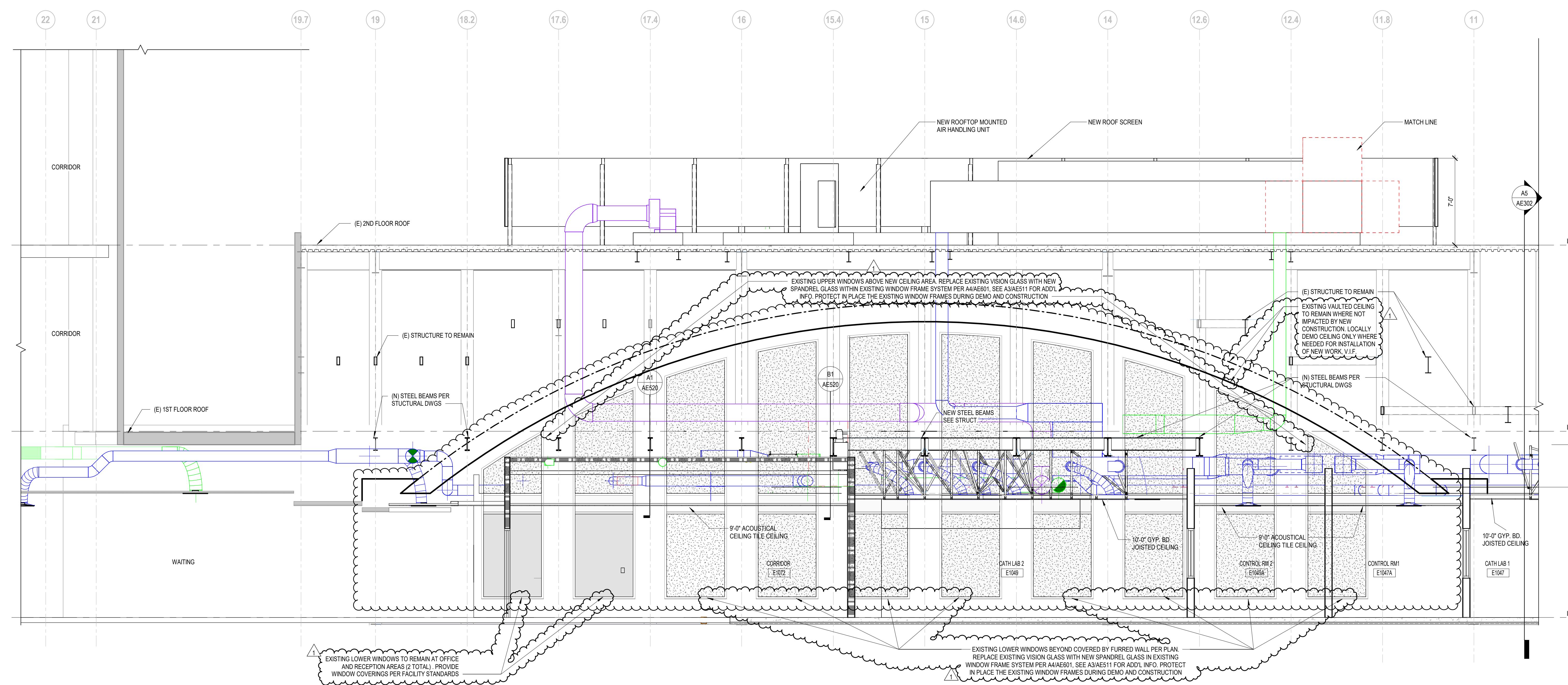


D1 BUILDING SECTION @ CATH LAB 1 - EAST/WEST

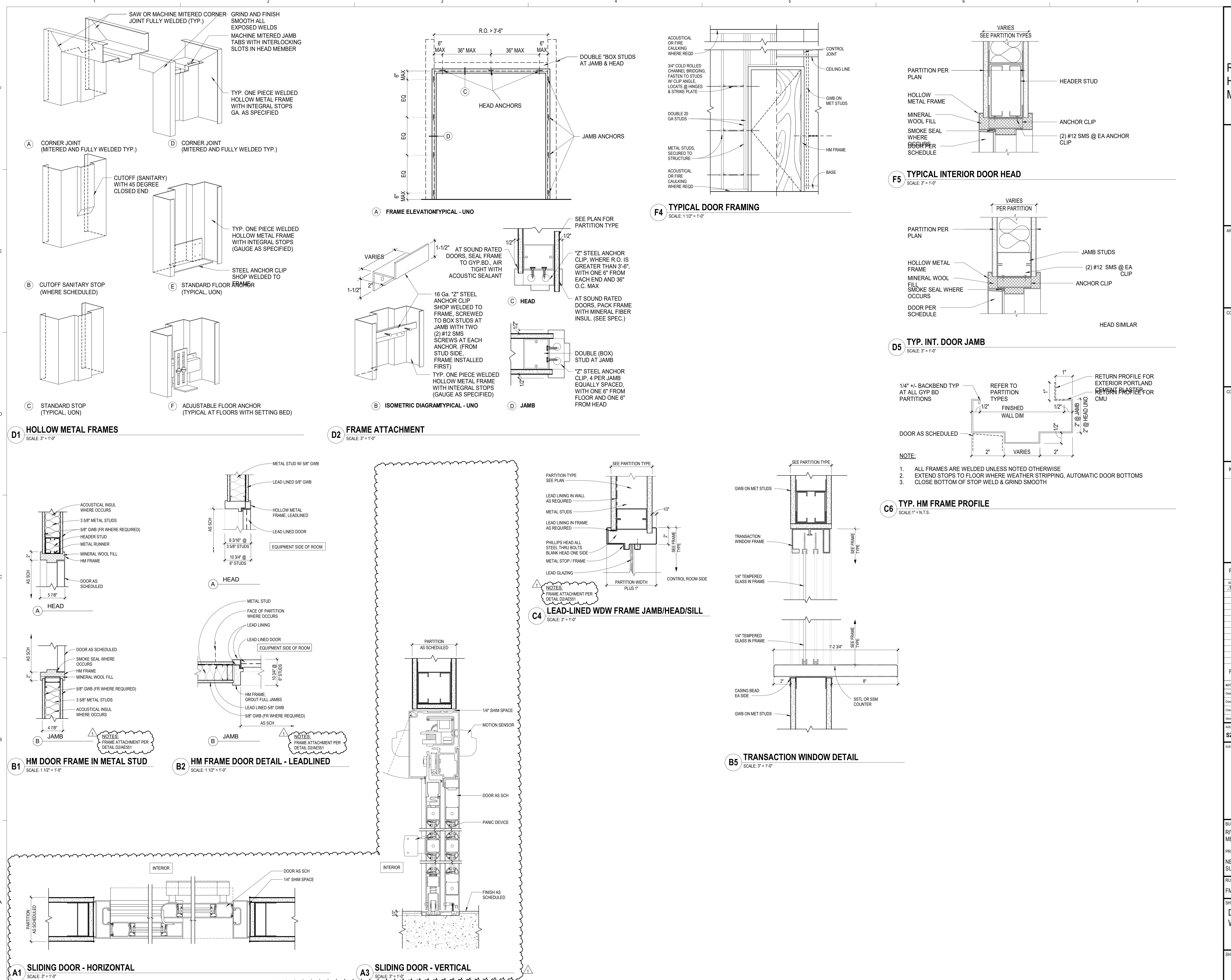
SCALE: 1/4" = 1'-0"




A1 BUILDING SECTION ELEVATION @ CATH LAB 2 - EAST/WEST

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


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PANELBOARD: 1H7B																														
(EXISTING)																														
CB OPT: ST - SHUNT TRIP, FR - 100% RATED, L - LOCKABLE AF - ARC FAULT CIRCUIT INTERRUPTER GF - GROUND FAULT CIRCUIT INTERRUPTER EO - ELECTRICALLY OPERATED, SS - SOLID STATE ERMS - ENERGY-REDUCING MAINTENANCE SWITCH EP - EQUIPMENT GROUND FAULT (30mA)...																														
VOLTAGE: 480Y/277V, 30, 4W BUS RATING: 225 A MAIN: 225 BRANCH TYPE: NORMAL																														
A.L.C. RATING: 14kA MOUNTING: SURFACE ENCLOSURE:																														
LOAD TYPE	CKT NO	LOAD SERVED	CB	P	CB OPT	A (VA)	B (VA)	C (VA)	CB OPT	P	CB	LOAD SERVED	CKT NO	LOAD TYPE																
1	CLERICAL OFFICE <>	20 1	—	0	0	0	0	0	1 20	ADMITTING TOILETS <>	2	—	—	—																
3	CLERKS AV OFFICES <>	20 1	—	0	0	0	0	0	1 20	GIFT SHOP <>	4	—	—	—																
5	OFFICE STORAGE <>	20 1	—	0	0	0	0	0	1 20	TOILET EVS. ELEC. RM. <>	6	—	—	—																
7	PASSAGE TREATMENT RM <>	20 1	—	0	0	0	0	0	1 20	OFFICES <>	8	—	—	—																
9	TREATMENT RM CARDIO <>	20 1	—	0	0	0	0	0	1 20	PHYSICAL THERAPY <>	10	—	—	—																
11	PHYSICAL THERAPY <>	20 1	—	0	0	0	0	0	1 20	EXAM RMS. TOILETS, CORR <>	12	—	—	—																
13	EXAM ROOMS <>	20 1	—	0	0	0	0	0	1 20	EXAM. WAITING. OFFICES <>	14	—	—	—																
15	TOILET. CONTROL. CORR <>	20 1	—	0	0	0	0	0	1 20	INFUSION CENTER <>	16	—	—	—																
17	WAITING <>	20 1	—	0	0	0	0	0	1 20	INFUSION CENTER <>	18	—	—	—																
19	EAST ENTRY <>	20 1	—	0	0	0	0	0	1 20	OCCUP. THERAPY OFFICE <>	20	—	—	—																
21	MAIN CORRIDOR <>	20 1	—	0	0	0	0	0	1 20	MAIN ENTRY <>	22	—	—	—																
23	MAIN LOBBY, CORRIDOR <>	20 1	—	0	0	0	0	0	1 20	WAITING LOBBY, CORRIDOR <>	24	—	—	—																
25	CORRIDOR <>	20 1	—	0	0	0	0	0	1 20	EXAM. WAITING. OFFICES <>	26	—	—	—																
27	CORRIDOR <>	20 1	—	0	0	0	0	0	1 20	EXAM. WAITING. OFFICES <>	28	—	—	—																
28	MAIN LOBBY, VVISITOR LOUNGE <>	20 1	—	0	0	0	0	0	1 20	EXAM. WAITING. OFFICES <>	30	—	—	—																
LIGHTING	31	E1025	20 1	273	222	0	432	1 20	E1039-E1040	32	LIGHTING	—	—	—																
LIGHTING	33	E1059	20 1	96	48	0	120	1 20	E1040-E1073-E1073	34	LIGHTING	—	—	—																
LIGHTING	35	E1045-E1055-E1053-E1056	20 1	1168	1216	0	302	1 20	E1054-E1057	36	LIGHTING	—	—	—																
LIGHTING	37	E1081-E052	20 1	411	271	0	120	1 20	E1047-E1048	38	LIGHTING	—	—	—																
LIGHTING	39	E1028-E1077-E1078	20 1	411	271	0	120	1 20	E1041-E1060-E1061-E1062-E1071	40	LIGHTING	—	—	—																
—	41	SPARE	20 1	—	0	0	0	1 20	SPARE	42	—	—	—	—																
TOTAL LOAD: 2879 VA 914 VA 1667 VA										TOTAL LOAD: 1154 VA 2092 VA 840 VA																				
FEED THROUGH LOAD: 0 VA 0 VA 0 VA										FEED THROUGH LOAD: 0 VA 0 VA 0 VA																				
PANEL CALCULATIONS: CONNECTED LOAD										DEMAND FACTOR LEGEND																				
LOAD TYPE										LOAD TYPE																				
LIGHTING	5460	VA	ELEVATOR	PER NEC 620.14	MOTOR	100%	P	CB OPT	PER NEC 620.14	MOTOR	100%	P	CB OPT	PER NEC 620.14	MOTOR	100%	P	CB OPT	PER NEC 620.14	MOTOR	100%									
MISC	3100	VA	HOTEL	PER NEC 220.42	HEAT	100%	P	CB OPT	PER NEC 220.56	MISC	100%	P	CB OPT	PER NEC 220.56	MISC	100%	P	CB OPT	PER NEC 220.56	MISC	100%									
KITCHEN	PER NEC 220.56	MISC	100%	P	CB OPT	PER NEC 220.56	MISC	100%	P	CB OPT	PER NEC 220.56	MISC	100%	P	CB OPT	PER NEC 220.56	MISC	100%	P	CB OPT	PER NEC 220.56	MISC	100%							
RECEPTACLE	PER NEC 220.44	LIGHTING	125%	P	CB OPT	PER NEC 220.44	LIGHTING	125%	P	CB OPT	PER NEC 220.44	LIGHTING	125%	P	CB OPT	PER NEC 220.44	LIGHTING	125%	P	CB OPT	PER NEC 220.44	LIGHTING	125%							
RECEPT/HEALTHCARE	PER NEC 220.42	LARGEST MOTOR	125%	P	CB OPT	PER NEC 220.42	LARGEST MOTOR	125%	P	CB OPT	PER NEC 220.42	LARGEST MOTOR	125%	P	CB OPT	PER NEC 220.42	LARGEST MOTOR	125%	P	CB OPT	PER NEC 220.42	LARGEST MOTOR	125%							
UNIT PANEL	PER NEC 220.84	NON-CONCIDENT	100%	P	CB OPT	PER NEC 220.84	NON-CONCIDENT	100%	P	CB OPT	PER NEC 220.84	NON-CONCIDENT	100%	P	CB OPT	PER NEC 220.84	NON-CONCIDENT	100%	P	CB OPT	PER NEC 220.84	NON-CONCIDENT	100%							
X-RAY	PER NEC 517.73(2)	EV CHARGE	125%	P	CB OPT	PER NEC 517.73(2)	EV CHARGE	125%	P	CB OPT	PER NEC 517.73(2)	EV CHARGE	125%	P	CB OPT	PER NEC 517.73(2)	EV CHARGE	125%	P	CB OPT	PER NEC 517.73(2)	EV CHARGE	125%							
NOTES & SPECIAL OPTIONS:	PROVIDE WITH FEED THROUGH LUGS.										NOTES & SPECIAL OPTIONS:										NOTES & SPECIAL OPTIONS:									

PANELBOARD: 1L2HA									
(EXISTING)									
CB OPT: ST - SHUNT TRIP, FR - 100% RATED, L - LOCKABLE AF - ARC FAULT CIRCUIT INTERRUPTER GF - GROUND FAULT CIRCUIT INTERRUPTER EO - ELECTRICALLY OPERATED, SS - SOLID STATE ERMS - ENERGY-REDUCING MAINTENANCE SWITCH EP - EQUIPMENT GROUND FAULT (30mA)...									
VOLTAGE: 480Y/277V, 30, 4W BUS RATING: 125 A MAIN: 100 A BRANCH TYPE: LIFE SAFETY									
A.L.C. RATING: 14kA MOUNTING: SURFACE ENCLOSURE:									

## SECTION 08 81 10 – INTERIOR GLASS GLAZING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Tempered glass.
  - 2. Fire-resistant glass ceramic material.
  - 2.3. Ceramic-coated spandrel glass
  - 3.4. Supplementary components and accessories normally furnished or necessary for a complete installation, whether or not such items are indicated on the Drawings or included in the Specifications.
- B. Related Requirements:
  - 1. Section 08 83 13 for mirrored glass.

#### 1.2 REFERENCES

- A. Definitions:
  - 1. Manufacturer: Means the primary glass manufacturer, unless otherwise indicated.
  - 2. Fabricator: Means the secondary glass fabricator, unless otherwise indicated.

#### 1.3 ADMINISTRATIVE REQUIREMENTS

- A. Performance Requirements:
  - 1. Minimum Glass Bite Depth: At least 3/8-inch glass bite depth for 6mm (nominal 1/4-inch) monolithic lites, unless otherwise indicated.
  - 2. Minimum Edge Clearance: At least 1/4-inch for 6mm (nominal 1/4-inch) monolithic lites, unless otherwise indicated
  - 3. Minimum Face Clearance: At least 1/8-inch inch for 6mm (nominal 1/4-inch) monolithic lites, unless otherwise indicated.
  - 4. Safety Glazing Requirements: Provided either fully tempered or laminated glass conforming to ANSI Z97.1 requirements for Drop Height Class A wherever safety glazing is indicated or required. Wire glass is prohibited.
  - 5. Other Requirements: Installed glass must be free from rattle.

#### 1.4 SUBMITTALS

- A. Action Submittals: Submit the following for responsive action (formal review and approval).

1. Product Data: Submit manufacturer's product data, specifications, and all other information necessary to show conformance to the Contract Documents, excluding material safety data sheets (MSDSs) and safety data sheets (SDSs), both of which are returned to the Contractor without review or responsive action.
2. Glazing Schedule: Submit glazing schedule indicating glazing types, locations, sizes, thicknesses, and extents.
3. Samples: Submit at least 8-inch square representative samples of each glass type, color, finish, and variety.

B. Informational Submittals: Submit written descriptions confirming experience specified in **QUALITY ASSURANCE** article below.

## 1.5 QUALITY ASSURANCE

- A. Source Limitations: Glazing must be obtained through one source from the same manufacturer (to ensure compatibility, regulatory conformance, and a warrantable installation).
  1. Certain items may be obtained from more than one manufacturer, but only when used for separate installations.
  2. Items provided for each different installation must be obtained from the same source and manufacturer.
- B. Safety Glazing Certification:
  1. Each pane of safety glass delivered to the project site must be furnished with a permanent identification label or mark that identifies the labeler and indicates that safety glazing material is utilized for the installation. Each label must be permanently affixed in a location such that the label remains visible after the pane of glass is installed.
  2. Each pane of tempered glass delivered to the project site must be furnished with a permanent identification label or mark etched or ceramic-fired onto the glass surface that identifies the manufacturer or fabricator and indicates that tempered glass is utilized for the installation. Each label or mark must be permanently affixed in a location such that the label or mark remains visible after the pane of glass is installed.
- C. Qualifications:
  1. Manufacturer: Company or individuals must have at least 10 years' experience manufacturing glazing installed on at least 200 previous projects similar to this project in size, material, design, and complexity.
  2. Fabricator: Company or individuals must have at least 10 years' experience fabricating glazing installed on at least 100 previous projects similar to this project in size, material, design, and complexity.
  3. Installer: Company or individuals must have at least 5 years' experience installing glazing for at least 30 previous projects similar to this project in size, material, design, and complexity.

4. Supervisors: Individuals must have at least 7 years' experience installing glazing for at least 30 previous projects similar to this project in size, material, design, and complexity, including at least 2 years' supervisory experience directing and leading glazing installers.

## 1.6 HANDLING

- A. Receiving: Inspect all deliveries for deteriorated, damaged, and defective items.
  1. Reject items that are not packaged in a manner that prevents damage; or that exhibit deterioration or damage or have damaged or open packaging or containers.
  2. Unload and store only inspected and accepted items.
- B. Storage: Store unloaded items as shipped and in conformance with manufacturer's instructions and other requirements and recommendations for storage. Furnish adequate dunnage and bracing during storage.
  1. Prevent stored items from contacting the floor or ground, from soiling and staining, and from deterioration and damage.
  2. If items are not stored in an enclosed location, then cover the tops and sides with securely-tied, waterproof, and breathable covers. Unvented polyethylene tarpaulins do not qualify as breathable covers and are prohibited. (due to potential accumulation of moisture beneath tarpaulin during certain environmental conditions)
  3. Incline covered items to ensure maximum drainage of accumulated moisture.
  4. Do not leave items uncovered where they might be exposed to weather or become wet; or exposed to other sources of deterioration and damage.
- C. Handling: Handle items in conformance with manufacturer's instructions and other requirements and recommendations, and in a manner that prevents damage.
- D. Damaged Item Replacement: Promptly remove and replace deteriorated, damaged, or defective glass with undamaged new glass that do not exhibit deterioration, damage, or defects.
- E. Packaging Waste Management: Do not burn or bury construction waste at the project site. Remove and legally dispose of all construction waste away from the project site.

## PART 2 - PRODUCTS

### 2.1 PRIMARY GLASS MANUFACTURERS

- A. Manufacturers: Provide products manufactured by one of the following, or equal.
  1. Guardian Industries Corp.
  2. Pilkington North America, Inc.
  3. PPG Industries.

4. Saint-Gobain Corp.

## 2.2 MANUFACTURED GLASS

- A. Ultra-Clear (Low Iron) Annealed Vision Glass:
  - 1. Description: ASTM C 1036, Type I (transparent flat glass), Class 1 (clear), Quality Q3 (select glazing applications).
  - 2. Products: Provide one of the following, or equal.
    - a. "Starphire" manufactured by PPG Industries.
    - b. "UltraWhite" manufactured by Guardian Industries Corp.
    - c. "OptiWhite" manufactured by Pilkington North America, Inc.
    - d. "DIAMANT" manufactured by Saint-Gobain Glass.
  - 3. Performance Requirements:
    - a. Visible Light Transmittance (VLT): At least 90 percent at 6mm thickness.

## 2.3 SECONDARY GLASS FABRICATORS

- A. Fabricators: Provide products fabricated by one of the following, or equal.
  - 1. Oldcastle BuildingEnvelope Corp.
  - 2. PPG Industries.
  - 3. Viracon, Inc.

## 2.4 TEMPERED GLASS

- A. Description: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated surfaces), fabricated from ultra-clear (low iron) annealed vision glass.
- B. Minimum Surface Compression Strength: At least 10,000 pounds per square inch.
- C. Fabrication:
  - 1. Fabricate tempered glass by the horizontal (roller hearth) process with roll wave distortion parallel to the bottom glass edge when installed, unless otherwise indicated.
  - 2. Glazing materials must be free from bubbles, smoke vanes, air holes, scratches and other defects, having ground and arrised edges; provide polished edges where exposed.
- D. Source Quality Control:
  - 1. Individual tempered glass lites installed overhead, and floor-to-ceiling tempered glass lites installed adjacent to walking surfaces must be fully heat soak tested by the manufacturer or fabricator before delivery to the project site.
  - 2. Other tempered glass lites may have statistical heat soak testing performed to demonstrate nickel sulfide breakage does not exceed 0.1 percent.

## 2.5 FIRE-RESISTANT GLASS CERAMIC MATERIAL

- A. Description: Clear and wireless fire- and impact safety-rated glass ceramic material conforming to ANSI Z97.1 and CPSC 16CFR1201 (Cat. I and II) with high performance surface-applied fire-rated film.
- B. Products: "FireLite NT" manufactured by Technical Glass Products (TGP), or equal.
- C. Requisite Properties:
  - 1. Fire-Resistance Rating: 20 minutes to 180 minutes with fire hose test.
  - 2. Thickness: 5mm (nominal 3/16-inch).
  - 3. Surface Grade: Premium.
  - 4. Identification: Each fire-rated glazing panel must be labeled with a permanent logo indicating the name of product, manufacture, testing laboratory (UL), fire rating period, safety glazing standards, and date of manufacture.

## 2.6 CERAMIC-COATED SPANDREL GLASS:

- A. Description: ASTM C 1048, Kind HS (heat strengthened) or FT (fully tempered) as indicated. Condition C (spandrel glass, one surface ceramic coated). Type I (transparent flat glass), Class 1 (clear), Quality Q3 (select glazing applications).
- B. Coating: Ceramic enamel coating applied by the silk-screen process.

## 2.6.2.7 ACCESSORIES

- A. Extruded Polystyrene (XPS):
  - 1. Description: Unfaced, rigid, CFC- and HCFC-free, closed cell plastic XPS foam insulation board conforming to ASTM C 578 Type IV physical property requirements, with grooves on one face.
  - 2. Products: "FOAMULAR" manufactured by Owens Corning, or equal.
  - 3. Requisite Properties:
    - a. Minimum Compressive Strength: At least 30 pounds per square inch, when measured in conformance with ASTM D 1621 at either 5 percent deformation or yield, whichever occurs first.
    - b. Minimum Density: At least 25 pounds per square inch, when measured in conformance with ASTM D 1622.
    - c. Minimum Thermal Resistance: Provide material having an R-value of at least R-5 per inch of thickness.
    - d. Minimum Size: At least 8 feet long by 4 feet wide.
    - e. Minimum Thickness: At least 2 inches.
    - f. Edges: Square edges.

A.B. Shoes for Butt Joint Glazing Installations:

1. Description: Brushed stainless steel wide U-channel with top load roll-in glazing gasket for 3/4- glass.
2. Product: "Catalog No. NH3BSCL" manufactured by C.R. Laurence, or equal.
3. Finish: Brushed stainless steel finish.

B.C. Shims: Continuous shims fabricated from load-bearing, non-leaching, high-impact polystyrene.

C.D. Setting Blocks: Elastomeric silicone rubber conforming to ASTM C 1115, CH9.

D.E. Spacers and End Blocks: Provide the following, unless another type, hardness, class, or surface is supplied, required, recommended, authorized, sanctioned, or accepted by the glass installer.

E.F. Glazing Gaskets: Fabricate compression gaskets in lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

1. Firm, Dense Gaskets: Elastomeric silicone or EPDM rubber conforming to ASTM C 1115, CH7S2 unless another type, hardness, class or surface is supplied, required, recommended, approved, or accepted by the glass installer.
2. Soft, Closed Cell Gaskets: ASTM C 509. Provide silicone or EPDM rubber with pre-molded corners.

F.G. Cleaners, Primers, Sealers: Supplied, required, recommended, or accepted by the manufacturer or fabricator.

G.H. Other Accessories: Provide other accessories and secondary items normally furnished or necessary for a complete installation; or supplied, required, recommended, or accepted by the manufacturer for actual in-service conditions applicable to the project.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Oversight: Ensure an adequate number of supervisors are present and proper supervision practices are followed at the project site before the installer begins work and at all times during installation.
- B. Verification: Verify in-place construction conforms to the manufacturer's requirements or recommendations and satisfies all other conditions that might affect the quality of installation or the durability, appearance, or performance of installed and adjacent items.
- C. Evaluation and Assessment:
  1. Identify project conditions that do not conform to the manufacturer's instructions and other requirements and recommendations.

2. Perform or arrange and pay costs without reimbursement from Owner for all remedial work necessary to correct or improve deficient conditions, without limitation, before the installer begins work.

### 3.2 INSTALLATION

- A. General Requirements:
  1. Install glazing using materials and methods required, recommended, or accepted by the manufacturer, along with manufacturer-recommended accessories and techniques.
  2. Set glazing true to line; plumb, level, and square without warp or rack; with flush, well-fitted joints; and in alignment with adjacent construction.
  3. Completed work must match approved samples, as accepted by the Architect.
  4. Installed glazing must be warrantable. Do not install, correct, or replace glazing in a manner that is un-warrantable by the manufacturer; or that results in any warranty or guarantee becoming void.
- B. Interface with Adjacent Items: Provide materials, components, and accessories normally furnished or necessary to securely attach glazing to supporting construction.

### 3.3 CORRECTION AND REPAIR

- A. Non-conforming, damaged, and defective work must be brought into conformance with the Contract Documents. Correct and repair as necessary, without limitation, including arranging all correction and repair work and paying all correction and repair costs without reimbursement from Owner, until accepted in writing by the Architect.
- B. Corrective and repair work must be performed in conformance with a correction and repair plan submitted to and accepted in writing by the Architect before correction or repair work begins. At a minimum, correction and repair plans must include
  1. written descriptions of non-conforming, damaged, and defective work;
  2. supporting sketches, diagrams, photographs, and other visual depictions of non-conforming, damaged, and defective work; and
  3. similar written descriptions and visual depictions of Contractor-proposed corrections and repairs.
- C. Arrange and pay costs without reimbursement from Owner for removing and replacing work that cannot be corrected or repaired to the Architect's acceptance.

### 3.4 CLEANING

- A. Cleaning Work: Clean all visible glazing surfaces in a manner that does not result in any warranty or guarantee becoming void. Clean spills, stains, soiling, overspray, and fallout from adjacent surfaces.

1. Use cleaning materials, equipment, and accessories supplied, and means, methods, techniques, and procedures required, recommended, or accepted by the manufacturer.
2. Do not use cleaning materials or procedures known to change, or that might change, the appearance of exposed finishes or adjacent surfaces; or cause deterioration or damage to exposed finishes or adjacent surfaces.
3. Protect adjacent surfaces not being cleaned from staining, deterioration, damage, or other detrimental effects caused by cleaning.
4. Arrange and pay costs without reimbursement from Owner for removing and replacing work that cannot be cleaned to the Architect's acceptance.

B. Waste Management: After completing the work of this specification section, leave work areas free from debris, waste, scrap, equipment, tools, and other items.

### 3.5 PROTECTION

- A. Protect installed glazing in place from deterioration and damage until Substantial Completion.
- B. Do not store anything adjacent to or against installed glazing unless it is protected from damage, as accepted in writing by the manufacturer's representative. Do not use installed glazing surfaces as work surfaces.
- C. Remove protection when it's no longer needed and before Substantial Completion.

### END OF SECTION

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