

ADDENDUM #03

Project Name: Kirkwood Public Works

Project Number: 24059

Date: April 13, 2026

PLEASE NOTE

The following clarifications, deletions, additions, and supplemental instructions have been incorporated into the Project Manual, Construction Drawings and represent a portion of said Construction Documents.

*In the event of a conflict between this Addendum, Project Manual and/or Construction Drawings, **this Addendum shall supersede** all previous instructions, pertaining to said items.*

CLARIFICATIONS and REQUESTS FOR INFORMATION

GENERAL CLARIFICATION AND COORDINATION STATEMENT:

- The City of Kirkwood's issuance of Archimages' ADDENDUM #1 was issued as the City of Kirkwood's ADDENDUM #2 on the IonWave platform, therefore, both Archimages' ADDENDUM #1 and Kirkwood's ADDENDUM #2 are the same documents and only differ in the name of the submittal.
 - All ADDENDUM #1 references WITHIN Archimages' design documents are to be understood as ADDENDUM #2 contractually.
1. Clarification statement #1 in Addendum #1(#2) referenced **attached Prebid Conference Agenda and Sign in Sheets** as attached documents. These documents were not attached to Addendum #1(#2) and therefore are attached to this addendum document.
 2. Phase 1 Environmental Site Assessment Report for 545 Leffingwell Avenue, Kirkwood, MO 63122, Dated March 07, 2023, and Prepared by: Professional Environmental Engineers, Inc., 2665 Scott Avenue, Suite B, St Louis, MO 63103 has been added to this addendum for contractor's information.
 3. Phase 1 Environmental Site Assessment Report for 545 Leffingwell Avenue, Kirkwood, MO 63122, Dated October, 2023, and Prepared by: NPN Environmental has been added to this addendum for contractor's information.
 4. Limited Phase II, Environmental Sampling and Testing 545-547 Leffingwell Avenue and 516 South Elliot Avenue, Kirkwood, Missouri dated January 12, 2024, and prepared by: Geotechnology, LLC, St. Louis MO has been added to this addendum for contractor's information.

5. Does this project have any allowances?
 - a. **Response: No**
6. [PRODUCT SUBSTITUTIONS](#) section and [PROJECT MANUAL](#) section in Addendum #1(#2) referenced attached documents. These documents were not attached to Addendum #1(#2) and therefore are attached to this addendum document.
 - a. See sections/descriptions below:

PRODUCT SUBSTITUTIONS

1. Specification Section Plumbing Fixture Schedule – Electric Water Cooler.
 - a. **Response: This Product Substitution request is approved. Reference attached Substitution Request Form, Sloan.**

PROJECT MANUAL

1. Specification Section 00 01 10 – Table of Contents
 - a. **Revision column updated.**
 - b. **Section numbers corrected for sections 26 05 33.13 and 26 05 33.16. Individual sections not affected.**
 - c. **Reference attached Revised Section.**
2. Specification Section 00 31 00.00 – Available Project Information
 - a. **Revised in its entirety.**
 - b. **Reference attached Revised Section.**
3. Specification Section 00 31 00.01 – Annual Wage Order
 - a. **Section deleted in its entirety. This is already on IONWAVE.**
4. Specification Section 00 31 00.04 – Water Pressure Flow Test
 - a. **Revised in its entirety.**
 - b. **Reference attached Revised Section.**
5. Specification Section 00 41 10 – Contractor's Affidavit for Public Construction Projects
 - a. **Revised in its entirety.**
 - b. **Reference attached Revised Section.**
6. Specification Section 00 41 20 – Non-Collusion Affidavit
 - a. **Section deleted in its entirety. This is already on IONWAVE.**
7. Specification Section 00 73 00 – Supplementary Conditions
 - a. **Section deleted in its entirety. Supplementary Conditions are addressed in the AIA A101.**
8. Specification Section 07 54 23 – Thermoplastic Polyolefin (TPO) Membrane Roofing
 - a. **Section added in its entirety.**
 - b. **Reference attached New Section.**

9. Specification Section 08 14 16 – Flush Wood Doors
 - a. **Section added in its entirety.**
 - b. **Reference attached New Section.**
10. Specification Section 08 71 01 – Door Hardware Groups
 - a. **Section added in its entirety.**
 - b. **Reference attached New Section.**

CONSTRUCTION DRAWINGS

- ***No documents issued within this Addendum.***

END OF ADDENDUM #03

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City of Kirkwood, MO
New Public Works Facility
Pre-Bid Conference
545 Leffingwell Ave. 63126
April 7, 2026 - 2:00 p.m.

1. Introductions
 - a. City of Kirkwood –
 - i. Public Services Director – Chris Krueger, PE
 - ii. Sr. Procurement Officer – Tracy Girse
 - b. Navigate Building Solutions will be the Owner's Representative
 - i. David C. Lowell – Sr. Project Manager
 - c. Archimages – Architect
 - i. Roy Managan – Principal
 - ii. Amy Scherer - Architect
 - iii. Ette Udo – Project Architect
 - d. Horner & Shifrin
 - i. Plumbing
 - ii. Mechanical
 - iii. Electrical
 - e. Civil - CEDC
2. Bids shall be submitted via **IONWAVE** BEFORE 2:00 PM April 28, 2026.
Bids received after 2:00 PM April 28, 2026 will **NOT** be considered.
3. Submit bids via **IONWAVE** only. For info how to sign up for access contact:
Tracy Girse
Senior Procurement Officer/Analyst
City of Kirkwood
212 S. Taylor Avenue, Kirkwood, MO 63122
O 314.822.5853 | girsetc@kirkwoodmo.org.

Emails and Faxes will not be accepted.
DO NOT SEND THEM TO NAVIGATE.

THERE WILL BE NO TRADITIONAL PUBLIC BID OPEINNG
Bids will be electronically opened on **IONWAVE** after close of bidding to all simultaneously.
4. A bid bond is **not** required for this bid package.
5. Bids will be held good and may not be withdrawn for a period of 90 calendar days from receipt of bids.

Kirkwood, MO – New Public Works Facility – 545 Leffingwell.

Pre-Bid Conference

April 7, 2026 - 2:00 p.m.

6. A 100% Performance and Labor/Material Payment Bond is required for all bids. Cost of the bond must be included in the Lump Sum Base Bid amount.
7. Bid documents access will be provided through **IONWAVE**
8. Project is tax exempt.
9. All bidders **MUST** submit bids using **IONWAVE**. Bid Form example provided in the Project Documents.
10. The supplemental bid form is due withing 24 hours of the bid opening via e-mail. See form.
11. Bidder must comply with the Prevailing Wage Law and the Wage Order listed on **IONWAVE**.
12. Certified Payroll will be a requirement of this project.
13. **Master Project Schedule Milestone Dates:**
 1. Request for bids March 30, 2026
 2. Pre-bid meeting – on site April 7, 2026 at 2:00 PM
 3. Last bid RFIs due April 17, 2026 at 5:00 PM
 4. Last responses issued April 21, 2026 at 5:00 PM
 5. Receipt of bids April 28, 2026 at 2:00 PM
 6. Supplemental bid information due April 29, 2026 at 2:00 PM
 7. Final Board approval anticipated May 21, 2026
 8. Anticipated agreement tendered/ Notice to Proceed May 22, 2026
 9. Submittals submitted for review Within 30 days of NTP
 10. Substantial Completion / Punchlist Populated (Day ____*) *Based on Bidder's Proposed Duration, or **365 calendar days maximum**.
All Life Safety Inspections & Occupancy Inspections to be completed on or before Substantial Completion date. All rough ins for Owner provided scopes to be complete.
 11. Final completion 30 Days from Substantial Completion
 12. Owner relocated equipment & final connections of same, IT, relocating furniture, security to commence at substantial completion.
14. There is an alternate for a shorter duration that will be evaluated in the award process.

Kirkwood, MO – New Public Works Facility – 545 Leffingwell.

Pre-Bid Conference

April 7, 2026 - 2:00 p.m.

15. All questions and answers shall be through **IONWAVE**.
16. A copy of these minutes and the Pre-Bid Sign-in sheet will be issued with Added to **IONWAVE**
17. Bidder will be responsible for all applicable permits and governmental notifications of work, as required.
18. There are two Owner direct contractors to be coordinated by the GC. See matrices of responsibility for scope division.
 - a. Tech electronics for Fire alarm and DAS
 - b. Murphy Company for surveillance & access controls
19. City will furnish and install concrete LEGO blocks for the salt dome and material bins. Remainder of the structures by GC.
20. Contractor responsible for taking over building electric utility & water charges from Kirkwood Electric & Kirkwood water respectively. Kirkwood will take back the day after substantial completion.
21. The bidder shall provide a chain and lock for the gate and provide a key for the lock to the City or daisy chain locks.
22. All utility cut/caps shall be approved and coordinated with the City's Public Works Departments prior to cut/caps.
23. Any cut/cap of existing utilities that disturb streets shall be patched per City requirements promptly. Any disturbance to a street will require a street plate until patch can be made.
24. City will be relocating all equipment, tools, and furniture from their existing facility to this site after substantial completion
25. City is obligated to be out of old facility by 7/1/27
26. Carefully read the Bidders Scope of work in the documents for additional information
27. Additional information discussed at the pre-bid meeting:

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Pre-Bid walkthrough
Sign in sheet
Tuesday April 7, 2026 2PM

[illegible]

NAVIGATE

NAME	COMPANY	PHONE	FAX	E-MAIL
Math Bruler	Electro Door Systems	618 281 4256		math@electrodoorsystems.com
MATTHEW WILKERSON	WARREN COUNTY ELECTRIC	314-974-7373		MATTW@WARRENCOUNTYELECTRIC.COM
Jamie Brinley	Schaeffer Elec	636-428-9314		jbrinley@schaeffer-electric.com
Case Lechner	Schaeffer Elec	314-892-7800		glechner@schaeffer-electric.com
Jason Schepis	KRISTAR Electric	314-486-7171		jSchepis@tristar-stl.com
Diss Griffin	Basket Cleaning	(314) 814-7994		rockstetcleaning95@gmail.com
Tom Waken	Spirits Worldwide	314-520-0444		tom.waken@spiritsworldwide.com
Albert Diaz	Spirits Worldwide	832 9319008		Albert.Diaz@spiritsworldwide.com
Grace Waggner	Wies Drywall	314-686-2646		gwaggner@wiesdrywall.com
Brian Wetteroff	Schaeffer Electric	314-568-9517		bwetteroff@schaeffer-electric.com
DON KLINGER	ICS CONSTRUCTION SERVICES	314-534-6664		BIDS@ICS-STL.COM
Josh Foster	J.E. Foster Bco	314-842-3300		JFoster@jefoster.com
Renee Daniels	OBAX Industries	314 462 0620		renee@obaxworld.com
Cody Runge	RUNGE PAINTING	314 471 4908		jrungex@rungepainting.com
Jason Miller	Environmentel Operations	314-583-5695		Jason@environmentalops.com

NAVIGATE

NAME	COMPANY	PHONE	FAX	E-MAIL
Danny Lamb	LCS	636-294-6245	—	bids@lcsconstruct.com
Dennis Dyes	K&S Associates	314-647-3535		estimating@ksgcstl.com
Clayton Perold	Meyer Construction	636-345-0014		clayton@meyerconstruct.com
Jared Brooke	Limbaugh construction	618-509-3712		JBrooke@limbaughconstruction.com
Harrison Mobley	LCG	573-301-0492	—	HarrisonM@buidLCG.com
Dennis Hageman	Duneman Demo	314 671 1200		dennis@doneandemo.com
Willard Hedrick	F&T Demolition	573-705-2527	—	willardh@fcstl.com
Mason Hoffman	Korte + Luitjhan	618-654-9827		masonhoffman@korte-luitjhan.com
LOGAN BARDENHEER	AMERICAN ELECTRICAL	636 544 6960		LOGANB@AEDI-MO.COM
ERIC SUTTON	SPIRITS WORLDWIDE	314-526-0105		eric.sutton@spiritsworldwide.com
Nick Bisarone	Bingman	636-639-0291		njb@bingmancc.com
Josh Middelton	MKR Construction	618-478-6750		JoshMiddelton@mkrcs.com
Brian McNamee	Hawkins Const.	314-580-9535		brianm@hawkinsmidwest.com
Michael Middleton	Middlebrook & Reuss Const	618-476-9393		Mike.Middlebrook@standforss.com
DAN WENAT	CENTURY FIRE	314-324-5050		dwenat@centuryfire.com
Troy Wiese Meyer	Middlebrook & Reuss Const.	618-929-9700		troyw@middlebrookandross.com
Drew PAPPAS	UNITED	314-4134-9640		DREW@UNITEDCONSTRUCTION.COM
Wayne Martin	A. Eilers	636-290-2668		bids@a.eilersconstruction.com
Brian Kowert, Jr.	Russell	314-574-6843		bjrkowert@russellco.com
Jacob Randolph	ISS	314-750-0338		jacobr@industrialshelby.com
MIKE STILLWELL	ALLOY ADAPT / SELECT DEMO	314-327-1650		mstillwell@alloygroup.com
Shawn Honeycutt	Heggemann Inc	636-456-8524		shawn@heggemanninc.com

NAME	COMPANY	PHONE	FAX	E-MAIL
Jim King	Missouri Builders	314-379-8661		jking@missouribuilders.com
Jay Edwards	IFS	314-501-4328		JEDWARDS@INTFS.COM
Andy Damb	Bombshell Cons.	314-804-2629		adam@bombshellcs.com
Alex Chavez	Lawn Systems	314-341-3823		alexander@lawnsystem.com
Chad Smith	Top Tier	636-575-2354		TopTier@topproving@gmail.com
Scott Panther	IFS	314-756-1708		Spantner@intfs.com
Jon Bradshaw	EOI	314-403-6813		Bradshaw@environmentalops.com
Kasper Becker	Merschel Wreck	636-326-9940		Kasper@merchelwreck.com
BRIAN SMITH	ALBERT ARNO	314-330-5405		BRIAN.Smith@albertarno.com
Alexandro Perez	SPRINTS WOODWORK	636-222-1194		alex.perez@sprintswoodwork.com
ASHLEY GRASS	RUSSELL	314-740-0951		AGRASS@RUSSELLCO.COM
Austin Baderman	Mechanical Solutions	314-562-676		baderman@MSI-sol.com
Tim Goetjes	Cissell Mueller	636-970-0770		tim.goetjes@builtbycm.com
Pat Flynn	Zickl Flooring	314-575-1744		Patrick.Flynn@zickel.com
David Meyer	Leritz Busy Bee Paving	314-568-9851		dmeyer@leritzcontracting.com

SUBSTITUTION REQUEST

(During the Bidding/Negotiating Phase)



PROJECT: Kirkwood Public Works **SUBSTITUTION REQUEST NUMBER:** _____

TO: Archimages **FROM:** MR ASSOCIATES

Roy Mangan **DATE:** 4-07-26

RE: _____ **A/E PROJECT NUMBER:** _____

CONTRACT FOR: Plumbing

SPECIFICATION TITLE: Plumbing Fixture Schedule **DESCRIPTION:** ELECTRIC WATER COOLER

SECTION: PLAN **PAGE:** P601 **ARTICLE/PARAGRAPH:** EWC-1

PROPOSED SUBSTITUTION: Bi Level Refrigerated Electric Water Cooler with Filter and Bottle Filler

MANUFACTURER: Sloan **ADDRESS:** www.sloan.com **PHONE:** 800-982-5839

TRADE NAME: Sloan DropSpot Bottle Fillers and Water Coolers **MODEL NO.:** DRS-120-FIL-REF-SS

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

SUBMITTED BY: Patrick Laux

SIGNED BY: _____

FIRM: MR ASSOCIATES

ADDRESS: 2726 S Brentwood Blvd - St. Louis, MO 63144

TELEPHONE: 314-962-8960

A/E's REVIEW AND RECOMMENDATION:

- ☐ Approve Substitution—Make submittals in accordance with Specification Section 01 33 00 Submittal Procedures.
- ☐ Approve Substitution as noted—Make submittals in accordance with Specification Section 01 33 00 Submittal Procedures.
- ☐ Reject Substitution—Use specified materials.
- ☐ Substitution Request received too late—Use specified materials.

SIGNED BY: _____

DATE: _____

SUPPORTING DATA ATTACHED: ☒ Drawings ☒ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

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SECTION 00 01 10
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PROCUREMENT, CONTRACTING and GENERAL REQUIREMENTS

DIVISION 00	PROCUREMENT, CONTRACTING REQUIREMENTS	REVISIONS	AUTHOR
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00 01 11	Architectural Professional Seal		Archimages
00 01 12	Structural Professional Seal		kpff
00 01 13	Fire Protection Professional Seal		H&S
00 01 14	Plumbing Professional Seal		H&S
00 01 15	Heating, Ventilating and Air Conditioning Professional Seal		H&S
00 01 16	Electrical Professional Seal		H&S
00 01 17	Communications Professional Seal		H&S
00 01 18	Electronic Safety and Security Professional Seal		H&S
00 01 19	Civil Professional Seal		CEDC
00 24 13	Bidder's Scope of Work		NAVIGATE
00 30 00	Modification, Explanation to Change Order Fee		NAVIGATE
00 31 00	Available Project Information	Addnd. #03	Archimages
00 41 00	Bid Proposal Form		NAVIGATE
00 41 10	Contractor's Affidavit for Public Construction Projects	Addnd. #03	Archimages
00 43 00	Supplemental Bid Information		NAVIGATE
00 52 00	A.I.A. Standard Form of Agreement A101-2017		NAVIGATE
00 72 00	A.I.A. General Conditions of the Contract for Construction A201-2017		NAVIGATE

DIVISION 01	GENERAL REQUIREMENTS	REVISIONS	AUTHOR
01 10 00	Summary		Archimages
01 11 00	Project Scope Description		NAVIGATE
01 11 01	Owner Provided Scopes		NAVIGATE
01 20 00	Price and Payment Procedures		Archimages
01 23 00	Alternates		NAVIGATE
01 30 00	Administrative Requirements		Archimages
01 40 00	Quality Requirements		Archimages
01 50 00	Temporary Facilities and Controls		Archimages
01 57 13	Temporary Erosion and Sediment Control		CEDC
01 60 00	Product Requirements		Archimages
01 70 00	Execution and Closeout Requirements		Archimages
01 78 00	Closeout Submittals		Archimages

SPECIFICATIONS SECTIONS

DIVISION 02	EXISTING CONDITIONS	REVISIONS	AUTHOR
02 41 00	Demolition		Archimages

DIVISION 03	CONCRETE	REVISIONS	AUTHOR
03 01 00	Maintenance of Concrete		Archimages
03 05 16	Underslab Vapor Barrier		Archimages
03 10 00	Concrete Forming and Accessories		kpff
03 20 00	Concrete Reinforcing		kpff
03 30 00	Cast in Place Concrete		kpff
03 35 11	Concrete Floor Finishes		Archimages

DIVISION 04	MASONRY	REVISIONS	AUTHOR
04 01 00	Maintenance of Masonry		Archimages
04 22 00	Concrete Unit Masonry		kpff

DIVISION 05	METALS	REVISIONS	AUTHOR
05 12 00	Structural Steel Framing		kpff
05 31 00	Steel Decking		kpff
05 40 00	Cold Formed Metal Framing		kpff
05 50 00	Metal Fabrications		Archimages
05 52 13	Pipe and Tube Railings		Archimages

DIVISION 06	WOODS, PLASTICS and COMPOSITES	REVISIONS	AUTHOR
06 10 53	Miscellaneous Rough Carpentry		Archimages
06 16 00	Sheathing		kpff
06 20 00	Finish Carpentry		Archimages
06 41 00	Architectural Wood Casework		Archimages

DIVISION 07	THERMAL and MOISTURE PROTECTION	REVISIONS	AUTHOR
07 54 23	Thermoplastic Polyolefin (TPO) Membrane Roofing	Addnd. #03	Archimages
07 84 00	Firestopping		Archimages
07 92 00	Joint Sealants		Archimages

DIVISION 08	OPENINGS	REVISIONS	AUTHOR
08 11 13	Hollow Metal Doors and Frames		Archimages
08 14 16	Flush Wood Doors	Addnd. #03	Archimages
08 31 00	Access Doors and Panels		Archimages
08 36 13	Sectional Doors		Archimages
08 71 00	Door Hardware		Archimages
08 71 01	Door Hardware Groups	Addnd. #03	Archimages
08 80 00	Glazing		Archimages

DIVISION 09	FINISHES	REVISIONS	AUTHOR
09 05 61	Common Work Results for Flooring Preparation		Archimages
09 21 16	Gypsum Board Assemblies		Archimages
09 30 00	Tiling		Archimages
09 51 00	Acoustical Ceilings		Archimages
09 65 00	Resilient Flooring		Archimages
09 67 00	Fluid Applied Flooring		Archimages
09 68 13	Tile Carpeting		Archimages
09 91 13	Exterior Painting		Archimages
09 91 23	Interior Painting		Archimages

DIVISION 10	SPECIALTIES	REVISIONS	AUTHOR
10 21 13.17	Phenolic Toilet Compartments		Archimages
10 26 01	Wall Protection		Archimages
10 28 00	Toilet, Bath and Laundry Accessories		Archimages
10 44 00	Fire Protection Specialties		Archimages
10 51 13	Metal Lockers		Archimages

DIVISION 11	EQUIPMENT (Not Applicable)	REVISIONS	AUTHOR

DIVISION 12	FURNISHINGS	REVISIONS	AUTHOR
12 24 00	Window Shades		Archimages
12 36 00	Countertops		Archimages

DIVISION 13	SPECIAL CONSTRUCTION (Not Applicable)	REVISIONS	AUTHOR

DIVISION 14	CONVEYING EQUIPMENT (Not Applicable)	REVISIONS	AUTHOR

DIVISION 20	BASIC FIRE SUPPRESSION, PLUMBING and (HVAC) (Not Applicable)	REVISIONS	AUTHOR

DIVISION 21	FIRE PROTECTION	REVISIONS	AUTHOR
21 05 00	Common Work Requirements for Fire Protection		H&S
21 05 49	Fire Protection Systems Supports, Bracing and Seismic Restraints		H&S
21 06 00	Hangers and Supports		H&S
21 07 50	Fire Protection Identification		H&S
21 32 60	Standpipe and Sprinkler Systems		H&S

DIVISION 22	PLUMBING	REVISIONS	AUTHOR
22 05 00	Basic Plumbing Materials and Methods		H&S
22 05 49	Plumbing Systems Supports, Bracing and Seismic Restraints		H&S
22 06 00	Plumbing Hangers and Supports		H&S
22 07 50	Plumbing Identification		H&S
22 08 40	Plumbing Pipe Insulation		H&S
22 11 00	Plumbing Valves		H&S
22 14 00	Plumbing Meters and Gages		H&S
22 21 10	General Service Compressed Air Piping		H&S
22 34 00	Fuel Fired Domestic Water Heaters		H&S
22 41 10	Water Distribution Piping		H&S
22 42 00	Drainage and Vent Piping		H&S
22 43 00	Plumbing Specialties		H&S
22 44 00	Plumbing Fixtures		H&S
22 44 35	Domestic Hot Water Return Pumps		H&S

DIVISION 23	HEATING, VENTILATING and AIR CONDITIONING (HVAC)	REVISIONS	AUTHOR
23 00 00	Mechanical General Requirements		H&S
23 00 50	Basic Mechanical Materials and Methods		H&S
23 05 13	Motors		H&S
23 05 48	Mechanical Systems Vibration Control		H&S
23 05 49	Mechanical Systems Supports, Bracing and Seismic Restraints		H&S
23 05 93	Testing, Adjusting and Balancing		H&S
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23 09 90	(HVAC) Instrumentation and Controls		H&S
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23 33 00	Air Duct Accessories		H&S
23 34 23	(HVAC) Fans and Power Ventilators		H&S
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23 55 33	Gas Fired Unit Heaters		H&S
23 74 13	Rooftop Air Conditioners		H&S
23 74 23.13	Packaged Direct Fired Outdoor Heating Only Make Up Air Units		H&S
23 74 33	Dedicated Outdoor Air Units		H&S
23 81 26	Split System Air Conditioners		H&S

DIVISION 24	AIR DISTRIBUTION (Not Applicable)	REVISIONS	AUTHOR

DIVISION 25	BUILDING AUTOMATION SYSTEMS (Not Applicable)	REVISIONS	AUTHOR

DIVISION 26	ELECTRICAL	REVISIONS	AUTHOR
26 00 00	Electrical General Requirements and Common Work Results		H&S
26 00 50	Basic Electrical Material and Methods		H&S
26 05 19	Low Voltage Electrical Power Conductors and Cables		H&S
26 05 26	Grounding and Bonding for Electrical Systems		H&S
26 05 29	Hangers and Supports for Electrical Systems		H&S
26 05 33.13	Conduits for Electrical Systems		H&S
26 05 33.16	Boxes and Covers for Electrical Systems		H&S
26 05 48	Vibration and Seismic Controls for Electrical Systems		H&S
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26 05 73	Overcurrent Protective Device and Arch Flash Study		H&S
26 09 23	Lighting Control Devices		H&S
26 22 13	Low Voltage Distribution Transformers		H&S
26 24 13	Switchboards		H&S
26 24 16	Panelboards		H&S
26 27 26	Wiring Devices		H&S
26 28 16	Enclosed Switches and Circuit Breakers		H&S
26 32 13	Engine Generators		H&S
26 32 14	Generator Docking Station		H&S
26 33 53	Static Uninterruptible Power Supply		H&S
26 36 00	Transfer Switches		H&S
26 43 13	Surge Protective Device for Low Voltage Electrical Power Circuits		H&S
26 51 00	Interior Lighting		H&S

DIVISION 27	COMMUNICATIONS	REVISIONS	AUTHOR
27 05 28	Pathways for Communications Systems		H&S
27 15 00	Communications Horizontal Cabling		H&S

DIVISION 28	ELECTRONIC SAFETY and SECURITY	REVISIONS	AUTHOR
28 05 13	Conductors, Cables for Electronic Safety and Security		H&S
28 05 28	Pathways for Electronic Safety and Security		H&S

DIVISION 31	EARTHWORK	REVISIONS	AUTHOR
31 10 00	Site Clearing		CEDC
31 20 00	Earthwork		CEDC
31 23 16	Excavation		CEDC
31 23 16.13	Trenching		CEDC
31 23 23	Fill		CEDC

DIVISION 32	EXTERIOR IMPROVEMENTS	REVISIONS	AUTHOR
32 11 23	Aggregate Base Courses		CEDC
32 12 16	Asphalt Paving		CEDC
32 13 13	Concrete Paving		CEDC
32 17 23. 13	Painted Pavement Markings		CEDC
32 31 13	Chain Link Fences and Gates		CEDC

DIVISION 33	UTILITIES	REVISIONS	AUTHOR
33 41 11	Site Storm Utility Drainage Piping		CEDC

END OF SECTION

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SECTION 00 31 00
AVAILABLE PROJECT INFORMATION

PART 1 GENERAL

1.01 IONWAVE

- A. Additional Content available via IONWAVE.

1.02 BUY AMERICAN ACT, “NOT APPLICABLE, THIS PARTICULAR PROJECT”

1.03 GEOTECHNICAL REPORT, “NOT APPLICABLE, THIS PARTICULAR PROJECT”

1.04 WATER PRESSURE FLOW TEST

- A. Flow Hydrant 1:
 - 1. Pitot Pressure (psi): 70
- B. Flow Hydrant 2:
 - 1. Pitot Pressure (psi): 40

PART 2 PRODUCTS, “ NOT APPLICABLE, THIS PARTICULAR PROJECT ”

PART 3 EXECUTION

3.01 OBTAINMENT OF PERMITS

- A. Contractor shall pay for, secure, all necessary Permits, particular to this Project and Submit copies of same, including all receipts to Owner, Architect for review. **Overhead and Profit costs shall not be included within any portion of this pricing.** If approved, Owner shall reimburse Contractor said costs via Project Change Order.
- B. Following Permits, Approvals shall be secured prior to commencing any Scope of Work, upon this particular Existing Project Site;
 - 1. Zoning Board of Appeals, written notice of approval.
 - 2. Planning Commission, written notice of approval.
 - 3. Existing Project Site Scope of Work, written Permit documentation.
 - 4. Demolition Scope of Work, written Permit documentation.
 - 5. Foundation, Earthwork, Exterior Improvements, Utilities Scope of Work, written Permit documentation.
 - 6. Building Structure Scope of Work, written Permit documentation, all Trades.
 - 7. Any, all Scope of Work, written Permit documentation required by those Local Authorities having Jurisdiction.

END OF SECTION

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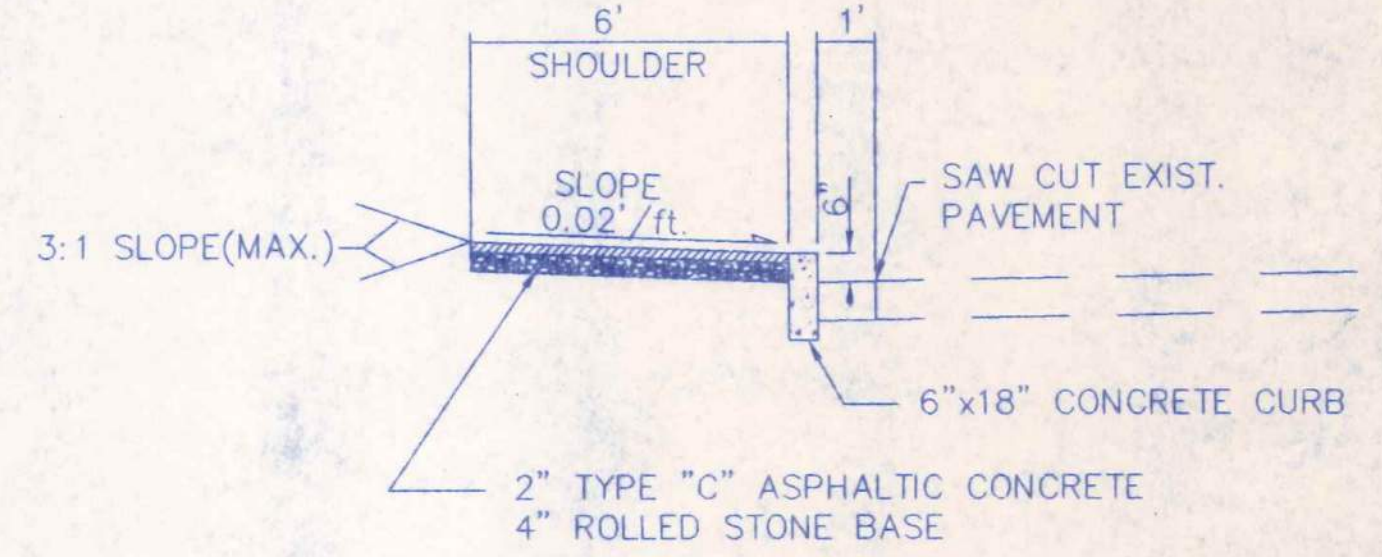
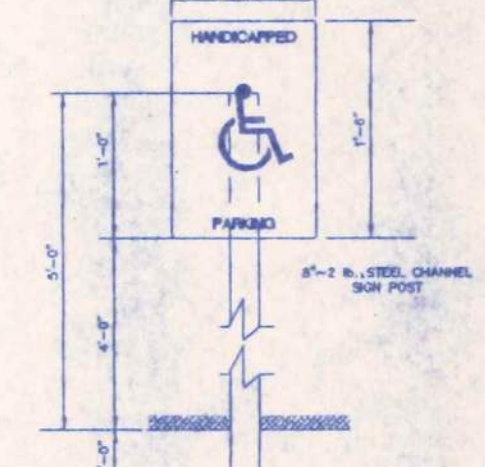


Diagram illustrating a manhole assembly. The assembly consists of a 6" P.V.C. pipe section, a tee, and a flow pipe. The pipe is encased in 4" MIN. CONC. ENCASEMENT. The assembly is connected to a tee and a flow pipe. The top section is labeled "CAST IRON LAMPOIL FRAME & COVER - MENEH R-1970 SERIES OR EQUAL". The frame is 10" wide. The assembly is shown at "GRADE". The flow pipe is labeled "FLOW". The tee is labeled "TEE". The pipe is labeled "PIPE PROFILES - R PIPE SIZE".

SAMPLING TEE
N.T.S.



HANDICAPPED PARKING SIGN

NOTE: ALL SEWER CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, 1992.

BENCHMARK: MSD 18-8: 664.49 - "L" AT NORTHEAST CORNER OF STONE DOOR STEP AT NORTHSIDE ENTRANCE TO CONCORDIA LUTHERAN CHURCH; SOUTHWEST CORNER OF LINDBERGH BOULEVARD AND WOODBINE AVENUE.

7/11/00	1	KIRKWOOD WATER DEPT.	
DATE:	NO.:	REVISION:	
MUSLER ENGINEERING COMPANY   CIVIL ENGINEERING - PLANNING - LAND SURVEYING 32 Portwest Court, St. Charles Missouri 63303 Telephone: (636) 916-0444			
DATE:	DRAWN:	CHECKED:	PROJECT NO.:
6/14/00	JDN	RSM	00-490
			SHEET NO.:
			1

PREPARED FOR: CARR LANE MANUFACTURING
MR. EARL WALKER
4200 CARR LANE CT.
ST. LOUIS, MO 63119

MSD P# 23469-00
BASE MAP 24M3

INDEX

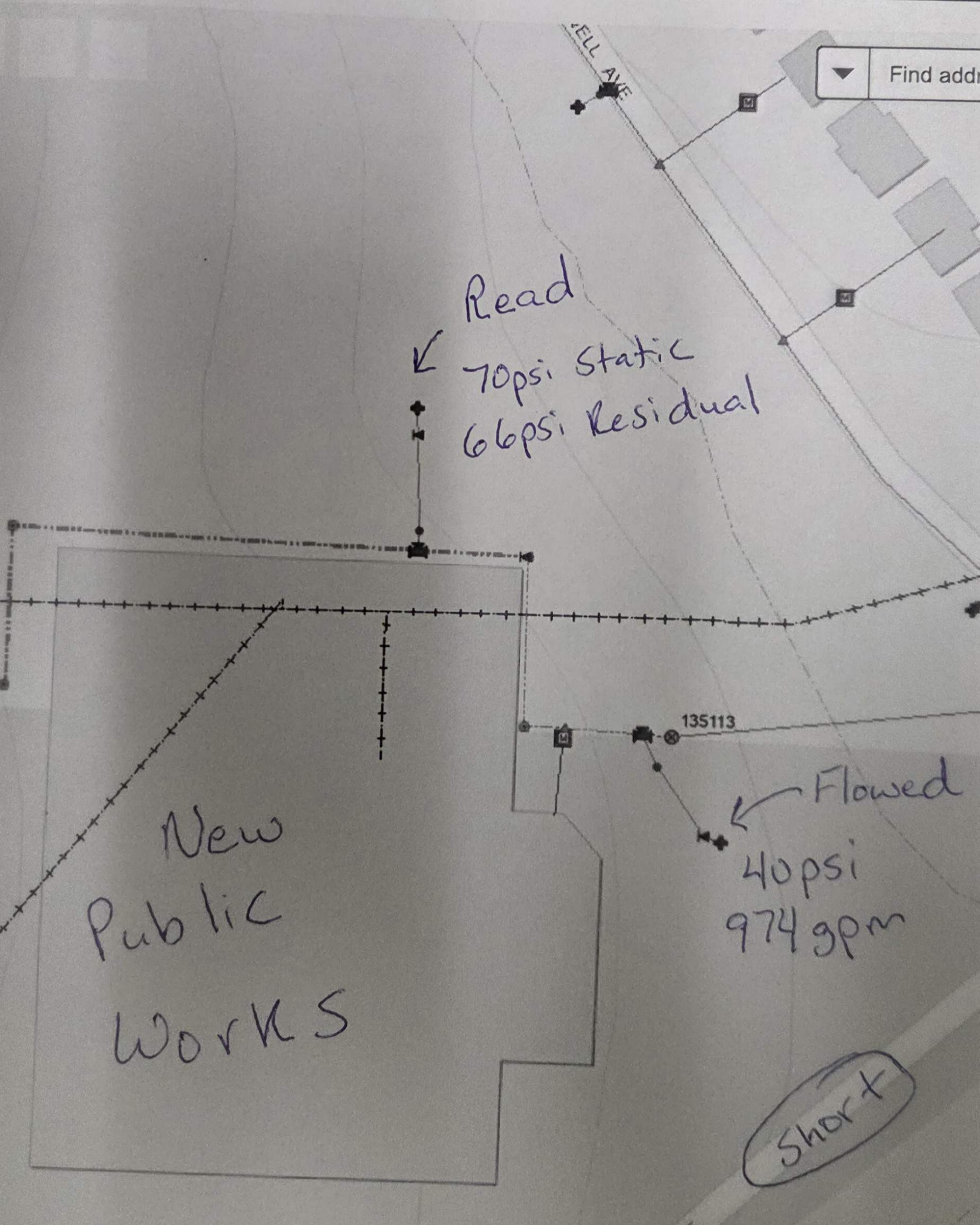
SHEET	1	SITE PLAN
SHEET	2	GRADING PLAN
SHEET	3	PROFILES
SHEET	4	DRAINAGE AREA PLAN

Read
70psi Static
66psi Residual

Flowed
40psi
974 gpm

New
Public
Works

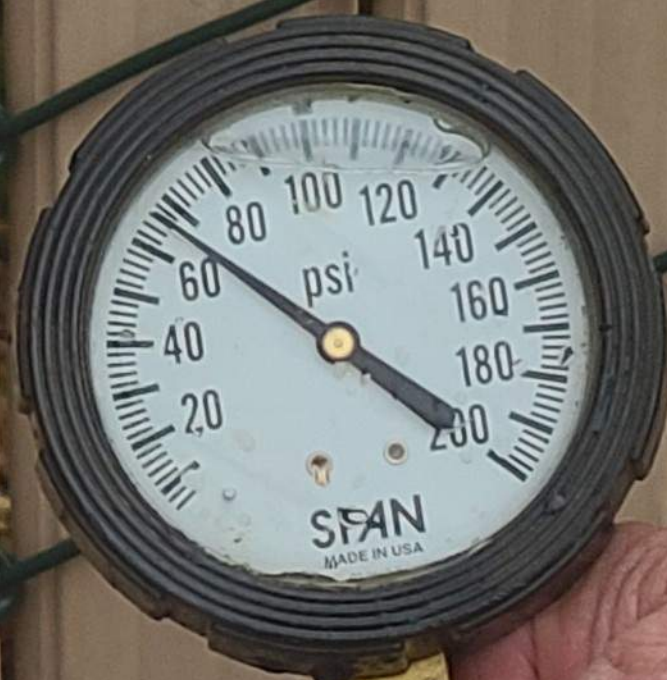
Short





40 PSI
974 GPM

66
Res: 2 wa





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SECTION 00 41 10
CONTRACTOR'S AFFIDAVIT for PUBLIC CONSTRUCTION PROJECTS

Additional Content available via; IONWAVE

STATE of; Missouri

COUNTY of ; St. Louis

THE UNDERSIGNED, BEING DULY SWORN, DOES NOW STATE and DEPOSE the following:

- A. I am the _____ (Title) of _____ (Company) which is a Contractor for the **Kirkwood Public Works Renovation**, (Said Project) and authorized to sign this Affidavit, on said Company's behalf.
- B. I have verified all information, set forth within this Affidavit. If any Subcontractors have been retained for this particular Project, I have also verified their information.
- C. Contractor and all Subcontractors have Workers' Compensation Insurance, that will cover all employees working within this particular Existing Project Site and said Insurance shall meet or exceed all Requirements Established by Law, those Local Authorities having Jurisdiction.
- D. Contractor and all Subcontractors have previously confirmed United States Citizenship, lawful status of all Workers employed within this particular Existing Project Site and will not knowingly employ any person, who is an unauthorized alien, in connection with any contracted services.
- E. Contractor and all Subcontractors were previously informed by St. Louis County, of those requirements to pay Prevailing Wages and will pay said Prevailing Wages to all Workers employed upon this particular Existing Project Site, as established by current applicable Annual Wage Order No. 32, St. Louis County, State of Missouri or Federal Wage Order, whichever may be greater.
- F. Contractor and all Subcontractors shall be in full compliance with all Federal Laws, requiring any Accredited Apprenticeship Program, wherever applicable.
- G. Contractor and all Subcontractors shall have previously enrolled within and currently participate in a Federal Work Authorization Program, with respect to all employees working in connection with any contracted services.
- H. Contractor and all Subcontractors shall be in full compliance with 34.600, RSMo. Contractor now hereby affirms they are not currently engaged in and shall not, for the duration of this Agreement, engage in any boycott of goods or services from the State of Israel, companies doing business in or with the State of Israel, or authorized by, licensed by, organized under, said laws of the State of Israel, or persons, entities doing business within the State of Israel.

I. Further Affiant sayeth naught.

Authorized Officer of Contractor

SUBSCRIBED and SWORN BEFORE ME, This _____ Day of _____, 2026.

Notary Public

MY Commission Expires: _____

END OF SECTION

SECTION 07 54 23
THERMOPLASTIC POLYOLEFIN (TPO) MEMBRANE ROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Mechanically attached thermoplastic polyolefin (TPO) roofing membrane.
- B. **Fully adhered system with thermoplastic polyolefin (TPO) roofing membrane.**
- C. Insulation, flat and tapered.
- D. Vapor retarder.
- E. Deck sheathing.
- F. Roofing cant strips, stack boots, roofing expansion joints, and walkway pads.

1.02 RELATED REQUIREMENTS

- A. Reference Section 07 62 00 - Sheet Metal Flashing and Trim for additional Content.

1.03 REFERENCE STANDARDS; "USE CURRENT EDITION, ONLY "...

- A. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.
- B. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board; 2022.
- C. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2023.
- D. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2024.
- E. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2025.
- F. ASTM C1325 - Standard Specification for Fiber-Mat Reinforced Cementitious Backer Units; 2022, with Editorial Revision (2023).
- G. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2024.
- H. ASTM D41/D41M - Standard Specification for Asphalt Primer Used in Roofing, Damp proofing, and Waterproofing; 2011 (Reapproved 2023).
- I. ASTM D312/D312M - Standard Specification for Asphalt Used in Roofing; 2016a (Reapproved 2023).
- J. ASTM D448 - Standard Classification for Sizes of Aggregate for Road and Bridge Construction; 2012 (Reapproved 2022).
- K. ASTM D638 - Standard Test Method for Tensile Properties of Plastics; 2022.
- L. ASTM D4263 - Standard Practice for Indicating Moisture in Concrete by the Plastic Sheet Method; 2024.
- M. ASTM D4491/D4491M - Standard Test Methods for Water Permeability of Geotextiles by Permittivity; 2022.
- N. ASTM D4601/D4601M - Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing; 2004 (Reapproved 2020).
- O. ASTM D6163/D6163M - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements; 2021.
- P. ASTM D6878/D6878M - Standard Specification for Thermoplastic Polyolefin-Based Sheet Roofing; 2021.

- Q. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2024a.
- R. ASTM E1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces; 2024.
- S. FM (AG) - FM Approval Guide; Current Edition.
- T. FM DS 1-28 - Wind Design; 2015, with Editorial Revision (2025).
- U. FM DS 1-29 - Roof Deck Securement and Above-Deck Roof Components; 2016, with Editorial Revision (2022).
- V. NRCA (RM) - The NRCA Roofing Manual; 2025.
- W. NRCA (WM) - The NRCA Waterproofing Manual; 2021.
- X. UL (DIR) - Online Certifications Directory; Current Edition.
- Y. UL (FRD) - Fire Resistance Directory; Current Edition.
- Z. UL 790 - Standard for Standard Test Methods for Fire Tests of Roof Coverings; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene (21) Twenty One calendar days prior to commencing any Work, this Section.
 - 1. Thoroughly review all preparation, Contract Documents, Shop Drawing Submittals, related Work, scheduling, installation procedures, this particular Project.

1.05 SUBMITTALS

- A. Reference Section 01 30 00 - Administrative Requirements for additional Content.
- B. Product Data: Provide Manufacturer's thoroughly detailed written information, particular to this Project, as follows:
 - 1. Thoroughly detailed Product data indicating membrane materials, flashing materials, insulation, vapor retarder, surfacing, and fasteners.
 - 2. Preparation instructions. recommendations.
 - 3. Storage, handling requirements.
- C. Shop Drawings: Indicate joint or termination detail conditions, conditions of interface with other materials, and paver layout.
- D. Product Samples: Submit (2) Two Product Samples, Manufacturer's standard size, as required to accurately represent construction, color, mastic, accessories, insulation and flashings, this particular Project.
- E. Manufacturer's Certificate: Certify all Products meet or exceed specified requirements.
- F. Manufacturer's Field Reports: Indicate procedures followed, ambient temperatures, humidity, wind velocity during application, and supplementary instructions given.
- G. Manufacturer's written Installation Instructions: Indicate membrane seaming precautions and perimeter conditions requiring special attention.
- H. Sustainable Design Submittals:
 - 1. Test Report showing solar reflectance index of membrane
 - 2. Certification documenting recycled content.
 - 3. Documentation of distance to Manufacturing facilities.
 - 4. Documentation of adhesive and sealant contents.

- I. Warranty:
 - 1. Submit Manufacturer Warranty, particular to this Project and ensure all forms have been completed within Owner's name, registered with said Manufacturer.
 - 2. Submit installer's Certification that installation fully complies with all Warranty conditions, Work, this Section.
- J. Manufacturer's Qualification Statement.
- K. Installer's Qualification Statement.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in Manufacturing Products specified within this Section, minimum (15) Fifteen years documented experience.
- B. Installer Qualifications: Company specializing in performing Work, this Section, minimum (10) Ten years documented experience.
 - 1. **Signed, dated written approval by membrane Manufacturer.**
 - 2. Extend Manufacturer's No Dollar Limit guarantee.

1.07 MOCK UPS

- A. Reference Section 01 40 00 -Quality Requirements for additional Content.
- B. Provide (12) Twelve foot square mock up for evaluation of surface preparation, installation methods, workmanship.
- C. Locate as directed by Architect.
- D. **Mock up may not remain as portion of permanent Work, this particular Project.**

1.08 DELIVERY, STORAGE, HANDLING

- A. Deliver all Products within Manufacturer's original containers, dry, undamaged, including all seals, labels intact.
- B. Protect all Products within weather protected environment, clear of ground surface and any moisture.
- C. Protect all foam insulation from direct exposure to sunlight.
- D. Provide Safety Data Sheets, Existing Project Site, at all times during transportation, storage, and installation of Work, this Section.
- E. Fully comply all Manufacturer, Architect requirements as required to prevent any overloading, disturbance of structure while loading materials onto roof.

1.09 FIELD CONDITIONS

- A. **Do not** install any Work, this Section during unsuitable weather. Reference Manufacturer's written instructions for additional Content.
- B. **Do not** install any Work, this Section when ambient temperature is below (50) Fifty degrees Fahrenheit.
- C. **Do not** install any Work, this Section upon damp or frozen deck surface, or when any precipitation is expected or occurring.
- D. **Do not** expose any materials, vulnerable to water or sun damage, in quantities greater than can be weatherproofed within same calendar day.
- E. Proceed with all Work, this Section, only as required to ensure Work is not subject to any construction traffic.
- F. **Do not** allow any grease, oil, fats, construction debris or any other contaminants to come into direct contact with Work, this Section.

1.10 WARRANTY

- A. Reference Section 01 78 00 - Closeout Submittals for additional Content.
- B. Material Warranty: Provide Manufacturer's Warranty agreeing to replace any and all material presenting defects within (20) Twenty Years following previously agreed upon Project Substantial Completion Date.
- C. System Warranty: Provide Manufacturer's system Warranty agreeing to replace any roofing that leaks, or has been damaged due to wind or any other natural causes.
 - 1. Warranty Term: (20) Twenty Years.
 - 2. For all replacement, include costs of both material and labor within Warranty.
 - 3. Include any, all accidental punctures, according to Manufacturer's Warranty terms.
 - 4. Include any, all hail damage according to the Manufacturer's Warranty terms.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Carlisle SynTec Systems: www.carlisle-syntec.com.
- B. Elevate Commercial Roofing Solutions: www.holcimelevate.com.
- C. GAF Roofing: www.gaf.com.
- D. Substitutions: Reference Section 01 60 00 - Product Requirements for additional Content.

2.02 ROOFING APPLICATIONS

- A. Thermoplastic Polyolefin (TPO) Membrane Roofing;
- B. Roofing Assembly Performance Requirements, Design Criteria:
 - 1. Solar Reflectance Index (SRI): Minimum of 64 based on two year aged value.
 - a. Calculate (SRI) in full accordance with ASTM E1980.
 - b. **Field applied coating may not be used** to achieve specified (SRI).
 - 2. Roof Covering External Fire Resistance Classification: Class A when tested per UL 790.

2.03 ROOFING MEMBRANE ASSOCIATED MATERIALS

- A. Single Source Responsibility: Provide and install products from single source.
- B. Base Sheet: Manufacturer's standard, non-asphaltic, resin-bound, fiberglass-reinforced mat with mineral-filled, fire resistant coating, one side.
 - 1. Product: Carlisle FR Base Sheet 1S, (60) Sixty mil.
- C. Vapor Retarder/Base Sheet: Manufacturer's standard, reinforced composite of aluminum foil with self-adhesive SBS backing and removable poly release films.
 - 1. Product: Carlisle VapAir Seal MD Air/Vapor Barrier.
- D. Membrane:
 - 1. Material: Thermoplastic Polyolefin (TPO) complying with ASTM D6878/D6878M.
 - 2. Reinforcing: Internal fabric.
 - 3. Thickness: (60) Sixty mil., minimum.
 - 4. Sheet Width: Factory fabricated into largest sheets possible.
 - 5. Color: As selected by Architect from Manufacturer's full range of options.
 - 6. Products:
 - a. Carlisle SynTec Systems; Sure-Weld.
 - b. Carlisle SynTec Systems; Sure-Weld EXTRA.
 - c. Carlisle Sure-Weld SAT TPO.
 - d. Carlisle Sure-Weld APEEL TPO.
 - e. Carlisle Sure-Weld FleeceBACK TPO.
 - f. Carlisle Sure-Weld FleeceBACK APEEL TPO.
 - g. Carlisle Sure-Weld AFX FleeceBACK TPO.

- E. Seaming Materials: As recommended and approved by membrane Manufacturer.
- F. Membrane Fasteners: As recommended and approved by membrane Manufacturer.
 - 1. Carlisle SynTec Systems; HP-X Fastener: #15 threaded fastener with #3 Phillips drive. Use with Carlisle SynTec Systems Piranha Fastening Plate for mechanically fastened membrane systems on steel or plywood decks.
 - 2. Carlisle SynTec Systems; HP-Xtra Fastener: Oversized, 0.315 inch, threaded steel fastener. Use with Carlisle SynTec Systems Piranha Xtra Plates to secure mechanically fastened membrane systems to steel or wood decks.
 - 3. CD-10 Fastener: Hammer-driven, non-threaded E-Coat fastener. Use with structural concrete decks rated 3,000 psi or greater.
 - 4. HD 14-10 Concrete Fastener: #14 threaded fastener with a #3 Phillips drive. Use for minimum 3,000 psi concrete decks.
 - 5. Carlisle SynTec Systems; HP Term Bar Nail-In: 1-1/4 inch long expansion anchor with threaded drive pin. Use to fasten termination bars or seam fastening plates to concrete, brick, or concrete block.
 - 6. Base Sheet Fasteners and Plates:
 - a. Carlisle SynTec Systems; Dual-Prong Fastener: Manufacturer's pre-assembled, 1.8 inch long, galvanized steel tube and a 2.7 inch diameter galvalume disk and high tensile steel wire staple; for fibrous cement, lightweight concrete, and gypsum decks.
 - b. Carlisle SynTec Systems; Metal Cap: 1 inch diameter metal cap; use with ring shank nails on wood plank, plywood, or oriented strand board.
 - c. Carlisle Dual-Prong Fastener: Manufacturer's pre-assembled, 1.8 inch long, galvanized steel tube, and a 2.7 inch diameter, galvalume disk and high tensile steel wire staple; for fibrous cement, lightweight concrete, and gypsum decks.
 - d. Base sheet fasteners and plates by others: FM-approved.
 - 7. Carlisle SynTec Systems; Piranha Plate: 2-3/8 inch diameter, barbed metal fastening plate. Use with Carlisle SynTec Systems HP-X, CD-10 or HD 14-10 Fasteners to secure membrane or insulation in mechanically fastened membrane systems.
 - 8. HP-Xtra Piranha Plate: 2-3/8 inch diameter, barbed metal fastening plate with an oversized hole for use with Carlisle HP-X Fasteners for membrane securement.
 - 9. Seam Fastening Plate: 2 inch diameter, metal plate used for insulation attachment on Mechanically Fastened Systems or membrane securement at angle changes on Adhered Systems in conjunction with the appropriate Carlisle Fastener.
 - 10. Insulation Fastening Plates: 3 inch, nominal diameter, metal plate.
 - 11. SecurFast Insulation Plates: 2-7/8 inch, nominal, hexagon metal plate.
 - 12. Accutrac Insulation Plates: 3 inch, nominal, square metal plate.
- G. Vapor Retarder: Material approved by roof manufacturer complying with requirements of fire rating classification; compatible with roofing and insulation materials.
 - 1. Fire retardant adhesive.
- H. Flexible Flashing Material: Same material as membrane.
- I. Base Flashing: Provide waterproof, fully adhered base flashing system at all penetrations, plane transitions, and terminations.

2.04 INSULATION

- A. Expanded Polystyrene (EPS) Drainage Board Insulation: Complies with ASTM C578, and with drainage channels on one face.
 - 1. Type and Compressive Resistance: Type IX, 25 psi (173 kPa), minimum.
 - 2. Board Thickness: 1 inch.
 - 3. Product: Carlisle InsulFoam DB.

- B. Polyisocyanurate (ISO) Board Insulation: Complies with ASTM C1289, Type II, Class 2 - Faced with dark coated-glass facer on one side and light coated-glass facer on other surface of core foam.
 - 1. Tapered Board: Slope as indicated; minimum thickness 1/2 inch; fabricate of fewest layers possible.
 - 2. Grade and Compressive Strength: Grade 2, 20 psi, minimum.
 - 3. Board Thickness: 1/2 inch.
 - 4. Product: Carlisle SecurShield.
- C. Composite Polyisocyanurate (ISO) Board Insulation: Composite insulation panel comprised of 1/2 inch thick high-density ISO cover board laminated to ISO base insulation, complying with ASTM C1289.
 - 1. Base Insulation: Type II, Class 2, Grade 2, with 20 psi, minimum, compressive strength.
 - 2. Cover Board: Type II, Class 4, Grade 1, with 109 psi, maximum, compressive strength, 1/2 inch thick.
 - 3. Overall Board Thickness: 1-1/2 inches.
 - 4. Product: Carlisle SecurShield HD Composite.
- D. Extruded Polystyrene (XPS) Board Insulation: Complies with ASTM C578 with natural skin surface, drainage channels on one face.
 - 1. Tapered Board: Slope as indicated; minimum thickness 1/2 inch; fabricate of fewest layers possible.
 - 2. Products:
 - a. Owens-Corning Foamular 250, distributed by Carlisle SynTec Systems.
 - b. Owens-Corning Foamular 400, distributed by Carlisle SynTec Systems.
 - c. Owens-Corning Foamular 600, distributed by Carlisle SynTec Systems.
 - d. Owens-Corning Foamular 1000, distributed by Carlisle SynTec Systems.
 - e. Dow Styrofoam Deckmate, distributed by Carlisle SynTec Systems.
 - f. Dow Styrofoam Deckmate Plus, distributed by Carlisle SynTec Systems.
 - g. Dow Styrofoam Roofmate, distributed by Carlisle SynTec Systems.
 - h. Dow Styrofoam Plazamate, distributed by Carlisle SynTec Systems.
- E. Expanded Polystyrene (EPS): Fully complies with ASTM C578, Type VIII, with laminated fiberglass facer on one side.
 - 1. Overall Thickness: 1 inch.
 - 2. Product: Carlisle SynTec Systems; InsulFoam SP.
- F. Laminated Expanded Polystyrene (EPS) Board Insulation: Complies with ASTM C578, with top surface as indicated.
 - 1. EPS Thickness: 3 inches, nominal.
 - 2. Products:
 - a. Carlisle InsulLam with 7/16 inch thick oriented strand board (OSB).
 - b. Carlisle InsulLam with 5/8 inch thick oriented strand board (OSB).
 - c. Carlisle InsulLam with 1/2 inch thick Dens Deck Prime glass-mat faced gypsum board.
 - d. Carlisle InsulLam with 1/2 inch thick USG Securock gypsum board.
 - e. Carlisle InsulLam with 1/2 inch thick HP Recovery Board.
- G. Composite Expanded Polystyrene (EPS) with Polyisocyanurate Cover Board: Complies with ASTM C578.
 - 1. Compressive Strength, Cover Board: 100 psi, minimum.
 - 2. Type and Compressive Resistance of EPS: Type II, 15 psi (104 kPa), minimum.
 - 3. Cover Board Thickness: 1/2 inch.
 - 4. Overall Thickness: 1-1/2 inch, minimum.
 - 5. Product: Carlisle InsulFoam HD Composite.

2.05 ACCESSORIES

- A. Prefabricated Roofing Expansion Joint Flashing: Sheet butyl over closed cell foam backing seamed to galvanized steel flanges.
- B. Roofing Expansion Joint Flashing: Sheet butyl.
- C. Prefabricated Flashing Accessories:
 - 1. Corners and Seams: Same material as membrane, in Manufacturer's standard thicknesses.
 - a. Carlisle Sure-Weld TPO Inside Corners; 60 mil, 0.060 inch thick.
 - b. Carlisle Sure-Weld TPO Outside Corners; 60 mil, 0.060 inch thick.
 - c. Carlisle TPO Curb Wrap Corners; 45 mil, 0.045 inch thick, 6 inch wide flange and 12 inch overall height.
 - 2. Penetrations: Same material as membrane, with manufacturer's standard cut-outs, rigid inserts, clamping rings, and flanges.
 - a. Carlisle SynTec Systems; Sure-Weld TPO Molded Pipe Flashings; for pipes 1 inch to 6 inches in diameter.
 - b. Carlisle SynTec Systems; Sure-Weld TPO Split Pipe Seals; for pipes 1 inch to 6 inches in diameter.
 - c. Carlisle SynTec Systems; Sure-Weld TPO Square Tubing Wraps. 3 inches, 4 inches, and 6 inches square.
 - 3. Sealant Pockets: Same material as membrane, with manufacturer's standard accessories, in manufacturer's standard configuration.
 - a. Carlisle SynTec Systems; Sure-Weld TPO Prefabricated Sealant Pockets: Two piece, prefabricated, rigid; TPO and TPO-coated metal with weldable horizontal deck flange; 12 inch square.
 - 4. Pressure Sensitive Cover Strips: 6 inches wide, 45 mil, 0.045 inch thick, non-reinforced TPO membrane laminated to 35 mil, 0.035 inch thick cured synthetic rubber with pressure sensitive adhesive.
 - 5. Contour Rib: Used to have membrane appear as standing seam metal roofing, with profile of 1-1/4 inches tall, 2-1/8 inches wide including welding flanges, and vertical profile that is 3/8 inch thick.
 - a. Length: 120 inches, nominal.
 - b. Color: As selected by Architect.
 - c. Product: Carlisle Sure-Weld TPO Contour Rib Profile.
 - 6. Walkway Rolls: Slip resistant TPO membrane, with diamond plate tread pattern; 80 mil (0.080 inch) thick.
 - a. Width: 34 inches, nominal.
 - b. Length: 50 feet, nominal.
 - c. Tensile Strength: 600 psi, minimum, in full accordance with ASTM D638 test method.
 - d. Color: As selected by Architect.
 - e. Product: Carlisle Sure-Weld TPO Walkway Rolls.
 - 7. Miscellaneous Flashing: Non-reinforced TPO membrane; 80 mil, 0.080 inch thick, in manufacturer's standard lengths and widths.
- D. Asphalt Primer: ASTM D41/D41M primer for concrete decks, existing smooth built-up roofing, mineral surfaced cap sheet, or modified bitumen membranes.
- E. Hot Asphalt: ASTM D312/D312M.
- F. Insulation Adhesive: Two component polyurethane, expanding foam.
 - 1. Products:
 - a. Carlisle Flexible FAST.
 - b. Carlisle Flexible FAST Dual Cartridge.
 - c. Carlisle Flexible FAST Dual Tanks.

- d. Carlisle Flexible FAST 5-Gallon Jug.
 - e. OMG OlyBond Spot Shot.
 - f. One Step.
- G. Insulation Joint Tape: Glass fiber reinforced type as recommended by insulation manufacturer, compatible with roofing materials; 6 inches wide; self-adhering.
- H. Insulation Fasteners: Appropriate for purpose intended and approved by roofing manufacturer.
 - 1. Length as required for thickness of insulation material and penetration of deck substrate, with metal washers.
 - 2. HP Fastener: Threaded, E-coat, square head fastener for insulation attachment to steel, wood plank, plywood or oriented strand board decks.
 - 3. HP-X Fastener: #15 threaded fastener with #3 Phillips drive. Use with Carlisle Piranha Fastening Plate for mechanically fastened membrane systems on steel or plywood decks.
 - 4. CD-10 Fastener: Hammer-driven, non-threaded E-Coat fastener for use with structural concrete decks rated at 3,000 psi or greater.
 - 5. HD 14-10 Concrete Fastener: A #14 threaded fastener with a #3 Phillips drive used for minimum 3,000 psi concrete decks.
 - 6. HP-Xtra Fastener: Oversized, 0.315 inch, threaded steel fastener. Use with Piranha Xtra Plates to secure mechanically fastened membrane systems to steel or wood decks.
 - 7. Piranha Plate: 2-3/8 inch diameter, barbed metal fastening plate. Use with Carlisle HP-X, CD-10 or HD 14-10 Fasteners to secure membrane or insulation in mechanically fastened membrane systems.
 - 8. InsulFast Fasteners: Threaded Phillips drive fastener. Use with Carlisle SynTec Systems Insulation Plates for insulation attachment to steel or wood decks.
 - 9. ASAP Fastener: Carlisle SynTec Systems InsulFAST Fastener pre-assembled with a 3 inch diameter plastic plate, for insulation attachment only. (Requires proprietary fastening tool by Olympic Fasteners.)
 - 10. HP-NTB Fastener: Glass filled nylon fastener, for use to secure insulation and mechanically attached membranes to specialty decks such as cement wood fiber, gypsum or lightweight concrete.
 - 11. Lite Deck Fastener: Oversized 0.315 inch fastener and associated 3 inch diameter metal plate, for attaching insulation to gypsum decks in mechanically fastened membrane systems.
 - 12. Insulation Fastening Plate: 3 inch nominal diameter metal plate, for use with the appropriate fastener to attach insulation.
- I. Membrane Adhesive: As recommended by membrane Manufacturer.
 - 1. Product:
 - a. Carlisle Flexible FAST.
 - b. Carlisle Flexible FAST Dual Cartridge.
 - c. Carlisle Flexible FAST Dual Tanks.
 - d. Carlisle Flexible FAST 5-Gallon Jug.
 - e. Carlisle CAV-GRIP III Low VOC Adhesive/Primer.
- J. Surface Conditioner for Adhesives: Compatible with membrane and adhesives.
- K. Strip Reglet Devices: Galvanized steel, maximum possible lengths per location, with attachment flanges.
- L. Sealants: As recommended by membrane Manufacturer.
 - 1. Product:
 - a. Sure-Weld Cut Edge Sealant.
 - b. Water Cut-Off Mastic.
 - c. Universal Single-Ply Sealant.
 - d. Thermoplastic, One Part Pourable Sealant.

2. Carlisle SynTec Systems; Thermoplastic, One-Part Pourable Sealant.
- M. Cleaner: Manufacturer's standard, clear, solvent-based cleaner.
 1. Carlisle SynTec Systems; Weathered Membrane Cleaner.
 2. Product: Carlisle Weathered Membrane Cleaner.
- N. Primer: Manufacturer's recommended product.
 1. Product:
 - a. Carlisle Low VOC Primer.
 - b. Carlisle 702 Primer (between vapor retarder and substrate).
 2. Carlisle SynTec Systems; 702 Primer.
- O. Edgings and Terminations: Manufacturer's standard edge and termination accessories.
 1. SnapOn Edge System:
 - a. Carlisle SynTec Systems; SecurEdge 200.
 - b. Carlisle SynTec Systems; SecurEdge 300.
 - c. Carlisle SynTec Systems; SecurEdge 400.
 2. Anchor Bar Fascia System:
 - a. Carlisle SynTec Systems; SecurEdge 1000.
 - b. Carlisle SynTec Systems; SecurEdge 2000.
 - c. Carlisle SynTec Systems; SecurEdge 3000.
 - d. Carlisle SynTec Systems; SecurEdge 4000.
 3. Coping System:
 4. TPO Coated Sheet Metal.
 5. Termination Bar.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify all surfaces, Existing Project Site conditions are ready to receive Work, this Section.
- B. Confirm entire deck is supported, secure.
- C. Verify entire deck is thoroughly clean, smooth, flat, free of any depressions, waves, or projections, properly sloped and suitable for placement of Work this Section.
- D. Verify entire deck surfaces are fully dry and free of any snow or ice.
- E. Confirm all roof openings, curbs, penetrations through roof are solidly set, and all cant strips were previously installed.

3.02 PREPARATION, GENERAL

- A. Thoroughly clean entire substrate, prior to beginning any Work, this Section.
- B. Apply Manufacturer's recommended vapor retarder, temporary roof, prior to commencing any Work, this Section.

3.03 INSTALLATION, GENERAL

- A. Perform work in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.
- B. **Do not** apply roofing membrane during unsuitable weather.
- C. **Do not** apply roofing membrane when ambient temperature is outside the temperature range recommended by manufacturer.
- D. **Do not** apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- E. **Do not** expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

- F. Coordinate the work with installation of associated counterflashing's installed by other sections as the work of this section proceeds.

3.04 INSULATION APPLICATION

- A. Apply vapor retarder to deck surface with adhesive in accordance with Manufacturer's written instructions.
- B. Manufacturer's written instructions.
 - 1. Extend vapor retarder under cant strips and blocking to deck edge.
 - 2. Install flexible flashing from vapor retarder to air seal material of wall construction, lap and seal to provide continuity of the air barrier plane.
- C. Ensure vapor retarder is clean and dry, continuous, and ready for application of insulation.
- D. Attachment of Insulation:
 - 1. Mechanically fasten first layer of insulation to deck in full accordance with roofing manufacturer's instructions and Factory Mutual requirements.
 - 2. Embed second layer of insulation into full bed of adhesive in accordance with roofing and insulation manufacturers' instructions.
- E. Attachment of Insulation: Embed insulation in adhesive in full contact, in full accordance with roofing and insulation manufacturers' instructions.
- F. Attachment of Insulation: Mechanically fasten insulation to deck in accordance with roofing manufacturer's instructions and Factory Mutual requirements.
- G. Attachment of Insulation:
 - 1. Embed first layer of insulation in full bed of adhesive in accordance with roofing and insulation manufacturers' instructions.
 - 2. Mechanically fasten first layer.
 - 3. Mechanically fasten subsequent layer of insulation to deck in accordance with roofing manufacturer's instructions and Factory Mutual requirements.
- H. Attachment of Insulation: Embed insulation in full and uniform mopping of hot asphalt, in accordance with roofing and insulation manufacturers' instructions.
- I. **Do not** install wet, damaged, or warped insulation boards.
- J. Lay subsequent layers of insulation with joints staggered minimum 6 inch from joints of preceding layer.
- K. Place tapered insulation to the required slope pattern in accordance with manufacturer's instructions.
- L. On metal deck, place boards parallel to flutes with insulation board edges bearing on deck flutes.
- M. Lay boards with edges in moderate contact without forcing, and gap between boards no greater than 1/4 inch. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.
- N. Tape joints of insulation in accordance with roofing and insulation manufacturers' instructions.
- O. At roof drains, use factory-tapered boards to slope down to roof drains over a distance of 18 inches.
- P. Do not apply more insulation than can be completely waterproofed in the same day.

3.05 MEMBRANE APPLICATION

- A. Roll out membrane, free from wrinkles or tears. Place sheet into place without stretching.
- B. Shingle joints on sloped substrate in direction of drainage.

- C. **Fully Adhered Application:** Apply adhesive at Manufacturer's recommended rate. Fully embed membrane within adhesive, except within those areas directly over, or within (8) eight inches of, expansion joints. Fully adhere one roll before proceeding to any adjacent rolls.
- D. Asphalt Adhered Application: Apply asphalt at manufacturer's recommended rate. Fully embed membrane in adhesive except in areas directly over or within 3 inches of expansion joints. Fully adhere one roll before proceeding to adjacent rolls.
- E. Seam Welding:
 - 1. Seam Welding: Overlap edges and ends and seal seams by heat welding, minimum 2 inches.
 - 2. Cover seams with manufacturer's recommended joint covers.
 - 3. Probe seams once welds have thoroughly cooled, in approximately 30 minutes.
 - 4. Repair deficient seams within the same day.
 - 5. Seal cut edges of reinforced membrane after seam probe is complete.
 - a. Cut edge sealant recommended, but not specifically required, for flat surfaces.
- F. Mechanical Attachment:
 - 1. Apply membrane and mechanical attachment devices in accordance with manufacturer's instructions.
 - 2. Attachment Schedule:
 - a. Field (Zone 1) Fastener.
 - b. Perimeter (Zones 2 and 3) Fastener.
- G. At intersections with vertical surfaces:
 - 1. Extend membrane over cant strips and up a minimum of 4 inches onto vertical surfaces.
 - 2. Fully adhere flexible flashing over membrane and up to nailing strips.
 - 3. Secure flashing to nailing strips at 4 inches on center.
 - 4. Insert flashing into reglets and secure.
- H. At gravel stops, extend membrane under gravel stop and to the outside face of the wall.
- I. Install roofing expansion joints where indicated. Make joints watertight.
- J. Install prefabricated joint components in accordance with manufacturer's instructions.
- K. Coordinate installation of roof drains and sumps and related flashings. Locate all field splices away from low areas and roof drains. Lap upslope sheet over downslope sheet.
- L. Install walkway pads at areas of concentrated traffic and as shown on Drawings. Space pad joints to permit drainage.
- M. Lay concrete pavers loose over manufacturer approved protection sheet and according to manufacturer's instructions.
- N. Daily Seal: Install daily seal per Manufacturer's instructions at the end of each work day. Prevent infiltration of water at incomplete flashings, terminations, and at unfinished membrane edges.

3.06 FIELD QUALITY CONTROL

- A. Reference Section 01 40 00 - Quality Requirements for additional Content.
- B. Require mandatory attendance, Manufacturer's Representatives, all Work, this Section at Existing Project Site, during installation of same.

3.07 CLEANING

- A. Reference Section 01 70 00 - Execution and Closeout Requirements for additional Content.
- B. Remove all wrappings, empty containers, paper, any other debris from Existing Project Site. Dispose of same in full compliance with local, State, and Federal regulations.

- C. Remove all markings from finished surfaces.
- D. In those areas where finished surfaces have been soiled by Work of Section, consult Manufacturer of said surfaces for cleaning advice and fully conform to their written instructions.

3.08 PROTECTION

- A. **Protect all Work, this Section, from Damage.**
- B. **Replace all Damaged Work, this Section, immediately.**

END OF SECTION

**SECTION 08 14 16
FLUSH WOOD DOORS**

PART 1 GENERAL

2.01 SECTION INCLUDES

- A. Flush wood doors.

2.02 RELATED REQUIREMENTS

- A. Section 08 11 13 - Hollow Metal Doors and Frames.

2.03 REFERENCE STANDARDS; " USE CURRENT EDITION, ONLY "...

- A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).
- B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.
- C. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

2.04 SUBMITTALS

- A. Reference Section 01 30 00 - Administrative Requirements for additional Content.
- B. Product Data: Indicate door core materials, construction; veneer species, type and characteristics.
- C. Shop Drawings: Show all doors, frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and all other details, particular to this Project.
- D. Samples: Submit Product Samples, Manufacturer's standard size, as required to accurately represent construction, color, wood grain, sheen and finish.
- E. Manufacturer's Installation Instructions: Indicate written instructions, particular to this Project.
- F. Detailed Warranty, executed within Owner's Name.

2.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in Manufacturing Products specified within this Section, with not less than (15) Fifteen years documented experience.

2.06 DELIVERY, STORAGE, HANDLING

- A. Package, deliver and store all doors in full accordance with Manufacturer's written requirements and Contract Documents.
- B. Accept doors upon Existing Project Site, only within Manufacturer's packaging, and thoroughly inspect for any damage.
- C. Protect all doors with resilient packaging sealed with heat shrunk plastic; **do not** store within damp or wet areas, or any areas where sunlight might bleach veneer; seal top and bottom edges with tinted sealer if stored more than (1) one Calendar week, and break seal, as required to permit proper ventilation.

2.07 WARRANTY

- A. Reference Section 01 78 00 - Closeout Submittals for additional Content.
- B. Manufacturer Warranty: Provide Manufacturer's detailed Warranty on all interior doors for, life of installation. Complete all forms within Owner's name and register same with Manufacturer.
 - 1. Include coverage for any delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

3.01 MANUFACTURERS

- A. Wood Veneer Faced Doors:
 - 1. As outlined within Contract Documents.
 - 2. Substitutions: Reference Section 01 60 00 - Product Requirements for additional Content.

3.02 DOORS AND PANELS

- A. Doors: Reference Contract Documents for additional Content.
 - 1. Quality Standard: Custom Grade, Heavy Duty performance, in full accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).
 - 2. Wood Veneer Faced Doors: (5) Five ply.
- B. Interior Doors: 1-3/4 inches thick, flush construction.
 - 1. Provide only solid core doors.
 - 2. Fire Rated Doors: Fully tested to those ratings indicated on drawings in full accordance with UL 10C - Positive Pressure; Underwriters Laboratories Inc (UL) or Intertek/Warnock Hersey (WHI) labeled without any visible seals when door is open.
 - 3. Wood veneer facing with factory transparent finish as indicated on drawings.

3.03 DOOR AND PANEL CORES

- A. Non Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated. within Contract Documents
- B. Fire Rated Doors: Mineral core type, with fire resistant composite core (FD), plies and faces as indicated; with core blocking as required to provide adequate anchorage of hardware without through bolting.

3.04 DOOR FACINGS

- A. Veneer Facing for Transparent Finish: Species as indicated on the drawings, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.
 - 1. Vertical Edges: Same species as face veneer.
 - 2. "Pair Match" each pair of doors; "Set Match" pairs of doors within (6) six feet of each other when doors are closed.

3.05 DOOR CONSTRUCTION

- A. Fabricate doors in accordance with door quality standard specified.
- B. Cores Constructed with stiles and rails:
 - 1. Provide solid blocks at lock edge for hardware reinforcement.
 - 2. Provide solid blocking for other through bolted hardware.
- C. Factory machine doors for hardware other than surface mounted hardware, in full accordance with hardware requirements and dimensions.
- D. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.
- E. Provide edge clearances in accordance with the quality standard specified.

3.06 FINISHES, WOOD VENEER DOORS

- A. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:
- B. Factory finish all doors in full accordance with previously approved Product Sample.
- C. Seal door top edge with colored sealer, as required to match door facing.

3.07 ACCESSORIES

- A. Reference Section 08 11 13 - Hollow Metal Frames and Doors for additional Content.

PART 3 EXECUTION

4.01 EXAMINATION, PROTECTION

- A. Verify all existing conditions, prior to starting any Work, this Section.
- B. Confirm all opening sizes, tolerances are correct.
- C. **Do not** install any doors that are not plumb, level, or are outside Manufacturer's tolerances.
- D. **Protect all Work, this Section, from Damage.**
- E. **Replace all Damaged Work, this Section, immediately.**

4.02 INSTALLATION

- A. Install all doors in full accordance with Manufacturer's written instructions, specified quality standards particular to this Project Site.
- B. Factory Finished Doors: **Do not** field cut or trim, if fit or clearance is not correct, replace door.
- C. Use only machine tools to cut, drill, door hardware.
- D. Coordinate installation of all doors with installation of frames and hardware.

4.03 TOLERANCES

- A. Fully comply with all specified quality standards, fit and clearance tolerances.
- B. Fully comply with all specified quality standards, telegraphing, warp, and squareness.

4.04 ADJUSTING

- A. Adjust all doors, as required for smooth and balanced operation.
- B. Adjust all closers, as required for full closure, proper operation.

END OF SECTION

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SECTION 08 71 01

DOOR HARDWARE GROUPS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes commercial door hardware for the following:
 - 1. Swinging doors.
 - 2. Other doors to the extent indicated.
- B. Door hardware includes, but is not necessarily limited to, the following:
 - 1. Mechanical door hardware.
 - 2. Electromechanical door hardware.
 - 3. Automatic operators.
 - 4. Cylinders specified for doors in other sections.
- C. Related Sections:
 - 1. Division 01 Section "General Conditions".
 - 2. Division 06 Section "Rough Carpentry".
 - 3. Division 06 Section "Finish Carpentry".
 - 4. Division 08 Section "Operations and Maintenance".
 - 5. Division 08 Section "Door Hardware Schedule".
 - 6. Division 08 Section "Hollow Metal Doors and Frames".
 - 7. Division 08 Section "Flush Wood Doors".
 - 8. Division 08 Section "Aluminum-Framed Entrances and Storefronts".
 - 9. Division 08 Section "Automatic Door Operators".
 - 10. Division 28 Section "Integrated Access Control Hardware Devices".
- D. Codes and References: Fully comply with that version adopted by those Local Authorities having Jurisdiction.
 - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 - 2. ANSI/SDI A250.13 - Testing and Rating of Severe Windstorm Resistant Components for Swing Door Assemblies.

3. ASTM E1886 - Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Shutters Impacted by Missiles and Exposed to Cyclic Pressure Differentials.
4. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure difference.
5. ASTM E1996 - Standard specification for performance of exterior windows, curtain walls, doors and storm shutters impacted by Windborne Debris in Hurricanes.
6. FEMA P-361 2015/2021 - Design and Construction Guidance for Community Safe Rooms.
7. ICC 500-2014/2020, ICC/NSSA Standard for the Design and Construction of Storm Shelters.
8. ICC/IBC - International Building Code.
9. NFPA 70 - National Electrical Code.
10. NFPA 80 - Fire Doors and Windows.
11. NFPA 101 - Life Safety Code.
12. NFPA 105 - Installation of Smoke Door Assemblies.
13. UL/ULC and CSA C22.2 - Standards for Automatic Door Operators Used on Fire and Smoke Barrier Doors and Systems of Doors.
14. TAS-201-94 - Impact Test Procedures.
15. TAS-202-94 - Criteria for Testing Impact and Non-Impact Resistant Building Envelope Components using Uniform Static Air Pressure.
16. TAS-203-94 - Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.
17. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:

1. ANSI/BHMA Certified Product Standards - A156 Series.
2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
3. ANSI/UL 294 - Access Control System Units.
4. UL 305 - Panic Hardware.
5. ANSI/UL 437- Key Locks.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing, fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."

2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - h. Warranty information for each product.
 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- C. Shop Drawings: Details of electrified access control hardware indicating the following:
1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:
 - a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
 - b. Complete (risers, point-to-point) access control system block wiring diagrams.
 - c. Wiring instructions for each electronic component scheduled herein.
 2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.
- D. Proof of Qualification: Provide copy of manufacturer(s) Factory Trained Installer documentation indicating proof of status as a qualified installer of tornado or hurricane storm shelter assemblies.
- E. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

F. Informational Submittals:

1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

1.4 CLOSEOUT SUBMITTALS

- A. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.
 1. Maintenance manual must be provided for tornado/hurricane storm shelter impact protective systems.
- B. Project Record Documents: Provide record documentation of as-built door hardware sets in digital format (.pdf, .docx, .xlsx, .csv) and as required in Division 01, Project Record Documents.

1.5 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
- B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).
- C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.
- E. Storm Shelter Impact Protective Assembly Installer Qualifications: Installers are to be factory trained for shop and field installation prior to project bid, and are responsible for commissioning, servicing, and warranting the installed equipment specified for the project. A pre-installation site inspection of the frame and floor conditions shall be conducted by the factory trained installer prior to any Storm Shelter Impact Protective assembly hardware applied to the opening.

- F. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.
1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
 2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.
- G. Storm Shelter Openings: Provide complete door systems for hurricane or tornado resistant storm shelters and other areas of refuge complying and tested according to ICC 500 (2014/2020), ICC/NSSA Standard for the Design and Construction of Storm Shelters.
- H. Each unit to bear third party permanent label indicating compliance with the referenced testing standards.
- I. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:
1. Function of building, purpose of each area and degree of security required.
 2. Plans for existing and future key system expansion.
 3. Requirements for key control storage and software.
 4. Installation of permanent keys, cylinder cores and software.
 5. Address and requirements for delivery of keys.
- J. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
 2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
 3. Review sequence of operation narratives for each unique access controlled opening.
 4. Review and finalize construction schedule and verify availability of materials.
 5. Review the required inspecting, testing, commissioning, and demonstration procedures
- K. At completion of installation, provide written documentation that components were applied according to manufacturer's instructions and recommendations and according to approved schedule.

1.6 DELIVERY, STORAGE, HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.7 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.
- C. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.8 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of the hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 4. Electrical component defects and failures within the systems operation.

- C. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

1.9 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
- B. Storm Shelter Openings: Furnish a complete set of operational and maintenance instructions as needed for Owner's continued adjustment, maintenance, and repairs of door hardware as required by ICC 500 (2020), ICC/NSSA Standard for the Design and Construction of Storm Shelters.

PART 2 - PRODUCTS

2.1 BUTT HINGES

- A. Hinges: ANSI/BHMA A156.1 butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.
 - 1. Quantity: Provide the following hinge quantity:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
 - c. Four Hinges: For doors with heights 91 to 120 inches.
 - d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
 - 2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
 - a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
 - b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.
 - 3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
 - a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
 - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
 - 4. Hinge Options: Fully comply with following:
 - a. Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for all out-swinging lockable doors.

5. Manufacturers:

- a. McKinney (MK) - TA/T4A Series, 5-knuckle.

B. Hinges at Storm Shelter Assemblies: At a minimum, provide heavy weight hinges with stainless steel screws used in accordance with and specified as part of a Severe Storm Shelter Opening meeting ICC 500 and FEMA 361.

1. Quantity: Provide the following hinge quantity:

- a. Three Hinges: For shutters with heights 36 to 60 inches, and doors at height of 80 inches.
- b. Four Hinges: For shutters with heights > 60 inches to 80 inches, and doors with heights greater than 84 inches.

2. Quantity: Provide the following hinge quantity:

- a. Three Hinges: For shutters with heights 36 to 60 inches, and doors at height of 80 inches.
- b. Four Hinges: For shutters with heights > 60 inches to 80 inches, and doors with heights greater than 84 inches.
- c. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
- d. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
- e. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.

3. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:

- a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
- b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.

4. Hinge Weight and Base Material: At a minimum, provide heavy weight hinges with stainless steel screws used in accordance with and specified as part of a certified Storm Shelter Opening meeting ICC 500.

5. Manufacturers:

- a. McKinney (MK) - SP3386/SP3786.
- b. No Substitution.

2.2 POWER TRANSFER DEVICES

A. Concealed Quick Connect Electric Power Transfers: Provide concealed wiring pathway housing mortised into the door and frame for low voltage electrified door hardware. Furnish with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.

1. Manufacturers:

- a. Pemko (PE) - EL-CEPT Series.
- b. Securitron (SU) - EL-CEPT Series.

- B. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.

1. Provide one each of the following tools as part of the base bid contract:

- a. McKinney (MK) - Electrical Connecting Kit: QC-R001.
- b. McKinney (MK) - Connector Hand Tool: QC-R003.

2. Manufacturers:

- a. McKinney (MK) - QC-C Series.

2.3 DOOR OPERATING TRIM

- A. Flush Bolts and Surface Bolts: Provide products conforming to ANSI/BHMA A156.3 and A156.16, Grade 1.

- 1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
- 2. Furnish dust proof strikes for bottom bolts.
- 3. Surface bolts to be minimum 8" in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
- 4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.
- 5. Manufacturers:

- a. Rockwood (RO).

- B. Coordinators: ANSI/BHMA A156.3 door coordinators consisting of active-leaf, hold-open lever and inactive-leaf release trigger. Model as indicated in hardware sets.

1. Manufacturers:

- a. Rockwood (RO).

- C. Door Push Plates and Pulls: ANSI/BHMA A156.6 door pushes and pull units of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.

1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
4. Pulls shall be provided with a 10" clearance from the finished floor on the push side to accommodate wheelchair accessibility.
5. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets. When through-bolt fasteners are in the same location as a push plate, countersink the fasteners flush with the door face allowing the push plate to sit flat against the door.
6. Manufacturers:
 - a. Rockwood (RO).

2.4 CYLINDERS, KEYING

- A. General: Cylinder manufacturer to have minimum (10) years documented experience designing secured master key systems and have on record a published security keying system policy.
1. Manufacturers:
 - a. ASSA ABLOY ACCENTRA (YA).
- B. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:
1. Threaded mortise cylinders with rings and cams to suit hardware application.
 2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
 3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
 4. Tubular deadlocks and other auxiliary locks.
 5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
 6. Keyway: Manufacturer's Standard.
- C. Small Format Interchangeable Cores: Provide small format interchangeable cores (SFIC) as specified, core insert, removable by use of a special key; usable with other manufacturers' cylinders.

- D. Patented Cylinders: ANSI/BHMA A156.5, Grade 1 Certified Products Directory (CPD) listed cylinders employing a utility patented and restricted keyway requiring the use of a patented key. Cylinders are to be protected from unauthorized manufacture and distribution by manufacturer's United States patents. Cylinders are to be factory keyed with owner having the ability for on-site original key cutting.
 - 1. Patented key systems shall not be established with products that have an expired patent. Expired systems shall only be specified and supplied to support existing systems.
 - 2. Manufacturers:
 - a. ASSA ABLOY ACCENTRA (YA) - Keymark.
- E. Keying System: Each type of lock and cylinders to be factory keyed.
 - 1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
 - 2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
 - 3. New System: Key locks to a new key system as directed by the Owner.
- F. Key Quantity: Provide the following minimum number of keys:
 - 1. Change Keys per Cylinder: Two (2)
 - 2. Master Keys (per Master Key Level/Group): Five (5).
 - 3. Construction Keys (where required): Ten (10).
- G. Construction Keying: Provide construction master keyed cylinders.
- H. Construction Keying: Provide temporary keyed construction cores.
- I. Key Registration List (Bitting List):
 - 1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
 - 2. Provide transcript list in writing or electronic file as directed by the Owner.

2.5 KEY CONTROL

- A. Key Control Software: Provide software that offers solutions for master key system design and management, key, key ring, and item issuance, cylinder and core pinning, personal records and inventories and building, door, and floor plans. Software shall come with the option for additional services that provide custom data integration, on-site and virtual training, consulting, technical support, and custom development.
 - 1. Key Control: System shall manage all master key systems, keys, key rings, key holders and key requests. It shall provide total key control showing outstanding keys, overdue keys (with automatic notifications), key symbols, bittings, keyways, etc. and the ability to include all systems (multiple key manufacturers supported) and buildings in one database.

2. Master Keying: Software shall provide a comprehensive master key system generator compatible with multiplex systems (key sections, keyways, angles) along with a core pinning calculator. Master keying feature shall have automatic configurable key numbering and connection with key cutting machines.
 3. Facility Management: Software shall reference every building, floor, and door of your facilities while identifying the operating keys of every door and generate control reports.
 4. Available options shall include.
 - a. Web Interface: Web portal option for key requests and approvals. Web users shall have restricted access, according to their privileges.
 - b. Mobile Application for Key Deliveries: Display the list of keys issued, key policy, and capture the signature in the field.
 5. Manufacturers:
 - a. Medeco (MC) - Simple K.
- B. Key Control Cabinet: Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet. Key control cabinet shall have expansion capacity of 150% of the number of locks required for the project.
1. Manufacturers:
 - a. Lund Equipment (LU).
 - b. MMF Industries (MM).
 - c. Telkee (TK).

2.6 MORTISE LOCKS AND LATCHING DEVICES

- A. Mortise Locksets, Grade 1 (Heavy Duty): Provide ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed mortise locksets. Listed manufacturers shall meet all functions and features as specified herein.
1. Manufacturers:
 - a. ASSA ABLOY ACCENTRA (YA) - 8800FL Series.

2.7 CYLINDRICAL LOCKS AND LATCHING DEVICES

- A. Cylindrical Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.2, Series 4000, Operational Grade 1 Certified Products Directory (CPD) listed cylindrical locksets. Listed manufacturers shall meet all functions and features as specified herein.
1. Manufacturers:
 - a. ASSA ABLOY ACCENTRA (YA) - 5400LN Series.

2.8 MULTI POINT LOCK, LATCHING DEVICES

- A. Multi-Point Locksets, Storm Shelter: Provide ANSI/BHMA A156.37, Series 1000, Operational Grade 1 and Security Grade 1 Certified Products Directory (CPD) listed multi-point locksets. Listed manufacturers shall meet all functions and features as specified herein.

1. Provide locksets with functions and features as follows:
 - a. Where required by code, provide knurling or abrasive coating on all levers leading to hazardous areas.
 - b. Meets UL and CUL Standard 10C Positive Pressure, Fire Test of Door Assemblies with levers that meet A117.1 Accessibility Code.
 - c. Meets Florida Building Code FL2998 and UL Certification Directory ZHEM.R21744 for latching hardware for hurricane requirements.
 - d. Approved for usage as part of a complete ICC 500 (2014/2020) and FEMA P-361 (2015/2021) door, frame, and hardware assemblies for storm shelter components.
 - e. Lever torque to retract all bolts less than 28 in.lb.
 - f. Cycle tested to 1,000,000 cycles.
 - g. Seven-year limited warranty for mechanical functions.
2. Manufacturers:
 - a. Sargent Manufacturing (SA) - FM7300 Series.
 - b. No Substitution.

2.9 LOCK AND LATCH STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
1. Flat-Lip Strikes: For locks with three-piece antifriction latch bolts, as recommended by manufacturer.
 2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
 3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
 4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.
- B. Standards: Comply with the following:
1. Strikes for Mortise Locks and Latches: BHMA A156.13.
 2. Strikes for Bored Locks and Latches: BHMA A156.2.
 3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
 4. Dustproof Strikes: BHMA A156.16.

2.10 ELECTROMAGNETIC LOCKING DEVICES

- A. Surface Electromagnetic Locks (Heavy Duty): Electromagnetic locks to be surface mounted type conforming to ANSI A156.23, Grade 2 with minimum holding force strength of 1,200 pounds. Locks to be capable of either 12 or 24 voltage and be UL listed for use on fire rated door assemblies. Electronics are to be fully sealed against tampering and allow exterior weatherproof applications. As indicated in Hardware Sets, provide specified mounting brackets and housings. Power supply to be by the same manufacturer as the lock with combined products having a lifetime replacement warranty.

1. Manufacturers:

- a. Securitron (SU) - M62 Series.
- b. Securitron (SU) - M82 Series.

2.11 ELECTRIC STRIKES

- A. Standard Electric Strikes: Electric strikes conforming to ANSI/BHMA A156.31, Grade 1, for use on non-rated or fire rated openings. Strikes shall be of stainless steel construction tested to a minimum of 1500 pounds of static strength and 70 foot-pounds of dynamic strength with a minimum endurance of 1 million operating cycles. Provide strikes with 12 or 24 VDC capability, fail-secure unless otherwise specified. Where specified provide latch bolt and latch bolt strike monitoring indicating both the position of the latch bolt and locked condition of the strike.

1. Manufacturers:

- a. HES (HS) - 1500/1600 Series.

- B. Surface Mounted Rim Electric Strikes: Surface mounted rim exit device electric strikes conforming to ANSI/BHMA A156.31, Grade 1, and UL Listed for both Burglary Resistance and for use on fire rated door assemblies. Construction includes internally mounted solenoid with two heavy-duty, stainless steel locking mechanisms operating independently to provide tamper resistance. Strikes tested for a minimum of 500,000 operating cycles. Provide strikes with 12 or 24 VDC capability supplied standard as fail-secure unless otherwise specified. Option available for latch bolt and latch bolt strike monitoring indicating both the position of the latch bolt and locked condition of the strike. Strike requires no cutting to the jamb prior to installation.

1. Manufacturers:

- a. HES (HS) - 9400/9500/9600/9700/9800 Series.

- C. Provide electric strikes with in-line power controller and surge suppressor by the same manufacturer as the strike with the combined products having a five year warranty.

2.12 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:

1. Exit devices shall have a five-year warranty.
2. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
3. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.
4. Except on fire rated doors, provide exit devices with hex key dogging device to hold the push bar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
5. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
6. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.
 - a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
 - b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.
7. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
8. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
9. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
10. Rail Sizing: Provide exit device rails factory sized for proper door width application.
11. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed exit devices. Listed manufacturers shall meet all functions and features as specified herein.

1. Manufacturers:
 - a. ASSA ABLOY ACCENTRA (YA) - 7000 Series.

- C. Security Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed rim panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Exit device latch to be constructed of high grade, heat treated, corrosion resistant nickel steel alloy, and have a full 3/4" throw projection with slide action positive deadlocking.

1. Static Load Force Resistance: Minimum 3000 lbs. certified independent tested.
2. Manufacturers:
 - a. ASSA ABLOY ACCENTRA (YA) - 7050 Series.

2.13 TOUCH SENSE EXIT BARS

- A. Touch Sense Exit Bars: U.L. listed dual sense touch bar for use on magnetically locked, non-fire-rated metal, aluminum or wood doors requiring two independent switch circuits to release the locking device. Touching the bar or engaging mechanical movement (1/8") allows for free egress. Touch sensing and redundant movement activated switches to comply with current fire and life safety egress codes. Operates on either 12 or 24VDC with optional illuminated "Push to Exit" fiber optic strip.

1. Manufacturers:
 - a. Securitron (SU) - DSB Series.

2.14 SURFACE DOOR CLOSERS

- A. All door closers specified herein shall meet or exceed the following criteria:
1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.
 2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
 3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.
 4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
 5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
 6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

- B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.
1. Heavy duty surface mounted door closers shall have a 30-year warranty.
 2. Manufacturers:
 - a. ASSA ABLOY ACCENTRA (YA) - 4400 Series.
- C. Door Closers, Surface Mounted (Unitrol): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted closers with door stop mechanism to absorb dead stop shock on arm and top hinge. Hold-open arms to have a spring loaded mechanism in addition to shock absorber assembly. Arms to be provided with rigid steel main arm and secondary arm lengths proportional to the door width.
1. Manufacturers:
 - a. ASSA ABLOY ACCENTRA (YA) - Unitrol Series.

2.15 ELECTROHYDRAULIC DOOR OPERATORS

- A. Electrohydraulic Door Operators (High Traffic): Provide ANSI/BHMA A156.19 Certified Products Directory (CPD) listed low energy operators that meet ANSI/BHMA A156.4 requirements and are UL listed for use on fire rated doors and UL10C certified that comply with requirements for the Americans with Disabilities Act (ADA). Operators shall be verified by Green Circle to offer energy savings of 19% when compared to similar products to accommodate openings up to 250 pounds and 48" wide. Provide accessories such as custom templates, special mounting brackets, spacers and drop plates as needed for proper installation. Operators shall accommodate openings up to 200 pounds and 48" wide. Listed manufacturers shall meet all functions and features as specified herein.
1. Provide operators with features as follows:
 - a. Non-handed with push and pull side mounting.
 - b. Operates as mechanical surface closer during close cycles, when door is opened manually or if power is off.
 - c. Activation by push button, hands-free or radio frequency devices.
 - d. On board electronics to collect usage and cycle count data to facilitate preventative maintenance/diagnostics.
 - e. (10) Ten Year Warranty.

- f. Wi-Fi interface where the operator is a secure, password protected WiFi hot spot with no connection to building's IT required.
 - 1) Simple setup with no app required.
 - 2) View status and make adjustments without removing the cover.
 - 3) Built-in logic to support single use restroom applications with no external relay boards, logic modules, position switches required.
 - g. Mounting backplate to simplify and speed up installation.
2. Operators shall have the following functionality:
- a. Adjustable Hold Open: Amount of time a door will stay in the full open position after an activation.
 - b. Blow Open for Smoke Ventilation: Door opens when signal is received from alarm system allowing air or smoke to flow through opening. Door will stay open until signal from alarm system is stopped.
 - c. Infinite Hold Open: Door will hold open at set position until power is turned off.
 - d. Obstruction Detection: Door closes if it hits an obstruction while opening; door will reverse to open position if it hits an obstruction while closing. Door will stop once it hits an obstruction and will rest against the obstruction until removed.
 - e. Open Delay: Delays operator opening for locking hardware.
 - f. Overload Safety Shut-Off: After two minutes of receiving a door activation signal, inverter times out and door closes to prevent motor/inverter damage.
 - g. Presence Detector Input: Input for external sensor to detect presence at door open or close position only.
 - h. Push & Go: As the door is manually opened, the operator "senses" movement and opens door to the full-open position.
 - i. Selector Mode Switch: Off disables the signal inputs unless Blow Open is activated, on activates the signal inputs, hold open activates the unit (unless Blow Closed is activated) to the hold open position.
 - j. Vestibule Delay: When the wall switch is pressed, first door in vestibule will open. Second door will open once vestibule door delay has expired. Delay is adjustable.
3. Manufacturers:
- a. Norton Rixson (NO) - 6000 Series.

2.16 ARCHITECTURAL TRIM AND ACCESSORIES

- A. Door, Frame and Wall Protective Trim: ANSI/BHMA A156.6, protective products as specified in the hardware sets. Door protection plates shall be not more than 2" less than door width on stop side and 1" less door width on the pull side or on stop side of pairs of doors. Listed manufacturers shall meet all functions and features as specified herein.

1. Provide protective trim with functions and features as follows:
 - a. Meets ADA requirements for smooth bottom door surfaces.
 - b. UL Classified options for use on fire-rated doors up to 3 hours.
 - c. Fabricated from stainless steel, brass, bronze, aluminum, or high-impact plastic.
 - d. Available in a variety of sizes, finishes, and profiles to suit aesthetic and functional requirements.
 - e. Designed to protect doors, frames, and adjacent walls from damage due to impact, abrasion, or traffic.
 - f. Fasteners included; adhesive backed options available for select models.
 - g. Ten-year limited warranty.
2. Manufacturers:
 - a. Rockwood (RO).

2.17 DOOR STOPS AND HOLDERS

- A. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
 1. Manufacturers:
 - a. Rockwood (RO).
- B. Overhead Door Stops and Holders: ANSI/BHMA A156.8, Grade 1 Certified Products Directory (CPD) listed overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.
 1. Manufacturers:
 - a. Norton Rixson (NO).
 - b. Rockwood (RO).
 - c. Sargent Manufacturing (SA).

2.18 ARCHITECTURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
 - 1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.
- C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.
 - 1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NFPA 252, Standard Methods of Fire Tests of Door Assemblies.
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.
- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- F. Manufacturers:
 - 1. Pemko (PE).

2.19 ELECTRONIC ACCESSORIES

- A. Key Switches: Key switches furnished standard with stainless steel single gang face plate with a 12/24VDC bi-color LED indicator. Integral backing bracket permits integration with any 1 1/4" or 1 1/2" mortise type cylinder. Key switches available as momentary or maintained action and in narrow face plate options.
 - 1. Manufacturers:
 - a. Alarm Controls (AK) - MCK Series.
 - b. Securitron (SU) - MK Series.
- B. Door Position Switches: Door position magnetic reed contact switches specifically designed for use in commercial door applications. On recessed models the contact and magnetic housing snap-lock into a 1" diameter hole. Surface mounted models include wide gap distance design complete with armored flex cabling. Provide SPDT, N/O switches with optional Rare Earth Magnet installation on steel doors with flush top channels.
 - 1. Manufacturers:
 - a. Alarm Controls (AK) - CP1-1026 Series.
 - b. Securitron (SU) - DPS Series.

- C. Switching Power Supplies: Provide the least number of power supplies at the appropriate amperage level sufficient to exceed the required total draw for the specified electrified hardware and access control equipment.

1. Power supplies shall meet all functions and features as specified herein.
 - a. UL listed dual voltage 12 or 24 VDC field selectable continuous output.
 - b. Tolerates brownout or overvoltage input $\pm 15\%$ of nominal voltage.
 - c. Thermal shutdown protection with auto restart.
 - d. Circuit breaker protection against overcurrent and reverse battery faults.
 - e. Integrated battery charging circuit to prevent overvoltage on locking devices.
 - f. Available with a single relay fire trigger or individually triggered relayed outputs.
 - g. Monitoring options as specified.
2. Manufacturers:
 - a. Securitron (SU) - AQD Series.

2.20 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.21 FINISHES

- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware
- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

- B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.
- B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
 - 1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.
- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 - 2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
 - 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
 - 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.
- C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- D. Push Plates and Door Pulls: When through-bolt fasteners are in the same location as a push plate, countersink the fasteners flush with the door face allowing the push plate to sit flat against the door.
- E. Thresholds: Set thresholds, exterior, acoustical doors, in full bed of sealant fully complying with requirements specified in Division 7 Section "Joint Sealants."
- F. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.5 CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.6 DEMONSTRATION

- A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.7 DOOR HARDWARE SETS

- A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
 - 1. Quantities listed are for each pair of doors, or for each single door.
 - 2. The supplier is responsible for handing and sizing all products.
 - 3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.
 - 4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.

B. Manufacturer's Abbreviations:

1. MK - McKinney
2. SU - Securitron
3. RO - Rockwood
4. YA - ASSA ABLOY ACCENTRA
5. SA - SARGENT
6. HS - HES
7. RF - Rixson
8. NO - Norton
9. PE - Pemko
10. MC - Medeco
11. OT - Other
12. LU - Lund Equipment Co

Hardware Sets

Set: 1.0

NOT USED

3 Hinge, Full Mortise, Hvy Wt	T4A3386 (NRP & Sizzz as Required)	US32D	MK	087100
1 Rim Exit Device (NL, Cyl. Dogging)	7155 AU627F K645xCTxSL (SFIC Temp Core)	630	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 SFIC Cylinder Housing	Type as Required	626	YA	087100
1 Electric Strike	9600-LBM	630	HS	087100
1 Electro Lynx Adaptor	2004M		HS	087100
1 SMART Pac Bridge Rectifier	2005M3		HS	087100
1 Surface Closer	UNI4400 (HD PA SPG STP Arm)	689	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Gasketing	303AS (Head & Jambs)		PE	087100
1 Rain Guard	346C x Width of Frame Head		PE	087100
1 Sweep	3452CNB x Length Required		PE	087100
1 Threshold	273x224AFGT MSES25SS x Length Required		PE	087100
1 Card Reader	By Owner Security Vendor			
1 Electro Lynx Harness (Frame)	QC-C3000P		MK	087100
1 Position Switch	DPS-MW-BK/GY/WH (as required)		SU	087100
1 Power Supply	AQD (Size and Options as required)		SU	087100
1 Wiring Diagram	Elevation and Point to Point as Specified		OT	

Notes: Coordinate all Wiring and conduit with electrical contractor.

Operation:

- Door is normally closed and latched.
- Exit Device has Night latch Function (Key will retract the exit device latch, door is latched when the key is removed).
- When an authorized card read is detected on the secured side of the door the access control system will release the electric strike to allow entry.
- Manual egress is always available by pressing the exit device push bar. Latch bolt monitor switch integrated in Electric Strike will signal an authorized egress.
- The electric strike is fail secure and will remain fixed in the absence of power or in the event of a fire alarm.
- Door position switch will signal the doors OPEN/CLOSED status to the access control panel.

Set: 2.0

NOT USED

3 Hinge, Full Mortise, Hvy Wt	T4A3386 (NRP & Sizzes as Required)	US32D	MK	087100
1 Rim Exit Device (NL, Cyl. Dogging)	7155 AU627F K645xCTxSL (SFIC Temp Core)	630	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 SFIC Cylinder Housing	Type as Required	626	YA	087100
1 Electric Strike	9600-LBM	630	HS	087100
1 Electro Lynx Adaptor	2004M		HS	087100
1 SMART Pac Bridge Rectifier	2005M3		HS	087100
1 Automatic Opener	6000 (Series)	689	NO	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Gasketing	303AS (Head & Jambs)		PE	087100
1 Rain Guard	346C x Width of Frame Head		PE	087100
1 Sweep	3452CNB x Length Required		PE	087100
1 Threshold	273x224AFGT MSES25SS x Length Required		PE	087100
1 Card Reader	By Owner Security Vendor			
1 Electro Lynx Harness (Frame)	QC-C3000P		MK	087100
2 Auto Operator Actuator Switch	505		NO	087100
1 Position Switch	DPS-MW-BK/GY/WH (as required)		SU	087100
1 Power Supply	AQD (Size and Options as required)		SU	087100
1 Wiring Diagram	Elevation and Point to Point as Specified		OT	

Notes: Coordinate all Wiring and conduit with electrical contractor.

Operation:

- Door is normally closed and latched.
- Exit Device has Night latch Function (Key will retract the exit device latch, door is latched when the key is removed).
- When an authorized card read is detected on the secured side of the door the access control system will release the electric strike to allow manual or assisted authorized manual or assisted entry.
- When the actuator button on the secure is pressed (after the authorized card read) the auto operator will open the door.
- Assisted Egress can be achieved at any time by pushing the actuator button on the unsecured side of the opening to release the electric strike and activate the auto operator to open the door.
- Manual egress is always available by pressing the exit device push bar. Latch bolt monitor switch integrated in Electric Strike will signal an authorized egress.
- The electric strike is fail secure and will remain fixed in the absence of power or in the event of a fire alarm.
- Door position switch will signal the doors OPEN/CLOSED status to the access control panel.

Set: 2.1

Doors: [W001A](#), [W002](#), [W003A](#)

3 Hinge, Full Mortise, Hvy Wt	T4A3386 (NRP & Sizzze as Required)	US32D	MK	087100
1 Entry or Office Lock	AU 5407LN K926xSFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Surface Closer	UNI4400 (HD PA SPG STP Arm)	689	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Gasketing	303AS (Head & Jambs)		PE	087100
1 Rain Guard	346C x Width of Frame Head		PE	087100
1 Sweep	3452CNB x Length Required		PE	087100
1 Threshold	2715A MSES25SS		PE	087100

Set: 3.0

Doors: [O319A](#), [O319B](#)

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP and size as required)	US26D	MK	087100
1 Rim Exit Device (CLRM, Cyl. Dogging)	7155 AU546F K645xCTxSL (SFIC Temp Core)	630	YA	087100
2 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 SFIC Cylinder Housing	Type as Required	626	YA	087100
1 Surface Closer (Tri-Pack)	4400 (RA or PA Mount as Required)	689	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
3 Silencer	608		RO	087100

Set: 4.0

Doors: [W116A](#), [W116B](#)

6 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP and size as required)	US26D	MK	087100
2 CVR Exit Device (CLRM, LBR, Cyl. Dogging)	7165 LBR AU626F K645xCTxSL (SFIC Temp Core)	630	YA	087100
4 SFIC Core	Keyed as Directed by Owner	626	YA	087100
2 SFIC Cylinder Housing	Type as Required	626	YA	087100
2 Surface Closer (Tri-Pack)	4400 (RA or PA Mount as Required)	689	YA	087100
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
2 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
2 Silencer	608		RO	087100

Set: 5.0

NOT USED

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP and size as required)	US26D	MK	087100
1 Fire Rated Rim Exit (PASS)	7150F AU628F	630	YA	087100
1 Surface Closer (Tri-Pack)	4400 (RA or PA Mount as Required)	689	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
1 Perimeter Gasketing	S88BL (Head & Jambs)		PE	087100

Set: 6.0

Doors: [W124](#)

4 Hinge, Hvy Wt (STORM PRO)	SP3386 (NRP and Size as Required)	US32D	MK	087100
1 Multi-Point Lock (FEMA, CLRM SEC)	3 FM7341 LNL	US32D	SA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 SFIC Cylinder Housing	Type as Required	626	YA	087100
1 Surface Closer (Tri-Pack)	4400 (RA or PA Mount as Required)	689	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
1 Adhesive Perimeter Gasketing	S773BL (Head & Jambs)		PE	087100
1 Sweep	345CNB		PE	087100
1 Threshold	2715A MSES25SS		PE	087100

Notes: Door frame and hardware are to be provided as an assembly, (substitutions are not allowed).
Lockset is included and installed at the factory.
Bottom Door Bolt strike is to be mounted directly to Concrete Floor.

Set: 7.0

Doors: [W149B](#)

6 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP and size as required)	US26D	MK	087100
1 Self-Latching Flush Bolt Set	2845 / 2945 (as required)	US26D	RO	087100
1 Dust Proof Strike	570	US26D	RO	087100
1 Entry or Office Lock	AU 5407LN K926xSFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
2 Surface Closer	4430 (HD PA STP Arm)	689	YA	087100
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
2 Silencer	608		RO	087100

Set: 8.0

Doors: [W112](#), [W201](#)

3 Hinge, Full Mortise	TA2714 (NRP and size as required)	US26D	MK	087100
1 Storeroom or Closet Lock	AU 5405LN K926x SFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Surface Closer (Tri-Pack)	4400 (RA or PA Mount as Required)	689	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
3 Silencer	608		RO	087100

Set: 8.1

Doors: [O305](#), [O311](#), [O312](#)

3 Hinge, Full Mortise	TA2714 (NRP and size as required)	US26D	MK	087100
1 Storeroom or Closet Lock	AU 5405LN K926x SFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Surface Closer (Tri-Pack)	4400 (RA or PA Mount as Required)	689	YA	087100
1 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
3 Silencer	608		RO	087100

Set: 8.2

Doors: [O313](#), [O318](#)

3 Hinge, Full Mortise	TA2714 (NRP and size as required)	US26D	MK	087100
1 Storeroom or Closet Lock	AU 5405LN K926x SFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
3 Silencer	608		RO	087100

Set: 9.0

Doors: EW132, EW145

1 Passage Latch	AU 5401LN	626	YA	087100
1 EXISTING HARDWARE	EXISTING HARDWARE TO REMAIN		OT	

Notes: Existing Door, Frame and Hardware to Remain.
Verify Preps and Confirm that added hardware can be included.
Recommend Repair or replacement as needed.

Set: 10.0

Doors: O309

3 Hinge, Full Mortise	TA2714 (NRP and size as required)	US26D	MK	087100
1 Storeroom or Closet Lock	AU 5405LN K926x SFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Surf Overhead Stop	10-X36 (Size as Required)	630	RF	087100
1 Surface Closer (Tri-Pack)	4400 (RA or PA Mount as Required)	689	YA	087100
3 Silencer	608		RO	087100

Set: 11.0

Doors: O108, O109, O110, O204, O307, O308, W103, W104

3 Hinge, Full Mortise	TA2714 (NRP and size as required)	US26D	MK	087100
1 Entry or Office Lock	AU 5407LN K926xSFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
1 Silencer	608		RO	087100

Set: 12.0

Doors: W001C, W102, W127, W152

3 Hinge, Full Mortise	TA2714 (NRP and size as required)	US26D	MK	087100
1 Entry or Office Lock	AU 5407LN K926xSFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Surface Closer (Tri-Pack)	4400 (RA or PA Mount as Required)	689	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
3 Silencer	608		RO	087100

Set: 12.1

Doors: O316

3 Hinge, Full Mortise	TA2714 (NRP and size as required)	US26D	MK	087100
1 Entry or Office Lock	AU 5407LN K926xSFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Surface Closer (Tri-Pack)	4400 (RA or PA Mount as Required)	689	YA	087100
1 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
3 Silencer	608		RO	087100

Set: 12.2

Doors: W107, W108, W146, W147

3 Hinge, Full Mortise	TA2714 (NRP and size as required)	US26D	MK	087100
1 Entry or Office Lock	AU 5407LN K926xSFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
3 Silencer	608		RO	087100

Set: 13.0

Doors: W109, W149A

3 Hinge, Full Mortise	TA2714 (NRP and size as required)	US26D	MK	087100
1 Entry or Office Lock	AU 5407LN K926xSFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Surf Overhead Stop	10-X36 (Size as Required)	630	RF	087100
1 Surface Closer (Tri-Pack)	4400 (RA or PA Mount as Required)	689	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608		RO	087100

Set: 14.0

NOT USED

3 Hinge, Full Mortise	TA2714 (NRP and size as required)	US26D	MK	087100
1 Classroom Lock	AU 5408LN K926xSFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Surface Closer (Tri-Pack)	4400 (RA or PA Mount as Required)	689	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
3 Silencer	608		RO	087100

Set: 15.0

Doors: W115

3 Hinge, Full Mortise	TA2714 (NRP and size as required)	US26D	MK	087100
1 Classroom Lock	AU 5408LN K926xSFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Surf Overhead Stop	10-X36 (Size as Required)	630	RF	087100
1 Surface Closer (Tri-Pack)	4400 (RA or PA Mount as Required)	689	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608		RO	087100

Set: 16.0

Doors: O314, O315, W106, W110, W111, W123

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP and size as required)	US26D	MK	087100
1 Privacy Lock (w/OCC IND)	AUR 8802FL V21	630	YA	087100
1 Surface Closer (Tri-Pack)	4400 (RA or PA Mount as Required)	689	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
3 Silencer	608		RO	087100

Set: 17.0

Doors: O303, O304, W122

3 Hinge, Full Mortise	TA2714 (NRP and size as required)	US26D	MK	087100
1 Passage Latch	AU 5401LN	626	YA	087100
1 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
3 Silencer	608		RO	087100

Set: 18.0

Doors: W120A, W120B, W121A

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP and size as required)	US26D	MK	087100
1 Push Plate	70C-RKW	US32D	RO	087100
1 Arm Pull	AP1007	US32D	RO	087100
1 Surface Closer (Tri-Pack)	4400 (RA or PA Mount as Required)	689	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall or Floor Stop (as Required)	403 (or) 441CU (As Required)	US26D	RO	087100
3 Silencer	608		RO	087100

Set: 19.0

Doors: EW001E, W001B, W130A, W130C

1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 SFIC Cylinder Housing	Type as Required	626	YA	087100
1	All Hardware Provided By Door Supplier			

Set: 20.0

Doors: EW001D, EW003B, XEO216

1 Entry or Office Lock	AU 5407LN K926xSFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 EXISTING HARDWARE	EXISTING HARDWARE TO REMAIN		OT	

Notes: Existing Door, Frame and Hardware to Remain. Replace Lockset.
Verify Lock Prep and Confirm that replacement lockset will fit existing prep.
Recommend Repair or replacement as needed.

Set: 21.0

NOT USED

3 Hinge, Full Mortise, Hvy Wt	T4A3386 (NRP & Sizzze as Required)	US32D	MK	087100
1 Storeroom or Closet Lock	AU 5405LN K926x SFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Surface Closer	UNI4400 (HD PA SPG STP Arm)	689	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Gasketing	303AS (Head & Jambs)		PE	087100
1 Sweep	3452CNB x Length Required		PE	087100
1 Threshold	2715A MSES25SS		PE	087100

Notes: Existing Door and Frame to Remain. Replace hardware.

Verify all hardware Preps and Confirm that replacement hardware will fit existing preps.

Recommend Repair or replacement as needed.

Set: 22.0

Doors: EO116, EO118, EO121, EO124, XEO124B

1 Electric Strike	1600-CLB-DLM	630	HS	087100
1 Electro Lynx Adaptor	2004M		HS	087100
1 SMART Pac Bridge Rectifier	2005M3		HS	087100
1 Card Reader	By Owner Security Vendor			
1 Electro Lynx Harness (Frame)	QC-C3000P		MK	087100
1 Position Switch	DPS-MW-BK/GY/WH (as required)		SU	087100
1 Power Supply	AQD (Size and Options as required)		SU	087100
1 EXISTING HARDWARE	EXISTING HARDWARE TO REMAIN		OT	
1 Wiring Diagram	Elevation and Point to Point as Specified		OT	

Notes: Existing Door, Frame and Hardware to Remain. Add Electric Strike to allow Access Control.

Verify Preps and Confirm that added hardware can be included.

Recommend Repair or replacement as needed.

Coordinate all Wiring and conduit with electrical contractor.

Operation:

- Door is normally closed and latched.
- When an authorized card read is detected on the secured side of the door the access control system will release the electric strike to allow entry.
- Manual egress is always available by turning lockset lever on unsecure side. Latch bolt monitor switch integrated in Electric Strike will signal an authorized egress.
- The electric strike is fail secure and will remain fixed in the absence of power or in the event of a fire alarm.
- Door position switch will signal the doors OPEN/CLOSED status to the access control panel.

Set: 23.0

Doors: EO106

1 Storeroom or Closet Lock	AU 5405LN K926x SFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Electric Strike	1600-CLB-DLM	630	HS	087100
1 Electro Lynx Adaptor	2004M		HS	087100
1 SMART Pac Bridge Rectifier	2005M3		HS	087100
1 Card Reader	By Owner Security Vendor			
1 Electro Lynx Harness (Frame)	QC-C3000P		MK	087100
1 Position Switch	DPS-MW-BK/GY/WH (as required)		SU	087100
1 Power Supply	AQD (Size and Options as required)		SU	087100
1 EXISTING HARDWARE	EXISTING HARDWARE TO REMAIN		OT	
1 Wiring Diagram	Elevation and Point to Point as Specified		OT	

Notes: Existing Door, Frame and Hardware to Remain. Replace Lockset and add electric strike. Verify Lock Prep and Confirm that added hardware can be included. Recommend Repair or replacement as needed.

Coordinate all Wiring and conduit with electrical contractor.

Operation:

- Door is normally closed and latched.
- Lockset is Storeroom Function (Key will retract the latch, door is latched when the key is removed).
- When an authorized card read is detected on the secured side of the door the access control system will release the electric strike to allow entry.
- Manual egress is always available by turning lockset lever on unsecure side. Latch bolt monitor switch integrated in Electric Strike will signal an authorized egress.
- The electric strike is fail secure and will remain fixed in the absence of power or in the event of a fire alarm.
- Door position switch will signal the doors OPEN/CLOSED status to the access control panel.

Set: 24.0

Doors: EO211, EO218, EO310, EO321, W119, W130B, XEW154

1 Electric Strike	9600-LBM	630	HS	087100
1 Electro Lynx Adaptor	2004M		HS	087100
1 SMART Pac Bridge Rectifier	2005M3		HS	087100
1 Card Reader	By Owner Security Vendor			
1 Electro Lynx Harness (Frame)	QC-C3000P		MK	087100
1 Position Switch	DPS-MW-BK/GY/WH (as required)		SU	087100
1 Power Supply	AQD (Size and Options as required)		SU	087100
1 EXISTING HARDWARE	EXISTING HARDWARE TO REMAIN		OT	
1 Wiring Diagram	Elevation and Point to Point as Specified		OT	

Notes: Existing Door, Frame and Hardware to Remain. Add Electric Strike to allow Access Control.
Verify Preps and Confirm that added hardware can be included.
Recommend Repair or replacement as needed.

Coordinate all Wiring and conduit with electrical contractor.

Operation:

- Door is normally closed and latched.
- When an authorized card read is detected on the secured side of the door the access control system will release the electric strike to allow entry.
- Manual egress is always available by pressing the exit device push bar. Latch bolt monitor switch integrated in Electric Strike will signal an authorized egress.
- The electric strike is fail secure and will remain fixed in the absence of power or in the event of a fire alarm.
- Door position switch will signal the doors OPEN/CLOSED status to the access control panel.

Set: 25.0

NOT USED

1 Entry or Office Lock	AU 5407LN K926xSFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 EXISTING HARDWARE	EXISTING HARDWARE TO REMAIN		OT	

Notes: Existing Door, Frame and Hardware to Remain. Replace Lockset.
Verify Lock Prep and Confirm that replacement lockset will fit existing prep.
Recommend Repair or replacement as needed.

Set: 26.0

NOT USED

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP and size as required)	US26D	MK	087100
1 Classroom Lock	AU 5408LN K926xSFIC Temp	626	YA	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 Surface Closer	UNI4400 (HD PA SPG STP Arm)	689	YA	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608		RO	087100

Notes: Existing Door and Frame to Remain. Replace hardware.
Verify all hardware Preps and Confirm that replacement hardware will fit existing preps.
Recommend Repair or replacement as needed.

Set: 27.0

NOT USED

1 Privacy Lock (w/OCC IND)	AUR 8802FL V21	630	YA	087100
1 EXISTING HARDWARE	EXISTING HARDWARE TO REMAIN		OT	

Notes: Existing Door, Frame and Hardware to Remain. Replace Lockset.
Verify Lock Prep and Confirm that replacement lockset will fit existing prep.
Recommend Repair or replacement as needed.

Set: 28.0

Doors: EO101A, EO101B, EW101

2 Power Transfer Door Cord	TSB-C		SU	087100
1 Double Door Magnetic Lock	DM62BD		SU	087100
1 SFIC Core	Keyed as Directed by Owner	626	YA	087100
1 SFIC Cylinder Housing	Type as Required	626	YA	087100
2 Automatic Opener	6000 (Series)	689	NO	087100
1 Card Reader	By Owner Security Vendor			
3 electro Lynx Harness (Frame)	QC-C3000P		MK	087100
2 Auto Operator Actuator Switch	505		NO	087100
1 Key switch	MKA		SU	087100
1 Pushbutton	EEB2		SU	087100
2 Touch Bar	EL-TSB-BK		SU	087100
1 Power Supply	AQD (Size and Options as required)		SU	087100
1 Wiring Diagram	Elevation and Point to Point as Specified		OT	

Notes: Existing Door, Frame and Hardware to Remain. Add Magnetic Locks to allow Access Control.
 Verify Preps and Confirm that added hardware can be included.
 Recommend Repair or replacement as needed.

Coordinate all Wiring and conduit with electrical contractor.

Operation:

- Doors are normally closed and latched with magnetic lock.
- When an authorized card read is detected on the secured side of the door the access control system will release the magnetic locks to allow manual or assisted authorized entry.
- When the actuator button on the secure is pressed (after the authorized card read) the auto operator will open the doors.
- Assisted Egress can be achieved at any time by pushing the actuator button on the unsecured side of the opening to release the magnetic locks and activate the auto operator to open the doors.
- Manual egress is always available by pressing the push bar (releasing the magnetic locks. Door position switch, integrated in the magnetic locks will signal the doors OPEN/CLOSED status to the access control panel.
- Emergency Egress Push Button is available in the event that touching the push bar fails to release the magnetic locks.
- The magnetic locks are fail safe and will be released to allow free entry and egress in the absence of power or in the event of a fire alarm.
- Key switch can be used to turn the magnetic locks ON/OFF as needed.

Set: 29.0

Doors: [MISC](#)

1 Key Control Software	SIMPLE K	MC 087100
1 Repair Kit	QC-R001	MK 087100
1 Crimp Tool	QC-R003	MK 087100
1 Test Unit	WT2	SA 087100
1 Key Management	EA-100117	MC 087100
1 Key Cabinet	1200 Series x Mounting Brackets & Capacity As Required	LU

END OF SECTION