OFFICE OF COUNTY MAYOR GLENN JACOBS

Procurement Division, 1000 N. Central Street, Suite 100, Knoxville, TN 37917

Knox County Procurement Division
Addendum I to Invitation for Bid 3488
Construction of the Hardin Valley Academy Addition

Addendum Date: **December 6, 2023** **Buyer:** **Ben Sharbel**

Opening Date: **December 12, 2023 at 4:00 PM** **Total Page(s):** **Twenty-nine (29)**

Notes and Clarifications:

1. Please see Addendum I from Cope Architecture.

End of Addendum I.

Ben Sharbel, CPPO, CPPB
Supervisor of Property Development & Asset Management
Knox County Procurement Division

cope
ARCHITECTURE

JAMES JOSEPH HINTON
REGISTERED ARCHITECT
AGRICULTURE
COMMERCE
No. 101903
STATE OF TENNESSEE
12/5/2023

KNOX COUNTY SCHOOLS -
ADDITION TO HARDIN VALLEY ACADEMY
BID 3488

ADDENDUM No. 1
December 5, 2023

This Addendum forms a part of the Contract Documents and modifies the original Construction Documents dated October 23, 2023. Work not specifically deleted, modified, changed, or altered by this Addendum shall remain in full effect as part of the original Contract Documents. All changes, modifications and clarifications listed here-in shall be included in the scope of the Work as if part of the original contract documents.

Bid Date & Time
Bid Date and Time remain ***unchanged*** – Tuesday, December 12, 2023 at 4:00 p.m.

Pre-Bid Meeting Attendees
Refer to the attached "Sign-Up Sheet for Bid 3488", provided by Knox County Procurement.

Bidders' Questions:

1.1 Building Permit Fees: Per Doug Shover of Knox County Schools, no building permit fees will be charged.

1.2 Pre-Cast Concrete Question regarding Specification paragraph 1.6 requirement for PCI-Certified Field Auditor: The Structural Engineer of Record has waived this requirement.

1.3 Window Type Designation @ Gen Ed Classroom 101 – Floor Plan vs Elevations: Drawing 2/A400 correctly shows this Window as a Type 'A' window.
Bids are to be based on providing a Type A window at Gen Ed Classroom 101.

1.4 Safety and Security Film re: Window Glazing Warranty: No recent previous Knox County Schools projects have had any issue with obtaining window warranties when ballistic window film has been applied. Furthermore, safety requirements dictate that all ground-level glazing is to receive the ballistic film. However, relying solely on hurricane resistant windows will not work, as not all ground floor classrooms are to receive hurricane resistant windows - only classrooms in the hurricane shelter portion of the new construction are to receive hurricane-resistant windows.
Bids are to be based on all ground floor windows and aluminum/glass doors/sidelites/transom panels receiving the ballistic window film.

1.5 Ceiling Tiles Specifications 09 51 13 – Tile Type Question: The specified Armstrong tile #1910 is to be provided, as it is the standard ceiling tile at the school. An alternate manufacturer's 15/16" grid may be submitted for review and consideration once the project is under contract, but the specified Armstrong grid is to be bid.
Bids are to be based on the specified Armstrong #1910 tile and Armstrong 15/16" grid.

1.6 Kitchen Hoods Question and Manufacturer/Model Number: 1) Per Doug Shover of Knox County Schools, residential grade hoods are allowable for use in the teaching classroom containing the range/stove. The specified StoveTop FireStop rangehood fire suppression cannisters remain a requirement. 2) A Broan Nu-Tone RL6300, Broan BUEZ2, or similar models by General Electric or Westinghouse are acceptable.
Bids are to be based upon a Broan RL6300 or better model kitchen exhaust hood.

Bidders' Questions (cont'd.):

1.7 Wire Moulding Extent/Location(s) & Usage(s) Questions:

A. "Must everything be in single compartment moulding, or is 2 compartment moulding that carries both data and power acceptable?"

B. "Does each device or box need to be run vertically up the ceiling, or is it acceptable to run moulding horizontally along the wall, and run a single vertical up the ceiling at the end of the run?"

C. "If it is acceptable to run horizontally between devices, can this be done at floor level, or does it need to be done at ceiling level with drops at each device?"

RESPONSE: Refer to attached ESG Addendum No. 1 response document and revised electrical drawing E301 R8, both dated December 5, 2023.

1.8 Window & Door Questions:

A. "On sheet A201, in Principal's office # 122B, the storefront is shown as a type "K". However, on sheet A820, type "K" is shown as an exterior double door. I believe the principal's office should have a type "P". Please confirm the storefront elevation to be used in office # 122B?"
RESPONSE: Type "P" door is correct - Refer to attached revised Drawing A201 R8, dated 12/05/2023.

B. "On the door schedule on sheet A800, Door # 151B has the door type called out as "Glazing". It also has a blank space in the column for Door type. Every other door on the project is called out as either SCWD, ALUM, or HM. Please confirm if the door leaves of Door # 151B should be aluminum with full glass. If not, please provide information on the door leaves."
RESPONSE: Door # 151B has been indicated as aluminum frame & door with door glass. Refer to attached revised Drawing A800 R8, dated 12/05/2023.

C. "On sheet A800, Door # 122A is shown to be an aluminum storefront with an aluminum door, but is also shown to have a 20 min rating. Aluminum doors in storefronts are not able to achieve a 20 min rating as specified. In order to achieve a 20 minute rating while maintaining the appearance of an aluminum storefront, you must use a different product by TGP or similar which is actually a steel frame that mimics the look of aluminum. Please confirm if the door must be rated (I believe it will, since this is a rated wall). If so, please advise if this door can be changed to a Hollow Metal frame and door, or provide specifications for a product that will achieve the look of storefront but be rateable to 20 minutes."
RESPONSE: Door 122A has been revised to hollow metal door & frame. Refer to attached revised Drawing A800 R8, dated 12/05/2023.

D. "On the door schedule, Door # 151B indicates a hardware set # 1. Hardware set # 1 appears to apply to a single door, containing 1 hinge, 1 exit device, etc. Please confirm the intent for Door # 151B is to use the materials from Hardware set # 1, but doubled to account for being a double door, or should this use Hardware set # 3, similar to the other double aluminum doors."
RESPONSE: Hardware Set for Door 151B has been revised to Set No. 3. Refer to attached revised Drawing A800 R8, dated 12/05/2023.

Specifications:

1.9 Section 00 00 01 – TABLE OF CONTENTS:

A. The listed specification section has been revised and is hereby RE-ISSUED, footer dated 04 DEC 2023, due to the following:
1. Deletion of Original Sections and Issuance of Revised Sections.

Specifications (cont'd.):

1.10 Section 08 87 23 – SAFETY AND SECURITY FILM:

A. The listed specification section contains a typographical error. Para. 2.2.A should read "3-M Scotch Shield Safety and Security Window Film – Ultra S800."
Bids are to be based upon the sole use of the 3-M Ultra S800 film.

1.11 Section 09 65 13 – RESILIENT BASE & ACCESSORIES:

A. Stair Treads/Risers: Rubber stair treads with integrated risers shall be Tarkett, Angle Fit Rubber Tread Risers, Raised Round Tread/Riser, product number VIRNRDTR, Color #80 'Fawn'. Grit tape and solid color rubber inserts shall be Black in color. Landing tile shall be Smooth.
Bids are to be based upon the Tarkett products specified herein.

1.12 Section 11 30 13 – RESIDENTIAL APPLIANCES:

A. Scope Clarification: With the exception of the range hoods specified under this Section, all other appliances will be Owner-Furnished, Owner-Installed.

1.13 SECTION 12 35 53 – METAL LABORATORY CASEWORK:

A. The listed specification section is hereby deleted, and is being replaced with Section 12 35 53.19 – Wood Laboratory Casework.

1.14 SECTION 12 35 53.19 – WOOD LABORATORY CASEWORK:

A. The listed specification section is a New Section, and is hereby formally Issued, footer dated 04 DEC 2023, for the following reason:
1. Owner directive to match existing wood laboratory casework.
Bids are to be based upon the casework specified under this newly-issued specifications section for Wood Laboratory Casework.

Drawings:
Refer to Items 1.7 and 1.8 above.

Attachments:

Pre-Bid Meeting: Sign-Up Sheet for Bid 3488, undated.

Specifications:
1) Section 00 00 01 – TABEL OF CONTENTS, Revision Dated 04 DEC 2023.
2) Section 12 35 53.19 – WOOD LABORATORY CASEWORK, Issue Dated 04 Dec 2023.

Drawings:
1) Architectural: A201, A800, A820, All Rev 8, all Revision Dated 05 DEC 2023;
2) Electrical: E301 Rev 8, Revision Dated 05 DEC 2023.

END OF ADDENDUM No. 1

PROJECT MANUAL
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END OF SECTION

Connstruction of the Hardin Valley Academy Addition
Sign-up Sheet for Bid 3488

Company Name	Representative	Phone Number	Email Address
Knox County Procurement	Ben Sharbel	865-215-5765	ben.sharbel@knoxcounty.org
Knox County Schools	Doug Shover		douglas.shover@knoxschools.org
Knox County Schools	Adam Finck		adam.finck@knoxschools.org
Cope Architecture	Scott Webb		swebb@cope-associates.com
Wilson Construction Group, LLC.	Shane Sewell	423-745-0600	shanes@wilsonbuilds.com
Monolith Construction	David Whaley	865-325-0493	Davidw@mcon.us
The Christman Co.	Chuck Mabe	865-546-2440	chuck.mabe@christmanco.com
BurWil	Jason Dowalter	865-315-3315	jdowalter@burwil.com
Nixon Power Services	Colin Turnbull	615-663-8628	cturnbull@nixonpower.com
GCE Construction	Tim Gaylor	423-201-9836	tim@gceco.net
Jenkins & Stiles, LLC.	Stacey Poole	865-671-0130	spoole@jenkinsstiles.com
Merit Construction, Inc.	Buddy Heins		bneins@meritconstruction.com
Merit Construction, Inc.	Drew Degges	865-337-1885	ddegges@meritconstruction.com
Merit Construction, Inc.	Tommy Cutcher	865-804-6171	tcutcher@meritconstruction.com
Stonhard	Gregg Moore	865-209-2560	gmoore@stonhard.com

SECTION 12 35 53.19

WOOD LABORATORY CASEWORK

PART 1 - GENERAL

1.01 SUMMARY

A. The following specifications for Wood Laboratory Casework and related equipment outline the minimum requirements expected by the Owner and Architect on this project.

B. Section Includes:

1. Furnishing, delivering to the building, uncrating, setting in place, leveling, and anchoring all casework, countertops, equipment, and technical products listed in the specifications, equipment schedule or shown on the drawings.
2. Furnishing and installing filler panels and scribes as required for finished installation.
3. Furnishing laboratory service fixtures and fittings, as described in the specifications, equipment list or shown on the drawings, that are directly attached to the casework or equipment, complete with tank nipples and lock nuts for mounting on tops or curbs. Installation and final connections will be by other respective trades as part of their work.
4. Furnishing laboratory sinks and cup sinks, complete with threaded sink outlets, and required overflows, plugs, and strainers as described in the specifications, equipment list or shown on the drawings. Installation and final connections will be by other respective trades as part of their work.
5. Furnishing electrical service fixtures, as described in the specifications, equipment list or shown on the drawings, that are directly attached to the casework or equipment. Installation and final connections will be by other trades as part of their work.
6. Removal of all debris, dirt, and rubbish accumulated as a result of installation of this equipment, to an onsite container provided by others.

1.02 RELATED DIVISIONS AND SECTIONS

A. Section 06 10 00 – Rough Carpentry: Grounds/blocking provided within metal stud walls to adequately support wall mounted casework provided and installed in this section.

B. Section 09 65 13 – Resilient Base and Accessories: Base molding for laboratory casework provided and installed in this section.

C. Division 22 00 00 – Plumbing: Material and final connections for rough-ins, drain lines, vents, traps, tailpieces, service piping, shut-off valves, adapters, supports, in-line vacuum breakers, thermostatic mixing valves, etc. are provided and installed in this division for laboratory sinks, faucets, service fixtures, emergency showers, and fume hoods that are part of laboratory casework.

1. Laboratory fume hood superstructures are provided with internal service piping pre-piped by Hood manufacturer.

D. Division 22 00 00 – Plumbing: Material and final connections for rough-ins, drain lines, vents, traps, tailpieces, service piping, shut-off valves, adapters, supports, in-line vacuum breakers, thermostatic mixing valves, etc. are provided and installed in this division for laboratory sinks, faucets, service fixtures, emergency showers, and fume hoods that are part of laboratory casework.

1. Laboratory fume hood superstructures are provided with internal service piping pre-piped by Hood manufacturer.

E. Division 23 00 00 – HVAC: Material and final connections for exhaust and supply fans, stacks, ductwork, elbows, supports, dampers, controls, duct collar adapters, etc. are provided in this division for laboratory casework fume hoods.

F. Division 26 00 00 – Electrical: Material and final connections for electrical rough-ins, junction boxes, conduit, wiring, etc. are provided in this division for laboratory casework electrical service fixtures.

1. Laboratory fume hood superstructures are provided with internal electrical conduit and wiring by Hood manufacturer that terminates on top of hood at junction box.

G. Division 27 00 00 – Communications: Voice, audio-video cabling, data and data outlets are provided in this division.

1.03 REFERENCES

A. ADAAG: 2004 Americans with Disabilities Act Accessibility Guidelines; Revised 2010 ADA Standards for Accessible Design.

B. ANSI/ISEA Z358.1-2014: Emergency Eyewash and Shower Equipment.

C. NFPA 30: Flammable and Combustible Liquids Code.

D. NFPA 45: Standard for Fire Protection for Laboratories Using Chemicals.

E. SEFA: Scientific Equipment and Furniture Association Recommended Practices. Desk Reference, 5th Edition, 2014. www.sefalabs.com

1. SEFA 1-2010: Recommended Practices for Fume Hoods.
2. SEFA 2-2010: Recommended Practices for Installation.
3. SEFA 3-2010: Recommended Practices for Work Surfaces.
4. SEFA 7-2010: Recommended Practices for Laboratory Service Fixtures.
5. SEFA 8-W-2014: Recommended Practices for Wood Laboratory Grade Casework.

F. California Air Resources Board; CARB Phase 2 Compliant.

G. ANSI/HPVA HP-1 2009: Hardwood Veneer Core Plywood.

H. ANSI A208.1-2009: Particleboard; Composite Panel.

I. ANSI A208.2-2009: Medium Density Fiberboard (MDF); Composite Panel.

J. UL-1805: Laboratory Fume Hoods.

K. ANSI/ASHRAE 110: Method of Testing Performance of Laboratory Fume Hoods as Manufactured.

1.04 SUBMITTALS

A. Refer to Section 01 33 00 for Submittal Procedures.

B. Shop Drawings: Submit shop drawings showing plans, service rough-Ins, elevations, sections, end views, service chases, countertop details, location and type of sinks and service fixtures, installation details, and location of grounds/blocking within walls for adequate wall cabinet reinforcement.

C. Manufacturer's Data:

1. Provide data indicating compliance with SEFA 8-W-2014, Laboratory Furniture Certificate of Performance Test from SEFA approved, Independent Test Facility.
2. Provide Test Report from SEFA approved, Independent Test Facility, certifying that wood casework finish complies with SEFA 8-W-2014, Chemical Resistance Testing requirements.

D. Selection Samples: Submit one (1) set of manufacturer's standard color chips for wood casework.

1.05 QUALITY ASSURANCE

A. All laboratory casework, including cabinetry, work surfaces, sinks, and accessories, service fixtures and fittings, fume hoods, and technical products should be provided by the Wood Laboratory Casework Manufacturer.

B. Provide certification that laboratory casework shall meet the performance requirements described in SEFA 8-W-2014.

C. Provide certifications required in the specifications with submittal package.

1.06 PROJECT SITE CONDITIONS

A. Building should be enclosed and weather-tight. HVAC system should be operating and maintaining a temperature range of 65-80 deg F with relative humidity range of 30%-50% to maintain acceptable wood casework moisture content, and to prevent problems such as drawers swelling and doors warping.

B. Additional Conditions:

1. Required grounds/blocking in walls for reinforcement of wall-mounted cabinets must be in place.
2. Overhead ductwork, ceiling grid, tile, and light fixtures must be in place.
3. Wet operations should be complete.
4. Painting should be complete.
5. Service lines for water, gas, etc. must be flushed clean of dirt and chips, capped and tested for leaks prior to the Plumber's final connections.
6. Electrical service and lighting should be available in each room where casework will be installed.

1.07 DELIVERY, STORAGE, HANDLING

A. Delivery: Products shall be delivered to the project site in undamaged condition, unloaded by casework installer, distributed to required rooms, unpackaged, and made ready for installation.

B. Storage: If rooms are not ready for installation, store product indoors, in ventilated areas with constant temperature range of 65-80 deg F, and range of relative humidity as noted in 1.06 A. Do not remove wrapping or packaging material.

C. Handling: Use proper moving equipment to unload and distribute equipment and utilize personnel that are experienced in moving furniture and equipment.

D. Waste Disposal: Casework installers shall remove refuse resulting from their casework installation and place in trash container and leave installation site clean and free of debris. Trash container shall be provided by the General Contractor.

1.08 WARRANTY

A. Casework Manufacturer Warranty: Provide written warranty with close-out documents stating that this contractor shall guarantee that all Wood Casework provided on this contract to be free from defects in material and workmanship for a period of one (1) year from the date of substantial acceptance.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. The products of mott Manufacturing, Maxwelton, WV 24957 are specified herein as the standard of quality required on this project. Tel: 304-497-2115.

2.02 MATERIALS

A. General

1. All casework shall be of modern design and shall be constructed in accordance with the recommended practices of the Scientific Equipment and Furniture Association. First class quality casework shall be established by use of modern machinery, tools, fixtures, and skilled workmanship.

2. The following definitions apply to wood laboratory casework units. Size and type of units is indicated on the drawings or equipment list.

   a. EXPOSED SURFACES of casework include exterior surfaces visible after installation when all doors and drawer fronts are closed. Visible surfaces in open cases or behind clear glass doors shall be considered as exposed portions. Back of drawer fronts and panel doors shall be considered as exposed surfaces. Bottoms of wall hung cabinets shall be considered as exposed.
   b. SEMI-EXPOSED SURFACES of casework shall include interior surfaces exposed to view only when opaque doors are open.
   c. UNEXPOSED SURFACES not visible after installation include back rails, top side rails, stretchers, web frames, blocking, components concealed by drawers. Also included is the underside of knee spaces and drawer aprons, as well as tops of 82” high tall cabinets and wall hung cabinets.

B. Casework Materials

   a. Materials used for construction of cabinets, cases and tables as specified herein shall meet or exceed the minimum standards as described. All exterior surfaces exposed to view after installation, and all cabinet interior surfaces shall be White Maple with the exception of back panels behind opaque doors which shall be Hardboard, and drawer boxes which shall be Birch.
   b. All wood or plastic laminate panels made of plywood, particleboard or medium density fiberboard shall be CARB Phase 2 Compliant.
   c. Exposed solid wood: Plain sawn White Maple lumber, Grade FAS or better, clear and free of defects. Lumber shall be air dried, then kiln dried, and tempered to moisture content of 6%-9% before use.
   d. Unexposed solid wood: Other hardwoods may be used that are Grade FAS or better, clear and free of defects, and properly dried, same as exposed solid wood.
   e. Plywood: Hardwood Veneer Core Plywood shall be minimum 3-ply (1/4”), 5-ply (1/2”), 7-ply (3/4”), or 9-ply (1”), with select White Maple, grade A-1, plain sliced, book matched veneer face and back, and shall be ANSI/HPVA HP-1 2009 compliant. Use of other unexposed hardwood veneer is acceptable. Combination core with composite cross bands is acceptable in lieu of veneer core.
   f. Plywood: Composite Core Plywood for cabinet drawer fronts and panel doors shall be 3-ply, 3/4” thick with select White Maple Grade A-1 veneer, whole piece face, and shall be compliant with ANSI A208.1-2009 and/or ANSI A208.2-2009.
   g. Banding: Plywood panels shall be edge banded where specified herein with 3mm solid Maple edge band.
   h. Hardboard: Tempered hardboard shall be 1/4" thick. All hardboard shall be composed of wood fibers and resinous binder compressed under heat and pressure.

i. Glass: Wall Cabinet framed swinging and framed sliding doors shall have 1/8” float glass. Wall Cabinet and Tall Cabinet frameless sliding doors shall have 1/4” float glass with polished edges. Tall Cabinet framed swinging doors shall have 1/4" float glass.

j. Tempered Glass: Tempered safety glass is to be provided where required by code.

2.03 FABRICATION

A. General

1. The Wood Cabinetry selected for this project shall be as follows.
   a. Cabinet Front Style: Standard Type, Red Oak, vertical grain.
   b. Cabinet drawer fronts and panel doors feature a square edge with slight radius, partial overlay style with vertical match grain fronts and Red Oak edge band.
   c. Drawer fronts and panel doors on each cabinet are cut from one (1) Red Oak composite core plywood panel as a MATCHING PAIR/SET.

2. Cabinets, tables, and other units shall be of the size and configuration indicated on the drawings and/or equipment list. Wood cabinetry is bored, doweled, grooved, and rabbeted construction.

3. Base Cabinet Construction:

   a. Cabinet End Panels shall be 3/4", Red Oak veneer core plywood. End panels shall be doweled and glued to top frame members, intermediate rails, and bottoms.
   b. Vertical Partitions are 3/4", Red Oak veneer core plywood.
   c. Exposed or semi-exposed edges of end panels, partitions, bottom panels, and shelves shall be edged with 3mm solid Red Oak edge banding.
   d. Two-Piece Top Frame consists of nominal 1" X 3" solid hardwood front rail, with back edge grooved to receive cross rails, and similar 1” X 3” solid Red Oak back rail, both set flush with cabinet ends, doweled and glued into place.
   e. Top Frame Cross Rails are nominal 1" X 2-1/4" solid hardwood fully housed into front and back rails with tongue and groove joints to form a full four-sided top frame.
   f. Intermediate Rails are provided on all base cabinets between drawer/drawer configurations and drawer/door configurations. Rails are 1” X 3” solid Red Oak with back grooved to receive lock security panels (when panels are required). Rails shall be set flush with cabinet ends, doweled and glued into place.
   g. Bottom Panel shall be 3/4”, manufacturer’s standard hardwood veneer core plywood. Panel shall be set flush with cabinet ends, doweled and glued into place.

h. Back Panel shall be 1/4" thick hardwood plywood when cabinet interior is exposed and 1/4" hardboard when cabinet interior is semi-exposed. Backs are recessed into grooved end panels and secured on all four (4) sides.
i. Recessed Front Toe Rail shall be 4”x 3/4" Red Oak veneer core plywood.
j. Cabinet Shelves shall be 1”, manufacturer’s standard hardwood plywood. Shelves are adjustable on 32mm centers, supported by four (4) nickel- plated steel pin and socket type shelf clips.
k. Security Panels are 1/4" thick hardboard. Panel are to be provided between drawer/drawer and drawer/door base cabinets.

4. Wall Cabinet Construction:

a. Cabinet End Panels shall be 3/4", Red Oak veneer core plywood. End panels shall be doweled and glued to top and bottom panels.
b. Vertical Partitions shall be 3/4", Red Oak veneer core plywood.
c. Exposed or semi-exposed edges of end panels, top and bottom panels, partitions, and shelves shall be edged with 3mm solid Red Oak banding.
d. Top and Bottom Panels shall be 1”, Red Oak veneer core plywood. Panels shall be set flush Red Oak cabinet ends, doweled and glued into place.
e. Back Panel shall be 1/4” Red Oak plywood when cabinet interior is exposed and 1/4" hardboard when interior is semi-exposed. Back panels shall be rabbeted into ends and secured on all (4) sides.
f. Cabinet Shelves shall be 1”, manufacturer’s standard hardwood veneer core plywood. Shelves are adjustable on 32mm centers and supported by four (4) nickel- plated steel pin and socket type shelf clips.
g. Top and Bottom Back Rail shall be 4” x 1/2" hardwood plywood pinned to rear of top and bottom panel.
h. Each wall cabinet will be provided with two (2) heavy-duty, angled steel, mounting brackets screwed to the interior of the rear upper end panels, and shall be used for mounting cabinet through back panel and top back rail into wall structure. See 3.02, C.1.c. for installation method.

5. Drawers and Doors:

a. Drawer Fronts:
   1) STANDARD SERIES - Square Edge Partial Overlay Style.
   2) 3/4", Red Oak composite core plywood and 3mm solid Red Oak edge band with a slight radius.
   3) Drawer fronts and panel doors on each cabinet have vertical match grain cut from one (1) plywood panel as a Matching Front Set.

b. Drawer Box Body:

1) Front, sides, and back are 1/2” thick 9-ply Birch plywood.
2) Concealed chuck and bore joinery with sides glued and pinned to front and back.
3) 1 /4” thick hardboard bottom with white melamine surface.
4) Bottom set in grooves on four (4) sides, hot-melt glued on underside.
5) Drawer box has clear chemical resistant finish.
6) Top edge of box provided with FINISHED TOP CAP to conceal edge of veneer core.

c. Panel Doors – Base Cabinets:

1) STANDARD SERIES: Square Edge Partial Overlay Style.
2) 3/4”, Red Oak composite core plywood and 3mm solid Red Oak edge band with a slight radius.
3) Panel doors and drawer fronts on each cabinet have vertical match grain cut from one (1) plywood panel as a Matching Front Set.

d. Panel Doors – Wall and Tall Cabinets:

1) STANDARD SERIES: Square Edge Partial Overlay Style.
2) 3/4", Red Oak composite core plywood and 3mm solid Red Oak edge band with a slight radius.
3) Panel doors on each cabinet have vertical match grain cut from one (1) plywood panel as a Matching Front Set.

6. Utility Tables:

a. Tables shall be fully framed with 3/4" x 4” radius edged solid Red Oak apron rails with diagonal heavy-duty steel corner braces locked into grooves and screwed with four (4) screws to inner face of rails. Intermediate rails shall be solid hardwood.
b. Table legs shall be properly fitted into position and securely fastened to diagonal corner braces with nut, washer and 3-1/2” x 5/16” carriage bolt, completely running through the leg providing a positive system, whereby bolt can be tightened without depending upon screw holding power of the table legs. Legs shall be 2-1/4” square laminated solid Red Oak, thoroughly glued, and radius edged. Legs shall be equipped with rubber leg shoes, and adjustable nylon glides.
c. Available options, include drawers or book compartments, pedestal legs, leg stretchers, and casters.

2.04 LABORATORY GRADE WOOD FINISH

A. Prior to application of wood finish, component parts shall be carefully sanded and buffed in preparation for the finishing process.

1. Exposed wood surfaces shall receive a stain and sealer coat of synthetic resin. The product is then cured at elevated temperatures. After the sealer coat, the product shall be sanded, wiped clean, and then a double pass coat of chemical resistant synthetic resin shall be applied and cured at elevated temperatures.
2. Semi-exposed surfaces receive sealer coat and a double pass coat of chemically resistant synthetic resin.
3. Unexposed cabinet end panels receive a sealer coat.

B. Cabinet Wood Surface Finish Tests and Evaluation:

1. The final finished wood product shall meet the performance test requirements and evaluations described under Paragraph 8.0 Cabinet Surface Finish Tests found in Section 8-W-2014 of the SEFA Recommended Practices for Laboratory Grade Wood Casework.
2. Paragraph 8.1 Chemical Spot Test and 8.1.1 thru 8.1.3. This Test Procedure describes the testing of a RED OAK wood veneer panel without stain, using forty-nine (49) chemical reagents with each given a final rating system of Level 0, Level 1, Level 2, or Level 3. After testing, panel shall have no more than four (4) Level 3 conditions.
3. Paragraph 8.2 Hot Water Test and 8.2.1 thru 8.2.3. This Test Procedure describes the testing of a RED OAK wood veneer panel without stain, using hot water with no visible effect.
4. The above Test Procedures shall be performed for Wood Casework Manufacturer by an Independent third party, SEFA approved, testing facility.

2.05 CASEWORK HARDWARE AND ACCESSORIES

A. Hinges: Institutional type, ground tip, five-knuckle, with pins of not less than .177” in diameter and leaves of not less than .095" thick. Hinges shall be 2-3/4” long wrought steel with chemical resistant epoxy powder coating. Two (2) hinges shall be provided on doors under 36" in height and three (3) hinges for doors 36" and over. Standard color of epoxy powder coat is Black. Chrome color of powder coat is available option.

B. Pulls: Solid metal, wire type, 4" long mounted with two (2) screws fastened from back. Pulls shall have chemical resistant epoxy powder coating to match hinges. Provide two (2) pulls for drawers over 24" wide. Standard color of epoxy powder coat is Black. Chrome color of powder coat is an available option.

C. Drawer Slides: For standard drawers shall be BHMA A156.9-2010 Grade-1, easily removable, 3/4 extension, epoxy powder coated, cold rolled steel, nylon rollers, side/bottom mount, positive stop. File drawers shall have full extension, zinc plated anochrome finish, ball bearing, side mount slides with lever release.

D. Door Catches: Provide two (2), top and bottom, dual, self-aligning magnetic catches on base and wall cabinet doors, and two (2) heavy-duty magnetic catches on tall cabinet doors.

E. Elbow Catches: Brass with latch held by coiled compressing spring. Catch plates of 16-gauge plated steel. Provide on base and wall cabinets with double doors where locks are specified.

F. Spring Actuated Latch: Latch has 4-5/8" bevel slide bolt with 2-1/4 lbs./in. actuating spring. Provide on tall cabinets with double doors where locks are specified.

G. Leg Shoes: Molded vinyl or rubber, black, coved bottom type.

H. Glass: Type I, Class I, float glass.

I. Tote Trays: High impact molded plastic tray with high gloss.

J. Locks: PROVIDED ONLY IF SPECIFICALLY SHOWN ON DRAWINGS, OR INDICATED ON THE EQUIPMENT LIST, or where included in a product catalog number.

1. Locks are laboratory grade, cylinder cam locks, with 5-disc tumbler mechanism, and a dull chrome-plated face. Tumblers and keys are brass, while plug and cylinder are die cast zinc alloy. Locks are to be equipped with keying control. With the use of a control key, the key core of the lock assembly can be removed and a new key core inserted, changing the entire locking system.

   a. Keying Option - 1: All locks are keyed alike. Each lock is keyed the same as all other locks, and a single key can operate every lock.

   b. Keying Option - 2: Locks are keyed alike per room, but each room different and master keyed. Each lock in a room can be opened with one (1) key, but each room would have a different key, and all rooms can be opened with a single master key. Provide minimum of two (2) master keys per project.

2. When locks are shown on drawings or equipment list, and DESIGNATED AS BEING KEYED DIFFERENT, the following will be provided. Locks are keyed different and master keyed. Each lock is keyed different from all other locks. All locks in this group can be opened with one (1) master key. With keyed different locks, security panels are provided between drawers and between drawers and cupboards.

K. Sliding Doors (Frameless Glass - Wall Cabinets and Tall Cabinets): 1/4" thick float glass with polished edges. Doors operate on metal track applied at top and bottom front horizontal rails of cabinet. Doors easily removable for cleaning. Locks, when indicated, shall be showcase type.

L. Swinging Doors (Framed Glass - Wall and Tall Cabinets): 1/8" thick float glass on wall cabinets and 1/4” thick float glass on tall cabinets. Locks, when indicated, shall be cam type.

M. Sliding Doors (Framed Glass - Wall Cabinets): 1/8" thick float glass. Doors operate in overhead plastic track. Plastic track is applied to bottom and sized to allow cleaning space at each end. Locks, when indicated, shall be plunger bolt type.

2.06 WORK SURFACES, SINKS, AND ACCESSORIES

A. General:
1. Comply with physical and chemical resistance requirements for materials for tops, sinks, and accessories as specified herein and in accordance with SEFA 3-2010 Laboratory Work Surfaces.
2. Provide tops with smooth, clean, exposed surfaces and edges, in uniform plane, free of defects. Provide 4" high x 1" thick back splash and end splash where tops abut walls, or where shown on drawings.
   a. Top sizes: Furnish tops in longest practical lengths, in configuration indicated on the drawings.

B. Work Surfaces:

1. Epoxy Resin Tops: Shall consist of sheets cast from modified epoxy resin and non-asbestos inert fillers; compounded mixture cured and thermoset specifically from formulation to provide exceptional physical and chemical resistance required in medium to heavy duty laboratory environments.
   a. Wall counters shall be monolithic throughout without surface coating application, and shall be flat and 1" thick with 1/8" chamfered exposed edges. Provide drip grooves under all exposed edges. Exposed corners shall be eased slightly for safety. Bond joints of tops and splashes with highly chemical resistant cement with properties and color similar to base material. Standard color is Black.

   b. Minimum Physical Properties and Test Results:

TEST	ASTM	IMPERIAL
Rockwell Hardness	D785-08	109 (M scale)
Density	D792-00	133 (lb/ft3)
Compressive Strength	D695-02	33.5 (kpsi)
Flexural Strength	D790-07	14.9 (kpsi)
Fire Resistance	D635-06	Self-Extinguishing
Water Absorption	D570-98	0.008 (% after 24 hrs)
Linear Thermal Expansion	D696-03	1.37x10-5 (in/in degree F)
Flame Spread Index	E84-06	0.29 (in)
Smoke Developed Index	E84-06	8.71 (in)

   c. Chemical Resistance Tests and Evaluation: Epoxy Resin Tops shall meet the performance test requirements and evaluations described under Paragraph 2.1.1 Chemical/Stain Resistance Test found in Section 3-2010 of the SEFA Recommended Practices for Laboratory Work Surfaces. Epoxy Resin Top material shall be tested using forty-nine (49) Reagents and shall result in no more than four (4) Level-3 conditions.

C. Sinks and Troughs:

1. Epoxy Resin Sinks: Shall be one-piece, molded construction. Sinks to be "drop-in" style with inside corners and bottoms coved for easy cleaning. Standard color of sink is Black.
2. Epoxy Resin Troughs: Trough for Student Tables shall be one-piece, molded construction with integral raised service turrets. Trough to have inside corners and bottoms coved for easy cleaning, and shall have molded raised ribs to facilitate glassware drying. Standard color of trough is Black.

D. Sink Outlets:

1. Epoxy Resin Sinks and Troughs and Fiberglass Sinks shall be provided with 1-1/2" dia. X 3" threaded polypropylene sink outlet with locknut, removable disc strainer, and sink stopper.

2.07 LABORATORY SERVICE FIXTURES, FITTINGS, AND ACCESSORIES

A. Water Faucets and Valves:

1. Provide units that comply with SEFA 7 – 2010, Laboratory Service Fittings Recommended Practices, and also complying with ANSI/ASME 112.18.1-2005 and certified by CSA International under CAN/CSA B.125.1-05.
2. Provide units fabricated from cast or forged red brass unless otherwise indicated.
3. Provide fittings complete with threaded mounting shanks, locknuts, and washers. Include necessary flanges, escutcheons, extension rods, etc.
4. Provide units complying with ADA accessible requirements where indicated on the drawings or equipment list. Provide one (1) faucet with 4" wrist blade handles at ADA sinks.
5. All water faucets shall be provided with aerators unless specifically noted to have serrated hose ends.
6. If serrated hose ends are designated on any water faucets, provide the unit with a vacuum breaker.
7. Water faucets shall have self-contained renewable compression valve units with stainless steel valve seats. Compression unit valve stem shall be sealed with molded TFE stem packing to prevent leakage. Provide color coded index discs.

B. Gas Fixtures:

1. Provide gas fittings in multiple service faucets, deck mounted turrets, or panel mounted flanges with forged brass lever handle, non-removable serrated hose end, color coded index discs, ball valve and INTERNAL CHECK VALVE (except vacuum service).

2. Provide ball valve with chrome plated ball and PTFE seals. Valve handle shall require no more than 5 lbs. of force to operate. Valve shall be factory tested at 125 PSI. Maximum working pressure is 75 PSI.

C. Vandal Resistant Multiple Service Combination Faucets shall be provided with the following construction features.
   1. Goosenecks and faucet risers shall be constructed of minimum 1/2" IPS heavy wall pipe that is sufficient to resist bending and breakage.
   2. Aerators or serrated hose ends shall be of vandal-resistant design.
   3. Index discs shall be tamperproof and cemented in place.
   4. Fittings for laboratory gases shall be provided with ball valve and INTERNAL CHECK VALVE (except vacuum) to prevent back flow into gas system.
   5. Where serrated hose ends are designated, integral vacuum breakers shall be provided, and shall have vandal-resistant brass bonnet and cover screws to prevent removal only by maintenance personnel.
   6. Combination water/gas faucets shall have inlet shanks machined from solid brass bar stock and heavy wall steel pipe.

D. Quality Assurance:

   1. All water faucets and service fixtures shall be fully assembled and factory tested prior to shipment.

E. Faucet and Fixture Finish:

   1. All water faucets and service fixtures shall have BLACK powder coat epoxy finish.

F. Vandal-Resistant Multiple Service Combination Faucets:

   1. WaterSaver Faucet Co. No. VR5300WSA:
      a. Combination cold water-gas fixture
      b. Black powder coat epoxy finish
      c. Color coded nylon handles for cold water
      d. Vandal-resistant features
      e. Wrist blade handles at ADA sinks
      f. Internal check valve in gas fixtures

   2. WaterSaver Faucet Co. No. VR5800WSA:
      a. Combination hot water-cold water-gas fixture
      b. Black powder coat epoxy finish
      c. Color coded nylon handles for hot and cold water
      d. Vandal-resistant features
      e. Wrist blade handles at ADA sinks
      f. Internal check valve in gas fixtures

G. Electrical Fixtures:

   1. Electrical Fixtures that are a part of, or installed in the lab casework shall be approved by the National Board of Underwriters and must conform to city and state building codes.

2. Knock-out boxes when indicated, shall be installed in the lab casework.
3. Receptacles shall be grounded type, 20-amp heavy-duty industrial grade.

2.08 TECHNICAL PRODUCTS LIST

A. The following list describes Technical Products shown on the Plans and/or Equipment List.

PART 3 - EXECUTION

3.01 EXAMINATION

A. The casework contractor shall verify that building conditions have been completed as described in 1.06 A and B which outline building readiness required before casework installation begins.

3.02 INSTALLATION

A. Installer Qualifications: The Installer shall have a minimum of five (5) years of experience installing laboratory casework using professional and accepted trade practices and be familiar with SEFA's Recommended Practices as described in SEFA 2-2010.

B. Coordination: Coordinate the work of this section with regard to installing casework. Cooperate with other trades regarding mechanical and electrical connections to casework that are provided in their work, including final connections to sinks, plumbing fixtures, electrical fixtures, fume hoods, etc.

C. Performance:

1. Casework:
   a. Set base cabinets in place, level, secure to walls or floors as necessary. Install fillers, trim and scribe to walls. Shim as required using concealed shims.
   b. Screw continuous cabinets together with joints flush, tight and uniform.
   c. Secure tall cabinets and wall cabinets to the walls. Secure these cabinets to solid supporting material, utilizing grounds/blocking that is provided in walls in another section of work. Use steel mounting brackets for attachment to walls that are provided in wall and tall cabinets by the manufacturer.

2. Work Surfaces:
   a. Work surfaces shall be installed with nominal 1" overhang on the front and end, unless otherwise indicated on the shop drawings.
   b. Level and shim as necessary. Shims shall generally not exceed 1/8".
   c. Install work surfaces to achieve a uniform alignment of the front edge of the top.

d. Only factory-prepared field joints, located per the shop drawings, shall be permitted.
e. Secure work surfaces to the understructure with adhesive or mechanical fasteners per the manufacturer's recommendations.
f. Provide flush joints not to exceed 1/8" between work surface sections.
g. Grout butt joints with material and method per the manufacturer's recommendation.
h. Backsplashes and end returns shall be secured in place with joints sealed per manufacturer's recommendation.

3.03 ADJUST AND CLEAN-UP

A. Adjust doors and drawers to operate smoothly.

B. Clean casework and touch-up as required.

C. Clean work surfaces.

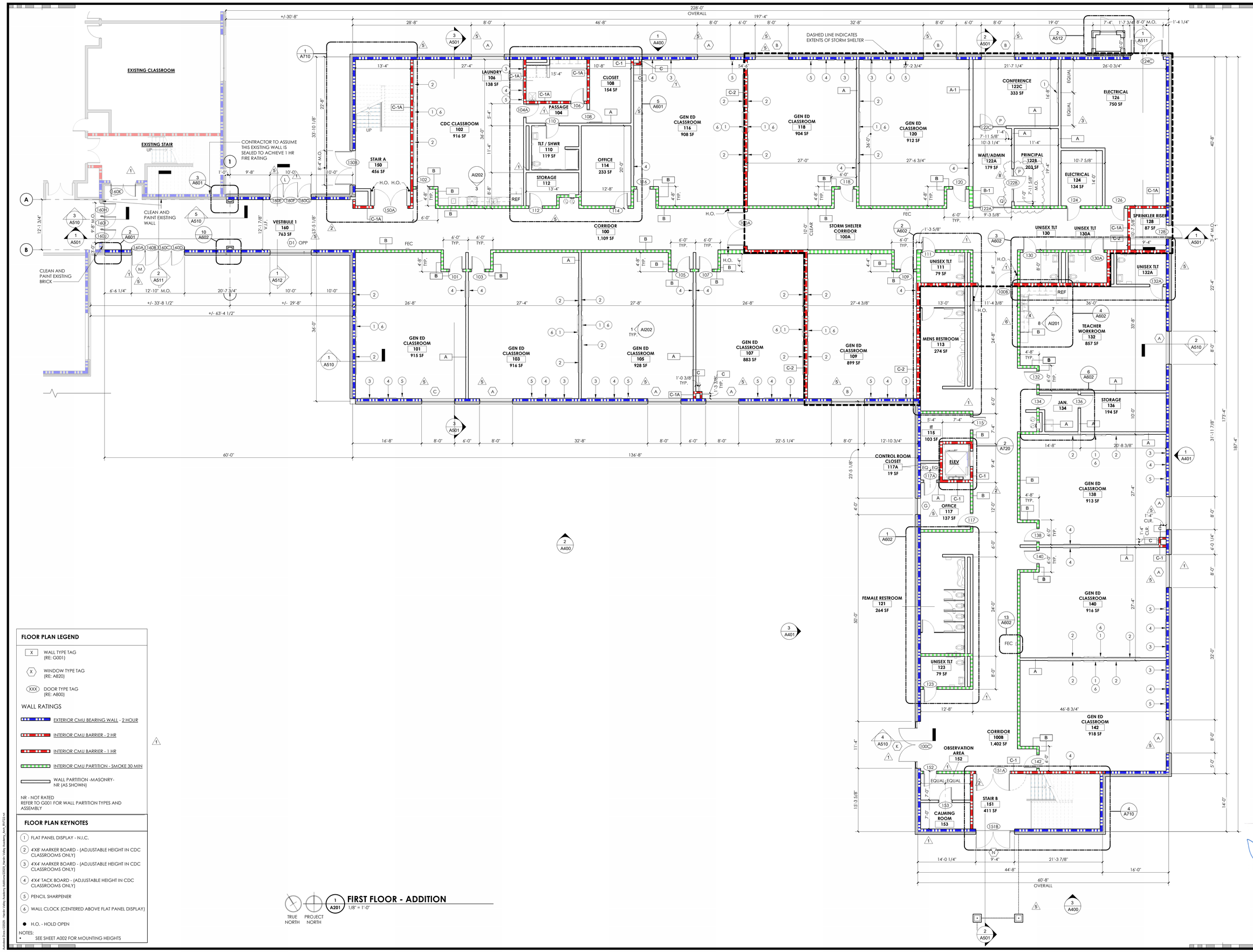
D. Remove all debris, dirt, rubbish, and excess material as a result of the installation of this equipment and leave the site clean and orderly.

3.04 PROTECTION

A. Protect countertops with Kraft paper or cardboard after installation to help prevent damage from other trades.

B. The General Contractor is responsible for protection of casework, work surfaces, and fixtures from damage by work of other trades.

END OF SECTION



FLOOR PLAN LEGEND

- X — WALL TYPE TAG (RE: G001)
- X — WINDOW TYPE TAG (RE: A820)
- XXX — DOOR TYPE TAG (RE: A800)

WALL RATINGS

- EXTERIOR CMU BEARING WALL - 2 HOUR
- INTERIOR CMU BARRIER - 2 HR
- INTERIOR CMU BARRIER - 1 HR
- INTERIOR CMU PARTITION - SMOKE 30 MIN
- WALL PARTITION -MASONRY- NR (AS SHOWN)

NR - NOT RATED
REFER TO G001 FOR WALL PARTITION TYPES AND ASSEMBLY

FLOOR PLAN KEYNOTES

1. FLAT PANEL DISPLAY - N.I.C.
2. 4'X8' MARKER BOARD - (ADJUSTABLE HEIGHT IN CDC CLASSROOMS ONLY)
3. 4'X4' MARKER BOARD - (ADJUSTABLE HEIGHT IN CDC CLASSROOMS ONLY)
4. 4'X4' TACK BOARD - (ADJUSTABLE HEIGHT IN CDC CLASSROOMS ONLY)
5. PENCIL SHARPENER
6. WALL CLOCK (CENTERED ABOVE FLAT PANEL DISPLAY)

● H.O. - HOLD OPEN

NOTES:
• SEE SHEET A002 FOR MOUNTING HEIGHTS

TRUE NORTH PROJECT NORTH

1 A201 FIRST FLOOR - ADDITION
1/8" = 1'-0"

CONSTRUCTION DOCUMENT PACKAGE
ADDITION TO HARDIN VALLEY ACADEMY
11345 Hardin Valley Road • Knoxville, TN 37932

cope ARCHITECTURE
Cope Associates, Inc.
2607 Kingston Pike, Suite 5
Knoxville, Tennessee 37919
tel: 865.594.9000
www.copearchitecture.com

CONSTRUCTION DOCUMENT PACKAGE

FIRST FLOOR PLAN

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REVISIONS

NO.	DATE	DESCRIPTION
1	5/23/23	TSFM / Knox Co Schools
2	6/5/23	TSFM Comments
3	6/16/23	Addendum #1
4	6/21/23	Addendum #2
5	10/23/23	VE Changes
6	10/30/23	TSFM Comments
8	12/5/23	Addendum #1

DATE: 10/23/23

DRAWN BY: SS

JAMES JOSEPH [illegible] REGISTERED ARCHITECT AGRICULTURE ARCHITECTURE ARCHITECTURE ARCHITECTURE ARCHITECTURE NO. 101905 STATE OF TENNESSEE 12/05/2023

DWG NO.
A201

PROJECT NO.
22029

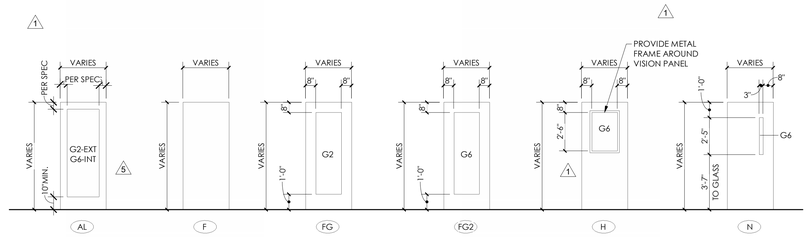
FULL SHEET SIZE: 30"x42"

10/5/2023 3:10:42 PM
Autodesk Docs://22029 - Hardin Valley Academy Addition/22029_Hardin Valley Academy_Arch_W22.rvt

DOOR AND FRAME SCHEDULE

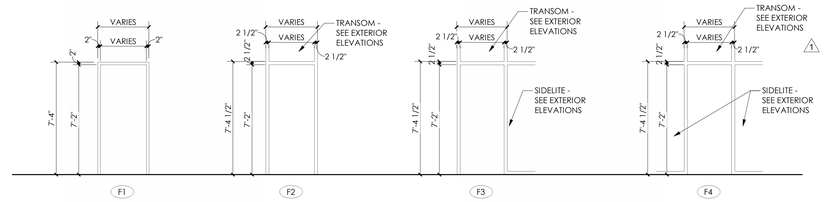
NO.	Width	DOOR PANEL HEIGHT	THK	MAT'L	TYPE	LEAVES	UNDERCUT	FRAME TYPE	FRAME WIDTH	MAT'L	DETAILS HEAD	JAMB	THRESHOLD	FIRE RATING	STORM RATED	HARDWARE SET NO.
FIRST FLOOR																
100A	8'-0"	7'-2"	1 3/4"	HM	F	2		F1	8 5/8"	HM	8/A800	7/A800		90 MIN	YES	7
100B	4'-0"	7'-2"	1 3/4"	HM	F	2		F1	5 3/4"	HM	8/A800	7/A800		90 MIN	YES	7
100C	4'-0"	7'-2"	1 3/4"	ALUM	AL	2		F4	6"	AL	13/A800	12/A800	3/A800			3
101	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
102	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
103	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
104A	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	8 5/8"	HM	8/A800	7/A800				20
105	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
106	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	8 5/8"	HM	8/A800	7/A800		45 MIN		22
107	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
108	3'-0"	7'-2"	1 3/4"	SCWD	F	1	3/4"	F1	8 5/8"	HM	8/A800	7/A800				22
109	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
110	3'-0"	7'-2"	1 3/4"	SCWD	F	1	3/4"	F1	8 5/8"	HM	8/A800	7/A800				17
111	3'-0"	7'-2"	1 3/4"	SCWD	F	1	3/4"	F1	8 5/8"	HM	8/A800	7/A800		20 MIN		16
112	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		12
114	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		12
115	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		13
116	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
117	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		12
117A	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	8 5/8"	HM	8/A800	7/A800				23
118	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
120	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
122A	3'-0"	7'-2"	1 3/4"	SCWD	FG2	1		F4	4"	HM	11/A800	10/A800		20 MIN		14
122B	3'-0"	7'-2"	1 3/4"	ALUM	AL	1		F4	4"	AL	11/A800	10/A800				25
122C	3'-0"	7'-2"	1 3/4"	ALUM	AL	1		F4	4"	AL	11/A800	10/A800				25
123	3'-0"	7'-2"	1 3/4"	SCWD	F	1	3/4"	F1	8 5/8"	HM	8/A800	7/A800		20 MIN		16
124	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	5 3/4"	MTL	8/A800	7/A800		20 MIN		15
124C	7'-8"	7'-2"	1 3/4"	HM	F	2		F3	5 3/4"	HM	2/A800	1/A800	3/A800	90 MIN	YES	5
126	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	5 3/4"	MTL	8/A800	7/A800		20 MIN		26
128	3'-0"	7'-2"	1 3/4"	HM	F	1		F1	5 3/4"	HM	2/A800	1/A800	3/A800	90 MIN	YES	6
130	3'-0"	7'-2"	1 3/4"	SCWD	F	1	3/4"	F1	8 5/8"	HM	8/A800	7/A800		20 MIN		16
130A	3'-0"	7'-2"	1 3/4"	SCWD	F	1	3/4"	F1	8 5/8"	HM	8/A800	7/A800		20 MIN		18
132	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
132A	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	5 3/4"	MTL	8/A800	7/A800		20 MIN		26
134	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		13
136	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	8 5/8"	HM	8/A800	7/A800				13
138	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
140	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
142	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
150A	8'-0"	7'-2"	1 3/4"	HM	F	2		F1	8 5/8"	HM	8/A800	7/A800		90 MIN	YES	9
150B	8'-0"	7'-2"	1 3/4"	HM	F	2		F1	5 3/4"	HM	2/A800	1/A800	3/A800			4
151A	8'-0"	7'-2"	1 3/4"	HM	F	2		F1	8 5/8"	HM	8/A800	7/A800		90 MIN		10
151B	8'-0"	7'-2"	1 3/4"	ALUM	AL	2		F3	5 3/4"	AL	13/A800	12/A800	3/A800			3
152	3'-0"	7'-2"	1 3/4"	SCWD	F	1	3/4"	F1	8 5/8"	HM	8/A800	7/A800		20 MIN		16
153	3'-0"	7'-2"	1 3/4"	SCWD	H	1	3/4"	F1	8 5/8"	HM	8/A800	7/A800		20 MIN		21
160A	3'-0"	7'-2"	1 3/4"	ALUM	AL	4		F2	4"	AL	5/A800	4/A800	3/A800			1
160B	3'-0"	7'-2"	1 3/4"	ALUM	AL	4		F2	4"	AL	5/A800	4/A800	3/A800			2
160C	3'-0"	7'-2"	1 3/4"	ALUM	AL	4		F2	4"	AL	5/A800	4/A800	3/A800			2
160D	3'-0"	7'-2"	1 3/4"	ALUM	AL	4		F2	4"	AL	5/A800	4/A800	3/A800			2
160E	3'-0"	7'-2"	1 3/4"	ALUM	AL	3		F2	4"	AL	5/A800	4/A800	3/A800			1
160F	3'-4"	7'-2"	1 3/4"	ALUM	AL	3		F4	4"	AL	5/A800	4/A800	3/A800			2
160G	3'-0"	7'-2"	1 3/4"	ALUM	AL	3		F4	4"	AL	5/A800	4/A800	3/A800			2
160H	3'-0"	7'-2"	1 3/4"	HM	N	3		F1	8 5/8"	HM	8/A800	7/A800	3/A800	90 MIN		2
160I	3'-0"	7'-2"	1 3/4"	HM	N	3		F1	8 5/8"	HM	8/A800	7/A800	3/A800	90 MIN		2
160J	3'-0"	7'-2"	1 3/4"	HM	N	3		F1	8 5/8"	HM	8/A800	7/A800	3/A800	90 MIN		2
160K	6'-0"	7'-2"	1 3/4"	HM	N	2		F3	5 3/4"	HM	2/A800	1/A800	3/A800	90 MIN		10
SECOND FLOOR																
201A	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
201B	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
202A	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		45 MIN		11
202B	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		45 MIN		11
203A	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
203B	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
204	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
206	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
208	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
209	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
211	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		16
212	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
214	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
215	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		13
216	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
217	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		12
217A	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	8 5/8"	HM	8/A800	7/A800				23
218	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
219	3'-0"	7'-2"	1 3/4"	SCWD	F	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		13
220	3'-0"	7'-2"	1 3/4"	SCWD	N	1		F1	8 5/8"	HM	8/A800	7/A800		20 MIN		11
223	3'-0"	7'-2"	1 3/4"	SCWD	F	1	3/4"	F1	8 5/8"	HM	8/A800	7/A800		20 MIN		16
224	3'-0"	7'-2"	1 3/4"	SCWD	F	1	3/4"	F1	8 5/8"	HM	8/A800	7/A800		20 MIN		15
250	8'-0"	7'-2"	1 3/4"	HM	F	2		F1	8 5/8"	HM	8/A800	7/A800		90 MIN		10
251	8'-0"	7'-2"	1 3/4"	HM	F	2		F1	8 5/8"	HM	8/A800	7/A800		90 MIN		10
252	3'-0"	7'-2"	1 3/4"	SCWD	F	1	3/4"	F1	8 5/8"	HM	8/A800	7/A800		20 MIN		16

2010 ADA STANDARDS 404.2.11 - 3'-7" TO BOTTOM OF GLASS



DOOR PANEL TYPES

1/4" = 1'-0"



DOOR FRAME TYPES

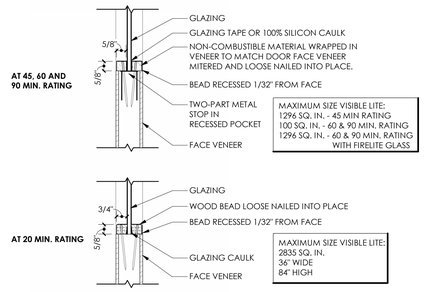
1/4" = 1'-0"

GENERAL DOOR NOTES

1. RATED DOORS MUST HAVE RATED FRAMES, HARDWARE, AND CLOSERS
2. CLOSERS AND POSITIVE LATCHING ARE REQUIRED ON FIRE RATED DOORS
3. EXTERIOR HOLLOW METAL DOORS ARE TO BE GROUT FILLED OR INSULATED.
4. EXTERIOR HOLLOW METAL DOORS AND FRAMES ARE TO BE FACTORY PRIMED AND FIELD PAINTED.

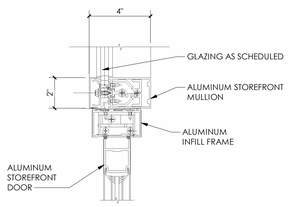
GLAZING TYPES

TYPE MARK	GLAZING DESCRIPTION
G1	1" INSULATED GLAZING
G2	1" INSULATED GLAZING W/3M BALLISTIC FILM
~~G3~~	~~HURRICANE RESISTANT IMPACT LAMINATED GLAZING~~
G4	HURRICANE RESISTANT IMPACT LAMINATED GLAZING W/3M BALLISTIC FILM
G5	1/4" GLAZING
G6	1/4" TEMPERED GLAZING



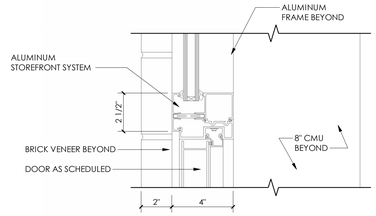
GLAZING DETAILS IN DOOR

3" = 1'-0"



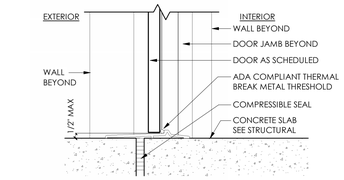
9 A800 ALUMINUM DOOR JAMB AT EXTERIOR SIDELITE

3" = 1'-0"



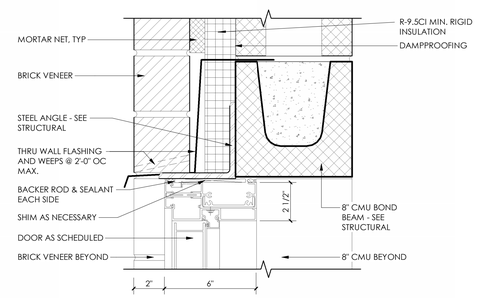
6 A800 ALUMINUM DOOR HEAD/TRANSOM

3" = 1'-0"



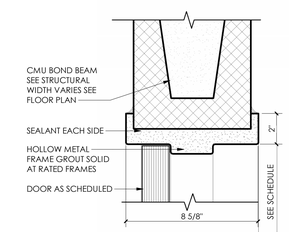
3 A800 EXTERIOR THRESHOLD

1 1/2" = 1'-0"



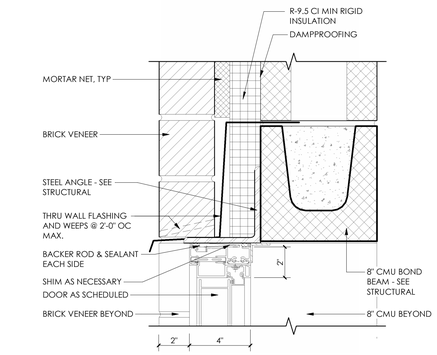
13 A800 ALUMINUM DOOR HEAD AT EXTERIOR (CURTAIN WALL)

3" = 1'-0"



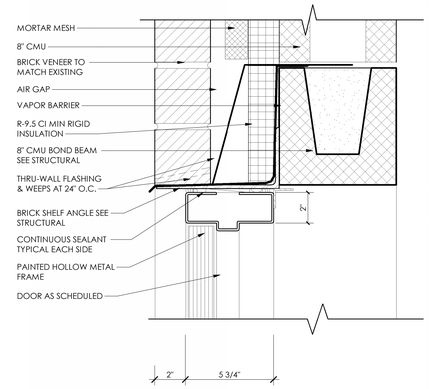
8 A800 HM DOOR HEAD - INTERIOR

3" = 1'-0"



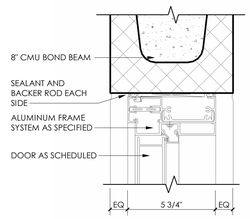
5 A800 ALUMINUM DOOR HEAD AT EXTERIOR

3" = 1'-0"



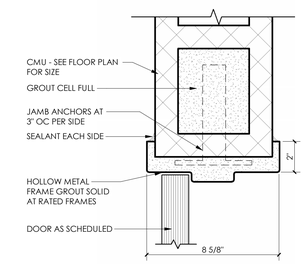
2 A800 HOLLOW METAL DOOR HEAD AT EXTERIOR

3" = 1'-0"



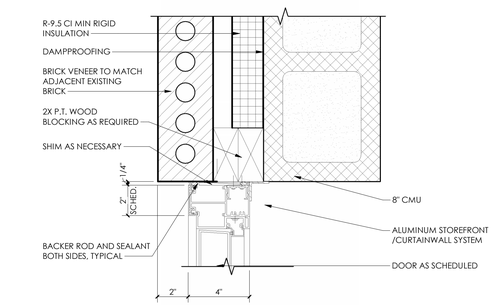
11 A800 ALUM DOOR HEAD - INTERIOR

3" = 1'-0"



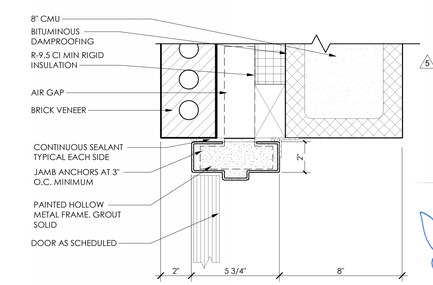
7 A800 HM DOOR JAMB - INTERIOR

3" = 1'-0"



4 A800 ALUMINUM DOOR JAMB AT EXTERIOR

3" = 1'-0"



1 A800 HOLLOW METAL DOOR JAMB AT EXTERIOR

3" = 1'-0"

12 A800 ALUMINUM DOOR JAMB AT EXTERIOR (CURTAIN WALL)

3" = 1'-0"

10 A800 ALUM DOOR JAMB - INTERIOR

3" = 1'-0"

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DOOR SCHEDULE AND TYPES

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REVISIONS

NO.	DATE	DESCRIPTION
1	5/23/23	TSFM / Knox Co Schools
4	6/21/23	Addendum #2
5	10/23/23	VE Changes
8	12/5/23	Addendum #1

DATE: 10/23/23

DRAWN BY: SS

12/05/2023

DWG NO.

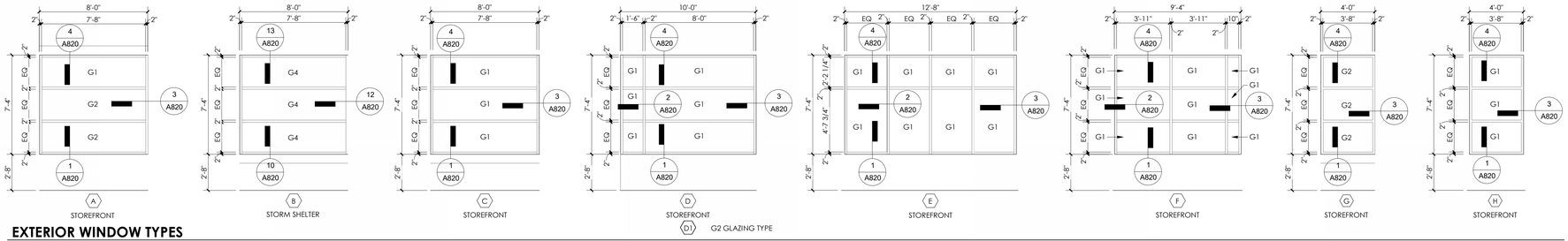
A800

PROJECT NO. 22029

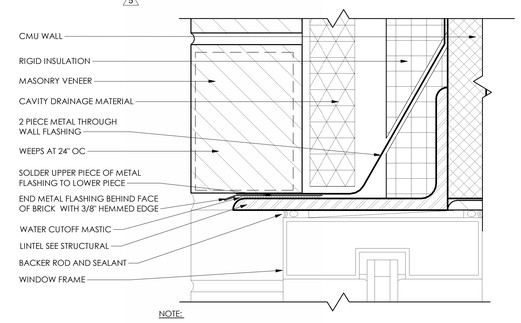
FULL SHEET SIZE: 30"x42"

10/5/2023 3:13:58 PM
Autodesk Docs://22029 - Hardin Valley Academy Addition/22029_Hardin Valley Academy_Arch_R23.rvt

GLAZING TYPES	
TYPE MARK	**GLAZING DESCRIPTION**
G1	1" INSULATED GLAZING
G2	1" INSULATED GLAZING W/3M BALLISTIC FILM
G3	HURRICANE RESISTANT IMPACT LAMINATED GLAZING
G4	HURRICANE RESISTANT IMPACT LAMINATED GLAZING W/3M BALLISTIC FILM
G5	1/4" GLAZING
G6	1/4" TEMPERED GLAZING



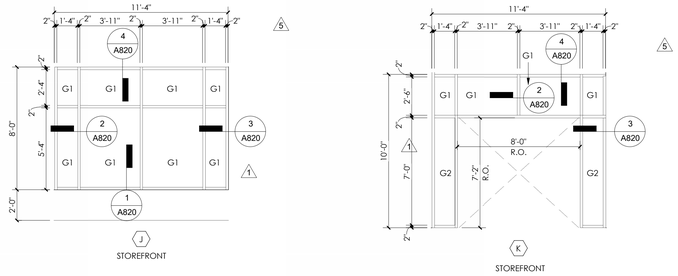
EXTERIOR WINDOW TYPES
1/4" = 1'-0"



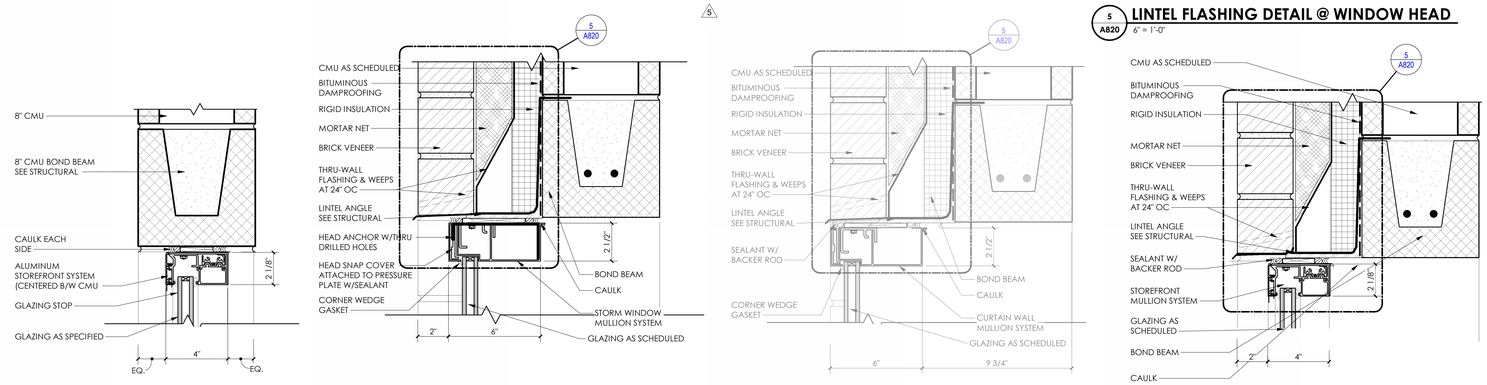
NOTE:

CONSTRUCTION TOLERENCES MAY ALLOW THE LOCATION OF THE ANGLE IN THE WALL TO VARY VERIFY ACTUAL ANGLE SIZES RELATIVE TO PLACEMENT IN WALL

5 A820 LINTEL FLASHING DETAIL @ WINDOW HEAD
6" = 1'-0"



EXTERIOR WINDOW TYPES
1/4" = 1'-0"

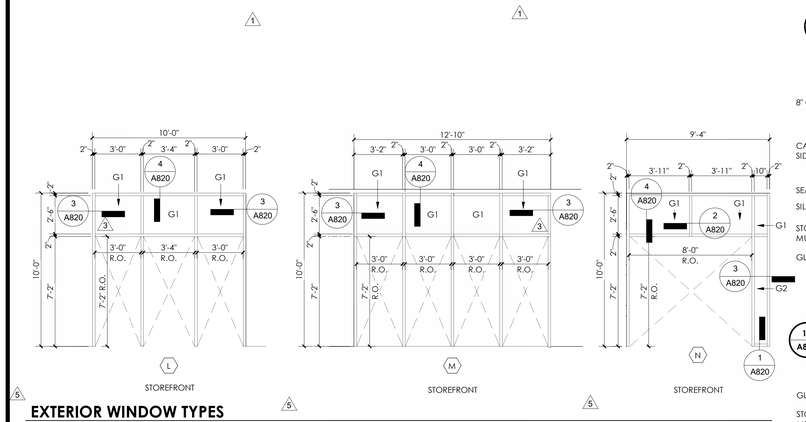


17 A820 INTERIOR STOREFRONT HEAD DETAIL 3" = 1'-0"

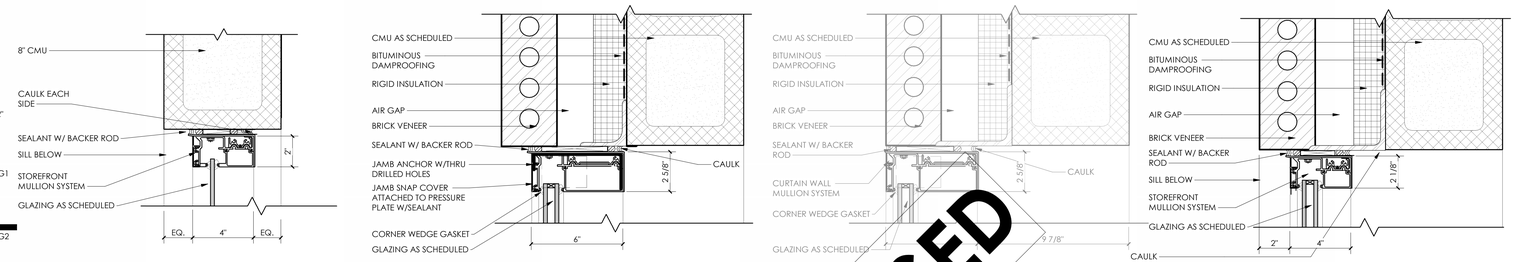
13 A820 STORM RATED WINDOW HEAD AT BRICK VENEER 3" = 1'-0"

9 A820 CURTAIN WALL HEAD AT BRICK VENEER 3" = 1'-0"

4 A820 WINDOW/STOREFRONT HEAD AT BRICK VENEER 3" = 1'-0"



EXTERIOR WINDOW TYPES
1/4" = 1'-0"



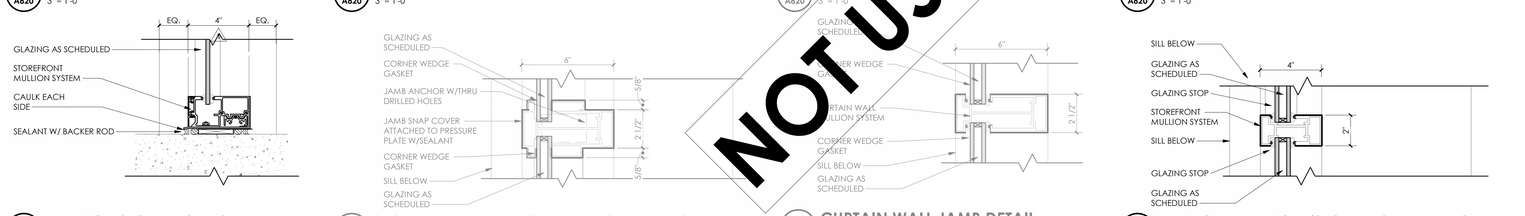
16 A820 INTERIOR STOREFRONT JAMB DETAIL 3" = 1'-0"

12 A820 STORM RATED WINDOW JAMB AT BRICK VENEER 3" = 1'-0"

8 A820 CURTAIN WALL JAMB AT BRICK VENEER 3" = 1'-0"

3 A820 WINDOW/STOREFRONT JAMB AT BRICK VENEER 3" = 1'-0"

NOT USED

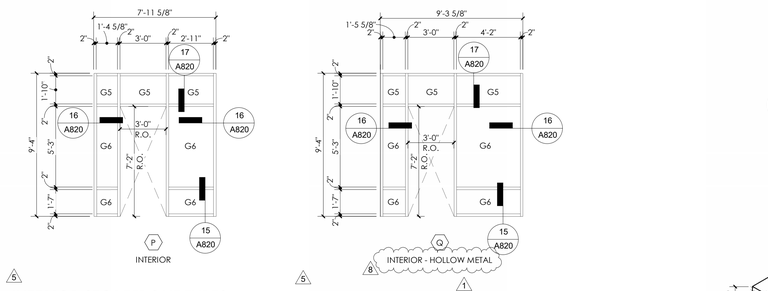


15 A820 INTERIOR STOREFRONT SILL DETAIL 3" = 1'-0"

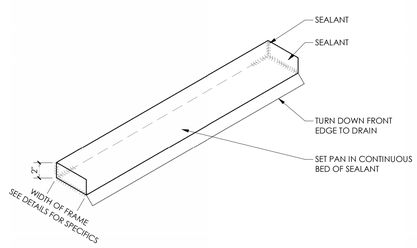
11 A820 STORM RATED VERTICAL WINDOW MULLION DETAIL 3" = 1'-0"

7 A820 CURTAIN WALL JAMB DETAIL 3" = 1'-0"

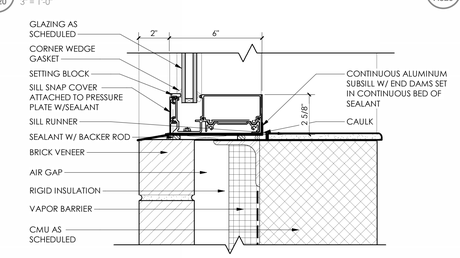
2 A820 VERTICAL WINDOW/STOREFRONT MULLION DETAIL 3" = 1'-0"



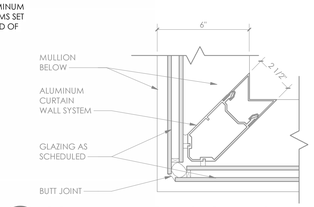
INTERIOR STOREFRONT TYPES
1/4" = 1'-0"



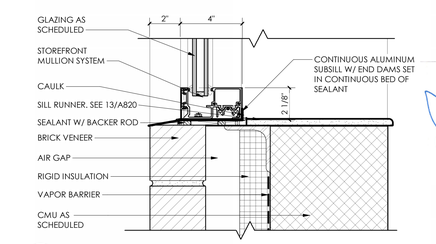
14 A820 3D ALUMINIUM SUB SILL DETAIL 1 1/2" = 1'-0"



10 A820 STORM RATED WINDOW SILL AT BRICK VENEER 3" = 1'-0"



6 A820 CORNER BUTT GLAZING DETAIL 3" = 1'-0"



1 A820 WINDOW SILL AT BRICK VENEER 3" = 1'-0"

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WINDOW TYPES AND DETAILS

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REVISIONS

NO.	DATE	DESCRIPTION
1	5/23/23	TSFM / Knox Co Schools
3	6/16/23	Addendum #1
5	10/23/23	VE Changes
8	12/5/23	Addendum #1

DATE: 10/23/23

DRAWN BY: SS

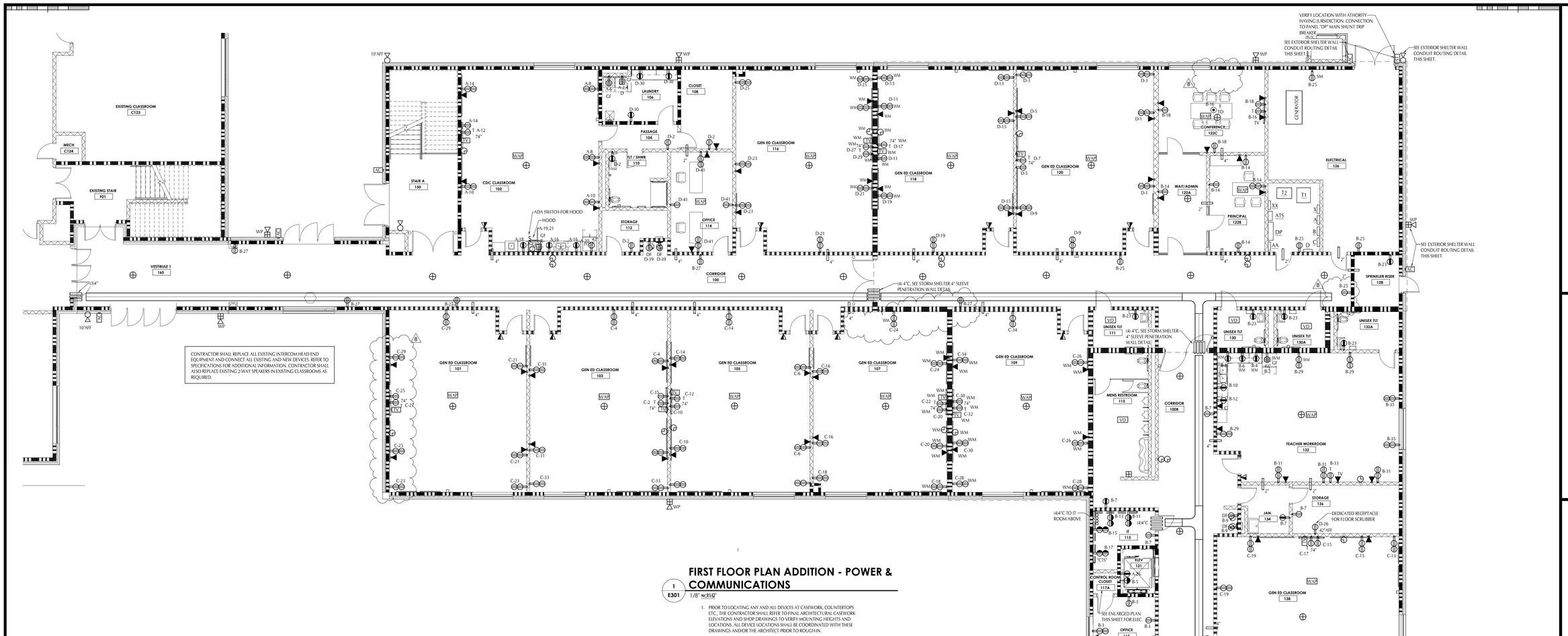
JAMES JOSEPH SCHUBERT REGISTERED ARCHITECT 101853 STATE OF TENNESSEE 12/05/2023

DWG NO.
A820

PROJECT NO.
22029

FULL SHEET SIZE: 30"x42"

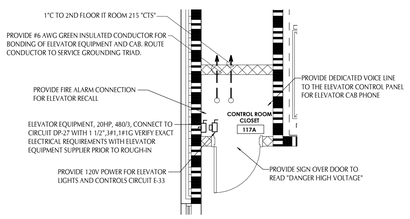
12/5/2023 3:58:58 PM
Autodesk Docs://22029_Hardin Valley Academy Additions/22029_Hardin Valley Academy_Arch_R23T22.rvt



1 E301 FIRST FLOOR PLAN ADDITION - POWER & COMMUNICATIONS

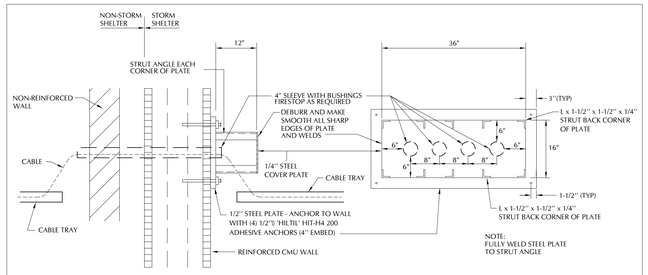
1/8" = 1'-0"

1. PRIOR TO LOCATING ANY AND ALL DEVICES AT CASEWORK, COUNTERTOPS ETC., THE CONTRACTOR SHALL REFER TO FINAL ARCHITECTURAL CASEWORK ELEVATIONS AND SHOP DRAWINGS TO VERIFY MOUNTING HEIGHTS AND LOCATIONS. ALL DEVICE LOCATIONS SHALL BE COORDINATED WITH THESE DRAWINGS AND/OR THE ARCHITECT PRIOR TO ROUGH-IN.
2. ALL BRANCH CIRCUITS SHALL BE SIZED TO COMPLY WITH IECC C405.9. SPECIFICALLY, ALL 120V, 20 AMP CIRCUITS WITH HOMERUNS GREATER THAN 70 FEET SHALL HAVE CIRCUIT AND GROUNDING CONDUCTORS OF #10AWG AS MINIMUM. ANY 120V, 20 AMP CIRCUIT WITH OUTLETS GREATER THAN 100 FEET OF BRANCH CIRCUIT LENGTH SHALL HAVE CIRCUIT AND GROUNDING CONDUCTORS OF #10AWG MINIMUM TO ALL OUTLETS AND HOMERUN. ANY 120V, 20 AMP CIRCUIT WITH HOMERUN GREATER THAN 140 FEET SHALL HAVE BRANCH CIRCUIT AND GROUNDING CONDUCTORS OF #8AWG MINIMUM. PROVIDE ADEQUATE BOX TO SPLICE #12AWG FOR TERMINATION TO DEVICE. LARGER CONDUCTORS MAY REQUIRE THE UTILIZATION OF LARGER CONDUIT SIZES - REFER TO NEC TABLES.
3. CONTRACTOR SHALL PROVIDE ALL REQUIRED BRANCH CIRCUIT RACEWAY AND CONDUCTORS FOR CONNECTION OF DEVICES INDICATED. WIRING MAY BE ROUTED BELOW CONCRETE SLAB OR OVERHEAD, AT THE CONTRACTORS OPTION. ALL ABOVE SLAB RACEWAY SHALL BE CONCEALED FROM VIEW IN WALLS OR ABOVE CEILINGS EXCEPT WHERE SPECIFICALLY NOTED TO BE SURFACE MOUNTED. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR ALL 120V CIRCUITS.
4. "WM" ADJACENT TO DEVICE INDICATES IN SHALL BE ROUNTED IN A METALLIC WIREMOLD SURFACE MOUNTED JUNCTION BOX. ROUTE METALLIC WIREMOLD SURFACE MOUNTED RACEWAY FROM JUNCTION BOX TO ACCESSIBLE CEILING AND TRANSITION TO EMT.
5. "SM" INDICATES DEVICE TO BE INSTALLED SURFACE MOUNT USING SURFACE MOUNT EMT CONDUIT RACEWAY. PAINT TO MATCH WALLS.



3 E301 ENLARGED CONTROL ROOM - ELECTRICAL

1/4" = 1'-0"



STORM SHELTER (4) 4" SLEEVE PENETRATION WALL DETAIL

NOT TO SCALE

WALL RATING LEGEND

- EXTERIOR CMU BEARING WALL - 2 HOUR
- INTERIOR CMU BARRIER - 2 HR
- INTERIOR CMU BARRIER - 1 HR
- INTERIOR CMU PARTITION - SMOKE 30 MIN

NOTE:
CONTRACTOR SHALL SEAL ALL DUCT AND PIPE PENETRATIONS AT ALL 30 MINUTE WALLS.

Engineering Services Group, Inc.
Consulting Engineers
900 East Hill Ave. Suite 350
Knoxville , Tennessee 37915
(865) 522-0393
Project No. 23511

Key Plan

CONSTRUCTION DOCUMENT PACKAGE
ADDITION TO HARDIN VALLEY ACADAMY

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www.copearchitecture.com

FIRST FLOOR PLAN ADDITION - POWER & COMMUNICATIONS

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REVISIONS

NO.	DATE	DESCRIPTION
1	5/23/23	TSFM/Knox Co Schools
5	10/23/23	VE Changes
6	11/8/23	3rd Party Review
8	12/5/23	Revision 8

DATE: 05/05/2023

DRAWN BY: MWE

DWG NO.

E301

PROJECT NO. 15165

FULL SHEET SIZE: 30"x42"

10/5/2023 1:50:30 AM
Autodesk Docs://23209 - Hardin Valley Academy Addition/MEP22_23511.rvt

ENGINEERING SERVICES GROUP, INC.
CONSULTING ENGINEERS
MECHANICAL • ELECTRICAL

HARDIN VALLEY H.S. ADDITION
ADDENDUM NO. 1
ESG Project No. 23511

The following items shall be changed as noted below:

A. Electrical Items:

1. Refer to Drawing E301, Revision #8 as issued in this Addendum.

2. Refer to Drawing E401, Note #9. Surface mounted conduit shall be painted to match walls.

3. Surface Raceways shall be metallic, comply with Section 26 05 33-2.4(A). Dual-channel raceways are acceptable where dual services are indicated. Low-voltage compartment shall be divided and shall provide sufficient space for installation of (6) Cat-6A cables. Single-channel shall be utilized where power and low-voltage are not located together.

4. At classrooms, Surface Raceways shall utilize a single riser from each receptacle or receptacle/data pair. Provide horizontal runs where required to access device locations below markerboards. The TV outlet and TV receptacle may be on a common riser with the receptacle below. In Teacher Workroom 132, a single vertical riser at the refrigerator may be utilized at device elevation with horizontal raceway at the backsplash.

5. Note: Wall Clocks are wireless. No requirement for surface raceway.

Engineering Services Group, Inc.
Prepared by: Edward C. Henderson, P.E.
Reviewed by: Edward C. Henderson, P.E.
Date: December 5, 2023

Attachment: E301 – First Floor Plan Addition – Power & Communications

900 East Hill Avenue • Suite 350 • Knoxville, Tennessee 37915 • Telephone: (865) 522-0393 • Facsimile: (865) 522-0166