed polyisocyanurate saddles, crickets, tapered edge strips, and other insulation shapes were indicated for sloping to drain. Fabricate to 1/2 inch per 12 inches (1:24) slopes unless otherwise indicated on the drawings.

2.6 INSULATION ACCESSORIES

- A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with membrane roofing.
- B. Foam Adhesive: Two-component low-rise polyurethane adhesive solvent free and VOC free insulation adhesive (I.S.O. Twin Pack Adhesive as manufactured by Firestone Building Products or equal) for installing insulation to concrete decks and cover boards to polyisocyanurate at designated areas.

2.7 WALKWAYS

- A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads], approximately 3/16 inch (5 mm) thick, and acceptable to membrane roofing system manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
 - 1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
 - 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 - 3. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Division 05 Section "Steel Decking."
 - 4. Contractor is to confirm fastener type into tectum decking, as occurs, with Pull Tests prior to installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. At designated areas remove existing roof system down to existing roof deck substrates as indicated on the roof system types on the drawings.
- B. Clean substrate of gravel, dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- C. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- D. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 VAPOR BARRIER MEMBRANE INSTALLATION

- A. Steel Deck - Self-Adhering-Sheet Vapor Barrier Membrane: Prime substrate. Install self-adhering-sheet vapor retarder over area to receive vapor retarder, side and end lapping each sheet a minimum of 3-1/2 inches (90 mm) and 6 inches (150 mm), respectively. Seal laps by rolling.
- B. Tectum Deck - MB Base sheet Fastened to Tectum deck
- C. Completely seal vapor retarder at terminations, obstructions, and penetrations to prevent air movement into membrane roofing system.

3.4 INSULATION INSTALLATION

- A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with membrane roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Install tapered insulation under area of roofing to conform to slopes indicated.
- D. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 3.0 inches or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.
- E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
 - 1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
- G. Adhered Insulation: Install each layer of insulation and adhere to substrate as follows:
 - 1. Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
- H. Install protection boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction.
 - 1. Adhere protection boards according to requirements of ASCE-7 requirements and 20 year/90 MPH warranty.
 - 2. Attachment over steel decks shall require no less than 16 fasteners in the field, 24 fasteners at perimeter: and 32 fasteners per 4 foot by eight foot boards at all corner locations.
 - 3. All perimeter edge securement of membrane with RPS strip shall be 9" o.c. with heavy duty fasteners.

3.5 SELF-ADHERED MEMBRANE ROOFING INSTALLATION

- A. Self-adhere membrane roofing over area to receive roofing and install according to membrane roofing system manufacturer's written instructions.
- B. Start installation of roofing in presence of roofing system manufacturer's technical personnel.
- C. Accurately align membrane roofing and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. In addition to self-adhering, mechanically fasten membrane roofing securely where required by manufacturer, at terminations, penetrations, corners and perimeter of roofing.
- E. Apply membrane roofing with side laps shingled with slope of roof deck where possible.
- F. Seams: Clean seam areas, overlap membrane roofing, and hot-air weld side and end laps of membrane roofing and sheet flashings according to manufacturer's written instructions to ensure a watertight seam installation.
 - 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet membrane.
 - 2. Verify field strength of seams a minimum of twice daily and repair seam sample areas.
 - 3. Repair tears, voids, and lapped seams in roofing that does not comply with requirements.
- G. Spread sealant bed over deck drain flange at roof drains and securely seal membrane roofing in place with clamping ring.

3.6 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.7 WALKWAY INSTALLATION

- A. Flexible Walkways: Install walkway products in locations indicated. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.8 FIELD QUALITY CONTROL

- A. Testing Agency: Owner may engage a qualified testing agency to perform tests and inspections.
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
- C. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.
- D. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements. Contractor shall provide job in progress (JIP) reports by the roofing manufacturer to the Architect.

3.9 PROTECTING AND CLEANING

- A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements; repair substrates; and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.10 ROOFING INSTALLER'S WARRANTY

- A. WHEREAS <Insert name of installer> of <insert address of installer>, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:
 - 1. Owner: <Insert name of Owner>.
 - 2. Address: <Insert address>.
 - 3. Building Name/Type: <Insert information>.
 - 4. Address: <Insert address>.
 - 5. Area of Work: <Insert information>.
 - 6. Acceptance Date: <Insert date>.
 - 7. Warranty Period: <Insert time>.
 - 8. Expiration Date: <Insert date>.
- B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,
- C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.

D. This Warranty is made subject to the following terms and conditions:

1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
 - a. Lightning;
 - b. Peak gust wind speed exceeding 90 mph (m/sec);
 - c. Fire;
 - d. Failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
 - e. Faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
 - f. Vapor condensation on bottom of roofing; and
 - g. Activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this <Insert day> day of <Insert month>, <Insert year>.

1. Authorized Signature: <Insert signature>.
2. Name: <Insert name>.
3. Title: <Insert title>.

END OF 07 54 23

SECTION 08 17 43 – FRP / ALUMINUM HYBRID DOORS AND FRAMES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. FRP/ Aluminum Hybrid Door installed in a Thermally Broken Aluminum Framing System as indicated on the drawings and as specified in this specification section or FRP/Aluminum Hybrid Door installed in an existing hollow metal door frame as indicated on the drawings.
- B. Related Sections include the following:
 - 1. Section 061053 "Miscellaneous Rough Carpentry" for wood perimeter shims, blocking and trim, perimeter.
 - 2. Section 079200 "Joint Sealants" for installation of joint sealants installed with aluminum-framed systems and for sealants to the extent not specified in this Section.
 - 3. Section 087100 "Door Hardware" for door and frame hardware requirements.
 - 4. Section 088000 "Glazing" for door glazing requirements.

1.3 REFERENCES

- A. [AAMA 1304](#) – Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems.
- B. [AAMA 1503-98](#) – Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections.
- C. [ANSI A250.4](#) – Test Procedure and Acceptance Criteria for Physical Endurance of Steel Doors and Hardware Reinforcing.
- D. [ASTM-B117](#) – Standard Practices for Operating Salt Spray (Fog) Apparatus.
- E. [ASTM-B209](#) – Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- F. [ASTM-B221](#) – Standard Specification for Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- G. [ASTM-C518](#) – Standard test Method for Steady-State Thermal Transmission Properties by Means of Heat Flow Meter Apparatus.

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- H. [ASTM-D256](#) – Standard Test Methods for Determining the Pendulum Impact Resistance of Plastics.
 - I. [ASTM-D570](#) – Standard Test Method for Water Absorption of Plastics.
 - J. [ASTM-D638](#) – Standard Test Method for Tensile Properties of Plastics.
 - K. [ASTM-D790](#) – Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
 - L. [ASTM-D1621](#) – Standard Test Method for Compressive Properties of Rigid Cellular Plastics.
 - M. [ASTM-D1622](#) – Standard Test Method for Apparent Density of Rigid Cellular Plastics.
 - N. [ASTM-D1623](#) – Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics.
 - O. [ASTM-D2126](#) – Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging.
 - P. [ASTM-D2583](#) – Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor.
 - Q. [ASTM-D3029](#) – Test Methods for Impact Resistance of Flat Rigid Plastic Specimens by Means of a Tup (Falling Weight) (Withdrawn 1995) (Replaced by ASTM-D5420).
 - R. [ASTM-D5116](#) – Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/ Products.
 - S. [ASTM-D5420](#) – Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by Means of a Striker Impacted by a Falling Weight (Gardner Impact).
 - T. [ASTM-D6670](#) – Standard Practice for Full-Scale Chamber Determination of Volatile Organic Emissions from Indoor Materials/ Products.
 - U. [ASTM-E84](#) – Standard Test Method for Surface Burning Characteristics of Building Materials.
 - V. [ASTM-E90](#) – Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions.
 - W. [ASTM-E283](#) – Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
 - X. [ASTM-E330](#) – Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
 - Y. [ASTM-E1886](#) – Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
 - Z. [ASTM-E1996](#) – Standard Specification for Performance of Exterior Windows, Glazed Curtain Walls, Doors and Storm Shutters Impacted by Wind Borne Debris in Hurricanes.
 - AA. [ASTM-F476](#) – Standard Test Methods for Security of Swinging Door Assemblies.
 - BB. [ASTM-F1642-04](#) – Standard Test Method for Glazing Systems Subject to Air Blast Loading.
 - CC. [NWWDA T.M. 7-90](#) – Cycle Slam Test Method.
 - DD. [NFRC 100](#) – Procedure for Determining Fenestration Products U-Factors.
 - EE. [NFRC 400](#) – Procedure for Determining Fenestration Products Air Leakage.

- FF. [TAS 201](#) – Impact Test Procedures.
- GG. [TAS 202](#) – Criteria for Testing Impact & Nonimpact Resistant Building Envelope Components Using Uniform Static Air Pressure.
- HH. [TAS 203](#) – Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.

1.4 SUBMITTALS

- A. Must comply with Section 013300 “Submittal Procedures”.
- B. Action Submittals/ Informational Submittals.
 - 1. Product Data.
 - a. Submit manufacturer’s product data sheets, catalog pages illustrating the products, description of materials, components, fabrication, finishes, installation instructions, and applicable test reports.
 - 2. Shop Drawings.
 - a. Submit manufacturer’s shop drawings, including elevations, sections, and details indicating dimensions, tolerances, materials, fabrication, doors, panels, framing, hardware schedule, and finish.
 - 3. Samples.
 - a. Submit manufacturer’s door sample composed of door face sheet, core, framing and finish.
 - b. Submit manufacturer’s sample of standard colors for door face and frame.
 - 4. Testing and Evaluation Reports.
 - a. Submit testing reports and evaluations provided by manufacturer conducted by and accredited independent testing agency certifying doors and frames comply with specified performance requirements listed in Section 2.04.
 - 5. Manufacturer Reports.
 - a. Manufacturer’s Project References.
 - 1. Submit list of successfully completed projects including project name, location, name of architect, type, and quantity of doors manufactured.
- C. Closeout Submittals.
 - 1. Operation and Maintenance Manual.
 - a. Submit manufacturer’s maintenance and cleaning instructions for doors and frames, including maintenance and operating instructions for hardware.
 - 2. Warranty Documentation.
 - a. Submit manufacturer’s standard warranty.

1.5 QUALITY ASSURANCE

- A. Manufacturer’s Qualifications.

1. Continuously engaged in manufacturing of doors of similar type to that specified, with a minimum of 25 years concurrent successful experience.
2. Door and frame components must be fabricated by same manufacturer.
3. Evidence of a documented complaint resolution quality management system.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery.
 1. Deliver materials to site in manufacturer's original, unopened, containers and packaging.
 2. Labels clearly identifying opening, door mark, and manufacturer.
- B. Storage.
 1. Store materials in a clean, dry area, indoors in accordance with manufacturer's instructions.
- C. Handling.
 1. Protect materials and finish from damage during handling and installation.

1.7 WARRANTY

- A. Warrant doors, frames, and factory installed hardware against failure in materials and workmanship, including excessive deflection, faulty operation, defects in hardware installation, and deterioration of finish or construction in excess of normal weathering.
- B. Standard Period.
 1. Ten years starting on date of shipment.
- C. Limited lifetime
 1. Covers failure of corner joinery, core deterioration, and delamination or bubbling of door skin and corrosion of all-fiberglass products while the door is in its specified application in its original installation.
- D. Finish
 1. Kynar painted aluminum: 10 years.
 2. Painted SL-17 face sheets: 5 years.
 3. Anodized, aluminum: 10 years.

PART 2 - PRODUCTS

2.1 FRP/ALUMINUM HYBRID DOORS

- A. Manufacturer.
 1. Special-Lite, Inc.
 - a. PO Box 6, Decatur, Michigan 49045.
 - b. Toll Free (800) 821-6531, Phone (269) 423-7068, Fax (800) 423-7610.
 - c. Web Site www.special-lite.com.
 - d. E-Mail info@special-lite.com.

2.2 DESCRIPTION

- A. Model.
 - 1. [SL-17 Pebble Grain FRP/ Aluminum Hybrid Door.](#)
- B. Door Opening Size.
 - 1. Varies, refer to drawings for sizes required.
- C. Construction.
 - 1. Door Thickness: 1-3/4".
 - 2. Stiles & Rails:
 - a. Aluminum extrusions made from 6063 aluminum alloys with a minimum temper of T5.
 - b. Minimum 2-5/16" deep one-piece extrusion with have integral reglets to accept face sheet on both interior and exterior side of door which secure face sheet into place and permit flush appearance.
 - c. Screw or snap in place applied caps are not acceptable.
 - d. Top rails must have integral legs for interlocking continuous extruded aluminum flush cap.
 - e. Bottom rails must have integral legs for interlocking continuous weather bar with single nylon brush weather stripping or manually adjustable SL-301 door bottom with two nylon brush weather stripping.
 - f. Meeting stiles to include integral pocket to accept pile brush weather seal.
 - 3. Corners:
 - a. Mitered.
 - b. Secured with 3/8" diameter full-width steel tie rod through extruded splines top and bottom which are integral to standard tubular shaped rails.
 - c. 1-1/4" x 1-1/4" x 3/16" 6061 aluminum angle reinforcement at corner to give strong, flat surface for locking hex nut to bear on.
 - d. Weld, glue, or other methods of corner joinery are not acceptable.
 - 4. Core:
 - a. Poured-in-place polyurethane foam.
 - b. Laid in foam cores are not acceptable.
 - c. Foam Plastic Insulated Doors: IBC 2603.4.
 - 1. Foam plastic shall be separated from the interior of a building by an approved thermal barrier.
 - 2. Approved thermal barrier must meet the acceptance criteria of the Temperature Transmission Fire Test and Integrity Fire Test as stated in NFPA 275.
 - 3. IBC 2603.4.1.7 foam plastic insulation, having a flame spread index less than 75 and a smoke developed index of not more than 450 shall be permitted as a door core when the face is metal minimum 0.032" aluminum or 0.016" steel.

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4. Standard door assembly can be tested to show it meets these requirements without the use of thermal barrier. If no independent testing conducted all doors with foam plastic core must have a thermal barrier.
 5. Face Sheet:
 - a. Exterior:
 1. 0.120" thick, pebble texture, through color with SpecLite 3® integral surfaseal film FRP sheet.
 2. Optional painted finish consult manufacturer.
 3. Class C standard.
 - b. Interior:
 1. 0.120" thick, pebble texture, through color with SpecLite 3® integral surfaseal film FRP sheet.
 2. Optional painted finish consult manufacturer.
 3. Class C standard optional Class A available consult manufacturer.
 - c. Attachment of face sheet:
 1. Extruded stiles and rails to have integral reglets to accept face sheet on both interior and exterior side of door which secure face sheet into place and permit flush appearance.
 2. Use of glue to bond face sheet to core or extrusions is not acceptable.
 6. Cutouts:
 - a. Manufacture doors with cutouts for required vision lites, louvers, and panels.
 7. Hardware:
 - a. Pre-machine doors in accordance with templates from specified hardware manufacturers.
 - b. Surface mounted closures will be reinforced for but not prepped or installed at factory.
 - c. Factory install door hardware, Recessed Door Pull SL-82
 8. Reinforcements:
 - a. Aluminum extrusions made from 6061 or 6063 aluminum alloys.
 - b. Sheet and plate to conform to ASTM-B209.
 - c. Alloy and temper to be selected by manufacturer for strength, corrosion resistance, and application of required finish, and control of color.
 - d. Bars and tubes to meet ASTM-B221.
 - D. Sustainability Characteristics:
 1. LEED Declaration:
 - a. Entrance Products contribute to point calculations for the following credits:
 1. MR Credit 4.1 Recycled Content 10% (post-consumer = ½ pre-consumer) 1 point.
 2. MR Credit 4.2 Recycled Content 20% (post-consumer = ½ pre-consumer) 1 point.
 - b. All aluminum extrusions are produced using prime-equivalent billet produced from 100% reprocessed 6063-T6 alloy recovered from industrial

processes. The USGBC classifies these extrusions as pre-consumer recycled material.

- c. Manufacturing facility located within 500 miles of major components and materials, including aluminum extrusions.
- d. The point of recovery and smelting of pre-consumer recycled material within 500 miles of the manufacturing facility.

2.3 FRAMING

A. Framing:

1. [Thermally Broken Aluminum Framing.](#)
 - a. Model:
 1. SL-450TB.
 - b. Materials.
 1. [See 2.5.A.](#)
 - c. Perimeter Frame Members:
 1. Storefront frame with thermally broken pocket filler.
 2. Factory fabricated.
 3. Open-back framing is not acceptable.
 - d. Thermal Strut:
 1. Fiber reinforced plastic, no other materials will be accepted.
 - e. Applied Door Stops:
 1. 5/8" x 1-1/4" or 5/8" x 1-3/4", 0.125" wall thickness, with screws and weather-stripping.
 2. Provide solid 1/2" aluminum bar behind door stop for closer shoe attachment.
 3. Pressure gasketing for weathering seal.
 4. Counterpunch fastener holes in door stop to preserve full-metal thickness under fastener head.
 5. Minimum 1/2" aluminum bar reinforcement under doorstop for required hardware attachments, aluminum to meet ASTM-B221.
 - f. Caulking:
 1. Caulk joints before assembling frame members.
 - g. Frame Member to Member Connections:
 1. Secure joints with fasteners.
 2. Provide hairline butt joint appearance.
 3. Shear block construction only, no screw spline allowed.
 - h. Hardware:
 1. Pre-machine and reinforce frame members for hardware in accordance with manufacturer's standards and door hardware schedule.
 2. Surface mounted closures will be reinforced for but not prepped or installed at factory.
 3. Factory install door hardware.
 - i. Anchors:

1. Anchors appropriate for wall conditions to anchor framing to wall materials.
2. Door Jamb and Header Mounting Holes: Maximum of 24-inch centers.
3. Secure head and sill members of transom, side lites, and similar conditions.

2.4 PERFORMANCE

A. Face Sheet:

1. Standard Interior and Exterior Class C 0.120" thick, pebble texture, through color with SpecLite 3[®] integral surfaseal film FRP sheet.
 - a. Flexural Strength: ASTM-D790: 21×10^3 psi.
 - b. Flexural Modulus: ASTM-D790: 0.7×10^6 psi.
 - c. Tensile Strength: ASTM-D638: 13×10^3 psi.
 - d. Tensile Modulus: ASTM-D638: 1.2×10^6 psi.
 - e. Barcol Hardness: ASTM-D2583: 55.
 - f. Izod Impact: ASTM-D256: 14.0 ft-lb/in.
 - g. Gardner Impact Strength: ASTM-D5420: 120 in-lb.
 - h. Water Absorption: ASTM-D570: 0.20%/24hrs at 77°F.
 - i. Surface Burning: ASTM-E84: Flame Spread ≤ 200 , Smoke Developed ≤ 450 .
 - j. Taber Abrasion Resistance: Taber Test: 0.007% Max Wt. Loss, cs-17 wheels, 1000g. Wt., 25 cycles.
 - k. Chemical Resistance:
 1. Excellent Rating:
 - a. Acetic Acid, Concentrated.
 - b. Acetic Acid, 5%.
 - c. Bleach Solution.
 - d. Detergent Solution.
 - e. Distilled Water.
 - f. Ethyl Acetate.
 - g. Formaldehyde.
 - h. Heptane.
 - i. Hydrochloric Acid, 10%.
 - j. Hydrogen Peroxide, 3%.
 - k. Isooctane.
 - l. Lactic Acid, 10%.
 - l. USDA/FSIS Requirements:
 1. FRP face sheet with SpecLite 3[®] integral surfaseal is a finished outer surface material that is rigid; durable; non-toxic; non-corrosive; moisture resistant; a light, solid color such as white; easily inspected; smooth or an easily cleaned texture.
 2. FRP face sheet with SpecLite 3[®] integral surfaseal does not contain any known carcinogen, mutagen, or teratogen classified as hazardous

substances; heavy metals or toxic substances; antimicrobials;
pesticides or substances with pesticidal characteristics.

- B. Door Core:
 - 1. Density, ASTM-D1622: ≤ 5.0 pcf.
 - 2. Compressive Properties, ASTM-D1621: Compressive Strength ≥ 60 psi, Compressive Modulus ≥ 1948 psi.
 - 3. Tensile and Tensile Adhesion Properties, ASTM-D1623: Tensile Adhesion, 3" x 3" FRP Facers ≥ 53 psi, Tensile Adhesion, 1" x 1" Foam ≥ 104 psi.
 - 4. Thermal and Humid Aging, ASTM-D2126: Volume Change at 158 °F, 100% humidity, 14 days $\leq 13\%$.
 - 5. Thermal Conductivity, ASTM-C518, Thermal Resistance ≥ 0.10 m²K/W.
- C. Door Panel:
 - 1. Thermal Transmittance, AAMA 1503-98: U-Factor = 0.29 Btu/hr·ft²·°F, CRFp = 55.
 - 2. Indoor Air Quality, ASTM-D5116, ASTM-D6607: GreenGuard, GreenGuard Gold.
- D. Door and Thermally Broken Aluminum Frame Assembly:
 - 1. Thermal Transmittance, NFRC 100.
 - a. Opaque Swinging Door (< than 50% glass)
 - 1. U-Factor = 0.31 Btu/hr·ft²·°F.
 - b. Commercially Glazed Swinging Entrance Door (> than 50% glass)
 - 1. U-Factor = 0.64 Btu/hr·ft²·°F.
 - 2. Air Leakage, NFRC 400, ASTM-E283.
 - a. Opaque Swinging Door (< than 50% glass)
 - 1. 0.01 cfm/sqft @ 1.57 psf.
 - 2. 0.01 cfm/sqft @ 6.24 psf.
 - b. Commercially Glazed Swinging Entrance Door (> than 50% glass)
 - 1. 0.38 cfm/sqft @ 1.57 psf.
 - 2. 0.73 cfm/sqft @ 6.24 psf.
 - 3. Sound Transmission, ASTM-E90: STC = 30, OITC = 29.

2.5 MATERIALS

- A. Aluminum Members:
 - 1. Aluminum extrusions made 6061 or 6063 aluminum alloys.
 - 2. Sheet and plate to conform to ASTM-B209.
 - 3. Alloy and temper to be selected by manufacturer for strength, corrosion resistance, and application of required finish, and control of color.
- B. Fiberglass:
 - 1. See 2.2.C.5.
- C. Fasteners:
 - 1. All exposed fasteners will have a finish to match material being fastened.
 - 2. 410 stainless steel or other non-corrosive metal.
 - 3. Must be compatible with items being fastened.

2.6 FABRICATION

- A. Factory Assembly:
 - 1. Door and frame components from the same manufacturer.
 - 2. Required size for door and frame units, shall be as indicated on the drawings.
 - 3. Complete cutting, fitting, forming, drilling, and grinding of metal before assembly.
 - 4. All cut edges to be free of burs.
 - 5. Welding of doors or frames is not acceptable.
 - 6. Maintain continuity of line and accurate relation of planes and angles.
 - 7. Secure attachments and support at mechanical joints with hairline fit at contact surfaces.
- B. Shop Fabrication:
 - 1. All shop fabrication to be completed in accordance with manufactures process work instructions.
 - 2. Quality control to be performed before leaving each department.

2.7 FINISHES

- A. Door:
 - 1. Aluminum:
 - a. Mill:
 - 1. AA-M10C22A21-Flash.
 - b. Anodizing:
 - 1. Class 1 Anodizing, minimum 0.7 mils thick.
 - a. As selected from manufactures full range of colors.
 - 1. Clear 215 R1, AA-M10C12C22A41.
 - 2. FRP Face Sheets:
 - a. Through color: As selected from manufacturers full color range.
- B. Frame:
 - 1. Aluminum:
 - a. Mill.
 - 1. AA-M10C22A21-Flash.
 - b. Anodizing:
 - 1. Class 1 Anodizing, minimum 0.7 mils thick.
 - c. Color: As selected from manufacturers full color range.

2.8 ACCESSORIES

- A. Hardware:
 - 1. Refer to Specification Section 087100 for hardware sets specified for each door location.
- B. Architectural Panels.
 - a. FRP Panels.
 - 1. SL-37.
 - 2. Size, as indicated on drawings.
 - 3. Thickness.

- a. 1-3/4".
- 4. Face Sheet.
 - a. Material.
 - 1. Standard exterior and interior face, Class C 0.120" thick, pebble texture, through color with SpecLite 3® integral surfaseal film FRP sheet.
 - b. Color – manufacturer's full line
- 5. Performance.
 - a. Face Sheet.
 - 1. See 2.02.C.5.
 - b. 1-3/4" Thick Panel.
 - 1. Wood or aluminum frame perimeter.
 - 2. Poured-in-place Polyurethane Foam Core.
 - 3. Thermal Performance, AAMA 1503-98.
 - a. U-Factor = 0.10 Btu/hr·ft²·°F.
 - b. CRFp = 87.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive doors.
- B. Notify architect of conditions that would adversely affect installation or subsequent use.
- C. Do not proceed with installation until unsatisfactory conditions are corrected.

3.2 PREPARATION

- A. Ensure openings to receive frames are plumb, level, square, and in tolerance.

3.3 ERECTION

- A. Install doors in accordance with manufacturer's instructions.
- B. Install doors plumb, level, square, true to line, and without warp or rack.
- C. Anchor frames securely in place.
- D. Separate aluminum from other metal surfaces with bituminous coatings or other means approved by architect.
- E. Set thresholds in bed of mastic and back seal.
- F. Install exterior doors to be weathertight in closed position.

- G. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by architect.
- H. Remove and replace damaged components that cannot be successfully repaired as determined by architect.

3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Services.
 - 1. Manufacturer's representative shall provide technical assistance and guidance for installation of doors.

3.5 ADJUSTING

- A. Adjust doors, hinges, and locksets for smooth operation without binding.

3.6 CLEANING

- A. Clean doors promptly after installation in accordance with manufacturer's instructions.
- B. Do not use harsh cleaning materials or methods that would damage finish.

3.7 PROTECTION

- A. Protect installed doors to ensure that, except for normal weathering, doors will be without damage or deterioration at time of substantial completion.

END OF SECTION 08 17 43

SECTION 093000 – CERAMIC TILE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Ceramic/ Porcelain tile.
 - 2. Stone thresholds.
 - 3. Waterproof and crack isolation membrane.
 - 4. Metal edge strips.

- B. Related Sections:

- 1. Section 017419 "Construction Waste Management Plan" for provision of waste management.
 - 2. Section 092900 "Gypsum Board" for moisture and mold resistant gypsum board.

1.3 DEFINITIONS

- A. General: Definitions in the ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.
- B. ANSI A108 Series: ANSI A108.01, ANSI A108.02, ANSI A108.1A, ANSI A108.1B, ANSI A108.1C, ANSI A108.4, ANSI A108.5, ANSI A108.6, ANSI A108.8, ANSI A108.9, ANSI A108.10, ANSI A108.11, ANSI A108.12, ANSI A108.13, ANSI A108.14, ANSI A108.15, ANSI A108.16, and ANSI A108.17, which are contained in "American National Standard Specifications for Installation of Ceramic Tile."
- C. Module Size: Actual tile size plus joint width indicated.
- D. Face Size: Actual tile size, excluding spacer lugs.

1.4 PERFORMANCE REQUIREMENTS

- A. Static Coefficient of Friction: For tile installed on walkway surfaces, provide products with the following values as determined by testing identical products per ASTM C 1028:
 - 1. Level Surfaces: Minimum 0.60 wet.

1.5 ACTION SUBMITTALS

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

- B. Samples for Initial Selection: For each type of tile and grout indicated. Include Samples of accessories involving color selection.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Tile and Trim Units: Furnish quantity of full-size units equal to 5 percent of amount installed for each type, composition, color, pattern, and size indicated.
 - 2. Grout: Furnish quantity of grout equal to 5 percent of amount installed for each type, composition, and color indicated.

1.7 QUALITY ASSURANCE

- A. Source Limitations for Tile: Obtain tile from one source or producer.
 - 1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.
- B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from one manufacturer and each aggregate from one source or producer.
- C. Source Limitations for Other Products: Obtain each of the following products specified in this Section from a single manufacturer for each product:
 - 1. Stone thresholds.
 - 2. Waterproof and crack isolation membrane.
 - 3. Metal edge strips.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.
- B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.
- D. Store liquid materials in unopened containers and protected from freezing.
- E. Handle tile that has temporary protective coating on exposed surfaces to prevent coated surfaces from contacting backs or edges of other units. If coating does contact bonding surfaces of tile, remove coating from bonding surfaces before setting tile.

1.9 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 PRODUCTS, GENERAL

- A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.
 - 1. Provide tile complying with Standard grade requirements unless otherwise indicated.
- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCA installation methods specified in tile installation schedules, and other requirements specified.
- C. FloorScore Compliance: Tile for floors shall comply with requirements of FloorScore Standard.

2.2 TILE PRODUCTS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide ceramic/ porcelain tile materials by the manufacturers listed below for each specific tile type.
- B. Wall Tile Type 1: (CT1)
 - 1. Manufacturer: Crossville, Color Blox 2.0
 - 2. Size: 4" x 12" and 12" x 24".
 - 3. Color: As selected by Architect from full range of available colors. Architect reserves the right to select, allocate and vary colors throughout the building including floor patterns which will be determined by the Architect at a future time.
- C. Floor Tile: (CT)
 - 1. Tile: Crossville, Color Blox 2.0
 - 2. Size: 12"x24" with 3"x3" Mosaic
 - 3. Color: As selected by Architect from full range of available colors. Architect reserves the right to select, allocate and vary colors and patterns throughout the building including floor patterns which will be determined by the Architect at a future time.
- D. Wall Base: (CTB)
 - 1. Tile: Crossville, Color Blox 2.0
 - 2. Size: Varies, Cove Base, (cut height as required)
 - 3. Color: As selected by Architect from full line.

2.3 THRESHOLDS

- A. General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes.
 - 1. Bevel edges at 1:2 slope, with lower edge of bevel aligned with or up to 1/16 inch (1.5 mm) above adjacent floor surface. Finish bevel to match top surface of threshold. Limit height of threshold to 1/2 inch (12.7 mm) or less above adjacent floor surface.
- B. Slate Thresholds: ASTM C 629, Classification II Interior, with fine, even grain and honed finish.
 - 1. Description: Uniform, black stone.

2.4 WATERPROOF AND CRACK ISOLATION MEMBRANE

- A. General: Manufacturer's standard product, selected from the following, that complies with ANSI A118.10 and ANSI A118.12 and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.
- B. Fluid-Applied Membrane: Liquid-latex rubber or elastomeric polymer.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Hydro Ban as manufactured by Laticrete International or comparable product by one of the following:
 - a. Bonsal American; an Oldcastle company.
 - b. Bostik, Inc.
 - c. MAPEI Corporation.
 - d. Southern Grouts & Mortars, Inc.
 - e. TEC; a subsidiary of H. B. Fuller Company.

2.5 SETTING MATERIALS

- A. Latex-Portland Cement Mortar (Thin Set): ANSI A118.4.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Bonsal American; an Oldcastle company.
 - b. Bostik, Inc.
 - c. Laticrete International, Inc.
 - d. MAPEI Corporation.
 - e. Southern Grouts & Mortars, Inc.
 - f. Summitville Tiles, Inc.
 - g. TEC; a subsidiary of H. B. Fuller Company.
 - 2. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to the other requirements in ANSI A118.4.
- B. Organic Adhesive: ANSI A136.1, Type I.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Bonsal American; an Oldcastle company.
 - b. Bostik, Inc.
 - c. Laticrete International, Inc.
 - d. MAPEI Corporation.
 - e. Southern Grouts & Mortars, Inc.
 - f. Summitville Tiles, Inc.
 - g. TEC; a subsidiary of H. B. Fuller Company.

2.6 GROUT MATERIALS

- A. Polymer-Modified Tile Grout: ANSI A118.7.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Bonsal American; an Oldcastle company.
 - b. Bostik, Inc.
 - c. Laticrete International, Inc.
 - d. MAPEI Corporation.
 - e. Southern Grouts & Mortars, Inc.
 - f. Summitville Tiles, Inc.
 - g. TEC; a subsidiary of H. B. Fuller Company.

2.7 MISCELLANEOUS MATERIALS

A. Metal Edge Strips:

1. Basis-of-Design Product: Subject to compliance with requirements, provide metal edge strips as manufactured by Schluter.
2. Style: Rondec-DB.
3. Finish: Satin anodized aluminum (AE).
4. Accessories: 90 degree outside corner.

B. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

C. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

D. Grout Sealer: Manufacturer's standard product for sealing grout joints and that does not change color or appearance of grout.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Bonsal American; an Oldcastle company; Grout Sealer.
 - b. Bostik, Inc.; CeramaSeal Siloxane 220.
 - c. MAPEI Corporation; KER 004, Keraseal Penetrating Sealer for Unglazed Grout and Tile.
 - d. Southern Grouts & Mortars, Inc.; Silicone Grout Sealer.
 - e. Summitville Tiles, Inc.; SL-15, Invisible Seal Penetrating Grout and Tile Sealer.
 - f. TEC; a subsidiary of H. B. Fuller Company; TA-256 Penetrating Silicone Grout Sealer.

2.8 MIXING MORTARS AND GROUT

- A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.
- B. Add materials, water, and additives in accurate proportions.
- C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.
 - 1. Verify that substrates for setting tile are firm, dry, clean, free of coatings that are incompatible with tile-setting materials including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
 - 2. Verify that concrete substrates for tile floors installed with thin-set mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.
 - a. Verify that surfaces that received a steel trowel finish have been mechanically scarified.
 - b. Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.
 - 3. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.
 - 4. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thin-set mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.

3.3 TILE INSTALLATION

- A. Comply with TCA's "Handbook for Ceramic Tile Installation" for TCA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 Series "Specifications for Installation of Ceramic Tile" that are referenced in TCA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.
- B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
- C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- D. Provide manufacturer's standard trim shapes where necessary to eliminate exposed tile edges.
- E. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.

1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
 2. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
 3. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.
- F. Joint Widths: Install wall tile with manufacturer's recommended joint widths.
- G. Lay out tile wainscots to dimensions indicated or to next full tile beyond dimensions indicated.
- H. Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.
1. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.
 2. Prepare joints and apply sealants to comply with requirements in Division 07 Section "Joint Sealants."
- I. Stone Thresholds: Install stone thresholds in same type of setting bed as adjacent floor unless otherwise indicated.
1. Do not extend waterproofing and crack isolation membrane under thresholds set in latex-portland cement mortar. Fill joints between such thresholds and adjoining tile set on waterproofing and crack isolation membrane with elastomeric sealant.
- J. Grout Sealer: Apply grout sealer to grout joints in tile floors according to grout-sealer manufacturer's written instructions. As soon as grout sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.

3.4 WATERPROOFING AND CRACK ISOLATION MEMBRANE INSTALLATION

- A. Install waterproofing to comply with ANSI A108.13, ANSI A108.17 and manufacturer's written instructions to produce waterproof membrane of uniform thickness and bonded securely to substrate.
- B. Do not install tile or setting materials over waterproofing and crack isolation membrane has cured.
- C. Extend membrane up walls to height of base.

3.5 CLEANING AND PROTECTING

- A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
 1. Remove grout residue from tile as soon as possible.
 2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.

3. Remove temporary protective coating by method recommended by coating manufacturer and that is acceptable to tile and grout manufacturer. Trap and remove coating to prevent drain clogging.
- B. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.
- C. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.
- D. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

3.6 INTERIOR TILE INSTALLATION SCHEDULE

- A. Interior Floor Installations, Concrete Subfloor:
 1. Tile Installation F122 (Slab on grade and supported slabs): Thin-set mortar on waterproof/crack isolation membrane; TCA F122.
 - a. Tile Type: CT & CTB
 - b. Thin-Set Mortar: Latex- portland cement mortar.
 - c. Grout: Polymer-modified sanded grout.
- B. Interior Wall Installations, Metal Studs or Furring:
 1. Tile Installation W223: Organic adhesive on solid backing; TCA W223.
 - a. Tile Types: CT1
 - b. Grout: Polymer-modified unsanded grout.

END OF SECTION 093000

PART 1 GENERAL**1.0 RELATED DOCUMENTS**

- A. Drawings and general conditions of Contract, including General and Supplementary Conditions and Divisions-1 Specification sections apply to work of this section.

1.1 SUMMARY

- A. Section Includes:
 - 1. Cementitious wood fiber plank acoustical wall system
- B. Related Sections:
 - 1. Section 09 20 00 – Gypsum Board

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM)
 - 1. ASTM C 423 Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method
 - 2. ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
 - 3. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials
 - 4. ASTM E 1264 Classification for Acoustical Ceiling Products
- B. International Building Code
- C. ASHRAE Standard 62.1-2004, "Ventilation for Acceptable Indoor Air Quality"
- D. NFPA 70 National Electrical Code.
- E. California Department of Public Health CDPH/EHLB Emission Standard Method Version 1.1 2010
- F. L.E.E.D. - Leadership in Energy and Environmental Design is a set of rating systems for the design, construction, operation, and maintenance of green buildings

1.3 SYSTEM DESCRIPTION

Direct attached acoustical Wall systems manufactured from domestic cementitious wood fiber.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's technical data for each type of Tectum® DesignArt acoustical wall unit required.
- B. Samples: Minimum 6 inch x 6 inch samples of specified Tectum® DesignArt acoustical wall panel.
- C. Shop Drawings: Layout and details of Tectum® DesignArt show locations of items that are to be coordinated.
- D. Certifications: UL certifications that products comply with specified requirements, including laboratory reports showing compliance with specified tests and standards. Acoustical performance, products must be tested to the A, D-20, C-20, or C-40 method.
- E. Country of Origin: Submittals must be accompanied by letter, label or certification indicating the manufacturing country of origin. Comply with Made in USA requirements as applicable for the project.

- F. If the material supplied by the acoustical subcontractor does not have an Underwriter's Laboratory classification of acoustical performance on every carton, subcontractor shall be required to send material from every production run appearing on the job to an independent or NVLAP approved laboratory for testing, at the architect's or owner's discretion. All products not conforming to manufacturer's current published values must be removed, disposed of and replaced with complying product at the expense of the Contractor performing the work.

1.5 SUSTAINABLE MATERIALS

- A. Transparency: Manufacturers will be given preference when they provide documentation to support sustainable requirements for the following: Material ingredient transparency, Removal of Red List Ingredients per LBCV3, Life Cycle impact information, Low-Emitting Materials, and Clean Air performance.
- B. Health Product Declaration. The end use product has a published, complete Health Product Declaration with disclosure at a minimum of 1000ppm of known hazards in compliance with the Health Product Declaration open Standard.
- C. Declare Label. The end use product has a published Declare label by the International Living Future Institute with disclosure of 100 ppm with a designation of Red List Free or Compliant (less than 1% proprietary ingredients).
- D. Low Emitting products with VOC emissions data. Preference will also be given to manufacturers that can provide emissions data showing their products meet CDHP Standard Method v1.1 (Section 01350).
- E. Life cycle analysis. Products that have communicated lifecycle data through Environmental Product Declarations (EPDs) will be preferred.
- F. End of Life Programs/Recycling: Where applicable, manufacturers that provide the option for recycling of their products into new products at end-of-life through take-back programs will be preferred.
- G. Products meeting LEED V4 requirements including:
1. Storage & Collection of Recyclables
 2. Construction and Demolition Waste Management Planning
 3. Building Life-Cycle Impact Reduction
 4. Building Product Disclosure and Optimization Environmental Product Declarations
 5. Building Product Disclosure and Optimization Sourcing of Raw Materials
 6. Building Product Disclosure and Optimization Material Ingredients
 7. Construction and Demolition Waste Management

1.6 QUALITY ASSURANCE

- A. Single-Source Responsibility: Provide acoustical panel units and grid components by a single manufacturer.
- B. Fire Performance Characteristics: Identify acoustical wall components with appropriate markings of applicable testing and inspecting organization.
1. Surface Burning Characteristics: As follows, tested per ASTM E 84 and complying with ASTM E 1264 Classification.
- C. Tectum® DesignArt, as with other architectural features located wall, may obstruct or skew the planned fire sprinkler water distribution pattern through possibly delay or accelerate the activation of the sprinkler or fire detection systems by channeling heat from a fire either toward or away from the device. Designers and installers are advised to consult a fire protection engineer, NFPA 13, or their local codes for guidance where automatic fire detection and suppression systems are present.
- D. Coordination of Work: Coordinate Tectum® DesignArt work with installers of related work including, but not limited to building insulation, gypsum board, light fixtures, mechanical systems, electrical systems, and sprinklers.

1.7 DELIVERY, STORAGE & HANDLING

- A. Deliver acoustical wall units to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.
- B. Provide labels indicating brand name, style, size, and thickness.
- C. Before installing acoustical wall units, permit them to reach room temperature and a stabilized moisture content.
- D. Handle acoustical wall units carefully to avoid chipping edges or damaged units in any way.
- B.

1.8 PROJECT/SITE CONDITIONS

- A. Environmental Requirements:
- B. Do not install wall panels until building is closed in and HVAC system is operational.
- C. Locate materials onsite at least 24 hours before beginning installation to allow materials to reach temperature and moisture content equilibrium.
- D. Maintain the following conditions in areas where acoustical materials are to be installed 24 hours before, during and after installation:
 - 1. Relative Humidity: 65 - 75%.
 - 2. Uniform Temperature: 55 - 70 degrees F (13 - 21 degrees C).

1.9 WARRANTY

- A. Tectum® DesignArt: Submit a written warranty executed by the manufacturer, agreeing to repair or replace panels that fail within the warranty period. Failures include, but are not limited to the following:
 - 1. Defects in materials or factory workmanship.
- B. Tectum® DesignArt one source manufacturer is Thirty (30) years from date of substantial completion.
- C. The Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

1.10 MAINTENANCE

- A. Extra Materials: Deliver extra materials to Owner. Furnish extra materials described below that match products installed. Packaged with protective covering for storage and identified with appropriate labels.

1. Tectum® DesignArt Acoustical Wall Units: Furnish quality of full-size units equal to 5.0 percent of amount installed.

2.0 PRODUCTS

2.1 Manufacturer

- A. Tectum® DesignArt Custom Wall Panels:
 - 1. Tectum® by Armstrong World Industries, Inc.

2.2 ACOUSTICAL WALL UNITS

Acoustical Panels

- 1. Surface Texture: Coarse
- 2. Composition: Aspen wood fibers bonded with inorganic hydraulic cement
- 3. Color: Manufacturer's Full line

4. Size: 45 Degree Parallelogram - 12" x 24" – Right, 45 Degree Parallelogram - 24" x 48" – Right, 45 Degree Parallelogram - 12" x 24" – Left, 45 Degree Parallelogram - 24" x 48" – Left
5. Thickness: (Standard: 1")
6. Edge Profile: Beveled
7. Noise Reduction Coefficient (NRC): ASTM C 423 (A-mounting); (Standard NRC 0.40) Classified with UL label.
8. Flame Spread: ASTM E 1264; (Fire Class A)
9. Dimensional Stability: HumiGuard Plus
10. Sustainable: EPD (Environmental Product Declaration) and HPD (Health Product Declaration)
11. USDA Certified Biobased Product, 98%
12. Acceptable Product: Tectum® DesignArt Wall Panels as manufactured by Armstrong World Industries

Standard Shapes:

Parallelograms (45 Degree)

5420P01T10 _ _ _

5420P02T10 _ _ _

5420P03T10 _ _ _

5420P04T10 _ _ _

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not proceed with installation until all wet work such as concrete, terrazzo, plastering and painting has been completed and thoroughly dried out, unless expressly permitted by manufacturer's printed recommendations.

3.2 PREPARATION

- A. Measure each wall area and establish layout of Tectum® DesignArt units. Coordinate panel layout with mechanical and electrical fixtures.

3.3 INSTALLATION

- A. Install Tectum® DesignArt system in accordance manufacturer's installation instructions. Follow the requirements of the International Building Code and in accordance with the local building code and the authorities having jurisdiction.

3.4 ADJUSTING AND CLEANING

- A. Replace damaged and broken Tectum® DesignArt.
- B. Comply with manufacturer's instructions for cleaning and touch up of minor finish damage. Remove any Tectum® DesignArt products that cannot be successfully cleaned and or repaired. Replace with attic stock or new product to eliminate evidence of damage.

END OF SECTION

SECTION 102800 - TOILET AND BATH ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. First Floor Restrooms accessories.
 - 2. Mens and Womens room second floor accessories.
 - 3. Locker Room Bathrooms and Shower Rooms accessories
- B. Related Sections:
 - 1. Section 017419 "Construction Waste Management Plan" for provision of waste management.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include the following:
 - 1. Construction details and dimensions.
 - 2. Anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
 - 3. Material and finish descriptions.
 - 4. Features that will be included for Project.
 - 5. Manufacturer's warranty.
- B. Samples: Provide full size samples of accessory item(s) when requested by Architect.
- C. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.
 - 1. Identify locations using room designations indicated on Drawings.
 - 2. Identify products using designations indicated on Drawings.
- D. Maintenance Data: For toilet and bath accessories to include in maintenance manuals.

1.4 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, 0.0312-inch (0.8-mm) minimum nominal thickness, unless otherwise indicated.
- B. Brass: ASTM B 19 flat products; ASTM B 16 (ASTM B 16M), rods, shapes, forgings, and flat products with finished edges; or ASTM B 30, castings.
- C. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.0359-inch (0.9-mm) minimum nominal thickness.
- D. Galvanized Steel Sheet: ASTM A 653/A 653M, with G60 (Z180) hot-dip zinc coating.
- E. Galvanized Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- F. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.
- G. Chrome Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).

2.2 TOILET AND BATH ACCESSORIES

- A. Basis-of-Design Product: Toilet and bath accessories shall be as manufactured by Bradley Corporation, unless noted otherwise. Comparable products by the manufacturer's listed below are acceptable subject to compliance with the quality and performance standards established by the specified products.
 - 1. Bobrick Washroom Equipment.
 - 2. American Specialties, Inc.
- B. Toilet Tissue (Roll) Dispenser:
 - 1. TTD-1: Black D67023-A, surface mounted LoCor by Solaris Paper
- C. Grab Bars: Series 812 with concealed mounting and safety-grip finish
 - 1. GB18: 001-18
 - 2. GB36: 001-36
 - 3. GB42: 001-42
- D. Paper Towel Dispenser/Disposal:
 - 1. PTD-1: Black D68006-A, surface mounted LoCor by Solaris Paper
- E. Soap Dispensers:
 - 1. SD-1: 6A00-11 surface mounted tank type vertical.
 - 2. SD-2: 6315-KT0000 Starter Kit – counter mounted.
- F. Sanitary Napkin Disposal (SND): 4A10-11 surface mounted
- G. Baby Changing Station (BCS): Koala Kare Products, Division of Bobrick BCS1-KB300 (Horizontal) and BCS2-KB301 (Vertical).

- H. Glass Mirror with Stainless Steel Frame: 781-1836 (MIR-1).

2.3 FABRICATION

- A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.
- B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of four keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
- B. Grab Bars: Install to withstand a downward load of at least 250 lbf (1112 N), when tested according to method in ASTM F 446.

3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.
- B. Remove temporary labels and protective coatings.
- C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

END OF SECTION 102800