

3.2 INSTALLATION

- A. Comply with manufacturer's written instructions for installing access doors and frames.
- B. Install access doors with trimless frames flush with adjacent finish surfaces or recessed to receive finish material.

3.3 ADJUSTING AND CLEANING

- A. Adjust doors and hardware after installation for proper operation.
- B. Remove and replace doors and frames that are warped, bowed, or otherwise damaged.

END OF SECTION 08311

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3.2 ADJUSTING

- A. Lubricate bearings and sliding parts; adjust door to operate easily, free from warp, twist, or distortion and fitting weathertight for entire perimeter.

3.3 DEMONSTRATION

- A. Startup Services: Engage a factory-authorized service representative to perform startup services and to train Owner's maintenance personnel as specified below:
 - 1. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
 - 2. Train Owner's maintenance personnel on procedures and schedules related to startup and shutdown, troubleshooting, servicing, preventive maintenance, and procedures for testing and resetting release devices.
 - 3. Review data in the maintenance manuals. Refer to Division 1.

END OF SECTION 08331

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SECTION 08334 - OVERHEAD COILING GRILLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes overhead coiling security and pharmacy grilles.

1.3 NATIONAL ACCOUNT

- A. CVS/Pharmacy has entered into a national account agreement with QMI Roll Shutter Supply for furnishing the security grilles and pharmacy grille specified in this section. Complete installation shall be by the Contractor. For pricing quotations, placing orders, and further information, call QMI Roll Shutter Supply at (800) 446-2500.

1.4 DEFINITIONS

- A. Operation Cycle: One complete cycle of a grille begins with the grille in the closed position. The grille is then moved to the open position and back to the closed position.

1.5 PERFORMANCE REQUIREMENTS

- A. Operation-Cycle Requirements: Design overhead coiling grille components and operator to operate for not less than 20,000 cycles.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer who is an authorized representative of the overhead coiling grille manufacturer for both installation and maintenance of units required for this Project.
- B. Source Limitations: Obtain overhead coiling grilles through source specified.

PART 2 - PRODUCTS

2.1 GRILLE CURTAIN MATERIALS AND CONSTRUCTION

- A. Provide as standard with the manufacturer for the Owner for the overhead coiling grilles specified.

2.2 HOODS AND ACCESSORIES

- A. Provide as standard with the manufacturer for the Owner for the overhead coiling grilles specified.

2.3 COUNTERBALANCING MECHANISM

- A. General: Counterbalance each grille by means of adjustable-tension steel helical torsion spring, mounted around a steel shaft and contained in a spring barrel connected to the curtain. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.
- B. Counterbalance Barrel: Fabricate spring barrel of hot-formed, structural-quality, welded or seamless carbon-steel pipe, of sufficient diameter and wall thickness to support rolled-up curtain without distortion of curtain and to limit barrel deflection to not more than 0.03 in./ft. of span under full load.
- C. Provide spring balance of one or more oil-tempered, heat-treated steel helical torsion springs. Size springs to counterbalance weight of each curtain, with uniform adjustment accessible from outside barrel. Provide cast-steel barrel plugs to secure ends of springs to barrel and shaft.
- D. Fabricate torsion rod for counterbalance shaft of case-hardened steel, sized to hold fixed spring ends and carry torsional load.
- E. Brackets: Provide mounting brackets of manufacturer's standard design, either cast-iron or cold-rolled steel plate.

2.4 FINISHES, GENERAL

- A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.5 ALUMINUM FINISH

- A. Finish designations prefixed by AA conform to the system established by the Aluminum Association for designating aluminum finishes.
- B. Manufacturer's standard mill finish.
- C. Class II, Clear Anodic Finish: AA-M12C22A31 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, clear coating 0.010 mm or thicker) complying with AAMA 607.1.
 - 1. Color: White.

2.6 MANUAL GRILLE OPERATORS

- A. Crank-Hoist Operator: Provide crank-hoist operator consisting of crank and crank gearbox, steel crank drive shaft, and gear-reduction unit. Size gears to require no more than 35-lbf effort to turn crank. Fabricate gearbox to completely enclose operating mechanism and be oil tight. Provide manufacturer's standard crank-locking device.
 - 1. Provide manufacturer's standard removable operating arm for each crank-gear unit.

2.7 ELECTRIC GRILLE OPERATORS

- A. General: Provide electric grille operator assembly of size and capacity recommended and provided by grille manufacturer as standard for the Owner for the overhead coiling grilles specified. Comply with NFPA 70.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Install grilles and operating equipment complete with necessary hardware, according to Shop Drawings, manufacturer's written instructions, and as specified.

3.2 ADJUSTING

- A. Lubricate bearings and sliding parts; adjust grilles to operate easily, free from warp, twist, or distortion and fitting tight for entire perimeter.

3.3 DEMONSTRATION

- A. Startup Services: Engage a factory-authorized service representative to perform startup services and to train Owner's maintenance personnel as specified below.
1. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
 2. Train Owner's maintenance personnel on procedures and schedules related to startup and shutdown, troubleshooting, servicing, preventive maintenance, and procedures for testing and resetting release devices.
 3. Review data in the maintenance manuals. Refer to Division 1.
 4. Schedule training with Owner with at least seven (7) days' advance notice.

END OF SECTION 08334

SECTION 08381 -TRAFFIC DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the double action traffic doors.

1.3 NATIONAL ACCOUNT

- A. CVS/Pharmacy has entered into a national account agreement with Eliason Corporation for furnishing the Traffic door specified in this section. Complete installation shall be by the Contractor. For pricing quotations, placing orders, and further information, call Eliason Corporation at (800) 828-3655.

1.4 QUALITY ASSURANCE

- A. Standards: Comply with applicable industry standards.

PART 2 - PRODUCTS

2.1 TRAFFIC DOORS

- A. Easy Swing SCP-8 Double-Acting Door by Eliason Corporation.

2.2 MATERIALS

- A. Door: 3/4-inch exterior grade solid wood core with 18 gauge stainless steel edge cap and back channel; 1 inch total thickness.
 - 1. Traffic Doors to receive plastic laminate finish, (No. D315-60 Platinum by Wilsonart) both faces.

2.3 ACCESSORIES

- A. View windows 9 x 30 inch (270 sq in), clear acrylic window set in black rubber molding.

- B. ABS Scuff plates on both faces 24 inch-black.
- C. Hardware: Manufactures standard as required for installation conditions.
- D. 3 x 9 Jamb Guard.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that openings is ready to receive work

3.2 INSTALLATION

- A. Install door unit assembly to manufacturer's installation instructions
- B. Use anchorage devices to securely fasten door assembly to door frame construction without distortion or imposed stresses.

3.3 CLEANING

- A. Remove protective material from pre-finished surfaces.
- B. Remove labels and visible markings.
- C. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths. Wipe surfaces clean.

END OF SECTION 08381

SECTION 08410 - ALUMINUM STOREFRONTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Exterior storefront systems.

1.3 NATIONAL ACCOUNT

- A. CVS/Pharmacy has entered into national account agreements with each of the following two (2) manufacturers for furnishing the storefront windows specified in this section. Complete installation shall be by the Contractor. For pricing quotations, placing orders, and further information, call:
 - 1. YKK AP America, Inc. at (800) 955-9551.
 - 2. Kawneer Company, Inc. at (317) 883-4267.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer to assume engineering responsibility and perform work of this Section who has specialized in installing storefront system similar to that required for this Project and who is acceptable to manufacturer.
- B. Source Limitations: Obtain each type of storefront system through one source from a single manufacturer.
- C. Welding Standards: Comply with applicable provisions of AWS D1.2, "Structural Welding Code--Aluminum."

1.5 PROJECT CONDITIONS

- A. Field Measurements: Verify dimensions by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 - 1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating systems without field measurements. Coordinate construction to ensure actual dimensions correspond to established dimensions.

1.6 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Warranty: Submit a written warranty executed by the manufacturer agreeing to repair or replace components of storefront system that fails in materials or workmanship within the specified warranty period. Failures include, but are not limited to, the following:
 - 1. Structural failures including, but not limited to, excessive deflection.
 - 2. Failure of system to meet performance requirements.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 4. Water leakage through fixed glazing and frame areas.
- C. Warranty Period: Two (2) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. YKK AP America Inc.; Product:
 - a. Yes 45TU System for exterior
 - b. Yes 45F-S System for interior.
 - 2. Kawneer Company, Inc.; Contact Manufacturer for product corresponding to above

2.2 RELATED MATERIALS

- A. Glazing as specified in Division 8 Section "Glazing."
- B. Glazing Gaskets: Manufacturer's standard pressure-glazing system of black, resilient glazing gaskets, setting blocks, and shims or spacers, fabricated from an elastomer of type and in hardness recommended by system and gasket manufacturer to comply with system performance requirements. Provide gasket assemblies that have corners sealed with sealant recommended by gasket manufacturer.
- C. Spacers, Setting Blocks, Gaskets, and Bond Breakers: Manufacturer's standard permanent, nonmigrating types in hardness recommended by manufacturer, compatible with sealants, and suitable for system performance requirements.
- D. Framing system gaskets, sealants, and joint fillers as recommended by manufacturer for joint type.
- E. Sealants and joint fillers for joints at perimeter of storefront system as specified in Division 7 Section "Joint Sealants."
- F. Bituminous Paint: Cold-applied asphalt-mastic paint complying with SSPC-Paint 12 requirements, except containing no asbestos, formulated for 30-mil thickness per coat.

2.3 COMPONENTS

- A. Brackets and Reinforcements: Provide manufacturer's standard brackets and reinforcements that are compatible with adjacent materials. Provide nonstaining, nonferrous shims for aligning system components.
- B. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.
 - 1. Reinforce members as required to retain fastener threads.
- C. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts complying with ASTM A 123 or ASTM A 153 requirements.
- D. Concealed Flashing: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding flashing, compatible with adjacent materials, and of type recommended by manufacturer.
- E. Weather Stripping: Manufacturer's standard replaceable weather stripping as follows:
 - 1. Compression Weather Stripping: Molded neoprene complying with ASTM D 2000 requirements or molded PVC complying with ASTM D 2287 requirements.

2.4 FABRICATION

- A. General: As standard with the manufacturer, fabricate components that, when assembled, will have accurately fitted joints with ends coped or mitered to produce hairline joints free of burrs and distortion. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.
- B. Forming: Form shapes with sharp profiles, straight and free of defects or deformations, before finishing.
- C. Prepare components to receive concealed fasteners, anchor and connection devices.
- D. Fabricate components to drain water passing joints and condensation and moisture occurring or migrating within the system to the exterior.
- E. Welding: Weld components to comply with referenced AWS standard. Weld before finishing components to greatest extent possible. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.
- F. Glazing Channels: Provide minimum clearances for thickness and type of glass indicated according to FGMA's "Glazing Manual."
- G. Storefront: Fabricate framing in profile specified. Provide subframes and reinforcing of types required for a complete system. Factory assemble components to greatest extent possible. Disassemble components only as necessary for shipment and installation.

2.5 ALUMINUM FINISH

- A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Provide Valspar Ind. Coating with fluopan finish in color specified on drawings.

2.6 STEEL PRIMING

- A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying primer.
- B. Surface Preparation: Perform manufacturer's standard cleaning operations to remove dirt, oil, grease, or other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel.

- C. Priming: Apply manufacturer's standard corrosion-resistant primer immediately after surface preparation and pretreatment.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of storefront system. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Comply with manufacturer's written instructions for protecting, handling, and installing storefront system. Do not install damaged components. Fit frame joints to produce hairline joints free of burrs and distortion. Rigidly secure nonmovement joints. Seal joints watertight.
- B. Metal Protection: Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
- C. Install components to drain water passing joints and condensation and moisture occurring or migrating within the system to the exterior.
- D. Set continuous sill members and flashing in a full sealant bed to provide weathertight construction, unless otherwise indicated. Comply with requirements of Division 7 Section "Joint Sealants."
- E. Install framing components plumb and true in alignment with established lines and grades without warp or rack of framing members.
- F. Install glazing to comply with requirements of Division 8 Section "Glazing,".
- G. Install perimeter sealant to comply with requirements of Division 7 Section "Joint Sealants".
- H. Erection Tolerances: Install storefront system to comply with the following maximum tolerances:
 - 1. Variation from Plane: Limit variation from plane or location shown to 1/8 inch in 12 feet; 1/4 inch over total length.
 - 2. Alignment: Where surfaces abut in line, limit offset from true alignment to 1/16 inch.
 - 3. Diagonal Measurements: Limit difference between diagonal measurements to 1/8 inch.

3.3 ADJUSTING AND CLEANING

- A. Remove excess sealant and glazing compounds, and dirt from surfaces.

3.4 PROTECTION

- A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure storefront system is without damage or deterioration at the time of Substantial Completion.

END OF SECTION 08410

SECTION 08461 - SLIDING AUTOMATIC ENTRANCE DOOR

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes automatic entrance door system operating as follows:
 - 1. Bi-Parting sliding operation.

1.3 NATIONAL ACCOUNT

- A. CVS/Pharmacy has entered into a national account agreement with Stanley Access Technologies for furnishing the telescoping door package specified in this section. Complete installation shall be by the Contractor. For pricing quotations, placing orders and further information, call Stanley Access Technologies at (860) 679-6435.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who is an authorized representative of the automatic entrance door manufacturer for both installation and maintenance of units required for this Project.
 - 1. Maintenance Proximity: Not more than two (2) hours' normal travel time from Installer's place of business to Project site.
- B. Source Limitations: Obtain automatic entrance doors through manufacturer specified.
- C. Welding Standards: Comply with AWS D1.2, "Structural Welding Code--Aluminum."
- D. ANSI/BHMA Standard: ANSI/BHMA A156.10, "Power Operated Pedestrian Doors."
- E. UL Standard: Provide power door operators that comply with UL 325.
- F. Emergency Exit Door Requirements: Comply with requirements of authorities having jurisdiction for automatic entrance doors serving as a required means of egress.

1.5 PROJECT CONDITIONS

- A. Field Measurements: Verify automatic entrance door opening by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 - 1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish opening dimensions and proceed with fabricating automatic entrance doors without field measurements. Coordinate wall construction to ensure that actual opening dimensions correspond to established dimensions.

1.6 COORDINATION

- A. Manufacturer shall provide product data and shop drawings to CVS for coordinating hardware and security requirements with electrical interface of door systems prior to installation.

1.7 WARRANTY

- A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Special Warranty: Written warranty, executed by manufacturer agreeing to repair or replace components of the automatic entrance door system that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following:
 - 1. Lateral deflection of glass lite edges in excess of 1/175 of their length or 3/4 inch, whichever is less.
 - 2. Excessive air leakage.
 - 3. Faulty operation of operators and hardware.
 - 4. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
- C. Warranty Period: One (1) year from date of Substantial Completion.

1.8 MAINTENANCE SERVICE

- A. Maintenance: Beginning at Substantial Completion, provide twelve (12) months' full maintenance by skilled employees of automatic entrance door Installer. Include quarterly planned and preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper entrance door operation at rated speed and capacity. Provide parts and supplies as used in the manufacture and installation of original equipment.
1. Engage an inspector certified by the American Association of Automatic Door Manufacturers to perform a safety inspection after each adjustment or repair, and at the end of the maintenance period. Submit the completed inspection form to Owner.
 2. Perform maintenance, including emergency callback service, during normal working hours.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Manufacturer: Subject to compliance with requirements, provide one of the following:
1. For 14'-0" door openings use Stanley Access Technologies; Div. of The Stanley Works; Product: Dura-Glide Series 3000 Bi-Part.
 2. For 8'-7 1/2" door openings use Stanley Access Technologies; Div. of The Stanley Works; Product: Dura-Glide Series 5300 Telescopic Automatic Sliding Entrance System.

2.2 RELATED MATERIALS

- A. Glazing: As specified in Division 8 Section "Glazing."
- B. Sealants and Joint Fillers: Refer to Division 7 Section "Joint Sealants" for joints at perimeter of entrance system.
- C. Nonmetallic, Shrinkage-Resistant Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout; complying with ASTM C 1107; of consistency suitable for application.
- D. Bituminous Paint: Cold-applied, asphalt-mastic paint complying with SSPC-Paint 12 requirements, except containing no asbestos; formulated for 30-mil thickness per coat.

2.3 AUTOMATIC ENTRANCE DOOR SYSTEMS

- A. General: Provide manufacturer's standard automatic entrance door system, complete with doors, framing, operators, controls, activation devices, safety devices, and accessories as indicated.

- B. Provide door operators; activation and safety devices; and hardware, as standard with the manufacturer, for the Owner for the door specified.
 - 1. Refer to Division 8 Section "Door Hardware" for requirements for hardware items other than those to be provided by door manufacturer.

2.4 RELATED COMPONENTS

- A. Brackets and Reinforcements: Manufacturer's standard; compatible with adjacent materials. Provide nonstaining, nonferrous shims for aligning system components.
- B. Fasteners and Accessories: Manufacturer's standard corrosion resistant, nonstaining, nonbleeding; compatible with adjacent materials.
 - 1. Reinforcement: Reinforce members as required to retain fastener threads.
 - 2. Exposed Fasteners: Do not use exposed fasteners, except for hardware application. For hardware application, use countersunk Phillips flat-head machine screws finished to match framing members or hardware being fastened, unless otherwise indicated.
- C. Signage: Comply with ANSI/BHMA A156.10.

2.5 FABRICATION

- A. General: Fabricate automatic entrance door system components to designs, sizes, and thicknesses specified and to comply with indicated standards.
- B. Prefabrication: Provide automatic entrance doors as prefabricated assemblies. Complete fabrication, assembly, finishing, hardware application, and other work before shipment to Project site.
 - 1. Do not drill and tap for surface-mounted hardware items until time of installation at Project site.
 - 2. Perform fabrication operations, including cutting, fitting, forming, drilling, and grinding of metalwork in manner that prevents damage to exposed finish surfaces. For hardware, perform these operations before applying finishes.
 - 3. Form shapes with sharp profiles, straight and free of defects or deformations, before finishing.
 - 4. Prepare components to receive concealed fasteners and anchor and connection devices.
 - 5. Fabricate components with accurately fitted joints with ends coped or mitered to produce hairline joints free of burrs and distortion.
- C. Welding: Weld components to comply with referenced AWS standard. Weld before finishing components to greatest extent possible. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

- D. Glazing Channels: Provide minimum clearances for thickness and type of glass indicated according to GANA's "Glazing Manual."
- E. Metal Protection: Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.
- F. Hardware: Install hardware, except surface-mounted hardware, at fabrication plant. Remove only as required for final finishing operation and for delivery to and installation at Project site.
- G. Doors: Fabricate doors in profiles indicated. Reinforce as required to support imposed loads and for installing hardware. Factory assemble door and frame units.
 - 1. Exterior Doors: Provide compression weather stripping at fixed stops. At locations without fixed stops, provide sliding weather stripping retained in adjustable strip mortised into door edge.
- H. Framing: Fabricate tubular and channel frame assemblies in configuration indicated, with welded or mechanical joints according to manufacturer's standards. Provide subframes and reinforcement of types indicated or, if not indicated, as needed for a complete system to support required loads.
 - 1. Exterior Framing: Fabricate components to drain water passing joints and condensation and moisture occurring or migrating within the system to the exterior. Provide anchorage and alignment brackets for concealed support of assembly from the building structure. Allow for thermal expansion of exterior units.

2.6 ALUMINUM FINISH

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Finish aluminum automatic entrance door system components to match adjacent aluminum storefront.
 - 1. Provide Valspar Ind. coating with fluopan finish in color specified on drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances, header support, and other conditions affecting performance of automatic entrance doors.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Templates and Diagrams: Furnish templates, diagrams, and other data to fabricators and installers of related work, as necessary for coordinating automatic entrance door installation.

3.3 INSTALLATION

- A. General: Comply with automatic entrance door manufacturer's written installation instructions, unless more stringent requirements are indicated. Do not install damaged components. Fit frame joints to produce hairline joints free of burrs and distortion. Rigidly secure nonmovement joints. Seal joints watertight.
- B. Metal Protection: Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
- C. Entrances: Install entrances plumb and true in alignment with established lines and grades without warp or rack of framing members and doors. Anchor securely in place. Lubricate operating hardware and other moving parts.
 - 1. Install surface-mounted hardware using concealed fasteners to greatest extent possible.
 - 2. Set tracks, header assemblies, operating brackets, and guides level and true to location with anchorage for permanent support.
 - 3. Install components to drain water passing joints and condensation and moisture occurring or migrating within the system to the exterior.
- D. Activation and Safety Devices: Install control devices and wiring, including connections to door operators, for complete installation of both interior and exterior motion detectors at sliding automatic entrance door.
- E. Glazing: Comply with installation requirements in Division 8 Section "Glazing,".
- F. Sealants: Comply with requirements in Division 7 Section "Joint Sealants" for installing sealants, fillers, and gaskets.
 - 1. Set continuous sill members and flashing in a full sealant bed to provide weathertight construction, unless otherwise indicated.
 - 2. Seal frame perimeter with sealant to provide weathertight construction.

3.4 ADJUSTING

- A. Adjust door operators, controls, and hardware for smooth and safe operation and for weathertight closure.

- B. Readjust door operators and controls after repeated operation of completed installation equivalent to three (3) days' use by normal traffic (100 to 300 cycles). Lubricate hardware, operating equipment, and other moving parts.

3.5 CLEANING AND PROTECTION

- A. Clean glass and aluminum surfaces promptly after installation. Remove excess glazing and sealant compounds, dirt, and other substances. Repair damaged finish to match original finish.
 - 1. Comply with requirements in Division 8 Section "Glazing" for cleaning and maintaining glass.
- B. Provide final protection and maintain conditions, including limiting construction traffic, that ensure automatic entrance doors are without damage or deterioration at time of Substantial Completion.

3.6 DEMONSTRATION

- A. Engage manufacturer's inspector certified by the American Association of Automatic Door Manufacturers to train Owner's maintenance personnel to adjust, operate, and maintain automatic entrance doors as specified below:
 - 1. Train Owner's maintenance personnel on procedures and schedules for starting up and shutting down, troubleshooting, servicing, complying with safety requirements, and maintaining equipment and schedules.
 - 2. Review data in maintenance manuals. Refer to Division 1 Section.
 - 3. Schedule training with Owner with at least seven days' (7) advance notice.

END OF SECTION 08461

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SECTION 08512 – DRIVE-THRU WINDOW

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes sliding window with deal drawer and audio package.

1.3 NATIONAL ACCOUNT

- A. CVS/Pharmacy has entered into a national account agreement with Diebold, Inc. for furnishing the drive-thru window specified in this section. Complete installation shall be by the Contractor. For pricing quotations, placing orders, and further information, call Diebold, Inc. at (603) 537-2325 ext. 2328.

1.4 QUALITY ASSURANCE

- A. Standards: Comply with applicable recommended specifications.
- B. Single Source Responsibility: Provide windows produced by specified manufacturer.

1.5 PROJECT CONDITIONS

- A. Field Measurements: Check actual window openings by accurate field measurement before fabrication. Show recorded measurements on shop drawings. Coordinate fabrication schedule with construction progress to avoid delay of the work.
 - 1. Where necessary, proceed with fabrication without field measurements, and coordinate fabrication tolerances to ensure proper fit of window units.

PART 2 - PRODUCTS

2.1 WINDOW UNIT

- A. Manufacturer: Where indicated on Drawings, provide one of the following sliding windows units with Level 1, bullet resistant glazing as manufactured by Diebold, Inc.
 - 1. For a 3'-8" x 8'-0" window unit use Model No. 00-013184-000A.

- B. Provide a complete window assembly, including glazing, with Deal Drawer No. 120-40 and an Audio Package with two (2) Commaster audio consoles, one (1) privacy handset, and one (1) chime interface option.
- C. Class I, Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 607.1.

2.2 ACCESSORIES

- A. Provide trim, anchors, clips, fasteners, weatherstripping and hardware, for a complete installation, as standard with the manufacturer for the Owner for the window specified.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Inspect openings before beginning installation. Verify that rough openings are correct and the sill plate is level.

3.2 INSTALLATION

- A. Comply with manufacturer's specifications and recommendations for installation of window unit, hardware, operators, and other components of the work.
- B. Set window units plumb, level and true to line, without warp or rack of frames. Provide proper support and anchor securely to surrounding construction with approved fasteners.
 - 1. Separate zinc-coated steel and other corrodible surfaces from sources of corrosion of electrolytic action at points of contact with other materials, by inserting a bituminous coating or plastic sheet materials.
- C. Set sill members and other members in a bed of compound or with joint fillers or gaskets, as shown, to provide weathertight construction. Refer to the "Joint Sealer" Section of Division 7 for compounds, fillers and gaskets to be installed concurrently with window units. Coordinate installation with wall flashings and other components of the work.
 - 1. Compounds, joint fillers, and gaskets to be installed after installation of window units are specified as work in another Section in Division 7.
 - 2. Repair abraded areas of factory applied finishes.

3.3 ADJUSTING

- A. Adjust operating hardware to provide a tight fit at contact points and weatherstripping, for smooth operation and a weathertight closure.

3.4 CLEANING

- A. Clean surfaces promptly after installation of windows. Exercise care to avoid damage to the finish. Remove excess glazing and sealant compounds, dirt, and other substances. Lubricate hardware and other moving parts.
- B. Clean glass of preglazed units promptly after installation of windows. Comply with requirements of the "Glass and Glazing" Section for cleaning and maintenance.

3.5 PROTECTION

- A. Initiate and maintain protection and other precautions required through the remainder of the construction period, to ensure that, except for normal weathering, window units will be free of damage or deterioration at the time of Substantial Completion.

END OF SECTION 08512

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SECTION 08711 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Commercial door hardware:
 - 2. Cylinders for doors specified in other Sections.
- B. Products furnished, but not installed, under this Section include the following. Coordinating, purchasing, delivering, and scheduling remain requirements of this Section.
 - 1. Cylinders for locks on telescoping entrance doors.

1.3 NATIONAL ACCOUNT

- A. CVS/Pharmacy has entered into a national account agreement with DH Pace Door Services for furnishing the Door Hardware as specified in this section. Complete installation shall be by the Contractor. For pricing quotations, placing orders, and further information, call DH Pace Door Services at (417) 831-5585.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Source Limitations: Obtain each type and variety of door hardware from supplier specified.
- C. Regulatory Requirements: Comply with provisions of the following:
 - 1. Where indicated to comply with accessibility requirements, comply with Americans with Disabilities Act (ADA), "Accessibility Guidelines for Buildings and Facilities (ADAAG)," and NFPA 101, as applicable.

- D. Fire-Rated Door Assemblies: Provide door hardware for assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252.
 - 1. Test Pressure: Test at atmospheric pressure.
 - 2. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings."

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver keys to Owner by registered mail or overnight package service.

1.6 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

1.7 WARRANTY

- A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Special Warranty: Written warranty, executed by manufacturer agreeing to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of operators and door hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
- C. Warranty Period: Three (3) years from date of Substantial Completion.
- D. Warranty Period for Manual Closers: Ten 10 years from date of Substantial Completion.

1.8 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
- B. Maintenance Service: Beginning at Substantial Completion, provide six (6) months' full maintenance by skilled employees of door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door hardware operation. Provide parts and supplies as used in the manufacture and installation of original products.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in this Section, and the Door Hardware Schedule at the end of Part 3.
 - 1. Door Hardware Sets: Provide quantity, item, size, finish indicated, and named products.
 - 2. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Schedule at the end of Part 3.

2.2 HINGES

- A. Size, Base Metal, and Corners: Provide as standard with the manufacturer for the Owner for the hinges scheduled.
- B. Template Requirements: Provide only template-produced units.
- C. Hinge Weight: Unless otherwise indicated, provide the following:
 - 1. Doors with Closers: Antifriction-bearing Standard-weight hinges.
 - 2. Entrance and Interior Doors: Antifriction-bearing Standard-weight hinges.
- D. Hinge Options: Comply with the following:
 - 1. Nonremovable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed.
- E. Fasteners: Comply with the following:
 - 1. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.
 - 2. Wood Screws: For wood doors.

3. Screws: Phillips flat-head screws; machine screws (drilled and tapped holes) for metal doors; wood screws for wood doors. Finish screw heads to match surface of hinges.

2.3 LOCKS AND LATCHES

- A. Backset: 2-3/4 inches, unless otherwise indicated.

2.4 CYLINDERS AND KEYING

- A. Provide as standard with the manufacturer for the Owner for the telescoping door specified.
- B. Construction Keying: Comply with the following:
 1. Construction Cores: Provide construction cores that are replaceable by permanent cores. Provide quantity as directed by Owner.
 - a. Furnish permanent cores to Owner for installation.
- C. Keying System: Provide a factory-registered keying system as directed by Owner:
- D. Keys: Provide nickel-silver keys complying with the following:
 1. Stamping: Permanently inscribe each key with a visual key control number and include the following notation:
 - a. Notation: "DO NOT DUPLICATE."
 2. Quantity: As determined by Owner:

2.5 STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set.

2.6 CLOSERS

- A. Size of Units: Unless otherwise indicated, comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.

3.4 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
1. Door Closers: Adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.
- B. Six-Month Adjustment: Approximately six (6) months after date of Substantial Completion, Installer shall perform the following:
1. Examine and readjust each item of door hardware as necessary to ensure function of doors, door hardware, and electrified door hardware.
 2. Consult with and instruct Owner's personnel on recommended maintenance procedures.
 3. Replace door hardware items that have deteriorated or failed due to faulty design, materials, or installation of door hardware units.

3.5 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.6 DOOR HARDWARE SCHEDULE

Hardware Set No. 1; Sliding Automatic Entrance Door:

1	Mortise cylinder w/ Const Core	TO1106
1	Mortise Thumb turn (interior side)	TO1124

Remainder of door hardware by door manufacturer. Refer to Section 08461 – SLIDING AUTOMATIC ENTRANCE DOOR

Hardware Set No. 2; Exit Doors;

1 1/2	pr. Butts NRP	TO-1038
1	Trident 4-Point Lock	KAP T-1
1	Closer	TO1033
1	Closer Stop Arm –CA578	
1	Head & jamb weatherstripping	3340 - 36 x 84

1	Threshold ½" x 5" x 36"	TO1022
1	Sweep	TO1024
1	Viewer (Receiving Area only)	TO1029

Hardware Set No. 3; Compactor Door:

1	Pr Butts	TO1131
1	Door Pull	TO1118
1	Perimeter Seal (3) sides	TO0119
1	Bottom Sweep -36"	TO1024
1	Padlock 2" Shackle	TO1109
1	Wall stop	TO1032
1	Slide Action Bolt -CD1271	TO1037

Hardware Set No. 4; Overhead Door

1	Padlock 4" Shackle	TO1110
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Remainder of door hardware by door manufacturer. Refer to Section 08331 – OVERHEAD COILING DOOR

Hardware Set No. 5; Manager's Office and Pharmacy:

1 1/2	pr. Butts NRP	TO1038
1	Lockset Storeroom	TO1017
1	Latch protector (Manager's Office only)	TO1028
1	Closer	TO1033
1	Closer Stop Arm -CA578 (Pharmacy only)	
1	Wall stop	TO1032
1	Viewer (Pharmacy only)	TO1029
1	Head and jamb smoke seals (Pharmacy only)	TO1019
3	Silencers (Manager's Office only)	TO1027

Hardware Set No. 6; Employee:

1 1/2	pr. Butts	TO1131
1	Pushbutton lock- L1021B-26D	TO1128-LH / TO1036-RH
1	Closer	TO1033
1	Wall Stop	TO1032
3	Silencers	TO1027

Hardware Set No. 7; Toilet Rooms:

1 1/2	pr. Butts	TO1131
1	Privacy Lock Set	TO1016
1	Closer	TO1033
2	Wall stop	TO1032
3	Silencers	TO1027

Hardware Set No. 8; Hall:

1 1/2	pr. Butts	TO1131
1	Pushbutton lock- L1021B-26D	TO1128-LH / TO1036-RH
1	Closer	TO1033
1	Wall Stop	TO1-32
3	Silencers	Refer to Section 08110

Hardware Set No. 9; Overhead Grilles, Cooler Door and Traffic Door:

All hardware by door manufacturer.

END OF SECTION 08711

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SECTION 08800 – GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:
 - 1. Windows.
 - 2. Doors.
 - 3. Glazed entrances.
 - 4. Storefront framing.
 - 5. Security Glazing.

1.3 DEFINITIONS

- A. Manufacturer: A firm that produces primary glass or fabricated glass as defined in referenced glazing publications.
- B. Interspace: Space between lites of an insulating-glass unit that contains dehydrated air or a specified gas.
- C. Deterioration of Insulating Glass: Failure of the hermetic seal under normal use that is attributed to the manufacturing process and not to causes other than glass breakage and practices for 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.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
- B. Glass Design: Glass thicknesses indicated are minimums and are for detailing only. Confirm glass thicknesses by analyzing Project loads and in-service conditions. Provide glass lites for various size openings in nominal thicknesses indicated, but not

less than thicknesses and in strengths (annealed or heat treated) required to meet or exceed the following criteria:

1. Glass Thicknesses: Select minimum glass thicknesses to comply with ASTM E 1300, according to the following requirements:
 - a. Specified Design Wind Loads: Determine design wind loads applicable to Project from basic wind speed indicated in miles per hour at 33 feet above grade, according to ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 6.4.2, "Analytic Procedure," based on mean roof heights above grade indicated on Drawings.
 - b. Probability of Breakage for Vertical Glazing: 8 lites per 1000 for lites set vertically or not more than 15 degrees off vertical and under wind action.
 - 1) Load Duration: 60 seconds or less.
 - c. Maximum Lateral Deflection: For the following types of glass supported on all four edges, provide thickness required that limits center deflection at design wind pressure to 1/50 times the short side length or 1 inch, whichever is less.
 - 1) For insulating glass.
 - d. Minimum Glass Thickness for Exterior Lites: Not less than 6 mm.
- C. Thermal Movements: Provide glazing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures acting on glass framing members and glazing components: Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.
- D. Thermal and Optical Performance Properties: Provide glass with performance properties specified based on manufacturer's published test data, as determined according to procedures indicated below:
 1. For insulating-glass units, properties are based on units with lites 6 mm thick and a nominal 1/2-inch-wide interspace.
 2. Center-of-Glass U-Values: NFRC 100 methodology using LBL-35298 WINDOW 4.1 computer program, expressed as Btu/ sq. ft. x h x deg F.
 3. Center-of-Glass Solar Heat Gain Coefficient: NFRC 200 methodology using LBL-35298 WINDOW 4.1 computer program.
 4. Solar Optical Properties: NFRC 300.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Source Limitations for Clear Glass: Obtain clear float glass from one primary-glass manufacturer.
- C. Source Limitations for Insulating Glass: Obtain insulating-glass units from one manufacturer using the same type of glass and other components for each type of unit indicated.
- D. Source Limitations for Glazing Accessories: Obtain glazing accessories from one source for each product and installation method indicated.
- E. Glass Product Testing: Obtain glass test results for product test reports in "Submittals" Article from a qualified testing agency based on testing glass products.
 - 1. Glass Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.
- F. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252.
- G. Safety Glass: Category II materials complying with testing requirements in 16 CFR 1201 and ANSI Z97.1.
 - 1. Subject to compliance with requirements, permanently mark safety glass with certification label of Safety Glazing Certification Council or another certification agency acceptable to authorities having jurisdiction.
- H. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.
 - 1. GANA Publication: GANA'S "Glazing Manual".
 - 2. SIGMA Publication: SIGMA TM-3000, "Vertical Glazing Guidelines."
- I. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of the following inspecting and testing agency:
 - 1. Insulating Glass Certification Council.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect glazing materials according to manufacturer's written instructions and as needed to prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.
- B. For insulating-glass units, comply with insulating-glass manufacturer's written recommendations for venting and sealing to avoid hermetic seal ruptures.

1.7 PROJECT 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 liquid glazing sealants when ambient and substrate temperature conditions are outside limits permitted by glazing sealant manufacturer or below 40 deg F.

1.8 WARRANTY

- A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Manufacturer's Special Warranty on Insulating Glass: Written warranty, made out to Owner and signed by insulating-glass manufacturer agreeing to furnish replacements for insulating-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.
 - 1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PRODUCTS AND MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide products equal to those manufactured by Pilkington, PPG Industries or Viracon.

2.2 INSULATING GLASS (TYPE G1), (TYPE G6 - where indicated on drawings)

- A. Insulating-Glass Units: Preassembled units consisting of sealed lites of glass separated by a dehydrated interspace, and complying with ASTM E 774 for Class CBA units and with requirements specified in this Article.
 - 1. Provide Kind FT (fully tempered) float glass in place of annealed glass where needed to resist thermal stresses induced by differential shading of individual glass lites and to comply with glass design requirements specified in "Performance Requirements" Article.
- B. Sealing System: Dual seal, with primary and secondary sealants as follows:
 - 1. Manufacturer's standard sealants.
- C. Spacer Specifications: Manufacturer's standard spacer material and construction.
- D. Corner Construction: Manufacturer's standard corner construction.
- E. Overall Unit Thickness of Each Lite: One inch.
- F. Interspace Content: Air.
- G. Indoor Lite: Type I (transparent glass, flat), Class 1 (clear) float glass.
 - 1. Class 1 (clear).
 - 2. Annealed.
- H. Outdoor Lite: Type I (transparent glass, flat) float glass.
 - 1. Class 1 (clear).
 - 2. Annealed.
- I. Indoor Lite: Type I (transparent glass, flat), Class 1 (clear) float glass.
 - 1. Class 1 (clear).
 - 2. Kind FT (fully tempered), Condition A (uncoated surfaces).
- J. Outdoor Lite: Type I (transparent glass, flat) float glass.
 - 1. Class 1 (clear).
 - 2. Kind FT (fully tempered), Condition A (uncoated surfaces).

2.3 LAMINATED GLASS UNITS (TYPE G2)

- A. Laminated Glass: ASTM C 1172, and complying with other requirements specified and with the following:

- B. Interlayer: Polyvinyl Butyral of thickness with a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after laminating glass lites and installation.
 - 1. For polyvinyl butyral interlayer, laminate lites in autoclave with heat plus pressure.
- C. Laminating process: Fabricate laminated glass to produce glass free of foreign substances and air or glass pockets.
- D. Kind LT, consisting of two lites of annealed float glass.
- E. Outer Lite: Class 1 clear float glass.
 - 1. Annealed.
 - 2. Thickness: 1/8 inch.
- F. Inner Lite: Class 1 (clear) float glass.
 - 1. Annealed.
 - 2. Thickness: 1/8 inch
- G. Plastic Inner Layer:
 - 1. Thickness: 0.060 inch, but not less than that required to comply as a Type II safety glass material.
 - 2. Interlayer Color: Clear

2.4 ONE-WAY MIRROR GLASS (TYPE G3)

- A. Where indicated, provide ¼ inch thick annealed float glass Pilkington Mirropane T.M. transparent mirror glass in the sizes noted. Reflective coating shall meet the performance specifications as published by the manufacturer. The quality of the coating shall meet the requirements of ASTM C 1376-03. The transparent mirror shall be installed with the coated surface facing the observed or subject side of the glazing. A light level ratio of at least 8 to 1 from bright (subject) side to dark (observer) side shall be maintained for effective operation.

2.5 BULLET-RESISTANT GLASS (TYPE G4)

- A. Refer to Section 08512.

2.6 FLOAT GLASS (TYPE G5)

- A. Annealed Float Glass: ASTM C1036; Type I (transparent glass, flat); Quality-Q3 of class indicated.
 - 1. Ultra-Clear (Low-Iron) Float Glass: Class I (clear); with a minimum 91 percent visible light transmission and a minimum solar heat gain coefficient of 0.87.

- B. Heat-Treated Float Glass: ASTM C1048; Type I (transparent glass, flat); Quality q3 (glazing select).
1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed, unless other wise indicate.
 2. Kind FT (fully tempered) float glass in place of annealed float glass where safety glass is indicated. Condition A (uncoated) Class 1 (clear)

2.7 ELASTOMERIC GLAZING SEALANTS

- A. General: Provide products of type indicated, complying with the following requirements:
1. Compatibility: Select glazing sealants that are compatible with one another and with other materials they will 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 for this characteristic.
- B. Elastomeric Glazing Sealant Standard: Comply with ASTM C 920 and other requirements indicated for each liquid-applied, chemically curing sealant, including those referencing ASTM C 920 classifications for type, grade, class, and uses.
1. Additional Movement Capability: Provide products with the capability, when tested for adhesion and cohesion under maximum cyclic movement in ASTM C 719, to withstand the specified percentage change in the joint width existing at time of installation and remain in compliance with other requirements in ASTM C 920 for uses indicated.
- C. Low-Modulus Nonacid-Curing Silicone Glazing Sealant: Where glazing sealants of this designation are required, provide products complying with the following:
1. Products: Provide one of the following:
 - a. 790; Dow Corning.
 - b. Omniseal; Sonneborn, Div of ChemRex, Inc.
 - c. Spectrem 1; Tremco.
 2. Type and Grade: S (single component) and NS (nonsag).
 3. Class: 25.
 - a. Additional Movement Capability: 50 percent movement in extension and 50 percent movement in compression for a total of 100 percent movement.

2.8 GLAZING GASKETS

- A. Lock-Strip Gaskets: Neoprene extrusions in size and shape indicated, fabricated into frames with molded corner units and zipper lock strips, complying with ASTM C 542, black.
- B. Dense Compression Gaskets: Molded or extruded gaskets of material indicated below, complying with standards referenced with name of elastomer indicated below, and of profile and hardness required to maintain watertight seal:
 - 1. EPDM, ASTM C 864.

2.9 MISCELLANEOUS GLAZING MATERIALS

- A. General: Provide products of material, size, and shape complying with referenced glazing standard, 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 A durometer hardness of 85, plus or minus 5.
- D. Spacers: Elastomeric blocks or continuous extrusions with a Shore A durometer 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).

2.10 FABRICATION OF GLASS AND OTHER GLAZING PRODUCTS

- A. Fabricate glass and other glazing products in sizes required to glaze 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 standard, to comply with system performance requirements.
- B. Grind smooth and polish exposed glass edges.