

RFP 2025-02
REQUEST FOR PROPOSALS
FOR THE
RENOVATION OF ROCKLAND GREEN ADMINISTRATIVE HEADQUARTERS
AND
CONSTRUCTION OF AN IMMERSIVE THEATRE EXPERIENCE
AT
172 MAIN STREET IN NANUET, NY 10954

To: All Potential Proposers
From: Rockland Green
Subject: Addendum Number 2
Project: Rockland Green Renovation & New Immersive Theatre Experience at 172 Main Street, Nanuet, NY 10954
RFP No.: RFP 2025-02
Date: March 28, 2025

This Addendum Number 2 is issued to modify the Request for Proposals No. 2025-02 (the "RFP") for the above referenced project. All potential Proposers are hereby notified of the following change:

1. Bids

SEALED BIDS will be received until 2:00 PM. in the office of the Executive Director, on the 25th of April 2025, at the Rockland Green Administrative Headquarters, 172 Main Street Nanuet, NY 10954, at which time and place they will be publicly opened and read. Faxed bids will NOT be accepted. One (1) original proposal with five (5) paper copies and one (1) electronic copy on an external drive must be in sealed envelope(s) with the proposer's name title of the RFP. Sealed envelope(s) must be approximately labeled with the following label:
"RFP-2025-02 Enclosed"

2. Contractor Questions

Following issuance of this RFP, the Proposers may submit written questions to Rockland Green to assist the Proposers in the preparation of their Proposals. Rockland Green may, but shall not be obligated to, respond to such questions. All responses to any questions and requests for additional information which Rockland Green determines to be deserving of response will be issued to all potential Proposers of record in the form of addenda to this RFP which will be issued via email. The last day for submission of written questions have been extended from March 28 to April

4. Any questions submitted after the deadline for questions may be answered by Rockland Green at its discretion.

No oral interpretation, instruction, or information concerning this RFP given by any agent, employee, advisor, or consultant of Rockland Green shall be binding on Rockland Green. Proposers relying on such oral information risk having their response to this RFP deemed unresponsive by Rockland Green. Rockland Green will not be responsible for any explanation or interpretation of this RFP, unless such explanation or interpretation of this RFP is given in accordance with this written procedure.

Should a Proposer find discrepancies in, or omissions from, this RFP, the Proposer shall immediately notify Rockland Green, in writing, and a written addendum, if necessary, will be delivered to each Proposer.

All inquiries, correspondence, questions or clarifications shall be directed to:

Ryan Montal, Confidential Assistant to Executive Director
Rockland Green
172 Main Street
Nanuet, NY 10954
Email: rmontal@rocklandgreen.com

With a copy to:

John Cirilli, AIA, LEED
Partner
Michael Shilale Architects, LLP.
Email: jcirilli@shilale.com

Except as set forth in this section with regard to procedures for inquiries, correspondence, questions or clarifications, in order to ensure fairness during the procurement process as of the date this RFP is released to the public and throughout the procurement process and negotiations of a Contract, Proposers or their employees, representatives or agents shall not contact any Rockland Green Board member, any Rockland Green employee (other than Ryan Montal or a designated Rockland Green employee or such other individual as instructed by Rockland Green), or any of Rockland Green's technical or legal consultants.

If a Proposer or its employee, representative or agent contacts a Rockland Green Board member, any Rockland Green employee (other than Ryan Montal or a designated Rockland Green employee or such other individual as instructed by Rockland Green), or any of Rockland Green's technical or legal consultants in relation to this RFP, such Proposer risks either being disqualified from submitting a Proposal in response to this RFP or having its Proposal rejected by Rockland Green.

3. Revised Drawings

As per attachment 1 see the following revised drawings.

- A-103. Roof Plan has been revised to include detail 2/A-103 showing the mechanical attachments required for the solar array. This work is to be included with Alternate No. 4.
- A-200. Elevations have been revised to include painting of the metal siding as part of base bid. Also included are the expansion joints and aesthetic joints in the EIFS where the first floor windows are being removed.
- A-401. Added to details 4 and 5, the UL design # for the gypsum enclosures for the linear mechanical units.
- A-500. Detail 5/A-500 has been added to the sheet.
- A-610. Door schedule has been revised to designate doors with laminated glazing instead of insul/lam. Door elevations have been revised to refer to door schedule for glazing and updated door lite sizes.
- S-300. Detail 2/S300 added to show typical roof opening closure detail.
- E-202. Revised floor plan lighting layout in Conference Room #214. One light fixture is removed.

4. Revised Specifications

As per attachment 2 see the following revised specifications.

- 088000 Glazing. Specification has been revised to remove section 3.7 B.

5. RFI regarding subcontractor insurance requirements

Our electrical subcontractors are concerned with the high limits of insurance requirements as listed in the specifications. Please advise as to whether the insurance coverage noted in the attached COI would be acceptable.

For subcontractors, Rockland Green has decided to lower the excess liability requirement to \$5 million. Subcontractors with lower \$10 million excess liability as originally required, will need to provide the proof of Workers' Compensation and get the Additional Insured CG 20 10 and CG 20 37 wording added along with Waiver of Subrogation and Primary Noncontributory.

**ATTACHMENT 1
TO
ADDENDUM 2 TO RFP 2025-02**

REVISED DRAWINGS

LEGEND



Drawn by	MAL/JR
Checked by	MS/JC
Project No.	40034G
Scale	AS NOTED
Date	03-20-23

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY.

- ## ROOF KEY NOTES

- ## ROOF NOTES



RENOVATION OF ROCKLAND GREEN ADMINISTRATIVE HEADQUARTERS AND CONSTRUCTION OF AN IMMERSIVE THEATRE EXPERIENCE



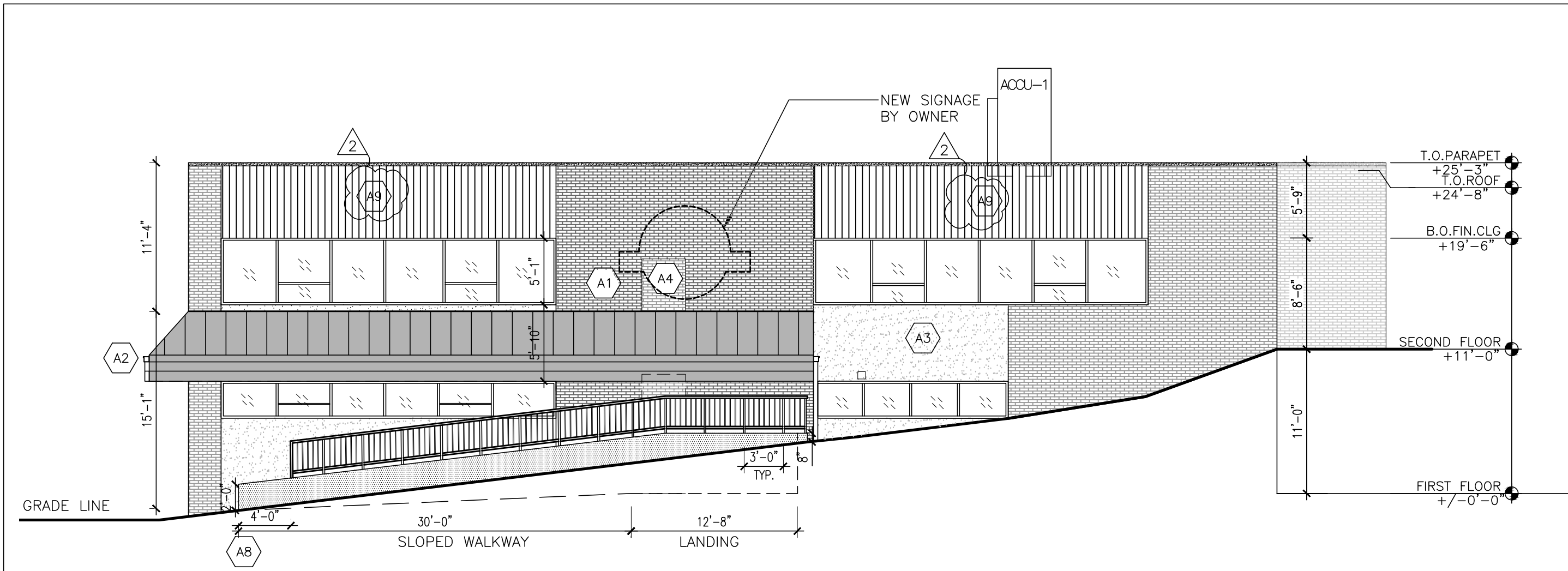
MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.shilale.com

ROOF PLAN

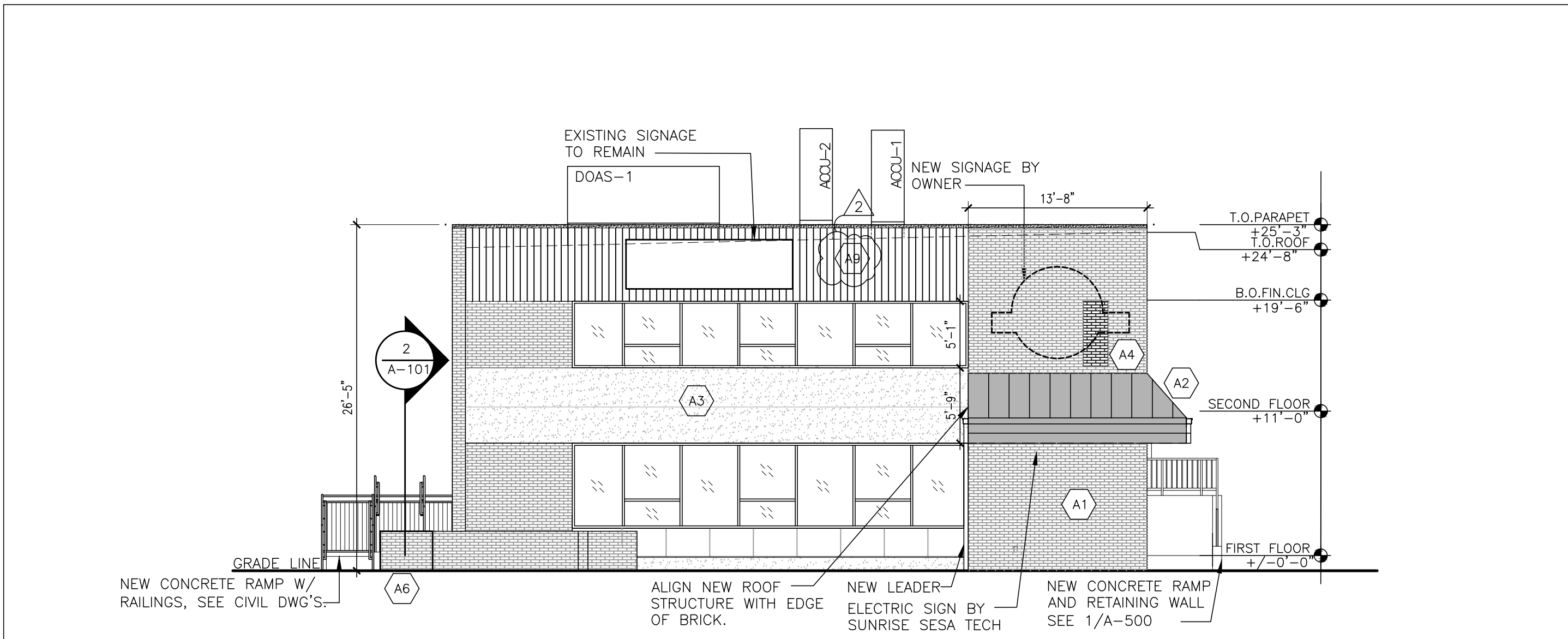
ing No. **A-103**

© COPYRIGHT, MICHAEL SHILALE ARCHITECTS, ALL RIGHTS RESERVED.

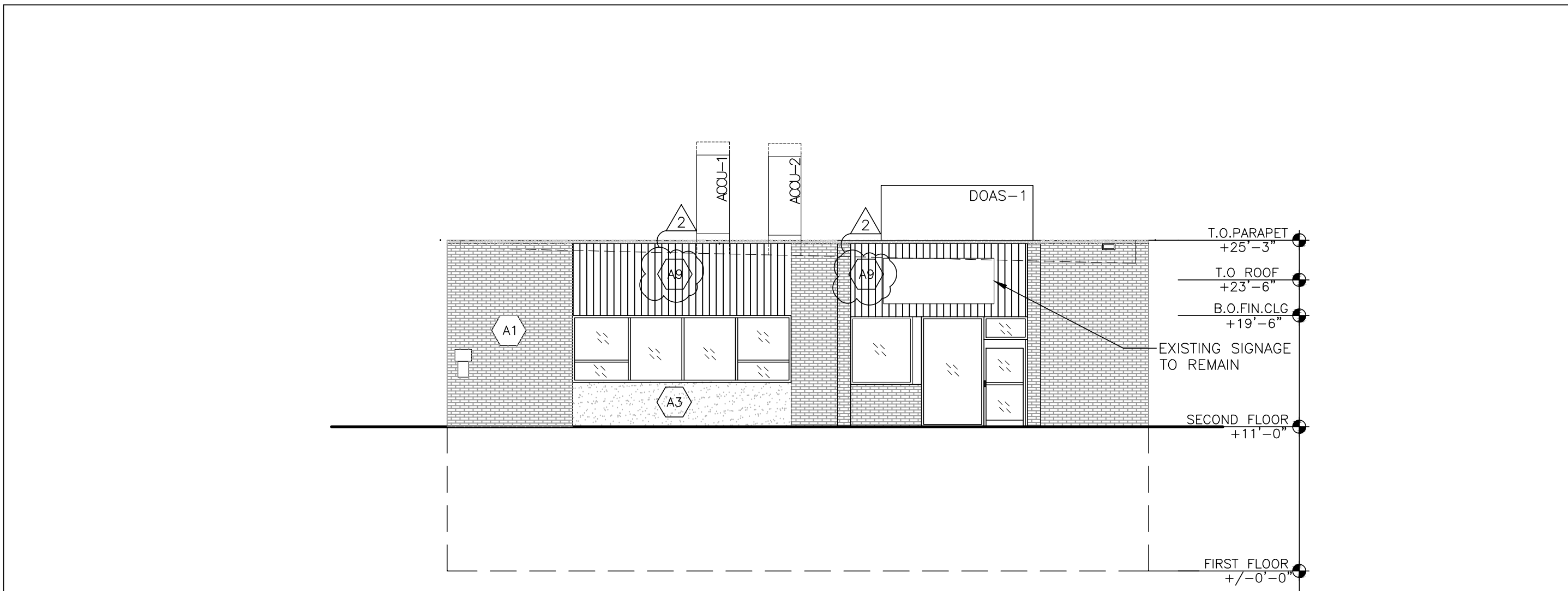
Drawing	Title
---------	-------



5 SOUTH SIDE ELEVATION WITH SLOPED WALKWAY
SCALE: 1/8"=1'-0"



4 WEST SIDE ELEVATION
SCALE: 1/8"=1'-0"



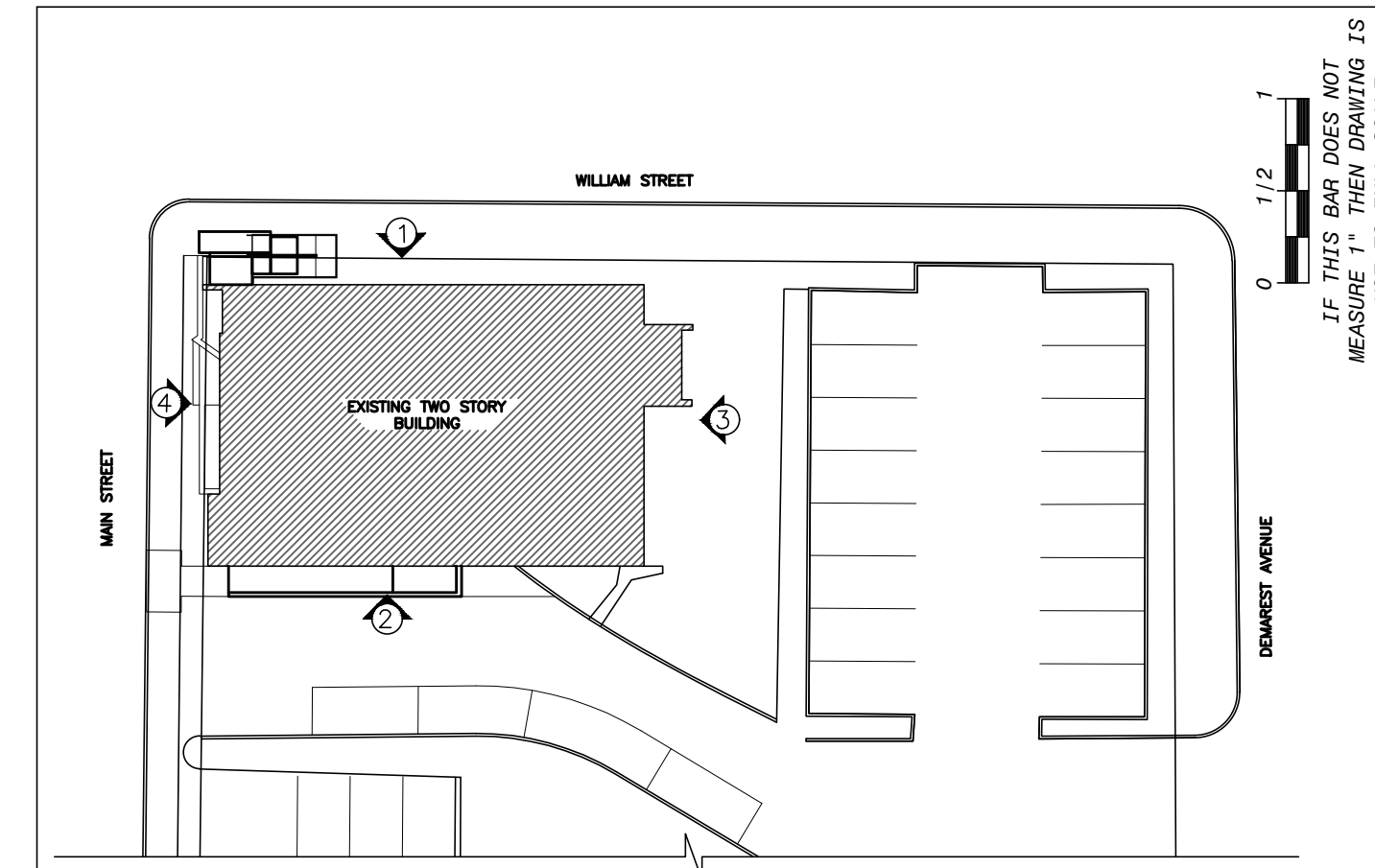
3 EAST SIDE ELEVATION
SCALE: 1/8"=1'-0"

- A1 APPLY POTASSIUM SILICATE ON ALL BRICK. PREPARE AS PER MANUFACTURER'S STANDARD BEFORE APPLYING COATING. COLOR BY ARCHITECT.
- A2 NEW AWNING. SEE DETAIL 1/A-500.
- A3 PAINT EXISTING STUCCO SIDING.
- A4 NEW BRICK VENEER. SAW TOOTH NEW BRICK WITH EXISTING BRICK.
- A5 NEW STOREFRONT ENTRY. SEE A-610 DOOR/HARDWARE SCHEDULE.
- A6 NEW MASONRY WALL WITH COPING. SEE DETAIL 2/A-101.
- A7 NEW STUCCO FINISH.
- A8 NEW CONCRETE RETAINING WALL WITH GUARDRAIL. SEE DETAIL 1/A-500.
- A9 PAINT EXISTING METAL SIDING WITH BENJAMIN MOORE ELEMENT GUARD ACRYLIC EXTERIOR PAINT. COLOR BY ARCHITECT.

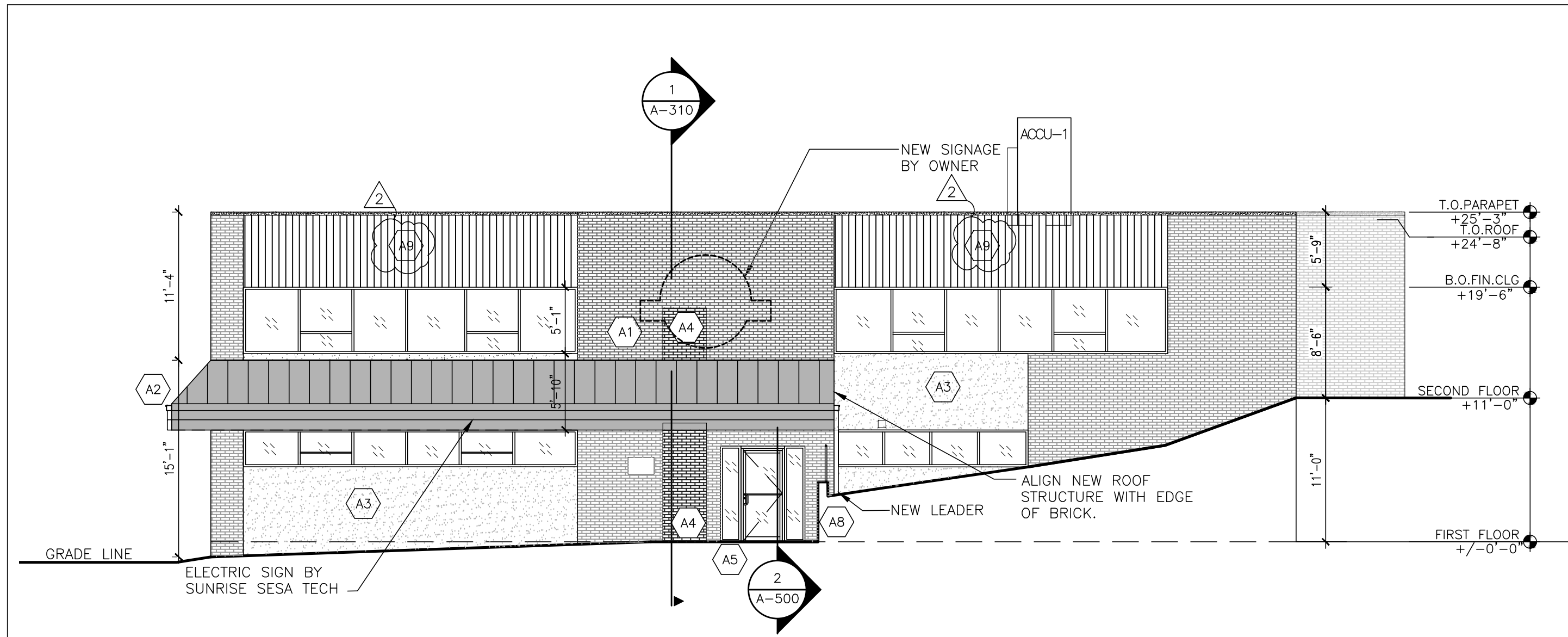
KEY NOTES

	BRICK VENEER		NEW STUCCO
	SIDING		DRYVIT DIRECT
	STUCCO		

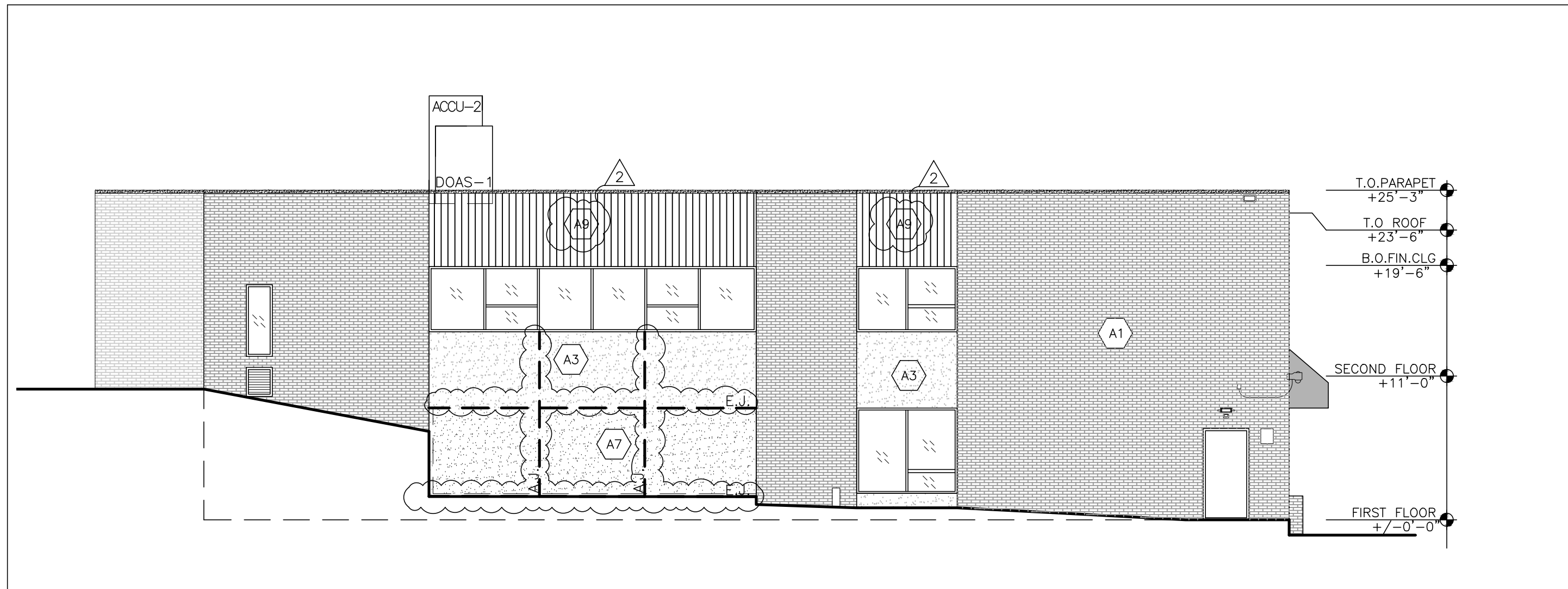
LEGEND



KEY PLAN



2 SOUTH SIDE ELEVATION
SCALE: 1/8"=1'-0"



1 NORTH SIDE ELEVATION
SCALE: 1/8"=1'-0"

Drawn by	MAL/JR
Checked by	MS/JC
Project No.	40034G
Scale	AS NOTED
Date	03-20-23

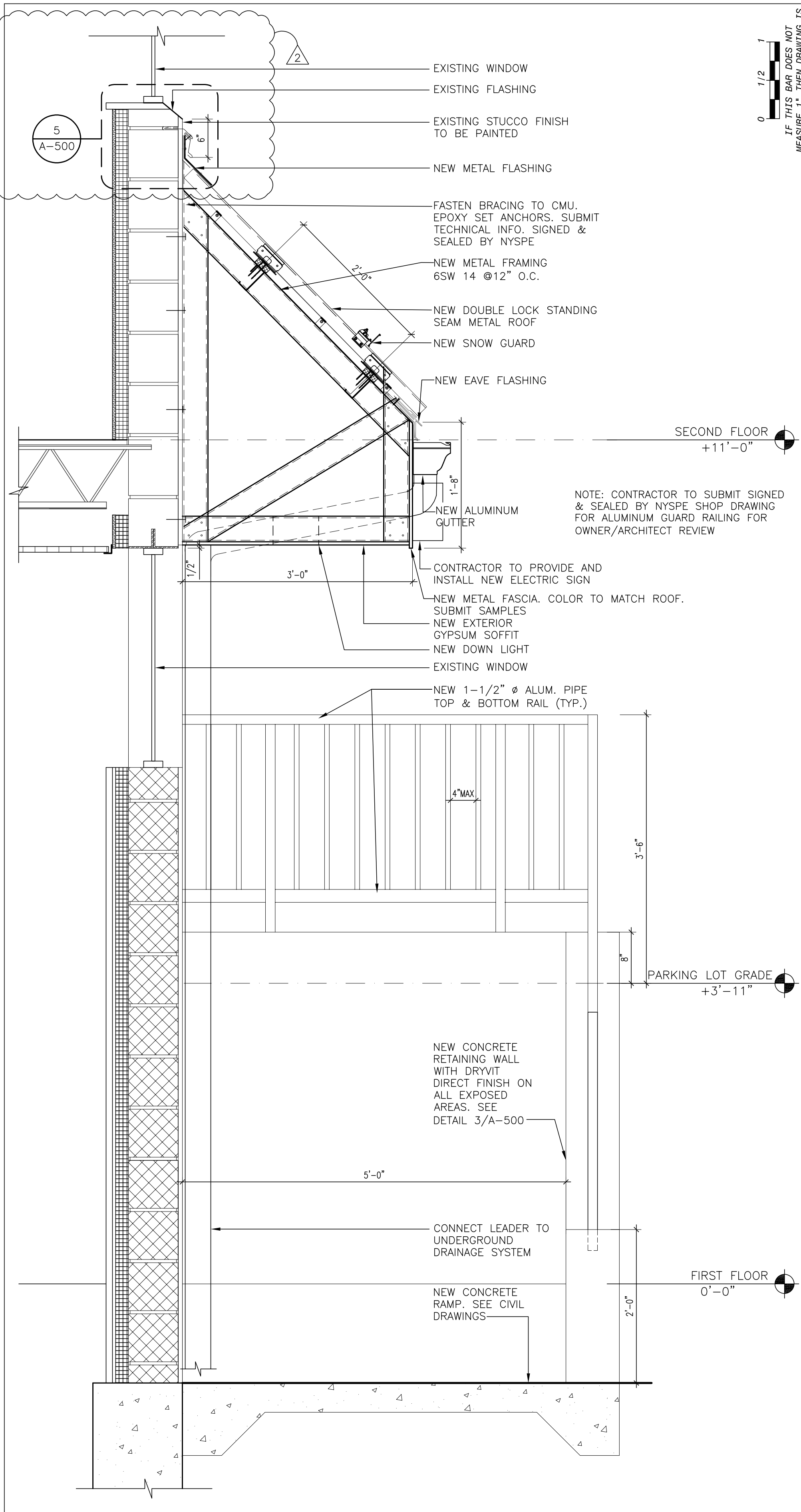
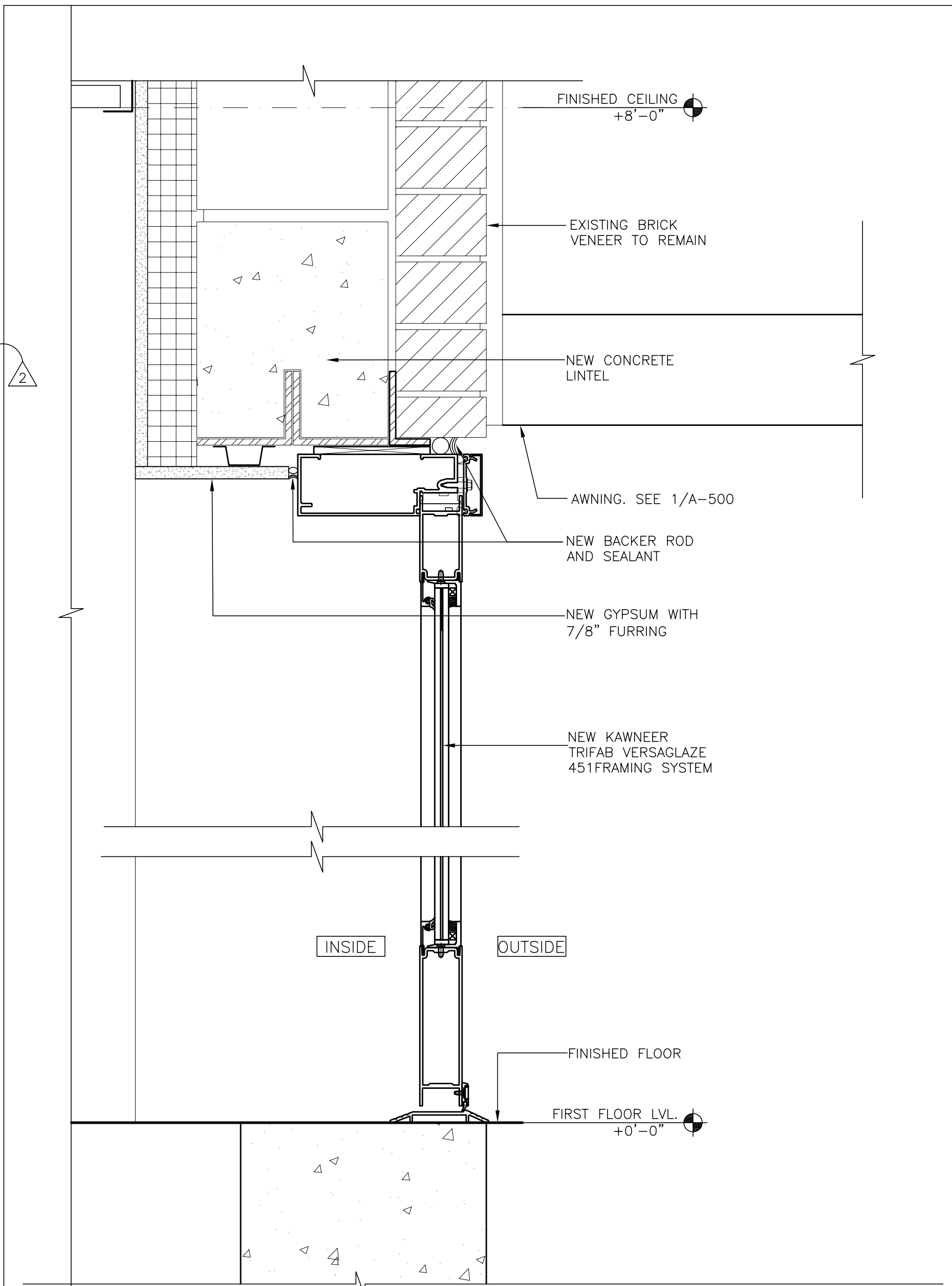
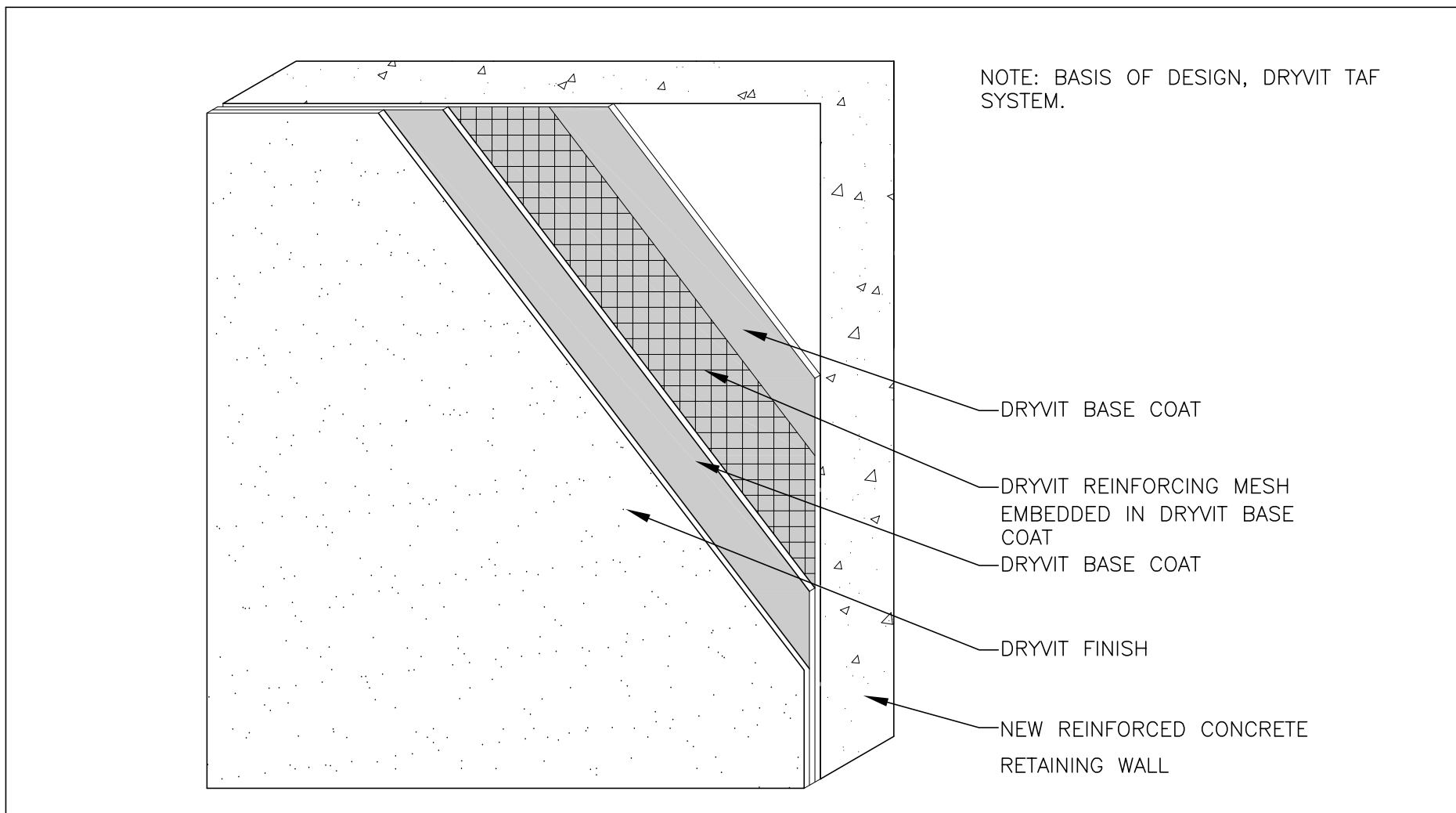
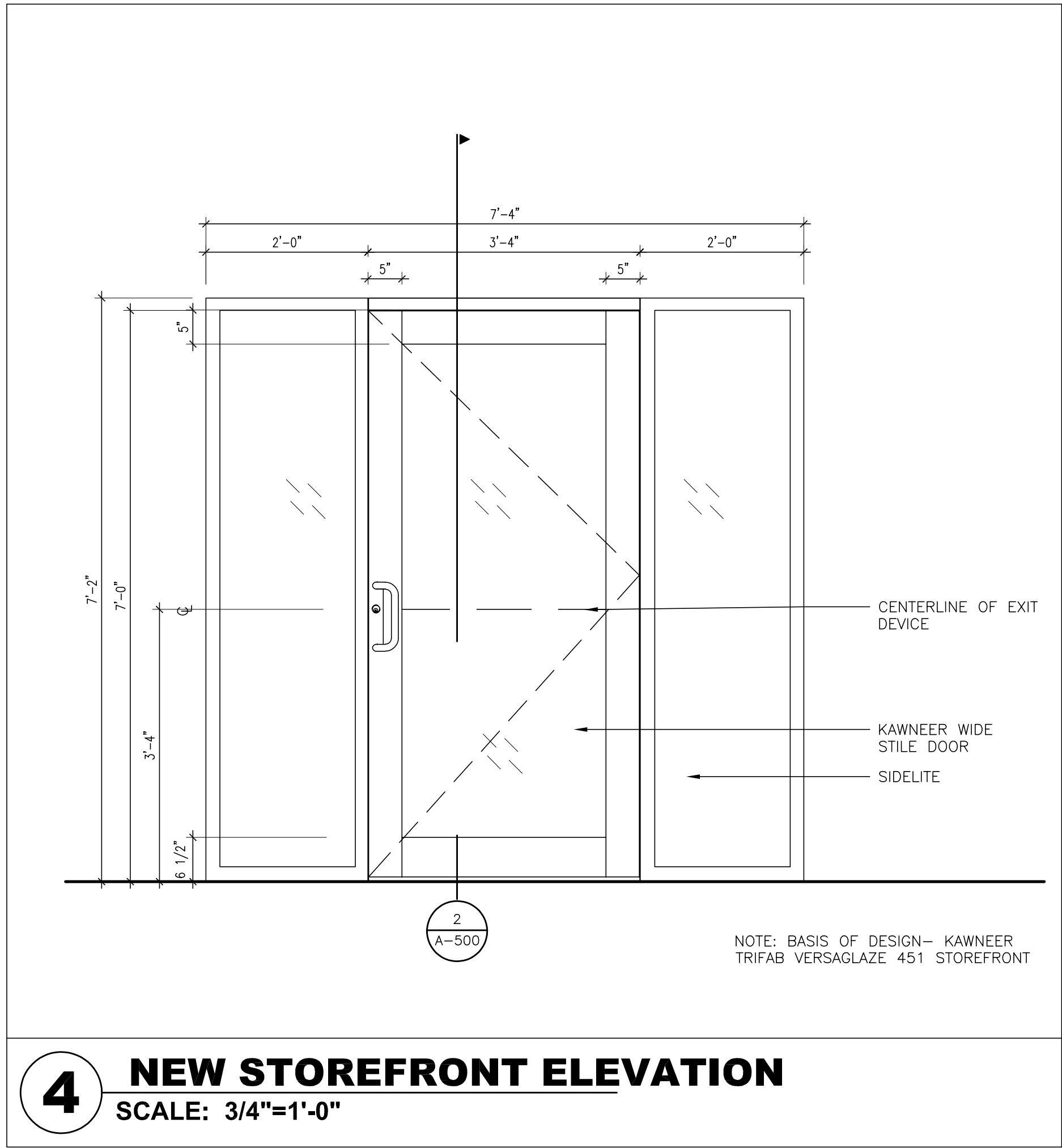
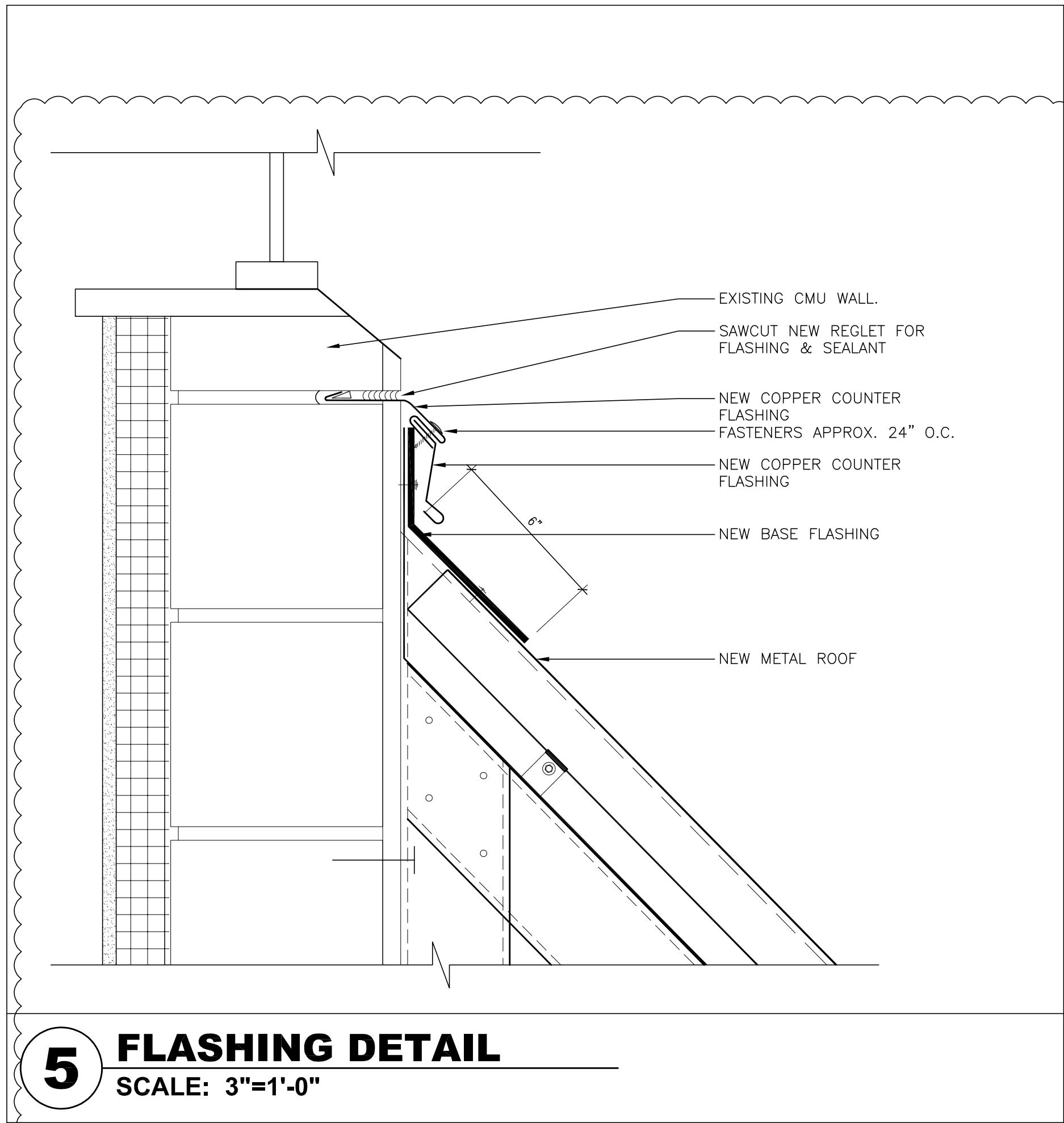
GREENMAN PEDERSEN, INC Mechanical, Electrical & Structural Engineer 2000 ROUTE 202 SUITE 202 SUFFERN, NY 10901	ATZL, NASH, & ZIGLER Civil Engineer 224 North Main Street New City, NY 10956
--	---

RENOVATION OF ROCKLAND GREEN ADMINISTRATIVE HEADQUARTERS AND CONSTRUCTION OF AN IMMERSIVE THEATRE EXPERIENCE	STATE OF NEW YORK COUNTY OF ROCKLAND
--	---

 MICHAEL SHUALE ARCHITECTS, LLP 140 Park Avenue New City, NY 10956 Tel 845-708-9200 www.shuale.com

PROPOSED ELEVATIONS	Drawing No. A-200
---------------------	--------------------------

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY.



© COPYRIGHT, MICHAEL SHILALE ARCHITECTS, ALL RIGHTS RESERVED.

Drawing Title

EXTERIOR DETAILS

Drawing No. **A-500**

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

0 1/2 1

2 03-28-25 ADDENDUM 2 02-18-25 RFP SET

No. Date Revisions

Drawn by MAL/JR

Checked by MS/JC

Project No. 40034G

Scale AS NOTED

Date 03-20-23

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD
SUITE 202
SUFFERN, NY 10901

ATZLNASHER, &
ZIGLER
254 North Main Street
New City, NY 10956

Mechanical, Electrical, & Structural Engineer.

Civil Engineer.

RENOVATION OF ROCKLAND GREEN ADMINISTRATIVE HEADQUARTERS AND CONSTRUCTION OF AN IMMERSIVE THEATRE EXPERIENCE

172 MAIN STREET
NANUET, NY 10954

TOWN OF CLARISTON
COUNTY OF ROCKLAND

MSA

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 945-0654900
info@shilale.com

QTY	ITEM	MANUFACTURER	CATALOGUE #	FINISH	KEYNOTE REMARKS
GROUP – 1(EXTERIOR ENTRY, STAIRWELL)					
1	CONTINUOUS HINGES	MARKAR	FM-300 EDGE MOUNT		
1	WALL STOP	IVES	407	US26D	
1	DOOR CLOSER	LCN CLOSER	4040XP	US26D (689 ALUMINUM)	
1	PANIC DEVICE	VON DUPRIN	QEL-78-NL-OP-AL	BHMA 630-CYLINDER636	
GROUP-2 (INTERIOR OFFICES)					
1	CONTINUOUS HINGES	MARKAR	FM-300 EDGE MOUNT		
1	GRADE 1 LOCK SET	FALCON K-SERIES	K301 PRIVACY LOCK	US26D	
1	WALL STOP	IVES	407	US26D	
1	DOOR CLOSER	LCN CLOSER	4040XP	US26D (689 ALUMINUM)	
1 PR	FLUSH BOLTS	IVES	FB 358	US26D	
GROUP-3 (STORAGE, RESTROOM)					
1	CONTINUOUS HINGES	MARKAR	FM-300 EDGE MOUNT		
1	GRADE 1 LOCK SET	FALCON K-SERIES	K561 CLASSROOM LOCK	US26D	
1	WALL STOP	IVES	407	US26D	
1	DOOR CLOSER	LCN CLOSER	4040XP	US26D (689 ALUMINUM)	
GROUP-4 (CONFERENCE ROOM)					
1	CONTINUOUS HINGES	KAWNEER	-	US32D	
1	LOCK CYLINDER	KAWNEER	THUMBTURN	US32D	
1	WALL STOP	IVES	407	US32D	
1	DOOR CLOSER	LCN CLOSER	4040XP	US32D	
1	PUSH/PULL	KAWNEER	CO-9	US32D	
GROUP-4A (EXTERIOR STOREFRONT)					
1	CONTINUOUS HINGES	KAWNEER	-	US32D	
1	DOOR CLOSER	LCN CLOSER	4040XP	US32D	
1	PUSH/PULL	KAWNEER	CO-9	US32D	
1	PANIC DEVICE	VON DUPRIN	QEL-78-NL-OP-AL	BHMA 630-CYLINDER636	

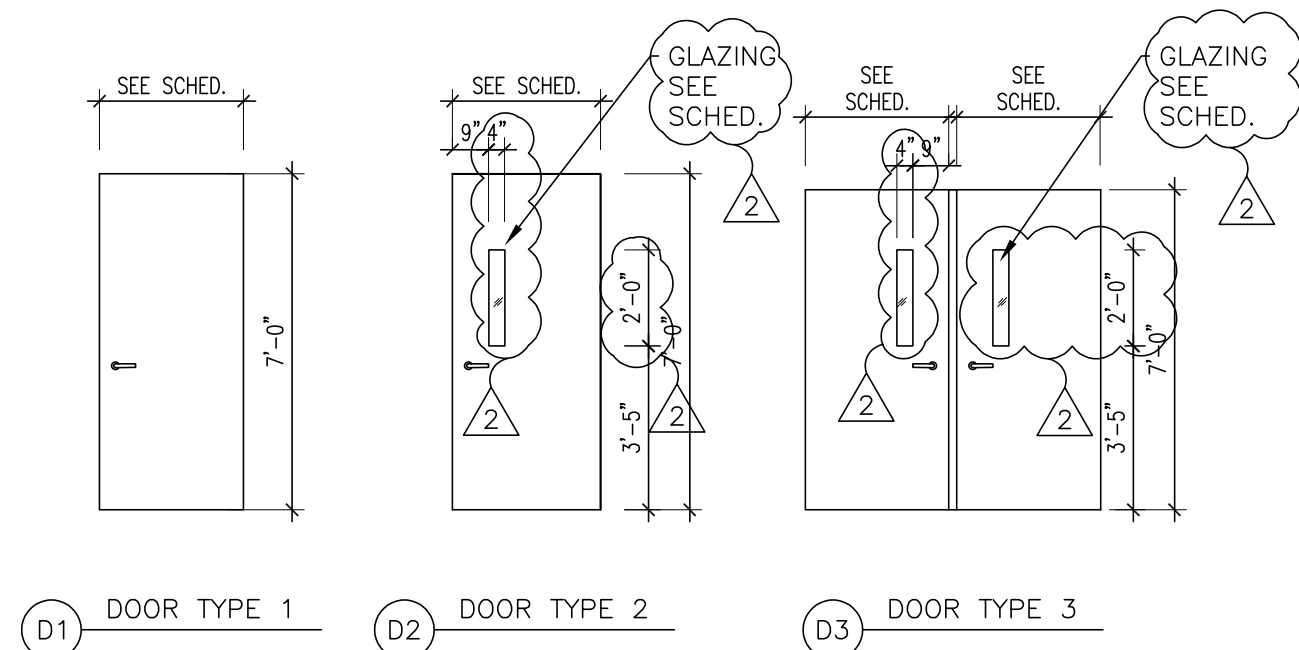
HARDWARE SCHEDULE

[illegible]

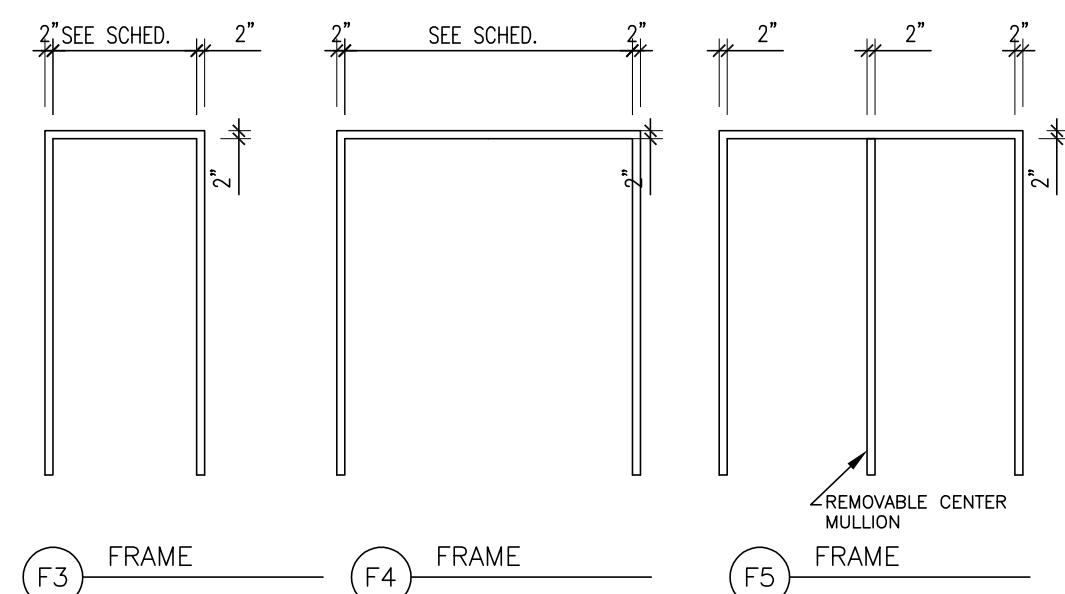
NOTE:

1. CONTRACTOR TO VERIFY IN FIELD ALL EXISTING DOOR AND OPENING SIZES WHERE NEW DOORS AND FRAMES ARE SPECIFIED.
2. INSTALL MAGNETIC HOLD OPEN, INTERCONNECT TO FIRE ALARM SYSTEM.

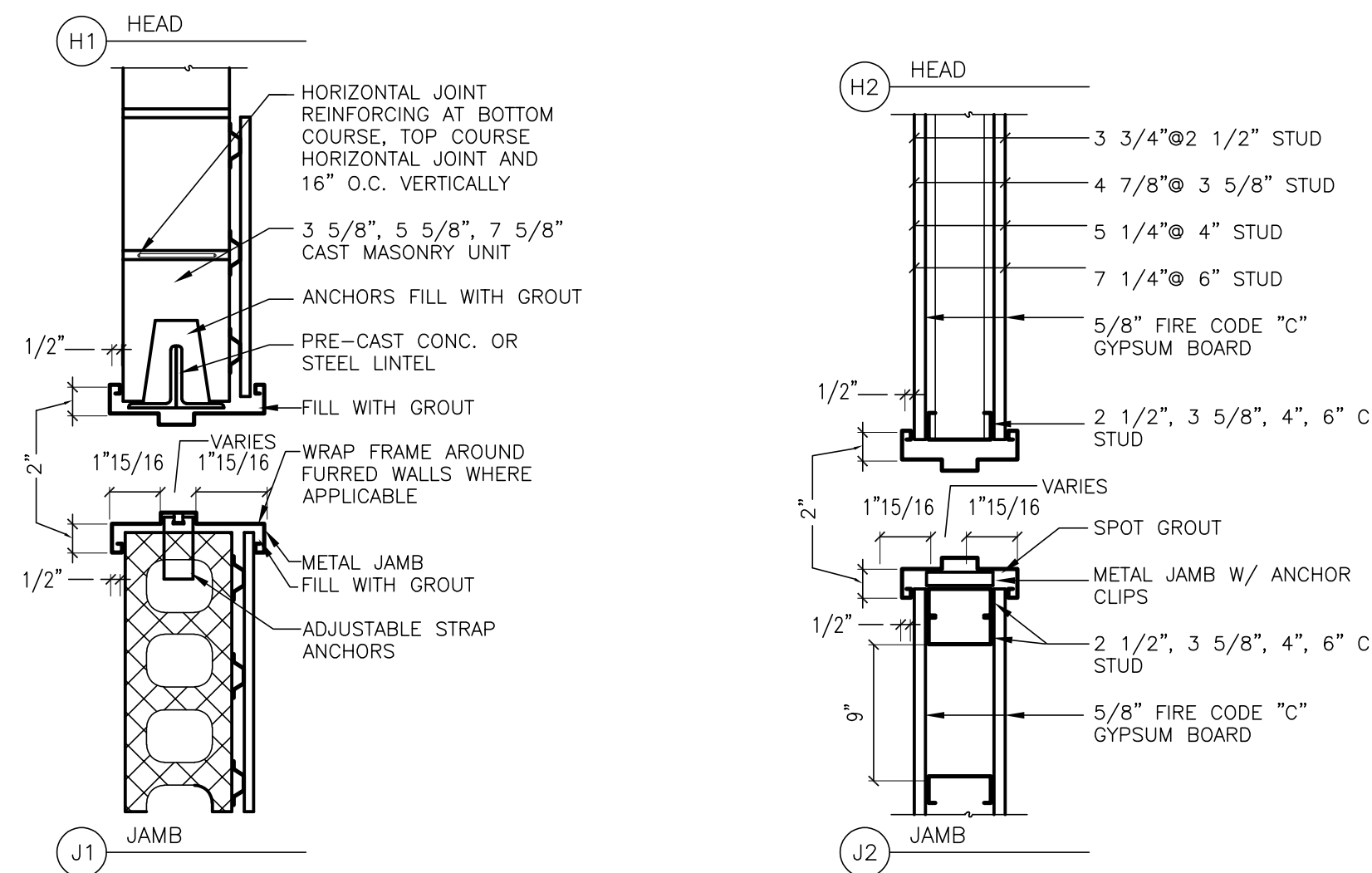
DOOR SCHEDULE



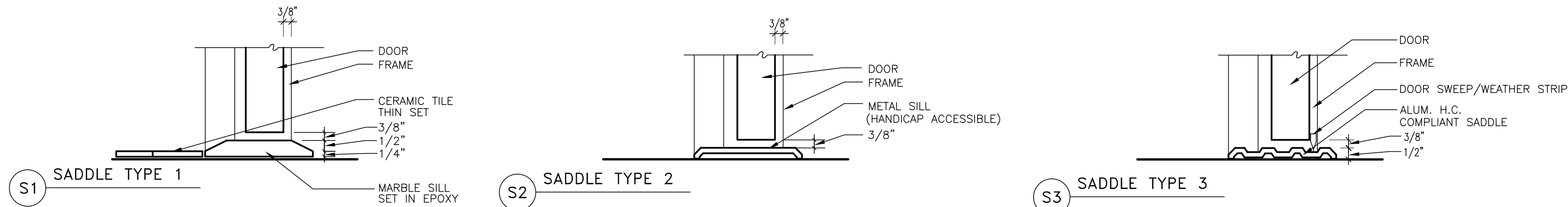
DOOR ELEVATIONS



DOOR FRAMES



DOOR JAMBS



DOOR SADDLE DETAILS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS

[illegible]

A diagram of a rectangular box with a triangle on the top edge containing the number 2.

Drawn by	MAL/JR
Checked by	MS/JC
Project No.	40034G
Scale	AS NOTED
Date	03-20-23

IT IS A VIOLATION OF THE	Mechanical, Electrical & Structural Engineer:	GREENMAN PERDERSEN, INC 2 EXECUTIVE BOULEVARD SUITE 202 SUFFERN, NY 10901
	Civil Engineer:	ATZL, NASHER, & ZIGLER 234 North Main Street New City, NY 10956

RENOVATION OF ROCKLAND
GREEN ADMINISTRATIVE
HEADQUARTERS AND
CONSTRUCTION OF AN
IMMERSIVE THEATRE
EXPERIENCE

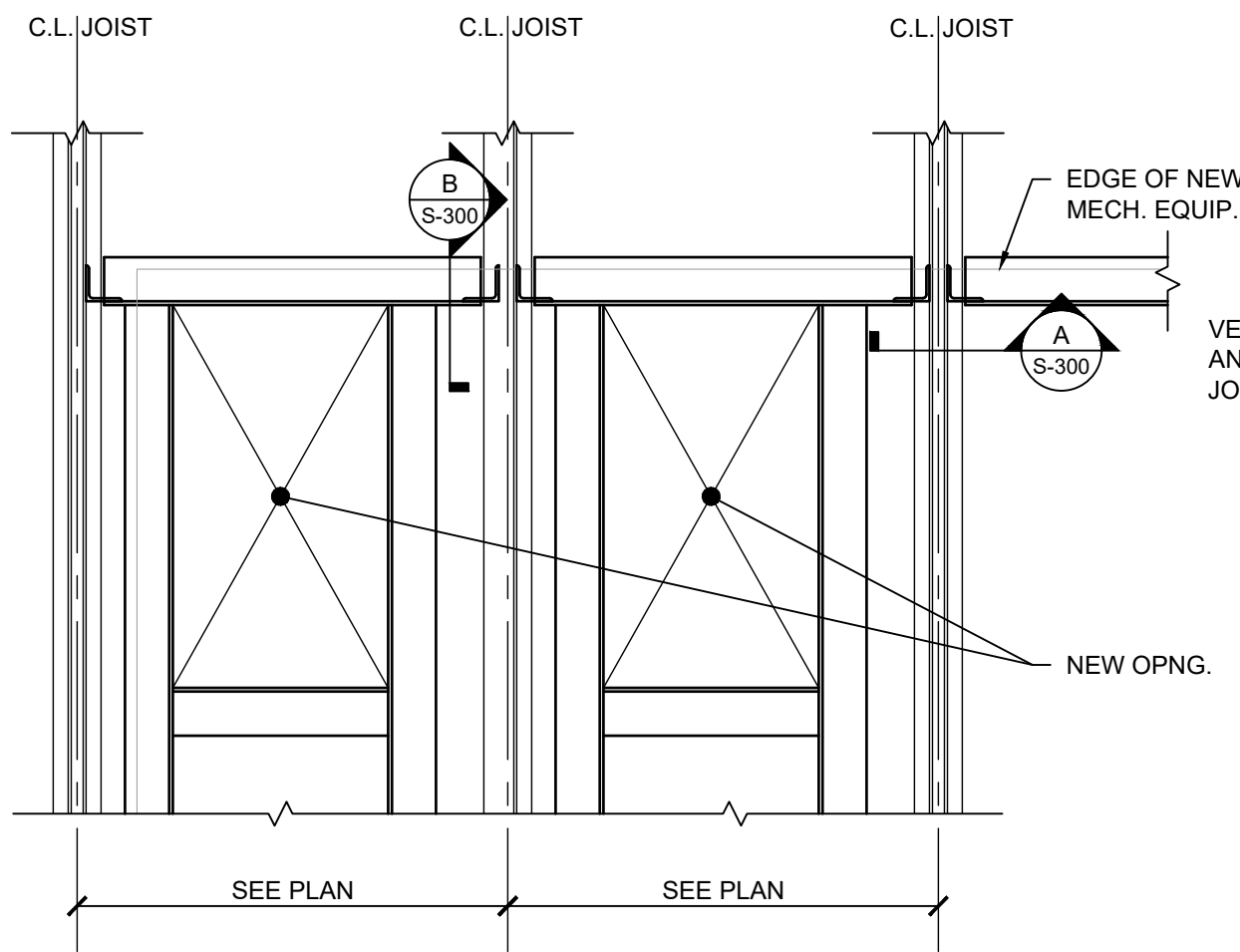
The logo for Michael Shilale Architects, LLP features the letters 'MSA' in a large, bold, black, sans-serif font. The letters are stylized, with the 'M' and 'S' having thick strokes and the 'A' being a simple triangle. To the right of the 'MSA' letters, the text 'MICHAEL SHILALE ARCHITECTS, LLP.' is written in a smaller, black, sans-serif font, with the first line of the name underlined. Below the firm name, the address '140 Park Avenue New York, NY 10056' and the phone number 'Tel 645-708-3200' are listed. At the bottom, the website 'www.shilale.com' is provided.

MSA
MICHAEL SHILALE ARCHITECTS, LLP.
140 Park Avenue New York, NY 10056 Tel 645-708-3200
www.shilale.com

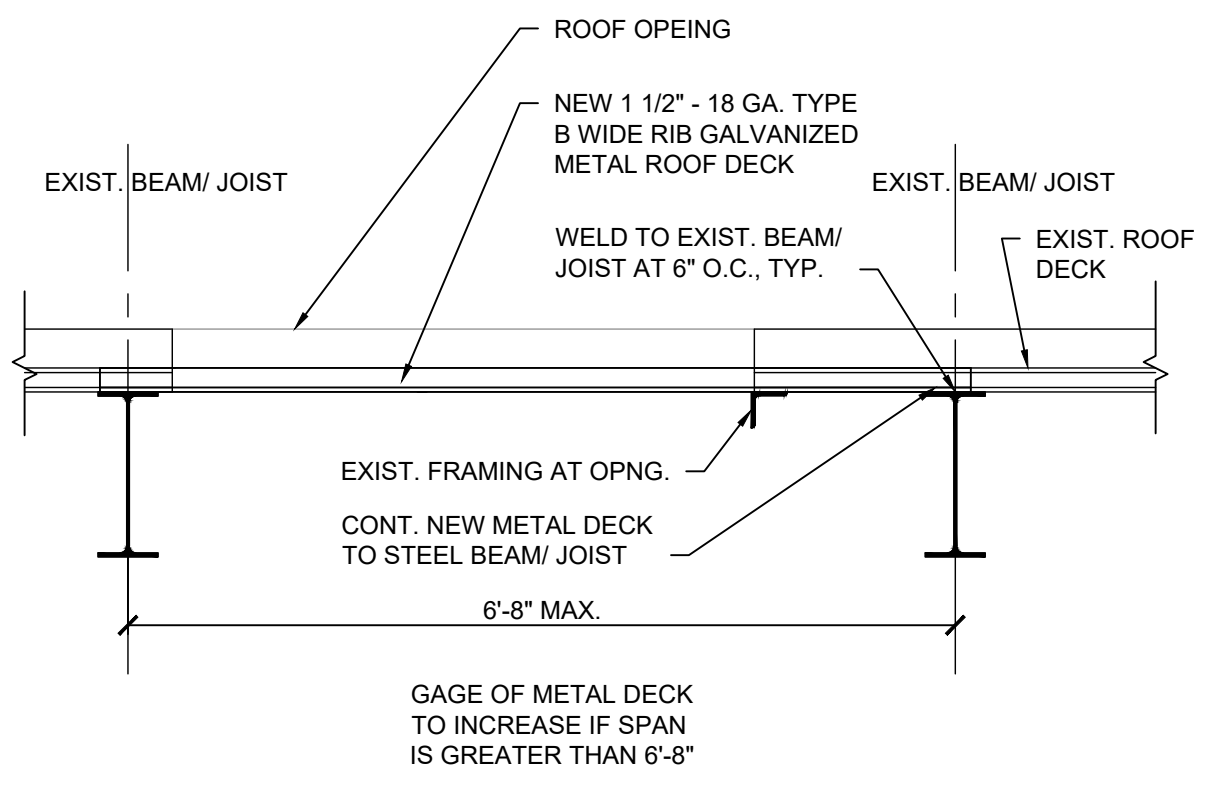
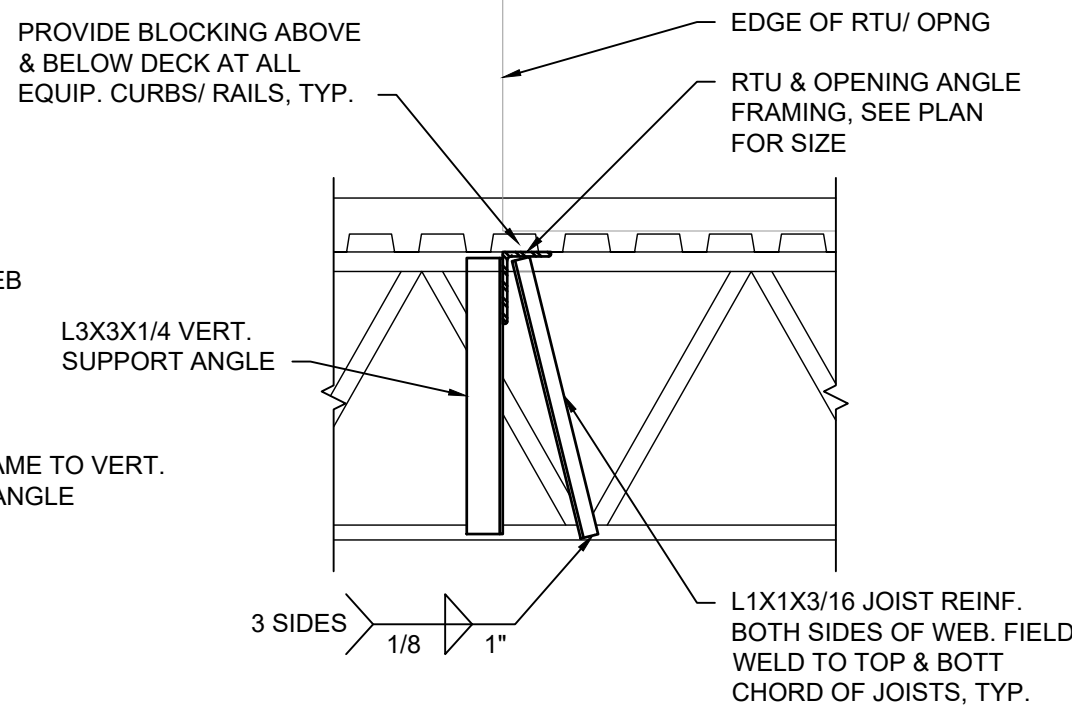
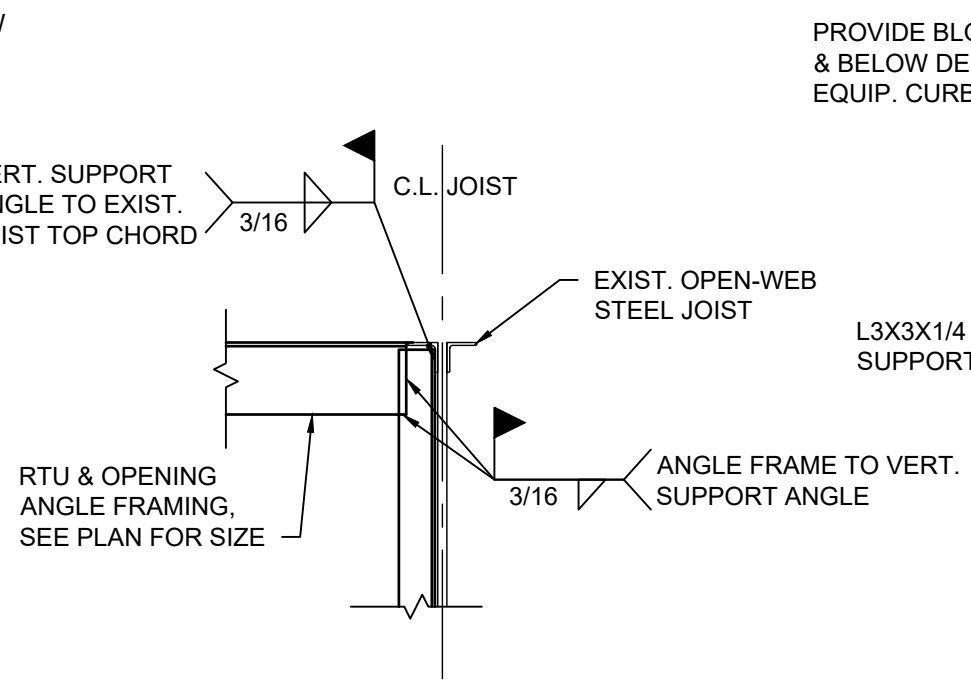
Drawing Title

**DOOR &
HARDWARE
SCHEDULE**

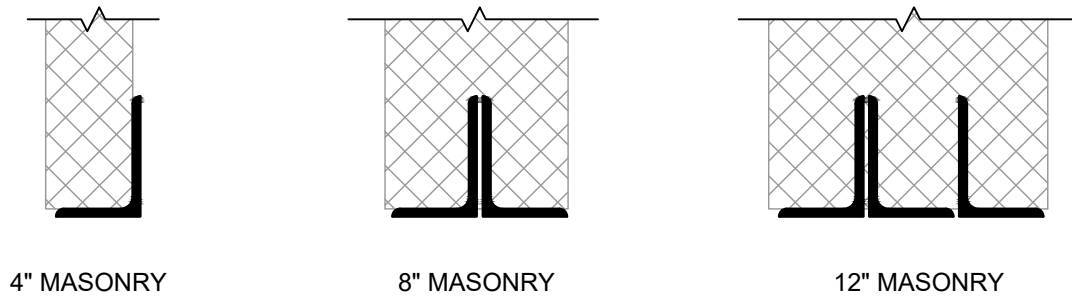
Drawing No.
A-610



1 TYP. ROOF OPNG. & ROOF TOP EQUIP. SUPPORT FRAME DETAIL
SCALE: 3/4" = 1'-0"



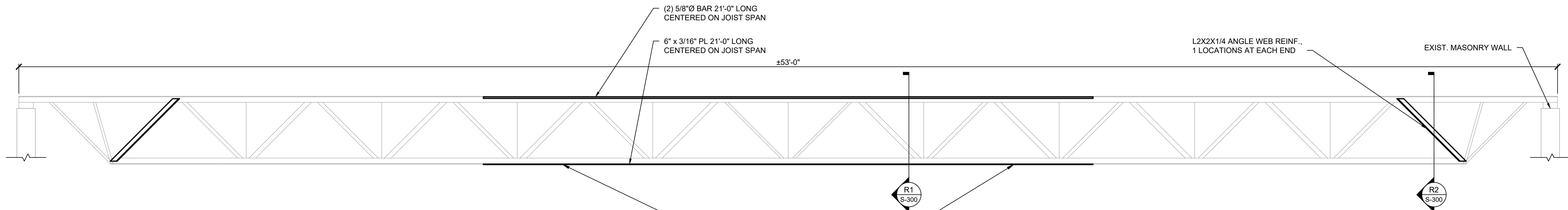
2 TYPICAL ROOF OPNG. CLOSURE DETAIL
SCALE: N.T.S.



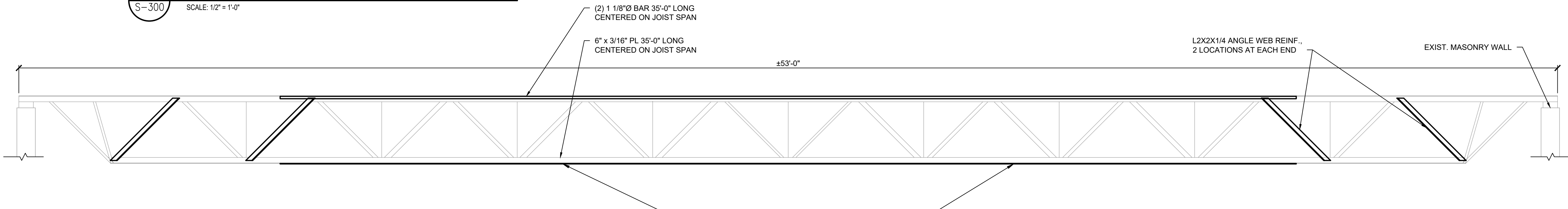
LOOSE LINTEL SCHEDULE			
MASONRY OPENING	4 INCH WALL	8 INCH WALL	12 INCH WALL
UP TO 4'-0"	L3 1/2x3 1/2x1/4	(2) L3 1/2x3 1/2x1/4	(3) L3 1/2x3 1/2x1/4
OVER 4'-0" TO 6'-0"	L4x3 1/2x1/4	(2) L4x3 1/2x1/4	(3) L4x3 1/2x1/4
OVER 6'-0" TO 7'-0"	L5x3 1/2x5/16	(2) L5x3 1/2x5/16	(3) L5x3 1/2x5/16
OVER 7'-0" TO 8'-0"	L6x3 1/2x5/16	(2) L6x3 1/2x5/16	(3) L6x3 1/2x5/16

- NOTES:
- ALL ANGLES ARE TO BE LONG LEG VERTICAL, UNLESS OTHERWISE NOTED.
 - ALL EXTERIOR LOOSE LINTELS SHALL BE HOT-DIPPED GALVANIZED.
 - PROVIDE MINIMUM 6" BEARING AT EACH END OF OPENING.
 - CONTRACTOR SHALL SUBMIT WITH THE ERECTION PLANS A COMPLETE SCHEDULE OF LOOSE LINTELS, INDICATING MARK, MASONRY OPENING, ANGLE SIZE, LENGTH, AND LOCATIONS.
 - COORDINATE ALL REQUIRED WALL OPENINGS WITH ARCHITECTURAL AND MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS.

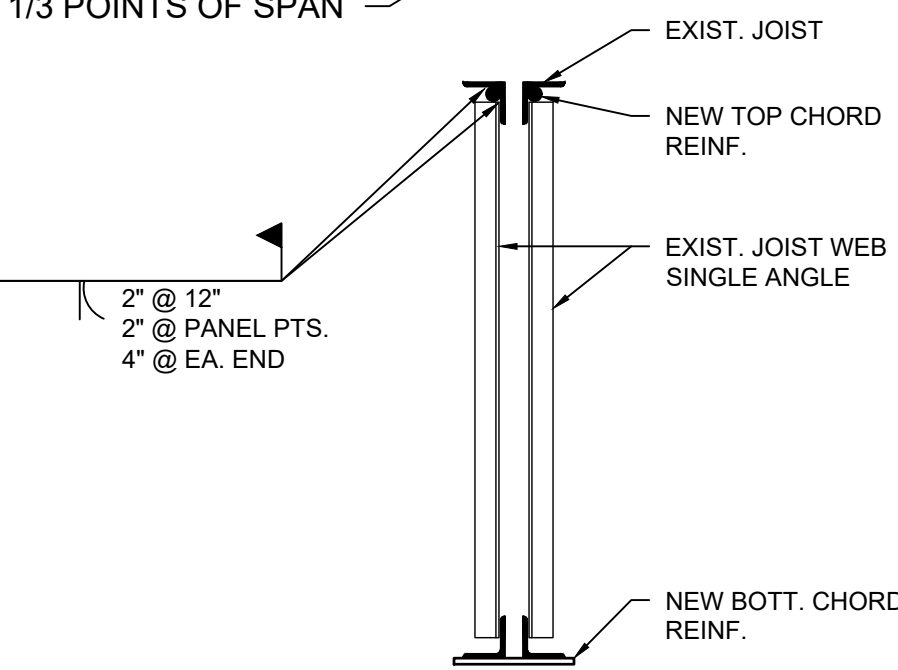
3 TYPICAL LOOSE LINTEL SCHEDULE
SCALE: N.T.S.



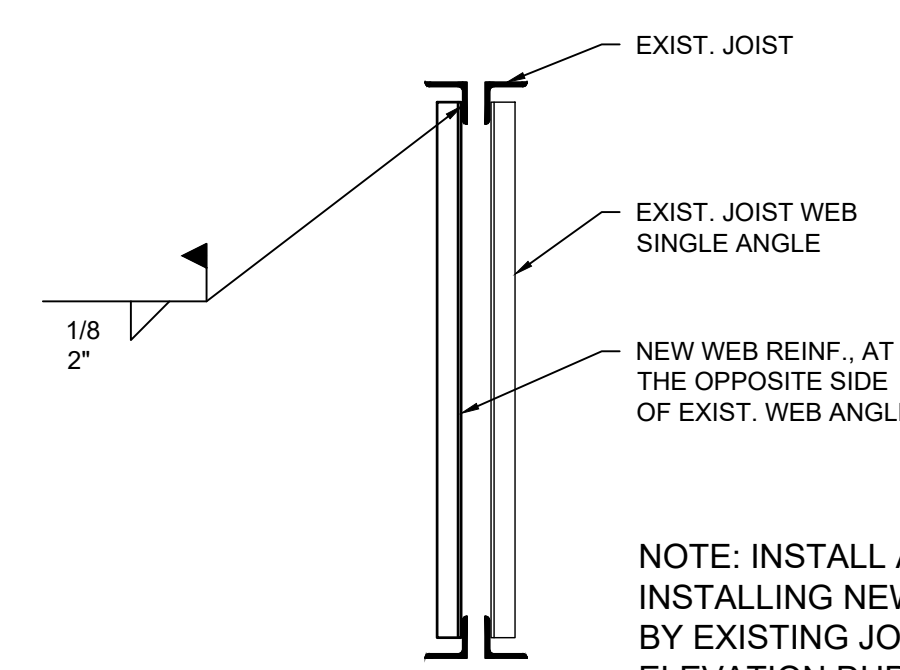
4 EXISTING JOIST REINFORCING ELEVATION
SCALE: 1/2" = 1'-0"



5 EXISTING JOIST REINFORCING ELEVATION UNDER MECH. EQUIP.
SCALE: 1/2" = 1'-0"



R1 CHORD REINF. DETAIL
SCALE: N.T.S.



R2 WEB REINF. DETAIL
SCALE: N.T.S.

NOTE: INSTALL ALL JOIST REINFORCING PRIOR TO INSTALLING NEW ELEMENTS TO BE SUPPORTED BY EXISTING JOISTS. SHORE AS NOTED ON ELEVATION DURING WELDING

No.	Date	Revisions
2	03-28-25	ADDENDUM NO. 2
0	02-18-25	RFF SET



Drawn by	YAY
Checked by	RAB
Project No.	40034G
Scale	
Date	02/18/2025

Mechanical, Electrical, & Structural Engineer:	GREENMAN PEDERSEN, INC. 2 EXECUTIVE BOULEVARD SUITE 202 SUDBURY, NY 10961
Civil Engineer:	ATZL NASHER & ZIGLER 254 North Main Street New City, NY 10955






RENOVATION OF ROCKLAND GREEN ADMINISTRATIVE HEADQUARTERS AND CONSTRUCTION OF AN IMMERSIVE THEATRE EXPERIENCE	TOWN OF CLARISTON, COUNTY OF ROCKLAND 172 MAIN STREET NAUSET, NY 10964
--	--

MSA	MICHAEL SHILALE ARCHITECTS, LLP 140 Park Avenue New City, NY 10956 Tel 845-708-9200 www.shilale.com
-----	---

Drawing No.	S-300
-------------	-------

© COPYRIGHT, MICHAEL SHILALE ARCHITECTS, ALL RIGHTS RESERVED.



LIGHT FIXTURE SCHEDULE						
SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NUMBER	WATTS	LUMENS	LLF
A1 	2 X 2 LINEAR LED LIGHT FIXTURE	ELITE	22-EDGE-LED-4000L-DIM10-MVOLT-35K-85	41.3	4261	0.900
A2 	2 X 2 LINEAR LED LIGHT FIXTURE	ELITE	22-EDGE-LED-3500L-DIM10-MVOLT-35K-85	29.6	3196	0.900
A3 	2 X 2 LINEAR LED LIGHT FIXTURE	ELITE	22-EDGE-LED-2000L-DIM10-MVOLT-35K-85	19.1	2086	0.900
D1 	4\" data-bbox="115 275 135 295"/>	ELITE	HH4-LED-1500L-DIM10-MVOLT-WD-35K-90-HH4-4501-CL-WH	20	1494	0.850
C1 	6\" data-bbox="115 305 135 325"/>	ELITE	HH6-LED-2000L-DIM10-MVOLT-WD-40K-90-HH6-6501-CL-WH	22.7	2013	0.900
	EDGE/LET LED EXIT SIGN (GREEN)	COMPASS	CHE-RLT-R2-G-NE	2.94		

ADDITIONAL NOTES:

- CONTRACTOR TO VERIFY QUANTITY AND TYPE OF ALL FIXTURES AND ASSOCIATED DRIVERS IN FIELD.
- COORDINATE WITH MANUFACTURERS FOR ALL ANCILLARY COMPONENTS REQUIRED FOR FIXTURES WITH 0-10V DIMMING REQUIREMENTS.

1. FOR GENERAL NOTES, ABBREVIATIONS AND ELECTRICAL SYMBOLS, REFER TO DWG. E001.
2. COORDINATE LOCATION OF BASE BUILDING ELECTRICAL PANELS WITH PROPERTY MANAGER.
3. ALL WIRING SHALL BE #212 AWG, 1#12 AWG GND IN 3/4" C, U.O.N.
4. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY.
5. UPDATE ALL EXISTING PANELBOARD DIRECTORIES AFFECTED BY NEW WORK. REFER TO PANELBOARD DESIGNATION LEGEND FOR IDENTIFICATION OF PANELBOARDS AND CIRCUITS.
6. CONTRACTOR SHALL MAINTAIN CONTINUITY TO ALL EXISTING CIRCUITRY TO REMAIN WHICH ARE AFFECTED BY THE SCOPE OF WORK. CONTRACTOR SHALL FURNISH ALL NECESSARY JUNCTION BOXES, CONDUIT, AND WIRES ARE REQUIRED.
7. ALL OUTLET LOCATION AND MOUNTING HEIGHTS ARE PER ARCHITECT PLANS AND FIELD CONDITIONS, COORDINATE WITH ARCHITECT.
8. ALL DATA CABLEING TO BE BY SYSTEMS VENDOR; COORDINATE LOCATIONS/ROUTING WITH CABLEING VENDOR. REFER TO DWG. E203 FOR LIGHTING CONTROL DEVICE WIRING DIAGRAM INFORMATION.
9. EXTERIOR 150KW GENERATOR SHALL PROVIDE POWER THE ENTIRE BUILDING (INCLUDE LIGHTING). IN THE EVENT OF POWER LOSS, PROVIDE ALL EXIT SIGNS ON SAME CKT.
10. UTILIZE PANEL PP-2 (4X) AND PANEL 1B(PK) TO ENERGIZE ALL LIGHTING CIRCUITS IN AREA OF WORK. U.O.N. PROVIDE NEW LIGHTING CONTROLS AS INDICATED.
11. PROVIDE DAYLIGHT HARVESTING CONTROLS WHERE REQUIRED. NEW CONTROLS SHALL BE WIRELESS. CONTRACTOR SHALL PROVIDE SYSTEM THAT INCLUDES A HUB, CEILING MOUNTED OCCUPANCY/VACANCY/PHOTO SENSORS, POWER PACKS, WALL SWITCHES AND ALL ANCILLARY COMPONENTS AS INSTALLED FOR A COMPLETE SYSTEM REQUIREMENT. COORDINATE ALL SYSTEM REQUIREMENTS WITH APPROVED SYSTEM MANUFACTURER. REFER TO E203 FOR ADDITIONAL INFORMATION.



Drawn by	JL
Checked by	SH
Project No.	40034G
Scale	
Date	02/18/2025

Mechanical, Electrical & Structural Engineer:	GREENMAN PEDERSEN, INC 2 EXECUTIVE BOULEVARD SUITE 202 SUFFERN, NY 10901
Civil Engineer:	ATZL, NASHER, & ZIGLER 234 North Main Street New City, NY 10955

RENOVATION OF ROCKLAND
GREEN ADMINISTRATIVE
HEADQUARTERS AND
CONSTRUCTION OF AN
IMMERSIVE THEATRE
EXPERIENCE

No. **E202**

**ATTACHMENT 2
TO
ADDENDUM 2 TO RFP 2025-02**

REVISED SPECIFICATIONS

SECTION 088000 - GLAZING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Glass products.
2. Laminated glass.
3. Insulating glass.
4. Glazing sealants.
5. Glazing tapes.
6. Miscellaneous glazing materials.

B. Related Requirements:

1. Section 088300 "Mirrors."
2. Section 088853 "Security Glazing."

1.2 DEFINITIONS

- A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.
- B. Glass Thicknesses: Indicated by thickness designations in millimeters in accordance with ASTM C1036.
- C. IBC: International Building Code.
- D. Interspace: Space between lites of an insulating-glass unit.

1.3 COORDINATION

- A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances to achieve proper safety margins for glazing retention under each design load case, load case combination, and service condition.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site .

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

2. Review temporary protection requirements for glazing during and after installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Glass Samples: For each type of the following products; 12 inches square.
 1. Coated glass.
 2. Laminated glass.
 3. Insulating glass.
- C. Glazing Accessory Samples: For sealants , in 12-inch lengths. Install sealant Samples between two strips of material representative in color of adjoining framing system.
- D. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.
- E. Delegated Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by qualified professional engineer responsible for their preparation.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer .
- B. Preconstruction adhesion and compatibility test report.
- C. Sample Warranties: For special warranties.

1.7 QUALITY ASSURANCE

- A. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for materials and execution.
 1. Install glazing in mockups specified in Section 085113 "Aluminum Windows" to match glazing systems required for Project, including glazing methods.
 2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 PRECONSTRUCTION TESTING

- A. Preconstruction Adhesion and Compatibility Testing: Test each glass product, tape sealant, gasket, glazing accessory, and glass-framing member for adhesion to and compatibility with elastomeric glazing sealants.

1. Testing is not required if data are submitted based on previous testing of current sealant products and glazing materials matching those submitted.
2. Use ASTM C1087 to determine whether priming and other specific joint-preparation techniques are required to obtain rapid, optimum adhesion of glazing sealants to glass, tape sealants, gaskets, and glazing channel substrates.
3. Test no fewer than eight Samples of each type of material, including joint substrates, shims, sealant backings, secondary seals, and miscellaneous materials.
4. Schedule enough time for testing and analyzing results to prevent delaying the Work.
5. For materials failing tests, submit sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.

1.9 DELIVERY, STORAGE, AND HANDLING

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

1.10 FIELD CONDITIONS

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

1.11 WARRANTY

- A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.
 1. Warranty Period: 10 years from date of Substantial Completion.
- B. Manufacturer's Special Warranty for Laminated Glass: Manufacturer agrees to replace laminated-glass units that deteriorate within specified warranty period. Deterioration of laminated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.
 1. Warranty Period: Five 10 years from date of Substantial Completion.

- C. Manufacturer's Special Warranty for Insulating Glass: Manufacturer agrees to replace insulating-glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is obstruction of vision by dust, moisture, or film on interior surfaces of glass.
1. Warranty Period: 10 years from date of Substantial Completion.
- D. Manufacturer's Special Warranty for Heat-Soaked Tempered Glass: Manufacturer agrees to replace heat-soaked tempered glass units that spontaneously break due to nickel sulfide (NiS) inclusions at a rate exceeding 0.3 percent (3/1000) within specified warranty period. Coverage for any other cause is excluded.
1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations for Glass: Obtain coated glass from single source from single manufacturer.
- B. Source Limitations for Glazing Accessories: For each product and installation method, obtain from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
- B. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design glazing.
- C. Structural Performance: Glazing shall withstand the following design loads within limits and under conditions indicated determined in accordance with the IBC and ASTM E1300:
1. Design Wind Pressures: Determine design wind pressures applicable to Project in accordance with ASCE/SEI 7, based on heights above grade indicated on Drawings.
 - a. Importance Factor: 1.5 .
 2. Maximum Lateral Deflection: For glass supported on all four edges, limit center-of-glass deflection at design wind pressure to not more than 1/50 times the short-side length or 1 inch, whichever is less.
 3. Thermal Loads: Design glazing to resist thermal stress breakage induced by differential temperature conditions and limited air circulation within individual glass lites and insulated glazing units.

- D. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.
- E. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:
1. For monolithic-glass lites, properties are based on units with lites 6 mm thick .
 2. For laminated-glass lites, properties are based on products of construction indicated.
 3. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for each lite.
 4. U-Factors: Center-of-glazing values, in accordance with NFRC 100 and based on most current non-beta version of LBL's WINDOW computer program, expressed as Btu/sq. ft. x h x deg F.
 5. SHGC and Visible Transmittance: Center-of-glazing values, in accordance with NFRC 200 and based on most current non-beta version of LBL's WINDOW computer program.
 6. Visible Reflectance: Center-of-glazing values, in accordance with NFRC 300.

2.3 GLASS PRODUCTS, GENERAL

- A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below unless more stringent requirements are indicated. See these publications for glazing terms not otherwise defined in this Section or in referenced standards.
1. NGA Publications: "Laminated Glazing Reference Manual" and "Glazing Manual."
 2. AAMA Publications: AAMA GDSG-1, "Glass Design for Sloped Glazing," and AAMA TIR A7, "Sloped Glazing Guidelines."
 3. IGMMA Publication for Sloped Glazing: IGMMA TB-3001, "Guidelines for Sloped Glazing."
 4. IGMMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."
- B. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction or manufacturer. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.
- C. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass that complies with performance requirements and is not less than thickness indicated.
1. Minimum Glass Thickness for Exterior Lites: 6 mm .
- D. Strength: Where annealed float glass is indicated, provide annealed float glass, heat-strengthened float glass, or fully tempered float glass. Where heat-strengthened float glass is indicated, provide heat-strengthened float glass or fully tempered float glass. Where fully tempered float glass is indicated, provide fully tempered float glass.

2.4 GLASS PRODUCTS

- A. Clear Annealed Float Glass: ASTM C1036, Type I, Class 1 (clear), Quality-Q3.
- B. Low-Iron Annealed Float Glass: ASTM C1036, Type I, Class I (clear), Quality-Q3; and with visible light transmission of not less than 91 percent.
- C. Fully Tempered Float Glass: ASTM C1048, Kind FT (fully tempered), Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3.
 - 1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.
- D. Pyrolytic-Coated, Low-Maintenance Glass: Clear float glass with coating on first surface having both photocatalytic and hydrophilic properties that act to loosen dirt and to cause water to sheet evenly over the glass instead of beading.

2.5 LAMINATED GLASS

- A. Laminated Glass: ASTM C1172. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.
 - 1. Construction: Laminate glass with polyvinyl butyral interlayer or cast-in-place and cured-transparent-resin interlayer to comply with interlayer manufacturer's written instructions.
 - 2. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.
 - 3. Interlayer Color: Clear unless otherwise indicated.
- B. Windborne-Debris-Impact-Resistant Laminated Glass: Comply with requirements specified above for laminated glass except laminate glass with one of the following to comply with interlayer manufacturer's written instructions:
 - 1. Construction: Laminate glass with polyvinyl butyral interlayer reinforced with polyethylene terephthalate film or cast-in-place and cured-transparent-resin interlayer reinforced with polyethylene terephthalate film to comply with interlayer manufacturer's written instructions.
 - 2. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.
 - 3. Interlayer Color: Clear unless otherwise indicated.

2.6 INSULATING GLASS

- A. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified in accordance with ASTM E2190.
 - 1. Sealing System: Dual seal, with manufacturer's standard primary and secondary sealants.
 - 2. Perimeter Spacer: Manufacturer's standard spacer material and construction.
 - 3. Desiccant: Molecular sieve or silica gel, or a blend of both.

2.7 GLAZING SEALANTS

A. General:

1. Compatibility: Compatible with one another and with other materials they contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
3. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range of industry colors.

B. Neutral-Curing Silicone Glazing Sealant, Class 100/50: Complying with ASTM C920, Type S, Grade NS, Use NT.

2.8 GLAZING TAPES

A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C1281 and AAMA 800 for products indicated below:

1. AAMA 804.3 tape, where indicated.
2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

2.9 MISCELLANEOUS GLAZING MATERIALS

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

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

C. Setting Blocks:

1. EPDM with Shore A durometer hardness of 85, plus or minus 5.
2. Type recommended in writing by sealant or glass manufacturer.

D. Spacers:

1. Neoprene blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
2. Type recommended in writing by sealant or glass manufacturer.

E. Edge Blocks:

1. EPDM with Shore A durometer hardness per manufacturer's written instructions.
2. Type recommended in writing by sealant or glass manufacturer.

F. Cylindrical Glazing Sealant Backing: ASTM C1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

2.10 FABRICATION OF GLAZING UNITS

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

1. Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.
 - a. Temperature Change: 120 deg F , ambient; 180 deg F , material surfaces .

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

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

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:

1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
2. Presence and functioning of weep systems.
3. Minimum required face and edge clearances.
4. Effective sealing between joints of glass-framing members.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

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

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

3.3 GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.
- B. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance.
- C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.
- D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- F. Provide spacers for glass lites where length plus width is larger than 50 inches.
 - 1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
 - 2. Provide 1/8-inch- minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
- G. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and in accordance with requirements in referenced glazing publications.
- H. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.
- I. Set glass lites with proper orientation so that coatings face exterior or interior as specified.
- J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.
- K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended in writing by gasket manufacturer.

3.4 TAPE GLAZING

- A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
- B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
- C. Cover vertical framing joints by applying tapes to heads and sills first, then to jambs. Cover horizontal framing joints by applying tapes to jambs, then to heads and sills.
- D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
- E. Do not remove release paper from tape until right before each glazing unit is installed.
- F. Apply heel bead of elastomeric sealant.
- G. Center glass lites in openings on setting blocks, and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.
- H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.5 SEALANT GLAZING (WET)

- A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.
- B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.
- C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

3.6 CLEANING AND PROTECTION

- A. Immediately after installation, remove nonpermanent labels and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains.
 - 1. If, despite such protection, contaminating substances do contact with glass, remove substances immediately as recommended in writing by glass manufacturer. Remove and replace glass that cannot be cleaned without damage to coatings.

- C. Remove and replace glass that is damaged during construction period.
- D. Wash glass on both exposed surfaces not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

3.7 LAMINATED GLASS SCHEDULE

- A. Clear Laminated Glass Type : Two plies of low-iron fully tempered float glass.
 - 1. Minimum Thickness of Each Glass Ply: 4 mm .
 - 2. Interlayer Thickness: 0.060 inch .
 - 3. Safety glazing required.

3.8 INSULATING-LAMINATED-GLASS SCHEDULE

- A. Low-E-Coated, Clear Insulating Laminated Glass Type :
 - 1. Overall Unit Thickness: 1 inch .
 - 2. Minimum Thickness of Outdoor Lite: 4 mm .
 - 3. Outdoor Lite: Clear fully tempered float glass.
 - 4. Interspace Content: Argon.
 - 5. Indoor Lite: Clear laminated glass with two plies of annealed float glass.
 - a. Minimum Thickness of Each Glass Ply: 4 mm .
 - b. Interlayer Thickness: 0.060 inch .
 - 6. Low-E Coating: Pyrolytic or sputtered on second or third surface.
 - 7. Safety glazing required.

END OF SECTION 088000