

ADDENDUM #1

April 10, 2025

Project: **Virginia Polytechnic Institute & State University
Smith Career Center 2nd Floor Renovations
IFB# 337312516
Blacksburg, Virginia 24061**

TO ALL BIDDERS:

GENERAL: Addenda are part of the Contract Documents and are issued to amend or interpret the Drawings and Specifications. The Addenda shall be acknowledged in the Bid Form in the space provided for addenda acknowledgement.

CHANGES AND CLARIFICATIONS - GENERAL

1. The pre-bid attendance sheet is included below.
2. Pre bid meeting sheet has been revised. Kiosk is handled 100% by owner.

DRAWINGS:

1. Changes to drawings are noted below on TKA's Cover Sheet as well as in the attached Revised Drawings.

All other terms, conditions and descriptions remain the same. The bid closing date remains April 21, 2025 at 2:00 pm.

END OF ADDENDUM #1

PRE-BID MEETING



Project Name:	Smith Career Center 2 nd Floor Renovations	Work Order #:	24-635379
VTR Project Manager:	Emily Carroll	Meeting Date:	April 2, 2025
Architect:	TKA	Meeting Time:	2:00 pm
VT Building #:	0194	Meeting Location:	Smith Career Center – Room 208

1. PROJECT OVERVIEW

1. **Scope of Work.** The project's scope can generally be summarized as follows:
 - a. **Interview/Meeting Rooms to Offices:** Ten existing rooms (258, 260, 262, 264, 266, 268, 270, 272, 274, and 276) will be converted into six new office spaces with each office retaining a window. Upgrades will include new carpeting, ceilings, and GRDs (Grills, Registers, and Diffusers). Existing lighting will remain, and one thermostat will control no more than two offices.
 - b. **Workroom Creation (Rooms 273 and 275):** Rooms 273 and 275 will be combined into one large workroom. The space will include storage cabinets, extra counterspace, and copier space.
 - c. **Merchandise Room (Room 200):** Conference room 200 will be converted into a merchandise space where students can shop for business attire. The space will feature a retail-style design. It will include shelving, clothing racks, and a desk.
 - d. **Conference Room 216 Conversion (excluded from bid):** Waiting/Meeting room 216 will be transformed into a conference room by installing a partially frosted glass partition wall.
2. **Key Dates.**
 - a. Pre-bid RFI due date: April 7, 2025 at 2:00pm
 - b. Bid due date: **April 21, 2025 at 2:00pm**
3. **Documents.** The Contractor will receive permitted drawings and UBO issued permits electronically at the Preconstruction meeting. A set of permitted drawings, permits and project revisions/RFIs, submittal are to be kept in a project binder on-site at all times.
4. **Work Hours.** All work is to be performed between the hours of **7:00am and 5:00pm**. Off Hours/Weekend work is allowed, but must be coordinated in advance with the VTR Project Manager.
5. **Parking.** Parking passes are the responsibility of the contractors. Parking on the Blacksburg campus is extremely limited. Contractor personnel are to park in designated areas only. Park on paved or gravel areas only, do not park in the grass. Blocking accessible routes/sidewalks/ramps is not acceptable at any time; violators will be towed without warning.
6. **Utilities Shutdowns.** Coordinate with VTR Project Manager for utility shutdowns. Please allow 1 week notice for local shutdown and 1 month notice if a full building shutdown is required. Failure to give proper notification to Virginia Tech can result in delay of your shutdown and will be the responsibility of the contractor to make up any time lost due to the postponement.
7. **Dumpster(s)/Connex(s).** Identify dumpster locations and verify that all necessary coordination has taken place prior to dumpster(s') arrival. If parking spaces are used for placement of dumpster/connex, parking

services will charge per day/per space or per month/per space, which will be the contractor's responsibility to pay for. Contractor to check with Parking Services for rates.

8. **Road/Sidewalk Closures.** Contractor to provide at least 2 weeks' notice for single lane closures and 1 month for full road closure.
9. **NI&S.** NI&S provides demo and wiring of data. Coordination between contractor and NI&S for this scope of work. Please allow 2 weeks notice for coordination with NI&S prior to demo or installation of new devices.
10. **Key Shop.** The Key Shop operating hours are 6:30 am to 4:30 pm. Please limit the number of keys checked out for each job. The GC should check out the keys for its subcontractors to share. All contractors must provide a name for the person(s) that will be checking out keys to be added to the key shop list. All Keys must be returned at the end of each shift. Key pick up for off hours/weekend work must be coordinated thru the VTR project manager.
11. **Restrooms.** Assume the restrooms within the building area available for use. The restrooms must be kept clean and the use of the respectful at all times. 1 incident related to contractors use of the restrooms, the contractor will be responsible to place/maintain within 24 hours a portable toilet outside of the building (location TBD by VTR Project Manager).

2. SAFETY

1. **Personal Protective Equipment (PPE).**
 - a. Job site safety is the contractor's responsibility.
 - b. Proper hand protection, hard-soled shoes, hard hats and safety glasses will be required for all workers on the project. Signage shall be posted at the jobsite notifying all personnel of PPE requirements (per VT EHS standards).
2. **Virginia Tech Environmental Health & Safety (EHS)**
 - a. Any work that can create a spark, welding or an open flame requires a Hot Work Permit program and shared with the VT Project Manager. Hot work program should be kept onsite at all times.
 - b. Safety Data Sheets (SDSs) for any hazardous chemicals will need to be submitted to Robin McCall-Miller and copied to the VTR Project Manager. In addition, the SDS sheets must be available on-site at all times throughout the duration of the project.
 - c. Visit the link below for EHS standards for construction on the Virginia Tech campus
http://www.ehss.vt.edu/programs/contractor_safety.php
 - d. All contractor personnel are to wear an item that identifies the worker as an employee of the Contractor.
 - e. Daily Reports. Each General Contractor is to submit a Daily Report for every project. The Daily Report is to include the name of EVERY individual working that day and where they were working. "Where they are working" includes the floor of the building.
 - f. *Any Other Project Specific Hazards – Roof, confined space, etc.*
 - g. *In the event of a health and safety concern adhere to state, local, university and CDC guidelines at all times.*

3. ADMINISTRATION

1. **VTR Project Manager.** Below is the contact information for the VTR Project Manager.

Name	Mobile Phone	E-mail Address
Emily Carroll	540-744-5282	emilycarroll@vt.edu
Mackenzie Mabe	540-240-6059	mmack94@vt.edu

2. **Submittals**

- Submittals are to be as specified in the Project Manual, as specified in notes on the Drawings or if not listed coordinated with the VTR Project Manager after award/prior to construction.
- All submittals are to be sent to the VTR Project Manager, who will review and forward them on to the project's Architect/Engineer; reviewed submittals will be returned by the Architect/Engineer to the VTR Project Manager, who will review and forward them to the Contractor.

3. **Requests for Information (RFIs)**

- Any questions/clarifications that arise during construction should be submitted in writing as an official RFI to the VTR Project Manager, who will coordinate with the client and Project Architect/Engineer, as required. E-mails will not suffice, although an RFI form can be e-mailed. Answered RFIs will be transmitted to the Contractor through the VTR Project Manager.
- Issues may be verbally discussed with the VTR Project Manager prior to submission, but doing so will not negate the requirement of a written submission.
- Answered/Approved RFI's are to be kept on-site for reference during UBO inspections.

4. **Change Orders**

- No additional work is to be performed without receipt of a fully executed VT (Change Order) Purchase Order.
- Any proposed changes should be submitted to the VTR Project Manager.
- All change orders must be submitted using a GCI, SCI, SSI Form or DGS-30-092 CO-11 form (for IFB projects only).

5. **Invoices**

- Invoices should be submitted electronically to the VTR Project Manager.
- Retainage will be released at the end of the project after all as-builts and close-out documents have been submitted and approved.
- The VTR PM will review, approve or reject the invoice in 48 hours from receipt. The invoice will be processed and release payment within 30 days.
- Include an updated schedule with each submitted invoice.

6. **Conflicts.** The Contractor shall contact the VTR Project Manager should any conflicts arise during the project. The VTR Project Manager will engage the necessary resources to resolve such conflicts.

4. SCHEDULE

Proposed NTP	Construction Start Date	Substantial Completion Date	Final Completion Date
April 30, 2025	May 12, 2025	July 18, 2025	August 8, 2025

5. INSPECTION(S)

1. The Contractor will be responsible for notifying the VTR Project Manager when an inspection needs to be scheduled. Please allow 48-72 hours to schedule inspections. The VTR Project Manager will coordinate with the UBO office to arrange for the required inspections.

6. ROUNDTABLE

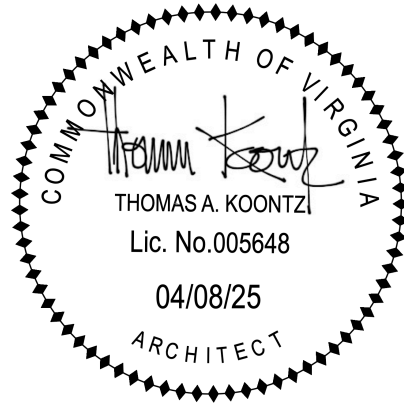
1. Project timeline – 14 days from award a project schedule and submittal log shall be submitted to the VTR project manager. Construction start date/mobilization and submittals can begin upon award, however, assume 3-4 weeks to receive a formal purchase order number to bill against.



April 8, 2025

ADDENDUM NO. 01

Project: Renovations for the Smith Career Center
870 Washington Street
Blacksburg, VA



Incorporate changes, deletions, additions, and clarifications listed below into the Contract. Construction Documents dated 03/13/25 are hereby amended as follows:

Clarifications:

1. None.

Drawings:

1. Architectural drawings T1, A2, A3 and A5 dated 3/13/25 shall be replaced with architectural drawings T1, A2, A3 and A5 dated 04/08/25.
 - a. Revised drawing T1 adds Drawing 5.1 to the Index to Drawings.
 - b. Revised drawing A2 adds the desk and deletes the bench.
 - c. Revised drawing A3 adds a specification for the acoustical suspended ceiling.
 - d. Revised drawing A5 deletes details of the bench.
2. Add architectural drawing A5.1, dated 04/08/25. This drawing adds the details of the desk.

Attachments:

1. Construction Documents.

End of Addendum No. 01



RENOVATIONS FOR THE SMITH CAREER CENTER

870 WASHINGTON ST. SW
BLACKSBURG, VIRGINIA

OWNER:
VIRGINIA TECH RENOVATIONS

230 STERRETT DRIVE
BLACKSBURG, VA 24060
PHONE (540) 231-4233

ARCHITECT:
TKA ARCHITECTS

300 CHURCH STREET
BLACKSBURG, VA 24060
PHONE (540) 951-4925

MECH. & ELEC. ENGINEERS:
LAWRENCE PERRY & ASSOCIATES

15 EAST SALEM AVENUE
ROANOKE, VA 24025
PHONE (540) 342-1816



MATERIAL SYMBOLS:

	CONCRETE (PLAN & SECTION)		STEEL (SECTION)
	BRICK (PLAN & SECTION)		BATT INSULATION (PLAN & SECTION)
	CONCRETE BLOCK (PLAN & SECTION)		RIGID INSULATION (PLAN & SECTION)
	WOOD (PLAN)		GRAVEL
	FRAMING LUMBER (SECTION)		SOIL
	FINISH WOOD (SECTION)		GYPSUM BOARD
	PLYWOOD (SECTION)		LINTEL OR BEAM (PLAN)

INDEX TO DRAWINGS:

T1	TITLE SHEET
LS1	SECOND FLOOR LIFE SAFETY PLAN & NOTES
D1	PARTIAL SECOND FLOOR DEMOLITION PLAN
A1	SECOND FLOOR PLAN
A2	PARTIAL SECOND FLOOR PLANS
A3	PARTIAL SECOND FLOOR REFLECTED CEILING PLANS
A4	SCHEDULES, DETAILS & INTERIOR ELEVATIONS
A5	INTERIOR ELEVATIONS & SECTIONS
A5.1	DESK DETAILS
A6	SPECIFICATIONS
A7	SPECIFICATIONS
MD1	PARTIAL SECOND FLOOR PLAN DEMOLITION HVAC
M1	LEGEND, NOTES AND SCHEDULES HVAC
M2	PARTIAL SECOND FLOOR PLAN NEW WORK HVAC
M3	HVAC SPECIFICATIONS
SP1	NEW WORK PLAN – SPRINKLER
ED1	PARTIAL SECOND FLOOR PLAN – DEMOLITION – ELECTRICAL
E1	GENERAL AND DEMOLITION NOTES
E2	ELECTRICAL LEGND AND ABBREVIATIONS
E3	ELECTRICAL DETAILS AND FIRE ALARM DEVICE ELEVATIONS
E4	PARTIAL SECOND FLOOR PLAN – NEW WORK – LIGHTING
E5	PARTIAL SECOND FLOOR PLAN – NEW WORK– POWER
E6	PARTIAL SECOND FLOOR PLAN – NEW WORK – COMM & FIRE ALARM
E7	EXISTING AND MODIFIED PANEL SCHEDULES
E8	PARTIAL EXISTING ELECTRICAL POWER RISER DIAGRAM
E9	ELECTRICAL SPECIFICATIONS

ABBREVIATIONS:

AFF	ABOVE FINISH FLOOR	EQ.	EQUAL	O/	OVER
ALUM.	ALUMINUM	EXIST.	EXISTING	OC	ON CENTER
APA	AMERICAN PLYWOOD ASSOCIATION	EXT.	EXTERIOR	OCFI	OWNER FURNISHED CONTRACTOR INSTALLED
APPROX.	APPROXIMATE	FD	FLOOR DRAIN	OA.	OVERALL
ASC	ACOUSTICAL SUSPENDED CEILING	FFE	FINISH FLOOR ELEVATION	OPNG.	OPENING
ARCH.	ARCHITECTURAL	FIN.	FINISH	OZ.	OUNCE
BD.	BOARD	FL.	FLOOR	PL.	PLATE
BLDG.	BUILDING	FO	FACE OF	P/L	PROPERTY LINE
BM	BEAM or BENCH MARK	FRT	FIRE RETARDANT PLYWOOD	PLYWD.	PLYWOOD
BOT.	BOTTOM	FT.	FOOT or FEET	PNL.	PANEL
BRG.	BEARING	FTG.	FOOTING	PLAM	PLASTIC LAMINATE
BTWN.	BETWEEN	GA.	GAGE	PT	PRESSURE TREATED
CAB.	CABINET	GR.	GRADE	RAD.	RADIUS
CJ	CONTROL JOINT	GWB	GYPSUM WALLBOARD	REF.	REFRIGERATOR
CLG.	CEILING	GYP.	GYPSUM	REINF.	REINFORCE
CT	CERAMIC TILE	HM.	HOLLOW METAL	REQD.	REQUIRED
CLO.	CLOSET	HORIZ.	HORIZONTAL	REV.	REVERSED
CO	CLEAN OUT	HT.	HEIGHT	RM.	ROOM
CMU	CONCRETE MASONRY UNIT	HTR.	HEATER	R/W	RIGHT OF WAY
COL.	COLUMN	IN.	INCH	S.	SOUTH
CONC.	CONCRETE	INSUL.	INSULATION	SIM.	SIMILAR
CONST.	CONSTRUCTION	INT.	INTERIOR	SPEC.	SPECIFICATION
CONT.	CONTINUOUS	JCT.	JUNCTION	SQ.	SQUARE
CONTR.	CONTRACTOR	JT.	JOINT	STD.	STANDARD
CPT.	CARPET	LB.	POUND	STRUCT.	STRUCTURAL
CTR.	CENTER	LG.	LENGTH or LONG	STL.	STEEL
Ø, DIA.	DIAMETER	LL	LIVE LOAD	T&G	TONGUE & GROOVE
DIM.	DIMENSION	LLV	LONG LEG VERTICAL	TO	TOP OF
DL	DEAD LOAD	LVT	LUXURY VINYL TILE	TS	TUBULAR STEEL
DN.	DOWN	MATL.	MATERIAL	TYP.	TYPICAL
DS.	DOWNSPOUT	MAX.	MAXIMUM	UL	UNDERWRITERS LABORATORY
DTL.	DETAIL	MECH.	MECHANICAL	VB	VAPOR BARRIER
DW.	DISHWASHER	MFR.	MANUFACTURER	VERT.	VERTICAL
DWG.	DRAWING	MR	MOISTURE RESISTANT	VCT	VINYL COMPOSITION TILE
E.	EAST	MW.	MICROWAVE	W.	WEST
EA.	EACH	MIN.	MINIMUM	W/	WITH
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	MISC.	MISCELLANEOUS	WH	WATER HEATER
EJ	EXPANSION JOINT	MNTG.	MOUNTING	WD.	WOOD
ELEC.	ELECTRICAL	N.	NORTH	WT.	WEIGHT
ELEV.	ELEVATION, ELEVATOR	NIC	NOT IN CONTRACT	WWF	WELDED WIRE FABRIC
		NO.	NUMBER		
		NTS	NOT TO SCALE		

GENERAL NOTES:

- THE GENERAL CONTRACTOR AND SUBCONTRACTOR(S) SHALL INSPECT PREMISES PRIOR TO BID SUBMITTAL AND WORK COMMENCEMENT TO VERIFY EXISTING CONDITIONS. SHOULD A CONTRACTOR FIND CONDITIONS WHICH HE BELIEVES WOULD IMPEDE HIS WORK, HE SHALL REPORT SUCH CONDITIONS TO THE ARCHITECT. FAILURE TO SO ADVISE WILL CONSTITUTE NOTICE THAT THE CONTRACTOR ACCEPTS THE EXISTING CONDITIONS AND THAT HE INTENDS TO PERFORM HIS OBLIGATIONS WITH NO ALLOWANCE EITHER IN TIME OR MONEY FOR ANY IMPEDIMENTS TO HIS WORK.
- THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN FIELD. IF DIMENSIONAL ERRORS OCCUR OR CONDITIONS NOT COVERED IN THE DRAWINGS ARE ENCOUNTERED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT BEFORE COMMENCING THAT PORTION OF THE WORK.
- ALL WORK SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES.
- ALL MANUFACTURED ARTICLES, MATERIALS AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, USED, CLEANED AND CONDITIONED IN ACCORDANCE WITH THE MANUFACTURERS' WRITTEN SPECIFICATIONS OR INSTRUCTIONS.
- THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING HIS BEST SKILL AND ATTENTION. HE SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION AND/OR INSTALLATION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- DIMENSIONS TAKE PRECEDENCE OVER SCALE ON CONSTRUCTION DOCUMENTS. DRAWINGS MAY BE ROUGH SCALED FOR GENERAL REFERENCE. FIELD VERIFY ALL CONDITIONS PRIOR TO CONSTRUCTION AND/OR FABRICATION.
- ALL WORK SHALL BE EXECUTED IN A NEAT AND WORKMANLIKE MANNER. CONTRACTOR SHALL KEEP THE CONSTRUCTION SITE FREE AND CLEAR OF ALL DEBRIS AND KEEP OUT ALL UNAUTHORIZED PERSONS. UPON COMPLETION OF WORK, THE ENTIRE CONSTRUCTION AREA SHALL BE COMPLETELY CLEANED TO OWNER'S SATISFACTION.
- WHEN WORK NOT SPECIFICALLY CALLED OUT IS REQUIRED TO COMPLETE THE PROJECT, THE APPROPRIATE CONTRACTOR SHALL PROVIDE SAME AND IT SHALL BE OF THE BEST MATERIALS AND WORKMANSHIP. IF ADDITIONAL COSTS ARE REQUIRED TO COMPLETE THE WORK, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO BID SUBMITTAL AND PRIOR TO STARTING THE WORK, ALLOWING A REASONABLE PERIOD OF TIME FOR RESPONSE AND APPROVAL. NO CLAIMS FOR EXTRA COMPENSATION BASED ON IGNORANCE OF VISIBLE OR IMPLIED CONDITIONS OR ASSUMPTIONS OR DISCLAIMERS AFTER THE FACT SHALL BE CONSIDERED.
- THE GENERAL CONTRACTOR SHALL GUARANTEE IN WRITING ALL WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION AND APPROVAL. MATERIALS AND/OR EQUIPMENT CARRYING A MANUFACTURER'S GUARANTEE SHALL BE COVERED BY THE MAXIMUM TERM OFFERED BY THE MANUFACTURER BUT IN NO CASE LESS THAN ONE YEAR. ALL DEFECTS DISCOVERED DURING CONSTRUCTION SHALL BE REPAIRED TO THE OWNER'S SATISFACTION, AT THE CONTRACTOR'S EXPENSE, AT NO COST TO THE OWNER.
- UNLESS OTHERWISE SPECIFICALLY NOTED, THE GENERAL CONTRACTOR SHALL PROVIDE AND PAY FOR ALL LABOR, MATERIALS, EQUIPMENT, NOTES, TOOLS, CONSTRUCTION EQUIPMENT AND MACHINERY, TRANSPORTATION AND OTHER FACILITIES AND SERVICES NECESSARY FOR PROPER EXECUTION AND COMPLETION OF THE WORK.
- THE GENERAL CONTRACTOR SHALL OBTAIN AND PAY FEES FOR ALL REQUIRED PERMITS, SCHEDULE ALL REQUIRED INSPECTIONS, OBTAIN ALL CODE APPROVALS, ETC. NECESSARY FOR PROPER COMPLETION OF THE WORK.
- THE GENERAL CONTRACTOR SHALL COORDINATE ALL WORK PROCEDURES WITH LOCAL AUTHORITIES.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING AND NEW CONDITIONS AND MATERIALS WITHIN THE PROPOSED CONSTRUCTION AREA. ANY DAMAGE CAUSED BY OR DURING THE EXECUTION OF THE WORK IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED OR REPLACED TO THE OWNER'S SATISFACTION AT THE EXPENSE OF THE CONTRACTOR.
- ALL PENETRATIONS THROUGH FLOOR SLABS, SUCH AS PIPING, CONDUIT, DUCTS, PNEUMATIC TUBES, ETC., SHALL BE PACKED AND SEALED OFF WITH FIRE-RATED MATERIAL AND SEALED AGAINST WATER PENETRATION.
- CONSTRUCTION SHALL BE PERFORMED DURING NORMAL WORKING HOURS. BUILDING ACCESS AND SECURE STAGING/STORAGE OF MATERIALS SHALL BE COORDINATED WITH THE BUILDING OWNER.
- THE USE OF THE WORD "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL, COMPLETE AND READY FOR USE.
- ALL PIPING SHALL BE TESTED AND LABELED AS TO USE.
- A TESTING & BALANCING REPORT SHALL BE SUBMITTED TO THE UNIVERSITY BUILDING OFFICIAL PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- OUTSIDE EDGE OF NEW FRAMES AT NEW DOOR JAMBS SHALL BE HELD 4" FROM THEIR ADJACENT WALLS, UNLESS NOTED OR DIMENSIONED OTHERWISE.
- IN THE PROJECT AREA, ALL ITEMS SHOWN AND NOT DESIGNATED AS EXISTING SHALL BE ASSUMED TO BE NEW WORK.
- DOORS AND FRAMES SHALL BE PROVIDED TO MATCH BUILDING STANDARD.
- FIRE SUPPRESSION SPRINKLER DRAWINGS SHALL BE SUBMITTED TO THE UNIVERSITY BUILDING OFFICIAL'S OFFICE BEFORE SPRINKLER WORK BEGINS.
- CONTRACTOR SHALL OBTAIN A FIRE ALARM PERMIT AND "DELEGATED DESIGN" UPDATED PLANS SHALL BE SUBMITTED TO THE UBO'S OFFICE FOR APPROVAL PRIOR TO THE START OF WORK AS REQUIRED BY THE 2023 VT DCSM, SECTION 3.10. REINSTALLED, NEW, AND/OR RELOCATED FIRE ALARM DEVICES SHALL BE TESTED AND WITNESSED BY THE UBO'S OFFICE UPON COMPLETION BEFORE A FINAL CERTIFICATE OF OCCUPANCY IS ISSUED.
- THE CONTRACTOR SHALL COMPLY WITH VIRGINIA TECH'S SAFETY REQUIREMENTS FOR CONTRACTORS AND SUBCONTRACTORS PROGRAM. COPIES OF THIS PROGRAM ARE AVAILABLE FROM THE OWNER OR MAY BE DOWNLOADED FROM WWW.EHSS.VT.EDU.

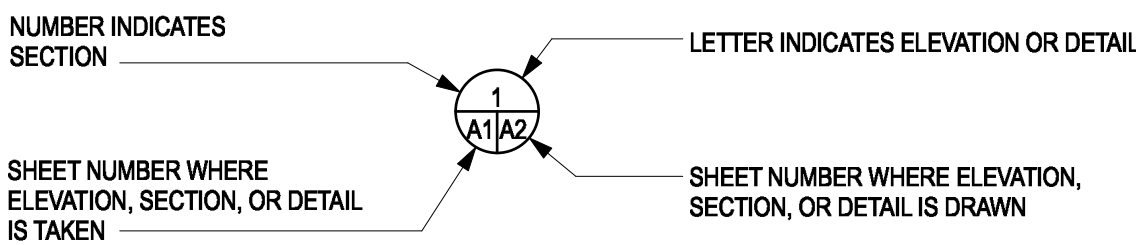
ASBESTOS & LEAD NOTES:

ASBESTOS CONTAINING MATERIALS
THE OWNER HAS HAD AN INSPECTION PERFORMED. ASBESTOS CONTAINING MATERIALS WERE NOT DISCOVERED IN THE PROJECT AREA. IF A SUSPECT ASBESTOS MATERIAL IS ENCOUNTERED IN THE COURSE OF THE WORK, THE WORK MUST BE STOPPED AND FACILITIES SAFETY SHOULD BE CONTACTED AT 540-315-2898 OR 540-315-2396.

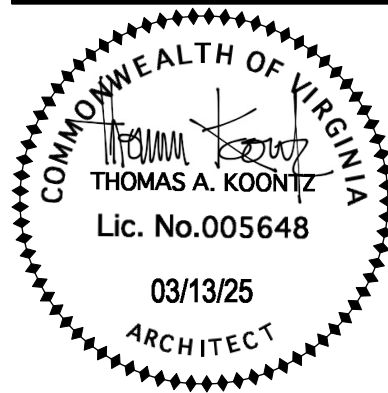
LEAD CONTAINING MATERIALS
A LEAD PAINT INSPECTION HAS BEEN PERFORMED AND NO LEAD BASED MATERIALS DISCOVERED. IF SUSPECT LEAD MATERIALS ARE ENCOUNTERED IN THE COURSE OF WORK THAT ARE NOT DISCUSSED AS PART OF THE REPORT, THE WORK MUST BE STOPPED AND FACILITIES SAFETY SHOULD BE CONTACTED AT 540-231-4256. THE CONTRACTOR SHALL SUBMIT A COPY OF THEIR LEAD COMPLIANCE PROGRAM, AS REQUIRED BY CFR 1926.62(E), WITH REQUIRED SUPPORTING DOCUMENTATION, TO EHSS FOR PRIOR REVIEW AND APPROVAL. THIS SUBMITTAL SHALL BE MADE SUFFICIENTLY IN ADVANCE OF CONSTRUCTION TO AVOID DELAY OF THE PROJECT. A COPY OF ANY PERSONAL AIR SAMPLES TAKEN DURING THE COURSE OF THE WORK SHALL BE PROVIDED TO EHSS.

TKA ARCHITECTS ASSUMES NO RESPONSIBILITY FOR THE ADEQUACY OR ACCURACY OF THE ASBESTOS AND LEAD PAINT REPORTS, THIS INFORMATION WAS PREPARED BY THE OWNER. THE CONTRACTOR SHALL ADDRESS ANY RELATED QUESTION TO THE VIRGINIA TECH REPRESENTATIVES.

ELEVATION, SECTION, & DETAIL SYMBOL



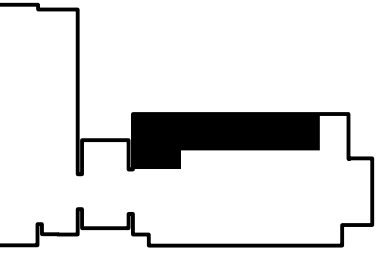
RENOVATIONS FOR THE
SMITH CAREER CENTER
870 WASHINGTON ST. SW
BLACKSBURG, VIRGINIA



Revisions
1 ADDENDUM NO. 1 04/08/25

Drawn XH
Checked DJJ
Date 03/13/25
Project No. 2305-10

TITLE SHEET



I	
H	



B

DEMOLITION PLAN NOTES


- 1 REMOVE EXISTING METAL STUD/GWB PARTITION.
- 2 REMOVE SECTION OF EXISTING METAL STUD/GWB WALL FOR NEW OPENING.
- 3 REMOVE EXISTING DOOR, HARDWARE & FRAME ASSEMBLY.
- 4 SALVAGE DOOR, HM FRAME & HARDWARE FOR USE IN DOOR OPENING 200.
- 5 SALVAGE DOOR, HM FRAME & HARDWARE FOR USE IN DOOR OPENING 201.
- 6 SALVAGE DOOR, HM FRAME & HARDWARE FOR USE IN DOOR OPENING 202.
- 7 SALVAGE DOOR, HM FRAME & HARDWARE FOR USE IN DOOR OPENING 203.
- 8 REMOVE EXISTING CARPET, SALVAGE FOR REUSE AT NEW DOOR OPENINGS.
- 9 REMOVE EXISTING ASC (TILE & GRID). TILE TO BE TURNED OVER TO OWNER.
- 10 REMOVE EXISTING WALL BASE.
- 11 REMOVE EXISTING CHAIR RAIL – RETURN TO OWNER.

GENERAL DEMOLITION NOTES

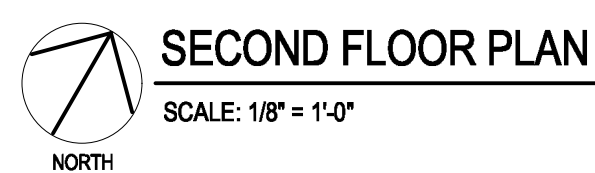
1. REFER TO ASBESTOS ABATEMENT AND LEAD PAINT NOTE ON TITLE SHEET AND COORDINATE WITH OWNER.
2. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR OTHER DEMOLITION WORK AND COORDINATE.
3. COORDINATE WITH BUILDING OWNER WHEN UTILITY SERVICES ARE TO BE INTERRUPTED.
4. SALVAGE ALL USABLE BUILDING MATERIALS TO BUILDING OWNER. RECYCLE NON-SALVAGABLE MATERIALS TO THE GREATEST EXTENT POSSIBLE. LEGALLY DISPOSE OF MATERIALS NOT SALVAGED OR RECYCLED.
5. PATCH AND REPAIR INTERFACE OF DEMOLISHED MATERIALS IN-KIND WITH REMAINING MATERIALS TO CONCEAL DEMOLITION AND MAINTAIN SMOOTH, FLUSH WALLS, FLOORS, AND CEILINGS.
6. NEATLY DEMOLISH WORK CALLED FOR REMOVAL. TEMPORARILY SUPPORT WORK TO REMAIN.
7. REMOVE WALLS AS INDICATED. PREPARE AND REPAIR REMAINING FLOOR AND WALL SURFACES TO RECEIVE SPECIFIED FINISHES.
8. REMOVE FINISH FLOORING AND WALL COVERINGS AS INDICATED AND PREPARE SUBSTRATES FOR SPECIFIED FINISHES AS REQUIRED BY THE MANUFACTURER OF THE NEW FINISHES.
9. REMOVE DOORS AND HOLLOW METAL FRAMES AS INDICATED AND RETURN DOOR HARDWARE TO BUILDING OWNER, IF NOT RELOCATED.
10. SEE SHEET A2 FOR ADDITIONAL DEMOLITION INFORMATION.

GRAPHIC SCALE:

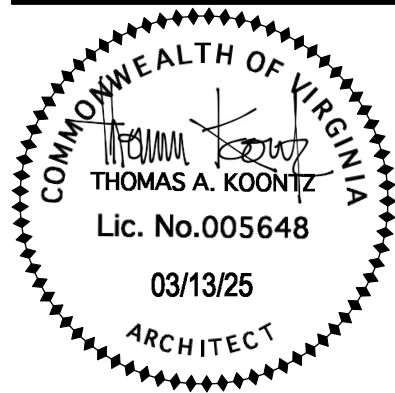
0 1' 5'

A horizontal black bar representing a scale. It is divided into segments. The first segment is labeled '0' at its left end and '1'' at its right end. The second segment is labeled '5'' at its right end.

$1/4" = 1' - 0"$



RENOVATIONS FOR THE
SMITH CAREER CENTER
870 WASHINGTON ST. SW
BLACKSBURG, VIRGINIA



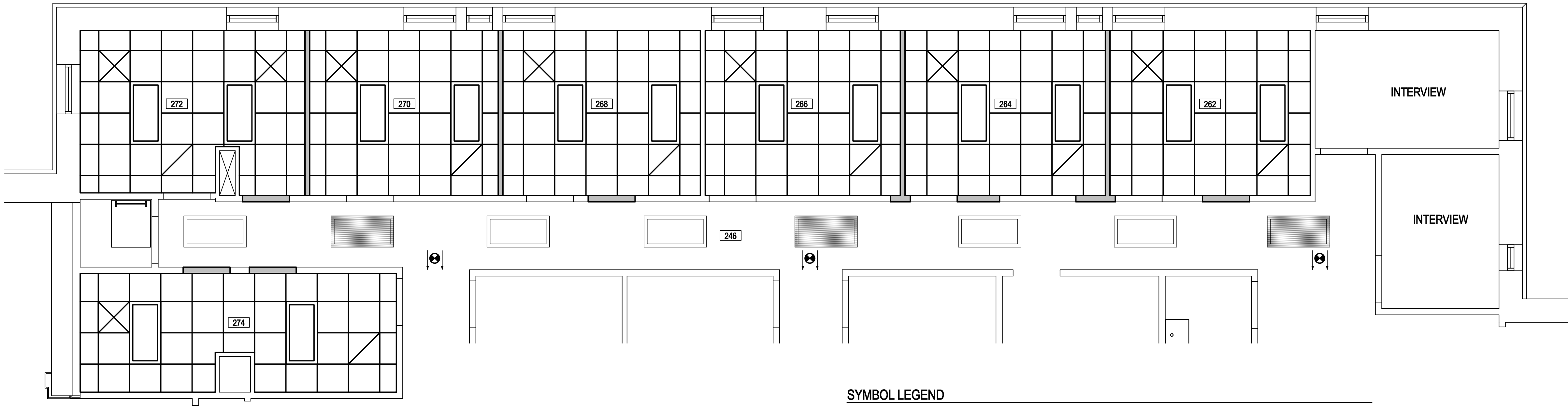
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Revisions	
Drawn	XH
Checked	DJJ
Date	03/13/25
Project No.	2305-10

SECOND FLOOR PLAN





PARTIAL SECOND FLOOR REFLECTED CEILING PLAN

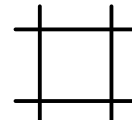
SCALE: 1/4" = 1'-0"

1

NOTE: THE BASIS OF DESIGN FOR THE ACOUSTICAL SUSPENDED CEILING SYSTEM SHALL BE ARMSTRONG CORTEGA 2 FT. X 2 FT. X 5/8-INCH THICK TILES IN WHITE 15/16 INCH GRID. THE ACOUSTICAL SUSPENDED CEILING SYSTEM SHALL MATCH THE EXISTING CEILING SYSTEM. ACCEPTABLE MANUFACTURERS INCLUDE:

- A. ARMSTRONG
- B. CERTAINTEED
- C. USG

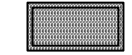
SYMBOL LEGEND



NEW 2 X 2 ACOUSTICAL SUSPENDED CEILING.



NEW 2 x 4 RECESSED LED FIXTURE.



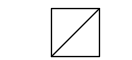
EXISTING 2 x 4 RECESSED LED FIXTURE WITH BATTERY BACK-UP TO REMAIN.



EXISTING 2 x 4 LIGHT FIXTURE.



NEW CEILING DIFFUSER.

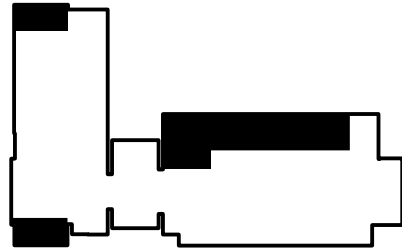
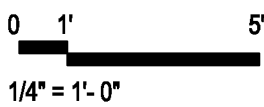


NEW RETURN AIR GRILLE.



EXISTING EXIT SIGN TO REMAIN.

GRAPHIC SCALE:



SECOND FLOOR
KEY PLAN

RENOVATIONS FOR THE
SMITH CAREER CENTER
870 WASHINGTON ST. SW
BLACKSBURG, VIRGINIA

95% UBO
SUBMITTAL
NOT FOR
CONSTRUCTION

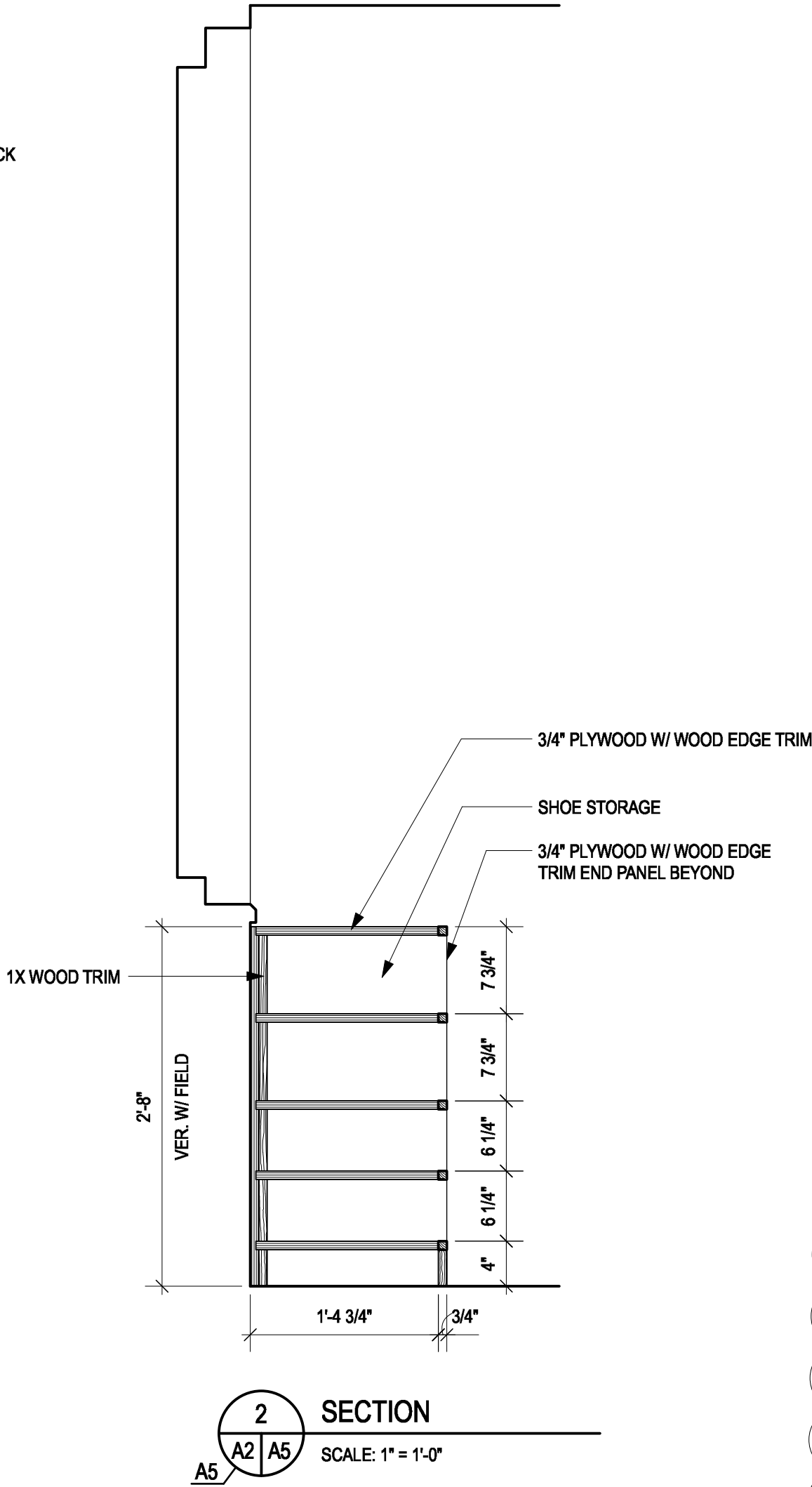
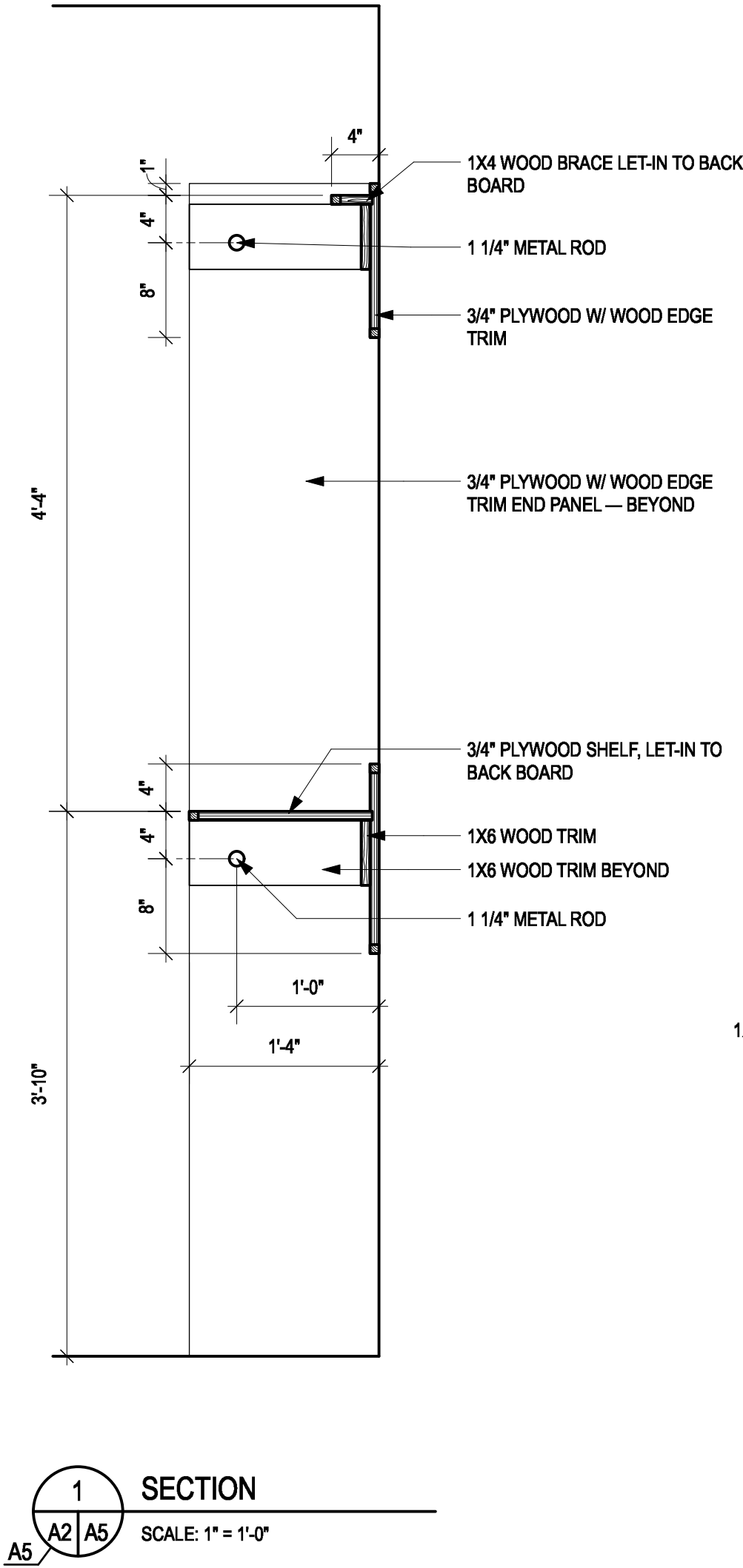
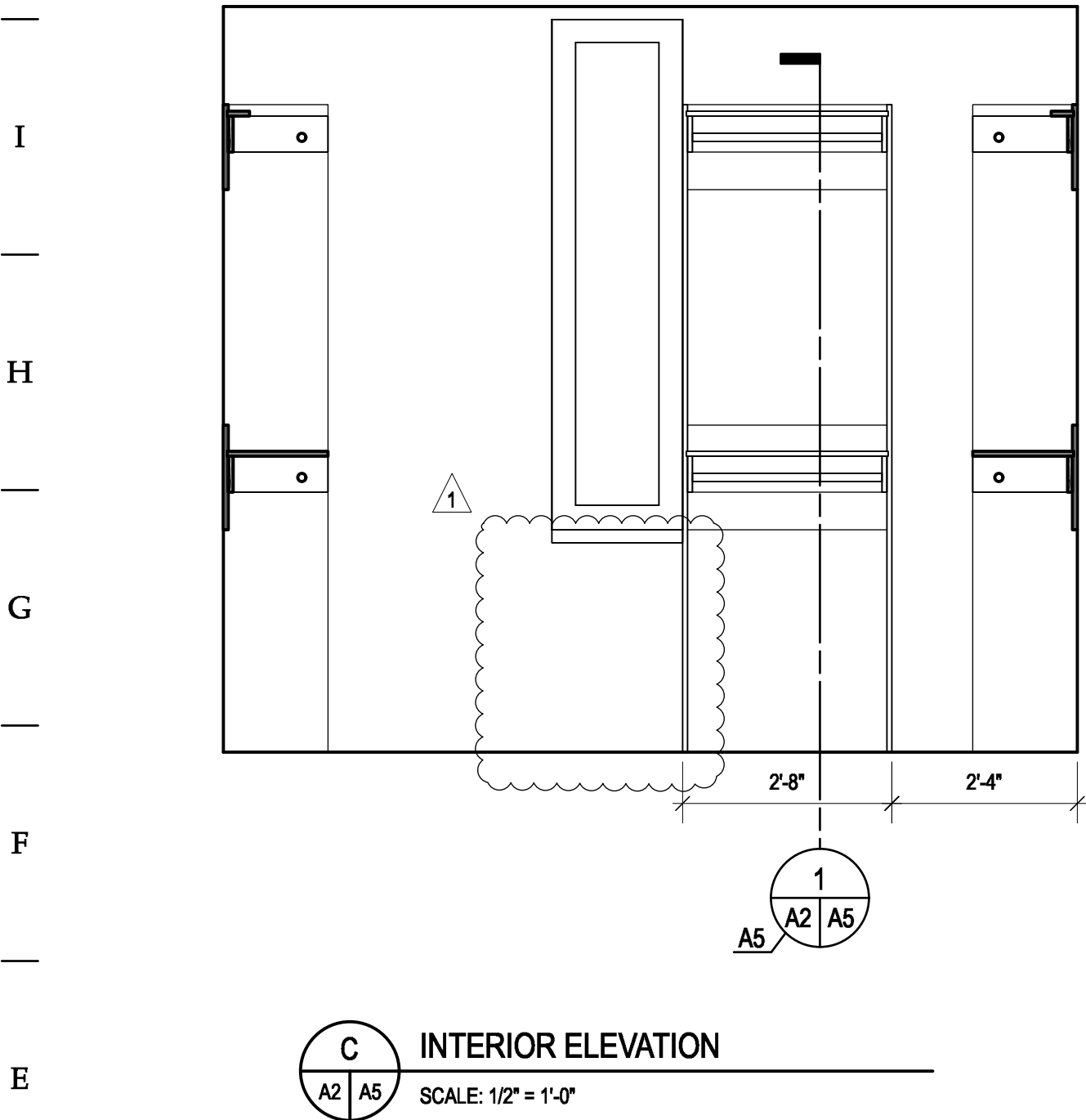
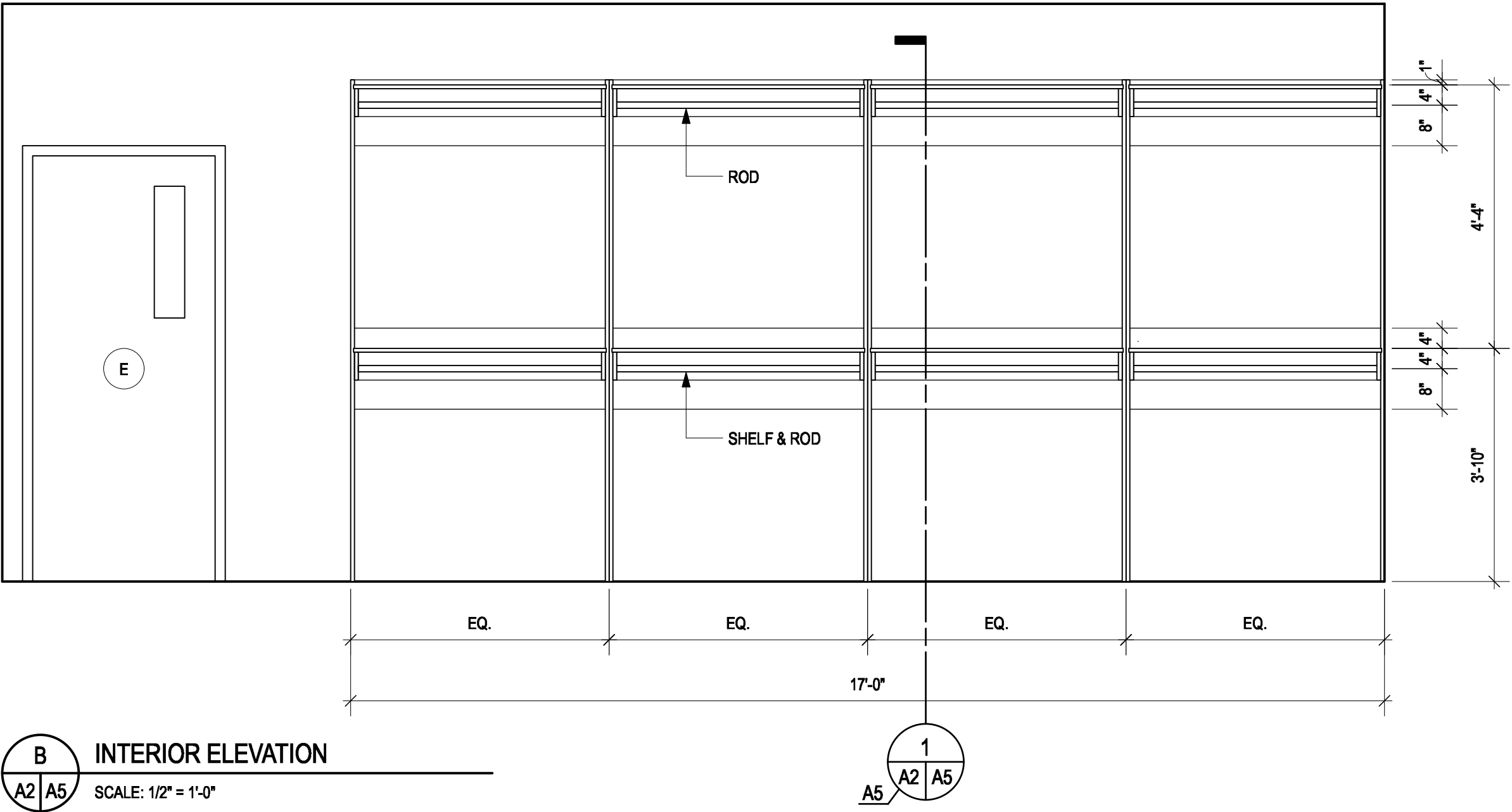
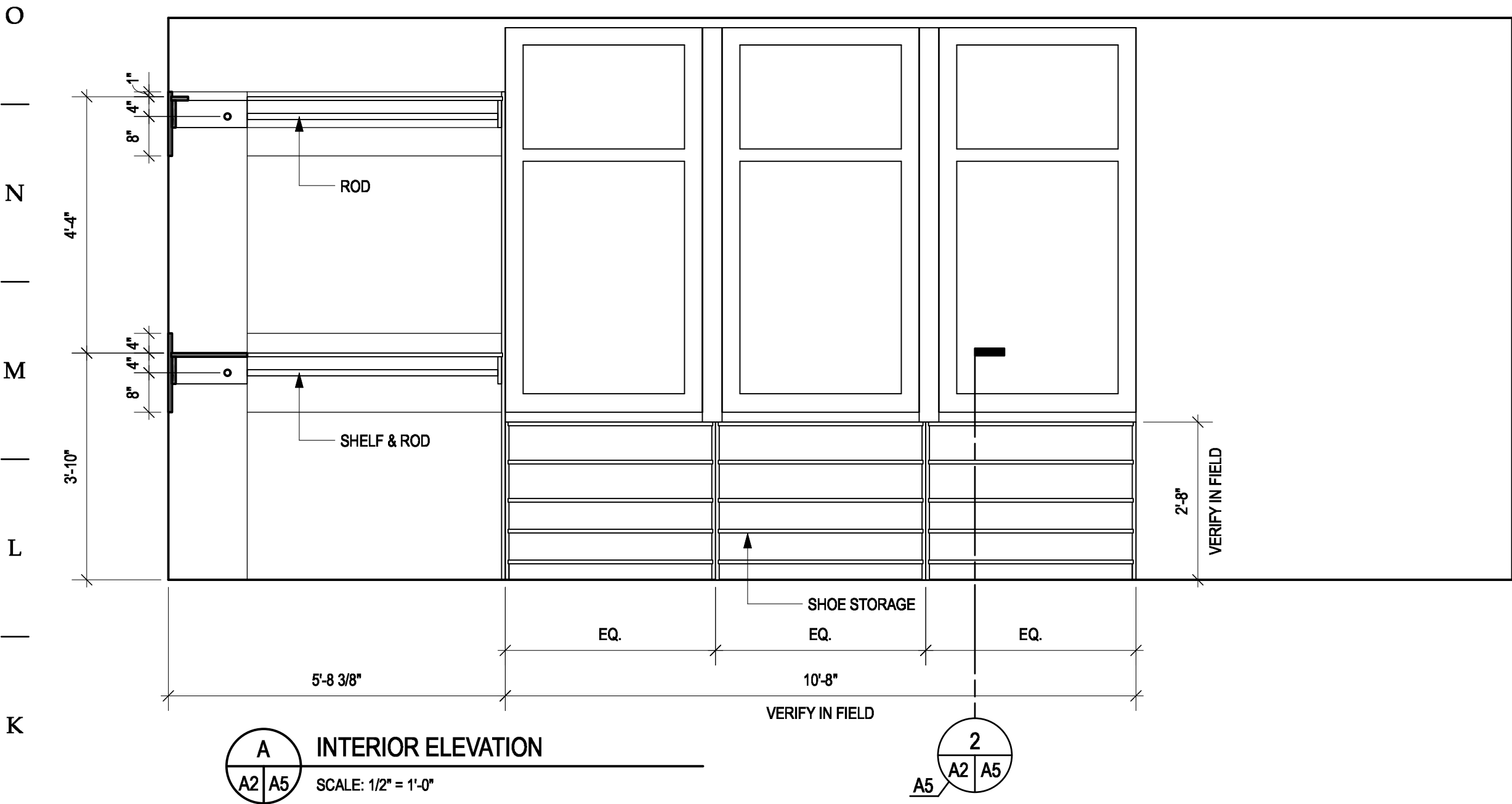
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Revisions
1 ADDENDUM NO. 1 04/08/25

Drawn XH
Checked DJJ
Date 03/13/25
Project No. 2305-10

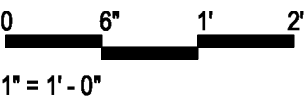
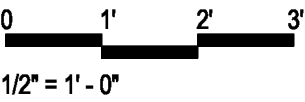
PARTIAL SECOND
FLOOR
REFLECTED
CEILING PLANS



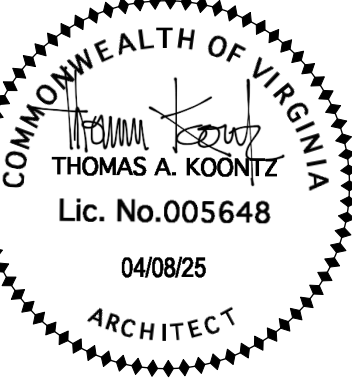
NOTE: ALL WOOD WORK TO BE PAINTED



GRAPHIC SCALES:



RENOVATIONS FOR THE
SMITH CAREER CENTER
870 WASHINGTON ST. SW
BLACKSBURG, VIRGINIA

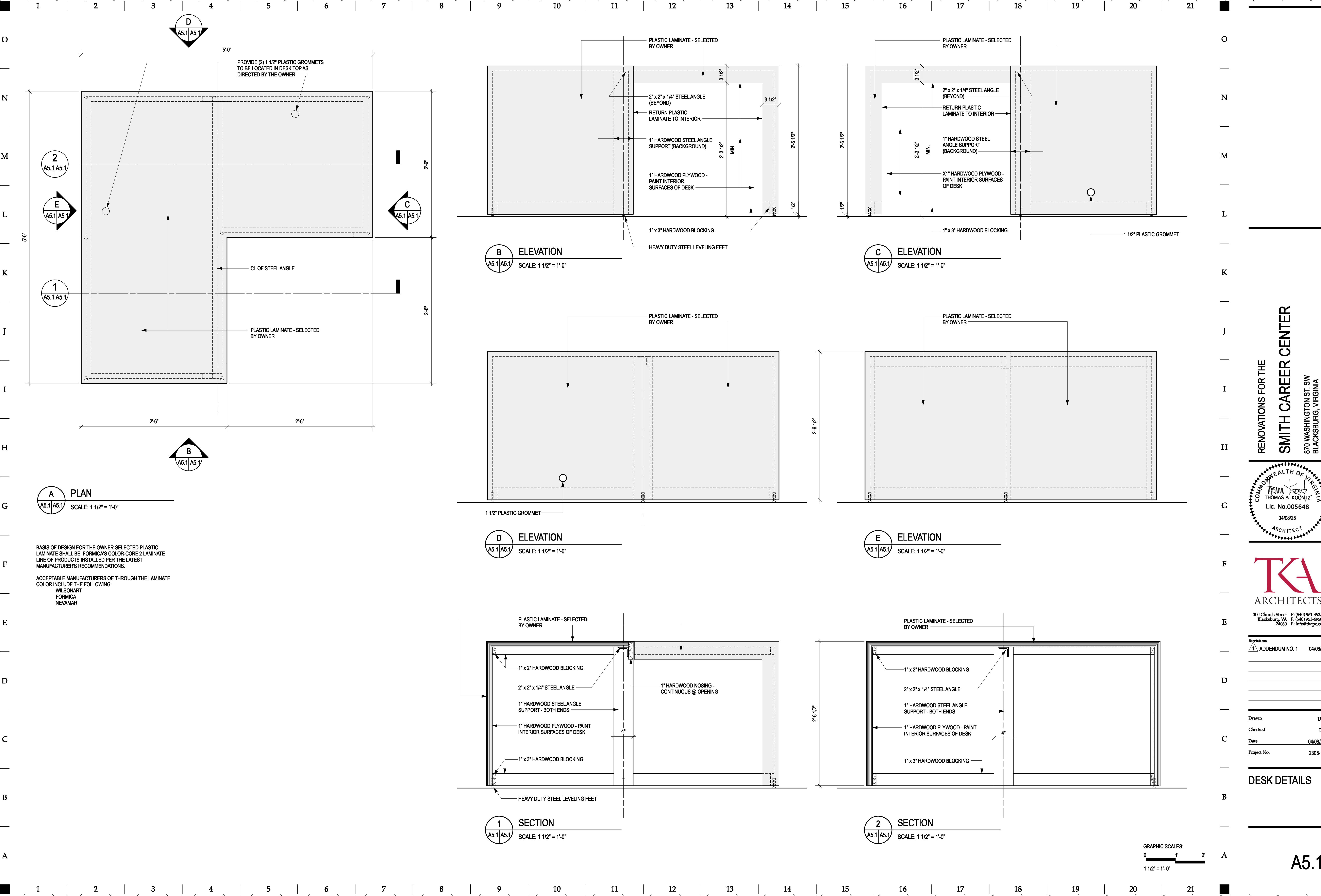


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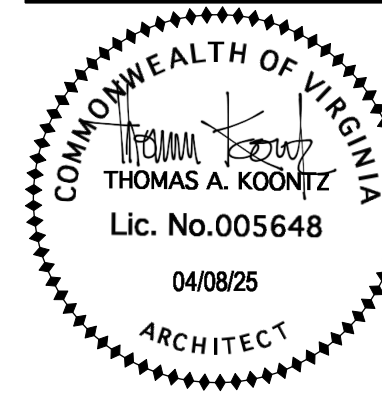
Revisions
1. ADDENDUM NO. 1 04/08/25

Drawn TAK
Checked DJJ
Date 04/08/25
Project No. 2305-10

INTERIOR
ELEVATIONS &
SECTIONS



RENOVATIONS FOR THE
SMITH CAREER CENTER
870 WASHINGTON ST. SW
BLACKSBURG, VIRGINIA



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SECTION 024119 - SELECTIVE STRUCTURE DEMOLITION

N	1.1	DESCRIPTION OF WORK
	A.	DEMOLITION INCLUDES THE COMPLETE WRECKING OF ITEMS OF EXISTING WORK INDICATED ON THE DRAWINGS AND THE PROTECTION OF EXISTING WORK TO REMAIN. DEMOLITION SHALL INCLUDE REMOVAL OF ALL EXISTING CONSTRUCTION REQUIRED TO PERMIT CONSTRUCTION OF WORK CALLED FOR IN THE DRAWINGS AND SPECIFICATIONS. REMOVAL AND DISPOSAL OF DEMOLISHED MATERIALS SHALL BE INCLUDED IN THIS WORK.
M	1.2	CONDITION OF THE BUILDING
	A.	CONDITION OF BUILDING - CONDITIONS EXISTING AT THE TIME OF INSPECTION FOR BIDDING PURPOSES WILL BE MAINTAINED BY THE OWNER IN SO FAR AS PRACTICABLE. HOWEVER, VARIATIONS WITHIN THE STRUCTURE MAY OCCUR BY OWNER'S REMOVAL AND SALVAGE OPERATIONS PRIOR TO THE START OF THE DEMOLITION WORK.
L	B.	PARTIAL REMOVAL - ITEMS OF SALVAGEABLE VALUE TO THE CONTRACTOR MAY BE REMOVED FROM THE STRUCTURE AS THE WORK PROGRESSES. SALVAGED ITEMS MUST BE TRANSPORTED FROM THE SITE AS THEY ARE REMOVED. STORAGE OR SALES OF REMOVED ITEMS ON THE SITE WILL NOT BE PERMITTED.
	C.	TRAFFIC - CONDUCT DEMOLITION OPERATIONS AND THE REMOVAL OF DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES.
K	D.	PROTECTIONS
	1.	PROVIDE TEMPORARY BARRICADES AND OTHER FORMS OF PROTECTION TO PROTECT OWNER'S PERSONNEL AND GENERAL PUBLIC FROM INJURY DUE TO SELECTIVE DEMOLITION WORK.
J	2.	ENSURE THE SAFE PASSAGE OF PERSONS AROUND THE AREA OF DEMOLITION. CONDUCT OPERATIONS TO PREVENT INJURY TO ADJACENT BUILDINGS, STRUCTURES, OTHER FACILITIES, AND PERSONS. ERECT TEMPORARY COVERED PASSAGEWAYS AS REQUIRED.
	3.	CONSTRUCT TEMPORARY INSULATED DUSTPROOF PARTITIONS WHERE REQUIRED TO SEPARATE AREAS WHERE NOISY OR EXTENSIVE DIRT OR DUST OPERATIONS ARE PERFORMED. EQUIP PARTITIONS WITH DUSTPROOF DOORS AND SECURITY LOCKS.
I	4.	REMOVE PROTECTIONS AT COMPLETION OF WORK.
	E.	DAMAGES - PROMPTLY REPAIR DAMAGES TO BUILDING AND ADJACENT FACILITIES OR PROPERTY BY DEMOLITION AND REMOVAL OPERATIONS AT NO COST TO THE OWNER. ALL REPAIRS TO THE BUILDING, BUILDING STRUCTURE, OR ADJACENT PROPERTY SHALL BE MADE FOLLOWING REVIEW AND WRITTEN APPROVAL OF THE OWNER'S PROJECT MANAGER.
H	F.	UTILITY SERVICES - MAINTAIN EXISTING UTILITIES, INDICATED TO REMAIN, KEEP IN SERVICE, AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS.
	2.1	DEMOLITION
G	A.	POLLUTION CONTROLS - USE WATER SPRINKLING, TEMPORARY ENCLOSURES, AND OTHER SUITABLE METHODS TO LIMIT THE AMOUNT OF DUST AND DIRT RISING AND SCATTERING IN THE AIR TO THE LOWEST PRACTICAL LEVEL.
	1.	COMPLY WITH GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
F	2.	DO NOT USE WATER WHEN IT MAY CREATE HAZARDOUS OR OBJECTIONABLE CONDITIONS SUCH AS ICE, FLOODING, AND POLLUTION.
	3.	CLEAN REMAINING AND ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY DEMOLITION OPERATIONS, AS DIRECTED BY THE ARCHITECT AND/OR GOVERNING AUTHORITIES. RETURN ADJACENT AREAS TO CONDITION EXISTING PRIOR TO THE START OF THE WORK.
E	4.	PROCEED WITH DEMOLITION IN A SYSTEMATIC MANNER.
	5.	LOCATE DEMOLITION EQUIPMENT THROUGHOUT THE STRUCTURE AND REMOVE MATERIALS SO AS TO NOT IMPOSE EXCESSIVE LOADS TO SUPPORTING WALLS, ROOFS, FLOORS OR STRUCTURE.
D	B.	DISPOSAL OF DEMOLISHED MATERIALS
	1.	GENERAL - REMOVE FROM THE SITE DEBRIS, RUBBISH, AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS.
C	2.	BURNING OF REMOVED MATERIALS FROM DEMOLISHED ITEMS IS NOT PERMITTED ON THE SITE.
	3.	REMOVAL - TRANSPORT MATERIALS REMOVED FROM DEMOLISHED STRUCTURES AND DISPOSE OF OFF THE SITE IN COMPLETE COMPLIANCE WITH APPLICABLE LOCAL AND STATE LAWS, REGULATIONS, AND ORDINANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AN APPROVED DISPOSAL SITE.
B	<u>SECTION 062023 - INTERIOR FINISH CARPENTRY</u>	
	1.1	MATERIALS, GENERAL
A	A.	LUMBER: DOC PS 20.
	1.	FACTORY MARK EACH PIECE OF LUMBER WITH GRADE STAMP OF INSPECTION AGENCY INDICATING GRADE, SPECIES, MOISTURE CONTENT AT TIME OF SURFACING, AND MILL. <ul style="list-style-type: none"> a. FOR EXPOSED LUMBER, MARK GRADE STAMP ON END OR BACK OF EACH OR OMIT GRADE STAMP AND PROVIDE CERTIFICATES OF GRADE COMPLIANCE ISSUED BY INSPECTION AGENCY.
Z	B.	SOFTWOOD PLYWOOD: DOC PS 1.
	C.	HARDBOARD: AHA A135.4.
Y	1.2	INTERIOR TRIM
	A.	SOFTWOOD LUMBER TRIM: <ul style="list-style-type: none"> 1. SPECIES AND GRADE: DOUGLAS FIR-LARCH OR DOUGLAS FIR SOUTH, SUPERIOR OR C & BTR FINISH; NLGA, WCLIB, OR WWPA. 2. SPECIES AND GRADE: SOUTHERN PINE, B & B FINISH; SPIB. 3. MAXIMUM MOISTURE CONTENT: 15 PERCENT.
X	B.	HARDWOOD LUMBER TRIM: <ul style="list-style-type: none"> 1. SPECIES AND GRADE: WHITE MAPLE, OR YELLOW POPLAR, CLEAR; NHLA. 2. MAXIMUM MOISTURE CONTENT: 9 PERCENT.
	C.	SHELVING: MADE FROM THE FOLLOWING MATERIAL, 3/4 INCH THICK. <ul style="list-style-type: none"> 1. MDO SOFTWOOD PLYWOOD WITH SOLID-WOOD EDGE.
W	2.1	PREPARATION
	A.	BEFORE INSTALLING INTERIOR FINISH CARPENTRY, CONDITION MATERIALS TO AVERAGE PREVAILING HUMIDITY IN INSTALLATION AREAS FOR A MINIMUM OF 24 HOURS.
V	2.2	INSTALLATION, GENERAL
	A.	INSTALL INTERIOR FINISH CARPENTRY LEVEL, PLUMB, TRUE, AND ALIGNED WITH ADJACENT MATERIALS. USE CONCEALED SHIMS WHERE NECESSARY FOR ALIGNMENT. <ul style="list-style-type: none"> 1. SCRIBE AND CUT INTERIOR FINISH CARPENTRY TO FIT ADJOINING WORK. REFINISH AND SEAL CUTS AS RECOMMENDED BY MANUFACTURER. 2. COUNTERSINK FASTENERS, FILL SURFACE FLUSH, AND SAND UNLESS OTHERWISE INDICATED. 3. INSTALL TO TOLERANCE OF 1/8 INCH IN 96 INCHES (3 MM IN 2438 MM) FOR LEVEL AND PLUMB. INSTALL ADJOINING INTERIOR FINISH CARPENTRY WITH 1/32-INCH (0.8-MM) MAXIMUM OFFSET FOR FLUSH INSTALLATION AND 1/16-INCH (1.5-MM) MAXIMUM OFFSET FOR REVEAL INSTALLATION.

SECTION 064116 PLASTIC-LAMINATE FACED ARCHITECTURAL CABINETS

A. MATERIALS

1. WOOD PRODUCTS:
 - a. SOFTWOOD PLYWOOD: DOC PS 1.
 - b. VENEER-FACED PANEL PRODUCTS (HARDWOOD PLYWOOD): HPVA HP-1, MADE WITH ADHESIVE CONTAINING NO UREA FORMALDEHYDE.
2. HIGH-PRESSURE DECORATIVE LAMINATE: NEMA LD 3, GRADES AS INDICATED OR IF NOT INDICATED, AS REQUIRED BY WOODWORK QUALITY STANDARD.

B. PLASTIC-LAMINATE COUNTERTOPS:

1. LAMINATE CLADDING FOR EXPOSED SURFACES: HIGH-PRESSURE DECORATIVE LAMINATE AS FOLLOWS:
 - a. HORIZONTAL SURFACES OTHER THAN TOPS: GRADE HGL.
 - b. VERTICAL SURFACES: GRADE VGS.
 - c. EDGES: GRADE VGS.
2. COLORS, PATTERNS, AND FINISHES: AS SELECTED BY OWNER FROM LAMINATE MANUFACTURER'S FULL RANGE OF SOLID COLORS, WOOD GRAINS, PATTERNS, GLOSS OR MATTÉ FINISH.

C. INSTALLATION

1. COUNTERTOPS: ANCHOR SECURELY BY SCREWING THROUGH SUPPORTS INTO UNDERSIDE OF COUNTERTOP. CAULT SPACE BETWEEN BACKSPLASH AND WALL WITH SEALANT SPECIFIED IN SECTION "JOINT SEALANTS."

SECTION 072100 - ACOUSTIC INSULATION

- 1.1. INSULATION:
 - A. UNFACED MINERAL WOOL BLANKET: ASTM C665, TYPE I WITH MAXIMUM FLAME-SPREAD AND SMOKE-DEVELOPED INDICES OF 25 AND 50 RESPECTIVELY, PER ASTM E 84, PASSING ASTM E 136 FOR COMBUSTION CHARACTERISTICS.
 1. UNFACED APPLICATION: SOUND ATTENUATION INSULATION.
- 1.2. EXAMINATION AND PREPARATION
 - A. VERIFY THAT SUBSTRATE AND ADJACENT MATERIALS ARE DRY AND READY TO RECEIVE INSULATION.
- 1.3. INSTALLATION – BATT INSULATION
 - A. INSTALL INSULATION IN STRICT ACCORDANCE WITH INSULATION MANUFACTURER'S INSTRUCTIONS.
 - B. FIT INSULATION TIGHT IN SPACES. LEAVE NO GAPS OR VOIDS.
 - C. INSTALL FRICTION FIT INSULATION TIGHT TO FRAMING MEMBERS, COMPLETELY FILLING PREPARED SPACES.

SECTION 079200 - JOINT SEALANTS

ELASTOMERIC SEALANT COMPOUNDS

A. ONE COMPONENT POLYURETHANE SEALANT
1. ASTM C 920, CLASS A, TYPE I (SELF-LEVELING) EXCEPT TYPE II FOR JOINTS WHICH ARE NOT HORIZONTAL.

2. PROVIDE BITUMINOUS-MODIFIED PRODUCT WHERE RECOMMENDED BY MANUFACTURER.

B. MILDEW-RESISTANT SILICONE SEALANT: 1 PART, ASTM C 920, CLASS A, RECOMMENDED BY MANUFACTURER FOR USE IN INTERIOR WET AREAS, ACID TYPE, EXCEPT NON-ACID TYPE WHERE ONE OR BOTH JOINT SURFACES ARE POROUS.

1.2 CAULKING COMPOUNDS

A. PROVIDE ONE COMPONENT POLYURETHANE CAULKING - ASTM C 920, CLASS A, TYPE I (SELF-LEVELING), EXCEPT TYPE II IF JOINTS ARE NOT HORIZONTAL.

1.3 JOINT FILLERS AND SEALANT BACKERS

A. BITUMINOUS/FIBER JOINT FILLER: ASTM D 1751, TYPE I, AND AASHO M 213.

B. CLOSED-CELL SEMI-RIGID PLASTIC JOINT FILLER: NON-STAINING, COMPRESSIBLE, LOW MODULUS OF ELASTICITY BUT RECOMMENDED BY MANUFACTURER FOR RETAINING POURED CONCRETE SLABS.

C. SEALANT BACKER ROD: NON-ABSORPTIVE CLOSED-CELL (OR JACKETED OPEN CELL) COMPRESSIBLE/FLEXIBLE PLASTIC/RUBBER ROD STOCK WHICH IS COMPATIBLE WITH SEALANT PER MANUFACTURER'S RECOMMENDATION (POLYETHYLENE, BUTYL, NEOPRENE, POLYURETHANE, PVC).

D. OAKUM JOINT FILLER: HEMP OR JUTE, FREE OF OIL AND TAR.

E. BOND BREAKER TAPE: POLYETHYLENE OR OTHER PLASTIC TAPE WHICH WILL NOT BOND TO SEALANT, SELF-ADHESIVE.

1.4 JOINT SURFACE PREPARATION:

A. CLEAN JOINT SURFACES IMMEDIATELY BEFORE INSTALLATION OF SEALANT OR CAULKING COMPOUND. REMOVE DIRT, INSECURE COATINGS, MOISTURE AND OTHER SUBSTANCES WHICH WOULD INTERFERE WITH BOND OF SEALANT OR CAULKING COMPOUND.

B. FOR ELASTOMERIC SEALANTS, DO NOT PROCEED WITH INSTALLATION OF SEALANT OVER JOINT SURFACES WHICH HAVE BEEN PAINTED, LACQUERED, WATERPROOFED OR TREATED WITH WATER REPELLENT OR OTHER TREATMENT OR COATING UNLESS A LABORATORY TEST FOR DURABILITY (ADHESION) HAS SUCCESSFULLY DEMONSTRATED THAT SEALANT BOND IS NOT IMPAIRED BY COATING OR TREATMENT. IF LABORATORY TEST HAS NOT BEEN PERFORMED, OR SHOWS BOND INTERFERENCE, REMOVE COATING OR TREATMENT FROM JOINT SURFACES BEFORE INSTALLING SEALANT.

C. ROUGHEN JOINT SURFACES ON VITREOUS COATED AND SIMILAR NON-POROUS MATERIALS, WHERE SEALANT MANUFACTURER'S DATA INDICATES LOWER BOND STRENGTH THAN FOR POROUS SURFACES. RUB WITH FINE ABRASIVE TO PRODUCE A DULL SHEEN.

1.5 INSTALLATION:

A. COMPLY WITH SEALANT MANUFACTURER'S PRINTED INSTRUCTIONS EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE SHOWN OR SPECIFIED AND EXCEPT WHERE MANUFACTURER'S TECHNICAL REPRESENTATIVE DIRECTS OTHERWISE.

B. SEALANT INSTALLATION STANDARD: COMPLY WITH RECOMMENDATIONS OF ASTM C 1193 FOR USE OF JOINT SEALANTS AS APPLICABLE TO MATERIALS, APPLICATIONS, AND CONDITIONS INDICATED.

C. PRIME OR SEAL JOINT SURFACES WHERE SHOWN OR RECOMMENDED BY SEALANT MANUFACTURER. DO NOT ALLOW PRIMER/SEALER TO SPILL OR MIGRATE ONTO ADJOINING SURFACES.

D. INSTALL SEALANT BACKER ROD FOR LIQUID SEALANTS, EXCEPT WHERE SHOWN TO BE OMITTED OR RECOMMENDED TO BE OMITTED BY SEALANT MANUFACTURER FOR THE APPLICATION SHOWN.

E. INSTALL BOND BREAKER TAPE WHERE SHOWN AND WHERE REQUIRED BY MANUFACTURER'S RECOMMENDATIONS TO ENSURE THAT ELASTOMERIC SEALANTS WILL PERFORM PROPERLY.

F. EMPLOY ONLY PROVEN INSTALLATION TECHNIQUES, WHICH WILL ENSURE THAT SEALANTS WILL BE EPOSITED IN UNIFORM, CONTINUOUS RIBBONS WITHOUT GAPS OR AIR POCKETS, WITH COMPLETE "WETTING" OF JOINT BOND SURFACES EQUALLY ON OPPOSITE SIDES, EXCEPT AS OTHERWISE INDICATED, FILL SEALANT RABBIT TO A SLIGHTLY CONCAVE SURFACE, SLIGHTLY BELOW ADJOINING SURFACES. WHERE HORIZONTAL JOINTS ARE BETWEEN A HORIZONTAL SURFACE AND A VERTICAL SURFACE, FILL JOINT TO FORM A SLIGHT COVE, SO THAT JOINT WILL NOT TRAP MOISTURE AND DIRT.

G. INSTALL SEALANTS TO DEPTHS AS SHOWN OR, IF NOT SHOWN, AS RECOMMENDED BY SEALANT MANUFACTURER BUT WITHIN THE FOLLOWING GENERAL LIMITATIONS, MEASURED AT CENTER (THIN) SECTION OF BEAD.

1. FOR NORMAL MOVING JOINTS SEALED WITH ELASTOMERIC SEALANTS, BUT NOT SUBJECT TO TRAFFIC, FILL JOINTS TO A DEPTH EQUAL TO 50% OF JOINT WIDTH, BUT NEITHER MORE THAN 1/2" DEEP NOR LESS THAN 1/4" DEEP.

2. FOR JOINTS SEALED WITH NON-ELASTOMERIC SEALANTS AND CAULKING COMPOUNDS, FILL JOINTS TO A DEPTH IN THE RANGE OF 75% TO 125% OF JOINT WIDTH.

- H. SPILLAGE: DO NOT ALLOW SEALANTS OR COMPOUNDS TO OVERFLOW OR SPILL ONTO ADJOINING SURFACES, OR TO MIGRATE INTO VOIDS OF ADJOINING SURFACES INCLUDING EXPOSED AGGREGATE PANELS AND SIMILAR ROUGH TEXTURES. USE MASKING TAPE OR OTHER PRECAUTIONARY DEVICES TO PREVENT STAINING OF ADJOINING SURFACES, BY EITHER PRIMER/SEALER OR THE SEALANT/CAULKING COMPOUND.
- I. REMOVE EXCESS AND SPILLAGE OF COMPOUNDS PROMPTLY AS THE WORK PROGRESSES. CLEAN ADJOINING SURFACES BY WHATEVER MEANS MAY BE NECESSARY TO ELIMINATE EVIDENCE OF SPILLAGE, WITHOUT DAMAGE TO ADJOINING SURFACES OR FINISHES.
- 1.6 CURE AND PROTECTION:
 - A. CURE SEALANTS AND CAULKING COMPOUNDS IN COMPLIANCE WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS, TO OBTAIN HIGH EARLY BOND STRENGTH, INTERNAL COHESIVE STRENGTH AND SURFACE DURABILITY. DO NOT CURE IN A MANNER WHICH WOULD SIGNIFICANTLY ALTER MATERIAL'S MODULUS OF ELASTICITY OR OTHER CHARACTERISTICS.
 - B. INSTALLER SHALL ADVISE CONTRACTOR OF PROCEDURES REQUIRED FOR CURING AND PROTECTION OF SEALANTS AND CAULKING COMPOUNDS DURING CONSTRUCTION PERIOD, SO THAT THEY WILL BE WITHOUT DETERIORATION OR DAMAGE AT TIME OF OWNER'S ACCEPTANCE.

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

1.1 MATERIALS

A. FRAMING MEMBERS, GENERAL: COMPLY WITH ASTM C 754 FOR CONDITIONS INDICATED.

1. STEEL SHEET COMPONENTS: COMPLY WITH ASTM C 645 REQUIREMENTS FOR METAL OTHERWISE INDICATED.
2. PROTECTIVE COATING: ASTM A 653, G40 HOT-DIP GALVANIZED UNLESS OTHERWISE INDICATED.

B. STUDS AND TRACKS: ASTM C 645.

1. STEEL STUDS AND TRACKS:
 - a. MINIMUM BASE-METAL THICKNESS: 0.0329.
 - b. DEPTH: AS INDICATED ON DRAWINGS.
 - c. PROTECTIVE COATING: ASTM A653/A653M, G60, HOT-DIPPED GALVANIZED ZINC COATING, UNLESS OTHERWISE INDICATED.
 - d. SLIP-TYPE HEAD JOINTS: WHERE INDICATED, PROVIDE ONE OF THE FOLLOWING IN THICKNESS NOT LESS THAN INDICATED FOR STUDS AND IN WIDTH TO ACCOMMODATE DEPTH OF STUDS:
2. SINGLE-LOBBLE RUNNER SYSTEM: ASTM C 645 TOP RUNNER WITH 2 INCH (51MM) DEEP FLANGES, INSTALLED WITH STUDS FRICTION FIT INTO TOP RUNNER AND WITH CONTINUOUS BRIDGING LOCATED WITHIN 12 INCHES (305 MM) OF THE TOP OF STUDS TO PROVIDE LATERAL BRACING.
3. DEFLECTION TRACK: STEEL SHEET TOP RUNNER MANUFACTURED TO PREVENT CRACKING OF FINISHES DUE TO DEFLECTION OF STRUCTURE ABOVE; IN THICKNESS NOT LESS THAN INDICATED FOR STUDS AND IN WIDTH TO ACCOMMODATE DEPTH OF STUDS.

C. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. DIETRICH METAL FRAMING; SLP-TRK SLOTTED DEFLECTION TRACK.
2. MBA BUILDING SUPPLIES; FLATSTEEL DEFLECTION TRACK OR SLOTTED DEFLECTO TRACK.
3. STEEL NETWORK INC. (TH); VERTITRACK VTD SERIES.
4. SUPERIOR METAL TRIM; SUPERIOR FLEX TRACK SYSTEM (SFT).
5. TELLING INDUSTRIES; VERTICAL SLIP TRACK.

D. FLAT STRAP AND BACKING PLATE: STEEL SHEET FOR BLOCKING AND BRACING IN LENGTH AND WIDTH INDICATED.

1. MINIMUM BASE-METAL THICKNESS: 0.0269 INCH.

E. COLD-ROLLED CHANNEL BRIDGING: STEEL, 0.0538-INCH MINIMUM BASE-METAL THICKNESS, WITH MINIMUM 1/2-INCH-WIDE FLANGES S

1. DEPTH: AS INDICATED ON DRAWINGS.
2. CLIP ANGLE: NOT LESS THAN 1-1/2 BY 1-1/2 INCHES, 0.068 INCH THICK, GALVANIZED STEEL.

1.2 AUXILIARY MATERIALS

A. FASTENERS FOR METAL FRAMING: OF TYPE, MATERIAL, SIZE, CORROSION RESISTANCE, HOLDING POWER, AND OTHER PROPERTIES REQUIRED TO FASTEN STEEL MEMBERS TO SUBSTRATES.

2.1 INSTALLATION, GENERAL

A. INSTALLATION STANDARD: ASTM C 754.

1. GYPSUM BOARD ASSEMBLIES: ALSO COMPLY WITH REQUIREMENTS IN ASTM C 840 THAT APPLY TO FRAMING INSTALLATION.
- B. INSTALL SUPPLEMENTARY FRAMING, AND BLOCKING TO SUPPORT FIXTURES, EQUIPMENT SERVICES, HEAVY TRIM, GRAB BARS, TOILET ACCESSORIES, FURNISHINGS, OR SIMILAR CONSTRUCTION.
- C. INSTALL BRACING AT TERMINATIONS IN ASSEMBLIES.
- D. DO NOT BRIDGE BUILDING CONTROL AND EXPANSION JOINTS WITH
- E. NON-LOAD-BEARING STEEL FRAMING MEMBERS. FRAME BOTH SIDES OF JOINTS INDEPENDENTLY.

2.2 INSTALLING FRAMED ASSEMBLIES

A. INSTALL FRAMING SYSTEM COMPONENTS ACCORDING TO SPACINGS INDICATED, BUT NOT GREATER THAN SPACINGS REQUIRED BY REFERENCED INSTALLATION STANDARDS FOR ASSEMBLY TYPES.

B. INSTALL STUDS SO FLANGES WITHIN FRAMING SYSTEM POINT IN SAME DIRECTION.

C. INSTALL TRACKS (RUNNERS) AT FLOORS AND OVERHEAD SUPPORTS. EXTEND FRAMING FULL HEIGHT TO STRUCTURAL SUPPORTS OR SUBSTRATES ABOVE SUSPENDED CEILINGS, EXCEPT WHERE PARTITIONS ARE INDICATED TO TERMINATE AT SUSPENDED CEILINGS. CONTINUE FRAMING AROUND DUCTS PENETRATING PARTITIONS ABOVE CEILING.

1. SLIP-TYPE HEAD JOINTS: WHERE FRAMING EXTENDS TO OVERHEAD STRUCTURAL SUPPORTS, INSTALL TO PRODUCE JOINTS AT TOPS OF FRAMING SYSTEMS THAT PREVENT AXIAL LOADING OF FINISHED ASSEMBLIES.

2. DOOR OPENINGS: SCREW VERTICAL STUDS AT JAMBS TO JAMB ANCHOR CLIPS ON DOOR FRAMES; INSTALL RUNNER TRACK SECTION (FOR CRIPPLE STUDS) AT HEAD AND SECURE TO JAMB STUDS.

D. INSTALL TWO STUDS AT EACH JAMB UNLESS OTHERWISE INDICATED.

E. INSTALL CRIPPLE STUDS AT HEAD ADJACENT TO EACH JAMB STUD, WITH A MINIMUM 1/2 INCH CLEARANCE FROM JAMB STUD TO ALLOW FOR INSTALLATION OF CONTROL JOINT IN FINISHED ASSEMBLY.

SECTION 092900 - GYPSUM BOARD

1.1 MATERIALS

A. AVAILABLE MANUFACTURERS: GEORGIA PACIFIC GYPSUM, LLC; UNITED STATES GYPSUM COMPANY (USG); NATIONAL GYPSUM COMPANY.

B. REGULAR GYPSUM BOARD: 5/8 INCH THICK, MAXIMUM PERMISSIBLE LENGTH; ENDS SQUARE CUT, TAPERED EDGES; UNLESS NOTED OTHERWISE. COMPLY WITH ASTM C 36.

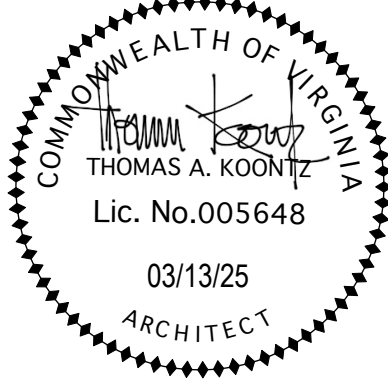
C. MOISTURE RESISTANT: 5/8 INCH THICK, MAXIMUM PERMISSIBLE LENGTH; ENDS SQUARE CUT, TAPERED EDGES; UNLESS NOTED OTHERWISE. COMPLY WITH ASTM C 630.

1. APPLICATION:
 1. REGULAR GYPSUM BOARD APPLICATION: ALL LOCATIONS NOT NOTED OTHERWISE.
- 1.2 ACCESSORIES
 - A. CORNER BEADS: GALVANIZED STEEL; WITH METAL FLANGES.
 - B. CONTROL JOINT: GALVANIZED STEEL; ONE-PIECE FORMED WITH V-SHAPED SLOT WITH REMOVABLE STRIP COVERING SLOT OPENING.
 - C. JOINT MATERIALS: GA 201 AND GA 216, REINFORCING TAPE, JOINT COMPOUND, ADHESIVE, AND WATER, SINGLE COMPOUND TREATMENT SYSTEM AS RECOMMENDED BY DRYWALL MANUFACTURER.
 - D. FASTENERS: ASTM C1002 TYPE S12 HARDENED SCREWS, GA 216.
 - E. ADHESIVE: ASTM C557, GA 216.
- 1.3 INSTALLATION
 - A. INSTALL GYPSUM BOARD IN ACCORDANCE WITH GA 201, GA 216 AND MANUFACTURER'S INSTRUCTIONS.
 - B. FASTEN GYPSUM BOARD TO FRAMING WITH SCREWS.
 - C. INSTALL WALL BOARDS IN LENGTHS AND DIRECTIONS WHICH WILL MINIMIZE END JOINTS.
 - D. PROVIDE ACOUSTICAL SEALANT AT EDGES, INTERRUPTIONS, AND OPENING THROUGH DRYWALL WORK, CONCEALED BEHIND EDGE OF BOARD.
 - E. TRIM DRYWALL AT EXTERNAL CORNERS WITH CORNER BEADS. SECURELY FASTEN BEADS TO SUBSTRATES. CRIMPING OF BEAD FLANGES WILL NOT BE PERMITTED.
 - F. PROVIDE CASING BEAD AT EXPOSED EDGES OF WALLBOARD, AND WHEREVER DRYWALL ABUTS FLUSH WITH OTHER WALL OR CEILING FINISH.
 - G. PLACE CONTROL JOINTS COMPATIBLE WITH LINES OF BUILDING SPACES AND AS RECOMMENDED BY MANUFACTURER.
 - H. ALL JOINT COMPOUND SHALL BE SMOOTH AND FREE OF TOOL MARKS AND RIDGES.
- I. GYPSUM BOARD FINISH LEVEL:
 1. LEVEL 4: ALL JOINTS, INTERIOR ANGLES, FASTENER HEADS, AND ACCESSORIES SHALL HAVE TAPE EMBEDDED IN JOINT COMPOUND AND TWO SEPARATE COATS OF JOINT COMPOUND APPLIED OVER ALL JOINTS; ANGLES; FASTENER HEADS AND ACCESSORIES. THE SURFACE SHALL BE SMOOTH AND FREE OF TOOL MARKS AND RIDGES. COVER THE ENTIRE SURFACE WITH A DRYWALL PRIMER PRIOR TO THE APPLICATION OF THE FINAL DECORATION/PAINT COATING.
 - J. PROTECT ADJACENT SURFACES FROM DRYWALL COMPOUND AND TEXTURE FINISHES AND PROMPTLY REMOVE FROM FLOORS AND OTHER NON-DRYWALL SURFACES. REPAIR SURFACES STAINED, MARRED, OR OTHERWISE DAMAGED DURING DRYWALL APPLICATION.
 - K. REMOVE AND REPLACE PANELS THAT ARE WET, MOISTURE DAMAGED, AND MOLD DAMAGED.

SECTION 096513 - RESILIENT WALL BASE

- 1.1 ACTION SUBMITTALS
 - A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.
- 2.1 AVAILABLE MANUFACTURERS:
 - A. ROPPE; JOHNSONITE; MANNINGTON; ARMSTRONG.
- 2.2 THERMOSET-RUBBER BASE
 - A. STYLE: B, COVE
 - B. THICKNESS: 0.125 INCH
 - C. HEIGHT: 4 INCHES.
 - D. LENGTHS: COILS IN MANUFACTURER'S STANDARD LENGTH.
 - E. INSIDE AND OUTSIDE CORNERS: JOB FORMED.
 - F. COLORS: TO MATCH EXISTING; VERIFY COLOR SELECTION WITH OWNER'S PROJECT MANAGER.
- 2.3 INSTALLATION MATERIALS
 - A. ADHESIVES: WATER-RESISTANT TYPE RECOMMENDED BY RESILIENT-PRODUCT MANUFACTURER FOR RESILIENT PRODUCTS AND SUBSTRATE CONDITIONS INDICATED. PROVIDE LOW OR NO-VOC ADHESIVE.
- 3.1 PREPARATION
 - A. PREPARE SUBSTRATES ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS TO ENSURE ADHESION OF RESILIENT PRODUCTS.
 - B. DO NOT INSTALL RESILIENT PRODUCTS UNTIL THEY ARE THE SAME TEMPERATURE AS THE SPACE WHERE THEY ARE TO BE INSTALLED.
 - C. IMMEDIATELY BEFORE INSTALLATION, SWEEP AND VACUUM CLEAN SUBSTRATES TO BE COVERED BY RESILIENT PRODUCTS.
- 3.2 RESILIENT BASE INSTALLATION
 - A. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLING RESILIENT BASE.
 - B. VERIFY THAT WALL SURFACES ARE SMOOTH AND FLAT WITHIN TOLERANCES PER MANUFACTURER RECOMMENDATIONS. WALLS SHALL BE DUST-FREE AND READY TO RECEIVE RESILIENT BASE PRIOR TO INSTALLATION.
 - C. APPLY RESILIENT BASE TO WALLS, COLUMNS, PILASTERS, CASEWORK AND CABINETS IN TOE SPACES, AND OTHER PERMANENT FIXTURES IN ROOMS AND AREAS WHERE BASE IS REQUIRED.
 - D. INSTALL RESILIENT BASE IN LENGTHS AS LONG AS PRACTICAL WITHOUT GAPS AT SEAMS AND WITH TOPS OF ADJACENT PIECES ALIGNED.
 - E. TIGHTLY ADHERE RESILIENT BASE TO SUBSTRATE THROUGHOUT LENGTH OF EACH PIECE, WITH BASE IN CONTINUOUS CONTACT WITH HORIZONTAL AND VERTICAL SUBSTRATES.
 - F. DO NOT STRETCH RESILIENT BASE DURING INSTALLATION.
 - G. ON MASONRY SURFACES OR OTHER SIMILAR IRREGULAR SUBSTRATES, FILL VOIDS ALONG TOP EDGE OF RESILIENT BASE WITH MANUFACTURER'S RECOMMENDED ADHESIVE FILLER MATERIAL.

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Revisions	
Drawn	XH
Checked	DJJ
Date	03/13/25
Project No.	2305-10

SPECIFICATIONS

[illegible]

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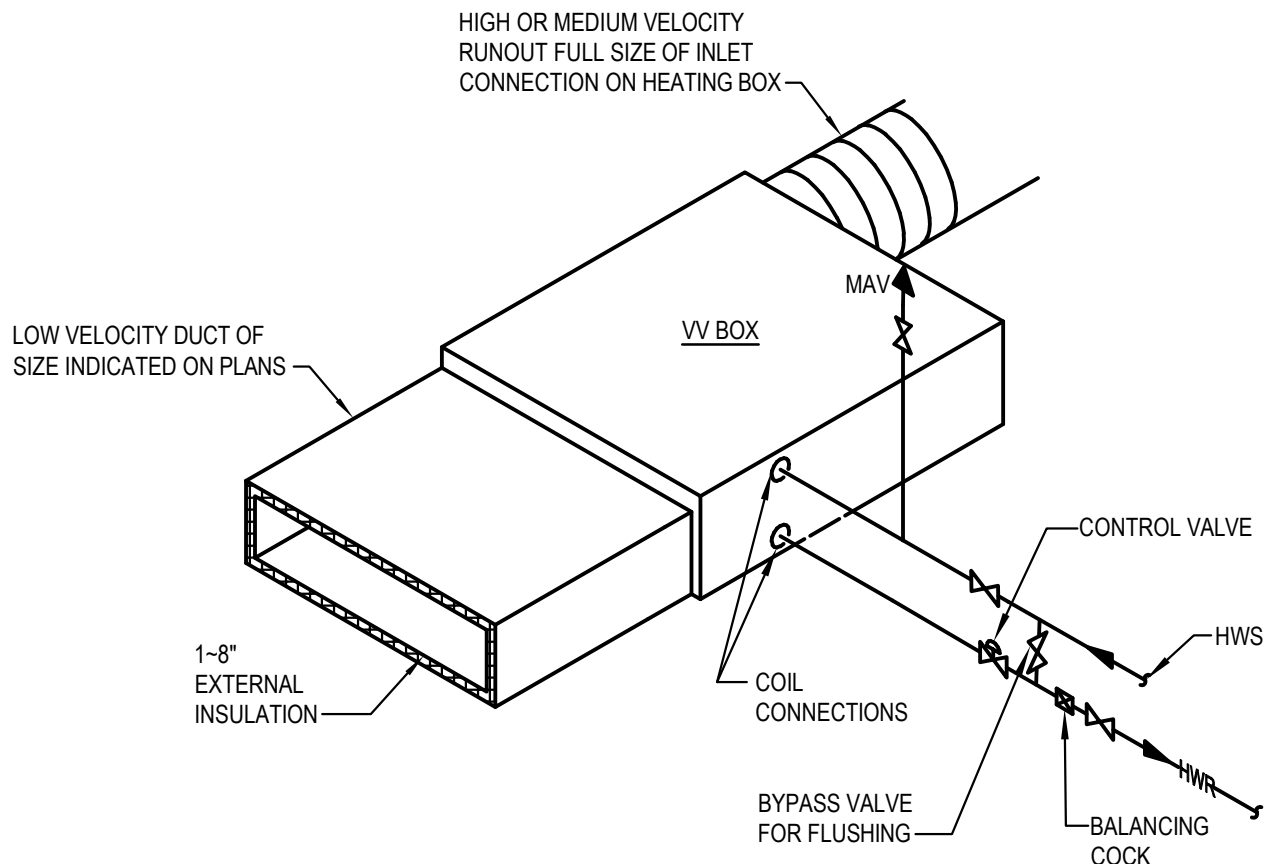
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GRILLES, REGISTERS AND DIFFUSERS: PRICE									
MARK	SERVICE	TYPE	MATERIAL	FACE SIZE, IN. x IN.	NECK SIZE, IN. x IN.	MAX AIR P.D., IN. H ₂ O	MAX N. C.	MODEL #	NOTES
CD	SUPPLY	LAY-IN DIFFUSER	STEEL	24"x24"	8" ø	0.1	25	SCD	1, 2
CG	RETURN	SURFACE MOUNTED GRILLE	STEEL	VARIES	VARIES	0.1	25	530	3
CR	SUPPLY	SURFACE MOUNTED REGISTER	STEEL	VARIES	VARIES	0.1	25	520D	5
NOTES:									
1. DIFFUSER SHALL BE 4-WAY UNLESS OTHERWISE NOTED.									
2. FLEX DUCT CONNECTION SHALL EQUAL THE DIAMETER OF DIFFUSER CONNECTION UNLESS NOTED OTHERWISE.									
3. PROVIDE SURFACE MOUNT FRAME AS REQUIRED FOR INSTALLATION IN HARD CEILING OR WALL. COORDINATE WITH REFLECTED CEILING PLAN.									
4. DOUBLE DEFLECTION SUPPLY GRILLE OR REGISTER.									

TERMINAL UNIT SCHEDULE: TRANE VCWF											
MARK	EXIST OR NEW	SIZE	APD INCHES H ₂ O	AIR VALVE			HEATING CAPACITY			RUNOUTS INCHES	
				MAX (CFM)	MIN (CFM)	HEATING CFM	MAX PD FT H ₂ O	MBH	GPM		
V-17	EXIST TO REMAIN	06-6	0.26	230	115		0.6	9.90	1	3/4	
V-18	DELETED	06-6	0.23	230	230		0.6	8.80	1	3/4	
V-19	DELETED	11-8	0.13	540	270		0.5	13.90	0.5	3/4	
V-22	DELETED	11-8	0.24	690	345		1.6	18.00	2	3/4	
V-23	DELETED	11-8	0.21	220	220		0.5	8.70	2	3/4	
V-24	EXIST TO REMAIN	03-5	0.18	200	200		0.5	8.50	1	3/4	
V-45	NEW	06	0.31	430	130	215	3.37	10.38	1.5	3/4	
V-46	NEW	06	0.3	420	125	215	1.66	9.82	1	3/4	
V-47	NEW	06	0.31	430	130	215	3.37	10.38	1.5	3/4	
V-48	NEW	06	0.31	430	130	215	3.37	10.38	1.5	3/4	
V-49	NEW	06	0.31	430	130	215	3.37	10.38	1.5	3/4	
V-50	NEW	06	0.63	500	150	250	1.21	17.87	1.5	3/4	

- NOTES:
1. PROVIDE WITH SIEMENS TEMPERATURE SENSOR CONNECTED TO EXISTING BAS.
 2. HEATING CAPACITY BASED ON 180F EWT.
 3. APD BASED ON PRESSURE DROP THROUGH VALVE AND HEATING COIL.



VARIABLE VOLUME HEATING
BOX CONNECTION
SCHEMATIC

GENERAL NOTES:

1. DUCTWORK MATERIALS AND INSTALLATION SHALL MATCH EXISTING CONSTRUCTION AND COMPLY WITH LATEST SMACNA STANDARDS.
2. ALL DUCTWORK AND PIPES SHALL BE COORDINATED WITH OTHER NEW DUCTS, PIPES, LIGHTS, STRUCTURAL SYSTEM, CEILING SUPPORTS AND FRAMING BEFORE INSTALLATION. MINOR DUCT AND PIPE OFFSETS AND MINOR DUCT TRANSITIONS SHALL BE PROVIDED AS REQUIRED. WHERE TRANSITIONS ARE REQUIRED, CROSS SECTIONAL AREA OF DUCT SHALL NOT BE REDUCED. MEASUREMENTS FOR VERTICAL CLEARANCES OF DUCTWORK SHALL BE TAKEN AT THE JOB SITE BEFORE FABRICATION OF ANY DUCTWORK.
3. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTRUCTIONS.
4. MATERIALS AND INSTALLATION SHALL COMPLY WITH LOCAL CODES, APPLICABLE PROVISIONS OF LATEST EDITION OF NATIONAL FIRE PROTECTION ASSOCIATION, LOCAL UTILITY REGULATIONS AND GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.
5. CONTRACTOR SHALL SEAL AND FLASH ALL PENETRATIONS IN ROOF AND WALLS. VERIFY ROOF AND WALL OPENINGS WITH STRUCTURE.
6. VERIFY THE LOCATION OF ALL THERMOSTATS, TEMPERATURE / HUMIDITY SENSORS, PANELS AND CONTROL INSTRUMENTS WITH THE ARCHITECT AND OWNER PRIOR TO ROUGH-IN. MOUNT ALL WALL DEVICES 48\"/>
7. REFER TO EXISTING AND NEW ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS TO COORDINATE THE EXACT LOCATIONS OF DIFFUSERS, REGISTERS, GRILLES, PIPING AND OTHER MECHANICAL EQUIPMENT WITH CEILING GRID, LIGHTS, BEAMS AND OTHER BUILDING COMPONENTS.
8. CONTRACTOR SHALL PROVIDE ALL SUPPORTS REQUIRED TO MOUNT MECHANICAL EQUIPMENT, PIPING AND DUCTWORK.
9. PROVIDE FLEXIBLE DUCT CONNECTIONS BETWEEN THE SUPPLY AND RETURN DUCTS FROM THE AIR HANDLING UNITS.
10. PROVIDE AIR TIGHT SEAL BETWEEN DUCTWORK AND FLOOR OR FIRE PARTITION WITH FIRE RESISTANT MATERIAL. FILL MATERIAL SHALL COMPLY WITH AN APPROPRIATE UL FIRESTOP DETAIL.
11. ALL CEILING DIFFUSERS SHALL BE 4-WAY THROW TYPE UNLESS NOTED OTHERWISE.
12. FOR EXACT LOCATIONS OF CEILING DEVICES, SEE REFLECTED CEILING PLAN.
13. PROVIDE ACCESS DOORS OF SUFFICIENT SIZE FOR ALL CONCEALED CONTROLS, DAMPERS OR ANY ITEMS REQUIRING ACCESS.
14. TURNING VANES SHALL BE PROVIDED IN ALL SQUARE ELBOWS OF SUPPLY AND RETURN DUCTWORK.
15. ALL REMOTE MOUNTED TEMPERATURE CONTROL DEVICES AND TEMPERATURE CONTROL WIRING SHALL BE FURNISHED AND INSTALLED BY THE CONTROLS CONTRACTOR.
16. CEILING GRID AND OTHER ITEMS SHALL NOT BE SUPPORTED FROM OR IN CONTACT WITH VARIABLE AIR VOLUME TERMINALS. CONDUIT, WIRING, PIPING AND SUPPORTS SHALL NOT BE LOCATED BELOW VAV TERMINAL ACCESS PANELS.
17. DUCTWORK AND PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL PANELS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING WITH ELECTRICAL PANELS WHEN SHOWN NEAR PANELS OR OVER ELECTRICAL ROOMS.
18. INSTRUCT THE OWNER IN THE PROPER OPERATION AND MAINTENANCE OF THE MECHANICAL SYSTEMS UNTIL THE OWNER IS FULLY PREPARED TO OPERATE AND MAINTAIN THE MECHANICAL SYSTEM. HOWEVER, LENGTH OF INSTRUCTION TIME SHALL BE LIMITED TO ONE DAY.
19. SYSTEMS SHALL OPERATE UNDER CONDITIONS OF LOAD WITHOUT UNUSUAL OR EXCESSIVE NOISE OR VIBRATION. UNUSUAL OR EXCESSIVE NOISE OR VIBRATION SHALL BE CORRECTED.
20. EQUIPMENT, MATERIALS AND LABOR REQUIRED BY THESE CONTRACT DRAWINGS SHALL BE GUARANTEED TO BE FREE FROM DEFECTIVE MATERIALS OR WORKMANSHIP FOR ONE YEAR AFTER FINAL ACCEPTANCE OF THE PROJECT UNLESS SPECIFIED OTHERWISE. DEFECTIVE MATERIALS OR WORKMANSHIP OCCURRING DURING THIS PERIOD SHALL BE CORRECTED AT NO ADDITIONAL COST.
21. DUE TO THE DRAWINGS BEING DIAGRAMMATICAL IN NATURE, THE DRAWINGS DO NOT SHOW ALL RISES AND DROPS IN DUCTWORK AND PIPING THAT MAY BE REQUIRED. THE CONTRACTOR SHALL INCLUDE THESE IN THE BID. WHERE POSSIBLE, ALL RISES AND DROPS SHALL BE CONSTRUCTED USING 45 DEGREE OR LONG RADIUS ELBOWS.
22. THE PROJECT SCOPE IS TO PROVIDE NEW VAV BOXES, DUCTWORK AND AIR DEVICES AS INDICATED THAT MATCH EXISTING CONSTRUCTION, AND TO MODIFY EXISTING DUCTWORK AND CONTROLS TO MEET THE PARTICULAR AIRFLOW REQUIREMENTS OF THE UPDATED SPACE LAYOUT.

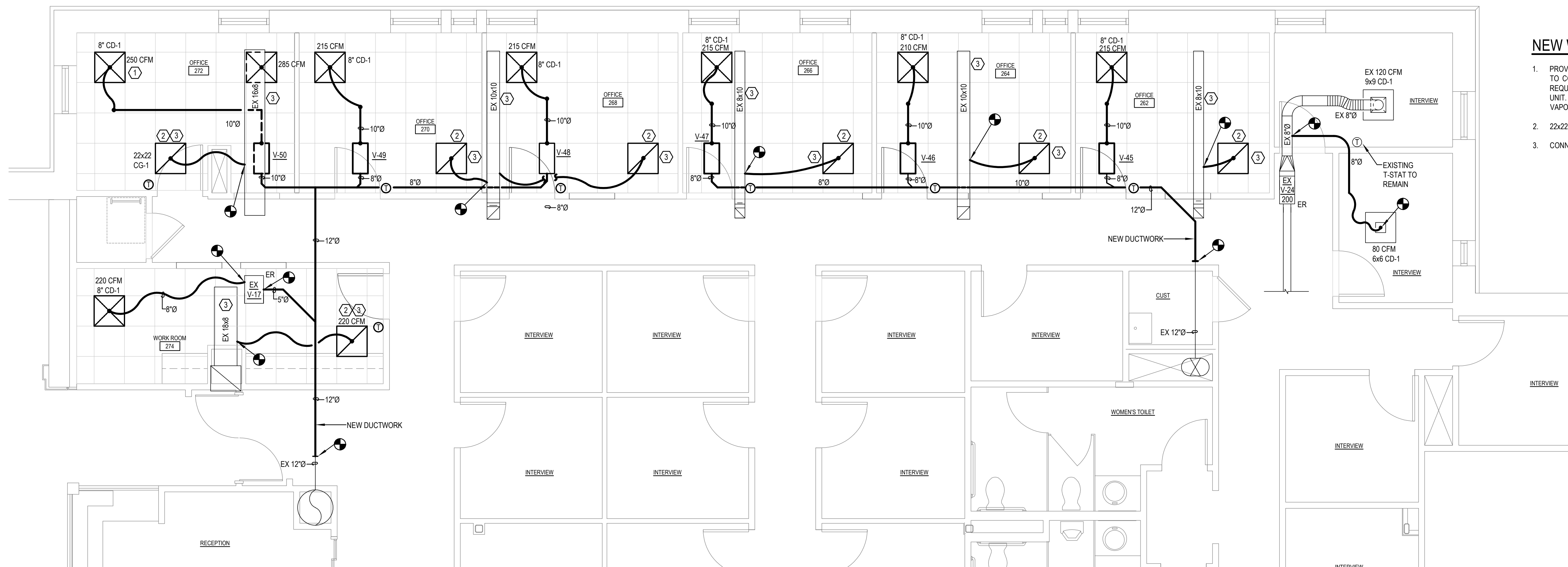
CONTRACTOR NOTES:

1. CONTRACTORS HAVE BEEN SELECTED FOR THEIR SPECIAL KNOWLEDGE AND EXPERTISE IN THIS TYPE OF BUILDING CONSTRUCTION AND OF BUILDING CODE REQUIREMENTS. THE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED TO SHOW INTENT AND GENERAL ARRANGEMENT OF WORK. THEY ARE NOT FULLY DETAILED IN ALL RESPECTS BUT ARE COMPLETE ENOUGH FOR AN EXPERT CONTRACTOR TO PRICE AND CONSTRUCT.
2. THE CONTRACTORS PRICING THE MECHANICAL PORTION OF THE WORK ARE HEREWITH ESPECIALLY CAUTIONED THAT THE WORK INCLUDES A COMPLETE SYSTEM AND THAT THE CONTRACTOR WILL BE REQUIRED TO FURNISH AND INSTALL ALL EQUIPMENT, MATERIAL, LABOR AND ANY OTHER ITEMS REQUIRED TO DELIVER TO THE OWNER A SYSTEM THAT IS COMPLETE AND OPERABLE IN ALL RESPECTS.
3. WHEN THE DRAWINGS AND SPECIFICATIONS DO NOT COVER PARTICULAR ITEMS, THE CONTRACTOR SHALL PERFORM THE WORK IN A SKILLED MANNER WITHIN THE STANDARDS FOR THE PARTICULAR TRADE. WHEN PRICING, THE CONTRACTOR SHALL INCLUDE A CONTINGENCY FACTOR FOR PERFORMING RENOVATION WORK.

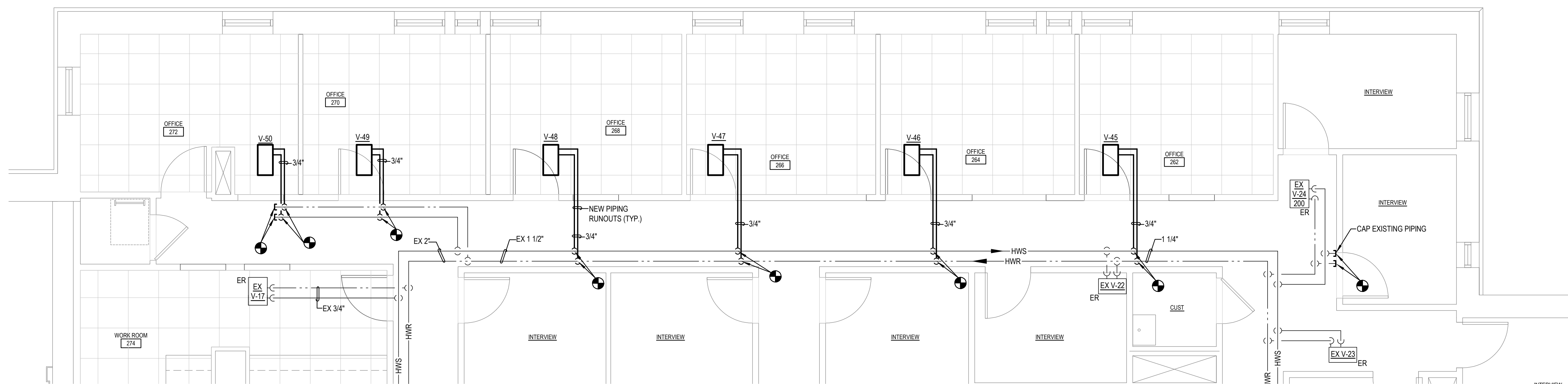
HVAC LEGEND

ABOVE ABOVE FINISHED FLOOR AIR HANDLING UNIT BALANCING VALVE BELOW CAPACITY CEILING CEILING DIFFUSER	ABV AFF AHU BEL CAP CLG CD	
CEILING GRILLE	CG	
CEILING REGISTER CHECK VALVE CIRCUIT SETTER	CR CS(GPM)	
CUBIC FEET PER MINUTE DEGREES FAHRENHEIT DIAMETER DOWN DRY BULB DUCTWORK (NEW) RETURN & EXHAUST SUPPLY EACH ENTERING AIR TEMPERATURE ENTERING WATER TEMPERATURE	CFM °F DIA DN DB EA EAT EWT	
EXISTING, REMOVE FROM THIS POINT	(E)	
EXISTING FEET PER MINUTE	FPM	
FLEXIBLE DUCT RUNOUT FLOOR GALLONS PER MINUTE HEATING WATER RETURN PIPE HEATING WATER SUPPLY PIPE HORSEPOWER HOUR INCH LEAVING AIR TEMPERATURE LEAVING WATER TEMPERATURE MANUAL AIR VENT	FL GPM HWR HWS HP HR IN LAT LWT	
NEW CONNECTED TO EXISTING OUTDOOR AIR PIPING INDICATION WITH RESPECT TO FLOW BOTTOM TAKEOFF SIDE CONNECTION TOP TAKEOFF TURN DOWN OR FROM BELOW TURN UP OR DOWN TURN UP OR FROM ABOVE POUNDS POUNDS PER SQUARE INCH GAGE PRESSURE DROP REVOLUTIONS PER MINUTE SERVICE VALVE STATIC PRESSURE STRAINER	OA LBS PSIG PD RPM SP SA	
SUPPLY AIR	SA	
THERMOMETER THERMOSTAT OR TEMPERATURE SENSOR THOUSAND BTU PER HOUR	TSTAT MBH	
TWO-WAY CONTROL VALVE UNION WET BULB	WB	

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 **PARTIAL SECOND FLOOR PLAN - NEW WORK - HVAC**
NORTH SCALE: 1/4" = 1'-0"

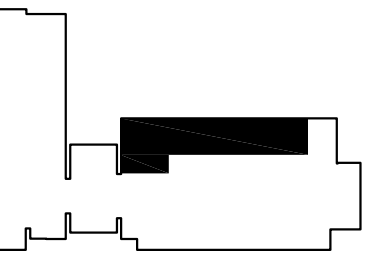


 PARTIAL SECOND FLOOR PLAN - NEW WORK - PIPING - HVAC
NORTH SCALE: 1/4" = 1'-0"

NEW WORK NOTES - DUCTWORK:

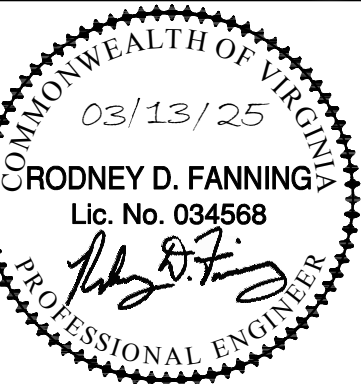
1. PROVIDE NEW VAV UNIT AND EXTEND DUCTWORK AND TRANSITION AS REQUIRED TO CONNECT TO VAV UNIT. PATCH AND REPAIR EXISTING DUCT INSULATION AS REQUIRED FOR ALL SUPPLY AND RETURN DUCTWORK ASSOCIATED WITH THE VAV UNIT. NEW DUCT INSULATION SHALL OVERLAP EXISTING AND BE COMPLETELY VAPOR SEALED. PATCH AND REPAIR EXISTING DUCT INSULATION AS REQUIRED.
2. 22x22 CG-1 TYPICAL OF ALL CEILING GRILLES.
3. CONNECT TO EXISTING RETURN MAIN TRUNK DUCTS.

GRAPHIC SCALE:
0 1' 5'
1/4" = 1'-0"



 SECOND FLOOR
KEY PLAN

RENOVATIONS FOR THE
SMITH CAREER CENTER
870 WASHINGTON ST. SW
BLACKSBURG, VIRGINIA



TKA
ARCHITECTS

800 Church Street P: (540) 951-4925
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revisions	
drawn	FLM
checked	RDF
date	03/13/25
Project No.	2305-10

PARTIAL SECOND FLOOR PLAN NEW WORK HVAC

SPECIFICATIONS FOR HVAC WORK

- SCOPE OF THE WORK: WORK SHALL INCLUDE COMPLETE HVAC SYSTEMS. PROVIDE SUPERVISION, LABOR, MATERIAL, EQUIPMENT, MACHINERY, PLANT AND ITEMS NECESSARY FOR COMPLETE SYSTEMS TESTED AND READY FOR OPERATION.
2. **REGULATIONS:** MATERIALS AND INSTALLATION SHALL COMPLY WITH LOCAL CODES, APPLICABLE PROVISIONS OF LATEST EDITION OF NATIONAL FIRE PROTECTION ASSOCIATION, LOCAL UTILITY REGULATIONS AND GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.
3. **DRAWINGS:** THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. WHERE VARIANCES OCCUR INCLUDE THE ITEMS OF BETTER QUALITY, GREATER QUANTITY OR HIGHER COST.
4. **COORDINATION OF WORK:** THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND PROPER RELATION OF HIS WORK TO THE BUILDING STRUCTURE AND TO THE WORK OF OTHER TRADES. CONTRACTOR SHALL PROVIDE DIMENSIONS AND LOCATIONS OF ALL OPENINGS, SHAFTS AND SIMILAR ITEMS TO THE PROPER TRADES AND SHALL INSTALL WORK AS REQUIRED SO AS NOT TO DELAY THE BUILDING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY HIS WORK OR WORKMEN. REPAIRING OF DAMAGED WORK SHALL BE DONE BY THE CONTRACTOR AT NO ADDITIONAL COST.
5. **VISITING THE SITE:** EACH CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE BEFORE PRICING THE JOB TO FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS TO BE MET IN THE EXECUTION OF THE WORK UNDER THIS CONTRACT. NO ADDITIONAL COMPENSATION WILL BE ALLOWED RELATING TO SITE CONDITIONS.
6. **INTERRUPTION OF SERVICES:** INTERRUPTIONS OF SERVICE TO EXISTING SYSTEMS SHALL BE COORDINATED WITH THE OWNER AS TO TIME AND DURATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY INTERRUPTIONS TO SERVICE AND SHALL REPAIR ANY DAMAGES TO EXISTING SYSTEMS CAUSED BY HIS OPERATIONS.
7. **WORK IN OCCUPIED AREAS:** WORK IN OCCUPIED AREAS SHALL BE COORDINATED WITH THE OCCUPANT AND OWNER AS TO TIME AND DURATION. THE CONTRACTOR SHALL PROTECT THE OCCUPIED AREA AND SHALL BE RESPONSIBLE FOR CLEANING AND REPAIRING ANY DAMAGES CAUSED BY HIS WORK. SAFETY OF BUILDING OCCUPANTS SHALL BE ASSURED AT ALL TIMES. TOOLS, MATERIAL, DIRT AND DEBRIS SHALL BE REMOVED FROM OCCUPIED AREAS WHENEVER WORK AREAS ARE LEFT UNATTENDED.
8. **ACCESSIBILITY:** LOCATE EQUIPMENT WHICH MUST BE SERVICED OR MAINTAINED IN FULLY ACCESSIBLE POSITIONS WHERE POSSIBLE. OTHERWISE, FURNISH ACCESS PANELS OF SUFFICIENT SIZE AND LOCATED SO THAT THE CONCEALED EQUIPMENT CAN BE SERVICED.
9. **CUTTING AND PATCHING:** THE CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING NECESSARY TO INSTALL HIS WORK. PATCHING SHALL MATCH ADJACENT SURFACES. NO STRUCTURAL MEMBERS SHALL BE CUT WITHOUT THE APPROVAL OF THE ARCHITECT.
10. **CLEANING:** EQUIPMENT AND PIPING SHALL BE CLEANED TO REMOVE FOREIGN MATERIALS. PROVIDE TEMPORARY FILTERS FOR AIR UNITS THAT ARE OPERATED DURING CONSTRUCTION. PLUG OR CAP OPENINGS IN EQUIPMENT, DUCTWORK, PIPING AND MATERIALS UNTIL CONNECTION IS MADE TO THE SYSTEM. REMOVE FROM THE PREMISES ALL UNUSED MATERIAL AND DEBRIS RESULTING FROM THE PERFORMANCE OF HVAC WORK.
11. **QUIET OPERATION:** SYSTEMS SHALL OPERATE UNDER CONDITIONS OF LOAD WITHOUT UNUSUAL OR EXCESSIVE NOISE OR VIBRATION. UNUSUAL OR EXCESSIVE NOISE OR VIBRATION SHALL BE CORRECTED.
12. **TESTING AND BALANCING:** HVAC CONTRACTOR SHALL TEST ALL HVAC EQUIPMENT TO ASSURE THAT THE PROPER SEQUENCE OF CONTROL IS ESTABLISHED AND OPERATING IN A SAFE MANNER. THE AIR AND HYDRONIC QUANTITIES FOR EQUIPMENT, DIFFUSERS, REGISTERS AND HYDRONICS SHALL BE BALANCED FOR THE FLOW AS INDICATED ON THE DRAWING.
13. **INSTRUCTIONS TO OWNER:** INSTRUCT THE OWNER IN THE PROPER OPERATION AND MAINTENANCE OF THE MECHANICAL SYSTEMS UNTIL THE OWNER IS FULLY PREPARED TO OPERATE AND MAINTAIN THE SYSTEMS. HOWEVER, LENGTH OF INSTRUCTION TIME SHALL BE LIMITED TO ONE (1) HALF DAY.
14. **OPERATING AND MAINTENANCE:** PROVIDE THE OWNER WITH TWO (2) BOUND SETS OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL HVAC EQUIPMENT AND CONTROLS.
15. **GUARANTEE:** EQUIPMENT, MATERIALS AND LABOR REQUIRED BY THESE CONTRACT DRAWINGS SHALL BE GUARANTEED TO BE FREE FROM DEFECTIVE MATERIALS OR WORKMANSHIP FOR ONE (1) YEAR AFTER FINAL ACCEPTANCE OF THE PROJECT UNLESS SPECIFIED FOR A LONGER PERIOD IN OTHER PORTIONS OF THE SPECIFICATIONS. DEFECTIVE MATERIALS OR WORKMANSHIP OCCURRING DURING THIS PERIOD SHALL BE CORRECTED AT NO ADDITIONAL COST.
16. **PAINTING:** GENERAL - PAINT MECHANICAL EQUIPMENT AND MATERIALS WHERE NOT CONCEALED. PAINTING (IN CONCEALED SPACES) SHALL BE LIMITED TO EQUIPMENT AND MATERIALS NOT OTHERWISE PROTECTED FROM RUSTING SUCH AS HANGERS AND SUPPORTS. PAINT SHALL BE PRODUCTS OF SHERWIN-WILLIAMS, PITTSBURGH, PRATT-LAMBERT OR EQUAL. SURFACE PREPARATION, PRIMING AND PAINT APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. GALVANIZED SURFACES SHALL BE PRETREATED WITH A PHOSPHORIC ACID CLEANING SOLUTION AND PRIMED. AFTER PREPARATION EACH ITEM SHALL BE PAINTED, EXCEPT COLOR OF PAINT FOR EQUIPMENT AND MATERIAL WHERE NOT CONCEALED SHALL AS BE SELECTED BY THE ARCHITECT. ITEMS NOT CONCEALED IN ROOMS SHALL BE PAINTED OF THE SAME COLOR TO MATCH ADJACENT WALLS OR CEILINGS. PAINTING IS NOT REQUIRED OF ITEMS WITH A FACTORY-FINISH COAT. PATCH PAINTING IS REQUIRED OF ANY DAMAGED AREAS TO MATCH FACTORY-FINISH COAT. NAMEPLATES ON EQUIPMENT SHALL NOT BE PAINTED.
17. **IDENTIFICATION OF PIPES AND EQUIPMENT:** EACH MAJOR PIECE OF EQUIPMENT, SUCH AS AIR HANDLING UNITS AND PIPING SHALL BE IDENTIFIED BY MARKING THAT WILL READ THE SAME AS THE IDENTIFICATION SHOWN ON THE DRAWINGS. STENCIL LETTERS SHALL BE 2 INCHES HIGH UPPER CASE PAINTED WITH WHITE ENAMEL ON EQUIPMENT AND BLACK ENAMEL ON PIPING AND CONDUIT. IDENTIFICATION SHALL BE PAINTED ON EACH PIPE OR CONDUIT WHERE EXPOSED OR ACCESSIBLE AND SHALL BE PLACED EVERY 15 FEET ALONG THE PIPE OR CONDUIT.
18. **AIR DEVICES**
- A. DIFFUSERS, REGISTERS AND GRILLES SHALL BE METAL-AIRE OR EQUAL UNLESS NOTED OTHERWISE. CEILING DEVICES SHALL HAVE WHITE BAKED ENAMEL FINISH. ALL OTHER DEVICES SHALL HAVE PRIME FINISH.
- B. DIFFUSERS: SQUARE CEILING DIFFUSERS SHALL BE SERIES 5800-6 COMPLETE WITH ROUND NECK, VOLUME CONTROL UNIT AND FULL TOP INSULATION COVER. LAY-IN DIFFUSERS SHALL BE 24" X 24" WITH FULL LOUVER FACE AND ALUMINUM CONSTRUCTION.
- C. RETURN AND EXHAUST REGISTERS AND GRILLES SHALL BE MODEL RH ALUMINUM CONSTRUCTION WITH 45 DEGREE DEFLECTING VANES AND SHALL HAVE FREE AREA NOT LESS THAN 75%. REGISTER DAMPERS SHALL BE OPPOSED-BLADE FACE-OPERATED TYPE WITH REMOVABLE KEY.
- D. SUPPLY REGISTERS AND GRILLES SHALL BE MODEL 42C0 ALUMINUM FRAME WITH REMOVABLE DOUBLE DEFLECTION ALUMINUM REVERS-A-CORE AND SHALL HAVE FREE AREA OF NOT LESS THAN 75%. REGISTER DAMPERS SHALL BE OPPOSED BLADE TYPE, FACE OPERATED WITH REMOVABLE KEY.
- E. DOOR GRILLES SHALL BE 300 DG TELESCOPING FRAME WITH V (W LIGHT TIGHT) CORE. FURNISH TO GENERAL CONTRACTOR FOR INSTALLATION BY DOOR MANUFACTURER.
- F. TRANSFER GRILLES IN WALL SHALL BE METAL-AIRE 300 DG-DF. FINISH SHALL BE WHITE.
- G. RETURN GRILLES SHALL BE METAL-AIRE SERIES 7000 PERFORATED FACE, LAY-IN OR SURFACE TYPE. FINISH SHALL BE WHITE.
19. **VARIABLE AIR VOLUME TERMINAL UNITS**
- A. NEW SHUT-OFF VARIABLE TERMINAL BOXES SHALL BE TRANE OR EQUAL BY PRICE OR TITUS.
- B. CASING SHALL BE 22-GAUGE GALVANIZED STEEL WITH DOUBLE-WALL INSULATION, UL LISTED AND MEETING NFPA-90A, UL181.
- C. PRIMARY AIR VALVE SHALL BE A HEAVY GAUGE GALVANIZED STEEL CYLINDER SIZED TO FIT STANDARD ROUND DUCT WITH INTEGRAL ELECTRIC ACTUATOR. MAXIMUM LEAK RATE 1 PERCENT AT 4 INCHES WG INLET STATIC PRESSURE. INTEGRAL MULTIPLE POINT, AVERAGING FLOW SENSING RING TO PROVIDE PRIMARY AIRFLOW MEASUREMENT WITHIN +5 PERCENT OF UNIT RATED AIRFLOW WITH 1-1/2 DIAMETERS OF STRAIGHT DUCT UPSTREAM OF UNIT. INTEGRAL FLOW TAPS AND CALIBRATION CHART PROVIDED ON EACH UNIT. DAMPER BLADE SHALL BE CONSTRUCTED OF A CLOSED CELL FOAM SEAL THAT IS MECHANICALLY LOCKED BETWEEN TWO, 22-GAUGE GALVANIZED STEEL DISCS WITH PERMANENT DAMPER POSITION INDICATOR ON THE SHAFT AND MECHANICAL STOP TO PREVENT OVER-STROKING.
- D. HEATING WATER COIL SHALL BE FACTORY-MOUNTED ON DISCHARGE OUTLET AND CONSTRUCTED OF SEAMLESS COPPER TUBES MECHANICALLY EXPANDED INTO THE FIN COLLARS. COILS SHALL BE LEAK TESTED AT 450 PSIG AIR PRESSURE UNDER WATER.
- E. OUTLET CONNECTION SHALL BE INTEGRAL OUTLET SHEET METAL CONNECTION AT UNIT DISCHARGE TO FACILITATE DUCTWORK INSTALLATION. ALL UNITS SHALL BE UL LISTED AND CSA APPROVED.
- F. TERMINAL BOXES SHALL BE PROVIDED WITH DDC CONTROLLER FURNISHED BY SIEMENS AND WIRED BY TERMINAL UNIT MANUFACTURER.
20. **DUCTWORK**
- A. GENERAL: DUCTWORK SHALL BE ZINC-COATED SHEET STEEL OR ALUMINUM, CONSTRUCTED AND INSTALLED AS RECOMMENDED BY THE LATEST EDITION OF SMACNA.
- B. DUCT CLEARANCE SHALL BE ESTABLISHED AT THE JOB SITE BEFORE ANY DUCTS ARE FABRICATED. THE CONTRACTOR WILL NOT BE ALLOWED ANY EXTRA COSTS FOR DUCTS FABRICATED AND THEN FOUND NOT TO FIT.
- C. MANUAL VOLUME CONTROL DAMPERS SHALL HAVE ACCESSIBLE OPERATING MECHANISM. BLADE HEIGHT SHALL NOT EXCEED 8 INCHES.
- D. AIR DEFLECTORS SHALL BE PROVIDED IN ALL SQUARE ELBOWS AND DUCT-MOUNTED SUPPLY OUTLETS.
- E. HINGED ACCESS DOORS SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 90A AT ALL AUTOMATIC DAMPERS, FIRE DAMPERS, HEATERS, THERMOSTATS, ON EACH SIDE OF AIR HANDLING UNIT AND OTHER APPARATUS REQUIRING SERVICE AND INSPECTION IN THE DUCT SYSTEM. ACCESS DOORS SHALL BE 15" X 18" OR AS LARGE AS PRACTICAL.
- F. PROVIDE FLEXIBLE DUCT CONNECTIONS TO AIR HANDLING EQUIPMENT.
- G. DUCT SUPPORTS SHALL CONSIST OF NOT LESS THAN 1" X 16-GAUGE GALVANIZED STRAP IRON HANGERS SPACED NOT OVER 4'-0" ON CENTER.

- FLEXIBLE DUCTS SHALL BE FLEXIBLE METAL OR METAL AND NEOPRENE-COATED CANVAS HOSE INSULATED WITH 1" THICK FIBERGLASS BATT INSULATION. THE DUCT DIAMETER SHALL MATCH THE AIR DIFFUSER SIZE UNLESS OTHERWISE INDICATED.

I. PRIMARY DUCTWORK SEALING SHALL BE COORDINATED WITH SYSTEM SHUT-DOWN TO ALLOW FOR PROPER CURING TIME. SEAL INSIDE AND OUTSIDE FOR DOUBLE-WALLED DUCT.

21. PIPING

A. HEATING WATER LINES: PIPE 4" AND SMALLER SHALL BE ALL TYPE 1" HARD DRAWN COPPER TUBING OR ALL ASTM A53 SCHEDULE 40 STANDARD WEIGHT BLACK STEEL. ALL FITTINGS SHALL BE SUITABLE FOR 125 PSI WATER SERVICE. HYDRONIC BALANCING DEVICES SHALL MATCH TYPE WITH OTHERS IN THE BUILDING (MATCHING MANUFACTURER IS NOT REQUIRED).

B. SERVICE VALVES: UP TO AND INCLUDING 2" SHALL BE ALL BRASS, RISING STEM, SOLID WEDGE DISC GATE VALVES.

C. GLOBE VALVES SHALL BE ALL BRASS WITH BRASS DISC, EXCEPT GLOBE VALVES OVER 2" SIZE MAY BE BUTTERFLY TYPE.

D. CHECK VALVES SHALL BE BRASS OR IRON BODY, SWING TYPE, REGRINDING SEAT.

E. BALANCING COCKS SHALL BE ALL BRASS, SQUARE HEAD OR SCREWDRIWER HEAD WITH CHECK. BALANCING COCKS OVER 2" SIZE MAY BE IRON BODY.

F. STRAINERS SHALL BE Y TYPE WITH BRONZE BASKET SUITABLE FOR 125 PSI SERVICE.

G. MANUAL AIR VENTS SHALL BE CHROMIUM-PLATED BRASS 1/8" NPT COIN-OPERATED TYPE.

H. PRESSURE GAUGES SHALL BE 4" DIAL ASHCROFT BOURDON TUBE TYPE SUITABLE FOR 125 PSI SERVICE.

I. FLEXIBLE PIPE JOINTS SHALL BE PIPE LINE SIZE, FLANGED, MINIMUM 125 PSI WORKING PRESSURE AT 250 DEG. F, FLEXONICS MODEL PCS.

J. THERMOMETERS SHALL BE WEISS 9" VARI-ANGLE MERCURY TYPE WITH SEPARATE SOCKET.

K. PIPE SUPPORTS: SUSPENDED HORIZONTAL PIPING SHALL BE SUPPORTED BY ADJUSTABLE WROUGHT STEEL CLEVIS HANGERS. ALL SUPPORTS SHALL BE ATTACHED TO THE BUILDING STRUCTURE SPACED 10'-0" ON CENTER. HANGER RODS SHALL BE 3/8" DIAMETER SIZE FOR PIPES UP THROUGH 2". PIPE HANGER RODS SHALL BE ATTACHED TO THE TOP CHORD ONLY ON STEEL JOISTS AND BEAMS WITH CLAMPS. PIPING SHALL BE INSTALLED IN PRACTICAL ALIGNMENT WITH THE BUILDING.

L. ANCHORS FOR PIPE SHALL BE PROVIDED AS INDICATED OR AS REQUIRED AT THE JOB SITE TO LOCALIZE EXPANSION AND CONTRACTION OF PIPE.

M. INSTALLATION: ALL PIPING SHALL BE INSTALLED WITH SUFFICIENT PITCH TO INSURE ADEQUATE DRAINAGE AND VENTING. ALL HIGH POINTS IN WATER LINES SHALL BE PROVIDED WITH AUTO-AIR VENTS, ALL LOW POINTS WITH DRAINS.

N. DIELECTRIC FITTINGS SUCH AS COUPLINGS, UNIONS OR FLANGES SHALL BE INSTALLED TO ISOLATE PIPES OF NON-FERROUS METAL WHERE CONNECTION IS MADE TO FERROUS METAL.

22. THERMAL COVERING

A. INSULATION SHALL BE JOHNS MANVILLE, OWENS CORNING, ARMSTRONG OR EQUAL. INSULATION SHALL NOT BE APPLIED UNTIL AFTER THE EQUIPMENT, PIPES OR DUCTS TO BE INSULATED HAVE PROVEN SATISFACTORY UNDER TESTS. ALL MATERIALS USED SHALL HAVE COMPOSITE FLAME-SPREAD RATING NOT EXCEEDING 25 AND A SMOKE-DEVELOPED RATING NOT EXCEEDING 50.

B. PIPING: INSULATION SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

C. FIBERGLASS PIPE INSULATION SHALL HAVE A WHITE KRAFT BONDED TO ALUMINUM FOIL, REINFORCED WITH FIBERGLASS YARN JACKET. ELASTOMERIC INSULATION SHALL BE CONSTRUCTED OF A CLOSED CELL STRUCTURE TO EFFECTIVELY RETARD THE FLOW OF MOISTURE VAPOR AND SERVE AS A VAPOR BARRIER. INSULATION THICKNESS AND TYPE FOR VARIOUS PIPING SYSTEMS SHALL BE AS INDICATED IN THE FOLLOWING TABLE (PIPE SIZE/INSULATION THICKNESS).

SYSTEM INS.	TEMP. RANGE (°F)	PIPE SIZE/INSULATION THICKNESS(1)				
		LESS THAN 1"	1" TO 1-1/4"	1-1/2" TO 3"	4" TO 6"	8" & UP
HEATING WATER	140-200	1.5	1.5	2.0	2.0	2.0

NOTES:
(1) MINIMUM THICKNESS FOR INSULATION LISTED IN PRECEDING TABLE IS BASED ON THERMAL CONDUCTIVITY, 'K' NOT EXCEEDING 0.27 BTU PER INCH-H. X SQ. FT. X DEG. F. BASED ON MEAN TEMPERATURE OF 75 DEG. F. INSULATION WITH GREATER THERMAL CONDUCTIVITY SHALL HAVE INCREASED THICKNESS TO PROVIDE SAME PERFORMANCE CHARACTERISTICS AS SPECIFIED.
(2) A - FIBERGLASS TYPE INSULATION; B - ELASTOMERIC TYPE INSULATION.
(3) RUNOUTS TO INDIVIDUAL TERMINAL UNITS (NOT EXCEEDING 12 FT. IN LENGTH).

D. FIBERGLASS PIPE INSULATION FITTINGS SHALL BE COVERED WITH PREMOULDED PVC FITTING COVERS. JACKETS ON FIBERGLASS PIPE INSULATION BELOW 80 DEG. F. SHALL BE VAPOR SEALED USING SELF-SEALING LAP, LAP SEAL GUN OR ADHESIVE. ALL INSULATION JOINTS, LAPS, VOIDS, PUNCTURES AND END TAPERS SHALL BE SEALED WITH 1/32" THICKNESS OF VAPOR ADHESIVE. A 12" LONG, 1/2 SECTION OF HYDROUS CALCIUM SILICATE OR FOAMGLAS INSULATION SHALL BE USED BETWEEN HANGERS AND PIPING. ON PIPE, SIZES 1-1/2" AND BELOW, HYDROUS CALCIUM SILICATE OR FOAMGLAS WILL NOT BE REQUIRED. ALL PIPING SHALL HAVE LOAD-DISTRIBUTING GALVANIZED 16 GAUGE METAL SHIELDS INSTALLED AROUND THE LOWER HALF OF THE INSULATION.

E. ELASTOMERIC PIPE INSULATION SEAMS, VOIDS AND BUTT JOINTS SHALL BE SEALED WITH A VAPOR BARRIER ADHESIVE OR TAPED WITH 1-1/2 INCH WIDE 3M #471 TAPE. FLEXIBLE ELASTOMERIC INSULATION EXPOSED TO WEATHER SHALL BE COVERED WITH TWO COATS OF ARMSTRONG ARMAFLEX FINISH (VINYL LACQUER).

F. DUCTWORK: INSULATE RETURN DUCTS IN ATTIC SPACES, CRAWL SPACES AND EQUIPMENT ROOMS. ALL SUPPLY DUCTS AND ALL OUTDOOR AIR DUCTS SHALL BE INSULATED. EXHAUST DUCTWORK SHALL BE INSULATED IN ATTIC SPACES AND CRAWL SPACES AND WITHIN 10 FEET OF CONNECTIONS TO OUTDOORS. INSULATION WHERE DUCTS ARE NOT CONCEALED SHALL BE RIGID DUCT INSULATION MEETING ASTM C 612. ALL OTHER INSULATION SHALL BE FLEXIBLE DUCT INSULATION MEETING ASTM C 533. INSULATION SHALL HAVE A FACTORY-APPLIED FACING OF FOL-SCRM-KRAFT PAPER JACKET REINFORCED WITH FIBERGLASS YARN MESH. INSULATION SHALL BE SECURED TO RECTANGULAR DUCTS BY SPACING OVER METAL STICK CLIPS SPACED 12" CENTER EACH WAY. ROUND DUCT INSULATION SHALL BE SECURED WITH NO. 18 GAUGE COPPERWELD WIRE SPACED NOT OVER 18" ON CENTER. WHERE INSULATION JOINTS OCCUR, FACING TABS SHALL BE LAPPED NOT LESS THAN 2". ALL JOINTS, VOIDS AND PUNCTURES IN FACING SHALL BE EFFECTIVELY VAPOR SEALED WITH FOSTER VAPOR-SAFE OR VAPOR-FAS ADHESIVE. INSULATION FOR ALL OUTDOOR AIR DUCTWORK AND INSULATION FOR SUPPLY AND RETURN DUCTWORK WHERE INSTALLED IN ATTIC SPACES AND CRAWL SPACES SHALL BE 2" THICK AND SHALL HAVE A MINIMUM TOTAL THERMAL RESISTANCE (R) OF 7.4 AT A MEAN TEMPERATURE OF 75 DEG. F. INSULATION FOR ALL OTHER DUCTWORK SHALL BE 1-1/2" THICK AND SHALL HAVE A MINIMUM TOTAL THERMAL RESISTANCE (R) OF 5.6 AT A MEAN TEMPERATURE OF 75 DEG. F.

23. TEMPERATURE CONTROL SYSTEM:

A. GENERAL - THE SYSTEM SHALL BE A COMPLETE SYSTEM OF AUTOMATIC TEMPERATURE REGULATION OF THE ELECTRIC/ ELECTRONIC TYPE. COMPONENT PARTS OF THE SYSTEM SHALL BE MANUFACTURED BY ONE CONTROL MANUFACTURER AND/OR BY THE PARTICULAR HVAC EQUIPMENT MANUFACTURER. IN EITHER CASE, THE TEMPERATURE CONTROL CONTRACTOR SHALL BE RESPONSIBLE FOR ACHIEVING THE "SEQUENCE OF CONTROL". THE SYSTEM SHALL BE INSTALLED BY COMPETENT, TRAINED MECHANICS. ROOM THERMOSTAT LOCATIONS SHALL BE COORDINATED TO ALIGN VERTICALLY OR HORIZONTALLY WITH ADJACENT LIGHT SWITCHES OR CONTROL INSTRUMENTS. PROVIDE ALL EQUIPMENT AND MATERIALS AS REQUIRED TO ACCOMPLISH THE SEQUENCE OF CONTROL.

B. MATERIALS

a. THERMOSTATS (AC): HEATING-COOLING THERMOSTATS SHALL BE AS REQUIRED FOR THE SEQUENCE OF CONTROL AND AC EQUIPMENT NOTE. THESE UNIT THERMOSTATS SHALL BE EQUIPPED WITH ADJUSTMENTS FOR HEATING AND COOLING.

b. DAMPER ACTUATORS SHALL BE PROVIDED FOR ALL AUTOMATIC DAMPERS AND SHALL BE OF SUFFICIENT CAPACITY TO OPERATE THE CONNECTED DAMPER.

c. CONTROL VALVES 2" AND SMALLER SHALL BE BRONZE, SCREWED TYPE AND SHALL BE RATED AT 250 PSIG. VALVES SHALL BE SIZED BY THE CONTROLS MANUFACTURER AND THE MAXIMUM ALLOWABLE PRESSURE DROP SHALL BE 5 FEET WATER COLUMN. VALVE ACTUATORS SHALL BE ELECTRONIC SPRING RETURN, LOW VOLTAGE, AND PROPERLY SELECTED FOR VALVE BODY AND SERVICE.

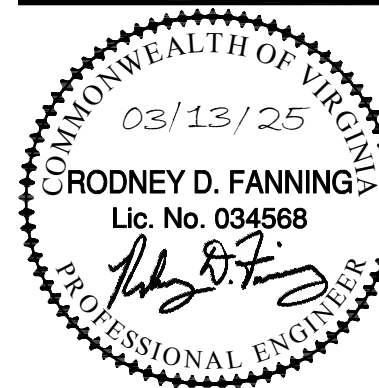
d. COORDINATION OF WORK: ALL WIRING IN CONNECTION WITH THE TEMPERATURE CONTROL SYSTEM SHALL BE FURNISHED AND INSTALLED BY THE CONTROL SYSTEM CONTRACTOR. WIRING SHALL BE INSTALLED IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATION. WIRING WITHOUT CONDUIT ABOVE CEILINGS SHALL BE PROPERLY SUPPORTED WITHOUT SAGS. LOOSE WIRES LAYING ON CEILINGS, LIGHTS, OR PIPES WILL NOT BE ACCEPTABLE AT ANY LOCATION.

e. SERVICE AND GUARANTEE - THE ENTIRE CONTROL SYSTEM SHALL BE SERVICED AND MAINTAINED IN FIRST-CLASS CONDITION BY THE CONTROL MANUFACTURER FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE AT NO EXTRA COST TO THE OWNER.

24. SEQUENCE OF CONTROL:

A. SHUT-OFF VARIABLE VOLUME TERMINAL BOXES (VAV)

- f. OCCUPIED MODE: ON A CALL FOR HEATING OR COOLING FROM THE ZONE TEMPERATURE SENSOR, THE BAS SHALL MODULATE THE AIR DAMPER BETWEEN ITS MINIMUM AND MAXIMUM SETTINGS TO MAINTAIN ZONE TEMPERATURE SETPOINT. IF THE AIR DAMPER OPERATES AT MAXIMUM AIR FLOW AND IS UNABLE TO MAINTAIN HEATING OR COOLING SETPOINT, THEN THE BAS SHALL RESET THE ASSOCIATED AIR HANDLING UNIT SUPPLY AIR TEMPERATURE. IF THE AIR DAMPER OPERATES AT MINIMUM AIR FLOW AND IS UNABLE TO MAINTAIN HEATING SETPOINT, THEN THE VAV HEATING WATER COIL CONTROL VALVE SHALL MODULATE OPEN AND THE AIR DAMPER SHALL OPEN TO THE HEATING CFM SETTING.
- g. UNOCCUPIED MODE: ON A CALL FOR HEATING FROM THE ZONE TEMPERATURE SENSOR, THE BAS SHALL MODULATE OPEN THE AIR DAMPER FROM THE MINIMUM TO THE MAXIMUM SETTING TO MAINTAIN NIGHT TEMPERATURE SETBACK. IF THE AIR DAMPER OPERATES AT MAXIMUM AIR FLOW AND IS UNABLE TO MAINTAIN NIGHT TEMPERATURE SETBACK, THEN THE BAS SHALL RESET UP THE ASSOCIATED AIR HANDLING UNIT SUPPLY AIR TEMPERATURE. ON A MANUAL CALL FOR OVERRIDE FROM A SPACE OVERRIDE BUTTON, THE SYSTEM SHALL RETURN TO THE OCCUPIED MODE OF OPERATION FOR A SET PERIOD OF TIME.
- h. MORNING WARM-UP/Cool-DOWN: ON A SIGNAL FROM ITS ASSOCIATED AIR HANDLING UNIT, THE AIR DAMPER SHALL OPEN TO ITS MAXIMUM SETTING UNTIL THE MORNING WARM-UP/Cool-DOWN SETPOINT IS REACHED FOR ITS RESPECTIVE ZONE TEMPERATURE SENSOR. IF THE AIR DAMPER OPERATES AT MAXIMUM AIR FLOW AND IS UNABLE TO REACH THE MORNING SETPOINT, THEN THE BAS SHALL RESET THE ASSOCIATED AIR HANDLING UNIT SUPPLY AIR TEMPERATURE.



Revisions	
Drawn	FU
Checked	RD
Date	03/13/2
Project No.	2305-

HVAC SPECIFICATIONS

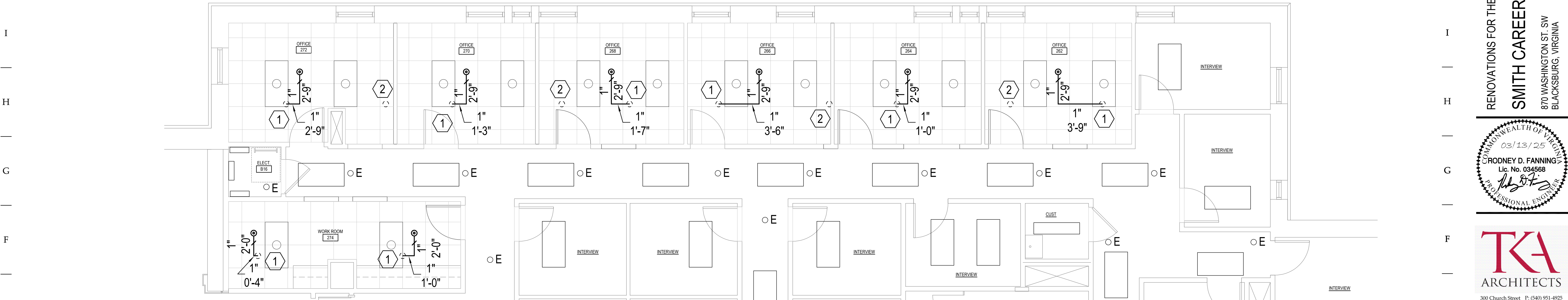


SPRINKLER SYSTEM NOTES AND SPECIFICATIONS:

- M

L

K



 NORTH

PARTIAL SECOND FLOOR PLAN - NEW WORK - SPRINKLER


SCALE: 1/4" = 1'-0"

Revisions

D PLAN NOTES THIS SHEET: SECOND FLOOR SPRINKLER HEAD SCHEDULE

- | | | | | |
|----|--|---|---|--|
| 1. | REMOVE EXISTING SPRINKLER. EXTEND RUNOUT PIPING FROM EXISTING SPRINKLER LOCATION AND CONNECT TO NEW SPRINKLER. | 8 | | QUICK RESPONSE PENDENT SPRINKLER - 5.6 "K" FACTOR - RECESSED |
| 2. | REMOVE EXISTING SPRINKLER AND RUNOUT PIPING TO BRANCH LINE AND CAP. | * | | EXISTING SPRINKLER TO REMAIN |
| | | * | | EXISTING SPRINKLER TO BE REMOVED |

D

PLAN NOTES THIS SHEET: 




1.

REMOVE EXISTING SPRINKLER. EXTEND RUNOUT PIPING FROM EXISTING SPRINKLER LOCATION AND CONNECT TO NEW SPRINKLER.

2.


REMOVE EXISTING SPRINKLER AND RUNOUT PIPING TO BRANCH LINE AND CAP.

SECOND FLOOR SPRINKLER HEAD SCHEDULE

QTY.	SYMBOL	DESCRIPTION
8		QUICK RESPONSE PENDENT SPRINKLER - 5.6 "K" FACTOR - RECESSED
*		EXISTING SPRINKLER TO REMAIN
*		EXISTING SPRINKLER TO BE REMOVED

D

Drawn

 MGW

* AS INDICATED ON PLANS.

<p>SPRINKLER SYSTEM NOTES AND SPECIFICATIONS:</p> <p>ABOVE BELOW CEILING</p> <p>NEW CONNECT TO EXISTING</p> <p>PIPE HANGER</p> <p>SPRINKLER HEAD (RECESSED PENDANT)</p> <p>EXISTING SPRINKLER HEAD AND PIPE TO REMAIN</p> <p>EXISTING SPRINKLER HEAD AND PIPE TO BE REMOVED</p>	<p>SPRINKLER LEGEND</p> <div> <div>ABV</div> <div>BEL</div> <div>CLG</div> </div>
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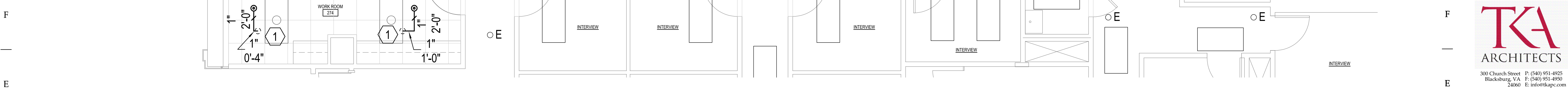
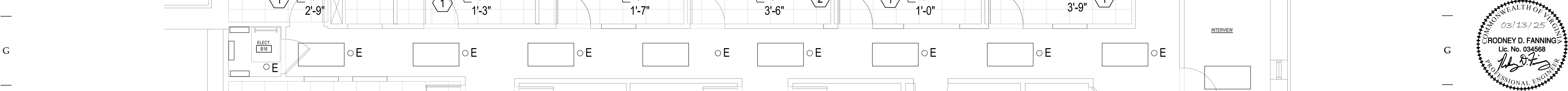
I. _____

5. CONTRACTOR SHALL COORDINATE THE LOCATIONS OF ALL SPRINKLERS AND SPRINKLER PIPING WITH OTHER NEW AND EXISTING PIPES, DUCTS, LIGHTS, EQUIPMENT, CONDUIT, STRUCTURAL SYSTEMS, CEILING SUPPORTS, AND FRAMING

_____ L

 SECOND FLOOR
KEY PLAN

OFFICE 272
 1" 2'-9"
 2
 OFFICE 270
 1" 2'-9"
 2
 OFFICE 268
 1" 2'-9"
 2
 OFFICE 266
 1" 2'-9"
 1
 OFFICE 264
 1" 2'-9"
 2
 OFFICE 262
 1" 2'-9"
 2
 INTERVIEW



© PARTIAL SECOND EDITION PLAN: NEW WORK OF FRANKLIN

Z. REMOVE EXISTING SPRINKLER AND RUNOUT PIPING TO BRANCH LINE AND CAP.		EXISTING SPRINKLER TO BE REMOVED	Drawn
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AS INDICATED ON PLANS.

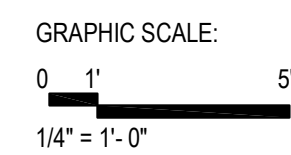
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Project No. 2305-10

NEW WORK
PLAN - SPRINKLER

SP1

1. EXISTING ELECTRICAL DEVICES, LIGHTING, LIGHTING CONTROLS, RECEPTACLES, AND FIRE ALARM DEVICES IN THIS ROOM SHALL REMAIN AS INSTALLED, UNLESS NOTED OTHERWISE.
2. MODIFY EXISTING ELECTRICAL DEVICES, LIGHTING, LIGHTING CONTROLS, RECEPTACLES, AND FIRE ALARM DEVICES IN THIS ROOM AS INDICATED ON THIS DEMOLITION FLOOR PLAN.
3. EXISTING FIRE ALARM A/V DEVICES SHALL BE REMOVED AND RELOCATED TO NEW LOCATION SHOWN ON NEW WORK PLAN. RECONNECT BACK TO EXISTING FIRE ALARM SYSTEM.
4. EXISTING QUAD RECEPTACLE TO BE DEMOLISHED. DEMOLISH EXISTING RECEPTACLES AND COVER PLATE. REMOVE EXISTING WIRING FROM JUNCTION BOX TO HOMERUN JUNCTION BOX ABOVE THE CEILING. EXISTING JUNCTION BOX TO REMAIN (TO BE ABANDONED IN PLACE) AND PROVIDE WITH BLANK COVER PLATE. REFER TO NEW WORK PLAN FOR EXISTING CIRCUIT TO BE REUSED FOR NEW SURFACE RACEWAY RECEPTACLES ABOVE NEW CASEWORK.
5. COORDINATE WITH ARCHITECT TO DO ONE OF THE FOLLOWING:
 - 5.1. DEMOLISH A PORTION OF THE EXISTING WALL TO INSTALL NEW DATA CONDUIT AND A NEW DATA JUNCTION BOX ABOVE THE COUNTER. AND THEN REPAIR WALL BACK TO EXISTING CONDITIONS. REMOVE THE EXISTING DATA WIRING, EXISTING COVERPLATE, AND WALL JACKS IN THE EXISTING LOWER DATA JUNCTION BOX. REINSTALL THE EXISTING DATA WIRING TO THE NEW JUNCTION BOX ABOVE THE COUNTER ALONG WITH THE EXISTING COVERPLATE AND WALL JACKS. THE EXISTING DATA OUTLET MOUNTED AT 18" AFFD WOULD BE PROVIDED WITH A BLANK COVERPLATE (ABANDONED IN PLACE).
 - 5.2. DEMOLISH A PORTION OF THE EXISTING WALL TO REMOVE THE EXISTING DATA OUTLET, JUNCTION BOX AT 18" AFFD. PROVIDE A NEW DATA OUTLET, JUNCTION BOX ABOVE THE COUNTER. PULL THE EXISTING DATA CONDUIT AND REMOVE FROM THE LOWER JUNCTION BOX AND REWORK TO CONNECT TO THE JUNCTION BOX ABOVE THE COUNTER. PULL THE EXISTING DATA WIRING OUT OF THE LOWER JUNCTION BOX AND REINSTALL INTO THE JUNCTION BOX ABOVE THE COUNTER. UTILIZE THE EXISTING DATA COVERPLATE AND WALL JACK.
 - 5.3. PROVIDE SURFACE RACEWAY FROM FINISHED CEILING DOWN THE WALL (AWAY FROM THE UPPER CABINETS) AND WRAP THE SURFACE RACEWAY AROUND THE BACK OF THE WALL BELOW THE UPPER CABINETS AND ABOVE THE COUNTER TOP TO THIS NEW DATA OUTLET AND JUNCTION BOX. REMOVE THE EXISTING DATA OUTLET, EXISTING COVERPLATE AND WALL JACKS IN THE EXISTING LOWER DATA JUNCTION BOX. REINSTALL THE EXISTING DATA WIRING TO THE NEW SURFACE RACEWAY JUNCTION BOX ABOVE THE COUNTER ALONG WITH THE EXISTING COVERPLATE AND WALL JACKS. THE EXISTING DATA OUTLET MOUNTED AT 18" AFFD WOULD BE PROVIDED WITH A BLANK COVERPLATE (ABANDONED IN PLACE).



GENERAL NOTES

- LOAD SIDE CONDUCTOR AND CONDUIT SIZES FROM TO EQUIPMENT SHALL BE THE SAME AS LINE SIDE CONDUCTORS AND CONDUIT.
- CAREFULLY COORDINATE ALL ELECTRICAL EQUIPMENT LOCATIONS WITH DUCTWORK, PIPING AND MECHANICAL EQUIPMENT. MAINTAIN ALL CLEARANCES AND SPACES REQUIRED BY THE NEC.
- WHERE MULTIPLE CIRCUITS ARE COMBINED IN A SINGLE CONDUIT, DERATE CONDUCTORS PER THE NEC.
- REFER TO SPECIFICATION SECTION "WIRING" ON SHEET E-9 FOR REQUIREMENTS REGARDING OVERSIZING CONDUCTORS FOR 1-POLE 15-AND 20-AMP CIRCUITS TO REDUCE VOLTAGE DROP - THESE OVERSIZING REQUIREMENTS TAKE PRECEDENCE OVER THE WIRE AND CONDUIT SIZES SHOWN IN THE PANEL SCHEDULES. OVERSIZED CONDUCTORS FOR VOLTAGE DROP ON OTHER CIRCUITS ARE INDICATED IN THE PANEL SCHEDULES.
- EXACT LOCATION AND ORIENTATION OF OCCUPANCY SENSORS SHALL BE AS RECOMMENDED BY MANUFACTURER TO OBTAIN COMPLETE COVERAGE. ALL OCCUPANCY SENSOR TIME DELAYS SHALL BE SET TO NO MORE THAN 15 MINUTES.
- UNLESS INDICATED OTHERWISE, SWITCHES AND OCCUPANCY SENSORS IN A ROOM/SPACE SHALL CONTROL ALL LIGHTING FIXTURES IN THAT ROOM/SPACE.
- PROVIDE ALL 120-VOLT POWER FOR THE FIRE ALARM SYSTEM. PROVIDE CIRCUIT BREAKER LOOKS AND CLEARLY INDICATE IN THE DIRECTORY THAT THEY ARE FIRE ALARM CIRCUITS. PROVIDE RED BREAKER, RED BREAKER LOCK OR RED DOT ON DEAD FRONT COVER BESIDE BREAKER. POWER SUPPLY QUANTITIES SHALL BE DETERMINED BY THE FIRE ALARM SUPPLIER AND INCLUDED IN BID. ALL POWER SUPPLIES SHALL BE LOCATED IN UTILITY-TYPE SPACES (MECH/ELEC/COMM ROOMS, HOUSEKEEPING CLOSETS, TRASH ROOMS, ETC.).
- CAREFULLY COORDINATE LOCATIONS OF ALL LIGHTING FIXTURES, OCCUPANCY SENSORS, FIRE ALARM NOTIFICATION APPLIANCES AND OTHER ELECTRICAL CEILING DEVICES WITH SPRINKLER HEADS AND HVAC CEILING DEVICES.
- WHERE NEW DEVICES (RECEPTACLES, SWITCHES, TELECOMMUNICATIONS OR FIRE ALARM) ARE SHOWN ON EXISTING WALLS AND CEILINGS AND THERE ARE NO EXISTING CONCEALED OUTLET BOXES OR CONDUITS TO REUSE, USE SURFACE RACEWAY (SINGLE-CHANNEL EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE), EXCEPT EXPOSED CONDUIT AND BOXES MAY BE USED IN UNFINISHED AREAS (MECHANICAL/ELECTRICAL ROOMS, STORAGE AND HOUSEKEEPING CLOSETS, ETC.). ALL USE OF SURFACE RACEWAY SHALL BE APPROVED BY THE ARCHITECT.
- WHERE RE-USE OF EXISTING CONDUIT, WIRING AND/OR OUTLET BOXES IS INDICATED, ALSO PROVIDE NEW MATERIALS IF NECESSARY. IF NEW EXPOSED MATERIALS ARE NEEDED, USE SURFACE RACEWAY (SINGLE-CHANNEL EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE), EXCEPT EXPOSED CONDUIT AND BOXES MAY BE USED IN UNFINISHED AREAS (MECHANICAL/ELECTRICAL ROOMS, STORAGE AND HOUSEKEEPING CLOSETS, ETC.). ALL USE OF SURFACE RACEWAY SHALL BE APPROVED BY THE ARCHITECT.
- PROVIDE SHALLOW BOXES FOR NEW DEVICES IN FURRED WALLS. COORDINATE DEPTH WITH ARCHITECTURAL.
- WHERE OUTLETS ARE SHOWN ABOVE A COUNTER OR SIMILAR SURFACE WITH A SPECIFIC MOUNTING HEIGHT, COORDINATE MOUNTING HEIGHT WITH BOTH THE SURFACE BELOW AND WITH ANY WALL MOUNTED ARCHITECTURAL ITEMS ABOVE (TACKBOARDS, ETC.) BEFORE ROUGH-IN.
- FOR WALL DEVICES MOUNTED ABOVE ARCHITECTURAL ITEMS, COORDINATE MOUNTING HEIGHTS OF WALL DEVICES SUCH THAT THEY DO NOT INTERFERE WITH ARCHITECTURAL ITEMS.
- WHERE SURFACE RACEWAY IS USED, COORDINATE WITH MARKERBOARD, TACKBOARD AND SMARTBOARD LOCATIONS IN ORDER TO AVOID INTERFERENCE WITH RACEWAY. ALL USE OF SURFACE RACEWAY SHALL BE APPROVED BY THE ARCHITECT.
- FOR ALL EXISTING OUTLET BOXES THAT ARE NOT BEING REUSED, PROVIDE BLANK COVER PLATE TO MATCH NEW WALL PLATES IN THAT AREA.
- SEE ARCHITECTURAL DRAWINGS FOR RATED WALL, FLOOR AND CEILING CONSTRUCTION, AND PROVIDE NECESSARY RATED DEVICES AND FIRE SEALANT FOR PENETRATIONS. WHERE NEW DEVICES ARE SHOWN RECESSED IN RATED PARTITIONS, CAREFULLY COORDINATE LOCATIONS AND OFFSETS.
- "HOMERUN" CONDUITS SHALL BE RUN DOWN CORRIDORS FROM THE RESPECTIVE ELECTRICAL ROOM (NOT THROUGH CLASSROOMS OR OFFICES OR OTHER SIMILAR SPACES).
- MODIFY EXISTING PANEL SCHEDULES TO ACCURATELY REFLECT ALL CHANGES MADE AS PART OF THIS CONTRACT. ALL NEW BREAKERS IN EXISTING PANELS SHALL MATCH EXISTING AIC. PROVIDE NEW "TYPED" AS-BUILT PANEL SCHEDULES. HANDWRITTEN PANEL SCHEDULES WILL NOT BE ACCEPTED.
- THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID IN ORDER TO VERIFY ALL EXISTING CONDITIONS, TO DETERMINE THE FULL EXTENT OF DEMOLITION WORK REQUIRED, AND TO DETERMINE THE FULL EXTENT OF RELOCATION AND MODIFICATION WORK REQUIRED FOR ELECTRICAL WORK (DUE TO OTHER DISCIPLINES INTERFERING OR ANY OTHER REASON). EXISTING SPACE IS TIGHT IN MANY AREAS (PARTICULARLY ABOVE CEILINGS), AND THE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO COORDINATE ALL ELECTRICAL WORK WITH BOTH NEW AND EXISTING PIPING, DUCTWORK, CONDUIT, ETC. NO CHANGE ORDERS WILL BE APPROVED FOR ADDITIONAL WORK DUE TO THE CONTRACTOR NEGLECTING TO VISIT THE SITE AND GATHER ALL NECESSARY INFORMATION.
- THE CONTRACTOR SHALL PROVIDE COVERPLATES ON ALL EXISTING JUNCTION BOXES ABOVE THE EXISTING CEILING SPACES AND ANY WALL MOUNTED BOXES IN THE AREA OF RENOVATIONS WHERE EXISTING COVERPLATES ARE MISSING. THE CONTRACTOR SHALL ALSO PROVIDE ADDITIONAL SUPPORTS FOR EXISTING CONDUIT AND JUNCTION BOXES IN THE AREA OF RENOVATIONS THAT CURRENTLY DO NOT MEET CODE REQUIREMENTS.
- WHERE EXISTING CIRCUITS ARE SPECIFIED TO BE REUSED FOR THE AREA OF RENOVATIONS AND THE CONTRACTOR DISCOVERS IN THE FIELD THAT THE CIRCUITS DO NOT MEET CODE, OR THEY HAVE SHARED NEUTRALS, OR THEY ARE MISSING A GROUND CONDUCTOR THE CONTRACTOR SHALL PROVIDE NEW CONDUIT AND WIRING FROM THE PANEL TO THE EXISTING AND NEW ELECTRICAL EQUIPMENT. ALL NEW CIRCUITS SHALL MEET SPECIFICATIONS FOR VOLTAGE DROP FOR SINGLE-PHASE WIRING.
- WHERE EXISTING CEILING MOUNTED LIGHT FIXTURES IN THE RENOVATION AREA ARE TO REMAIN OR BE REMOVED AND REINSTALLED IN AN ACCESSIBLE CEILING GRID AND THEY ARE NOT PROVIDED WITH SEPARATE STRUCTURAL SUPPORT FROM THE BUILDING STRUCTURAL FRAMING MEMBERS ABOVE, THE CONTRACTOR SHALL PROVIDE LIGHT FIXTURE SUPPORTS FOR THESE EXISTING LIGHT FIXTURES THAT MEET THE SPECIFICATIONS.
- WHERE MODIFICATIONS TO EXISTING AND/OR NEW HVAC EQUIPMENT, HVAC DUCTWORK, HVAC PIPING, PLUMBING EQUIPMENT, PLUMBING PIPING, SPRINKLER EQUIPMENT, SPRINKLER PIPING, ARCHITECTURAL CEILINGS, ARCHITECTURAL WALLS, ARCHITECTURAL FLOORS, ARCHITECTURAL FURNITURE, ARCHITECTURAL EQUIPMENT (ELEVATORS, ESCALATORS, DOORS, WINDOWS, MOVABLE PARTITIONS, ETC.), STRUCTURAL ELEMENTS (TIES, STRUTS, BEAMS, COLUMNS, ETC.) ARE PROVIDED IN AN EXISTING BUILDING RENOVATION AND ANY OF THESE ELEMENTS CREATE CONFLICTS WITH EXISTING ELECTRICAL INSTALLATIONS THAT ARE TO REMAIN, THE CONTRACTOR SHALL PROVIDE ALL MODIFICATIONS TO THE EXISTING ELECTRICAL INSTALLATIONS NECESSARY TO ACCOMMODATE THE MODIFIED AND/OR NEW ELEMENTS. MODIFICATIONS TO EXISTING ELECTRICAL INSTALLATIONS SHALL INCLUDE, BUT IS NOT LIMITED TO, RELOCATING EXISTING ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, DISCONNECT SWITCHES, MOTOR STARTERS, VFDs, RELAY PANELS, ETC.), LIGHT FIXTURES, ELECTRICAL DEVICES (LIGHTING CONTROLS, RECEPTACLES, FIRE ALARM DEVICES, TELECOM OUTLETS, JUNCTION BOXES, ETC.), AND REROUTING EXISTING FEEDERS AND/OR BRANCH CIRCUITS (CONDUIT, JUNCTION BOXES, AND WIRING). PROVIDE NEW MATERIALS WHERE REQUIRED TO RELOCATE EXISTING ELECTRICAL EQUIPMENT, LIGHT FIXTURES AND ELECTRICAL DEVICES TO NEW LOCATIONS. PROVIDE NEW MATERIAL WHERE REQUIRED TO REROUTE EXISTING FEEDERS AND/OR BRANCH CIRCUITS. THIS INCLUDES, BUT IS NOT LIMITED TO, PROVIDING NEW JUNCTION BOXES, CONDUIT, WIRING, AND OTHER REQUIRED MATERIALS NECESSARY TO EXTEND EXISTING FEEDERS AND/OR BRANCH CIRCUITS TO THE NEW EQUIPMENT LOCATIONS OR WORK AROUND NEW ELEMENTS.

GENERAL DEMOLITION NOTES:

- SCOPE: THE SCOPE OF ELECTRICAL DEMOLITION IS DEFINED IN THE FOLLOWING NOTES AND IN LIMITED FASHION ON THE DRAWINGS. THE DRAWINGS ARE ONLY INTENDED TO BE A PARTIAL REPRESENTATION OF THE ACTUAL DEMOLITION WORK REQUIRED. THESE NOTES ONLY APPLY TO THE AREAS OF RENOVATION.
2. **ELECTRICAL SERVICE:** THE EXISTING ELECTRICAL SERVICE SHALL BE REUSED. SOME DOWNTIME WILL LIKELY STILL BE REQUIRED. ALL ELECTRICAL SERVICE DOWNTIME REQUIRED SHALL BE COORDINATED WITH OWNER AND SHALL BE AT THE OWNER'S CONVENIENCE. DOWNTIME SHALL BE KEPT TO THE MINIMUM. ANY EXTENDED DOWNTIME REQUIRED SHALL BE COORDINATED WITH OWNER AND SHALL BE OUTSIDE OF NORMAL HOURS.
3. **DEVICES (RECEPTACLES, LIGHTING CONTROLS, ETC.):**
- 3.1. WHERE DEVICES ARE NOTED TO BE DEMOLISHED:
- 3.1.1. FLUSH MOUNTED DEVICES TO BE REMOVED (NOT REPLACED IN PLACE) OCCUR IN EXISTING WALLS TO REMAIN: REMOVE DEVICE; REMOVE COVER PLATE; REMOVE WIRES BACK TO UP STREAM DEVICE, HOMERUN JUNCTION BOX, OR PANELBOARD. PROVIDE NEW BLANK COVER PLATE, WHICH SHALL MATCH COVER PLATES FOR NEW WORK OR IF NO NEW WORK, THEN SHALL MATCH EXISTING COVER PLATES.
- 3.1.1.1. WHERE THE EXISTING ELECTRICAL SERVICE IS UP STREAM OF OTHER DOWN STREAM DEVICES, REWORK THE EXISTING WIRING TO REMOVE THE DEVICE, BUT TO MAINTAIN CIRCUIT CONTINUITY TO THE DOWN STREAM DEVICES. PROVIDE ALL REQUIRED MATERIALS TO REWORK THE EXISTING WIRING.
- 3.1.2. FLUSH MOUNTED DEVICES TO BE REMOVED THAT OCCUR IN EXISTING WALLS TO BE REMOVED: REMOVE DEVICE; REMOVE COVER PLATE; REMOVE WIRES BACK TO UP STREAM DEVICE, HOMERUN JUNCTION BOX, OR PANELBOARD; REMOVE ASSOCIATED BOX, AND REMOVE CONDUIT. ANY CONDUIT NOT ACCESSIBLE SHALL BE CUT AND LEFT ABANDONED IN THE EXISTING WALLS.
- 3.1.2.1. WHERE THE EXISTING DEVICE IS THE FIRST DEVICE THAT THE HOMERUN CIRCUIT LANDS TO AND THEN FEEDS OTHER DOWN STREAM DEVICES:
- 3.1.2.1.1. WHERE THE EXISTING HOMERUN CIRCUIT IS ROUTED OVERHEAD: CAPTURE THE EXISTING HOMERUN CIRCUIT (CONDUIT AND WIRING) OVERHEAD BEFORE IT TURNS DOWN INTO THE EXISTING WALL BEING DEMOLISHED.
- 3.1.2.1.1.1. WHERE THERE IS AN EXISTING HOMERUN JUNCTION BOX IN THE CEILING BEFORE IT TURNS DOWN TO THE FIRST DEVICE: REMOVE THE CONDUIT AND WIRING BETWEEN THE FIRST DEVICE AND THE HOME RUN JUNCTION BOX. THEN PROVIDE NEW CONDUIT AND WIRING (TO MATCH EXISTING) FROM THE EXISTING HOMERUN JUNCTION BOX TO THE NEXT DEVICE DOWN STREAM OF THE FIRST DEVICE (THAT WAS REMOVED) AND RECONNECT THE WIRING.
- 3.1.2.1.2. WHERE THE HOMERUN CIRCUIT EXTENDS FROM THE PANEL ALL THE WAY TO THE FIRST DEVICE: PULL OUT THE EXISTING WIRING FROM THE EXISTING CONDUIT. CUT THE CONDUIT UP ABOVE THE ACCESSIBLE CEILING SPACE. PROVIDE A NEW JUNCTION BOX ON THE END OF THE EXISTING CONDUIT. PROVIDE NEW CONDUIT AND WIRING (TO MATCH EXISTING) FROM THE NEW HOMERUN JUNCTION BOX TO THE NEXT DEVICE DOWN STREAM OF THE FIRST DEVICE (THAT WAS REMOVED) AND RECONNECT THE WIRING. MAINTAIN CIRCUIT CONTINUITY TO DOWN STREAM DEVICES.
- 3.1.2.1.3. WHERE EXISTING WALLS AND EXISTING RECESSED WALL BOXES ARE NOT ACCESSIBLE AND DO NOT ALLOW FOR HARD CONDUIT THEN PROVIDE SURFACE RACEWAY (TWO PIECE SINGLE-CHANNEL) TO BE ROUTED FROM THE CEILING DOWN TO THE NEXT DEVICE DOWN STREAM. PROVIDE A SURFACE MOUNTED BOX TO COVER THE EXISTING RECESSED WALL BOX, WHERE SIZE OF SURFACE BOX WILL ACCOMMODATE THE NEW DEVICE AND BE ABLE TO CONNECT TO THE EXISTING WIRING WITHIN THE EXISTING RECESSED WALL BOX. COORDINATE WITH ARCHITECT FOR ANY LOCATIONS THAT SURFACE RACEWAY WILL BE USED. ALSO COORDINATE ALL SURFACE RACEWAY AROUND ANY NEW OR EXISTING EQUIPMENT, DEVICES, MARKERBOARDS, SMARTBOARDS, CABINETS, ETC. ON THE EXISTING WALLS (NOTE THAT THIS COULD RESULT IN LONGER RUNS OF SURFACE RACEWAY TO AVOID THESE OBSTACLES).
- 3.1.2.1.2. WHERE THE EXISTING HOMERUN CIRCUIT IS ROUTED BELOW THE SLAB: REMOVE THE WIRING BETWEEN THE FIRST DEVICE AND EITHER THE FIRST HOME RUN JUNCTION BOX ABOVE THE SLAB OR THE PANELBOARD; CUT CONDUIT FLUSH WITH FINISHED FLOOR AND FILL WITH GROUT AND FINISH TO MATCH EXISTING FLOOR SURFACE. PROVIDE NEW CONDUIT AND WIRING (TO MATCH EXISTING) FROM EITHER THE FIRST EXISTING HOMERUN JUNCTION BOX ABOVE THE SLAB OR FROM THE EXISTING PANELBOARD TO THE NEXT DEVICE DOWN STREAM OF THE FIRST DEVICE (THAT WAS REMOVED) AND RECONNECT THE WIRING. MAINTAIN CIRCUIT CONTINUITY TO DOWN STREAM DEVICES.
- 3.1.2.1.2.1. WHERE EXISTING WALLS AND EXISTING RECESSED WALL BOXES ARE NOT ACCESSIBLE AND DO NOT ALLOW FOR HARD CONDUIT THEN PROVIDE SURFACE RACEWAY (TWO PIECE SINGLE-CHANNEL) TO BE ROUTED FROM THE CEILING DOWN TO THE NEXT DEVICE DOWN STREAM. PROVIDE A SURFACE MOUNTED BOX TO COVER THE EXISTING RECESSED WALL BOX, WHERE SIZE OF SURFACE BOX WILL ACCOMMODATE THE NEW DEVICE AND BE ABLE TO CONNECT TO THE EXISTING WIRING WITHIN THE EXISTING RECESSED WALL BOX. COORDINATE WITH ARCHITECT FOR ANY LOCATIONS THAT SURFACE RACEWAY WILL BE USED. ALSO COORDINATE ALL SURFACE RACEWAY AROUND ANY NEW OR EXISTING EQUIPMENT, DEVICES, MARKERBOARDS, SMARTBOARDS, CABINETS, ETC. ON THE EXISTING WALLS (NOTE THAT THIS COULD RESULT IN LONGER RUNS OF SURFACE RACEWAY TO AVOID THESE OBSTACLES).
- 3.1.2.2. WHERE THE EXISTING DEVICE IS BETWEEN (UP STREAM AND DOWN STREAM) DEVICES: REMOVE THE WIRING BETWEEN THE REMOVED DEVICE AND THE DEVICES UP STREAM AND DOWN STREAM. REMOVE PORTIONS OF EXISTING CONDUIT THAT ARE EXPOSED. ANY CONDUIT NOT ACCESSIBLE SHALL BE CUT AND LEFT ABANDONED IN THE EXISTING WALLS. PROVIDE NEW CONDUIT AND WIRING (TO MATCH EXISTING) FROM THE UP STREAM DEVICE UP TO THE CEILING AND THEN BACK DOWN TO THE NEXT DOWN STREAM DEVICE AND RECONNECT THE WIRING. OR UTILIZE THE EXISTING HOMERUN JUNCTION BOX TO REFEED THE NEXT DOWN STREAM DEVICE AND RECONNECT THE WIRING. MAINTAIN CIRCUIT CONTINUITY BETWEEN UP STREAM AND DOWN STREAM DEVICES.
- 3.1.2.2.1. WHERE EXISTING WALLS AND EXISTING RECESSED WALL BOXES ARE NOT ACCESSIBLE AND DO NOT ALLOW FOR HARD CONDUIT THEN PROVIDE SURFACE RACEWAY (TWO PIECE SINGLE-CHANNEL) TO BE ROUTED FROM THE CEILING DOWN TO THE NEXT DEVICE DOWN STREAM. PROVIDE A SURFACE MOUNTED BOX TO COVER THE EXISTING RECESSED WALL BOX, WHERE SIZE OF SURFACE BOX WILL ACCOMMODATE THE NEW DEVICE AND BE ABLE TO CONNECT TO THE EXISTING WIRING WITHIN THE EXISTING RECESSED WALL BOX. COORDINATE WITH ARCHITECT FOR ANY LOCATIONS THAT SURFACE RACEWAY WILL BE USED. ALSO COORDINATE ALL SURFACE RACEWAY AROUND ANY NEW OR EXISTING EQUIPMENT, DEVICES, MARKERBOARDS, SMARTBOARDS, CABINETS, ETC. ON THE EXISTING WALLS (NOTE THAT THIS COULD RESULT IN LONGER RUNS OF SURFACE RACEWAY TO AVOID THESE OBSTACLES).
- 3.1.2.3. WHERE THE EXISTING DEVICE IS DOWNSTREAM (AT THE END) OF ALL UPSTREAM DEVICES: REMOVE THE WIRING BETWEEN THE REMOVED DEVICE AND THE UP STREAM DEVICE. REMOVE PORTIONS OF EXISTING CONDUIT THAT ARE EXPOSED. ANY CONDUIT NOT ACCESSIBLE SHALL BE CUT AND LEFT ABANDONED IN THE EXISTING WALLS.
- 3.1.3. SURFACE MOUNTED DEVICES TO BE REMOVED OCCUR ON EXISTING WALLS TO REMAIN: REMOVE DEVICE; COVER PLATE; WIRES BACK TO UPSTREAM DEVICE, HOMERUN JUNCTION BOX, OR PANELBOARD; ASSOCIATED EXPOSED BOXES; CONDUIT AND SURFACE RACEWAY.
- 3.1.3.1. WHERE THE EXISTING DEVICE IS THE FIRST DEVICE THAT THE HOMERUN CIRCUIT LANDS TO AND THEN FEEDS OTHER DOWN STREAM DEVICES: REFER TO 3.1.2.1.1 & 3.1.2.1.2 ABOVE FOR SIMILAR DIRECTION.
- 3.1.3.2. WHERE THE EXISTING DEVICE IS IN BETWEEN (UP STREAM AND DOWN STREAM) DEVICES: REFER TO 3.1.2.2 ABOVE FOR SIMILAR DIRECTION.
- 3.1.3.3. WHERE THE EXISTING DEVICE IS DOWNSTREAM (AT THE END) OF ALL UPSTREAM DEVICES: REFER TO 3.1.2.3 ABOVE FOR SIMILAR DIRECTION.
- 3.1.4. FLOOR DEVICES TO BE REMOVED OCCURRING ON EXISTING FLOORS TO REMAIN: REMOVE DEVICE; FLOOR BOX; WIRES BACK TO UPSTREAM DEVICE, HOMERUN JUNCTION BOX, OR PANELBOARD; ASSOCIATED EXPOSED BOXES; CONDUIT AND SURFACE RACEWAY. FILL HOLE WITH GROUT AND FINISH TO MATCH EXISTING FLOOR SURFACE.
- 3.1.4.1. WHERE THE EXISTING DEVICE IS THE FIRST DEVICE THAT THE HOMERUN CIRCUIT LANDS TO AND THEN FEEDS OTHER DOWN STREAM DEVICES: CUT CONDUIT ON BOTH SIDES OF THE FLOOR BOX. REMOVE THE FLOOR BOX. JOIN BOTH ENDS OF THE EXISTING CONDUIT WITH A NEW PIECE OF CONDUIT (TO MATCH EXISTING). REFER TO 3.1.2.1.1 & 3.1.2.1.2 ABOVE FOR SIMILAR DIRECTION ON WIRING.
- 3.1.4.2. WHERE THE EXISTING DEVICE IS IN BETWEEN (UP STREAM AND DOWN STREAM) DEVICES: CUT CONDUIT ON BOTH SIDES OF THE FLOOR BOX. REMOVE THE FLOOR BOX. JOIN BOTH ENDS OF THE EXISTING CONDUIT WITH A NEW PIECE OF CONDUIT (TO MATCH EXISTING). REFER TO 3.1.2.2 ABOVE FOR SIMILAR DIRECTION ON THE WIRING.
- 3.1.4.3. WHERE THE EXISTING DEVICE IS DOWNSTREAM (AT THE END) OF ALL UPSTREAM DEVICES: CUT CONDUIT AND CAP THE END OF THE CONDUIT BELOW THE SLAB. REFER TO 3.1.2.3 ABOVE FOR SIMILAR DIRECTION.
- 3.1.5. WHERE UTILIZING AN EXISTING WALL BOX FOR A NEW DEVICE AND THE EXISTING WALL BOX DO NOT COMPLY WITH ADA MOUNTING HEIGHTS: EITHER MOVE THE EXISTING RECESSED WALL BOX DOWN TO THE CORRECT MOUNTING HEIGHT, OR PROVIDE A BLANK COVER PLATE ON THE EXISTING RECESSED WALL BOX AND THEN INSTALL A NEW RECESSED WALL BOX FOR THE NEW LIGHTING CONTROLS, OR PROVIDE A SURFACE MOUNTED BOX TO COVER THE EXISTING RECESSED WALL BOX, WHERE SIZE OF SURFACE MOUNTED BOX WILL ACCOMMODATE THE LIGHTING CONTROLS AND BE ABLE TO CONNECT TO THE EXISTING LINE-VOLTAGE OR NEW LOW-VOLTAGE WIRING WITHIN THE EXISTING RECESSED WALL BOX.
- 3.1.5.1. WHERE EXISTING WALLS AND EXISTING RECESSED WALL BOXES ARE NOT ACCESSIBLE AND DO NOT ALLOW FOR HARD CONDUIT THEN PROVIDE SURFACE RACEWAY (TWO PIECE SINGLE-CHANNEL) TO BE ROUTED FROM THE CEILING DOWN TO THE NEXT DEVICE DOWN STREAM. PROVIDE A SURFACE MOUNTED BOX TO COVER THE EXISTING RECESSED WALL BOX, WHERE SIZE OF SURFACE BOX WILL ACCOMMODATE THE NEW DEVICE AND BE ABLE TO CONNECT TO THE EXISTING WIRING WITHIN THE EXISTING RECESSED WALL BOX. COORDINATE WITH ARCHITECT FOR ANY LOCATIONS THAT SURFACE RACEWAY WILL BE USED. ALSO COORDINATE ALL SURFACE RACEWAY AROUND ANY NEW OR EXISTING EQUIPMENT, DEVICES, MARKERBOARDS, SMARTBOARDS, CABINETS, ETC. ON THE EXISTING WALLS (NOTE THAT THIS COULD RESULT IN LONGER RUNS OF SURFACE RACEWAY TO AVOID THESE OBSTACLES).
4. **RECEPTACLES:** WHERE NOTED, EXISTING RECEPTACLES AND BRANCH CIRCUITS TO THE EXISTING RECEPTACLES IN THE AREA OF RENOVATIONS SHALL BE DEMOLISHED AND REPLACED WITH NEW. REFER TO DEVICES ABOVE FOR ADDITIONAL DEMOLITION NOTES.
5. **LIGHTING CONTROLS:** WHERE NOTED, EXISTING INTERIOR CONTROLS IN THE AREA OF RENOVATIONS SHALL BE DEMOLISHED AND REPLACED WITH NEW. REFER TO DEVICES ABOVE FOR ADDITIONAL DEMOLITION NOTES.
- 5.1. WHERE NEW LIGHTING CONTROLS ARE LOW-VOLTAGE, REMOVE THE EXISTING LINE-VOLTAGE WIRING AND INSTALL LOW-VOLTAGE WIRING PER APPROVED LIGHTING CONTROL MANUFACTURER'S WIRING REQUIREMENTS.
- 5.1.1. WHERE EXISTING LINE-VOLTAGE WIRING WITHIN THE WALL BOX IS UP STREAM OF OTHER DOWN STREAM DEVICES REFER TO DEVICES ABOVE FOR A RESOLUTION TO REFEED THE EXISTING DOWN STREAM DEVICES. MAINTAIN CIRCUIT CONTINUITY BETWEEN UP STREAM AND DOWN STREAM DEVICES.
6. **INTERIOR LIGHTING:** WHERE NOTED, EXISTING INTERIOR LIGHT FIXTURES IN THE AREA OF DEMOLITION SHALL BE DEMOLISHED AND REPLACED WITH NEW, UNLESS NOTED OTHERWISE. ALL EXISTING LIGHTING BRANCH CIRCUITS SHALL REMAIN AND BE REUSED TO CONNECT TO THE NEW LIGHT FIXTURES, UNLESS NOTED OTHERWISE.
- 6.1. PROVIDE NEW CONDUIT AND WIRING ALONG WITH ALL OTHER REQUIRED MATERIALS NECESSARY TO RECONNECT THE NEW INTERIOR LIGHT FIXTURES TO ANY NOTED EXISTING TO REMAIN LIGHTING BRANCH CIRCUITS VIA THE NEW LIGHTING CONTROLS
7. **FIRE ALARM SYSTEM:** THE EXISTING FIRE ALARM SYSTEM SHALL REMAIN AS INSTALLED AND BE MODIFIED AS NOTED. PROVIDE NEW DEVICES AS SHOWN ON THE NEW WORK PLANS AND CONNECT THOSE NEW DEVICES TO THE EXISTING FIRE ALARM SYSTEM.
- 7.1. THE EXISTING FIRE ALARM SYSTEM SHALL REMAIN OPERATIONAL DURING THE RENOVATIONS. PROTECT ALL EXISTING AND NEW DEVICES LOCATED IN THE CONSTRUCTION AREA FROM BEING DAMAGED. NOTE SOME SLCs AND NACS MAY FEED EXISTING FIRE ALARM DEVICES OUTSIDE THE AREA OF RENOVATION WHICH COULD REQUIRE REWORKING SOME OF THE EXISTING WIRING TO MAINTAIN THE OPERATION OF THOSE EXISTING FIRE ALARM DEVICES. PROVIDE TEMPORARY WIRING (TO MATCH EXISTING) AS REQUIRED TO MAINTAIN SYSTEM OPERATION WHEN AN AREA IS DISCONNECTED FOR RENOVATION.
- 7.2. ALL NEW FIRE ALARM DEVICES SHALL BE PROGRAMMED INTO THE EXISTING FIRE ALARM SYSTEM AND SHALL BE TESTED AND INSPECTED BY LOCAL CODE OFFICIALS.
8. **COMMUNICATION OUTLETS:** WHERE NOTED, EXISTING COMMUNICATION OUTLETS AND EXISTING LOW-VOLTAGE WIRING TO THE EXISTING OUTLETS IN THE AREA OF RENOVATIONS SHALL BE DEMOLISHED AND REPLACED WITH NEW.
- 8.1. NOTE THAT THE ASSOCIATED NETWORK CABINETS/RACKS/HEAD-IN EQUIPMENT SHALL REMAIN OPERATIONAL DURING THE COURSE OF THESE RENOVATIONS.
- 8.2. REFER TO DEVICES ABOVE FOR ADDITIONAL DEMOLITION NOTES.
9. **CONDUIT:** WHERE EXISTING CONDUIT IS EXPOSED DUE TO DEMOLITION OF WALLS, CONDUIT SHALL BE REMOVED, UNLESS INDICATED TO REMAIN OR NECESSARY TO MAINTAIN SERVICE TO EXISTING ITEMS TO REMAIN. WHERE CONDUIT RISES FROM FLOOR TO FLOOR REMOVED ITEMS, CUT CONDUIT FLUSH WITH FLOOR AND FILL IT WITH GROUT. FINISH TO MATCH FLOOR SURFACE. ALL ACCESSIBLE UNUSED CONDUIT SHALL BE REMOVED; ALL INACCESSIBLE UNUSED CONDUIT SHALL BE ABANDONED. ALL CONDUIT TO NEW

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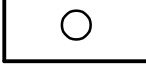

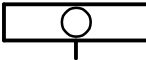



















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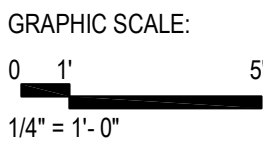
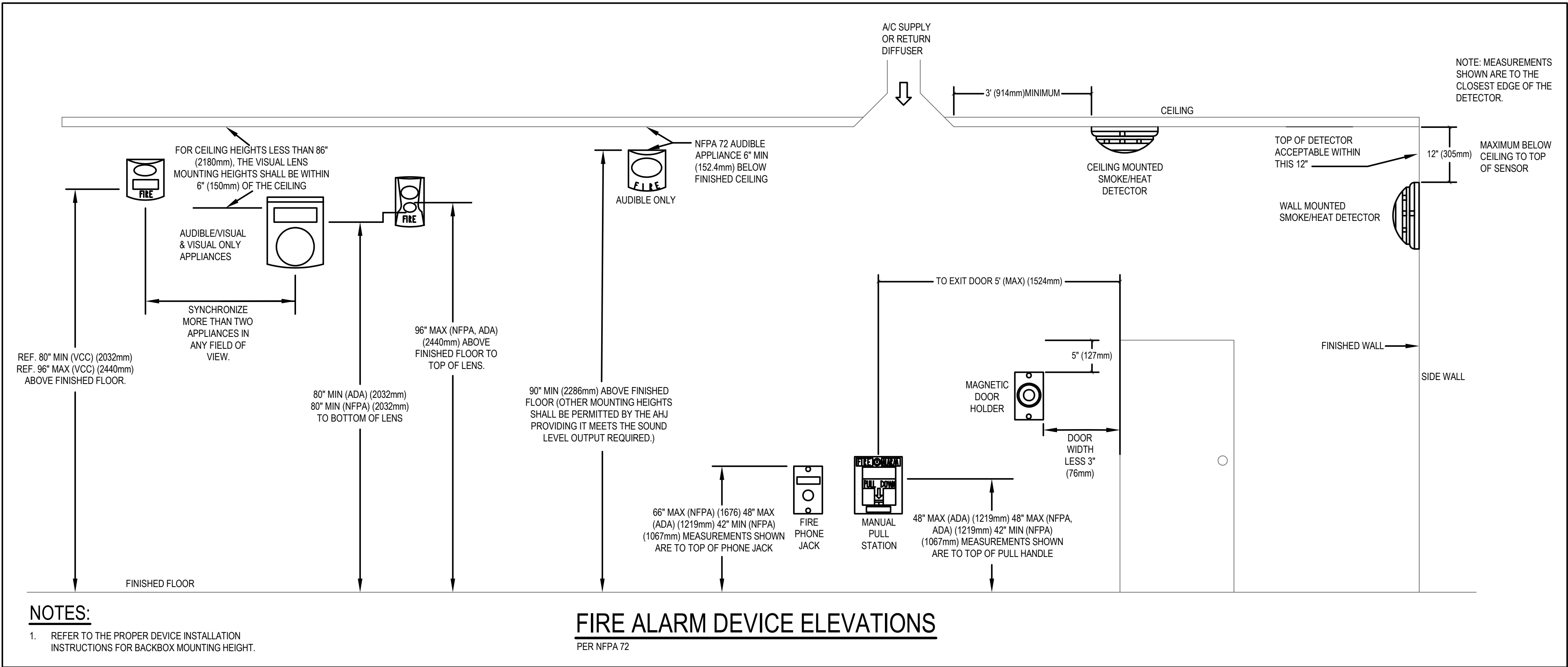
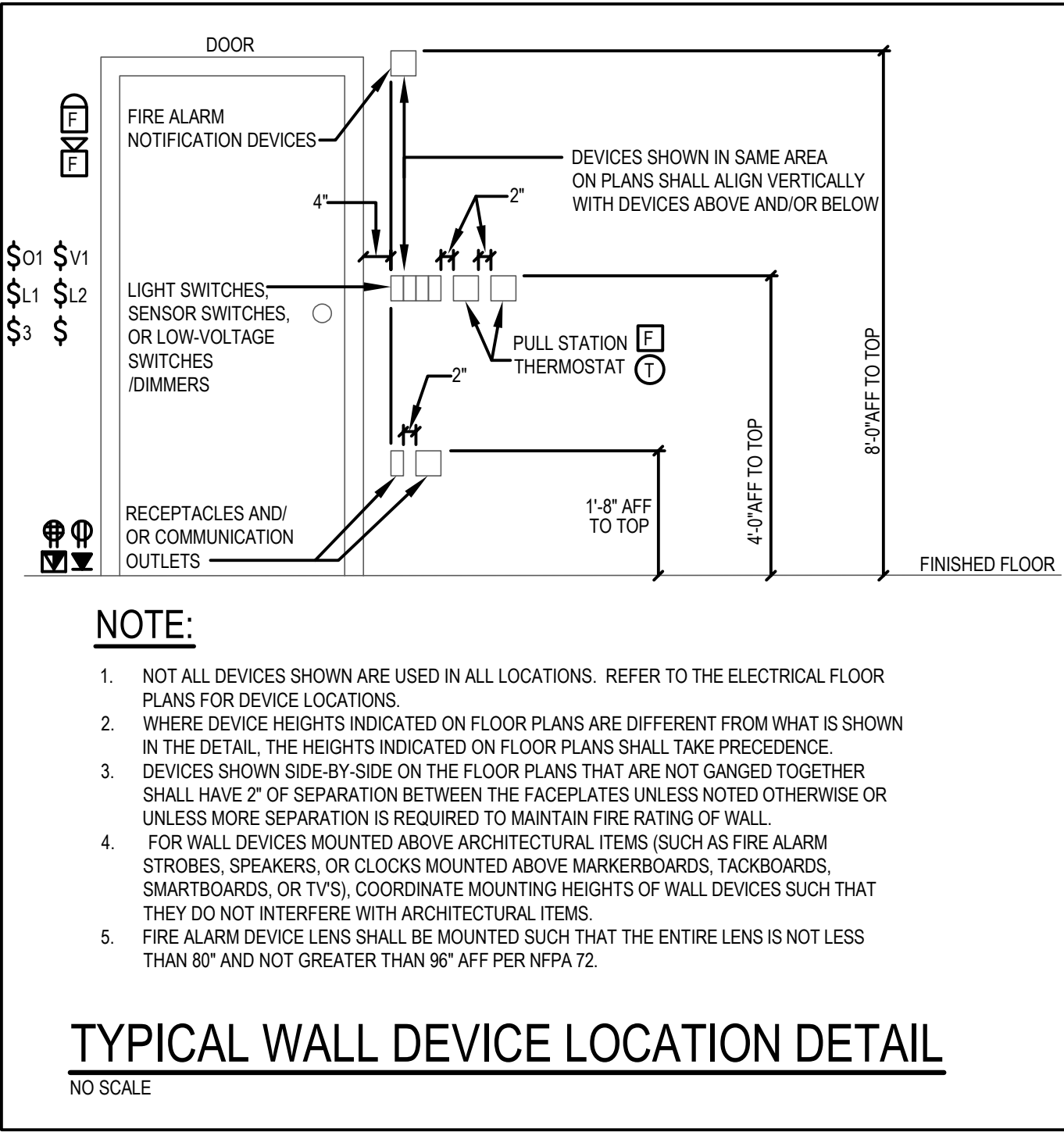
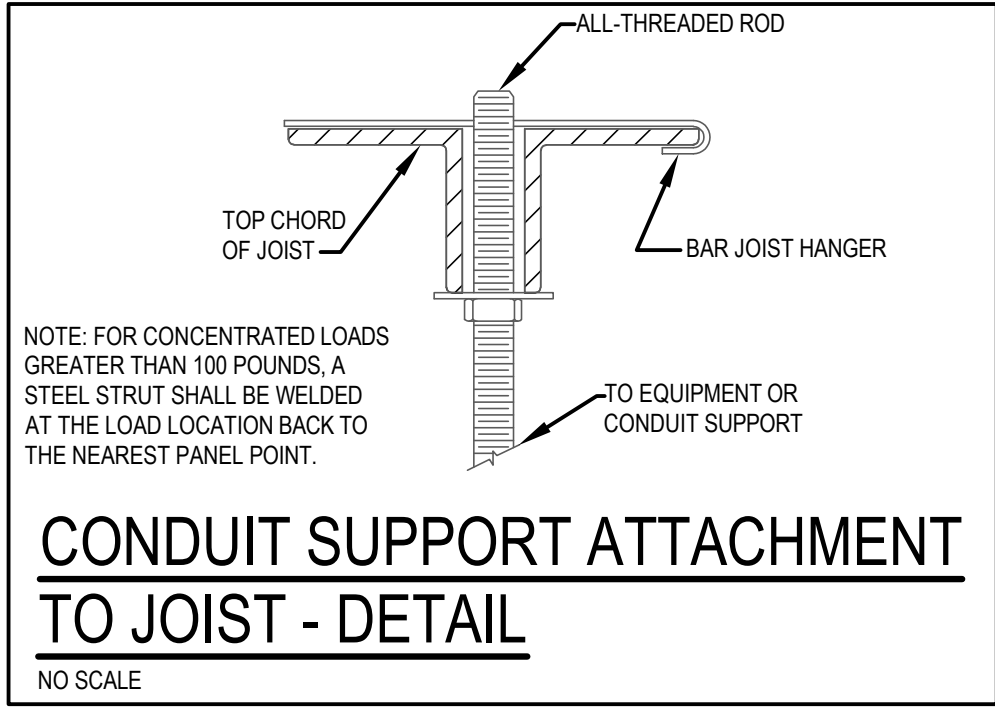
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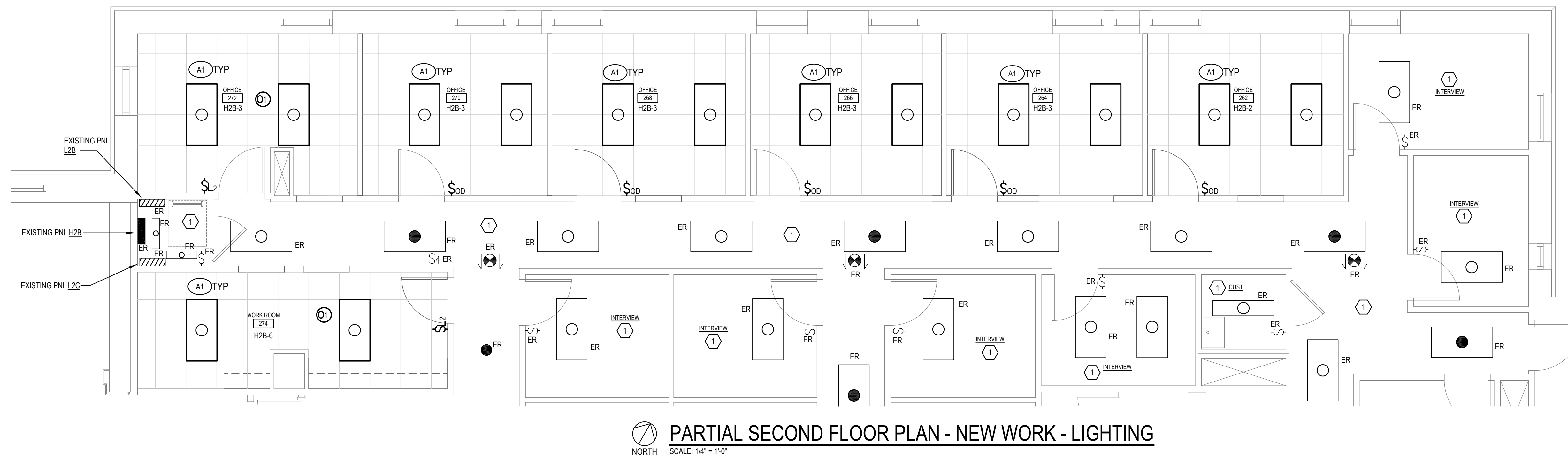
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ELECTRICAL LEGEND - LOW VOLTAGE			ELECTRICAL LEGEND - POWER DEVICES		
MTG. HGT.	SYMBOL	DESCRIPTION	MTG. HGT.	SYMBOL	DESCRIPTION
1'-8" TO TOP		COMMUNICATION (DATA AND/OR VOICE) OUTLET, WALL.	1'-8" TO TOP	 E,TR,SS,H, R,C,U,W,P	RECEPTACLE, DUPLEX, WALL. ALPHA-NUMERIC OR NUMERIC SUBSCRIPT, WHERE SHOWN, INDICATES CIRCUIT. "E" = EMERGENCY RECEPTACLE (RED IN COLOR). "TR" = TAMPER RESISTANT RECEPTACLE. "SS" = SURGE SUPPRESSOR RECEPTACLE. "H" = HORIZONTALLY MOUNTED. "R" = RECESSED RECEPTACLE WALL BOX. "C" = LOAD CONTROLLED RECEPTACLE VIA OCCUPANCY SENSOR AND RELAY PANEL. "U" = COMBINATION DUPLEX RECEPTACLE AND DUAL USB OUTLETS. "WP" = WHILE-IN-USE WEATHER-PROOF COVER PLATE.
1'-8" TO BOT		CABLE TELEVISION OUTLET, WALL.		 E,TR,SS,C,U	RECEPTACLE, DUPLEX, CEILING. ALPHA-NUMERIC OR NUMERIC SUBSCRIPT, WHERE SHOWN, INDICATES CIRCUIT. "E" = EMERGENCY RECEPTACLE (RED IN COLOR). "TR" = TAMPER RESISTANT RECEPTACLE. "SS" = SURGE SUPPRESSOR RECEPTACLE. "C" = LOAD CONTROLLED RECEPTACLE VIA OCCUPANCY SENSOR AND RELAY PANEL. "U" = COMBINATION DUPLEX RECEPTACLE AND DUAL USB OUTLETS.
8'-0" TO TOP	 ^(W)	WIRELESS ACCESS POINT (WAP), CEILING MOUNTED.	1'-8" TO TOP	 E,TR,H,R,W,P	RECEPTACLE, DUPLEX GFCI, WALL. ALPHA-NUMERIC OR NUMERIC SUBSCRIPT, WHERE SHOWN, INDICATES CIRCUIT. "E" = EMERGENCY RECEPTACLE (RED IN COLOR). "TR" = TAMPER RESISTANT RECEPTACLE. "H" = HORIZONTALLY MOUNTED. "R" = RECESSED RECEPTACLE WALL BOX. "WP" = WHILE-IN-USE WEATHER-PROOF COVER PLATE.
1'-8" TO BOT	 ⁽¹⁾ E,TR,SS,R, C,U,W,P,G,F	COMMUNICATION (DATA AND/OR VOICE) AND POWER OUTLETS, WALL. NUMBER INDICATES ONE DUPLEX RECEPTACLE. ALPHA-NUMERIC OR NUMERIC SUBSCRIPT, WHERE SHOWN, INDICATES CIRCUIT. "E" = EMERGENCY RECEPTACLE (RED IN COLOR). "TR" = TAMPER RESISTANT RECEPTACLE. "SS" = SURGE SUPPRESSOR RECEPTACLE. "R" = RECESSED RECEPTACLE WALL BOX. "C" = LOAD CONTROLLED RECEPTACLE VIA OCCUPANCY SENSOR AND RELAY PANEL. "U" = COMBINATION DUPLEX RECEPTACLE AND DUAL USB OUTLETS. "WP" = WHILE-IN-USE WEATHER-PROOF COVER PLATE. "GF" = GROUND FAULT.	1'-8" TO TOP	 E,TR	RECEPTACLE, DUPLEX GFCI, CEILING. ALPHA-NUMERIC OR NUMERIC SUBSCRIPT, WHERE SHOWN, INDICATES CIRCUIT. "E" = EMERGENCY RECEPTACLE (RED IN COLOR). "TR" = TAMPER RESISTANT RECEPTACLE.
1'-8" TO TOP	 ⁽²⁾ E,TR,SS,R, C,U,W,P,G,F	COMMUNICATION (DATA AND/OR VOICE) AND POWER OUTLETS, WALL. NUMBER INDICATES TWO DUPLEX RECEPTACLES. ALPHA-NUMERIC OR NUMERIC SUBSCRIPT, WHERE SHOWN, INDICATES CIRCUIT. "E" = EMERGENCY RECEPTACLE (RED IN COLOR). "TR" = TAMPER RESISTANT RECEPTACLE. "SS" = SURGE SUPPRESSOR RECEPTACLE. "R" = RECESSED RECEPTACLE WALL BOX. "C" = LOAD CONTROLLED RECEPTACLE VIA OCCUPANCY SENSOR AND RELAY PANEL. "U" = COMBINATION DUPLEX RECEPTACLE AND DUAL USB OUTLETS. "WP" = WHILE-IN-USE WEATHER-PROOF COVER PLATE. "GF" = GROUND FAULT.	1'-8" TO TOP	 E,TR,SS, R,C,U,W,P	RECEPTACLES, TWO DUPLEX (QUAD) IN A TWO GANG OUTLET BOX, WALL. ALPHA-NUMERIC OR NUMERIC SUBSCRIPT, WHERE SHOWN, INDICATES CIRCUIT. "E" = EMERGENCY RECEPTACLE (RED IN COLOR). "TR" = TAMPER RESISTANT RECEPTACLE. "SS" = SURGE SUPPRESSOR RECEPTACLE. "R" = RECESSED RECEPTACLE WALL BOX. "C" = LOAD CONTROLLED RECEPTACLE VIA OCCUPANCY SENSOR AND RELAY PANEL. "U" = COMBINATION DUPLEX RECEPTACLE AND DUAL USB OUTLETS. "WP" = WHILE-IN-USE WEATHER-PROOF COVER PLATE.
ELECTRICAL LEGEND - FIRE ALARM				 E,TR,SS,C	RECEPTACLES, TWO DUPLEX (QUAD) IN A TWO GANG OUTLET BOX, CEILING. ALPHA-NUMERIC OR NUMERIC SUBSCRIPT, WHERE SHOWN, INDICATES CIRCUIT. "E" = EMERGENCY RECEPTACLE (RED IN COLOR). "TR" = TAMPER RESISTANT RECEPTACLE. "SS" = SURGE SUPPRESSOR RECEPTACLE. "C" = LOAD CONTROLLED RECEPTACLE VIA OCCUPANCY SENSOR AND RELAY PANEL.
MTG. HGT.	SYMBOL	DESCRIPTION	1'-8" TO TOP	 E,TR,H,R, U,W,P	RECEPTACLE, SIMPLEX (SINGLE), WALL. ALPHA-NUMERIC OR NUMERIC SUBSCRIPT, WHERE SHOWN, INDICATES CIRCUIT. "E" = EMERGENCY RECEPTACLE (RED IN COLOR). "TR" = TAMPER RESISTANT RECEPTACLE. "H" = HORIZONTALLY MOUNTED. "R" = RECESSED RECEPTACLE WALL BOX. "U" = USB 4-PORT OUTLET. "WP" = WHILE-IN-USE WEATHER-PROOF COVER PLATE.
AS NOTED OR DETAILED	 _S	SMOKE DETECTOR, CEILING. "ERC" = ELEVATOR RECALL. "DR" = DOOR RELEASE.		 E,TR	RECEPTACLE, SIMPLEX (SINGLE), CEILING. ALPHA-NUMERIC OR NUMERIC SUBSCRIPT, WHERE SHOWN, INDICATES CIRCUIT. "E" = EMERGENCY RECEPTACLE (RED IN COLOR). "TR" = TAMPER RESISTANT RECEPTACLE.
	 _S	SMOKE DETECTOR, WALL.		 E,TR,U	RECEPTACLE, SINGLE IN A SINGLE COMPARTMENT FLUSH FLOOR BOX. ALPHA-NUMERIC OR NUMERIC SUBSCRIPT, WHERE SHOWN, INDICATES CIRCUIT. "E" = EMERGENCY RECEPTACLE (RED IN COLOR). "TR" = TAMPER RESISTANT RECEPTACLE. "U" = USB 4-PORT OUTLET.
	 _S	SMOKE DETECTOR, SINGLE STATION TYPE, CEILING.	1'-8" TO TOP	 _J	JUNCTION BOX, WALL.
AS NOTED OR DETAILED	 _S	SMOKE DETECTOR, SINGLE STATION TYPE, WALL.		 _J	JUNCTION BOX, CEILING.
	 _D	SMOKE DETECTOR, DUCT TYPE. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.	ELECTRICAL LEGEND - POWER EQUIPMENT		
	 _H	HEAT DETECTOR, CEILING.	MTG. HGT.	SYMBOL	DESCRIPTION
AS NOTED OR DETAILED	 _H	HEAT DETECTOR, WALL.			FLEXIBLE CONNECTION TO EQUIPMENT.
4'-0" TO TOP	 _F	FIRE ALARM MANUAL PULL STATION, WALL.			DIRECT CONNECTION TO EQUIPMENT.
8'-0" TO TOP	 _F ₃₀	FIRE ALARM HORN OR SPEAKER (AS INDICATED IN SPECIFICATIONS) WITH INTEGRAL VISUAL DEVICE, WALL. NUMBER INDICATES VISUAL DEVICE MINIMUM CANDELA RATING.			GROUND CONNECTION.
8'-0" TO TOP	 _F ₃₀	FIRE ALARM VISUAL DEVICE, WALL. NUMBER INDICATES VISUAL DEVICE MINIMUM CANDELA RATING.	1'-0" TO BOTTOM		GROUND BAR. MOUNT WITH LONG DIMENSION HORIZONTAL..
	 _F ₃₀	FIRE ALARM HORN OR SPEAKER (AS INDICATED IN SPECIFICATIONS) WITH INTEGRAL VISUAL DEVICE, CEILING. NUMBER INDICATES VISUAL DEVICE MINIMUM CANDELA RATING.		 _{GR}	GROUND ROD.
	 _F ₃₀	FIRE ALARM VISUAL DEVICE, CEILING. NUMBER INDICATES VISUAL DEVICE MINIMUM CANDELA RATING.		 _M	ELECTRIC MOTOR CONNECTION.
	 _F	FIRE ALARM HORN OR SPEAKER (AS INDICATED IN SPECIFICATIONS), CEILING.	6'-0" TO TOP		208/120 VOLT SURFACE OR FLUSH MOUNTED PANELBOARD.
8'-0" TO TOP	 _F	FIRE ALARM HORN OR SPEAKER (AS INDICATED IN SPECIFICATIONS), WALL.	6'-0" TO TOP		480/277 VOLT SURFACE OR FLUSH MOUNTED PANELBOARD.
8'-0" TO TOP	 _F _Ø	FIRE ALARM BELL, WALL.	ELECTRICAL LEGEND - RACEWAYS		
6'-0" TO TOP	 _{FACP}	MAIN FIRE ALARM CONTROL PANEL, WALL.	MTG. HGT.	SYMBOL	DESCRIPTION
5'-0" TO TOP	 _{FAAP}	FIRE ALARM ANNUNCIATOR PANEL, WALL.			CONDUIT EXPOSED.
<u>LOW-VOLTAGE CABLES:</u>					CONDUIT CONCEALED IN OR BELOW FLOOR SLAB OR BELOW GRADE.
10D,B118	TEXT BESIDE DEVICE INDICATES LOW-VOLTAGE CABLING AS FOLLOWS: RIGHT OF COLON = ROOM NUMBER OF MDF OR IDF CLOSETS FROM WHICH CABLES ORIGINATE. LEFT OF COLON = CABLE QUANTITY(S) AND TYPE(S) AS FOLLOWS:				CONDUIT CONCEALED IN WALL OR ABOVE CEILING.
#C	#C = SECURITY CAMERA CABLES: PLENUM RATED UTP CATEGORY 6 WITH PANDUIT MINI-COM CONNECTORS ON BOTH ENDS, UNLESS NOTED OTHERWISE IN DIVISION 27 OR 28 SPECIFICATIONS, ON THE DRAWINGS, OR REQUIRED BY OWNER.				EXISTING CONDUIT TO BE REMOVED.
#CL	#CL = DIGITAL CLOCK CABLE: PLENUM RATED UTP CATEGORY 6 WITH PANDUIT MINI-COM ON BOTH ENDS, UNLESS NOTED OTHERWISE IN DIVISION 27 OR 28 SPECIFICATIONS, ON THE DRAWINGS, OR REQUIRED BY OWNER.				CONDUIT TURNED UP.
#CR	#CR = CARD READER CABLE: PLENUM RATED UTP CATEGORY 6 WITH PANDUIT MINI-COM CONNECTORS ON BOTH ENDS, UNLESS NOTED OTHERWISE IN DIVISION 27 OR 28 SPECIFICATIONS, ON THE DRAWINGS, OR REQUIRED BY OWNER.				CONDUIT TURNED DOWN.
#D	#D = DATA CABLE: PLENUM RATED UTP CATEGORY 6 WITH PANDUIT MINI-COM CONNECTORS ON BOTH ENDS, UNLESS NOTED OTHERWISE IN DIVISION 27 OR 28 SPECIFICATIONS, ON THE DRAWINGS, OR REQUIRED BY OWNER.			 —PS1—	PLUG STRIP. NUMBER

ELECTRICAL LEGEND - LIGHTING		
MTG. HGT.	SYMBOL	DESCRIPTION
		LIGHTING FIXTURE TYPE DESIGNATION.
		LIGHTING FIXTURE, LED, CEILING MOUNTED. SYMBOL SIZE VARIES WITH LIGHTING FIXTURE TYPE.
		LIGHTING FIXTURE, LED, CEILING MOUNTED CONNECTED ON EMERGENCY CIRCUIT. (TYPICAL FOR ALL LIGHTING FIXTURES WITH SOLID FILL OR WITH 'E' DESIGNATION)
		LIGHTING FIXTURE, LED, WALL MOUNTED. SYMBOL SIZE VARIES WITH LIGHTING FIXTURE TYPE. WALL MOUNTED AS NOTED IN LIGHT FIXTURE SCHEDULE OR ON DRAWINGS.
		LIGHTING FIXTURE, LED, CEILING MOUNTED.
		LIGHTING FIXTURE, LED, WALL MOUNTED.
		LIGHTING FIXTURE, WALL WASHER TYPE, LED, CEILING MOUNTED. OPEN SIDE INDICATES DIRECTION OF MAXIMUM LIGHT DISTRIBUTION.
		LIGHTING FIXTURE, LED, SURFACE OR PENDANT, CEILING MOUNTED.
		LED EXIT SIGN, CEILING MOUNTED. SHADED QUADRANT(S) INDICATES FACE(S). PROVIDE ARROWS AS INDICATED ON DRAWINGS. LIGHTING FIXTURE TYPES "X1 & X2", UNO.
7'-6" TO BOTTOM, UNO		LED EXIT SIGN, WALL MOUNTED. SHADED QUADRANT(S) INDICATES FACE(S). PROVIDE ARROWS AS INDICATED ON DRAWINGS. LIGHTING FIXTURE TYPES "X3 & X4", UNO.
ELECTRICAL LEGEND - LIGHTING CONTROLS		
MTG. HGT.	SYMBOL	DESCRIPTION
4'-0" TO TOP		GENERAL USE SWITCH, SINGLE POLE. LOWER CASE ALPHABETIC SUBSCRIPT, WHERE SHOWN, INDICATES LOADS CONTROLLED. (TYPICAL FOR ALL SWITCHES). "WP" = WATERPROOF
4'-0" TO TOP		GENERAL USE SWITCH, THREE WAY.
4'-0" TO TOP		GENERAL USE SWITCH, FOUR WAY.
4'-0" TO TOP		SWITCH, LOW VOLTAGE LIGHTING CONTROL, WALL-BOX MOUNTED. NUMBER INDICATES TYPE AS SCHEDULED ON DRAWINGS OR IN SPECIFICATIONS.
4'-0" TO TOP		0-10V DIMMER, LOW VOLTAGE LIGHTING CONTROL, WALL-BOX MOUNTED. NUMBER INDICATES TYPE AS SCHEDULED ON DRAWINGS OR IN SPECIFICATIONS.
4'-0" TO TOP		SWITCH WITH INTEGRAL VACANCY SENSOR, WALL-BOX MOUNTED. NUMBER INDICATES TYPE AS SCHEDULED ON DRAWINGS OR IN SPECIFICATIONS.
4'-0" TO TOP		COMBINATION 0-10V DIMMER AND OCCUPANCY SENSOR, WALL-BOX MOUNTED. TYPE AS SCHEDULED ON DRAWINGS OR IN SPECIFICATIONS.
		OCCUPANCY SENSOR, CEILING MOUNTED. NUMBER INDICATES TYPE AS SCHEDULED ON DRAWINGS OR IN SPECIFICATIONS.
ELECTRICAL LEGEND - GENERAL		
MTG. HGT.	SYMBOL	DESCRIPTION
		ASTERISK DENOTES BOTTOM OF OUTLET BOX MOUNTED 8 IN. ABOVE TOP OF COUNTER. DISTANCE INCLUDES HEIGHT OF BACKSPASH.
		NEW CONNECTED TO EXISTING AT THIS POINT.
		EXISTING REMOVED FROM THIS POINT.
		PLAN NOTE DESIGNATION.
		REVISION DESIGNATION.
	NLA1A-3	CIRCUIT DESIGNATION. DESIGNATION SHOWN INDICATES PANEL NLA1A AND CIRCUIT NUMBER 3.
<u>NOTES (ELECTRICAL LEGEND):</u>		
1. THESE ARE STANDARD ELECTRICAL SYMBOLS AND MAY NOT ALL APPEAR ON THE PROJECT DRAWINGS. HOWEVER, WHEREVER AN ELECTRICAL SYMBOL APPEARS ON THE PROJECT DRAWINGS, THE ITEM SHALL BE FURNISHED AND INSTALLED.		
2. MOUNTING HEIGHTS NOTE IN THIS SCHEDULE ARE FROM FINISHED FLOOR TO TOP OF OUTLET OR EQUIPMENT, UNO. WHERE THE MOUNTING HEIGHT INDICATED ON THE DRAWINGS IS DIFFERENT FROM THE LEGEND, THE DRAWING TAKES PRECEDENT. SEE DRAWINGS FOR MOUNTING HEIGHTS NOT INDICATED IN THE LEGEND. MOUNTING HEIGHT NOTED ON THE DRAWINGS ARE FROM FINISHED FLOOR TO TOP OF DEVICE.		
3. SEE ELECTRICAL ABBREVIATIONS FOR ALPHABETIC SUBSCRIPT WITH SYMBOL, UNO.		
4. REFER TO DETAILS ON DRAWINGS FOR ADDITIONAL INFORMATION.		

ELECTRICAL ABBREVIATIONS			
A OR AMP	AMPERE	INC	INCANDESCENT
ABD	ABANDONED	INIT	INITIAL
ABV	ABOVE	JB	JUNCTION BOX
AC	ALTERNATING CURRENT	KCML	THOUSAND CIRCULAR MILS
ACB	ABOVE COUNTER BACKSPLASH	KO	KNOCKOUT
AF OR AFI	ARC FAULT INTERRUPTER	KV	KILOVOLT
AFD	ADJUSTABLE FREQUENCY DRIVE	KVA	KILOVOLT-AMPERE
AFF	ABOVE FINISHED FLOOR	KVAR	KILOVOLT-AMPERE REACTIVE
AIC	AMPERES INTERRUPTING CAPACITY	KW	KILOWATT
AIP	ABANDONED IN PLACE	KWH	KILOWATT-HOUR
AL	ALUMINUM	LA	LIGHTNING ARRESTER
AM	AMMETER	LED	LIGHT EMITTING DIODE
AMPL	AMPLIFIER	LPS	LOW PRESSURE SODIUM
ASVM	ASYMMETRICAL	LRP	LIGHTING RELAY PANEL
ATS	AUTOMATIC TRANSFER SWITCH	LTG	LIGHTING
AWG	AMERICAN WIRE GAGE	LUM	LUMENS OR LUMINAIRE
BAS	BUILDING AUTOMATION SYSTEM	MAG	MAGNETIC
BEL	BELOW	MAN	MANUAL
BD	BUS DUCT	MA TV	MASTER ANTENNA TELEVISION
BOT	BOTTOM	MCA	MINIMUM CIRCUIT AMPACITY
BRKR	BREAKER	MCB	MAIN CIRCUIT BREAKER
CB	COUNTERTOP	MCC	MOTOR CONTROL CENTER
CA	CABLE	MCM	THOUSAND CIRCULAR MILS
CAB	CABINET	MDF	MAIN DISTRIBUTION FRAME
CATV	CABLE TV	MG	MOTOR GENERATOR
CB	CIRCUIT BREAKER	MH	METAL HALIDE OR MOUNTING HEIGHT
CCTV	CLOSED CIRCUIT TELEVISION	MIN	MINIMUM
CF	COMPACT FLUORESCENT	MLO	MAIN LUGS ONLY
CKT	CIRCUIT	MMS	MANUAL MOTOR STARTER
CLG	CEILING	MNS	MASS NOTIFICATION SYSTEM
CND	CONDUIT	MCCP	MAXIMUM OVER CURRENT PROTECTION
CNTR	CENTER	MOD	MOTOR OPERATED DAMPER
COMB	COMBINATION	MOT	MOTOR
COND	CONDUCTOR	MS	MAGNETIC STARTER
CONN	CONNECTION	MTG	MOUNTED OR MOUNTING
CONT	CONTRACTOR	MTR	METER
CR	CORROSION RESISTANT	MV	MERCURY VAPOR
CT	CURRENT TRANSFORMER	N	NORMAL
CTRL	CONTROL	NEC	NATIONAL ELECTRICAL CODE
CU	COPPER	NEUT	NEUTRAL
CW	COLD WATER	NFSS	NON-FUSIBLE SAFETY SWITCH
DB	DOOR BELL	NL	NIGHT LIGHT
DC	DIRECT CURRENT	NO	NUMBER
DIM	DIMENSION	OH	OVERHEAD
DISC	DISCONNECT	P	POLE
DR	DOOR RELEASE SERVICE	PB	PULL BOX OR PUSHBUTTON
DS	DOOR SWITCH	PBS	PUSHBUTTON STATION
DWG	DRAWING	PH	PHASE
E OR EMER	EMERGENCY	PNL	PANEL OR PANELBOARD
EC	EMPTY CONDUIT	PNLBD	PANELBOARD
ECNC	EXIST CND AND NEW COND	PRY	PRIMARY
EGC	EQUIPMENT GROUNDING CONDUCTOR	PT	POTENTIAL TRANSFORMER
EL	EXIST RELOCATED TO THIS LOCATION	PVC	POLYVINYL CHLORIDE
ELC	ELECTRIC OR ELECTRICAL	PWR	POWER
ELEV	ELEVATOR	QTY	QUANTITY
EM	EXIST REMOVED	RB	RELAY BASE
EML	EXIST REMOVED AND RELOCATED	REC	RECEPTACLE
EMN	EXIST REMOVED AND NEW INSTALLED	REFRIG	REFRIGERATOR
EMT	ELECTRICAL METALLIC TUBING	RGS	RIGID GALVANIZED STEEL CONDUIT
ENCL	ENCLOSURE	SG	SPACE ONLY
ENG	ENGINE	SB	SOUNDER BASE
EP	EXPLOSIONPROOF	SCCR	SHORT CIRCUIT CURRENT RATING
EQUIP	EQUIPMENT	SEC	SECONDARY
ER	EXIST TO REMAIN	SL	SINGLE STATION
ERC	ELEVATOR RECALL	SM	SOLID OPERATED SMOKE DAMPER
EW	ELECTRIC WATER COOLER	SMR	SURFACE METAL RACEWAY
EXIST	EXISTING	SN	MOTOR NEUTRAL
EXT	EXTERIOR	SP	SPECIAL PURPOSE
F	FIRE ALARM	SPD	SURGE PROTECTIVE DEVICE
FACP	FIRE ALARM CONTROL PANEL	SPKR	SPEAKER
FACU	FIRE ALARM CONTROL UNIT	SR	SURFACE RACEWAY
FDR	FEEDER	SS	SURGE SUPPRESSOR
FC	FOOTCANDLE	STR	STARTER
FLUOR	FLUORESCENT	SW	SWITCH
FSD	FIRE/SMOKE DAMPER	SWBD	SWITCHBOARD
FSS	FUSIBLE SAFETY SWITCH	SWGR	SWITCHGEAR
FXT	FIXTURE	SYM	SYMMETRICAL
G	RECEPTACLE GUARD	T	TEMPER RESISTANT
GC	GARAGE DOOR	TC	TIME CLOCK
GE	GROUNDING ELECTRODE CONDUCTOR	TEL	TELEPHONE
GF, GFI, GFCI	GROUND FAULT PROTECTION/PROTECTED	TV	TELEVISION
GFP	GROUND FAULT CIRCUIT INTERRUPTER	TY	TYPICAL
GND	GROUND	U	USB CHARGER
GFTD	GENERATOR TRANSFER DEVICE	UC	UNDERCOUNTER
H	HORIZONTAL	UG	UNDERFLOOR
HG	HOSPITAL GRADE	UL	UNDERGROUND
HGT	HEIGHT	UNL	UNDERWRITERS' LABORATORIES
HID	HIGH INTENSITY DISCHARGE	UNL	UNLESS NOTED OTHERWISE
HOA	HAND OFF AUTOMATIC	V	VOLT
HOP	HORSEPOWER OR HEAT PUMP	VA	VOLT-AMPERE
HPF	HIGH POWER FACTOR	VAR	VOLT-AMPERE REACTIVE
HPS	HIGH PRESSURE SODIUM	VERT	VERTICAL
HTR	HEATER	VFD	VARIABLE FREQUENCY DRIVE
HW	HOT WATER	VM	VOLTMETER
HZ	HERTZ	W	WATT OR WIRE
IDC	INTERCOM OR INTERRUPTING CAPACITY	WG	WIRE GUARD
IDF	INTERMEDIATE DISTRIBUTION FRAME	WP	WEATHERPROOF
IG	ISOLATED GROUND	XFER	TRANSFER
IMC	INTERMEDIATE METAL CONDUIT	XFMR	TRANSFORMER





LIGHTING FIXTURE SCHEDULE				
FXTR TYPE	MOUNTING	LAMP (NO.) TYPE	MANUFACTURER AND CATALOG NO. (BASIS OF DESIGN)	REMARKS
A1	RECESSED	6000 LUMEN LED	LITHONIA LIGHTING: 2BLT4 60L ADP GZ10 LP840	-

LIGHTING FIXTURE SCHEDULE NOTES:

1. LIGHT FIXTURE SCHEDULED ABOVE IS BASIS OF DESIGN. ANY ALTERNATE LIGHT FIXTURES THAT ARE SUBMITTED FOR REVIEW AND APPROVAL SHALL BE PROVIDED WITH POINT-BY-POINT PHOTOMETRIC CALCULATIONS TO DETERMINE IF ALTERNATE LIGHT FIXTURE MEETS THE SAME LIGHTING PERFORMANCE AS THAT SPECIFIED.

LUTRON SENSOR AND SWITCH SCHEDULE				
TYPE	MOUNTING	SENSOR MODEL NUMBER	TIME DELAY SETTING	NOTES
1 L1	WALL (48" AFF TO TOP)	PJ-2B-G*L01	-	PICO LOW-VOLTAGE WIRELESS 2-BUTTON SWITCH "ON/OFF" * = PROVIDE ARCHITECT WITH ALL STANDARD COLOR SAMPLES OF THE DEVICE AND THE COVERPLATE SO THE COLOR FINISHES CAN BE SELECTED.
2 L2	WALL (48" AFF TO TOP)	PJ-2BRL-G*L01	-	PICO LOW-VOLTAGE WIRELESS 2-BUTTON SWITCH WITH "ON/OFF/RAISE/LOWER" * = PROVIDE ARCHITECT WITH ALL STANDARD COLOR SAMPLES OF THE DEVICE AND THE COVERPLATE SO THE COLOR FINISHES CAN BE SELECTED.
3 D0	WALL (48" AFF TO TOP)	MS-Z101*	15 MINUTES UNO	MAESTRO 0-10 VOLT DIMMER SENSOR: SET THE OCCUPIED LEVEL IN THE SENSOR TO "50%". THIS WILL PROGRAM THE DEVICE TO TURN THE LIGHTS ON TO 50% LIGHT LEVEL WHEN THE ROOM IS INITIALLY OCCUPIED. * = PROVIDE ARCHITECT WITH ALL STANDARD COLOR SAMPLES OF THE DEVICE AND THE COVERPLATE SO THE COLOR FINISHES CAN BE SELECTED.
4 V1	WALL (48" AFF TO TOP)	MS-OPS6M-DN-V*	15 MINUTES UNO	MAESTRO OCCUPANCY SENSOR SWITCH: SET THE <u>AUTO-ON</u> OPTION TO "VACANCY" TO MAKE THIS SENSOR A VACANCY SENSOR. * = PROVIDE ARCHITECT WITH ALL STANDARD COLOR SAMPLES OF THE DEVICE AND THE COVERPLATE SO THE COLOR FINISHES CAN BE SELECTED.
5 (01)	CEILING	LRF2-OCR2B-P-W/H	30 MINUTES UNO	WIRELESS CEILING MOUNTED OCCUPANCY SENSOR. SET THE <u>AUTO-ON OPTION</u> IN THE SENSOR TO "ENABLE", WHICH WILL MAKE THE SENSOR AN OCCUPANCY SENSOR.

LIGHTING SENSOR AND SWITCH SCHEDULE NOTES:

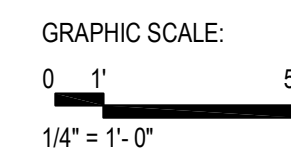
1. BASIS OF DESIGN: ALL LIGHTING CONTROLS SHALL BE BY CAMPUS STANDARD LIGHTING CONTROL MANUFACTURER LUTRON.
2. ALL OCCUPANCY AND SENSORS SHALL BE DUAL TECHNOLOGY (PIR AND ULTRASONIC).
3. DEVICE FINISHES SHALL BE OUTLINED IN THE SPECIFICATIONS.
4. EXACT LOCATIONS OF ALL SENSORS SHALL BE AS RECOMMENDED BY MANUFACTURER.
5. ALL OCCUPANCY SENSOR TIME DELAYS SHALL BE 15 MINUTES, UNLESS NOTED OTHERWISE.
6. PROVIDE ALL LOW-VOLTAGE WIRING NEEDED FOR A FULLY OPERATIONAL SYSTEM (CAT 5E, 0-10V VIOLET-AND-GRAY, ANY OTHER MANUFACTURER-RECOMMENDED CABLEING, PENDING RATED WHERE IN AIR HANDING SPACES, IN DEDICATED CONDUIT SYSTEM WHERE NOT ABOVE ACCESSIBLE CEILINGS, IN DEDICATED SLEEVES WHERE PENETRATING PARTITIONS).

SECOND FLOOR - LIGHTING CONTROLS - SEQUENCE OF OPERATIONS (ROOM BY ROOM):

1. OFFICE 272 AND WORKROOM 274:
GENERAL LIGHTS: THE LIGHT FIXTURE(S) SHALL AUTOMATICALLY TURN ON TO 50% LIGHT LEVELS WHEN ENTERING THE ROOM. THE LIGHT FIXTURE(S) SHALL AUTOMATICALLY TURN OFF WHEN THE ROOM IS VACANT FOR 15 MINUTES, UNLESS MANUALLY TURNED OFF. SET THE TIME DELAY ON THE OCCUPANCY SENSOR TO 15 MINUTES. THE LIGHT FIXTURE(S) CAN MANUALLY BE TURNED ON/OFF/RAISED/DIMMED VIA THE S12 WALL DIMMER.
2. OFFICE 270, 268, 266, 264, 262:
GENERAL LIGHTS: THE LIGHT FIXTURE(S) SHALL AUTOMATICALLY TURN ON TO 50% LIGHT LEVELS WHEN ENTERING THE ROOM. THE LIGHT FIXTURE(S) WILL AUTOMATICALLY TURN OFF WHEN THE ROOM IS VACANT FOR 15 MINUTES, UNLESS MANUALLY TURNED OFF. SET THE TIME DELAY ON THE OCCUPANCY SENSOR TO 15 MINUTES. THE LIGHT FIXTURE(S) CAN MANUALLY BE TURNED ON/OFF/RAISED/DIMMED VIA THE S03 COMBINATION OCCUPANCY SENSOR/DIMMER.

PLAN NOTES:

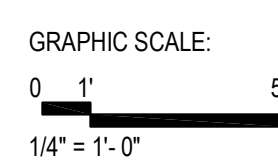
1. EXISTING ELECTRICAL DEVICES, LIGHTING, LIGHTING CONTROLS, RECEPTACLES, AND FIRE ALARM DEVICES IN THIS ROOM SHALL REMAIN AS INSTALLED, UNLESS NOTED OTHERWISE.



 PARTIAL SECOND FLOOR PLAN - NEW WORK - POWER
NORTH SCALE: 1/4" = 1'-0"

1. EXISTING ELECTRICAL DEVICES, LIGHTING, LIGHTING CONTROLS, RECEPTACLES, AND FIRE ALARM DEVICES IN THIS ROOM SHALL REMAIN AS INSTALLED, UNLESS NOTED OTHERWISE.
2. EXTEND NEW BRANCH CIRCUIT FROM EXISTING PANEL CONCEALED ABOVE FINISHED CEILING(S) TO HOMERUN JUNCTION BOX ABOVE THE CEILING IN THIS WORKROOM. COORDINATE WITH ARCHITECT TO EITHER DEMOLISH A PORTION OF THE EXISTING WALL TO INSTALL NEW CONDUIT AND A NEW JUNCTION BOX OR DEMOLISH THE EXISTING WALL TO THE CEILING LINE, THEN REPAIR WALL, BENEATH EXISTING CONDITIONS, OR PROVIDE SURFACE RACEWAY FROM FINISHED CEILING DOWN THE WALL (AWAY FROM THE UPPER CABINETS) AND WRAP THE SURFACE RACEWAY AROUND THE BACK OF THE WALL BELOW THE UPPER CABINETS AND ABOVE THE COUNTER TOP TO THIS LOCATION.
3. EXTEND EXISTING BRANCH CIRCUIT FROM EXISTING HOMERUN JUNCTION BOX ABOVE THE FINISHED CEILING TO THIS NEW RECEPTACLE. COORDINATE WITH ARCHITECT TO EITHER DEMOLISH A PORTION OF THE EXISTING WALL TO INSTALL NEW CONDUIT AND A NEW JUNCTION BOX OR DEMOLISH THE EXISTING WALL TO THE CEILING LINE, THEN REPAIR WALL, BENEATH EXISTING CONDITIONS, OR PROVIDE SURFACE RACEWAY FROM FINISHED CEILING DOWN THE WALL (AWAY FROM THE UPPER CABINETS) AND WRAP THE SURFACE RACEWAY AROUND THE BACK OF THE WALL BELOW THE UPPER CABINETS AND ABOVE THE COUNTER TOP TO THIS LOCATION.

GRAPHIC SCALE:
0 1' 5'
1/4" = 1'-0"



1. EXISTING ELECTRICAL DEVICES, LIGHTING, LIGHTING CONTROLS, RECEPTACLES, AND FIRE ALARM DEVICES IN THIS ROOM SHALL REMAIN AS INSTALLED, UNLESS NOTED OTHERWISE.
2. COORDINATE WITH ARCHITECT TO DO ONE OF THE FOLLOWING:
 - 2.1. DEMOLISH A PORTION OF THE EXISTING WALL TO INSTALL NEW DATA CONDUIT AND A NEW DATA JUNCTION BOX ABOVE THE COUNTER AND THEN REPAIR WALL BACK TO EXISTING CONDITIONS. REMOVE THE EXISTING DATA WIRING, EXISTING COVERPLATE, AND WALL JACKS IN THE EXISTING LOWER DATA JUNCTION BOX. REINSTALL THE EXISTING DATA WIRING TO THE NEW JUNCTION BOX ABOVE THE COUNTER AND NEW COVERPLATE AND WALL JACKS. THE EXISTING DATA OUTLET MOUNTED AT 18" AFFW WOULD BE PROVIDED WITH A BLANK COVERPLATE (ABANDONED IN PLACE).
 - 2.2. DEMOLISH A PORTION OF THE EXISTING WALL TO REMOVE THE EXISTING DATA OUTLET JUNCTION BOX AT 18" AFFW. PROVIDE A NEW DATA OUTLET JUNCTION BOX ABOVE THE COUNTER TOP, CAPTURE THE EXISTING DATA CONDUIT AND REMOVE FROM THE LOWER JUNCTION BOX AND REWORK TO CONNECT TO THE JUNCTION BOX ABOVE THE COUNTER. PULL THE EXISTING DATA WIRING OUT OF THE LOWER JUNCTION BOX AND REINSTALL INTO THE JUNCTION BOX ABOVE THE COUNTER. UTILIZE THE EXISTING DATA COVERPLATE AND JACK.
 - 2.3. PROVIDE SURFACE RACEWAY FROM FINISHED CEILING DOWN THE WALL (AWAY FROM THE UPPER CABINETS) AND WRAP THE SURFACE RACEWAY AROUND THE BACK OF THE WALL BELOW THE UPPER CABINETS AND ABOVE THE COUNTER TOP TO THIS NEW DATA OUTLET LOCATION. REMOVE THE EXISTING DATA WIRING, EXISTING COVERPLATE, AND WALL JACKS IN THE EXISTING LOWER DATA JUNCTION BOX. REINSTALL THE EXISTING DATA WIRING TO THE NEW SURFACE RACEWAY JUNCTION BOX ABOVE THE COUNTER ALONG WITH THE EXISTING COVERPLATE AND WALL JACKS. THE EXISTING DATA OUTLET MOUNTED AT 18" AFFW WOULD BE PROVIDED WITH A BLANK COVERPLATE (ABANDONED IN PLACE).

1. ALL NEW DATA OUTLET LOCATIONS SHALL BE 2-GANG JUNCTION BOXES WITH 2-GANG PLASTER RING. PROVIDE 1" CONDUIT FROM ALL NEW DATA OUTLET BOXES TO STUB OUT ABOVE DROP CEILING. PROVIDE BUSHING ON END OF CONDUIT.

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EXISTING PANEL H2B																																	
VOLTAGE: 480Y/277V SYSTEM: 3PH, 4W SOLID NEUTRAL: YES						MAIN: 125A MLO BUS RATING: 125A GROUND BUS: YES						INTEGRAL SPD: NO MOUNTING: SURFACE INTERRUPT RATING: 18,000 AIC																					
CKT	LOAD SERVED					BKR	PHASE	NEUT	GND	COND	DMD	L1	L2	L3	CKT	LOAD SERVED					BKR	PHASE	NEUT	GND	COND	DMD	L1	L2	L3				
1	LTS 220					20/1	#12	#12	#12	3/4"	L	1.27			2	LTS 250, 248, 246, 252, 254, 256, 258, 260					20/1	#12	#12	#12	3/4"	L	1.88						
3	LTS 262, 264, 266, 268, 270, 272, 274, 276					20/1	#12	#12	#12	3/4"	L		1.63		4	LTS 230A-D, 236, 238, 242, 244					20/1	#12	#12	#12	3/4"	L		2.02					
5	LTS B14					20/1	#12	#12	#12	3/4"	L			1.03	6	LTS 265,239A-B,237A-B,267,231,233,273,275,B16					20/1	#12	#12	#12	3/4"	L			1.88				
7	LTS 261, B18, B17, B19					20/1	#12	#12	#12	3/4"	L	.71			8	SPARE					20/1	-	-	-	-	-	-						
9	EMERGENCY LTS HALL					20/1	#12	#12	#12	3/4"	L		1.42		10	SPARE					20/1	-	-	-	-	-	-						
11	SPARE					20/1	-	-	-	-	-	-	-	-	12	SPARE					20/1	-	-	-	-	-	-		-				
13	SPARE					20/1	-	-	-	-	-	-	-	-	14	SPARE					20/1	-	-	-	-	-	-						
15	SPARE					20/1	-	-	-	-	-	-	-	-	16	SPARE					20/1	-	-	-	-	-	-		-				
17	SPARE					20/1	-	-	-	-	-	-	-	-	18	SPARE					20/1	-	-	-	-	-	-		-				
19	SPACE					-	-	-	-	-	-	-	-	-	20	SPACE					-	-	-	-	-	-	-						
21	SPACE					-	-	-	-	-	-	-	-	-	22	SPACE					-	-	-	-	-	-	-		-				
23	SPACE					-	-	-	-	-	-	-	-	-	24	SPACE					-	-	-	-	-	-	-		-				
25	F-2					20/3	#12	#12	#12	3/4"	M	.37			26	SPACE					-	-	-	-	-	-	-						
27	*					-	#12	-	-	-	M		.37		28	SPACE					-	-	-	-	-	-	-						
29	*					-	#12	-	-	-	M			.37	30	SPACE					-	-	-	-	-	-	-		-				
																							PHASE LOAD TOTALS					4.23		5.44		3.28	
LOADS (KVA)														LOADS (KVA)																			
CONNECTED		DEMAND FACTOR		DEMAND										CONNECTED		DEMAND FACTOR		DEMAND															
LIGHTING		11.84		1.25		14.8										KITCHEN EQUIPMENT		0		1.0		0											
REC TO 10 KVA		0		1.0		0										CONTINUOUS		0		1.25		0											
REC REMAINING		0		0.5		0										NON-CONTINUOUS		0		1.0		0											
SPACE HEATING		0		0.0		0										DEMAND		0		1.0		0											
AIR CONDITIONING		0		1.0		0																											
NON-SEASONAL MOTORS		1.11		1.0		1.11										TOTAL CONNECTED LOAD		13		KVA		15.6		AMPS									
LARGEST MOTOR		0		0.25		0										MIN. FEEDER / PANEL CAPACITY		15.9		KVA		19.1		AMPS									
WATER HEATING		0		1.0		0										OVERALL DEMAND FACTOR		1.23															

MODIFIED PANEL H2B																																	
VOLTAGE: 480Y/277V SYSTEM: 3PH, 4W SOLID NEUTRAL: YES						MAIN: 125A MLO BUS RATING: 125A GROUND BUS: YES						INTEGRAL SPD: NO MOUNTING: SURFACE INTERRUPT RATING: 18,000 AIC																					
CKT	LOAD SERVED					BKR	PHASE	NEUT	GND	COND	DMD	L1	L2	L3	CKT	LOAD SERVED					BKR	PHASE	NEUT	GND	COND	DMD	L1	L2	L3				
1	LTS 220					20/1	#12	#12	#12	3/4"	L	1.27			2	*LTS 250, 248, 246, 252, 254, 256, 262					20/1	#12	#12	#12	3/4"	L	1.74						
3	*LTS 264, 66, 68, 70, 72					20/1	#12	#12	#12	3/4"	L		.52		4	LTS 230A-D, 236, 238, 242, 244					20/1	#12	#12	#12	3/4"	L		2.02					
5	LTS B14					20/1	#12	#12	#12	3/4"	L			1.03	6	*LTS 265,239A-B,237A-B,267,231,233,274,B16					20/1	#12	#12	#12	3/4"	L			1.74				
7	LTS 261, B18, B17, B19					20/1	#12	#12	#12	3/4"	L	.71			8	SPARE					20/1	-	-	-	-	-	-						
9	EMERGENCY LTS HALL					20/1	#12	#12	#12	3/4"	L		1.42		10	SPARE					20/1	-	-	-	-	-	-	-					
11	SPARE					20/1	-	-	-	-	-	-	-	-	12	SPARE					20/1	-	-	-	-	-	-	-	-				
13	SPARE					20/1	-	-	-	-	-	-	-	-	14	SPARE					20/1	-	-	-	-	-	-	-	-				
15	SPARE					20/1	-	-	-	-	-	-	-	-	16	SPARE					20/1	-	-	-	-	-	-	-	-				
17	SPARE					20/1	-	-	-	-	-	-	-	-	18	SPARE					20/1	-	-	-	-	-	-	-	-				
19	SPACE					-	-	-	-	-	-	-	-	-	20	SPACE					-	-	-	-	-	-	-	-	-				
21	SPACE					-	-	-	-	-	-	-	-	-	22	SPACE					-	-	-	-	-	-	-	-	-				
23	SPACE					-	-	-	-	-	-	-	-	-	24	SPACE					-	-	-	-	-	-	-	-	-				
25	F-2					20/3	#12	#12	#12	3/4"	M	.37			26	SPACE					-	-	-	-	-	-	-	-	-				
27	*					-	#12	-	-	-	M		.37		28	SPACE					-	-	-	-	-	-	-	-	-				
29	*					-	#12	-	-	-	M			.37	30	SPACE					-	-	-	-	-	-	-	-	-				
PHASE LOAD TOTALS																								4.09		4.33		3.14					
LOADS (KVA)														LOADS (KVA)																			
CONNECTED		DEMAND FACTOR		DEMAND										CONNECTED		DEMAND FACTOR		DEMAND															
LIGHTING		10.45		1.25		13.06										KITCHEN EQUIPMENT		0		1.0		0											
REC TO 10 KVA		0		1.0		0										CONTINUOUS		0		1.25		0											
REC REMAINING		0		0.5		0										NON-CONTINUOUS		0		1.0		0											
SPACE HEATING		0		0.0		0										DEMAND		0		1.0		0											
AIR CONDITIONING		0		1.0		0																											
NON-SEASONAL MOTORS		1.11		1.0		1.11										TOTAL CONNECTED LOAD		11.6		KVA		13.9		AMPS									
LARGEST MOTOR		0		0.25		0										MIN. FEEDER / PANEL CAPACITY		14.2		KVA		17.1		AMPS									
WATER HEATING		0		1.0		0										OVERALL DEMAND FACTOR		1.23															

