

UNT/ UNTS
OAK STREET HALL DEMOLITION &
ART STUDIO FACILITY
1001 W. MULBERRY STREET
DENTON, TEXAS 76201
VAI Project No. 18012.001

November 23, 2020

ADDENDUM NO. 02
Addendum to Project Manual and Drawings dated November 09, 2020

NOTICE TO BIDDERS:

PROJECT MANUAL

- A. **REPLACE** Table of Contents dated 20 November, 2020 with Table of Contents dated 23 November 2020; Section 088000 Glazing added.
- B. **ADD** Section 088000 Glazing dated 23 November, 2020

DRAWINGS

- A. **REPLACE** Sheet A-611 Door Schedule, Door & Frame Types, Louver Types, Misc. Details dated November 09, 2020 with Sheet A-611 Door Schedule, Door & Frame Types, Louver Types, Misc. Details dated November 23, 2020. Glazing types added to door type notes.

RESPONSE TO BIDDER'S QUESTIONS:

1. There is not an insulated low e glass make-up for exterior storefront doors 101A, 102 & 129 and HM exterior Pair 109 in the base bid as well as the alternate 10 storefronts.
RESPONSE: Reference Project Manual Section 088000 Glazing provided in Addendum 02.
2. Also need a more definite storefront elevation than what is indicated at elevation 01 page a-201 in order to provide a relevant price.
RESPONSE: Reference sheet A-611 for door information regarding type, size, dimensional criteria, etc. Sheet A-611 revised and provided in Addendum 02 for additional glazing type information.

END OF ADDENDUM NO. 02

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SECTION 088000

GLAZING

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. Glass for windows, doors and interior borrowed lites.
 - 2. Glazing sealants and accessories.
- 1.3 DEFINITIONS
- A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.
 - B. Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.
 - C. IBC: International Building Code.
 - D. Interspace: Space between lites of an insulating-glass unit.
- 1.4 COORDINATION
- A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.
- 1.5 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.
- 1.6 ACTION SUBMITTALS
- A. Product Data: For each type of product.
 - B. Glass Samples: For each type of glass product other than clear monolithic vision glass; 12 inches square.
 - 1. Tinted glass.
 - 2. Coated glass.
 - 3. Laminated glass.
 - 4. Insulating glass.
 - C. Glazing Accessory Samples: For sealants and colored spacers, in 12-inch lengths. Install sealant Samples between two strips of material representative in color of the 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 the qualified professional engineer responsible for their preparation.
- 1.7 INFORMATIONAL SUBMITTALS
- A. Qualification Data: For Installer manufacturers of insulating-glass units with sputter-coated, low-E coatings glass testing agency and sealant testing agency.
 - B. Product Certificates: For glass.
 - C. Preconstruction adhesion and compatibility test report.
 - D. Sample Warranties: For special warranties.
- 1.8 QUALITY ASSURANCE
- A. Manufacturer Qualifications for Insulating-Glass Units with Sputter-Coated, Low-E Coatings: A qualified insulating-glass manufacturer who is approved and certified by coated-glass manufacturer.
 - B. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

- C. Glass Testing Agency Qualifications: A qualified independent testing agency accredited according to the NFRC CAP 1 Certification Agency Program.
 - D. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.
 - E. 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.
- 1.9 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 C 1087 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 the use of specially formulated primers.
- 1.10 DELIVERY, STORAGE, AND HANDLING
- A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.
 - B. Comply with insulating-glass manufacturer's written instructions for venting and sealing units to avoid hermetic seal ruptures due to altitude change.
- 1.11 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.
- 1.12 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 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 the obstruction of vision by dust, moisture, or film on interior surfaces of glass.
 - 1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PRODUCTS, GENERAL

- A. VOC Limits: any adhesives, sealants, paints, or coatings shall meet the VOC limits indicated in Section 018113.

2.2 GLASS PRODUCTS MANUFACTURERS

- A. Insulating Glass Manufacturers: Subject to compliance with requirements, provide product indicated in glass schedules or comparable product by one of the following:
 1. Cardinal Glass Industries.
 2. Guardian Industries Corp.
 3. Oldcastle Building Envelope.
 4. Pilkington North America Inc.
 5. PPG Industries, Inc.
 6. Viracon, Inc.
- B. Source Limitations for Glass: Obtain from single source from single manufacturer for each glass type.
 1. Obtain tinted glass from single source from single manufacturer.
 2. Obtain reflective-coated glass from single source from single manufacturer.
- C. Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for each product and installation method.

2.3 FIRE-PROTECTION-RATED GLAZING

- A. Fire-Protection-Rated Glazing, General: Listed and labeled by a testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 252 for door assemblies.
- B. Fire-Protection-Rated Tempered Glass: 1/4-inch-thick, fire-protection-rated tempered glass, complying with testing requirements in 16 CFR 1201 for Category II materials.
 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Safti First; SuperLite20.
 - b. Vetrotech Saint-Gobain; SSG Pyroswiss.
 - c. Firelite

2.4 PERFORMANCE REQUIREMENTS

- A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
- B. 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 according to the IBC and ASTM E 1300.
 1. Design Wind Pressures: As indicated on Structural Drawings.
 2. Vertical Glazing: For glass surfaces sloped 15 degrees or less from vertical, design glass to resist design wind pressure based on glass type factors for short-duration load.
 3. 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.
 4. Differential Shading: Design glass to resist thermal stresses induced by differential shading within individual glass lites.
- 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 .
 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, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg F.
 5. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
 6. Visible Reflectance: Center-of-glazing values, according to NFRC 300.

2.5 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. GANA 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. IGMA Publication for Sloped Glazing: IGMA TB-3001, "Guidelines for Sloped Glazing."
 - 4. IGMA 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. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.
- C. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of IGCC.
- D. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass that complies with performance requirements and is not less than the thickness indicated.
 - 1. Minimum Glass Thickness for Exterior Lites: 6 mm.
 - 2. Thickness of Tinted Glass: Provide same thickness for each tint color indicated throughout Project.
- E. Strength: Where annealed float glass is indicated, provide annealed float glass, heat-strengthened float glass, or fully tempered float glass as needed to comply with "Performance Requirements" Article Where heat-strengthened float glass is indicated, provide heat-strengthened float glass or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where fully tempered float glass is indicated, provide fully tempered float glass.

2.6 GLASS PRODUCTS

- A. Clear Annealed Float Glass: ASTM C 1036, Type I, Class 1 (clear), Quality-Q3.
- B. Fully Tempered Float Glass: ASTM C 1048, Kind FT (fully tempered).
 - 1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.

2.7 LAMINATED GLASS

- A. Laminated Glass: ASTM C 1172. 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: Lamine glass with polyvinyl butyral 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.

2.8 INSULATING GLASS

- A. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190.
 - 1. Sealing System: Dual seal, with manufacturer's standard primary and secondary sealants.
 - 2. Spacer: Manufacturer's standard spacer material and construction.
 - 3. Desiccant: Molecular sieve or silica gel, or a blend of both.

2.9 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.
- B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Dow Corning Corporation; 790.
 - b. GE Advanced Materials - Silicones; SilPruf LM SCS2700.

- c. Pecora Corporation; 890NST.
 - d. Tremco Incorporated; Spectrem 1.
 - C. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 50, Use NT.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Dow Corning Corporation; 795.
 - b. GE Advanced Materials - Silicones; .
 - c. Pecora Corporation; 864.
 - d. Polymeric Systems, Inc.; PSI-641.
 - e. Tremco Incorporated; Spectrem 2.
- 2.10 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 C 1281 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.
- 2.11 MISCELLANEOUS GLAZING MATERIALS
 - A. General: Provide products of material, size, and shape complying with referenced glazing standard, with requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.
 - B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
 - C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.
 - D. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
 - E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).
 - F. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.
- 2.12 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.
- 2.13 MONOLITHIC-GLASS TYPES
 - A. Glass Type [GL-1]: Fully tempered glass.
 - 1. Thickness: [6.0 mm] 1/4".
 - 2. Provide safety glazing labeling.
- 2.14 INSULATING-GLASS TYPES
 - A. Glass Type [GL-2]: Low-e-coated, tinted insulating glass. Basis of design: Vitro Architectural Glass (PPG) Solarban 90 Atlantica + Clear
 - 1. Overall Unit Thickness: 1 inch.
 - 2. Thickness of Each Glass Lite: 6.0 mm.
 - 3. Outdoor Lite: Tinted fully tempered float glass.
 - 4. Interspace Content: Air.
 - 5. Indoor Lite: Clear fully tempered glass.
 - 6. Low-E Coating: Sputtered on second.
 - 7. Visible Light Transmittance: 39 percent minimum.
 - 8. Winter Nighttime U-Factor: 0.29 maximum.
 - 9. Summer Daytime U-Factor: 0.27 maximum.
 - 10. Solar Heat Gain Coefficient: 0.20 maximum.
 - 11. Provide safety glazing labeling.

- B. Glass Type [GL-2A]: Low-e coated, clear Insulating glass. Basis of design: Vitro Architectural Glass (PPG) Solarban 60 (2) Clear + Clear
 - 1. Overall Unit Thickness: 1 inch.
 - 2. Thickness of Each Glass Lite: 6.0 mm.
 - 3. Outdoor Lite: Clear fully tempered glass.
 - 4. Interspace Content: Air.
 - 5. Indoor Lite: Clear fully tempered glass.
 - 6. Low-E Coating: Sputtered on second.
 - 7. Visible Light Transmittance: 70 percent minimum.
 - 8. Winter Nighttime U-Factor: 0.29 maximum.
 - 9. Summer Daytime U-Factor: 0.27 maximum.
 - 10. Solar Heat Gain Coefficient: 0.39 maximum.
 - 11. Provide safety glazing labeling.

2.15 FIRE-PROTECTION-RATED GLAZING TYPES

- A. Glass Type [GL-3]: 45-minute fire-rated glazing.

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 according to 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.

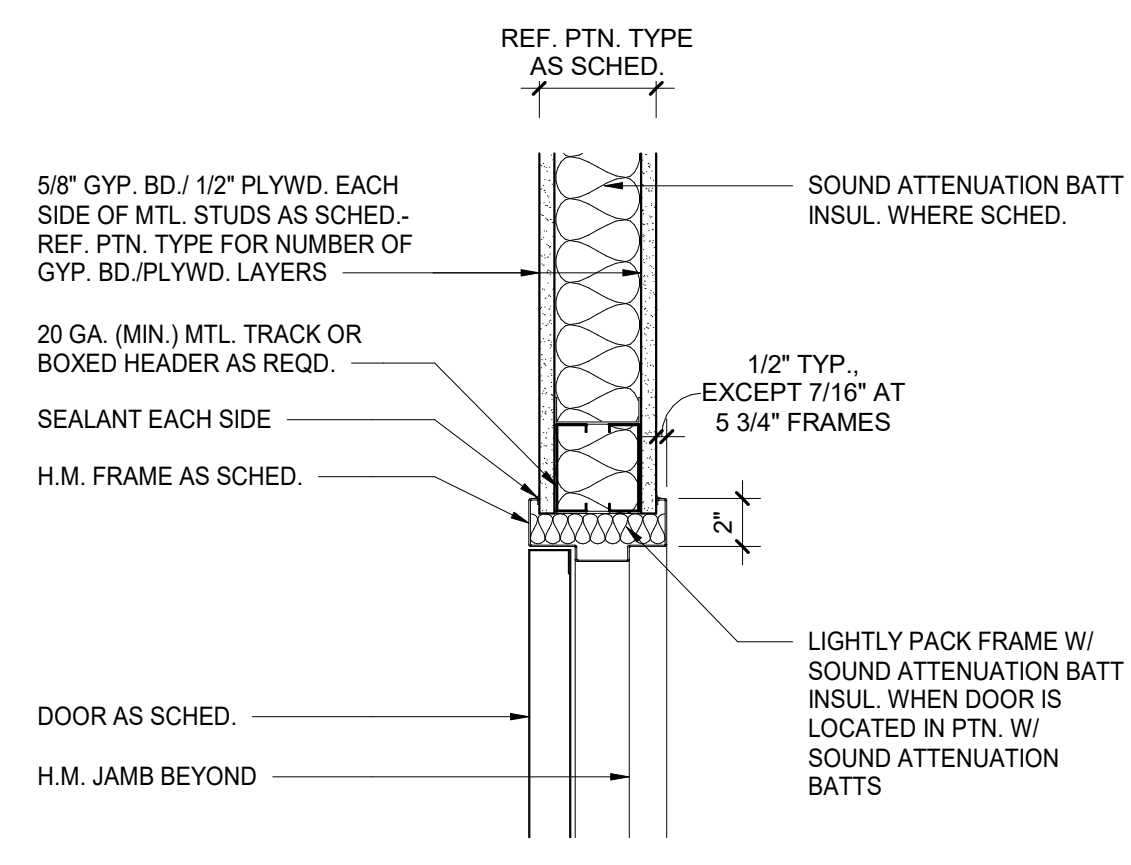
- J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.
 - K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended 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 come into 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 MONOLITHIC GLASS SCHEDULE
- A. Clear fully tempered float glass.
 - 1. Minimum Thickness: 6 mm.
 - 2. Safety glazing required.
 - B. Clear heat-strengthened float glass.
 - 1. Minimum Thickness: 6 mm.
 - C. Clear annealed float glass.
 - 1. Minimum Thickness: 6 mm.
- 3.8 INSULATING GLASS SCHEDULE
- A. Low-E-coated, clear insulating glass.
 - 1. Basis-of-Design Product: Vitro Low-E Solar ban 90 (2) Atlantica (outside lite) + Clear (inside lite).
 - 2. Overall Unit Thickness: 1 inch.
 - 3. Minimum Thickness of Each Glass Lite: 6 mm.
 - 4. Outdoor Lite: Heat-strengthened or Fully tempered float glass as required by code.
 - 5. Interspace Content: Air.
 - 6. Indoor Lite: Heat-strengthened or Fully tempered float glass as required by code.
 - 7. Low-E Coating: Sputtered on second surface.

8. Winter Nighttime U-Factor: 0.29 maximum.
9. Visible Light Transmittance: 39 percent minimum.
10. Solar Heat Gain Coefficient: 0.20 maximum.
11. Safety glazing required.

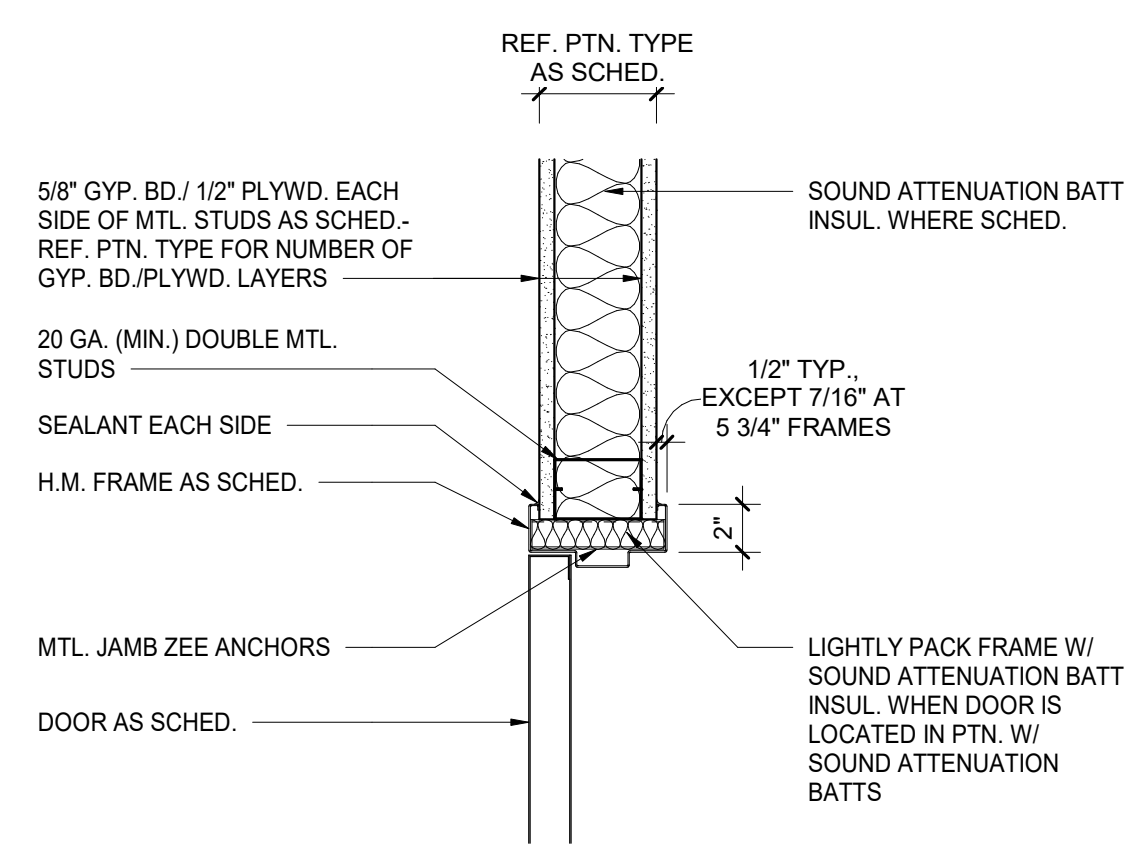
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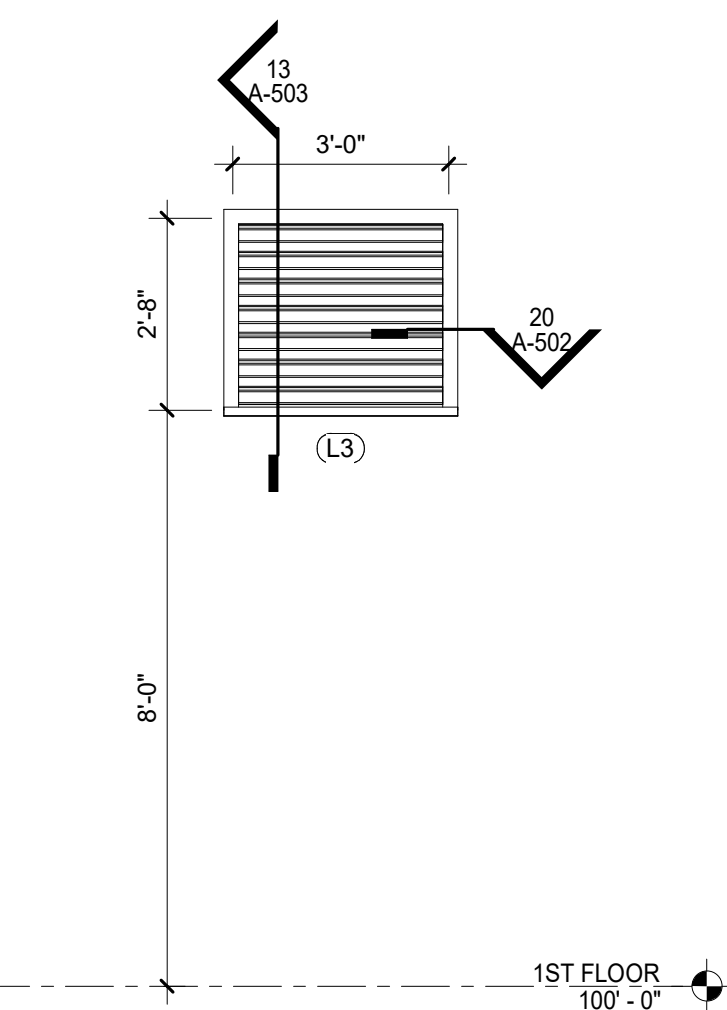
DOOR SCHEDULE													
DOOR #	ROOM NAME	DOOR		DOOR TYPE	FRAME TYPE	MATERIAL			DETAIL			NOTES	
		WIDTH	HEIGHT			DOOR	FRAME	HEAD	JAMB	SILL	RATING		HARDWARE SET
101A	CENTRAL LOBBY	4'-0"	9'-10"	H	6	ALUM	ALUM	05A-501	05A-502	10A-501	-	AC795ATW	EXTERIOR DOOR, ELECTRIC OPERATOR
101B	CIRCULATION	3'-0"	8'-0"	C	4	HM	HM	04A-611	03A-611	-	-	C711CT	
101C	CIRCULATION	3'-0"	8'-0"	C	4	HM	HM	04A-611	03A-611	-	-	C711T	
102	CIRCULATION	4'-0"	9'-10"	H	6	ALUM	ALUM	08A-501	10A-502	10A-501	-	C795ATW	EXTERIOR DOOR
103	PLASTER ROOM	4'-0"	8'-0"	C	1	HM	HM	04A-611	03A-611	-	-	207TW	
104	FAB LAB MESSY	3'-0"	8'-0"	B	1	HM	HM	04A-611	03A-611	-	-	C201CT	
108	ELEC. KILN RM	6'-0"	8'-0"	B	1	HM	HM	04A-611	03A-611	-	45	208ET	DOOR PR
109	CIRCULATION	6'-0"	7'-10"	C	1	HM	HM	12A-501	09A-502	13A-501	-	C714T	EXTERIOR DOOR, DOOR PR
110	TECH OFFICE	3'-0"	8'-0"	F	1	HM	HM	04A-611	03A-611	-	-	C201TU	DUTCH DOOR
111	OFF	3'-0"	8'-0"	A	1	HM	HM	04A-611	03A-611	-	-	C201T	
112	OFF	3'-0"	8'-0"	A	1	HM	HM	04A-611	03A-611	-	-	C201T	
113	TOOL STOR.	6'-0"	8'-0"	A	1	HM	HM	04A-611	03A-611	-	-	C200CT	DOOR PR
114	TOOL STOR.	3'-0"	8'-0"	A	1	HM	HM	04A-611	03A-611	-	-	C201T	
115	TOOL STOR.	3'-0"	8'-0"	A	1	HM	HM	04A-611	03A-611	-	-	C201T	
116	GLAZING LAB-DRY	4'-0"	8'-0"	C	1	HM	HM	04A-611	03A-611	-	-	407GTW	
117	CLOSET	5'-0"	8'-0"	A	1	HM	HM	04A-611	03A-611	-	-	40ET	DOOR PR
118A	GLAZING LAB-WET	4'-0"	8'-0"	C	1	HM	HM	04A-611	03A-611	-	-	407GTW	
118B	GLAZING LAB-WET	4'-0"	8'-0"	C	1	HM	HM	04A-611	03A-611	-	-	407GTW	
119	SLURRY ROOM	6'-0"	7'-10"	A	1	HM	HM	02A-501	09A-502	11A-501	-	C214TX	EXTERIOR DOOR, DOOR PR
120	SPRAY BOOTH	3'-0"	8'-0"	A	1	HM	HM	04A-611	03A-611	-	-	401T	
121	GRADUATE STUDIOS	4'-0"	8'-0"	C	1	HM	HM	04A-611	03A-611	-	45	C781TW	
122	PROJECT SPACE	3'-0"	8'-0"	B	1	HM	HM	04A-611	03A-611	-	-	C201T	
123A	CRITIQUE SPACE	3'-0"	8'-0"	C	1	HM	HM	04A-611	02 & 04A-611	-	-	401T	
123B	CRITIQUE SPACE	4'-0"	8'-0"	C	1	HM	HM	04A-611	03A-611	-	-	C201TW	
124	FIRE RISER RM	3'-0"	7'-10"	A	1	HM	HM	02A-501	09A-502	11A-501	-	C205T	EXTERIOR DOOR
125	IDF	3'-0"	8'-0"	A	1	HM	HM	04A-611	02 & 03A-611	-	-	C201T	
127	ELEC	6'-0"	8'-0"	A	1	HM	HM	04A-611	02 & 03A-611	-	-	C710CT	DOOR PR
128	STORAGE	3'-0"	8'-0"	A	1	HM	HM	04A-611	03A-611	-	-	C201CT	
129	CIRCULATION	4'-0"	9'-10"	H	6	ALUM	ALUM	08A-501	10A-502	10A-501	-	C795ATW	EXTERIOR DOOR
134	STUDIO	3'-0"	8'-0"	A	1	HM	HM	04A-611	03A-611	-	-	C201T	
135	PROJECT SPACE	3'-0"	8'-0"	B	1	HM	HM	04A-611	02 & 03A-611	-	-	C201T	
137	WOMEN'S RESTROOM	3'-0"	8'-0"	A	1	HM	HM	04A-611	03A-611	-	-	817T	
138	MEN'S RESTROOM	3'-0"	8'-0"	A	1	HM	HM	04A-611	03A-611	-	-	817T	
139	RESTROOM	3'-0"	8'-0"	A	1	HM	HM	04A-611	03A-611	-	-	341CT	
140	JANITOR	3'-0"	8'-0"	A	1	HM	HM	04A-611	03A-611	-	-	C201T	
142	CLOSET	3'-0"	8'-0"	A	1	HM	HM	04A-611	03A-611	-	-	2125T	DOOR PR
150A	KILN YARD	9'-4 3/8"	10'-0"	GATE					18A-502	-	-	CG7712	GATE, ACCESS CONTROL, EXIT DEVICE, LOCKSET
150B	KILN YARD	16'-0 3/8"	10'-0"	GATE					16 & 12A-502	-	-	CG7712	GATE, ACCESS CONTROL, EXIT DEVICE, LOCKSET
151	CLAY MIXING	4'-0"	7'-0"	B	1	HM	HM	11A-501	19A-502	-	-	C207TW	ACCESS CONTROL, DOOR PR 3'-0", 1'-0"
152	BLAAUW RM	6'-0"	10'-6"	B	1	HM	HM	11A-501	19A-502	-	-	C214CT	ACCESS CONTROL, DOOR PR



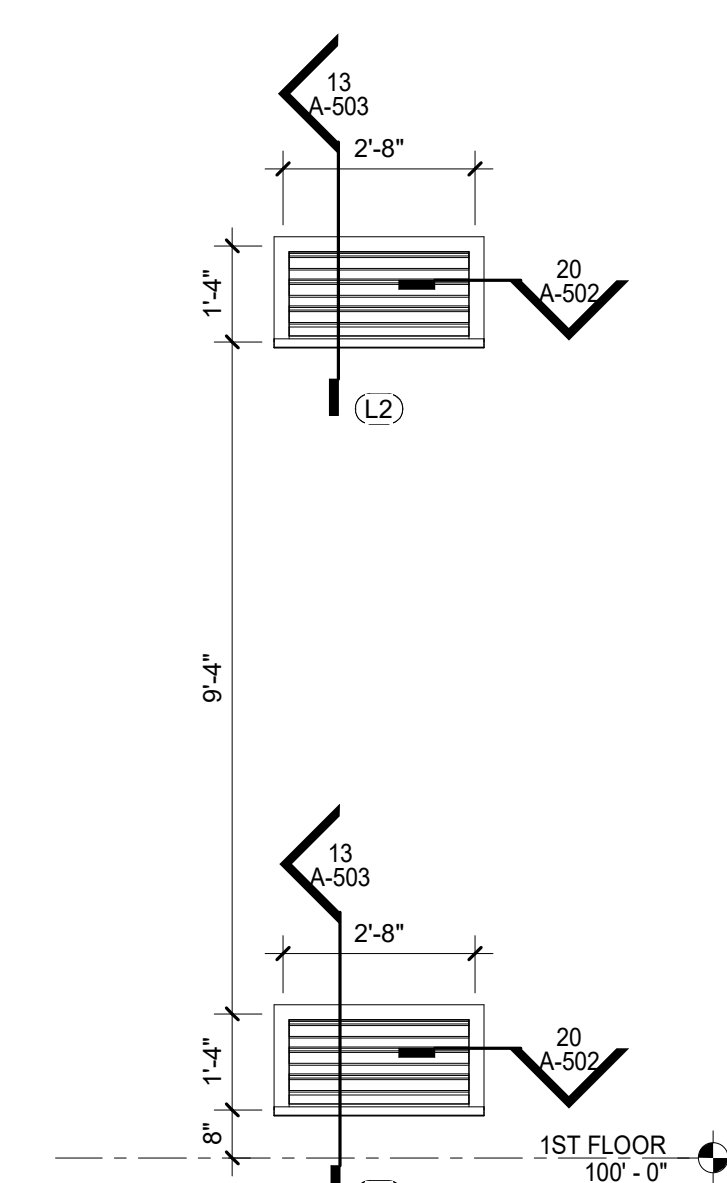
04 INT. DOOR HEAD DETAIL AT GYP. BD. & MTL. STUD PTN.
SCALE: 1/12" = 1'-0"



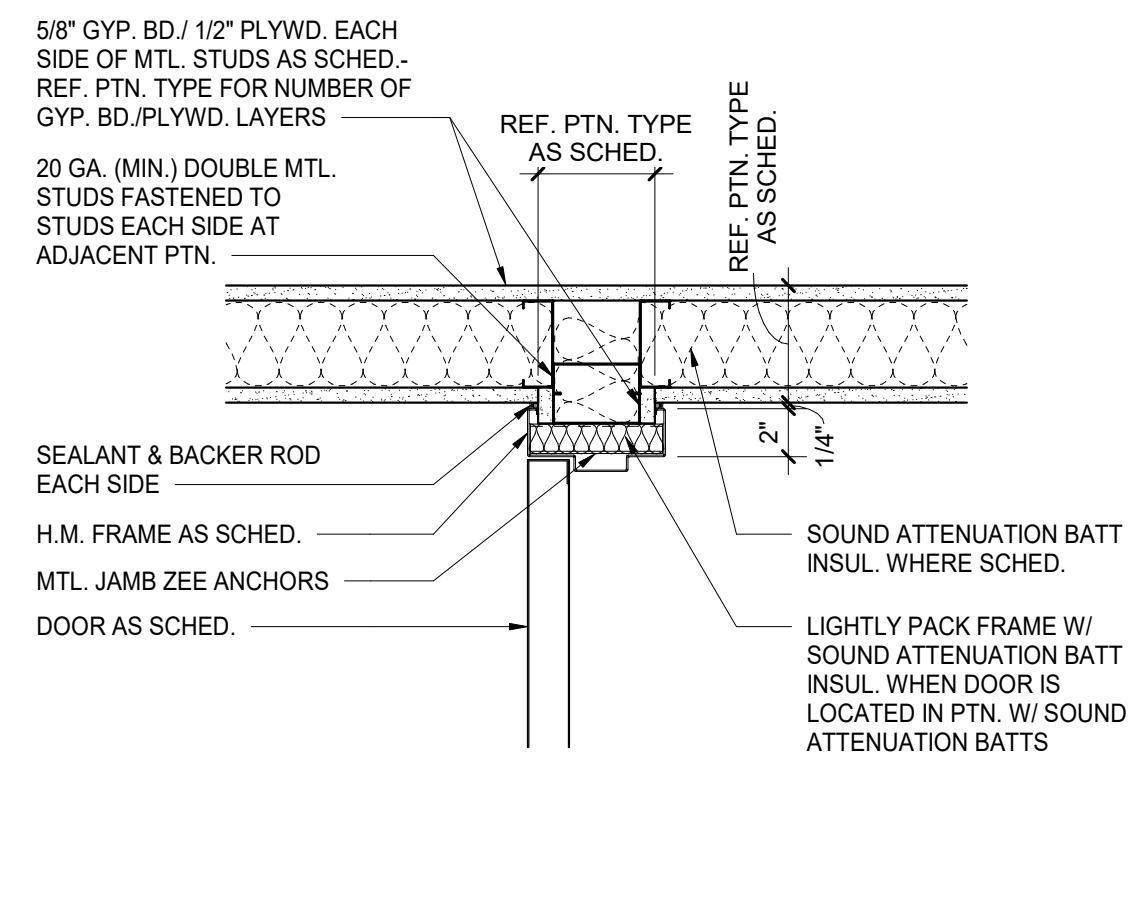
03 INT. DOOR JAMB DETAIL AT GYP. BD. & MTL. STUD PTN.
SCALE: 1/12" = 1'-0"



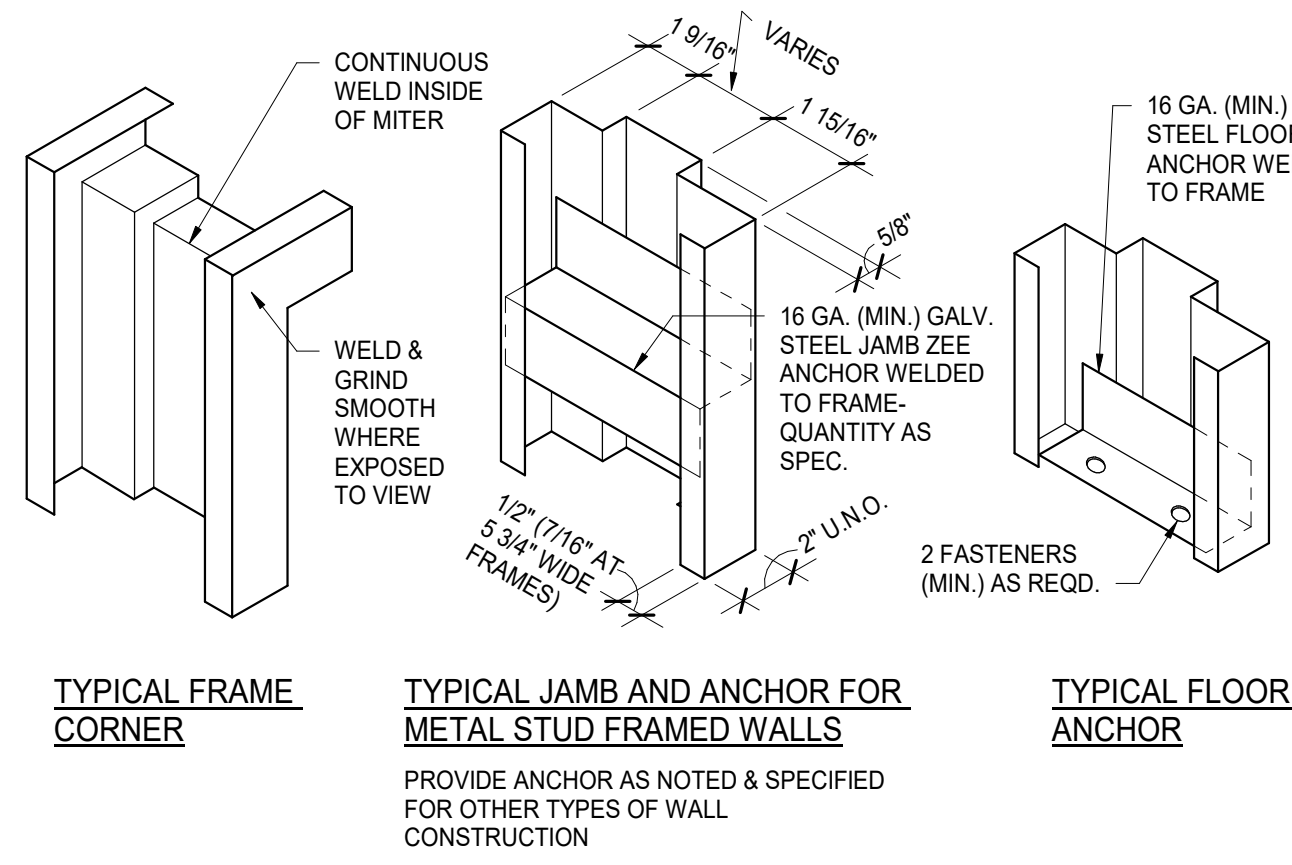
06 LOUVER ELEVATION - L3
SCALE: 3/8" = 1'-0"



05 LOUVER ELEVATION - L1 & L2
SCALE: 3/8" = 1'-0"



02 INT. DOOR JAMB DETAIL AT GYP. BD. & MTL. STUD PTN.
SCALE: 1/12" = 1'-0"



01 TYP. WELDED HOLLOW METAL (H.M.) DOOR FRAME DETAILS
N.T.S.

DOOR, FRAME & HDWR. GENERAL NOTES

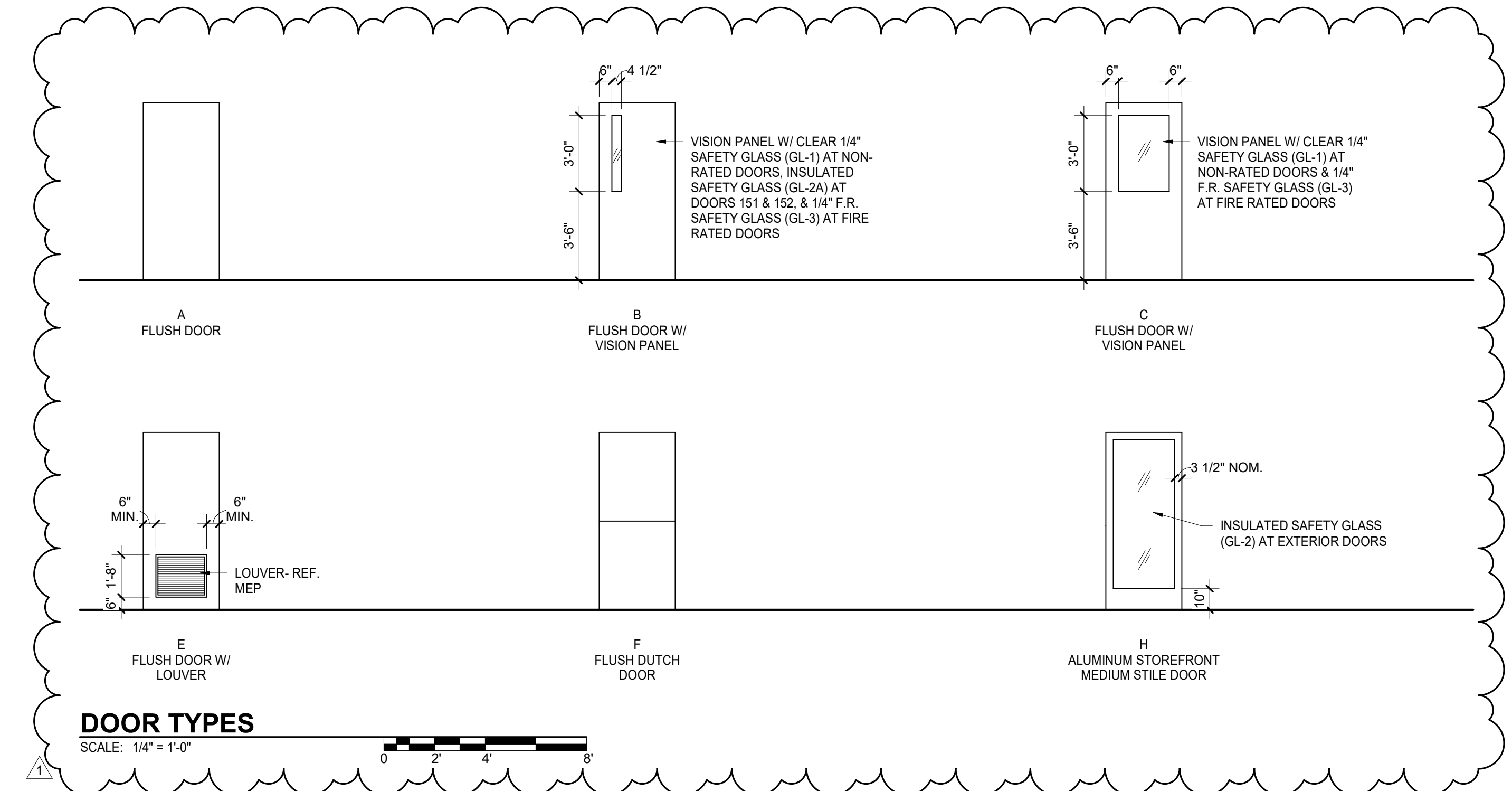
- HOLLOW METAL (HM) DOORS AND FRAMES SHALL BE PAINTED AS SCHED.
- PAINT DOORS AND FRAMES INTO UNFINISHED AREAS ON BOTH SIDES AND EDGES.
- COORDINATE SECURITY SYSTEM INTERFACE REQUIREMENTS W/ OWNER - ALSO REF. MEP.
- COORDINATE SECURITY SYSTEM INTERFACE REQUIREMENTS W/ OWNER - ALSO REF. MEP.

DOOR & FRAME MATERIALS

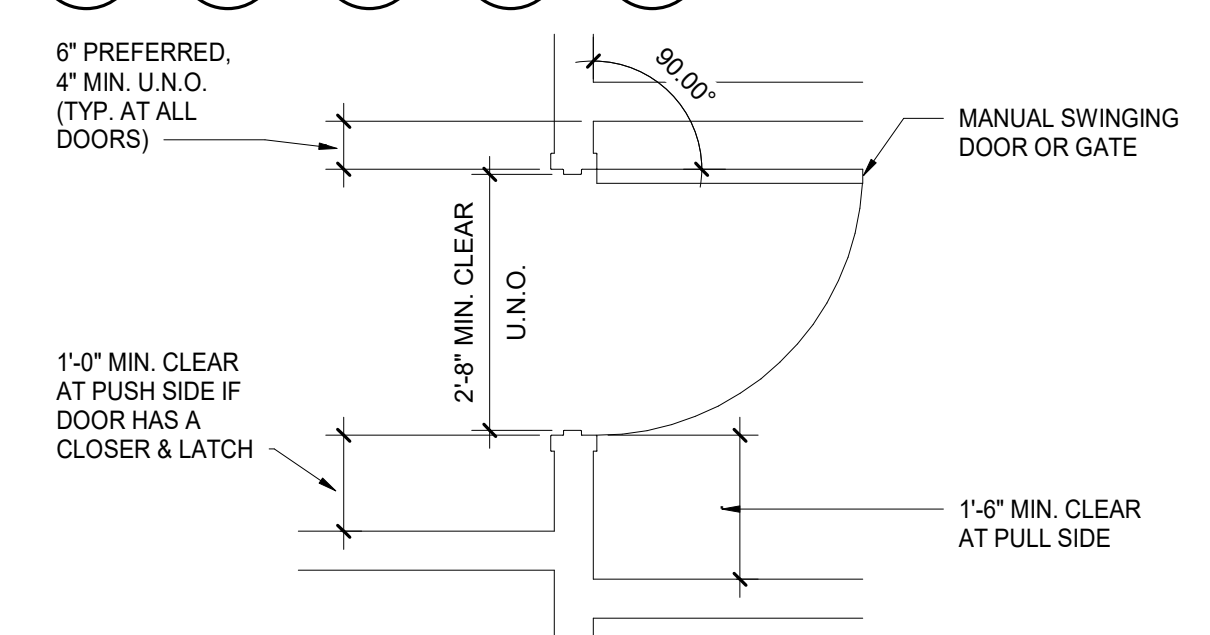
- HM - HOLLOW METAL
- GL - GLASS
- ALUM - ALUMINUM

DOOR SCHEDULE REMARKS

- EXT. ONLY.
- ACCESSIBLE AUTOMATIC OPENING DEVICE.
- PROVIDE OUTSIDE PULL & INSIDE LEVER HDWR., NO PANIC HDWR. REQ'D.
- DOOR STOP AND HOLD OPEN DEVICE.
- PROVIDE REMOVABLE DOOR STOPS AROUND ENTIRE DOOR FRAME (JAMBS, HEAD).
- HEAD FRAME SHALL BE REMOVABLE TYPE ACROSS DOOR OPENING WIDTH.
- CARD READER ACCESS, PROVIDE ELECTRICAL ROUGH-IN FOR DOOR.
- REF. INTERIOR FIT OUT DOCUMENTS FOR FURTHER INFORMATION.
- DOOR STOP, FLOOR MOUNTED.
- OVERLY ACOUSTIC DOOR AND FRAME MODEL #509391 - STC 50.
- AUTOMATIC OPENING DEVICES.



DOOR TYPES
SCALE: 1/4" = 1'-0"



- TYPICAL NOTES:
- DOORS SHOWN ADJACENT TO A FLANKING WALL OR OTHER FIXED OBSTRUCTION SHALL BE LOCATED AS SHOWN.
 - OTHER DOOR LOCATIONS SHALL BE ON CENTERLINE OF ROOM OR AS SPECIFICALLY DIMENSIONED.
 - MANEUVERING CLEARANCE REQUIREMENTS ON EACH SIDE OF DOOR VARY - REF. FLOOR PLANS & TAS/ADA TABLE 404.2.4.1 (SHOWN BELOW).

TAS/ADA TABLE 404.2.4.1 MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS AND GATES			
TYPE OF USE		MINIMUM MANEUVERING CLEARANCE	
APPROACH DIRECTION	DOOR OR GATE SIDE	PERPENDICULAR TO DOORWAY	PARALLEL TO DOORWAY (BEYOND LATCH SIDE UNLESS NOTED)
FROM FRONT	PULL	60 INCHES (1525 mm)	18 INCHES (455 mm)
FROM FRONT	PUSH	48 INCHES (1220 mm)	0 INCHES (0 mm)
FROM HINGE SIDE	PULL	60 INCHES (1525 mm)	36 INCHES (915 mm)
FROM HINGE SIDE	PUSH	54 INCHES (1370 mm)	42 INCHES (1065 mm)
FROM HINGE SIDE	PUSH	42 INCHES (1065 mm)	22 INCHES (560 mm)
FROM LATCH SIDE	PULL	48 INCHES (1220 mm)	24 INCHES (610 mm)
FROM LATCH SIDE	PUSH	42 INCHES (1065 mm)	24 INCHES (610 mm)

- ADD 12 INCHES (305 mm) IF CLOSER AND LATCH ARE PROVIDED.
- ADD 6 INCHES (150 mm) IF CLOSER AND LATCH ARE PROVIDED.
- BEYOND HINGE SIDE.
- ADD 6 INCHES (150 mm) IF CLOSER IS PROVIDED.

TAS/ADA REQUIREMENTS FOR MANEUVERING CLEARANCE AT SWINGING DOOR OR GATE
N.T.S.