



**PROPOSED ACADEMY OF BIOMEDICAL SCIENCES
MARTIN KELLOGG MIDDLE SCHOOL
Newington, Connecticut**

**Addendum # 01
03-28-2014**

GENERAL / CLARIFICATIONS

1. Change to bid opening time.

Sealed bids are due on or before **2:00 p.m.**, on Thursday April 3, 2014, at such time, the bids will be publically opened and read aloud.

2. Wage rates.

See attached.

3. Clarification to location of paint finishes. Specification section 099100 and Drawing A7.1, Finish Schedule.

All walls shall have eggshell paint finish. All ceiling soffits shall have flat paint finish.

4. Thickness of 3 Form panels at Conference Room # 03 and Study Room #07.

Walls (1/2" thick)
Door panel insert (3/8" thick)

5. The specification call out for tack boards.

Tack boards and NOT part of this bid.

6. The Finish Schedule calls out for 3 Form on the south wall of Corridor #11.

The Corridor 3 Form is NOT part of this bid.

7. Corridor #11, video monitor detail on south wall.

Casework details #6 and #7/A6.1 and video monitor are NOT part of this bid.

ADDENDUM #1 - continued

8. Specifications for ADA compliant Dishwasher, Refrigerator/Freezer and Flammable Storage Cabinet located in Prep. Room #06. Locations are shown on drawing A1.0.

DISHWASHER: Supply and install dishwasher by: Summit Appliances, #DW2432ADA, color: white. (or equal)

REFRIGERATOR/FREEZER: Supply and install side-by-side refrigerator/freezer by: GE #GSE23GGEWW, color: white. (or equal)

FLAMMABLE STORAGE CABINET: Supply and install cabinet by: Securall, #A105, 12 gallon, single door, vented. (or equal)

9. Being there is a relatively small amount of steel on this job, is it possible to wave the AISC Certified fabricator/plant requirement?

Yes, requirements can be waved.

10. There are drawings and specification sections listed in section 012300: Alternates, that do not exist in the bid set.

Refer to attached Specification Section 012300 – Alternates.

11. There are monitors, screens and touch screens shown throughout drawing set. Who is supplying these?

Monitors, screens and touch screens are NOT part of bid and will be provided by Owner.

Contractor shall install all necessary blocking in walls, power, conduit, etc.

12. The furniture plan (F1.1) refers to the whiteboards as “smart whiteboards” but the specs (101100: Visual Display Surfaces) and details (12/A6.0) suggest they are not “smart” Please clarify.

Not in scope.

13. Specification section 101100: Visual Display Surfaces specifies aluminum trim and chalk tray but the whiteboard detail (12/A6.0) shows wood frames and trays.

Use aluminum as per specifications.

14. Are there tack boards, tackable surfaces and visual display wall coverings as specified in section 101100?

Not in scope.

ADDENDUM #1 - continued

15. Items specified under specification section 101200: Display Cases do not appear on drawings.

Cases are located in Corridor #11 and are NOT in scope.

16. Items specified under specification section 098413: Fixed Sound-Absorptive Panels do not appear on the drawings. Please confirm that this section is not used.

Not in scope.

17. South Elevation (6/A5.0) shows detail 10/A6.0 at each end of the millwork. Please confirm that the intent is to switch from plastic laminate trim as shown in details 2, 3 & 4/A6.0 to hardwood trim as shown in detail 10/A6.0.

Hardwood is incorrect. Use plastic laminate.

18. Fire Extinguishers and Fire Extinguisher Cabinets are shown on the plans, but no specifications are provided. Please provide.

Refer to attached specification section: 10523 – Fire Extinguishers.

19. Please provide specifications for the opaque window film to be installed on windows at closets #02 and #08.

Use opaque white film by: 3M.

20. Please confirm that Chairs, Desks, Microwave, Stools, and Task Chairs shown on the Furniture Plan (F1.1) are for reference only and are not included in this contract. Also, please clarify what the "MP-1" designation on the Furniture Plan refers to, and confirm that they are also not included in this contract.

Furniture is not in scope. Drawing F1.1 was included for reference only.

Microwave is part of bid.

MICROWAVE OVEN: Supply and install 1.8 Cu. Ft. Countertop microwave oven by: GE, #JEB 1860SMSS, color: white. (or equal)

21. Please confirm that, as shown on Finish Notes & Finish Legend (A7.1) all solid surfaces are as specified under 123553: Laboratory Casework subsection 2.3-A, and that section 06402 Interior Architectural Woodwork subsection 2.1-G Solid-Surfacing Material is not used.

Refer to attached specification section: 06402 – Interior Architectural Woodwork.

ADDENDUM #1 - continued

22. On Finish Notes & Finish Legend (A7.1) there is reference to Entry Mat EM-1. Are any of these mats included in this contract?

Not in scope.

23. On Door and Finish Schedules (A7.0) and Finish Notes & Finish Legend (A7.1) there are several references to finishes in the corridor. Please confirm that there is no finish work in the corridors.

Not in scope.

24. Please confirm that the signage is limited to the aluminum letters on 2/A2.0 and 3/A6.1 and the handicap entrance/exit signs shown on R1.0 and R1.1. Also please confirm that the aluminum letters on 2/A2.0 are part of the base bid and not part of Alternate #2. Also please confirm that we are not furnishing the 6" diameter polished aluminum logo for which there is an inset on the precast monument sign as shown in 3/A6.1

All aluminum letters on 2/A2.0 and 3/A6.1 and the handicap entrance/exit signs shown on R1.0 and R1.1. are part of base bid.

The 6" diameter logo will be provided by Owner and installed by Contractor.

25. Is the 18" x 18" tactile surface at main entrance as called out on drawing R1.0 intended to be an ADA truncated dome style pad retrofit into existing concrete?

Yes.

26. Is there a spec for the door hardware?

Refer to attached specification section: 08710 – Door Hardware.

27. Paint type and preparation specification for interior side of aluminum frame system and doors on south wall. (exterior side to remain as-is)

Refer to attached specification section: 09960 – High Performance Coatings.

28. What are the start/end dates for the project?

Contractor can start mobilization on May 1, 2014.

Project must be 100% complete by August 15, 2014.

29. From the finish schedule and it appears that all casework is PL-1 in classroom/lab casework. This is in conflict with the Division 12 spec which calls for white maple casework. Please clarify whether casework is p-lam or wood veneer.

Casework has plastic laminate finish with solid surface countertops.

ADDENDUM #1 - continued

30. Solid surface interior window sills on south wall.

Change window sills to flat edge in place of bullnose. Material to remain as specified.

CHANGES TO THE DRAWING

Addendum #1 drawings are dated: 03-28-2014

1. A6.1, Clarification to details 3, 4 and 5. Power and data locations.

All electrical and technology boxes at science pods to be positioned vertically and located on apron. There are no outlets of any kind located on solid surface countertop of pods.

2. EP1.0 and A6.1, Technology outlet and conduit

Add technology outlet and conduit at end of each science pod, locate on apron.

3. A6.1, detail #1, Closets #04 and #09.

Provide 12"x12" Type B return register, open to the ceiling. Refer to drawing M1.0, locate to clear light and sprinkler head.

1" undercut at wood closet doors #04 & #09.

4. EP1.0, Power Plan, Modification to the number of electrical and data outlets.

Replace drawing dated March 14, 2014 with attached drawing dated: March 28, 2014

5. F1.1, Furniture Plan.

Plan included for reference only. Furniture is NOT part of this bid.

END OF ADDENDUM #1

Project: Bio Engineering Stem Academy At Martin Kellogg Middle School

**Minimum Rates and Classifications
for Building Construction**

ID# : B 18949

**Connecticut Department of Labor
Wage and Workplace Standards Division**

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number:
State#:

Project Town: Newington
FAP#:

Project: Bio Engineering Stem Academy At Martin Kellogg Middle School

CLASSIFICATION

Hourly Rate

Benefits

1a) Asbestos Worker/Insulator (Includes application of insulating materials, protective coverings, coatings, & finishes to all types of mechanical systems; application of firestopping material for wall openings & penetrations in walls, floors, ceilings

35.00

27.41

1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters.**See Laborers Group 7**

2) Boilermaker

35.24

25.01

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3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons	32.50	27.46 + a
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3b) Tile Setter	33.05	23.28
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3c) Terrazzo Mechanics and Marble Setters	31.69	22.35
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3d) Tile, Marble & Terrazzo Finishers	25.95	19.82
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3e) Plasterer	32.50	27.46
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-----LABORERS-----

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4) Group 1: Laborers (common or general), acetylene burners, carpenter tenders, concrete specialists, wrecking laborers, fire watchers.	26.40	17.15
4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofers/mixer/nozzleman, fence erector.	26.65	17.15
4b) Group 3: Jackhammer Operators/Pavement Breaker, mason tender (brick) and mason tender (cement/concrete)	26.90	17.15
4c) **Group 4: Pipelayers (Installation of water, storm drainage or sewage lines outside of the building line with P6, P7 license) (the pipelayer rate shall apply only to one or two employees of the total crew who primary task is to actually perform the mating of pipe sections) P6 and P7 rate is \$26.80	26.65	17.15
4d) Group 5: Air track operators, Sand blasters	27.15	17.15
4e) Group 6: Nuclear toxic waste removers, blasters	29.40	17.15

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4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped)	27.40	17.15
4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew	26.90	17.15
4h) Group 9: Top men on open air caisson, cylindrical work and boring crew	26.40	17.15
4i) Group 10: Traffic Control Signalman	16.00	17.15
5) Carpenter, Acoustical Ceiling Installation, Soft Floor/Carpet Laying, Metal Stud Installation, Form Work and Scaffold Building, Drywall Hanging, Modular-Furniture Systems Installers, Lathers, Piledrivers, Resilient Floor Layers.	30.45	21.65
5a) Millwrights	30.78	22.15

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6) Electrical Worker (including low voltage wiring) (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	36.75	22.56+3% of gross wage
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7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	47.15	26.785+a+b
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-----LINE CONSTRUCTION-----

Groundman	24.37	6.5%+10.04
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Linemen/Cable Splicer	44.30	6.5%+17.70
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8) Glazier (Trade License required: FG-1,2)	34.18	17.75
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9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection	33.50	28.98
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----OPERATORS----

Group 1: Crane handling or erecting structural steel or stone, hoisting engineer 2 drums or over, front end loader (7 cubic yards or over); work boat 26 ft. and over. (Trade License Required)	36.05	21.55 + a
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Group 2: Cranes (100 ton rate capacity and over); Backhoe/Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer). (Trade License Required)	35.73	21.55 + a
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Group 3: Excavator; Backhoe/Excavator under 2 cubic yards; Cranes (under 100 ton rated capacity), Grader/Blade; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade. (slopes, shaping, laser or GPS, etc.). (Trade License Required)	34.99	21.55 + a
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Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper).	34.60	21.55 + a
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Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" Mandrell)	34.01	21.55 + a
Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller; Pile Testing Machine.	34.01	21.55 + a
Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	33.70	21.55 + a
Group 7: Asphalt roller, concrete saws and cutters (ride on types), vermeer concrete cutter, Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under Mandrell).	33.36	21.55 + a
Group 8: Mechanic, grease truck operator, hydroblaster; barrier mover; power stone spreader; welding; work boat under 26 ft.; transfer machine.	32.96	21.55 + a
Group 9: Front end loader (under 3 cubic yards), skid steer loader regardless of attachments, (Bobcat or Similar): forklift, power chipper; landscape equipment (including Hydroseeder).	32.53	21.55 + a

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Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.	30.49	21.55 + a
Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.	30.49	21.55 + a
Group 12: Wellpoint operator.	30.43	21.55 + a
Group 13: Compressor battery operator.	29.85	21.55 + a
Group 14: Elevator operator; tow motor operator (solid tire no rough terrain).	28.71	21.55 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	28.30	21.55 + a

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Group 16: Maintenance Engineer/Oiler.	27.65	21.55 + a
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Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	31.96	21.55 + a
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Group 18: Power safety boat; vacuum truck; zim mixer; sweeper; (Minimum for any job requiring a CDL license).	29.54	21.55 + a
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-----PAINTERS (Including Drywall Finishing)-----

10a) Brush and Roller	30.62	17.75
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10b) Taping Only/Drywall Finishing	31.37	17.75
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10c) Paperhanger and Red Label	31.12	17.75
10e) Blast and Spray	33.62	17.75
11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	39.31	26.27
12) Well Digger, Pile Testing Machine	33.01	19.40 + a
13) Roofer (composition)	31.70	17.36
14) Roofer (slate & tile)	32.20	17.36

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15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	33.84	31.18
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16) Pipefitter (Including HVAC work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4, G-1, G-2, G-8 & G-9)	39.31	26.27
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-----TRUCK DRIVERS-----

17a) 2 Axle	27.88	18.27 + a
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17b) 3 Axle, 2 Axle Ready Mix	27.98	18.27 + a
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17c) 3 Axle Ready Mix	28.03	18.27 + a
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17d) 4 Axle, Heavy Duty Trailer up to 40 tons	28.08	18.27 + a
17e) 4 Axle Ready Mix	28.13	18.27 + a
17f) Heavy Duty Trailer (40 Tons and Over)	28.33	18.27 + a
17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	28.13	18.27 + a
18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	39.76	19.87 + a
19) Theatrical Stage Journeyman	22.22	6.53

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Welders: Rate for craft to which welding is incidental.

**Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.*

***Note: Hazardous waste premium \$3.00 per hour over classified rate*

- Crane with 150 ft. boom (including jib) - \$1.50 extra
- Crane with 200 ft. boom (including jib) - \$2.50 extra
- Crane with 250 ft. boom (including jib) - \$5.00 extra
- Crane with 300 ft. boom (including jib) - \$7.00 extra
- Crane with 400 ft. boom (including jib) - \$10.00 extra

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.

The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.

Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.

It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.

The annual adjustments will be posted on the Department of Labor's Web page: www.ct.gov/dol. For those without internet access, please contact the division listed below.

The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.

All subsequent annual adjustments will be posted on our Web Site for contractor access.

Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.

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Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

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SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Each Contractor, Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

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PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. ADD Alternate No. 1: Monument Sign

1. Provide all labor and materials to construct the Monument Sign as indicated on drawings R1.1 and A6.1
2. Specification sections that are included but not limited to are: 011000 Summary of Work; 024119 Selective Demolition; 265600 Exterior Lighting; 260400 Electrical General Conditions; Division 31 Earthwork; Division 03 Concrete; Division 04 Masonry; Division

B. ADD Alternate No. 2: Entry Canopy

1. Provide all labor and materials to construct the Entrance Canopy as indicated on drawings S-01,S-02, S-1, S-2,and S-3
2. Specification sections that are included but not limited to are: 011000 Summary of Work; 024119 Selective Demolition; 265600 Exterior Lighting; 260400 Electrical General Conditions; Division 03 Concrete; Division 04 Masonry; Division 05 Metals; Division 07 Thermal and Moisture Protection; 221400 Storm Drainage; Division 33 Utilities; and Division 01 General Requirements

C. ADD Alternate No. 3: Concrete Wall and Sidewalk

1. Provide all labor and materials to construct the Community Entrance Canopy as indicated on drawings L1.0
2. Specification sections that are included but not limited to are: 011000 Summary of Work; 024119 Selective Demolition

END OF SECTION 012300

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SECTION 06402 - INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor, Subcontractors and/or suppliers providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 1 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Plastic-laminate-faced casework.
 - 2. Solid-surfacing-material Countertops and Sills.
- B. Related Sections include the following:
 - 1. Division 6 Section "Miscellaneous Rough Carpentry" for wood furring, blocking, shims, and hanging strips required for installing woodwork and concealed within other construction before woodwork installation.
 - 2. Division 9 Section "Painting" for field finishing interior wood trim.

1.3 DEFINITIONS

- A. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips for installing woodwork items unless concealed within other construction before woodwork installation.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
 - 1. For installation adhesives, documentation including printed statement of VOC content.
 - 2. For composite wood products and adhesives, documentation indicating that product contains no urea formaldehyde.
- B. Product Certificates: For each type of product, signed by product manufacturer.
- C. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
 - 1. Show details full size.
 - 2. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.

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- 3. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, and other items installed in architectural woodwork.

 - D. Samples for Initial Selection:
 - 1. Plastic laminates.
 - 2. Solid-surfacing materials.

 - E. Samples for Verification:
 - 1. Plastic laminates, 8 by 10 inches, for each type, color, pattern, and surface finish.
 - 2. Solid-surfacing materials, 6 inches square.

 - F. Qualification Data: For Fabricator.
- 1.5 QUALITY ASSURANCE
- A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.
 - B. Installer Qualifications: Fabricator of products, or installer approved by fabricator.
 - C. Accessibility: Comply with applicable provisions in the 2010 ADA Standards, and ICC/ANSI A117.1 - 2003.
 - D. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork indicated for construction, finishes, installation, and other requirements.
- 1.6 DELIVERY, STORAGE, AND HANDLING
- A. Do not deliver woodwork until painting and similar operations that could damage woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Project Conditions" Article.
- 1.7 PROJECT CONDITIONS
- A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 deg F and relative humidity between 25 and 55 percent during the remainder of the construction period.
 - B. Field Measurements: Where woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 - 1. Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed, and indicate measurements on Shop Drawings.

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1.8 COORDINATION

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide materials that comply with requirements of AWI's quality standard for each type of woodwork and quality grade specified, unless otherwise indicated.
- B. Wood Species and Cut for Transparent Finish: White Maple.
- C. Wood Species for Opaque Finish: Eastern white pine or poplar.
- D. Wood Products: Comply with the following:
1. Recycled Content of Medium-Density Fiberboard and Particleboard: Provide products with an average recycled content so postconsumer recycled content plus one-half of pre-consumer recycled content is not less than 10 percent.
 2. Hardboard: AHA A135.4.
 3. Medium-Density Fiberboard: ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde.
 4. Particleboard: ANSI A208.1, Grade M-2, made with binder containing no urea formaldehyde.
 5. Softwood Plywood: DOC PS 1.
- E. High-Pressure Decorative Chemical Resistant Laminate: NEMA LD 3, grades as indicated or, if not indicated, as required by woodwork quality standard.
1. Manufacturer: Subject to compliance with requirements, provide high-pressure decorative chemical resistant laminates by one of the following:
 - a. Formica Corporation.
 - b. Nevamar Decorative Surfaces.
 - c. Pionite Decorative Surfaces.
 - d. Wilsonart International.
 2. Colors: As selected by the Architect from the manufacturer's full range of colors.
- F. Thermoset Decorative Panels: Particleboard finished with thermally fused, melamine-impregnated decorative paper complying with LMA SAT-1.
1. Provide PVC or polyester edge banding complying with LMA EDG-1 on components with exposed or semiexposed edges.
 2. Colors: As selected by Architect from manufacturer's full range.
 3. Product: Subject to compliance with requirements, provide thermoset decorative panels by one of the following:
 - a. Panolam Industries.

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- b. Wilsonart International.
- G. Solid-Surfacing Material: Homogeneous solid sheets of filled plastic resin complying with ISSFA-2.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Avonite, Inc.
 - b. E. I. du Pont de Nemours and Company; Corian.
 - c. Wilsonart International; Wilsonart Gibraltar.
 - 2. Type: Standard type.
 - 3. Colors: To be selected from manufacturers full range of colors.
- H. Cork Sheet: MS MIL-C-15116-C, Type II.
- I. Hardboard: AHA A135.4, tempered.

2.2 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to less than 15 percent moisture content.
- B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.
- C. Adhesives, General: Do not use adhesives that contain urea formaldehyde.
- D. Adhesive for Bonding Plastic Laminate: Contact cement.
- E. VOC Limits for Installation Adhesives and Glues: Use installation adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - 1. Wood Glues: 30 g/L.
 - 2. Contact Adhesive: 250 g/L.

2.3 FABRICATION, GENERAL

- A. Interior Woodwork Grade: Unless otherwise indicated, provide Custom-grade interior woodwork complying with referenced quality standard.
- B. Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to ambient relative humidity during fabrication and in installation areas.
- C. Complete fabrication, including assembly and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

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1. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements indicated on Shop Drawings before disassembling for shipment.
- 2.4 INTERIOR STANDING AND RUNNING TRIM FOR TRANSPARENT FINISH (FIELD FINISHED)
- A. Grade: Custom.
 - B. Wood Species and Cut: White Maple, plain sliced.
- 2.5 INTERIOR STANDING AND RUNNING TRIM FOR OPAQUE FINISH (FIELD FINISHED)
- A. Grade: Custom.
 - B. Wood Species: Eastern white pine or poplar.
 - C. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.
- 2.6 PLASTIC-LAMINATE CABINETS
- A. Grade: Custom.
 - B. Cabinet Fabrication: 3/4-inch particleboard.
 - C. Laminate Cladding for Exposed Surfaces: High-pressure decorative chemical resistant laminate complying with the following requirements:
 1. Horizontal Surfaces Other Than Tops: Grade HGS.
 2. Vertical Surfaces: Grade HGS.
 - D. Concealed Backs of Panels with Exposed Plastic Laminate Surfaces: High-pressure decorative chemical resistant laminate, Grade BKL.
- 2.7 SOLID-SURFACING-MATERIAL COUNTERTOPS
- A. Grade: Custom.
 - B. Solid-Surfacing-Material Thickness: 1 inch.
 - C. Fabricate countertops in one piece, unless otherwise indicated. Comply with solid-surfacing-material manufacturer's written recommendations for adhesives, sealers, fabrication, and finishing.

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2.8 SOLID-SURFACING-MATERIAL WINDOW STOOLS

- A. Grade: Custom.
- B. Solid-Surfacing-Material Thickness: 1/2 inch.
- C. Fabricate window stools in one piece, unless otherwise indicated. Comply with solid-surfacing-material manufacturer's written recommendations for adhesives, sealers, fabrication, and finishing.

2.9 TACKABLE SURFACE

- A. Fabric-Faced Tackable Surface: 1/4-inch- thick, polyester-fabric-faced cork sheet factory laminated to 1/4-inch- thick hardboard backing.
- B. Facing Material: Custom fabric as selected by Architect.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas.
- B. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.

3.2 INSTALLATION

- A. Grade: Install woodwork to comply with requirements for the same grade specified in Part 2 for fabrication of type of woodwork involved.
- B. Assemble woodwork and complete fabrication at Project site to comply with requirements for fabrication in Part 2, to extent that it was not completed in the shop.
- C. Install woodwork level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb (including tops) to a tolerance of 1/8 inch in 96 inches.
- D. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated.
- F. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.

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1. Fill gaps, if any, between top of base and wall with plastic wood filler, sand smooth, and finish same as wood base if finished.
2. Install standing and running trim with no more variation from a straight line than 1/8 inch in 96 inches.

G. Window Stools: Adhere to substrate.

1. Align adjacent solid-surfacing-material and form seams to comply with manufacturer's written recommendations using adhesive in color to match countertop. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
2. Install stools with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.
3. Caulk space between stool and window with sealant specified in Division 7 Section "Joint Sealants."

H. Touch up finishing work specified in this Section after installation of woodwork. Fill nail holes with matching filler where exposed.

3.3 ADJUSTING AND CLEANING

- A. Repair damaged and defective woodwork, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
- B. Clean woodwork on exposed and semi exposed surfaces.

END OF SECTION 06402

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SECTION 08710 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor, Subcontractors and/or suppliers providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 1 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SUMMARY

- A. This Section includes the following:
1. Commercial door hardware for the following:
 - a. Swinging doors.
 2. Cylinders for doors specified in other Sections.
- B. Related Sections include the following:
1. Division 8 Section "Access Doors and Frames" for access door hardware, except cylinders.

1.3 SUBMITTALS

- A. Product Data: Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Samples for Verification: For exposed door hardware of each type, in specified finish, full size. Tag with full description for coordination with the door hardware sets. Submit Samples before, or concurrent with, submission of the final door hardware sets.
1. Samples will be returned to Contractor. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may, after final check of operation, be incorporated into the Work, within limitations of keying requirements.
- C. Product Certificates: For electrified door hardware, signed by product manufacturer.
1. Certify that door hardware approved for use on types and sizes of labeled fire doors complies with listed fire door assemblies.
- D. Qualification Data: For Architectural Hardware Consultant.
- E. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for locks, latches, delayed-egress locks, and closers.

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- F. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include the following:
1. Final hardware schedule, as-built.
 2. Keying schedule.
 3. Product cut sheets for each item installed.
 4. Parts list and numbers for each item installed.
 5. Maintenance information for each item installed.
 6. Name, address and phone number of local representative of each item installed.
- G. Warranty: Special warranty specified in this Section.
- H. Other Action Submittals:
1. Door Hardware Sets: Prepared by or under the supervision of the Architectural Hardware Consultant, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final door hardware sets with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - a. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
 - b. Content: Include the following information:
 - 1) Identification number, location, hand, fire rating, and material of each door and frame.
 - 2) Type, style, function, size, quantity, and finish of each door hardware item. Include description and function of each lockset and exit device.
 - 3) Complete designations of every item required for each door or opening including name and manufacturer.
 - 4) Fastenings and other pertinent information.
 - 5) Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - 6) Explanation of abbreviations, symbols, and codes contained in schedule.
 - 7) Mounting locations for door hardware.
 - 8) Door and frame sizes and materials.
 - 9) List of related door devices specified in other Sections for each door and frame.
 - 10) Name, address and phone number of local representative of each item installed.
 - c. Submittal Sequence: Submit the final door hardware sets at earliest possible date, particularly where approval of the door hardware sets must precede fabrication of other work that is critical in 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 sets.
 2. Keying Schedule: Prepared by or under the supervision of Architectural Hardware Consultant and following Keying Conference, detailing Owner's final keying instructions for locks. Include schematic keying diagram and index each key set to unique door designations.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by lock manufacturer.

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1. Installer's responsibilities include supplying and installing door hardware, and providing a qualified Architectural Hardware Consultant available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.
 2. Installer shall have warehousing facilities in Project's vicinity.
 3. Scheduling Responsibility: Preparation of door hardware and keying schedules.
 4. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
- B. Architectural Hardware Consultant Qualifications: A person who is currently certified by DHI as an Architectural Hardware Consultant and who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project.
- C. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.
- D. Fire-Rated Door Assemblies: Where fire-rated door assemblies are indicated, provide door hardware rated for use in assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C, unless otherwise indicated.
- E. Regulatory Requirements: Comply with applicable provisions in 2010 ADA Standards and ICC/ANSI A117.1.
1. Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf.
 2. Comply with the following maximum opening-force requirements:
 - a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf applied perpendicular to door.
 - b. Fire Doors: Minimum opening force allowable by authorities having jurisdiction.
 3. Bevel raised thresholds with a slope of not more than 1:2. Provide thresholds not more than 1/2 inch high.
 4. Adjust door closer sweep periods so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the leading edge of the door.
- F. Keying Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." In addition to Owner, Contractor, and Architect, conference participants shall also include Installer's Architectural Hardware Consultant and Owner's security consultant. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including, but not limited to, the following:
1. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
 2. Preliminary key system schematic diagram.
 3. Requirements for key control system.
 4. Address for delivery of keys.
- G. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." In addition to Owner, Contractor, and Architect, a representative of each major hardware category shall be present to instruct installers on the proper

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installation and adjustment of door hardware. Review methods and procedures related to installation of door hardware including, but not limited to, the following:

1. Inspect and discuss electrical roughing-in and other preparatory work performed by other trades.
2. Review sequence of operation for each type of electrified door hardware.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review required testing, inspecting, and certifying procedures.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification related to the final door hardware sets, and include basic installation instructions, templates, and necessary fasteners with each item or package.
 1. Each item to be individually packaged in manufacturer's original container.
- C. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.6 COORDINATION

- A. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- B. Existing Openings: Where new hardware components are scheduled for application to existing construction or where modifications to existing door hardware are required, field verify existing conditions and coordinate installation of door hardware to suit opening conditions and to provide for proper operation.

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
 1. Failures include, but are not limited to, the following:
 - a. Structural failures including excessive deflection, cracking, or breakage.
 - b. Faulty operation of operators and door hardware.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.
 2. Warranty Period: One year from date of Substantial Completion, except as follows:
 - a. Exit Devices: Three years from date of Substantial Completion.
 - b. Manual Closers: 10 years from date of Substantial Completion.
 - c. Hinges: Lifetime.

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1.8 MAINTENANCE SERVICE

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

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in this Section, door hardware sets indicated in door and frame schedule, and door hardware sets indicated in Door Schedule.
- B. Designations: Products are identified by descriptive titles corresponding to requirements specified in Part 2.
- C. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.2 HINGES

- A. Butts and Hinges: Listed under Category A in BHMA's "Certified Product Directory."
- B. Manufacturers:
 - 1. Ingersol Rand, Inc.
 - 2. Hager Companies.
 - 3. McKinney Products Company; an ASSA ABLOY Group company.
 - 4. Sargent.
 - 5. Stanley Commercial Hardware; Div. of The Stanley Works.
- C. Template Hinge Dimensions: BHMA A156.7.
- D. Quantity: Provide the following, unless otherwise indicated:
 - 1. Three Hinges: For doors with heights 61 to 90 inches.
 - 2. Four Hinges: For doors with heights 91 to 120 inches.
- E. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.

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- F. Hinge Weight: Unless otherwise indicated, provide the following:
1. Entrance Doors: Heavy-weight hinges.
 2. Doors with Closers: Antifriction-bearing hinges.
 3. Interior Doors: Standard-weight hinges.
- G. Hinge Base Metal: Unless otherwise indicated, provide the following:
1. Exterior Hinges: Stainless steel, with stainless-steel pin.
 2. Interior Hinges: Steel, with steel pin.
 3. Hinges for Fire-Rated Assemblies: Steel, with steel pin.
- H. Hinge Options: Where indicated in door hardware sets or on Drawings:
1. Nonremovable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for outswinging exterior doors and all doors with card reader access.
 2. Corners: Square.
- I. Fasteners: Comply with the following:
1. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.
 2. Wood Screws: For wood doors and frames.
 3. Threaded-to-the-Head Wood Screws: For fire-rated wood doors.
 4. Screws: Phillips flat-head. Finish screw heads to match surface of hinges.
- J. Antifriction-Bearing, Full-Mortise (Butt) Hinges: BHMA A156.1, heavy weight; Grade 1, with 4 ball bearings; button tips; nonremovable pins; and base metal as follows:
1. Base Metal: Stainless steel.
 2. Provide at exterior doors, unless otherwise indicated.
- K. Antifriction-Bearing, Full-Mortise (Butt) Hinges: BHMA A156.1, heavy weight; Grade 2, with 2 ball bearings; button tips; nonrising removable pins; and base metal as follows:
1. Base Metal: Steel.
 2. Provide at interior doors.

2.3 MECHANICAL LOCKS AND LATCHES

- A. Lock Functions: As indicated in door hardware schedule.
- B. Lock Trim:
1. Levers: Pressure cast zinc and through-bolted with a 2-piece spindle.
 - a. Provide tactile warning at hazardous locations.
 2. Escutcheons (Roses): Solid brass plated to match lever finish.
 3. Dummy Trim: Match lever lock trim and escutcheons.
 4. **Lockset Design: Sparta.**

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5. **Finish: Satin Nickel 619.**
- C. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:
1. Bored Locks: Minimum 1/2-inch latchbolt throw.
- D. Rabbeted Meeting Doors: Provide special rabbeted front and strike on locksets for rabbeted meeting stiles.
- E. Backset: 2-3/4 inches, unless otherwise indicated.
- F. Strikes: Manufacturer's standard strike with strike box for each latchbolt or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, and as follows:
1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
 2. Aluminum-Frame Strike Box: Manufacturer's special strike box fabricated for aluminum framing.
- G. Bored Locks: BHMA A156.2; Grade 1; Series 4000.
1. Basis-of-Design Product: Subject to compliance with requirements, provide **Schlage Commercial Lock Division, an Ingersoll-Rand Company; ND Series** or comparable product by one of the following:
 - a. Best Access Systems, Div. of the Stanley Works.
 - b. Corbin Russwin Architectural Hardware, an ASSA ABLOY Group company.
 - c. SARGENT Manufacturing Company, an ASSA ABLOY Group company.

2.4 EXIT DEVICES

- A. Exit Devices: BHMA A156.3, Grade 1.
1. Basis-of-Design Product: Subject to compliance with requirements, provide **Von Duprin; an Ingersoll-Rand Company; 99 Series**, or comparable product by one of the following:
 - a. Corbin Russwin Architectural Hardware; an ASSA ABLOY Group company; 5000 Series.
 - b. SARGENT Manufacturing Company; an ASSA ABLOY Group company; 80 Series.
 - c. Stanley; Precision Apex
- B. Panic Exit Devices: Listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305.
- C. Outside Trim: Lever with cylinder; material, design and finish to match locksets, unless otherwise indicated.
1. Provide forged or cast escutcheon plates.
- D. Provide the following types of exit devices as scheduled:
1. Rim Exit Devices:

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- a. Type: BHMA A156.3, Type 1, rim.
 - b. Actuating Bar: Push pad.
 - c. Material: Brass, Bronze, Stainless steel or Aluminum.
 - d. Finish: Dull chromium, 626.
2. Push Pad: Extend push pad a minimum of one-half of the door width. Provide flush mounted end cap with two-point attachment to the door.
 3. Provide the following for each device:
 - a. Nylon bearings and stainless steel springs.
 - b. Security dead latching feature.
 - c. Spacers as required for flush mounting of mechanism case.
 - d. Glass bead kits for mounting of hardware on glass doors.

2.5 LOCK CYLINDERS

- A. Standard Lock Cylinders: BHMA A156.5; Grade 1; permanent cores that are interchangeable; face finished to match lockset.
 1. Number of Pins: Six.
 2. Type: Bored-lock type.
- B. Permanent Cores: Manufacturer's standard; finish face to match lockset; complying with the following:
 1. Interchangeable Cores: Core insert, removable by use of a special key; usable with other manufacturers' cylinders, employing "restricted keyway."
- C. Construction Keying: Comply with the following:
 1. Construction Cores: Provide construction cores that are replaceable by permanent cores. Provide 12 construction temporary change keys and 2 temporary core control keys.
 - a. Replace construction cores with permanent cores as directed by Owner.
- D. Manufacturer: Same manufacturer as for locks and latches.

2.6 KEYING

- A. Keying System: Factory registered, complying with guidelines in BHMA A156.28, Appendix A. Incorporate decisions made in keying conference, and as follows:
 1. Grand Master Key System: Cylinders are operated by a change key, a master key, and a grand master key.
- B. Keys: Nickel silver.
 1. Quantity: In addition to one extra key blank for each lock, provide the following:
 - a. Cylinder Change Keys: Three.

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- b. Master Keys: Five.
- c. Grand Master Keys: Five.

2.7 KEY CONTROL SYSTEM

- A. Key Control Cabinet: BHMA A156.5, Grade 1; metal cabinet with baked-enamel finish; containing key-holding hooks, labels, 2 sets of key tags with self-locking key holders, key-gathering envelopes, and temporary and permanent markers; with key capacity of 150 percent of the number of locks.
 - 1. Wall-Mounted Cabinet: Cabinet with hinged-panel door equipped with key-holding panels and pin-tumbler cylinder door lock.
- B. Cross-Index System: Single-index system for recording key information. Include three receipt forms for each key-holding hook. Set up by key control manufacturer.
 - 1. Manufacturers:
 - a. HPC KeKab.
 - b. Lund Equipment Co., Inc.
 - c. Telkee, Inc.

2.8 CLOSERS

- A. Surface Closers: BHMA A156.4, Grade 1. Provide type of arm required for closer to be located on non-public side of door, unless otherwise indicated.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide **LCN Closers; an Ingersoll-Rand Company; 4000 Series**, or comparable product by one of the following:
 - a. Norton Door Controls; an ASSA ABLOY Group company; PR7500/PR7700.
 - b. SARGENT Manufacturing Company; an ASSA ABLOY Group company; 281 Series (without PRV).
 - c. Stanley; D4550
- B. Hold-Open Closers/Detectors: Coordinate and interface integral smoke detector and closer device with fire alarm system.
- C. Size of Units: Unless otherwise indicated, comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.
- D. Traditional Surface Closers: Rack-and-pinion hydraulic type; with adjustable sweep and latch speeds controlled by key-operated valves; with forged-steel main arm; enclosed in a cast-aluminum alloy shell; complying with the following:
 - 1. Mounting: Parallel arm, unless otherwise indicated.
 - 2. Type: Regular arm, heavy-duty.
 - a. Provide delayed action closing where indicated.

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3. Backcheck: Adjustable, effective between 60 and 85 degrees of door opening.
 4. Where indicated, closer must operate at 180 degree opening.
 5. Provide all drop plate brackets, shims and angle brackets as required to complete installation of closers on doors and frames.
- E. Coordinators: Consisting of active-leaf, hold-open lever and inactive-leaf release trigger; fabricated from steel with nylon-coated strike plates; with built-in, adjustable safety release; and with internal override.
- 2.9 PROTECTIVE TRIM UNITS
- A. Size: 1-1/2 inches less than door width on push side and 1/2 inch less than door width on pull side, by height specified in door hardware sets.
 - B. Fasteners: Manufacturer's standard machine or self-tapping screws.
 - C. Metal Protective Trim Units: BHMA A156.6; beveled top and 2 sides; fabricated from the following material:
 1. Material: 0.050-inch- thick stainless steel.
 2. Manufacturers:
 - a. Burns Manufacturing Incorporated.
 - b. Hager Companies.
 - c. IVES Hardware; an Ingersoll-Rand Company.
 - d. Rockwood Manufacturing Company.
 - e. Trimco.
 - D. Kick Plates: 12 inches high by door width, with allowance for frame stops.
 - E. Mop Plates: 6 inches high by 1 inch less than door width.
- 2.10 STOPS AND HOLDERS, GENERAL
- A. Basis-of-Design Product: Subject to compliance with requirements, provide products by **IVES Hardware; an Ingersoll-Rand Company**, or comparable product by one of the following:
 1. Burns Manufacturing Incorporated.
 2. Glynn-Johnson; an Ingersoll-Rand Company.
 3. Hager Companies.
 4. Rockwood Manufacturing Company.
 5. Trimco.
 - B. Stops and Bumpers: BHMA A156.16, Grade 1.
 1. Provide wall stops for doors unless floor or other type stops are scheduled or indicated. Do not mount floor stops where they will impede traffic. Where floor or wall stops are not appropriate, provide overhead holders.
 - C. Combination Overhead Stops and Holders: BHMA A156.8, Grade 1.

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- D. Silencers for Metal Door Frames: BHMA A156.16, Grade 1; neoprene or rubber, minimum diameter 1/2 inch; fabricated for drilled-in application to frame.
- E. Wall Bumpers: Polished cast brass or aluminum with rubber bumper; 2-1/2-inch diameter, minimum 3/4-inch projection from wall, with backplate for concealed fastener installation; with concave bumper configuration.
- F. Dome-Type Floor Stops: Polished cast brass, bronze, or aluminum, with rubber bumper; and as follows:
 - 1. Height: Minimum 1 inch high, for doors without threshold, 1-3/8 inches high, for doors with threshold.
 - 2. Riser: Extruded aluminum for carpet installations.

2.11 DOOR GASKETING, GENERAL

- A. Standard: BHMA A156.22.
- B. General: Provide continuous weather-strip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated or scheduled. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.
 - 1. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
 - 2. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
 - 3. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.
- C. Air Leakage: Not to exceed 0.50 cfm per foot of crack length for gasketing other than for smoke control, as tested according to ASTM E 283.
- D. 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 gasketing on 20-minute-rated doors and on smoke-labeled doors.
- E. 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 NFPA 252.
- F. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- G. Gasketing Materials: ASTM D 2000 and AAMA 701/702.
- H. Manufacturers:
 - 1. Hager Companies.
 - 2. National Guard Products.
 - 3. Pemko Manufacturing Co.
 - 4. Reese Enterprises.

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2.12 DOOR GASKETING

- A. Adhesive-Backed Perimeter Gasketing: Gasket material applied to frame rabbet with self-adhesive.
 - 1. Gasket Material: Vinyl bulb.
- B. Door Sweeps: Gasket material held in place by flat metal housing or flange; surface mounted to face of door with screws.
 - 1. Gasket Material: Neoprene.
 - 2. Housing Material: Aluminum.
- C. Automatic Door Bottoms: Gasket material held in place by metal housing that automatically drops to form seal when door is closed; mounted to bottom edge of door with screws.
 - 1. Gasket Material: Sponge neoprene.
 - 2. Housing Material: Aluminum.
 - 3. Mounting: Mortised into bottom of door.
 - 4. Type: Low-closing-force type for doors required to meet accessibility requirements.

2.13 THRESHOLDS

- A. Thresholds: BHMA A156.21; fabricated to full width of opening indicated.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide product by **Pemko Manufacturing Co.** or comparable product by one of the following:
 - a. Hager Companies.
 - b. National Guard Products.
 - c. Reese Enterprises.
- B. Saddle Thresholds: Type and base metal as follows:
 - 1. Type: Fluted top.
 - 2. Base Metal: Aluminum.

2.14 AUXILIARY DOOR HARDWARE

- A. Silencers for Metal Door Frames: Grade 1; neoprene or rubber; minimum diameter 1/2 inch; fabricated for drilled-in application to frame.

2.15 FABRICATION

- A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rated labels and as otherwise approved by Architect.
 - 1. Manufacturer's identification is permitted on rim of lock cylinders only.

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- B. Base Metals: Produce door hardware units of base metal, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18. Do not furnish manufacturer's standard materials or forming methods if different from specified standard.

- C. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.
 - 1. Concealed Fasteners: For door hardware units that are exposed when door is closed, except for units already specified with concealed fasteners. Do not use through bolts for installation where bolt head or nut on opposite face is exposed unless it is the only means of securely attaching the door hardware. Where through bolts are used on hollow door and frame construction, provide sleeves for each through bolt.
 - 2. Steel Machine or Wood Screws: For the following fire-rated applications:
 - a. Mortise hinges to doors.
 - b. Strike plates to frames.
 - c. Closers to doors and frames.
 - 3. Steel Through Bolts: For the following fire-rated applications unless door blocking is provided:
 - a. Surface hinges to doors.
 - b. Closers to doors and frames.
 - c. Surface-mounted exit devices.
 - 4. Spacers or Sex Bolts: For through bolting of hollow-metal doors.
 - 5. Fasteners for Wood Doors: Comply with requirements in DHI WDHS.2, "Recommended Fasteners for Wood Doors."

2.16 FINISHES

- A. Standard: BHMA A156.18, as indicated in door hardware sets.

- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

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PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, 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. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: Comply with DHI A115 Series.
 - 1. Surface-Applied Door Hardware: Drill and tap doors and frames according to ANSI A250.6.
- B. Wood Doors: Comply with DHI A115-W Series.

3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights indicated on Drawings, and in accordance with the Connecticut State Building Code, the 2010 ADA Standards and ICC/ANSI A117.1.
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
- B. Install each door hardware item to comply with manufacturer's 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.
 - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- C. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.
- D. Thresholds: Set thresholds for exterior doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

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3.4 FIELD QUALITY CONTROL

- A. Independent Architectural Hardware Consultant: Owner will engage a qualified independent Architectural Hardware Consultant to perform inspections and to prepare inspection reports.
 - 1. Independent Architectural Hardware Consultant will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - 1. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the leading edge of the door.
- B. Occupancy Adjustment: Approximately three months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust, including adjusting operating forces, each item of door hardware as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.6 CLEANING AND PROTECTION

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

3.7 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 1 Section "Demonstration and Training."

END OF SECTION 08710

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PART 1 - GENERAL

1.0 DESCRIPTION

- A. Provide all labor and materials for surface cleaning, preparation, and application of interior surface coatings; including, but not limited to the following:
 - 1. Preparation and painting of interior surfaces, aluminum frames and doors.
- B. Related Sections include the following:
 - 1. Division 7 Section 07920 - JOINT SEALANTS

1.2 REFERENCES

- A. ASTM D16 - Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.
- B. NPCA (National Paint and Coatings Association) - Guide to US Government Paint Specifications.
- C. AAMA 2605-98 - Voluntary Specification, Performance Requirements and Test Procedures for - SUPERIOR PERFORMING ORGANIC COATINGS ON ALUMINUM EXTRUSIONS AND PANELS

1.3 DEFINITIONS

Conform to ASTM D16 for interpretation of terms used in this Section.

1.4 SUBMITTALS

- A. Product Data: Provide manufacturer's published product data on all exterior coating products including physical properties and performance characteristics
- B. Manufacturer's Installation Instructions: Indicate special surface preparation procedures, and substrate conditions requiring special attention.

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- C. Manufacturer's maintenance instructions.

1.5 FIELD MOCKUPS

- A. Provide field mock-up to illustrate the coating color, texture, and finish.
- B. The Owner and Architect shall review field mockup for acceptability of quality of finish. Accepted area will serve as the standard for the work.
- C. Accepted mockup may remain as part of the Work.

1.6 QUALITY ASSURANCE

- A. Interior coating materials shall be applied evenly in accordance with manufacturer's directions and printed specifications.
- B. Finish surfaces shall conform to AAMA 2605-98, 4.2. "Coating shall be visibly free from flow lines, streaks, blisters or other surface imperfections in the dry-film state on exposed surfaces when observed at a distance of 3m (10 feet) from the metal surface and inspected at an angle of 90 degrees to the surface".
- C. The coating shall be applied to meet the dry-film thickness specification of the manufacturer and per AAMA 2605-98, 4.3
- D. All work shall be subject to acceptance by the owner. The Contractor shall correct Work that does not comply with the specifications.

1.7 QUALIFICATIONS

- A. Manufacturer's Qualifications: Company with at least 10 years of experience specializing in the manufacture of high performance architectural coatings equal to those specified in this section.
- B. Contractor's Qualifications: Window Manufacturer approved specialty contractor with a record of successful in-service performance and application of paints and coatings similar to the material, design, and extent of the work described in this section.

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1. Contractors for the work of this section must submit a successful record of completion for projects of the same scale and nature, including the type of coating system specified herein, to be considered qualified for approval.
 2. Proposed specialty contractors for the work of this section must be submitted for approval to Owner and Architect not less than three (3) business days before the bids due date.
 3. Prior to award of contract, the contractor proposed for the work of this section will be required upon request, to give an oral technical presentation to include the following topics:
 - a. Review of qualifications for company and personnel
 - b. Describe jobs of similar size and type completed in recent years
 - c. Describe process and order that tasks would be performed
 - d. Describe how rigging would be used with safety precautions
 - e. Describe precaution taken to prevent adverse effects caused by the work to façade surfaces
 - f. Describe precautions taken to protect personnel, vehicles and vegetation below
 - g. Describe the chemicals proposed for use and how they will be used and stored
 - h. Describe approach for getting the work done within the time frame specified and the effect of weather on the work
 - i. Describe the level of supervision that will be on the job
 - j. Describe other considerations related to surface treatment now and the effects on maintenance schedules in the future
 - k. Respond to Q & A
- C. Technicians Qualifications: Workers thoroughly skilled and specially trained in the techniques for applying paints and coatings.

1.8 REGULATORY REQUIREMENTS

- A. Conform to applicable federal, state, and local regulatory requirements.
- B. Flammable Liquids: Observe regulations regarding flammable liquids such as posting "No Smoking" signs. Allow no open flames, welding, or other ignition sources in the work area.
- C. Conform to all applicable laws, codes, and regulations for disposal of all materials, debris, and containers.

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- D. Exterior coating materials shall be VOC compliant.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in Manufacturer's original sealed containers with labels intact and legible; inspect to verify acceptability.
- B. Container labels shall include manufacturer's name, type of material, brand name, lot number, brand code and color designation
- C. Store materials at minimum ambient temperature of 45° F and a maximum of 90° F, in ventilated area and as required by manufacturer's storage instructions.
- D. Store flammable materials to protect from fire hazards and spontaneous combustion.
- E. Remove all materials and empty containers from the area of work at the close of each day.

1.10 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply coatings to wet or damp surfaces, or when relative humidity is outside the ranges required by the product manufacturer or when rain is imminent.
- B. Minimum Application Temperatures: 50° F. unless required otherwise by manufacturer's instructions. Minimum temperature shall be maintained at a minimum of 24 hours prior to and 48 hours following application.
- C. Provide additional lighting if needed to illuminate the substrate surface during coating application

1.11 EXTRA MATERIALS

- A. Provide 1 gallon of color and type to Owner.
- B. Label each sealed container with color, type, texture, etc

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers:

1. PPG Industries, Inc.

B. Substitutions: refer to Section 2.3 - Product Requirements

2.2 MATERIALS

- A. Paint Coatings: Product designed for field application containing uniformly dispersed pigments in a homogeneous coating with good flow properties; capable of air-drying or curing free of discoloration
- B. Materials shall not be altered except for reducing in accordance with the recommendations of the manufacturer
- C. Colors: All paints colors shall be custom tinted by the manufacturer for each finish product specified as selected by the Owner.

2.3 PAINT SCHEDULE

- A. Existing Metal: Factory finished aluminum
B. Color: Match - Benjamin Moore HC-156 Van Deusen Blue

1. Prime Coat: PPG Bonding primer as recommended
2. Finish Topcoat: PPG Coraflon ADS - high performance, fluoropolymer, VOC compliant topcoat finish system

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

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- B. Examine surfaces scheduled to be finished before commencement of work Report any condition that may potentially affect proper application.

3.2 PREPARATION - SURFACES TO RECEIVE PAINT FINISH

- A. Surface Appointments: Remove or mask electrical plates, hardware, light fixtures, trim, escutcheons, and fittings prior to preparing surfaces or finishing. Store and protect from damage and reinstall after completion of the work.
- B. Surfaces: Clean all exterior surfaces to be coated of all dirt, dust, oil, grease, oxidized, loose and scaling paint, mildew, rust on metal and other foreign matter. Do not apply coating over existing caulking or joint sealants. To the extent possible, apply the coating system into the joint slot where sealants have been removed before the application of new joint sealants.
- C. Remove all portions of existing coatings that exhibit loose surface defects.
- D. Metal Surfaces: Remove contamination and solvent washing. Apply primer following cleaning as quickly as possible.
- E. Prepare substrate in accordance with manufacturer's application instructions

3.3 APPLICATION

- A. Apply products in accordance with manufacturer's instructions
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry as required before next coat is applied.
- C. Batch-mix multiple containers of a single color to assure a continuous balance of ingredients.
- D. Clean surfaces free of loose particles using a tack cloth just prior to applying coatings.
- E. Allow applied coat to dry before next coat is applied.

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3.4 FIELD QUALITY CONTROL

Contractor shall field inspect the work upon initial completion. All non-complying work shall be corrected as required.

3.5 PROTECTION

- A. Protect all adjacent materials and surfaces including landscaping and roofing from damage during all work including cleaning, preparation, and application of exterior coating materials. Notify Site manager of any on-site or adjacent property such as parked vehicles, bicycles, landscaping, etc, which may be damaged from coating operations overhead. Provide protection of grade-level horizontal surface to the extent possible.
- B. Contractor shall replace all materials in kind that are damaged during work of this section.
- C. Touch-up and restore damaged or defaced coated surfaces that occur as a result of the work of this section.

3.6 CLEANING

- A. Remove spills and overspray from adjacent surface.
- B. Legally dispose of debris in accordance with local, state, and federal regulations.

END OF SECTION

#1216

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SECTION 10523 - FIRE EXTINGUISHERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor, Subcontractors and/or suppliers providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 1 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SUMMARY

- A. Section Includes the following:
 - 1. Portable fire extinguishers.
 - 2. Fire Extinguishers Cabinets
 - 3. Fire Extinguishers Mounting Brackets

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for fire extinguishers, cabinets and mounting brackets.
- B. Product Schedule: For fire extinguishers. Coordinate final fire protection cabinet with fire extinguisher locations indicated on the drawing to ensure proper fit and function. Use same designations indicated on Drawings.
- C. Maintenance Data: For fire extinguishers to include in maintenance manuals.
- D. Warranty: Sample of special warranty.

1.4 QUALITY ASSURANCE

- A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."
- B. Fire Extinguishers: Listed and labeled for type, rating, and classification.
 - 1. Provide fire extinguishers approved, listed, and labeled by UL.

1.5 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within specified warranty period.

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1. Failures include, but are not limited to, the following:
 - a. Failure of hydrostatic test according to NFPA 10.
 - b. Faulty operation of valves or release levers.
2. Warranty Period: Six years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

- A. Fire Extinguishers: Type, size, and capacity for each fire protection cabinet and mounting bracket indicated.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. J. L. Industries, Inc.; a division of Activar Construction Products Group.
 - b. Larsen's Manufacturing Company.
 - c. Potter Roemer LLC.
 2. Valves: Manufacturer's standard.
 3. Handles and Levers: Manufacturer's standard.
 4. Instruction Labels: Include pictorial marking system complying with NFPA 10, Appendix B.
- B. Multipurpose Dry-Chemical Type in Steel Container: UL-rated 4-A:60-B:C, 10-lb. nominal capacity, with monoammonium phosphate-based dry chemical in enameled-steel container.

2.2 MOUNTING BRACKETS

- A. Mounting Brackets: Manufacturer's standard steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with plated or red baked-enamel finish.
- B. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated by Architect.
 1. Identify bracket-mounted fire extinguishers with the words "FIRE EXTINGUISHER" in red letter decals applied to mounting surface.
 - a. Orientation: Vertical.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine fire extinguishers for proper charging and tagging.

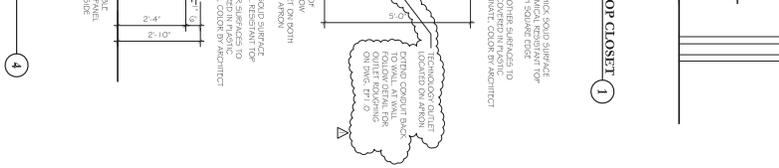
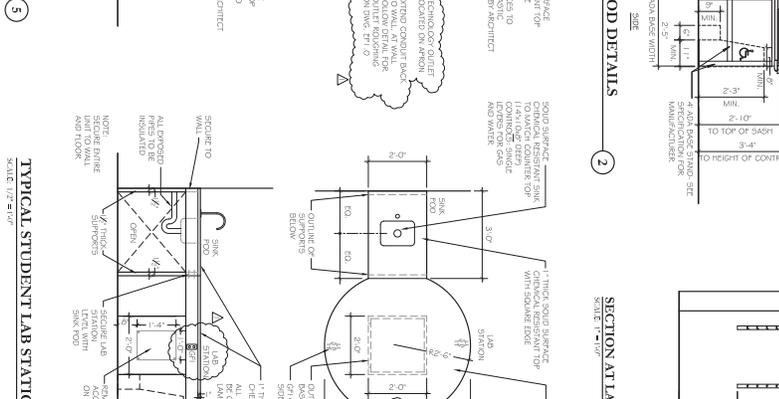
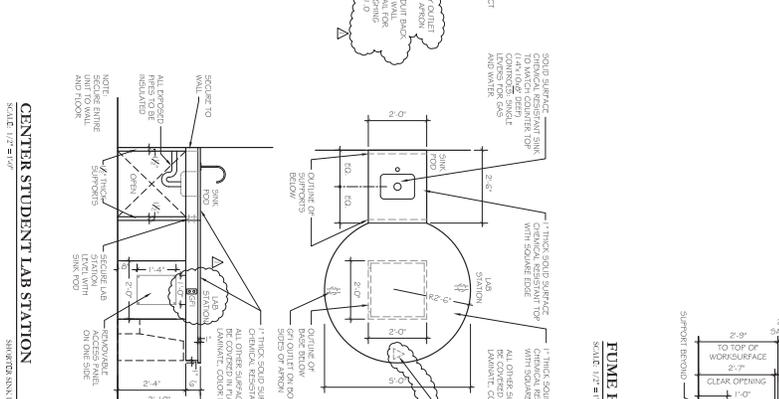
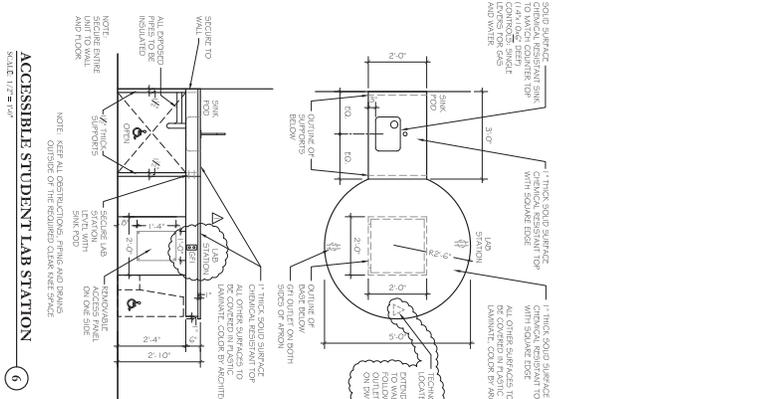
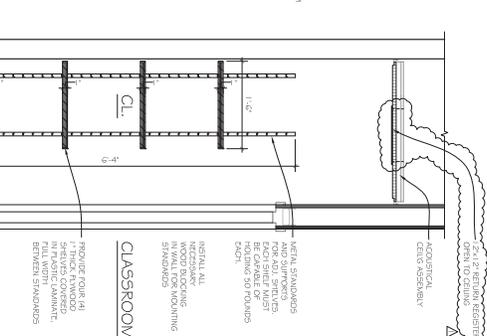
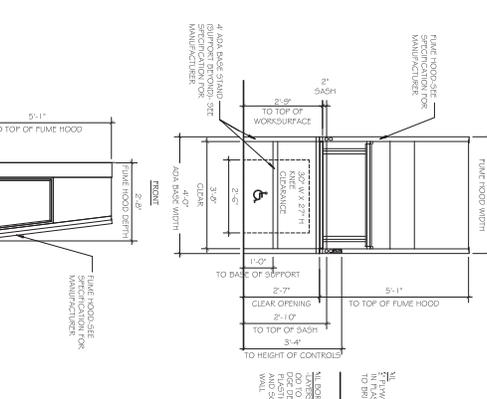
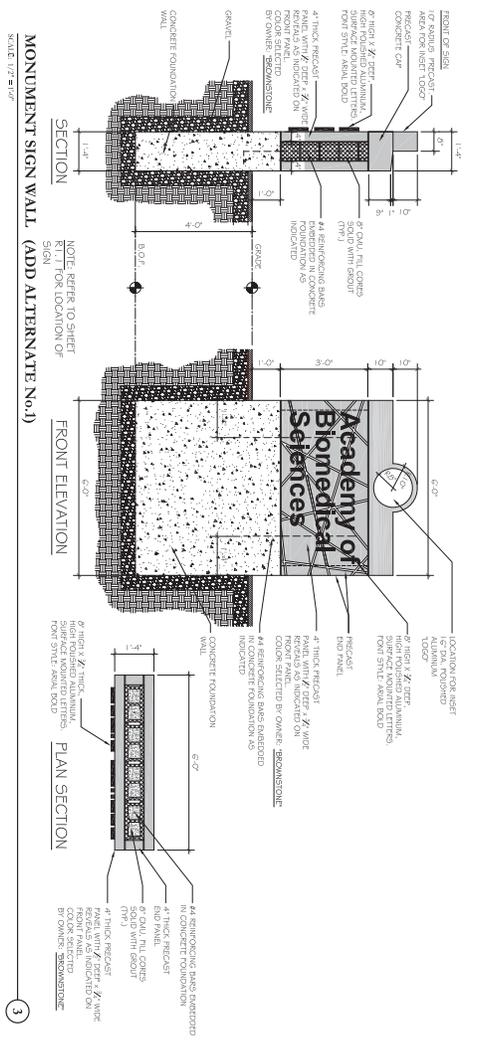
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1. Remove and replace damaged, defective, or undercharged fire extinguishers.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

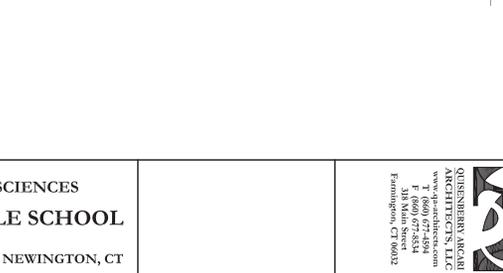
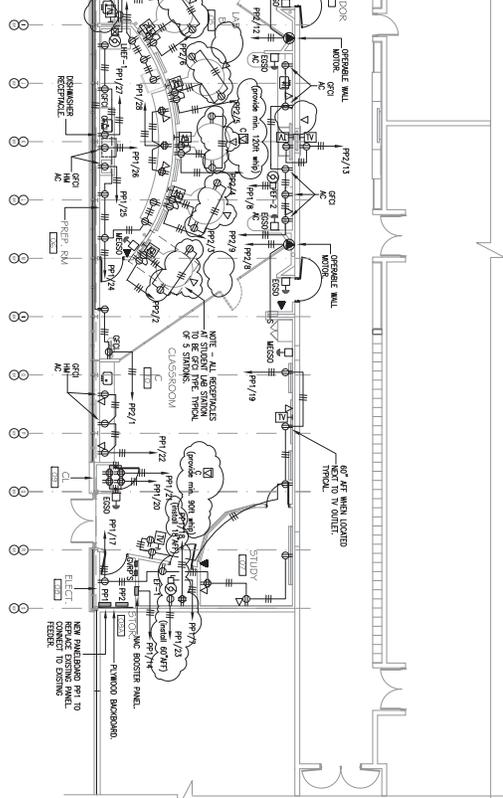
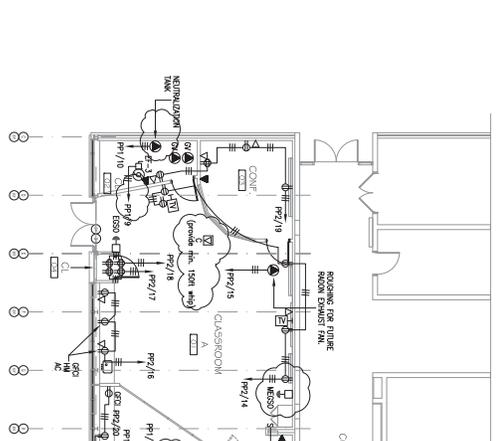
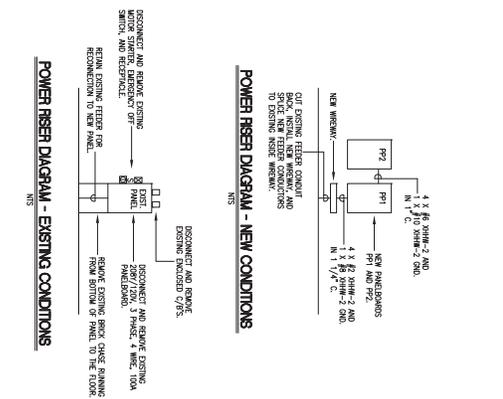
3.2 INSTALLATION

- A. General: Install fire extinguishers and mounting brackets in locations and at mounting heights indicated.
- B. Install fire extinguishers and mounting brackets in locations indicated and in compliance with requirements of authorities having jurisdiction.
 1. Mounting Brackets: 48 inches above finished floor to top of fire extinguisher.
 2. Fasten mounting brackets to surfaces, square and plumb, at locations indicated.
- C. Identification: Apply decals at locations indicated.

END OF SECTION 10523

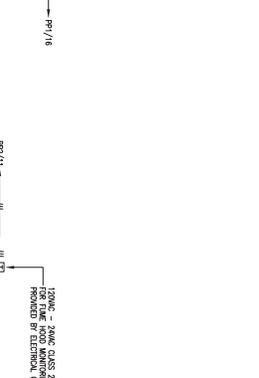
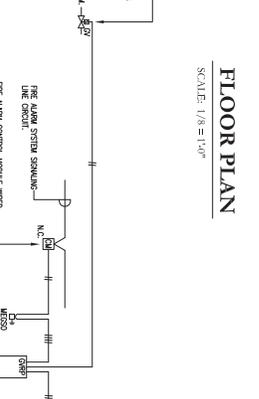
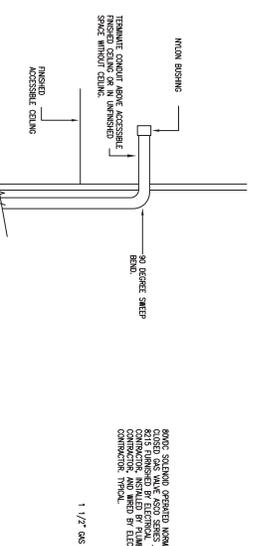


 <p> GUNSHERRY AR&A ARCHITECTS, LLC www.gunsherry.com 1 (860) 577-4300 1000 Park Street Farmington, CT 06032 </p>	ACADEMY OF BIOMEDICAL SCIENCES MARTIN KELLOGG MIDDLE SCHOOL 155 HARDING AVENUE NEWINGTON, CT	
	State Project #: 094-4001A Date: March 14, 2014 Architect: A6.1	Project #: 094-4001A Drawn by: Jdt Scale: As Shown



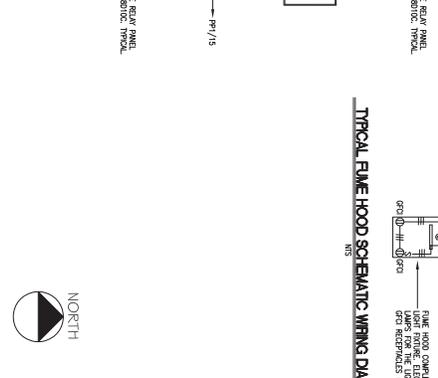
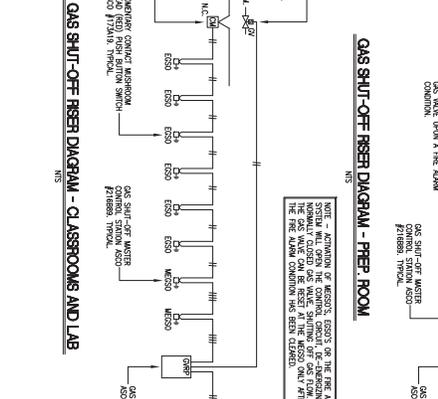
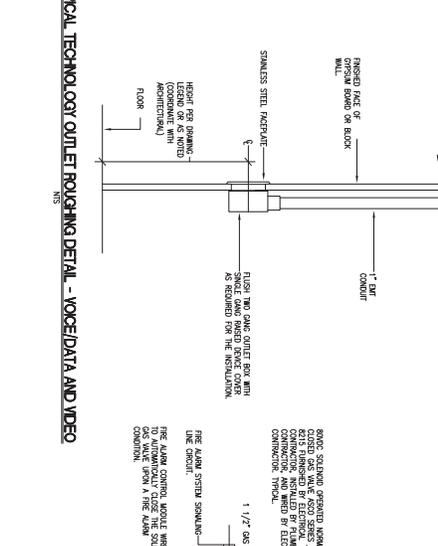
PANEL P101 - OUTLET-SWITCHES TYPE P20, SERVICE 200V/120V.

NO.	DESCRIPTION	QTY	UNIT
1	120V 15A 1P BRK	1	UNIT
2	120V 15A 1P BRK	1	UNIT
3	120V 15A 1P BRK	1	UNIT
4	120V 15A 1P BRK	1	UNIT
5	120V 15A 1P BRK	1	UNIT
6	120V 15A 1P BRK	1	UNIT
7	120V 15A 1P BRK	1	UNIT
8	120V 15A 1P BRK	1	UNIT
9	120V 15A 1P BRK	1	UNIT
10	120V 15A 1P BRK	1	UNIT
11	120V 15A 1P BRK	1	UNIT
12	120V 15A 1P BRK	1	UNIT
13	120V 15A 1P BRK	1	UNIT
14	120V 15A 1P BRK	1	UNIT
15	120V 15A 1P BRK	1	UNIT
16	120V 15A 1P BRK	1	UNIT
17	120V 15A 1P BRK	1	UNIT
18	120V 15A 1P BRK	1	UNIT
19	120V 15A 1P BRK	1	UNIT
20	120V 15A 1P BRK	1	UNIT
21	120V 15A 1P BRK	1	UNIT
22	120V 15A 1P BRK	1	UNIT
23	120V 15A 1P BRK	1	UNIT
24	120V 15A 1P BRK	1	UNIT
25	120V 15A 1P BRK	1	UNIT
26	120V 15A 1P BRK	1	UNIT
27	120V 15A 1P BRK	1	UNIT
28	120V 15A 1P BRK	1	UNIT
29	120V 15A 1P BRK	1	UNIT
30	120V 15A 1P BRK	1	UNIT
31	120V 15A 1P BRK	1	UNIT
32	120V 15A 1P BRK	1	UNIT
33	120V 15A 1P BRK	1	UNIT
34	120V 15A 1P BRK	1	UNIT
35	120V 15A 1P BRK	1	UNIT
36	120V 15A 1P BRK	1	UNIT
37	120V 15A 1P BRK	1	UNIT
38	120V 15A 1P BRK	1	UNIT
39	120V 15A 1P BRK	1	UNIT
40	120V 15A 1P BRK	1	UNIT
41	120V 15A 1P BRK	1	UNIT
42	120V 15A 1P BRK	1	UNIT
43	120V 15A 1P BRK	1	UNIT
44	120V 15A 1P BRK	1	UNIT
45	120V 15A 1P BRK	1	UNIT
46	120V 15A 1P BRK	1	UNIT
47	120V 15A 1P BRK	1	UNIT
48	120V 15A 1P BRK	1	UNIT
49	120V 15A 1P BRK	1	UNIT
50	120V 15A 1P BRK	1	UNIT



PANEL P102 - OUTLET-SWITCHES TYPE P20, SERVICE 200V/120V.

NO.	DESCRIPTION	QTY	UNIT
1	120V 15A 1P BRK	1	UNIT
2	120V 15A 1P BRK	1	UNIT
3	120V 15A 1P BRK	1	UNIT
4	120V 15A 1P BRK	1	UNIT
5	120V 15A 1P BRK	1	UNIT
6	120V 15A 1P BRK	1	UNIT
7	120V 15A 1P BRK	1	UNIT
8	120V 15A 1P BRK	1	UNIT
9	120V 15A 1P BRK	1	UNIT
10	120V 15A 1P BRK	1	UNIT
11	120V 15A 1P BRK	1	UNIT
12	120V 15A 1P BRK	1	UNIT
13	120V 15A 1P BRK	1	UNIT
14	120V 15A 1P BRK	1	UNIT
15	120V 15A 1P BRK	1	UNIT
16	120V 15A 1P BRK	1	UNIT
17	120V 15A 1P BRK	1	UNIT
18	120V 15A 1P BRK	1	UNIT
19	120V 15A 1P BRK	1	UNIT
20	120V 15A 1P BRK	1	UNIT
21	120V 15A 1P BRK	1	UNIT
22	120V 15A 1P BRK	1	UNIT
23	120V 15A 1P BRK	1	UNIT
24	120V 15A 1P BRK	1	UNIT
25	120V 15A 1P BRK	1	UNIT
26	120V 15A 1P BRK	1	UNIT
27	120V 15A 1P BRK	1	UNIT
28	120V 15A 1P BRK	1	UNIT
29	120V 15A 1P BRK	1	UNIT
30	120V 15A 1P BRK	1	UNIT
31	120V 15A 1P BRK	1	UNIT
32	120V 15A 1P BRK	1	UNIT
33	120V 15A 1P BRK	1	UNIT
34	120V 15A 1P BRK	1	UNIT
35	120V 15A 1P BRK	1	UNIT
36	120V 15A 1P BRK	1	UNIT
37	120V 15A 1P BRK	1	UNIT
38	120V 15A 1P BRK	1	UNIT
39	120V 15A 1P BRK	1	UNIT
40	120V 15A 1P BRK	1	UNIT
41	120V 15A 1P BRK	1	UNIT
42	120V 15A 1P BRK	1	UNIT
43	120V 15A 1P BRK	1	UNIT
44	120V 15A 1P BRK	1	UNIT
45	120V 15A 1P BRK	1	UNIT
46	120V 15A 1P BRK	1	UNIT
47	120V 15A 1P BRK	1	UNIT
48	120V 15A 1P BRK	1	UNIT
49	120V 15A 1P BRK	1	UNIT
50	120V 15A 1P BRK	1	UNIT



**ACADEMY OF BIOMEDICAL SCIENCES
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POWER PLAN

Sheet Description: 0944001 A
Date: March 16, 2014
Rev: March 26, 2014

Scale: 1/8" = 1'-0"

Project: Biomedical Sciences
Drawing: Power Plan
Date: 03/10/14

Scale: 1/8" = 1'-0"

Project: Biomedical Sciences
Drawing: Power Plan
Date: 03/10/14

Scale: 1/8" = 1'-0"

Project: Biomedical Sciences
Drawing: Power Plan
Date: 03/10/14

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EP1.0

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