

## Addendum

<b>Solicitation Name</b>	Construction of Multifamily Housing Phase 1 of Austin Homes Redevelopment C20007	<b>Addendum Number</b>	2	<b>Date</b>	06/04/2020
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This addendum has two parts.

Part One answers questions raised about this solicitation. To aid in readability, the questions are in black, the answers are in **bolded blue**, and the answers follow immediately below the question. Part Two addresses modifications to the Bid Package Set of Drawings, dated May 06, 2020.

### Part One: Questions Raised and Answered:

Q1	Sheet L2.4/3 states all site furnishings are owner furnished, if this is correct please provide quantity of planters and benches.
	<b>Please see detail 2/L2.1 included in addendum #1 for location and quantity of site furnishings to be furnished.</b>
Q2	On the window blinds, are they required to be a cordless lift?
	<b>No.</b>
Q3	The specifications on sheet L2.3/1 states an approved equivalent can be used in lieu of western red cedar for the privacy screens. Please clarify what approved material can be used in lieu of the western red cedar for the privacy screen.
	<b>Pressure treated wood is an acceptable equivalent in lieu of western red cedar.</b>
Q4	10 82 00 - The specifications list grills attaching to structure. The locations of the grills are not shown on the drawings. Please confirm the grills are to be furnished and installed by the GC. If so, please clarify the count or locations of the grills.
	<b>Section 10 82 00 Grills and Screens has been removed and replaced with section 07 42 13.32 Metal Plate Wall Panels. Also see sheets MF-A3.1, MF-A4.4, and MF-A4.8 for elevations and details.</b>
Q5	Sheets MF-A7.1 and MF-A7.2 show painted wainscot and finish trim (TR-1) in the common corridor areas. The wainscot and trim (TR-1) are not listed on the finish schedule or in the specifications. Please provide specifications for the wainscot and trim (TR-1).
	<b>The term "wainscot" should be removed. Painted Wainscot should be relabeled as painted gypsum board. Trim is a 1x3 wood trim painted PNT – 4.</b>
Q6	Sheets MF-A6.3/2,5,7 and MF-A6.4/2 state "scheduled finish sill" for the windowsills. The windowsills are not listed on the finish schedule. Please clarify what the windowsill finish/material is for building one
	<b>Windowsills in all buildings are WD-1.</b>
Q7	Please confirm that the bid amount is for the total project and that buildings 1 through 9 will not be priced separately.
	<b>This project will be bid as a total project. Each building will not be priced separately.</b>



Q8	Please clarify the capacity of each elevator shown on the drawings and specification.
	<b>Both elevators are 3500 pound elevators. One elevator is a standard size while the other is larger to accommodate a stretcher. Please see revised sheet MF-A5.5 and spec section 08 33 43 included in this addendum.</b>
Q9	Sheet MF-A7.15 does not provide hardware for the door schedule. Please provide additional information. Sheet MF-A7.17 does not provide door numbers on unit ADA #208. Sheet MF-A7.18 does not provide door numbers on unit ADA #311.
	<b>Please see revised 08 71 00 Door Hardware specification for the schedule. Unit ADA #208 doors are the same as Typical Unit D. Unit ADA #311 doors are the same as Typical Unit F.</b>
Q10	The specs 28 31 11 and 28 31 12 call for the fire alarm to be networked to one panel via class A fiber but the drawings do not show any conduit to connect these systems.
	<b>Please see the engineer's letter included in this addendum for additional information.</b>
Q11	A square with "CM" is shown as example on drawing TH2.E1.1 and says see note #7 but there is no note 7. Please clarify.
	<b>Please see the engineer's letter included in this addendum for additional information.</b>
Q12	The drawings and legend call for Single Station Smoke detector tied to fire alarm with low frequency sounder. Please confirm if system detectors with multicriteria for heat smoke are required or just system smoke detectors setup to work in private mode and only sound units in the apartment of origin for local alarm.
	<b>System detectors are an approved means instead of single station detectors. Please see the engineer's letter included in this addendum for additional information.</b>
Q13	The note #15 on sheet MF-A2.2 states to hold tight to the underside of the deck UNO. Do the units and corridors get resilient channel and one layer of drywall throughout? At lowered ceilings, is there another layer of suspended drywall?
	<b>Yes.</b>
Q14	Are special inspections included in the contractor's bid?
	<b>Per specification section 01 45 00 Special Inspections 1.02/B, special inspections will be conducted by a third party agency retained by the owner.</b>
Q15	Is AISC required for this project?
	<b>Fabricators are not required to be AISC certified however they must submit to extra inspections during fabrication by third party inspectors with periodic review for conformance to AISC standards. The contractor using noncertified shops must submit inspection reports during fabrication. All costs associated with inspections and reports related to conforming to AISC certifications are the responsibility of the contractor.</b>
Q16	There is some confusion if all Mac Metal siding is now replaced with Longboard siding for buildings 2-9. Please clarify
	<b>Mac Metal has been removed from the project. See General Notes/Clarifications in this addendum</b>

## **Part Two Modifications to the Bid Package Set of Drawings, dated May 06, 2020.**

This section of the addendum addresses modifications to the Bid Package Set of Drawings, dated June 02, 2020.

### **GENERAL NOTES / CLARIFICATIONS:**

1. Section 07 21 00– Thermal Insulation: Dupont Styrofoam Scoreboard Type IV added to acceptable list of manufacturers for 2.03 Batt Insulation Materials.
2. Section 07 25 00– Weather Barriers: VaproShield WrapShield SA added to acceptable list of manufacturers for 2.04 Air Barrier Materials (Air and Vapor Barrier).
3. Section 07 42 13 – Metal Wall Panels: Mac Metal removed from the specification section.
4. Section 10 82 00 Grills and Screens removed from the project and Section 07 42 13.32 – Metal Plate Wall Panels added: Metal wall panels are indicated as PM1 on the elevations. See Sheets MF – A3.1, MF-A4.4, and MF-A4.8. Each opening to receive perforated metal panels are 8’ wide by 6’ high.
5. Section 07 46 16 – Aluminum Siding: Mac Metal removed from the specification section.
6. Section 07 46 46 – Fiber Cement Siding: Knight Wall System added to acceptable list of manufacturers for 2.02 Accessories/C. Fasteners Manufacturers.
7. Section 08 33 43 – Overhead Coiling Smoke Curtains for Elevator Doors: Specification section added to the scope of work for this project as required by IBC 2018. See Revised Sheet MF – A5.5.
8. Section 08 54 13 – Fiberglass Windows: Specification section clarified to indicate glazing, color, and accessory options.
9. Section 08 71 00 – Door Hardware: Door Hardware added to specification section.
10. Section 14 21 00 – Traction Elevator: Section has been revised to indicate (2) 3,500 pound elevators.
11. See Notes from Engineering Services Group, Inc. regarding Sections 28 31 1, 28 31 11, and 28 31 12 on page 39 of the revised specifications.

### **CHANGES TO DRAWINGS:**

1. MF Sheets:
  - Smokeguard note added to MF-A5.5
  - Notes added to Door Schedules on MF-A6.1
  - Details 10, 13, 14, and 15 added to MF-S2.104

<b>SHEET NO.</b>	<b>SHEET NAME</b>	<b>REVISION DATE</b>	<b>DESCRIPTION</b>
MF.A5.5	DETAILS - ELEVATOR	R3 - 6/02/20	ADDENDUM 2
MF.A6.1	DOOR SCHEDULES AND ELEVATIONS	R3 - 6/02/20	ADDENDUM 2
MF.S2.104	STRUCTURAL DETAILS	R3 - 6/02/20	ADDENDUM 2
Total: 3			

**END OF ADDENDUM #2**

**SECTION 07 42 13.32**  
**METAL PLATE WALL PANELS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Metal plate panels for walls, with related accessory components.

**1.02 RELATED REQUIREMENTS**

- A. Section 05 40 00 - Cold-Formed Metal Framing: Wall panel substrate sheathing.
- B. Section 07 92 00 - Joint Sealants: Sealing joints between metal wall panel system and adjacent substrate.

**1.03 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate dimensions, layout, joints, construction details, and methods of anchorage.
- C. Samples: Submit two samples of wall panel 12 inch by 12 inch in size illustrating finish color, sheen, and texture.
- D. Warranty Documentation for Installation of Building Rainscreen Assembly: Submit installer warranty and ensure that forms have been completed in KCDC's name and registered with installer.

**1.04 REFERENCE STANDARDS**

- A. AAMA 509 - Voluntary Test and Classification Method for Drained and Back Ventilated Rain Screen Wall Cladding Systems; 2014.
- B. AAMA 609 & 610 - Cleaning and Maintenance Guide for Architecturally Finished Aluminum (Combined Document); 2015.
- C. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2014 (2015 Errata).
- D. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.
- E. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.
- F. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.
- G. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.
- H. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2017.
- I. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.
- J. ASTM B69 - Standard Specification for Rolled Zinc; 2016.
- K. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.
- L. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric); 2014.
- M. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.

- N. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2013.
- O. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.
- P. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2004 (Reapproved 2012).
- Q. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014.
- R. NAAMM AMP 500-06 - Metal Finishes Manual; 2006.

#### **1.05 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with not less than three years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified with minimum three years of documented experience.

#### **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Protect panels from accelerated weathering by removing or venting sheet plastic shipping wrap.
- B. Store prefabricated material off the ground and protected from weather; prevent twisting, bending, or abrasion; provide ventilation; slope metal sheets to ensure proper drainage.
- C. Prevent contact with materials that may cause discoloration or staining of products.

#### **1.07 WARRANTY**

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective work within a five year period after Date of Substantial Completion for degradation of panel finish, including color fading caused by exposure to weather.
- C. Correct defective work within a five year period after Date of Substantial Completion, including defects in water tightness and integrity of seals for metal wall panels.

### **PART 2 PRODUCTS**

#### **2.01 MANUFACTURERS**

- A. Pre-Finished Aluminum Metal Plate:
  - 1. Pac-Clad Perforated Metal. <https://www.pac-clad.com/> 102 Northpoint Pkwy, Acworth, GA 30102; P: 800-272-4482; [info@pac-clad.com](mailto:info@pac-clad.com)
  - 2. Morin – A Kingspan Group Company <https://www.kingspan.com/>
  - 3. Dri-Design; <https://www.dri-design.com/products/perforated/>

#### **2.02 DESIGN CRITERIA**

- A. Metal Plate Wall Panels System: Factory fabricated prefabricated metal panel system, site assembled.
  - 1. Provide exterior wall panels and subgirt framing assembly.
  - 2. Design and size components to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of wall.
  - 3. Design Pressure: In accordance with applicable codes.
  - 4. Intermediate Panel Stiffeners: Provide as required by design loads applied to panels, and secured to rear face of panel with silicone based adhesive and of size and strength to maintain panel flatness; stiffener material is compatible with silicone.
  - 5. Movement: Accommodate movement within system without damage to components or deterioration of seals, movement between system and perimeter components when subject to 100 degrees F seasonal temperature cycling; dynamic loading and release of loads; and deflection of structural support framing.

6. Drainage: Provide positive drainage to exterior for moisture entering or condensation occurring within panel system.
7. Fabrication: Formed true to shape, accurate in size, square, and free from distortion or defects; pieces of longest practical lengths.
8. Corners: Factory-fabricated in one continuous piece with minimum 2 inch returns.

### **2.03 MANUFACTURED METAL PANELS**

- A. Metal Plate Wall Panels:
  1. Orientation: To be determined by architect.
  2. Joint Layout: to be determined by architect.
  3. Material: Aluminum, pre-finished, minimum gauge: .040 - .050
- B. Subgirts: C-shaped furring channel; to attach wall panel system to face of building structural wall.
  1. 16 gauge, 0.0598 inch thick formed G90 galvanized steel sheet in accordance with ASTM A653/A653M.
  2. 8 gauge, 0.125 inch thick formed aluminum sheet.
- C. Trim and Flashings: 22 gauge, 0.0299 inch thickness and finish as metal panels; brake formed to required profiles.
- D. Fasteners: Provide of aluminum, cadmium plated steel, or stainless steel material.

### **2.04 MATERIALS**

- A. Aluminum Plate: ASTM B209 (ASTM B209M), 3003 alloy, H14 temper.
  1. Surface Texture: Smooth.
- B. Finishes: To be selected by architect.
  1. Superior Performing Organic Top Coating: Complying with AAMA 2605 for testing, performance, and application procedures, and consisting of two-coat, thermally cured polyvinylidene fluoride (PVDF) system.
    - a. Chemically etch metal panels using appropriate cleaner in accordance with manufacturer's written instructions.
    - b. Primer: Apply acid resistant primer to cleaned aluminum metal plate; thickness range of 0.20 mils, 0.0002 inch to 0.30 mils, 0.0003 inch.
    - c. PVDF Resin Color Coating: At least 70 percent polyvinylidene fluoride (PVDF) based; thickness range of 0.80 mils, 0.0008 inch to 1.20 mils, 0.0012 inch and applied by metal finisher certified by coating manufacturer.
    - d. PVDF Resin Clear Top Coating: Applied to provide additional protection to finish, at least 0.80 mils, 0.0008 inch thick, and at least 70 percent polyvinylidene fluoride (PVDF) based.
    - e. Barrier Coating: Exotic color applied to protect aluminum from ultraviolet (UV) penetration; coating formulations as required by manufacturer.
    - f. Color: As selected by Architect from manufacturer's standard line.
  2. High Performance Organic Coatings: AAMA 2604; multiple coats, thermally cured fluoropolymer system.
    - a. Pigmented Organic Coatings: AAMA 2603; polyester or acrylic baked enamel finish.
    - b. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less than 0.7 mils thick.
    - c. Class I Color Anodized Finish: AAMA 611 AA-M12C22A42 Integrally colored anodic coating not less than 0.7 mils thick.

- d. Back Side Coating: Panel manufacturer's standard wash coat.

## **2.06 ACCESSORIES**

- A. Gaskets: Manufacturer's standard type suitable for use with system, permanently resilient; ultraviolet and ozone resistant.
- B. Sealants: Comply with ASTM C920, and refer to Section 07 92 00 for additional requirements.
  - 1. Exposed Sealant: Elastomeric; silicone, polyurethane, or silyl-terminated polyether/polyurethane.
  - 2. Concealed Sealant: Non-curing butyl sealant or tape sealant.
  - 3. Seam Sealant: Factory-applied, non-skinning, non-drying type.
- C. Extruded Aluminum: Comply with ASTM B221 (ASTM B221M).
- D. Fasteners: Manufacturer's standard type to suit application; cadmium coated metal with soft neoprene washers[<>].
  - 1. Metal-to-Metal Fasteners: Self-drilling, self-tapping screws.
- E. Field Touch-up Paint: As recommended by panel manufacturer.
- F. Bituminous Paint: Asphalt based.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that substrate framing members are ready to receive panels.

### **3.02 PREPARATION**

- A. Install subgirts perpendicular to panel length, securely fastened to substrates, shimmed and leveled to uniform plane, and spaced at intervals indicated.

### **3.03 INSTALLATION**

- A. Install panels on walls in accordance with manufacturer's instructions.
- B. Protect surfaces in contact with cementitious materials and dissimilar metals with bituminous paint. Allow to dry prior to installation.
- C. Fasten panels to structural supports; aligned, level, and plumb.
- D. Locate joints over supports.
- E. Use concealed fasteners unless otherwise approved by Architect.
- G. Seal and place gaskets to prevent weather penetration. Maintain neat appearance.

### **3.04 TOLERANCES**

- A. Maximum Offset From True Alignment Between Adjacent Members Butting or In Line: 1/16 inch.
- B. Maximum Variation from Plane or Location Indicated on Drawings: 1/4 inch.

### **3.05 CLEANING**

- A. Remove site cuttings from finish surfaces.
- B. Remove protective material from wall panel surfaces.
- C. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.
- D. Clean and wash prefinished surfaces with mild soap and water; rinse with clean water.
- E. Upon completion of installation, thoroughly clean prefinished aluminum surfaces in accordance with AAMA 609 & 610.

**END OF SECTION**



**SECTION 08 33 43**  
**OVERHEAD COILING SMOKE CURTAINS FOR ELEVATOR DOORS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Overhead Coiling Smoke Curtains for Elevator Doors.

**1.02 RELATED REQUIREMENTS**

- A. Section 14 21 00 – Electric Traction Elevators.
- B. Section 28 31 11 – Digital, Addressable Fire Alarm

**1.03 COORDINATION**

- A. Coordinate smoke curtain assemblies with power, signal, fire-alarm, and smoke-detection systems specified in Division 26 and Division 28.
- B. Coordinate elevator smoke-protective curtain assemblies with elevator hoistway door frames specified in Division 14.
- C. Coordinate smoke-protective curtain assemblies with ceilings for operational clearances and maintenance access requirements.
- D. Coordinate smoke-protective curtain assemblies with walls for support requirements, rating continuity above ceilings, and recessed wall switches.
- E. Coordinate requirements for metal supports required for smoke-protective curtain assemblies.

**1.04 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit manufacturer's data sheets on each product to be used, including:
  - 1. Manufacturer's requirements for related materials to be installed by others.
  - 2. Preparation instructions and recommendations.
  - 3. Storage and handling requirements and recommendations.
  - 4. Installation methods, including nail patterns.
- C. Maintenance Instructions: Periodic inspection recommendations and maintenance procedures.
- D. Shop Drawings:
  - 1. Submit Manufacturer's approved shop drawings detailing the section and elevation views of each product to be installed.
  - 2. Coordinate with locations listed on Contract Drawings.
- E. Warranty: Submit copy of manufacturer's warranty, made out in KCDC's name, showing that it has been registered with manufacturer.
- F. Closeout Submittals:
  - 1. Operation and Maintenance Data: For smoke-protective curtain assemblies to include in emergency, operation, and maintenance manuals.
  - 2. Field quality-control reports for required testing.

**1.05 QUALITY ASSURANCE**

- A. Qualifications:
  - 1. Manufacturer: Minimum of seven (7) years experience in manufacturing draft-control curtain assemblies at a facility in the United States that have been successfully installed in compliance with requirements of authorities having jurisdiction.
  - 2. Installers: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

## **1.06 DELIVER , STORAGE, AND HANDLING**

- A. Deliver, store and handle materials and products in accordance with the manufacturer's instructions and recommendations and industry standards.
- B. Store all materials in the manufacturer's original packaging until ready for installation. Protect all products from damage or exposure to adverse weather conditions.

## **1.07 PRO ECT CONDITIONS**

- A. Prior to fabrication, verify that dimensions are consistent with those found in the construction drawings. Where discrepancies exist, confirm the proper dimensions with the Architect before proceeding with work.

## **1.08 WARRANT**

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective work within a five year period after Date of Substantial Completion.

# **PART 2 PRODUCTS**

## **2.01 MANUFACTURERS**

- A. Basis of Design Manufacturer: Smoke Guard, A CSW Industrials Company.
  - 1. Address: 287 North Maple Grove Road, Boise, ID 83704.
  - 2. Phone: (800) 574-0330.
  - 3. Website: <https://smokeguard.com>
- B. Manufacturer List:
  - 1. Fire Curtain Technologies; <https://firecurtaintechnologies.com>
  - 2. Cornell Innovated Door Solutions; <https://www.cornelliron.com/smoke-curtain>
- C. Substitution Limitations:
  - 1. Submit substitution requests in accordance with provisions of Section 01 60 00.
  - 2. Single manufacturer to provide, from a single source, a fully integrated smoke-and-draft containment system consisting of smoke-and-draft-protective curtains and the following components:
    - a. Smoke-and-Draft-Protective Curtain Operators.
    - b. Smoke-and-Draft-Protective Curtain Controls.

## **2.02 SMO E PROTECTIVE CURTAIN ASSEMBLIES FOR ELEVATOR ENTRANCES**

- A. Alarm-activated transparent-film smoke curtain assembly complying with ICC-ES AC77 and NFPA 105.
  - 1. Basis of Design Product: Model 200, by Smoke Guard, a CSW Industrials Company.
- B. Alarm-activated transparent-film smoke curtain assembly complying with ICC-ES AC77 and NFPA 105.
  - 1. Basis of Design Product: Model 400, by Smoke Guard, a CSW Industrials Company.
- C. Smoke-Protective Curtain Assemblies: Provide smoke-protective curtains listed and labeled with the letter "S" by a qualified testing agency for smoke- and draft-control based on testing in accordance with UL 1784 without an artificial bottom seal; with maximum air-leakage rate of 3.0 cfm/sq. ft. (0.01524 cu. m/s x sq. m) of opening at 0.10 inch wg (24.9 Pa) for both ambient and elevated temperature tests in accordance with ICC-ES AC77.
- D. Curtain Materials: Provide manufacturer's standard curtain complying with each of the following:

1. Flame-Spread and Smoke-Developed Indexes: No greater than 25 and 50, respectively, when tested in accordance with ASTM E84.
  2. Transparent-Film Curtain: Provide curtain of transparent film in compliance with vision panel requirements of ASME A17.1.
  3. Screen Reinforcement: Provide film with reinforcement to limit deflection or tearing.
- E. Curtain Egress: Provide curtain that is operable from the egress side without use of keys, tools, special knowledge, or effort in excess of the opening force requirements of authorities having jurisdiction.
1. Egress Switch: Include switch to rewind screen into housing to comply with egress requirements of ASME A17.1.
    - a. Switch Size and Color: Provide switch no less than 4 by 4 inches and in contrasting color with curtain.
    - b. Switch Operation: Provide switch operable with a closed fist or a loose grip, not requiring finger movements in compliance with the requirements of authorities having jurisdiction.
    - c. Switch Location: Between 15 and 48 inches above finished floor level in compliance with forward reach requirements of authorities having jurisdiction.
  2. Manual Egress: Provide curtain allowing fail-safe manual egress with less than 15 pounds release pressure in the direction of travel.
    - a. Opening Size: Provide curtain with manual egress opening of at least 32 inches in compliance with the requirements of authorities having jurisdiction.
- F. Curtain Attachment: Provide curtain that forms a pressure-resisting seal by magnetic adhesion with flexible multi-pole magnetic strips attached to longitudinal edges of film with low modulus silicone adhesive.
1. Curtain Installation: Provide curtain attachment systems that do not require modification of the elevator jamb including direct or mechanical attachment.
  2. Elevator Door Frames: Type 430 ferritic stainless steel elevator door frames to create seal with curtain by magnetic adhesion.
    - a. Auxiliary Rails: Provide 16-gauge ASTM A240/240M, Type 430, ferritic stainless steel vertical rails above elevator door head to create seal with curtain by magnetic adhesion no less than 2 inches (51 mm) wide, 1 inch (25 mm) deep.
  3. Auxiliary Rails: Provide vertical rails to create seal with curtain by magnetic adhesion.
    - a. Material: 16-gauge ASTM A240/240M, Type 430, ferritic stainless steel.
    - b. Size: At least 2 inches (51 mm) wide, 1 inch (25 mm) deep.
- G. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- H. Curtain Housing: Provide sheet metal housings containing support rollers and associated electronics.
1. Coordinate operator wiring requirements and electrical characteristics with building electrical system.
  2. Housing includes electrical junction box that does require the removal of any part of the building in accordance with NFPA 70.
  3. Provide electrical junction box access through housing in the open condition.
  4. Curtain housing to contain all components required for operation.
  5. Housing Finish: Manufacturer's standard powder coat finish in white.
  6. Housing Finish: Manufacturer's standard powder coat finish in custom RAL color.
  7. Housing Finish: Manufacturer's standard stainless steel.

- I. Curtain Operation: Controlled descent automatically by fail-safe, gravity-closing deployment and motorized rewind.
  - 1. Curtain deploys on activation of one of the following:
    - a. Local Smoke Detector.
    - b. Building Fire Alarm.
    - c. Testing Key Switch
  - 2. Release Mechanism: Labelled as defined by UL864.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Examine substrates upon which work will be installed.
  - 1. Verify related work performed under other sections is complete and in accordance with Shop Drawings.
  - 2. Verify wall surfaces and elevator door frames are acceptable for installation of smoke containment system components.
- B. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
- D. Verify that locations of concealed reinforcements have been clearly marked for the installer.
- E. Locate reinforcement points and clearly mark their locations if not already done.

### **3.02 PREPARATION**

- A. Clean surfaces prior to installation.
- B. Prepare surfaces as recommended by the manufacturer for achieving optimal results.

### **3.03 INSTALLATION**

- A. Install in accordance with manufacturer's current installation instructions and industry recognized best practices.
- B. Install in accordance with authorities having jurisdiction.

### **3.04 CLEANING AND PROTECTION**

- A. Clean and remove all stains, grime, or other soils using soap and water. Only use detergents approved by the manufacturer for use on the finishes specified. Do not use acid solutions, steel wool, and other harsh abrasives.
- B. Damaged products must be repaired or replaced prior to substantial completion.
- C. Protect installed products until completion of work specified in this section.

### **3.05 FIELD QUALITY CONTROL**

- A. Field Test: Follow manufacturer's cycle test procedures.
  - 1. Notify Owner's Representative, local Fire Marshal, alarm sub-contractor and elevator sub-contractor or service company minimum one week in advance of scheduled testing.
  - 2. Complete maintenance service record.

### **3.06 DEMONSTRATION**

- A. Demonstrate required testing and maintenance procedures to Owner's Representative.

**END OF SECTION**

**SECTION 08 54 13**  
**FIBERGLASS WINDOWS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Essential® Casement/Awning window complete with hardware, glazing, mulling options including PTAC, weather strip, insect screen, grilles-between-the-glass, jamb extension, sheet rock return, j-channel, and standard or specified anchors, trim and attachments

**1.02 Related Sections**

- A. Section 01 33 23 – Submittal Procedures: Shop Drawings, Product Data and Samples
- B. Section 01 62 00 – Product Options
- C. Section 01 65 00 – Product Delivery
- D. Section 01 66 00 – Storage and Handling requirements
- E. Section 01 71 00 – Examination and Preparation
- F. Section 01 73 00 - Execution
- G. Section 01 74 00 – Cleaning and Waste Management
- H. Section 01 76 00 – Protecting Installed Construction
- I. Section 06 22 00 – Millwork: Wood trim other than furnished by window manufacturer
- J. Section 07 92 00 – Joint Sealants: Sill sealant and perimeter caulking
- K. Section 09 90 00 – Paints and Coatings: Paint and stain other than factory-applied finish

**1.03 References**

- A. American Society for Testing and Materials (ASTM):
  - 1. C1036: Standard Specification for Flat Glass.
  - 2. E90-09: Standard Test Method for Laboratory Measurement of airborne Sound Transmission Loss of Building Partitions and Elements.
  - 3. E 283: Standard Test Method for Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors.
  - 4. E 330: Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Door by Uniform Static Air Pressure Difference.
  - 5. E 547: Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
  - 6. E 2190: Standard Specification for Insulating Glass Unit Performance Evaluation.
  - 7. F 2090-10: Standard Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms.
- B. Insulating Glass Manufacturer's Alliance/Insulating Glass Certification Council (IGMA/IGCC).
- C. American Architectural Manufacturer's Association/Window and Door Manufacturer's Association/Canadian Standards Association (AAMA/WDMA/CSA): (use appropriate specifications depending on certification for each product type).
  - 1. AAMA/WDMA/CSA 101/I.S.2/A440-11: North American Fenestration Standard/Specification for windows, doors, and skylights.
  - 2. AAMA/WDMA/CSA 101/I.S.2/A440-17: North American Fenestration Standard/Specification for windows, doors, and skylights.

3. AAMA 450-10: Voluntary Performance Rating Method for Muller Fenestration Assemblies
- D. Window and Door Manufacturer's Association (WDMA): Hallmark Certification Program.
- E. American Architectural Manufacturer's Association (AAMA): 624-10: Voluntary Specification, Performance Requirements and Test Procedures for Organic Coatings on Fiber Reinforced Thermoset Profiles.
- F. National Fenestration Rating Council (NFRC): 101: Procedures for Determining Fenestration Product Thermal Properties.

#### 1.04 System Description

##### A. Design and Performance Requirements:

Product	Air Tested to psf	Water Tested to psf	Design Pressure (DP)	Certification Rating	Max Overall Width		Max Overall Height	
					in	mm	in	mm
Essential Casement	1.57	6	40	LC-PG40-C	27	(686)	71	(1803)
Essential Casement	1.57	6	40	LC-PG40-C	35	(889)	34	(864)
Essential Casement	1.57	6	40	LC-PG40-C	35	(889)	54	(1372)
Essential Casement	1.57	6	40	LC-PG40-C	35	(889)	71	(1803)
Essential Awning	1.57	6	40	LC-PG40-AP	48	(1219)	35	(889)
Essential Casement Picture	1.57	6	40	LC-PG40-FW	71	(1803)	71	(1803)

#### 1.05 Submittals

- A. Shop Drawings: Submit shop drawings under provision of Section 01 33 23.
- B. Product Data: Submit catalog data under provision of Section 01 33 23.
- C. Samples:
  1. Submit corner section under provision of section 01 33 23.
  2. Specified performance and design requirements under provisions of Section 01 33 23.
- D. Quality Control Submittals: Certificates: submit manufacturer's certification indicating compliance with specified performance and design requirement under provision of section 01 33 23.

### **1.06 Quality Assurance**

- A. Requirements: consult local code for IBC [International Building Code] and IRC [International Residential Code] adoption year and pertinent revisions for information on:
  - 1. Egress, emergency escape and rescue requirements.
  - 2. Basement window requirements.
  - 3. Windows fall prevention and/or window opening control device requirements.

### **1.07 Delivery**

- A. Comply with provisions of Section 01 65 00.
- B. Deliver in original packaging and protect from weather.

### **1.08 Storage and Handling**

- A. Store window units in an upright position in a clean and dry storage area above ground to protect from weather under provision of Section 01 66 00.

### **1.09 Warranty**

The following limited warranty is subject to conditions and exclusions. There are certain conditions or applications over which Marvin has no control. Defect or problems as a result of such conditions or applications are not the responsibility of Marvin. For a more complete description of the Marvin limited warranty, refer to the complete and current warranty information is available at <http://www.marvin.com/support/warranty>.

- A. Clear insulating glass with stainless steel spacers is warranted against seal failure caused by manufacturing defects and resulting in visible obstruction through the glass for twenty (20) years from the original date of purchase. Glass is warranted against stress cracks caused by manufacturing defects from ten (10) years from the original date of purchase.
- B. Hardware and other non-glass components are warranted to be free from manufacturing defects for ten (10) years from the original date of purchase.

## **PART 2 PRODUCTS**

### **2.01 Manufactured Units**

- A. Basis of Design: Description: Essential® Casement/Awning and related stationary or picture units as manufactured by Marvin Windows and Doors, Roanoke, Virginia.  
Contact: Shannon Dean – AVI Windows and Doors  
e: [sdean@aviwindowsanddoors.com](mailto:sdean@aviwindowsanddoors.com) c:770-688-5982

### **2.02 Frame Description**

- A. Interior:
  - 1. Pultruded reinforced fiberglass (Ultrex®), 0.075"-0.077" (2mm) thick wall.
  - 2. Frame depth: 3 3/32" (79mm).
  - 3. Jamb Depth: 2" (51mm)
  - 4. Frame Expander accessory is an insert kit shipped as ready-to-install.
  - 5. Insert kit includes four fabricated frame expander components, including head-jamb, sill and both jamb components.
  - 6. Included in both 1" and 3" frame expander options.

### **2.03 Sash Description**

- A. Pultruded reinforced fiberglass (Ultrex®), 0.075"-0.077" (2mm) thick wall.
- B. Composite sash thickness: 15/16" (24mm)

### **2.04 Glazing**

- A. Select quality complying with ASTM C 1036. Insulating glass SIGMA/IGCC when tested in accordance with ASTM E 2190. STC/OITC ratings are tested to the stated performance level in accordance with ASTM E 90-09.
- B. Glazing Method: 11/16" (17mm) insulating glass.
- C. Glass Type: Low E2, with air or Argon Gas.
- D. Glazing Seal: Silicone bead at exterior; interior has glazing boot inserted.
- E. Perimeter Spacer: Stainless

### **2.05 Mulling**

#### **Standard Mulling**

- A. Residential Townhomes. Buildings 2 – 9.

#### **Reinforced Mulling**

- B. Multifamily Building 1



## **2.06 Finish**

- A. Exterior: Pultruded fiberglass
  - 1. Factory baked on acrylic urethane.
  - 2. Meets AAMA 624-10 requirements.
- B. Interior: Pultruded fiberglass
  - 1. Factory baked on acrylic urethane.
- C. Color: Ebony exterior with Ebony interior.

## **2.07 Hardware**

- A. Lock: Multipoint locking mechanism is actuated from a single point of operation. The lock mechanism is concealed with only the actuator handle and escutcheon being visible to the interior.
- B. Hinges: Concealed stainless steel track and injection molded shoe.
- C. Handle: Die cast detachable folding handle.
- D. Roto-gear Operator: E-Gard™ coated hinge arm and housing mechanism.
- E. Snubber: Pulls the sash tight to the frame and provides engagement to keep the sash in place under structural loads.
- F. Color: Applies to handle and locking hardware:
  - 1. Standard Color: Matte Black

## **2.08 Optional Hardware**

- G. WOCD locking assembly: Die cast. Color: Matte Black.

## **2.09 Weather Strip**

- A. Primary weather strip is an extruded TPE foam filled bulb attached to all four sides of the frame by a kerf and provides seal between sash and frame.
- B. Secondary weather strip is an extruded TPE hollow bulb that attaches to a kerf in the sash and provides seal between sash and frame.
- C. Standard weather strip color: black.

## **2.10 Insect Screen (Remove for fixed windows)**

- A. Factory-installed screen (to be shipped loose in separate boxing and installed on-site)
  - 1. Screen mesh, 18 by 16: Charcoal fiberglass.
- B. Aluminum frame finish: Ebony.

## **2.11 Accessories and Trim**

### **A. Installation Accessories:**

1. Factory-installed vinyl nailing fin/drip cap at head, sill and side jambs.
2. Mullion kit: standard mullion kit for filed assembly of related units available in horizontal, vertical and 2-wide and/or 2-high configurations. Kit includes: Instruction, interior and exterior mull covers, mull plugs and brackets.
3. Available colors: Ebony.

## **PART 3 EXECUTION**

### **3.01 Examination**

- A. Verification of Condition: Before installation, verify openings are plumb, square and of proper dimensions as required in Section 01 71 00. Report frame defects or unsuitable conditions to the General Contractor before proceeding,
- B. Acceptance of Condition: Beginning installation confirms acceptance of existing conditions.

### **3.02 Installation**

- A. Comply with Section 01 73 00.
- B. Assemble and install window/door unit(s) according to manufacturer's instruction and reviewed shop drawing.
- C. Install sealant and related backing materials at perimeter of unit or assembly in accordance with Section 07 92 00 Joint Sealants. Do not use expansive foam sealant.
- D. Install accessory items as required.
- E. Use finish nails to apply wood trim and mouldings.

### **3.03 Field Quality Control**

- A. Field Testing: None

### **3.04 Cleaning**

- A. Remove visible labels and adhesive residue according to manufacturer's instruction.
- B. Leave windows and glass in a clean condition. Final cleaning as required in Section 01 74 00.

### **3.05 Protecting Installed Construction**

- A. Comply with Section 07 76 00.
- B. Protecting windows from damage by chemicals, solvents, paint or other construction operations that may cause damage.

**END OF SECTION**

**SECTION 08 71 00**  
**DOOR HARDWARE**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Hardware for wood, hollow metal, and fiberglass doors.
- B. Hardware for fire-rated doors.
- C. Electrically operated and controlled hardware.
- D. Thresholds.
- E. Weatherstripping and gasketing.

**1.02 RELATED REQUIREMENTS**

- A. Section 06 20 00 - Finish Carpentry: Wood door frames.
- B. Section 06 41 00 - Architectural Wood Casework: Cabinet hardware.
- C. Section 07 92 00 - Joint Sealants: Sealants for setting exterior door thresholds.
- D. Section 08 11 13 - Hollow Metal Doors and Frames.
- E. Section 08 14 33 - Stile and Rail Wood Doors.
- F. Section 08 16 13 - Fiberglass Doors.
- G. Section 08 32 00 - Sliding Glass Doors: Door hardware, except cylinders.
- H. Section 08 33 23 - Overhead Coiling Doors: Door hardware, except cylinders.
- I. Section 08 43 13 - Aluminum-Framed Storefronts: Door hardware, except as noted in section.
- J. Section 10 14 00 - Signage: Additional signage requirements.
- K. Section 10 26 00 - Wall and Door Protection: Door and frame protection.
- L. Section 28 10 00 - Access Control: Electronic access control devices.
- M. Section 28 46 00 - Fire Detection and Alarm: Electrical connection to activate door closers.

**1.03 REFERENCE STANDARDS**

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. 36 CFP 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Building Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
- C. BHMA A156.1 - American National Standard for Butts and Hinges; 2016.
- D. BHMA A156.2 - American National Standard for Bored and Preassembled Locks & Latches; 2017.
- E. BHMA A156.3 - American National Standard for Exit Devices; 2014.
- F. BHMA A156.4 - American National Standard for Door Controls - Closers; 2013.
- G. BHMA A156.5 - American National Standard for Cylinders and Input Devices for Locks; 2014.
- H. BHMA A156.6 - American National Standard for Architectural Door Trim; 2015.
- I. BHMA A156.7 - American National Standard for Template Hinge Dimensions; 2016.
- J. BHMA A156.8 - American National Standard for Door Controls - Overhead Stops and Holders; 2015.
- K. BHMA A156.16 - American National Standard for Auxiliary Hardware; 2018.
- L. BHMA A156.17 - American National Standard for Self Closing Hinges & Pivots; 2014.
- M. BHMA A156.18 - American National Standard for Materials and Finishes; 2016.
- N. BHMA A156.21 - American National Standard for Thresholds; 2014.

- O. BHMA A156.22 - American National Standard for Door Gasketing and Edge Seal Systems Sponsor; 2017.
- P. BHMA A156.23 - American National Standard for Electromagnetic Locks; 2017.
- Q. BHMA A156.25 - American National Standard for Electrified Locking Devices; 2018.
- R. BHMA A156.28 - American National Standard for Recommended Practices for Mechanical Keying Systems; 2018.
- S. BHMA A156.31 - American National Standard for Electric Strikes and Frame Mounted Actuators; 2013.
- T. BHMA A156.115 - American National Standard for Hardware Preparation in Steel Doors and Steel Frames; 2016.
- U. BHMA A156.115W - American National Standard for Hardware Preparation in Wood Doors with Wood or Steel Frames; 2006.
- V. DHI (H&S) - Sequence and Format for the Hardware Schedule; 1996.
- W. DHI (KSN) - Keying Systems and Nomenclature; 1989.
- X. DHI (LOCS) - Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames; 2004.
- Y. DHI WDHS.3 - Recommended Locations for Architectural Hardware for Flush Wood Doors; 1993; also in WDHS-1/WDHS-5 Series, 1996.
- Z. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.
- AA. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- AB. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2016.
- AC. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- AD. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2018.
- AE. UL (DIR) - Online Certifications Directory; Current Edition.
- AF. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

#### **1.04 ADMINISTRATIVE REQUIREMENTS**

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.
- B. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.
- C. Preinstallation Meeting: Convene a preinstallation meeting 10 weeks prior to commencing work of this section; attendance is required by affected installers and the following. Work to be strictly coordinated with KCDC for compliance of locking systems for all hardware:
  - 1. Architect.
  - 2. Installer's Architectural Hardware Consultant (AHC).
  - 3. Hardware Installer.
  - 4. Owner's Security Consultant.
  - 5. KCDC.
- D. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.
- E. Keying Requirements Meeting:
  - 1. Schedule meeting at project site prior to Contractor occupancy.
  - 2. Attendance Required:
    - a. Contractor.

- b. KCDC.
  - c. Architect.
  - d. Installer's Architectural Hardware Consultant (AHC).
  - e. Hardware Installer.
- 3. Agenda:
  - a. Establish keying requirements.
  - b. Verify locksets and locking hardware are functionally correct for project requirements.
  - c. Verify that keying and programming complies with project requirements.
  - d. Establish keying submittal schedule and update requirements.
- 4. Incorporate "Keying Requirements Meeting" decisions into keying submittal upon review of door hardware keying system including, but not limited to, the following:
  - a. Access control requirements.
  - b. Key control system requirements.
  - c. Schematic diagram of preliminary key system.
  - d. Flow of traffic and extent of security required.
- 5. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, KCDC, participants, and those affected by decisions made.
- 6. Deliver established keying requirements to manufacturers.

### 1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.
- C. Shop Drawings - Door Hardware Schedule: Submit detailed listing that includes each item of hardware to be installed on each door. Use door numbering scheme as included in Contract Documents.
  - 1. Prepared by or under supervision of Architectural Hardware Consultant (AHC).
  - 2. Comply with DHI (H&S) using door numbers and hardware set numbers as indicated in construction documents.
  - 3. List groups and suffixes in proper sequence.
  - 4. Provide complete description for each door listed.
  - 5. Provide manufacturer's and product names, and catalog numbers; include functions, types, styles, sizes and finishes of each item.
  - 6. Include account of abbreviations and symbols used in schedule.
- D. Shop Drawings - Electrified Door Hardware: Submit diagrams for power, signal, and control wiring for electrified door hardware that include details of interface with building safety and security systems. Provide elevations and diagrams for each electrified door opening as follows:
  - 1. Prepared by or under supervision of Architectural Hardware Consultant (AHC) and Electrified Hardware Consultant (EHC).
  - 2. Elevations: Submit front and back elevations of each door opening showing electrified devices with connections installed and an operations narrative describing how opening operates from either side at any given time.
  - 3. Diagrams: Submit point-to-point wiring diagram that shows each device in door opening system with related colored wire connections to each device.
- E. Samples for Verification:
  - 1. Submit one (1) sample of hinge, latchset, lockset, closer, and \_\_\_\_\_ illustrating style, color, and finish.
  - 2. Return full-size samples to Contractor.
  - 3. Submit product description with samples.
- F. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

- G. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
  - 1. Submit manufacturer's parts lists and templates.
  - 2. Bitting List: List of combinations as furnished.
- H. Keying Schedule:
  - 1. Submit three (3) copies of Keying Schedule in compliance with requirements established during Keying Requirements Meeting unless otherwise indicated.
- I. Warranty: Submit manufacturer's warranty and ensure that forms have been completed in KCDC's name and registered with manufacturer.
- J. Project Record Documents: Record actual locations of concealed equipment, services, and conduit.
- K. Maintenance Materials and Tools: Furnish the following for KCDC's use in maintenance of project.
  - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
  - 2. Lock Cylinders: Ten for each master keyed group.
  - 3. Tools: One set of each special wrench or tool applicable for each different or special hardware component, whether supplied by hardware component manufacturer or not.

#### **1.06 QUALITY ASSURANCE**

- A. Standards for Fire-Rated Doors: Maintain one copy of each referenced standard on site, for use by Architect and Contractor.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of documented experience.
- C. Installer Qualifications: Company specializing in performing work of the type specified for commercial door hardware with at least three years of documented experience.
- D. Supplier Qualifications: Company with certified Architectural Hardware Consultant (AHC) and Electrified Hardware Consultant (EHC) to assist in work of this section.

#### **1.07 DELIVERY, STORAGE, AND HANDLING**

- A. Package hardware items individually; label and identify each package with door opening code to match door hardware schedule.

#### **1.08 WARRANTY**

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Warranty against defects in material and workmanship for period indicated, from Date of Substantial Completion.
  - 1. Closers: Five years, minimum.
  - 2. Exit Devices: Three years, minimum.
  - 3. Locksets and Cylinders: Three years, minimum.
  - 4. Other Hardware: Two years, minimum.

### **PART 2 PRODUCTS**

#### **2.01 DESIGN AND PERFORMANCE CRITERIA**

- A. Hardware must be compatible with I-Core Passage Locks. Coordinate with KCDC prior to ordering locksets.
  - 1. Deadbolt: SO001128292005 EA SHD QDB281-619-S4-DBSB-FSK 8
  - 2. Passage: SO001128292003 EA STANLEY QCL230E619
  - 3. Strike: US15; 2-3/4" Backset ASA
  - 4. Charlie McCracken at Landlord Locks for I-Core products. [charlie@landlordlocks.com](mailto:charlie@landlordlocks.com)
  - 5. I-Core locks to be keyed to KCDC's masterlock
- B. Hardware Basis of Design to be equal to or better than: Schlage; [www.schlage.com](http://www.schlage.com)
- C. Hardware Accessory Basis of Design to be equal to or better than: Best; [www.bestaccess.com](http://www.bestaccess.com)

- D. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.
- E. Provide individual items of single type, of same model, and by same manufacturer.
- F. Provide door hardware products that comply with the following requirements:
  - 1. Applicable provisions of federal, state, and local codes.
  - 2. Accessibility: ADA Standards and ICC A117.1.
  - 3. Applicable provisions of NFPA 101.
  - 4. Fire-Rated Doors: NFPA 80, listed and labeled by qualified testing agency for fire protection ratings indicated, based on testing at positive pressure in accordance with NFPA 252 or UL 10C.
  - 5. Hardware on Fire-Rated Doors: Listed and classified by UL (DIR) as suitable for application indicated.
  - 6. Hardware Preparation for Steel Doors and Steel Frames: BHMA A156.115.
  - 7. Hardware Preparation for Wood Doors with Wood or Steel Frames: BHMA A156.115W.
  - 8. Products Requiring Electrical Connection: Listed and classified by UL (DIR) as suitable for the purpose specified.
- G. Electrically Operated and/or Controlled Hardware: Provide necessary power supplies, power transfer hinges, relays, and interfaces as required for proper operation; provide wiring between hardware and control components and to building power connection in compliance with NFPA 70.
  - 1. Refer to Section 28 10 00 for additional access control system requirements.
- H. Fasteners:
  - 1. Provide fasteners of proper type, size, quantity, and finish that comply with commercially recognized standards for proposed applications.
    - a. Aluminum fasteners are not permitted.
    - b. Provide phillips flat-head screws with heads finished to match door surface hardware unless otherwise indicated.
  - 2. Provide machine screws for attachment to reinforced hollow metal and aluminum frames.
    - a. Self-drilling (Tek) type screws are not permitted.
  - 3. Provide stainless steel machine screws and lead expansion shields for concrete and masonry substrates.
  - 4. Provide wall grip inserts for hollow wall construction.
  - 5. Provide spacers or sex bolts with sleeves for through bolting of hollow metal doors and frames.
  - 6. Fire-Rated Applications: Comply with NFPA 80.
    - a. Provide wood or machine screws for hinges mortised to doors or frames, strike plates to frames, and closers to doors and frames.
    - b. Provide steel through bolts for attachment of surface mounted closers, hinges, or exit devices to door panels unless proper door blocking is provided.

## **2.02 HINGES**

- A. Manufacturers:
  - 1. Basis of Design: See Section 2.01 - DESIGN AND PERFORMANCE CRITERIA .
  - 2. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Hinges: Comply with BHMA A156.1, Grade 1.
  - 1. Self Closing Hinges: Comply with BHMA A156.17.
  - 2. Butt Hinges: Comply with BHMA A156.1 and BHMA A156.7 for templated hinges.
    - a. Provide hinge width required to clear surrounding trim.
  - 3. Provide hinges on every swinging door.
  - 4. Provide following quantity of butt hinges for each door:

## **2.03 FLUSH BOLTS**

- A. Manufacturers:
  - 1. Basis of Design: See Section 2.01 - DESIGN AND PERFORMANCE CRITERIA .

2. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Flush Bolts: Comply with BHMA A156.16, Grade 1.
  1. Flush Bolt Throw: 3/4 inch, minimum.
  2. Provides extension bolts in leading edge of door, one bolt into floor, one bolt into top of frame.
    - a. Pairs of Swing Doors: At inactive leaves, provide flush bolts of type as required to comply with code.
  3. Provide dustproof floor strike for bolt into floor, except at metal thresholds.
  4. Manual Flush Bolts: Provide lever extensions for top bolt at over-sized doors.
  5. Self-Latching Flush Bolts: Automatically latch upon closing of door; manually retracted; located on inactive leaf of pair of doors.

#### **2.04 EXIT DEVICES**

- A. Manufacturers:
  1. Basis of Design: See Section 2.01 - DESIGN AND PERFORMANCE CRITERIA .
  2. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Exit Devices: Comply with BHMA A156.3, Grade 1.
  1. Lever design to match lockset trim.
  2. Provide cylinder with cylinder dogging or locking trim.
  3. Provide exit devices properly sized for door width and height.
  4. Provide strike as recommended by manufacturer for application indicated.
  5. Provide UL (DIR) listed exit device assemblies for fire-rated doors and panic device assemblies for non-fire-rated doors.
  6. For electrical options, provide quick connect plug-in pre-wired connectors.

#### **2.05 ELECTRIC STRIKES**

- A. Manufacturers:
  1. Basis of Design: See Section 2.01 - DESIGN AND PERFORMANCE CRITERIA .
  2. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Electric Strikes: Comply with BHMA A156.31, Grade 1.
  1. Provide UL (DIR) listed burglary-resistant electric strike; style to suit locks.
  2. Provide non-handed 24 VDC electric strike suitable for door frame material and scheduled lock configuration.
  3. Connect electric strikes into fire alarm where non-rated doors are scheduled to release with fire or sprinkler alarm condition.

#### **2.06 LOCK CYLINDERS**

- A. Manufacturers:
  1. Basis of Design: See Section 2.01 - DESIGN AND PERFORMANCE CRITERIA .
  2. No Substitutions
- B. Lock Cylinders: Provide key access on outside of each lock, unless otherwise indicated.
  1. Provide cylinders from same manufacturer as locking device.
  2. Provide cams and/or tailpieces as required for locking devices.
  3. 2-3/4" BACKSET ASA STRIKE US15

#### **2.07 CYLINDRICAL LOCKS**

- A. Manufacturers:
  1. Basis of Design: See Section 2.01 - DESIGN AND PERFORMANCE CRITERIA .
  2. No Substitutions
- B. Cylindrical Locks (Bored): Comply with BHMA A156.2, Grade 1, 4000 Series.
  1. Bored Hole: 2-1/8 inch diameter.
  2. Latchbolt Throw: 1/2 inch, minimum.
  3. Backset: 2-3/4 inch unless otherwise indicated.



4. Strikes: Provide manufacturer's standard strike for each latchset or lockset with strike box and curved lip extending to protect frame in compliance with indicated requirements.
  - a. Finish: To match lock or latch.
  - b. Flat-Lip Strikes: Provide for locks with three piece antifriction latchbolts as recommended by manufacturer.
  - c. Extra-Long-Lip Strikes: Provide for locks used on frames with applied wood casing trim.
  - d. Rabbet Front and Strike: Provide on locksets for use with rabbeted meeting rails.
5. Provide a lock for each door, unless otherwise indicated that lock is not required.
6. Provide an office lockset for swinging door where hardware set is not indicated.
7. Trim: Provide lever handle or pull trim on outside of each lock, unless otherwise indicated.

## **2.08 DOOR PULLS AND PUSH PLATES**

- A. Manufacturers:
  1. Forms+Surfaces; \_\_\_\_\_: [www.forms-surfaces.com/#sle](http://www.forms-surfaces.com/#sle).
  2. Hager Companies; \_\_\_\_\_: [www.hagerco.com/#sle](http://www.hagerco.com/#sle).
  3. Pamex, Inc; \_\_\_\_\_: [www.pamexinc.com/#sle](http://www.pamexinc.com/#sle).
  4. Trimco; \_\_\_\_\_: [www.trimcohardware.com/#sle](http://www.trimcohardware.com/#sle).
  5. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Door Pulls and Push Plates: Comply with BHMA A156.6.
  1. Pull Type: Straight, unless otherwise indicated.
  2. Push Plate Type: Flat, with square corners, unless otherwise indicated.
    - a. Edges: Beveled, unless otherwise indicated.
  3. Material: Aluminum, unless otherwise indicated.
  4. Provide door pulls and push plates on doors without a lockset, latchset, exit device, or auxiliary lock unless otherwise indicated.
  5. On solid doors, provide matching door pull and push plate on opposite faces.
  6. On glazed storefront doors, provide matching door pulls/push plates on both faces unless otherwise indicated.

## **2.09 DOOR PULLS AND PUSH BARS**

- A. Manufacturers:
  1. Rockwood; an Assa Abloy Group company; \_\_\_\_\_: [www.assaabloydss.com/#sle](http://www.assaabloydss.com/#sle).
  2. Hager Companies; \_\_\_\_\_: [www.hagerco.com/#sle](http://www.hagerco.com/#sle).
  3. Trimco; \_\_\_\_\_: [www.trimcohardware.com/#sle](http://www.trimcohardware.com/#sle).
  4. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Door Pulls and Push Bars: Comply with BHMA A156.6.
  1. Bar Type: Bar set, unless otherwise indicated.
  2. Material: Aluminum, unless otherwise indicated.

## **2.10 COORDINATORS**

- A. Manufacturers:
  1. Basis of Design: See Section 2.01 - DESIGN AND PERFORMANCE CRITERIA .
  2. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Coordinators: Provide on doors having closers and self-latching or automatic flush bolts to ensure that inactive door leaf closes before active door leaf.
  1. Type: Bar, unless otherwise indicated.
  2. Material: Aluminum, unless otherwise indicated.
  3. Ensure that coordination of other door hardware affected by placement of coordinators and carry bar is applied properly for completely operable installation.

## **2.11 CLOSERS**

- A. Manufacturers; Surface Mounted:
  1. Basis of Design: See Section 2.01 - DESIGN AND PERFORMANCE CRITERIA .
  2. Substitutions: See Section 01 60 00 - Product Requirements.

- B. Manufacturers; Concealed - Overhead:
  - 1. Basis of Design: See Section 2.01 - DESIGN AND PERFORMANCE CRITERIA .
  - 2. Substitutions: See Section 01 60 00 - Product Requirements.
- C. Closers: Comply with BHMA A156.4, Grade 1.
  - 1. Type: Surface mounted to door.
  - 2. Provide door closer on each exterior door.
  - 3. Provide door closer on each fire-rated and smoke-rated door.
    - a. Spring hinges are not an acceptable self-closing device, unless otherwise indicated.
  - 4. Where an overlapping astragal is included on pairs of swinging doors, provide coordinator to ensure door leaves close in proper order.
  - 5. At corridor entry doors, mount closer on room side of door.
  - 6. At outswinging exterior doors, mount closer on interior side of door.

## **2.12 OVERHEAD STOPS AND HOLDERS**

- A. Manufacturers:
  - 1. Basis of Design: See Section 2.01 - DESIGN AND PERFORMANCE CRITERIA .
  - 2. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Overhead Stops and Holders (Door Checks): Comply with BHMA A156.8, Grade 1.
  - 1. Provide stop for every swinging door, unless otherwise indicated.
  - 2. Stop is not required if positive stop feature is specified for door closer; positive stop feature of door closer is not an acceptable substitute for a stop, unless otherwise indicated.

## **2.13 PROTECTION PLATES**

- A. Manufacturers:
  - 1. Basis of Design: See Section 2.01 - DESIGN AND PERFORMANCE CRITERIA .
  - 2. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Drip Guard: Provide at head of exterior doors unless covered by roof or canopy.

## **2.14 IC PLATES**

- A. Manufacturers:
  - 1. Hiawatha, Inc, an Activar Construction Products Group company; \_\_\_\_\_: [www.activarcp.com/hiawatha/#sle](http://www.activarcp.com/hiawatha/#sle).
  - 2. Trimco; \_\_\_\_\_: [www.trimcohardware.com/#sle](http://www.trimcohardware.com/#sle).
  - 3. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Kick Plates: Provide along bottom edge of push side of every door with closer, except aluminum storefront and glass entry doors, unless otherwise indicated.
  - 1. Size: 8 inch high by 2 inch less door width (LDW) on push side of door.

## **2.15 DOOR HOLDERS**

- A. Manufacturers:
  - 1. Basis of Design: See Section 2.01 - DESIGN AND PERFORMANCE CRITERIA .
  - 2. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Door Holders: Comply with BHMA A156.16, Grade 1.
  - 1. Provide surface mounted door holders when wall or floor stop is not applicable and hold-open device is mounted on door.
  - 2. Type: Angle stop at head of opening.
  - 3. Material: Aluminum.

## **2.16 FLOOR STOPS**

- A. Manufacturers:
  - 1. Basis of Design: See Section 2.01 - DESIGN AND PERFORMANCE CRITERIA .
  - 2. Coordinate with Architect and KCDC on locations of floor stops or wall stop needs..
  - 3. Substitutions: See Section 01 60 00 - Product Requirements.

- B. Floor Stops: Comply with BHMA A156.16, Grade 1 and Resilient Material Retention Test as described in this standard.
  - 1. Provide floor stops when wall surface is not available; be cautious not to create a tripping hazard.
  - 2. Type: Manual hold-open, with bumper floor stop.
  - 3. Material: Aluminum housing with rubber insert.

## **2.17 WALL STOPS**

- A. Manufacturers:
  - 1. Basis of Design: See Section 2.01 - DESIGN AND PERFORMANCE CRITERIA .
  - 2. Coordinate with Architect and KCDC on locations of floor stops or wall stop needs..
  - 3. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Wall Stops: Comply with BHMA A156.16, Grade 1 and Resilient Material Retention Test as described in this standard.
  - 1. Provide wall stops to prevent damage to wall surface upon opening door.
  - 2. Type: Bumper, concave, wall stop.
  - 3. Material: Aluminum housing with rubber insert.

## **2.18 ASTRAGALS**

- A. Manufacturers:
  - 1. Hager Companies; \_\_\_\_: [www.hagerco.com/#sle](http://www.hagerco.com/#sle).
  - 2. National Guard Products, Inc; \_\_\_\_: [www.ngpinc.com/#sle](http://www.ngpinc.com/#sle).
  - 3. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Astragals: Comply with BHMA A156.22.
  - 1. Provide surface mounted astragal to cover or fill space for full door height between pair of doors or door and adjacent jamb.
  - 2. Type: Split, two parts, and with sealing gasket.
  - 3. Material: Aluminum, with neoprene weatherstripping.
  - 4. Provide non-corroding fasteners at exterior locations.

## **2.19 THRESHOLDS**

- A. Manufacturers:
  - 1. Pemko; an Assa Abloy Group company; \_\_\_\_: [www.assaabloydss.com/#sle](http://www.assaabloydss.com/#sle).
  - 2. Hager Companies; \_\_\_\_: [www.hagerco.com/#sle](http://www.hagerco.com/#sle).
  - 3. National Guard Products, Inc; \_\_\_\_: [www.ngpinc.com/#sle](http://www.ngpinc.com/#sle).
  - 4. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Thresholds: Comply with BHMA A156.21.
  - 1. Provide threshold at each exterior door, unless otherwise indicated.
  - 2. Type: Flat surface.
  - 3. Material: Aluminum.
  - 4. Threshold Surface: Smooth and flat.
  - 5. Field cut threshold to profile of frame and width of door sill for tight fit.
  - 6. Provide non-corroding fasteners at exterior locations.
  - 7. Set in full bed per drawings

## **2.20 WEATHERSTRIPPING AND GAS ETING**

- A. Weatherstripping and Gasketing: Comply with BHMA A156.22.
  - 1. Head and Jamb Type: Adjustable.
  - 2. Door Sweep Type: Encased in retainer.
  - 3. Material: Aluminum, with brush weatherstripping.
  - 4. Provide weatherstripping on each exterior door at head, jambs, and meeting stiles of door pairs, unless otherwise indicated; .
  - 5. Provide door bottom sweep on each exterior door, unless otherwise indicated.

## **2.21 SIGNAGE**

- A. See Section 10 14 00 for additional signage requirements.
- B. Signage (Room Name Plates and Numbers): Provide on doors for individuals to easily identify room names and/or numbers.
  - 1. Text Required: "RESTROOM" with symbols and braille text.
  - 2. Material: In plastic or metal with paint used to create necessary text, adhered to door.

## **2.22 SILENCERS**

- A. Manufacturers:
  - 1. Ives, an Allegion brand; \_\_\_\_\_: [www.allegion.com/us/#sle](http://www.allegion.com/us/#sle).
  - 2. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Silencers: Provide at equal locations on door frame to mute sound of door's impact upon closing.
  - 1. Single Door: Provide three on strike jamb of frame.
  - 2. Pair of Doors: Provide two on head of frame, one for each door at latch side.
  - 3. Material: Rubber, gray color.

## **2.23 VIEWER**

- A. Viewer: Provide at inside of door at eye level to see who is on outside of door.
  - 1. Material: Brass.

## **2.24 E CONTROL SYSTEMS**

- A. Manufacturers:
  - 1. Basis of Design: I-Core by Landlord Locks.
- B. Key Control Systems: Comply with guidelines of BHMA A156.28.
  - 1. Provide keying information in compliance with DHI (KSN) standards.
  - 2. Keying: Grand master keyed.
  - 3. Supply keys in following quantities:
    - a. 1 each Grand Master keys and per KCDC's requirements.

## **2.25 E CABINET**

- A. Manufacturers:
  - 1. Knox Company; \_\_\_\_\_: [www.knoxbox.com/#sle](http://www.knoxbox.com/#sle).
  - 2. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Key Cabinet: Sheet steel construction, piano hinged door with key lock; BHMA A156.28.
  - 1. Mounting: Wall-mounted.
  - 2. Capacity: Actual quantity of keys, plus 25 percent additional capacity.
  - 3. Size key hooks to hold 6 keys each.
  - 4. Finish: Baked enamel, manufacturer's standard color.
  - 5. Key cabinet lock to building keying system.

## **2.26 FIRE DEPARTMENT LOCK BOX**

- A. Manufacturers:
  - 1. Knox Company; Knox-Box Rapid Entry System, \_\_\_\_\_: [www.knoxbox.com/#sle](http://www.knoxbox.com/#sle).
  - 2. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Fire Department Lock Box:
  - 1. Heavy-duty, surface mounted, solid stainless-steel box with hinged door and interior gasket seal; single drill resistant lock with dust covers and tamper alarm.
  - 2. Capacity: Holds 10 keys.
  - 3. Finish: Manufacturer's standard black.

## **2.27 FINISHES**

- A. Finishes: Provide door hardware of same finish, unless otherwise indicated.
  - 1. Primary Finish: To be Selected by Architect; BHMA A156.18.

2. Exceptions:
  - a. Where base material metal is specified to be different, provide finish that is an equivalent appearance in accordance with BHMA A156.18.
  - b. Hinges for Fire-Rated Doors: Steel base material with painted finish, in compliance with NFPA 80.
  - c. Door Closer Covers and Arms: Color as selected by Architect from manufacturer's standard colors unless otherwise indicated.
  - d. Aluminum Surface Trim and Gasket Housings: Anodized to match door panel finish, not other hardware, unless otherwise indicated.
  - e. Hardware for Aluminum Storefront Doors: Finished to match door panel finish, except at hand contact surfaces provide stainless steel with satin finish, unless otherwise indicated.

## 2.28 DOOR HARDWARE SCHEDULE

### BUILDINGS 2 – 9 TOWNHOMES

#### Set No. A - B2-4 thru B9-4 Riser Rooms

Each to have:

3	Each Butts	BB1279 – 4.5" X 4.5"	622	HAG
1	Lever Passage	AL10S – NEP	622	SCH
1	Deadlock	B560HD	622	SCH
1	Interchangeable Core	SFIC – Permanent	622	BES
1	Door Closer	4111-S-H-CUSH	Matte Black	LCN
1	Threshold	425	719	NGP
1	Weatherstrip	Stormstrips w/Retainer and Seal	--	SS
1	Door Sweep	Type 6 Nylon Brush w/Corner Pads	--	SS
1	Door Stop	As required	622	HAG

#### Set No. A - B2-3A/3B Stairs Entry

B4-3A/3B Stairs Entry  
 B5-3A/3B Stairs Entry  
 B6-3A/3B Stairs Entry  
 B7-3A/3B Stairs Entry  
 B9-3A/3B Stairs Entry

Each to have:

3	Each Butts	BB1279 – 4.5" X 4.5"	622	HAG
1	Lever Storeroom	ND96HD – SPA	622	SCH
1	Interchangeable Core	SFIC – Permanent	622	BES
1	Door Closer	4111-S-CUSH	Matte Black	LCN
1	Threshold	425	719	NGP
1	Weatherstrip	Stormstrips w/Retainer and Seal	--	SS
1	Door Sweep	Type 6 Nylon Brush w/Corner Pads	--	SS
1	Door Stop	As required	622	HAG

Set No. B - B2-1/B2-2 Exterior & Interior Apt. Entry

B3-1 Exterior Apt. Entry  
B4-1/B4-2 Exterior & Interior Apt. Entry  
B5-1/B5-2 Exterior & Interior Apt. Entry  
B6-1/B6-2 Exterior & Interior Apt. Entry  
B7-1/B7-2 Exterior & Interior Apt. Entry  
B8-1 Exterior Apt. Entry  
B9-1/B9-2 Exterior & Interior Apt. Entry

Each to have:

3	Each Butts	BB1279 – 4.5" X 4.5"	622	HAG
1	Lever Passage	AL10S – NEP (UL @ Fire Doors)	622	SCH
1	Deadlock	B560HD (UL @ Fire Doors)	622	SCH
1	Interchangeable Core	SFIC – Permanent	622	BES
1	Door Closer	4011/4111-EDA	Matte Black	LCN
1	Viewer	622	622	ROC
1	Threshold	425	719	NGP
1	Weatherstrip	Stormstrips w/Retainer and Seal	- -	SS
1	Door Sweep	Type 6 Nylon Brush w/Corner Pads	- -	SS
1	Door Stop	As required	622	HAG

Set No. C - B2-6 thru B9-6 Bedroom/Bathroom

Each to have:

3	Each Butts	Coordinate with prehung door supplier.		
1	Lever Privacy	AL40S – NEP	622	SCH
1	Door Stop	As required	622	HAG

Set No. D - B2-6/B2-7 Closet

B3-6/B3-7 Closet  
B4-7/B4-12 Closet  
B5-6 Closet  
B6-6 Closet  
B7-6 Closet  
B8-7 Closet  
B9-7/B9-12 Closet

Each to have:

3	Each Butts	Coordinate with prehung door supplier.		
1	Lever Passage	AL10S – NEP	622	SCH
1	Door Stop	As required	622	HAG

Set No. D - B2-9 Closet Bifold

B7-8/B7-9 Closet Bifold

Each to have:

1	Set Folding Dr. Hdwe	Coordinate with door supplier. FS100 Series		
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Set No. D - B2-8 Washer Dryer

B2-5 & B2-8 Closet

B3-5 & B3-8 Closet  
 B4-5 Washer Dryer  
 B4-5 & B4-8 Closet  
 B5-5 Washer Dryer  
 B5-5 Closet  
 B6-5 Washer Dryer  
 B6-5 Closet  
 B7-8 Washer Dryer  
 B7-8 Closet  
 B8-5 Washer Dryer  
 B8-5 Closet  
 B9-5 Washer Dryer  
 B9-5 Closet  
 B9-8 Closet

Each to have:

6	Each Butts	Coordinate with prehung door supplier.		
2	Dummy Levers	AL170S – NEP	622	SCH
2	Roller Latches	594	622	ROC
2	Door Stops	As required	622	HAG

Set No. E - B2-5 thru B9-5 Utility Room

Each to have:

6	Each Butts	Coordinate with prehung door supplier.		
2	Flush Bolts	282D	622	HAG
1	Dust Proof Strike	280X	622	HAG
2	Dummy Levers	AL170S – NEP	622	SCH
1	Lever Passage	AL10S - NEP	622	SCH
1	Deadlock	B560P	622	SCH
2	Door Stops	As required	622	HAG

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verify that doors and frames are ready to receive this work; labeled, fire-rated doors and frames are properly installed, and dimensions are as indicated on shop drawings.
- B. Verify that electric power is available to power operated devices and of correct characteristics.

### 3.02 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.
- B. Install hardware on fire-rated doors and frames in accordance with applicable codes and NFPA 80.
- C. Use templates provided by hardware item manufacturer.
- D. Do not install surface mounted items until application of finishes to substrate are fully completed.
- E. Door Hardware Mounting Heights: Distance from finished floor to center line of hardware item. As indicated in following list, unless noted otherwise on drawings.
  1. For Steel Doors and Frames: Install in compliance with DHI (LOCS) recommendations.
  2. For Aluminum-Framed Storefront Doors and Frames: Refer to Section 08 43 13.
  3. For Wood Doors: Install in compliance with DHI WDHS.3 recommendations.
  4. Stile and Rail Wood Doors: Refer to Section 08 14 33.

- 5. Mounting heights in compliance with ADA Standards:
  - a. Locksets: 40-5/16 inch.
  - b. Push Plates/Pull Bars: 42 inch.
  - c. Deadlocks (Deadbolts): 48 inch.
  - d. Door Viewer: 43 inch; standard height 60 inch.
- F. Set exterior door thresholds with full-width bead of elastomeric sealant at each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.
  - 1. Refer to Section 07 92 00 for additional requirements.

### **3.03 FIELD QUALIT CONTROL**

- A. Perform field inspection and testing under provisions of Section 01 40 00 - Quality Requirements.
- B. Provide an Architectural Hardware Consultant (AHC) to inspect installation and certify that hardware and installation has been furnished and installed in accordance with manufacturer's instructions and as specified.

### **3.04 AD USTING**

- A. Adjust work under provisions of Section 01 70 00 - Execution and Closeout Requirements.
- B. Adjust hardware for smooth operation.
- C. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

### **3.05 CLEANING**

- A. Clean finished hardware in accordance with manufacturer's written instructions after final adjustments have been made.
- B. Clean adjacent surfaces soiled by hardware installation.
- C. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.
- D. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.

### **3.06 PROTECTION**

- A. Protect finished Work under provisions of Section 01 70 00 - Execution and Closeout Requirements.
- B. Do not permit adjacent work to damage hardware or finish.

**END OF SECTION**



**SECTION 14 21 00**  
**ELECTRIC TRACTION ELEVATORS**

**PART 1 - GENERAL**

**1.01 SUMMARY**

- A. This Section specifies electric traction elevators.
- B. Work Required:
  - 1. The work required under this section consists of all labor, materials and services required for the complete installation (including operational verification) of all the equipment required for the elevator(s) as herein specified.
  - 2. All work shall be performed in a first class, safe and workmanlike manner.
  - 3. In all cases where a device or part of the equipment is herein referred to in the singular, it is intended that such reference shall apply to as many of such devices or parts as are required to make complete installation.
- C. Related work not specified herein: The following sections contain requirements that relate to this section and are performed by trades other than the elevator manufacturer/installer.
  - 1. Construction Facilities and Temporary Controls: protection of floor openings and personnel barriers; temporary power and lighting.
  - 2. Earthwork: excavation for elevator pit.
  - 3. Cast-In-Place Concrete: elevator pit, and elevator machine foundation.
  - 4. Unit Masonry: masonry hoistway enclosure, building-in and grouting hoistway doorframes, and grouting of sills.
  - 5. Metal Fabrications: pit ladder, divider beams, and supports for entrances, rails and hoisting beam at top of elevator machine room.
  - 6. Cementitious Waterproofing: waterproofing of elevator pit.
  - 7. Heating, Ventilating, and Air Conditioning: ventilation and temperature control of elevator equipment areas.
  - 8. Electrical:
    - a. Main disconnects for each elevator.
    - b. Electrical power for elevator installation and testing.
    - c. Disconnecting device to elevator equipment prior to activation of sprinkler system.
    - d. The installation of dedicated GFCI receptacles in the pit and overhead (with Machine room-less).
    - e. Lighting in controller area, machine area and pit.
    - f. Wiring for telephone service to controller.
  - 9. Emergency (Standby) Power Supply Systems: emergency generator for elevator operation.
  - 10. Fire Alarm Systems: The installation of fire and smoke detectors at required locations and interconnecting devices; fire alarm signal lines to contacts in the machine room.
  - 11. Telephone Systems: ADAAG-required emergency communications equipment.
  - 12. Smoke guard door curtains.
- D. Applicable Codes: Comply with applicable building codes and elevator codes at the project site, including but not limited to the following:
  - 1. ANSI A117.1, Buildings and Facilities, Providing Accessibility and Usability for Physically Handicapped People.
  - 2. ADAAG, Americans with Disabilities Act Accessibility Guidelines.

3. ANSI/NFPA 70, National Electrical Code.
4. ANSI/NFPA 80, Fire Doors and Windows.
5. ASME/ANSI A17.1, Safety Code for Elevators and Escalators.
6. ANSI/UL 10B, Fire Tests of Door Assemblies.
7. CAN/CSA C22.1, Canadian Electrical Code.
8. CAN/CSA-B44, Safety Code for Elevators and Escalators.
9. EN 12016 (May 1998): "EMC Product Family Standards for lifts, escalators, and passenger conveyors Part 2 – immunity"
10. Model & Local Building Codes.
11. All other local applicable codes.

**[NOTE: EDIT ITEMS SHOWN IN [BOLD] TEXT]**

1.02 SYSTEM DESCRIPTION

- A. Equipment Description: Freedom MRL-MB Series; Gearless; Imperial-525
- B. Control: Motion 4000 / ELGO; Duplex Controller Operation.
- C. Quantity of Elevators: 2
  1. Platform: 6'-5" Deep x 4'-7" Wide
  2. Platform: 7'-5" Deep x 7'-6" Wide
- D. Elevator Floor Labels:
- E. Stops (maximum): 6
- F. Openings (front): 6 per elevator
- G. Openings (rear): 1 per elevator
- H. Travel: Refer to Drawings
- I. Rated Capacity: 3500 lbs. Each
- J. Speed: 350 fpm
- K. Entrance Type and Width: Two Speed Slide Door / 54"
- L. Entrance Height: 8' - 0"
- M. Main Power Supply: 208 Volts + or - 5% of normal, three-Phase, with a separate equipment grounding conductor.
- N. Car Lighting Power Supply: 120 Volts, Single-phase, 15 Amp, 60 Hz.
- O. Machine Location: Inside machine room located above hoistway.
- P. Signal Fixtures: Standard Freedom® fixtures
- Q. Control Location: Controller(s) shall be located above the hoistway in a machine room.
- R. Performance:
  1. Car Speed:  $\pm 3\%$  of contract speed under any loading condition or direction of travel.
  2. Car Capacity: Safely lower, stop and hold up to 125% of rated load.
  3. Acceleration: 3 – 3.2 ft/sec<sup>2</sup>
  4. Jerk rates: 6 – 8 ft./ sec<sup>3</sup>
- S. Ride Quality:

1. Vertical Vibration (maximum): 12 – 17 milli-g
2. Horizontal Vibration (maximum): 10 – 15 milli-g
3. Vertical Jerk (maximum): 8 ft./ sec<sup>3</sup>
4. Acceleration/Deceleration: 3.0 – 3.2 ft./ sec<sup>2</sup>
5. In Car Noise: 50 – 55 dB(A)
6. Stopping Accuracy:  $\pm 0.125$  in.
7. Re-leveling Distance:  $\pm 0.4$  in.

T. Operation:

Duplex Collective Operation: Using a microprocessor-based controller, the operation shall be automatic by means of the car and hall buttons. In the absence of system activity, one car can be made to park at the pre-selected main landing. The other (free) car shall remain at the last landing served. Only one car shall respond to a hall call. If either car is removed from service, the other car shall immediately answer all hall calls, as well as its own car calls.

U. Operating Features – Standard

1. Full Collective Operation
2. Anti-nuisance
3. Fan and Light Protection
4. Load Weighing Bypass
5. Independent Service
6. Full Collective Operation
7. Firefighters' Service Phase I and Phase II; **or** Special Emergency Service Phase I and II – Emergency Recall
8. Top of Car Inspection
9. Hoistway access
10. Zoned Car Parking

V. Door Control Features:

1. Door control to open doors automatically when car arrives at a landing in response to a normal hall or car call.
2. Elevator doors shall be provided with a reopening device that will stop and reopen the car door(s) and hoistway door(s) automatically should the door(s) become obstructed by an object or person.

Primary door protection shall consist of a two-dimensional, multi-beam array projecting across the car door opening. Under normal operation and for any door position, the system shall detect as a blockage an opaque object that is equal to or greater than 1.3 inches (33 mm) in diameter when inserted between the car doors at vertical positions from within 1 inch (25 mm) above the sill to 71 inches (1800 mm) above the sill. Under degraded conditions (one or more blocked or failed beams), the primary protection shall detect opaque objects that are equal to or greater than 4" (100 mm) in diameter for the same vertical coverage. If the system performance is degraded to the point that the 4" object cannot be detected, the system shall maintain the doors open or permit closing only under nudging force conditions.

The door reopening device shall also include a secondary, three-dimensional, triangular infrared multi-beam array projecting across the door opening and extending into the hoistway door zone. The door opening device will cause the doors to reopen when it detects a person(s) or object(s) entering or exiting the car in the area between the hoistway doors or the

entryway area adjacent to the hoistway doors.

The size of the secondary protection zone shall vary as the door positions vary during opening and closing. The width of the zone shall be approximately one-third the size of the separation between the doors (or door and strike plate for single-slide doors) and shall be approximately centered in the door separation. In order to minimize detection of hallway passers-by who are not entering the elevator, the maximum zone penetration into the entryway shall not exceed 20" for any door separation. Normal penetration depth into the entryway from the car doors shall be ~14" for a door separation of 42". The penetration shall reduce proportionally as the doors close. At door separations of 18" or less the secondary protection system may cease its normal operation since the depth of the zone recedes to where it is inside the hoistway doors. The vertical coverage of the secondary protection shall be ~19" (480 mm) above the sill to ~55" (1400 mm) above the sill (mid-thigh to shoulder of a typical adult).

The secondary protection shall have an anti-nuisance feature that will ignore detection in the secondary zone after continual detection occurs for a significant time period in the secondary zone without corresponding detection in the primary protection zone; i.e. a person/object is in the entryway but does not enter. Normal secondary protection shall be re-enabled whenever detection occurs in the primary zone.

The reaction time of the door detector sub-system shall not exceed 60 milliseconds when both primary and secondary protection capabilities are active; nor 40 milliseconds when the secondary protection is disabled.

3. Door nudging operation to occur if doors are prevented from closing for an adjustable period of time.

W. Provide equipment according to seismic zone: 3

### 1.03 SUBMITTALS

A. Product Data: Submit manufacturer's product data for each system proposed for use. Include the following:

1. Car and hoistway fixtures including button selections, Braille selections, indicator selections and metal finish selections
2. Cab interior design, interior dimensions, ceiling details and wall panel selection charts for cab and entrance finishes
3. Dimensional entrance details
4. Electrical characteristics and connection requirements
5. Individual heat release values for the elevator control, hoist machines, transformers (if applicable) and line reactors (if applicable) expressed as (BTU)
6. Compliance with NEMA frame dimensions for the hoist machine

B. Shop Drawings: Submit drawings including material selection and dimension outlining:

1. Cab, counterweight, guide rail locations, buffers and other components in hoistway
2. Designed rail bracket spacing
3. Maximum loads and reaction locations where loads are imposed onto car guide rails, counterweight guide rails or machine beams requiring load transfer to building structure
4. Car and counterweight travel and clearances
5. Clear inside hoistway, pit and overhead dimensions
6. Location and sizes of access doors, hoistway entrances and frames
7. Electrical requirements

- C. Heat release values expressed in BTU/HR/Car
- D. Operations and Maintenance Manuals: Provide manufacturer's standard operations and maintenance manual, pre-inspection and inspection manuals, control manual and motor drive manual

#### 1.04 QUALITY ASSURANCE

- A. Manufacturer: Elevators shall be designed to allow any qualified elevator service provider to provide full service contracts without exception. Non-proprietary controls, hoist machines, fixtures and door equipment shall be utilized. Hoist machines shall meet NEMA frame dimensions. Sole sourced OEM hoist machines shall not be provided. Suspension means shall be time tested industry standard wire rope. Variances for non-standard elevator materials will not be accepted.
- B. Installer: Elevators shall be designed using only time tested industry standard material and shall be capable of being purchase, installed, serviced and repaired by any qualified elevator company without exception.
- C. Permits, Inspections and Certificates: The Elevator Contractor shall obtain and pay for necessary Municipal or State Inspection and permits as required by the elevator inspection authority, and make such tests as are called for by the regulations or such authorities. These tests shall be made in the presence of such authorities or their authorized representatives.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Should the building or the site not be prepared to receive the elevator equipment at the agreed upon date, the General Contractor will be responsible to provide a proper and suitable storage area on or off the premises at no cost to the elevator contractor.

Should the storage area be off-site and the equipment not yet delivered, then the elevator contractor, upon notification from the General Contractor, will divert the elevator equipment to the storage area. If the equipment has already been delivered to the site, then the General Contractor shall transport the elevator equipment to the storage area. The cost of elevator equipment taken to storage by either party, storage, and redeliver to the job site shall not be at the expense of the elevator contractor.

#### 1.06 WARRANTY

- A. The elevator contractor's acceptance is conditional on the understanding that their warranty covers defective material covered by the elevator manufacturer and workmanship. The guarantee period shall not be less than 15 months from the date of completion or acceptance thereof by beneficial use, whichever is earlier, of each elevator. The warranty excludes: ordinary wear and tear or improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the elevator contractor and this express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose. The manufactures standard warranty shall be submitted as part of a qualified bid.

#### 1.07 MAINTENANCE and SERVICE

- A. Maintenance service consisting of regular examinations and adjustments of the elevator equipment shall be provided by the elevator contractor for a period of 12 months after the elevator has been turned over for the customer's use. All work shall be performed by competent employees during regular working hours of regular working days and shall include emergency 24-hour callback service. This service shall not cover adjustments, repairs or replacement of parts due to negligence, misuse, abuse or accidents caused by persons other than the elevator contractor. Only genuine parts and supplies as used in the manufacture and installation of the

original equipment shall be provided.

- B. Periodic inspection and lubrication of elevator components shall be required as indicated in the operation and maintenance manual.
- C. The elevator inclusive of the control, fixtures and the door control must:
  - 1. Allow any elevator contractor to install, adjust and provide full service maintenance agreements without exception
  - 2. Be designed to allow any elevator contractor the ability to obtain all control replacement materials included but not limited to board replacements, drive replacements, processors, etc. at a published price. Qualified bids shall be submitted with a complete cataloged parts list including published replacement prices available to the service provider selected by the building owner.
  - 3. Include phone technical support available for the service provider selected by the building owner.
  - 4. Be provided with an unconditional adjustment manual, unconditional troubleshooting manual and straightline wiring diagrams outlining all internal terminal to terminal connections and electrical values within the control as well as connections to all peripheral items connected to the control system. Final "As Built" duplicates shall be available in the future for a published price at the request of any elevator contractor, building owner or elevator consultant.
  - 5. Shall not require monitoring of the non-standard belt suspension means
  - 6. Provide in the controller the necessary devices to run the elevator in inspection operation.
  - 7. Provide top of car control necessary to run the elevator on inspection operation
  - 8. Provide the means from the controller to reset the emergency brake when set because of an unintended car movement or ascending car over speed.
  - 9. Provide the means from the controller to reset elevator earthquake operation

## PART 2 - PRODUCTS

### 2.01 DESIGN AND SPECIFICATIONS

- A. Provide: Machine room Freedom® traction passenger elevators, 3500 lbs. The control system and car design based on materials and systems manufactured. Specifically, the system shall consist of the following components:
  - 1. An AC gearless machine using embedded permanent magnets mounted machine room in machine room above the hoistway.
- B. Approved Installer: Any owner / AHJ qualified elevator contractor
- C. Maintenance Provider: Any owner / AHJ qualified elevator contractor
- D. Substitutions: Substitutions will be considered for elevators that meet the basis of design requirements, dimensionally complies with the shaft width and depth, and requires no additional structural modifications. Maintenance and Services to not be proprietary.

## 2.02 EQUIPMENT: CONTROL ROOM COMPONENTS

- A. Controller: A microcomputer based control system shall be provided to perform all of the functions of safe elevator operation. The system shall also perform car and group operational control.
  - 1. All high voltage (110V or above) contact points inside the controller cabinet shall be protected from accidental contact in a situation where the controller doors are open.
  - 2. Controller shall be separated into two distinct halves; Motor Drive side and Control side. High voltage motor power conductors shall be routed so as to be physically segregated from the rest of the controller.
  - 3. Controllers shall be designed and tested for Electromagnetic Interference (EMI) immunity according to the EN 12016 (May 1998): "EMC Product Family Standards for lifts, escalators, and passenger conveyors Part 2 – immunity"
- B. Drive: A Variable Voltage Variable Frequency AC regenerative drive system shall be provided. The drive shall be set up for regeneration of AC power back to the building grid.

## 2.03 EQUIPMENT: MACHINE AND GOVERNOR

- A. Machine: AC gearless machine, with a synchronous permanent-magnet motor, dual solenoid service and emergency drum or disc brakes, mounted in the machine room above the hoistway.
- B. Governor: The governor shall be a centrifugal jaw type with pit tension device.
- C. Buffers, Car and Counterweight: Oil type buffers shall be used.
- D. Hoistway Operating Devices:
  - 1. Emergency stop switch in the pit
  - 2. Terminal stopping switches.
- E. Positioning System: Consists of an encoder, reader box, and door zone vanes.
- F. Guide Rails and Attachments: Guide rails shall be Tee-section steel rails with brackets and fasteners. Side counterweight arrangements shall have a dual-purpose bracket that combines both counterweight guide rails, and one of the car guide rails to building fastening.
- G. Suspension: Traditional traction steel wire rope available from multiple sources.
- H. Governor Rope: Governor rope shall be traction steel and shall consist of at least eight strands wound about a sisal core center.
- I. Fascia: Galvanized sheet steel shall be provided at the front of the hoistway.
- J. Hoistway Entrances:
  - 1. Frames: Entrance frames shall be of bolted construction for complete one-piece unit assembly. All frames shall be securely fastened to fixing angles mounted in the hoistway and shall be of UL fire rated steel.
  - 2. Sills shall be extruded: Aluminum.

3. Doors: Entrance doors shall be of metal construction with vertical channel reinforcements.
  4. Fire Rating: Entrance and doors shall have a UL 1-1/2 hour fire protection rating.
  5. Entrance Finish: #4 Satin Stainless Steel.
  6. Entrance marking plates: Entrance jambs shall be marked with 4" x 4" (102 mm x 102 mm) plates having raised floor markings with Braille located adjacent to the floor marking. Marking plates shall be provided on both sides of the entrance.
  7. Sight Guards: Black sight guards will be furnished.
- L. Counterweight Safeties: Where "Occupied Space" exists under the elevator hoistway, counterweight safeties shall be applied to the underside of the counterweight frame, and shall be either a type "A" or "B" depending on the rated speed.

#### 2.04 EQUIPMENT: CAR COMPONENTS

- A. Carframe and Safety: A carframe fabricated from formed or structural steel members shall be provided with adequate bracing to support the platform and car enclosures. The car safety shall be integral to the carframe and shall be Type "B", flexible guide clamp type.
- B. Cab: # 4 brushed stainless steel shell with removable vertical plastic laminate selected from standard catalog of choices.
- C. Car Front Finish: #4 satin stainless steel.
- D. Car Door Finish: #4 satin stainless steel.
- E. Car Top: 12 gauge # 4 stainless steel.
- F. Ceiling Type:  
  
Polygal suspended ceiling shall consist of white translucent polycarbonate diffusers set in frame of extruded # 4 stainless steel with fluorescent lighting fixtures.
- G. Emergency Car Lighting: An emergency power unit employing a 6-volt sealed rechargeable battery and totally static circuits shall be provided to illuminate the elevator car and provide current to the alarm bell in the event of building power failure.
- H. Emergency Pulsating Siren: Siren mounted on top of the car that is activated when the Alarm button in the car operating panel is engaged. Siren shall have a rated sound pressure level of 80 dB(A) at a distance of 3.0 m from the device. Siren shall respond with a delay of not more than 1 second after the switch or push button has been pressed.
- I. Fan: A two-speed 120 VAC fan will be mounted to the structural ceiling to facilitate in-car air circulation, meeting A17.1 code requirements. This two-speed fan produces airflow rates of 7.2 and 9.2 m<sup>3</sup>/min on low and high setting respectively. The fan shall be rubber mounted to prevent the transmission of structural vibration and will include a baffle to diffuse audible noise. A switch shall be provided in the car-operating panel to control the fan.
- J. Handrail: Handrails shall be provided on the rear wall of the car enclosure. Handrails shall be 1-1/2" round tubular handrail with a #4 satin stainless steel finish.
- K. Threshold: Aluminum.



- L. Emergency Exit Contact: An electrical contact shall be provided on the car-top exit.
- M. Roller Guides: Rubber roller guides shall be mounted on the top and the bottom of the car and counterweight. Car roller guides shall be a minimum of 3 rollers, 6" in diameter and the counterweight roller guides shall be 3 rollers, 6" in diameter.
- N. Platform: The car platform shall be constructed of 2 layers of plywood.
- O. Certificate frame: Provide a Certificate frame with a # 4 satin stainless steel finish.

## 2.05 EQUIPMENT: SIGNAL DEVICES AND FIXTURES

- A. Car Operating Panel: A car operating panel shall be provided which contains all push buttons, key switches, and message indicators for elevator operation. The car operating panel shall have a #4 satin stainless steel finish.

1. Applied car operating panel shall be furnished. It shall contain a bank of round metal mechanical illuminated buttons. Flush mounted to the panel and marked to correspond to the landings served, an emergency call button, door open and door close buttons, and switches for lights, inspection and the exhaust fan. The emergency call button shall be connected to a bell that serves as an emergency signal. All buttons to have raised numerals and Braille markings. # 4 Stainless Steel finish.

The car operating panel shall be equipped with the following features:

Standard:

- 1) Raised markings and Braille shall be provided to the left hand side of each push-button.
- 2) Car Position Indicator at the top of and integral to the car operating panel.
- 3) Door open and door close buttons.
- 4) Light key-switch.
- 5) Fan key-switch.
- 6) Inspection key-switch.
- 7) Elevator Data Plate marked with elevator capacity and car number.
- 8) Illuminated alarm button with raised markings.
- 10) In car stop switch (toggle or key unless local code prohibits use)
- 11) Firefighter's hat (standard USA)
- 12) Firefighter's Phase II Key-switch (standard USA)
- 13) Call Cancel Button (standard USA)

- B. Car Position Indicator: A 16-segment, digital, vacuum fluorescent car position indicator shall be integral to the car operating panel.  
Hall Fixtures: Hall fixtures shall be provided with necessary push buttons and key switches for elevator operation. Hall fixtures shall have round mechanical buttons in flush mount face frame. Buttons shall be 1/8" projecting in vertically mounted fixture. Hall lanterns and position indicators shall be illuminated by means of LED. Fixture shall be #4 satin stainless steel finish.
- C. Car Lantern and Chime: A directional lantern visible from the corridor shall be provided in the car entrance. When the car stops and the doors are opening, the lantern shall indicate the direction in which the car is to travel and a chime will sound.
- D. Access key-switch at top floor in entrance jamb.
- E. Access key-switch at lowest floor in entrance jamb.

### PART 3 - EXECUTION

#### 3.01 PREPARATION

- A. Take field dimensions and examine conditions of substrates, supports, and other conditions under which this work is to be performed. Do not proceed with work until unsatisfactory conditions are corrected.

#### 3.02 INSTALLATION

- A. Installation of all elevator components except as specifically provided for elsewhere by others.

#### 3.03 DEMONSTRATION

- A. The elevator contractor shall make a final check of each elevator operation with the Owner or Owner's representative present prior to turning each elevator over for use. The elevator contractor shall determine that control systems and operating devices are functioning properly.

END OF SECTION

AUSTIN HOMES  
ADDENDUM NO.2  
ESG Project No.20502

The following items shall be changed as noted below:

A. Refer to specification section 28 31 12.

1. See Part 2, 2.01, E, system smoke detectors are acceptable for detection devices in the townhomes. Furnish with built-in low frequency horns as required by code. Items H & K of this section shall still apply to the system detectors.

B. Refer to specification Sections 28 31 11 and 28 31 1.

1. See Part 2.06, A, system smoke detectors are acceptable for detection devices in the multi-family units. Furnish with built-in low frequency horns as required by code.

C. Refer to Sheet THE.E1.1

1. As per specification section 28 31 12, 3.01, C, from each townhome fire alarm panel provide a 1 ¼" SCH 40 PVC, conduit back to building no. 1 and extend to the fire alarm panel of building no.1. Furnish and install in each conduit a six strand multi-mode, 50 micron fiber, Class A, between the townhomes and building no. 1 fire alarm panels.

D. Refer to Sheets THE.E2.1 and MF.E4.0

1. Lighting Fixture Schedule, fixture type ~~B~~ shall be a Columbia Lighting #LCL2-3000K-30ML-EU in lieu of present fixture number.

**Engineering Services Group, Inc.**

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Reviewed by: Edward C. Henderson, P. E.  
Date: June 2, 2020

