VIRGINIA TECH

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

VICINITY MAP
NO SCALE
NORTH

MATERIAL SYMBOLS:

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

INDEX TO DRAWINGS:

ABBREVIATIONS:

AFF	ABOVE FINISH FLOOR	EQ.	EQUAL	O/	OVER
ALUM.	ALUMINUM	EXIST.	EXISTING	OC	ON CENTER
APA	AMERICAN PLYWOOD ASSOCIATION	EXT.	EXTERIOR	OFCI	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
		MNTG.	MOUNTING	WD.	WOOD
EJ	EXPANSION JOINT	N.	NORTH	WT.	WEIGHT
ELEC.	ELECTRICAL	NIC	NOT IN CONTRACT	WWF	WELDED WIRE FABRIC
ELEV.	ELEVATION, ELEVATOR	NO.	NUMBER		
		NTS	NOT TO SCALE		

GENERAL NOTES:

1. 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.
2. 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.
3. ALL WORK SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. THE GENERAL CONTRACTOR SHALL COORDINATE ALL WORK PROCEDURES WITH LOCAL AUTHORITIES.
13. 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.
14. 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.
15. CONSTRUCTION SHALL BE PERFORMED DURING NORMAL WORKING HOURS. BUILDING ACCESS AND SECURE STAGING/STORAGE OF MATERIALS SHALL BE COORDINATED WITH THE BUILDING OWNER.
16. THE USE OF THE WORD "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL, COMPLETE AND READY FOR USE.
17. ALL PIPING SHALL BE TESTED AND LABELED AS TO USE.
18. A TESTING & BALANCING REPORT SHALL BE SUBMITTED TO THE UNIVERSITY BUILDING OFFICIAL PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
19. ALL DIMENSIONS ARE GIVEN TO FACE OF STUD OR FACE OF EXISTING CONSTRUCTION UNLESS OTHERWISE NOTED. DIMENSIONS NOTED AS CLEAR, OR CLR, ARE TO WALL FINISH.
20. ALIGN FINISH FACE OF WALLS WITH EXISTING WALL FINISH AS SHOWN.
21. OUTSIDE EDGE OF NEW FRAMES AT NEW DOOR JAMBS SHALL BE HELD 4" FROM THEIR ADJACENT WALLS, UNLESS NOTED OR DIMENSIONED OTHERWISE.
22. IN THE PROJECT AREA, ALL ITEMS SHOWN AND NOT DESIGNATED AS EXISTING SHALL BE ASSUMED TO BE NEW WORK.
23. DOORS AND FRAMES SHALL BE PROVIDED TO MATCH BUILDING STANDARD.
24. FIRE SUPPRESSION SPRINKLER DRAWINGS SHALL BE SUBMITTED TO THE UNIVERSITY BUILDING OFFICIAL'S OFFICE BEFORE SPRINKLER WORK BEGINS.
25. 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 BT 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.
26. 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.

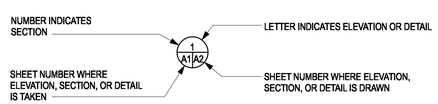
ASBESTOS & LEAD NOTES:

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 DISCOVERD. 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 540-231-4255. 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

COMMONWEALTH OF VIRGINIA
THOMAS A. KOONTZ
Lic. No.005648
03/13/25
ARCHITECT

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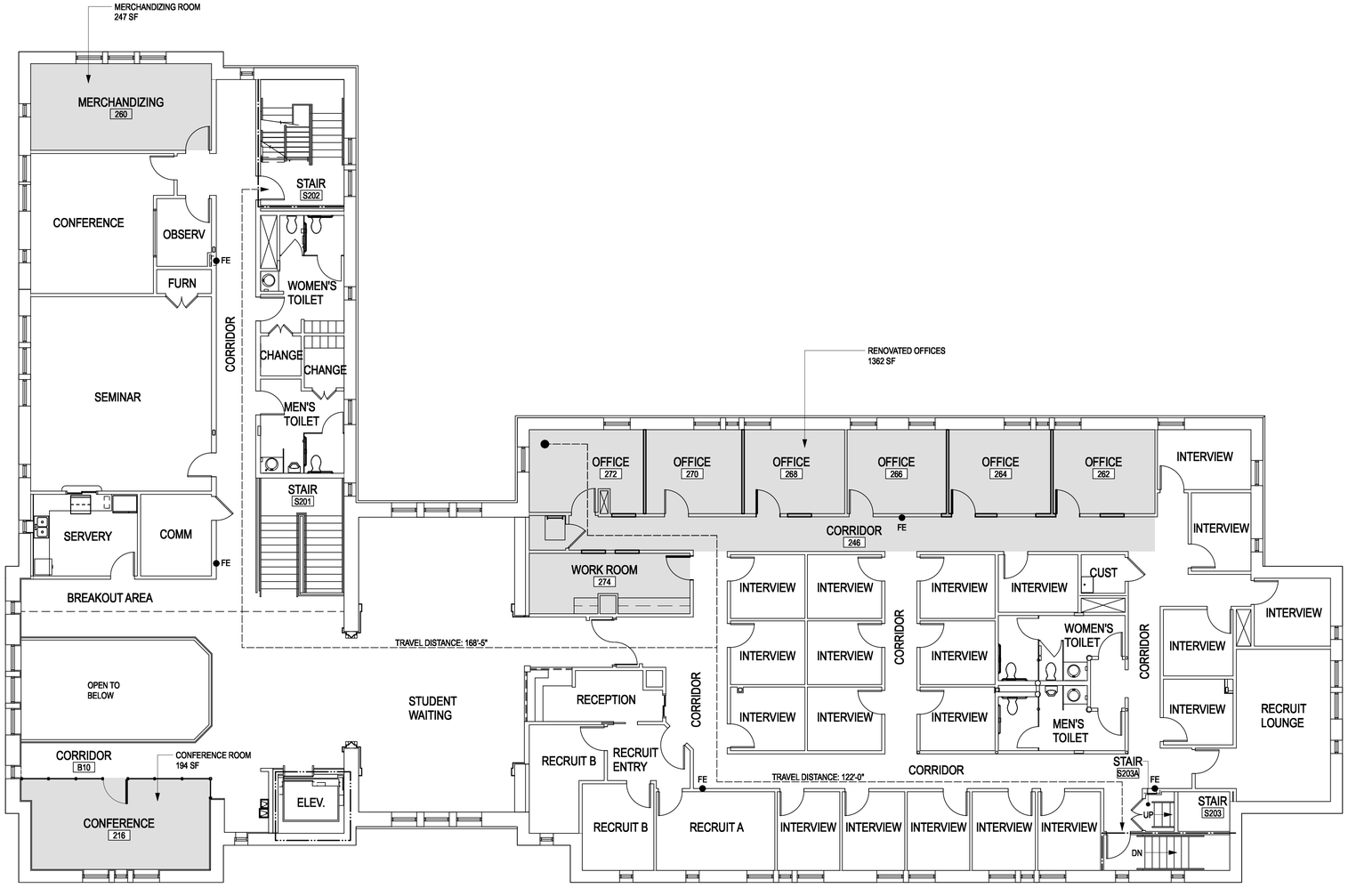
TITLE SHEET

T1

CODE PLAN LEGEND

- ROOM NUMBER
- PROJECT AREA
- TRAVEL DISTANCE
- FE — EXISTING FIRE EXTINGUISHER/ CABINET
- 1-HOUR RATED PARTITION
- 2-HOUR RATED PARTITION



NORTH

SECOND FLOOR LIFE SAFETY PLAN

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

BUILDING CODE INFORMATION

APPLICABLE CODES AND STANDARDS
- 2021 VIRGINIA EXISTING BUILDING CODE (VEBC)
- 2021 VIRGINIA CONSTRUCTION CODE (VCC)
- NATIONAL ELECTRICAL CODE/NFPA 70; NEC 2020
- 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN, SEPTEMBER 15, 2010
- ICC A117.1-2017 ACCESSIBLE AND USABLE BUILDING FACILITIES
- VIRGINIA TECH 2023 DESIGN AND CONSTRUCTION STANDARDS MANUAL

2021 VEBC COMPLIANCE ANALYSIS

SECTION 400 ACCESSIBILITY

404.3 ALTERATION AFFECTS AN AREA CONTAINING A PRIMARY FUNCTION.
ACCESSIBLE ROUTE AND AFFECTED AREA ARE FULLY ACCESSIBLE.

SECTION 600 : ALTERATIONS

602 LEVEL 1 ALTERATIONS

602.2 CONFORMANCE
LEVEL 1 ALTERATIONS SHALL BE DONE IN A MANNER THAT MAINTAINS THE EXISTING LEVEL OF FIRE PROTECTION AND MEANS OF EGRESS.

602.3 BUILDING ELEMENTS AND MATERIALS
LEVEL 1 INTERIOR FINISHES, FLOOR FINISHES, AND TRIM SHALL COMPLY WITH THE CHAPTER 8 OF THE VCC.

603 LEVEL 2 ALTERATIONS
LEVEL 2 ALTERATIONS SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 603 AS WELL AS THE REQUIREMENTS OF LEVEL 1 ALTERATIONS. CONSTRUCTION ELEMENTS, COMPONENTS, AND SPACES SHALL COMPLY WITH THE REQUIREMENTS OF THE VCC

603.4 BUILDING IS SPRINKLED.

603.6 PLUMBING
THIS PROJECT DOES NOT INCREASE THE OCCUPANT LOAD MORE THAN 20 PERCENT. EXISTING PLUMBING FIXTURE QUANTITIES SHALL BE DEEMED ACCEPTABLE.

603.7 STRUCTURAL
NO ADDITIONAL STRUCTURAL LOADS ARE BEING IMPOSED ON THE STRUCTURAL SYSTEM OF THE BUILDING.

PROJECT AREA CODE NOTES

OCCUPANCY CLASSIFICATION (VCC 302); B, BUSINESS

CONSTRUCTION TYPE (VCC 602), IIB, NON-COMBUSTIBLE

FIRE ALARM SYSTEM	PROVIDED
FIRE SUPPRESSION SYSTEM	PROVIDED

ALLOWABLE HEIGHT AND AREA
- HEIGHT 75-FT (VCC TABLE 504.3); 4 STORIES (VCC TABLE 504.4)
- AREA 69,000 SF PER FLOOR (VCC TABLE 506.2)

DESIGN HEIGHT AND AREA
- HEIGHT 40-FT.; 2 STORIES (VCC TABLE 506.2)
- SECOND FLOOR AREA 9,939 SF
- PROJECT AREAS 1,871 SF

MAXIMUM EXIT ACCESS TRAVEL DISTANCE (TABLE 1017.2)
- >2 EXITS AND SPRINKLER SYSTEM PERMITTED 300-FEET

MAXIMUM COMMON PATH OF TRAVEL (TABLE 1006.2.1)
- B, BUSINESS WITH SPRINKLER SYSTEM PERMITTED 100-FEET

FIRE RESISTIVE RATINGS OF BUILDING ELEMENTS (VCC TABLE 601)
- TYPE IIB, 0 HOURS

FIRE PROTECTION SYSTEMS (SECTION 903)
- FIRE SUPPRESSION SYSTEM SHALL COMPLY WITH NFPA 13

BUILDING IS EQUIPPED WITH FIRE ALARM SYSTEM
FIRE EXTINGUISHERS ARE PROVIDED PER VCC 906

AUTHORITIES HAVING JURISDICTION

UNIVERSITY BUILDING OFFICIAL
71 STERRETT CENTER
BLACKSBURG, VA 24061
(540)-231-4678

STATE FIRE MARSHAL
VIRGINIA DEPARTMENT OF FIRE PROGRAMS
1005 TECHNOLOGY PARK DRIVE
RICHMOND, VA 23059
(804)371-0220

GRAPHIC SCALE:
0 1' 5' 10'
1/8" = 1' - 0"

NORTH SECOND FLOOR KEY PLAN

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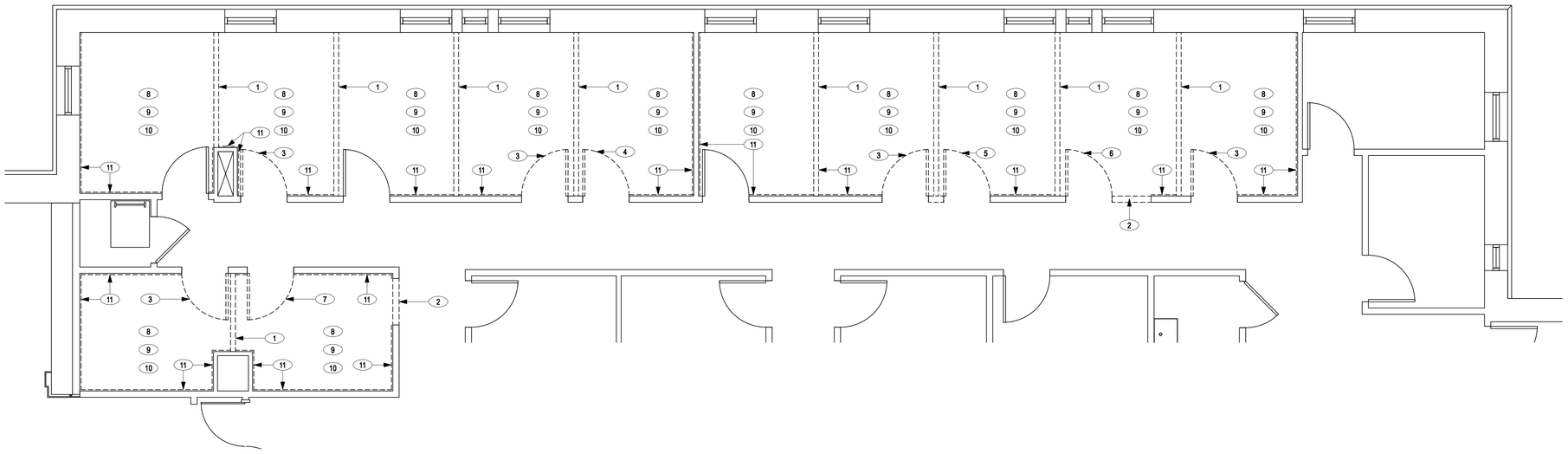
SECOND FLOOR LIFE SAFETY PLAN & NOTES

LS1



PARTIAL SECOND FLOOR DEMOLITION PLAN

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

NORTH

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 DEMOLIITION 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'

1/4" = 1'- 0"

SECOND FLOOR KEY PLAN

NORTH

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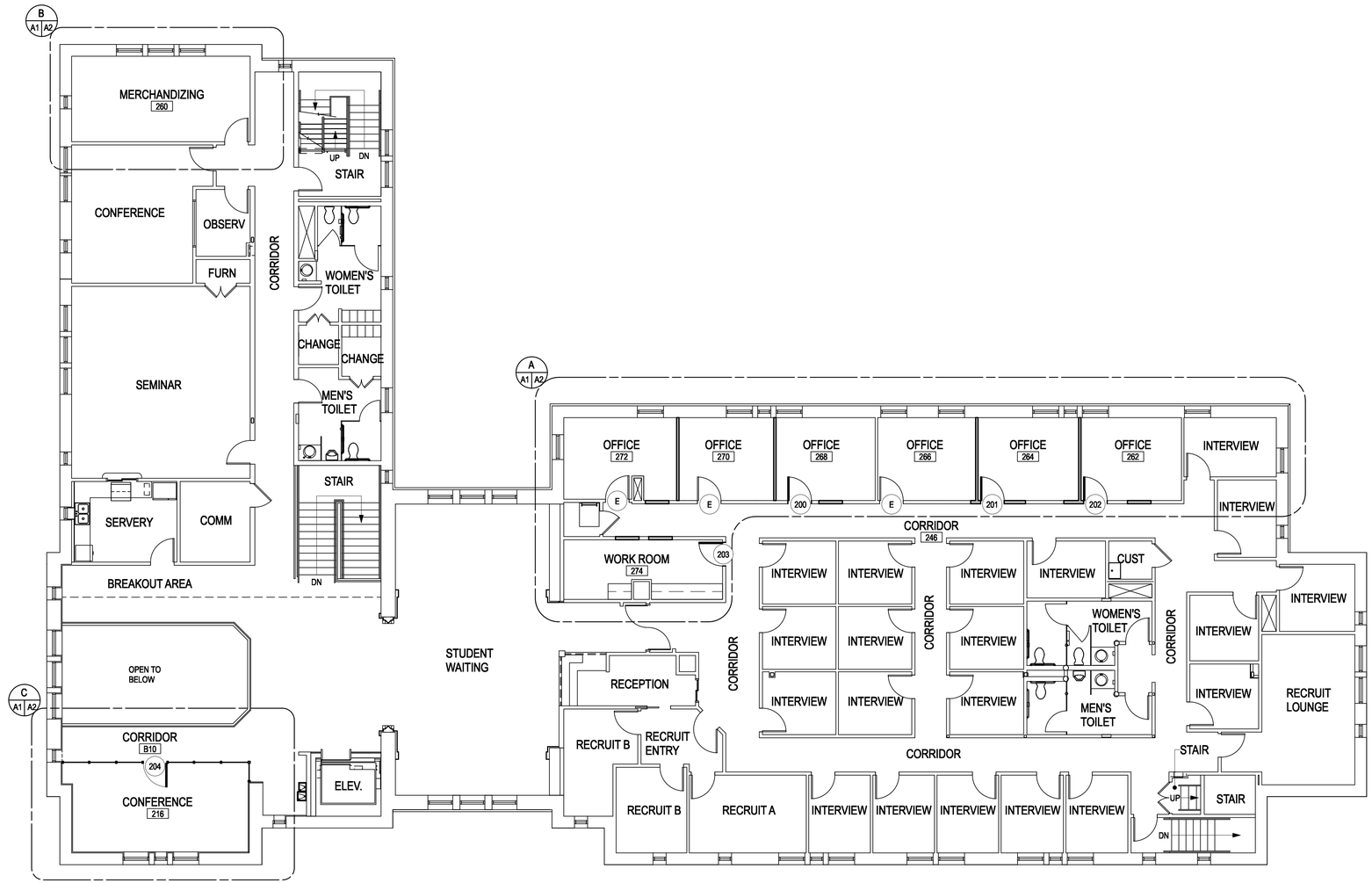
PARTIAL SECOND FLOOR DEMOLITION PLAN

D1



SECOND FLOOR PLAN

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

NORTH

GRAPHIC SCALE:

0 1' 5' 10'

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SECOND FLOOR KEY PLAN

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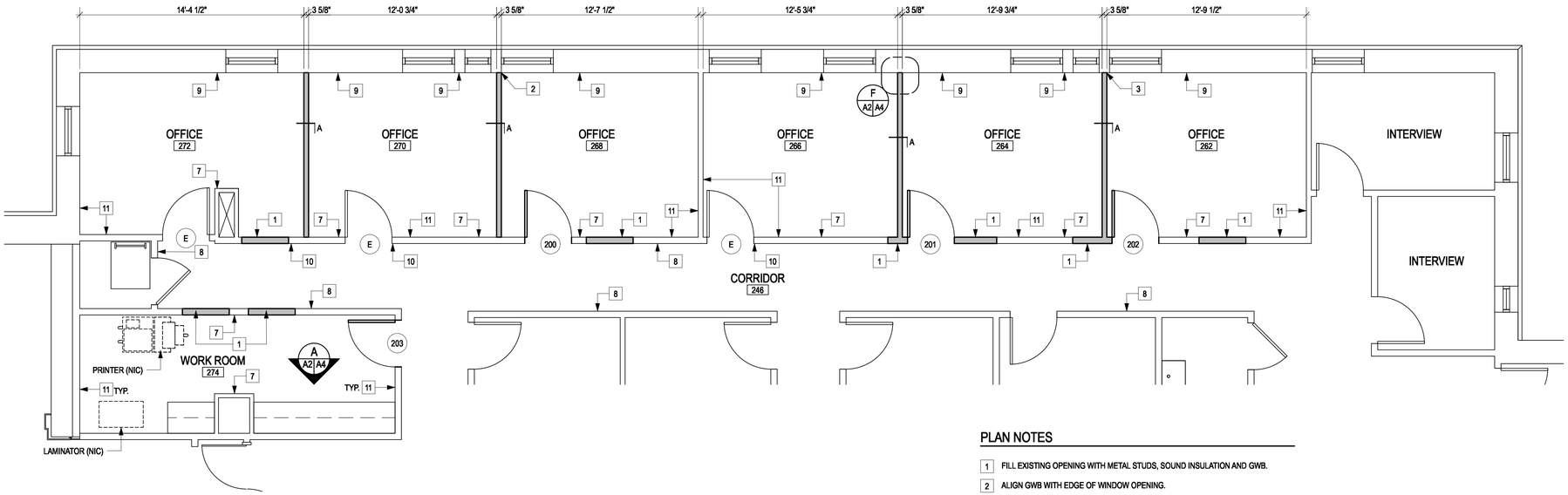
SECOND FLOOR PLAN

A1

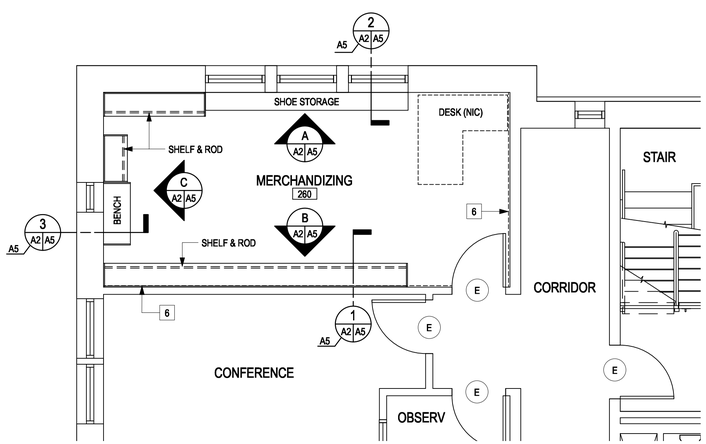


A A1 A2 PARTIAL SECOND FLOOR PLAN

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

PLAN NOTES

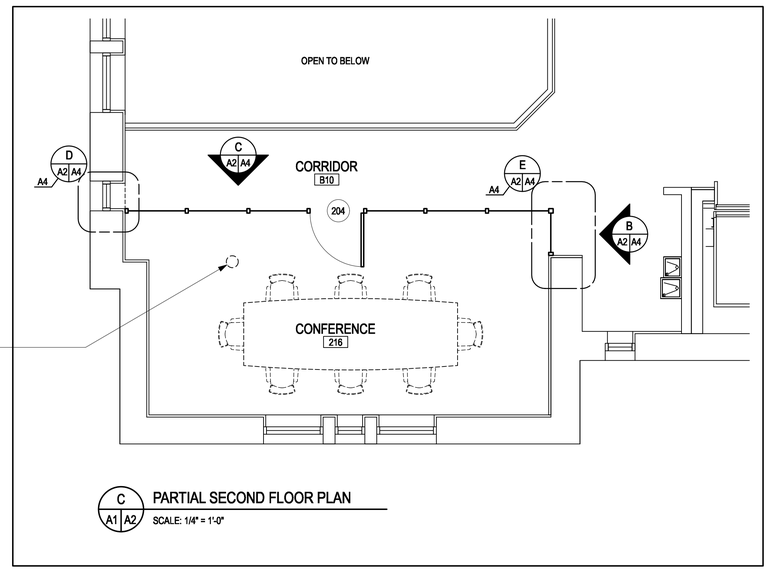
1. FILL EXISTING OPENING WITH METAL STUDS, SOUND INSULATION AND GWB.
2. ALIGN GWB WITH EDGE OF WINDOW OPENING.
3. CENTER NEW PARTITION ON WINDOW MULLION.
4. NOT USED.
5. NOT USED.
6. REMOVE CHAIR RAIL. REPAIR WALL TO MATCH EXISTING.
7. REPAIR GWB AT REMOVED WALL.
8. PAINT CORRIDOR WALL EDGE TO EDGE.
9. REPAIR CMU AT REMOVED WALL.
10. PAINT EXISTING DOOR FRAME.
11. REPAIR GWB AT REMOVED CHAIR RAIL.



B A1 A2 PARTIAL SECOND FLOOR PLAN

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

GENERAL CONTRACTOR TO REPAIR GWB CEILING AT RECESSED CAN LIGHT. PAINT TO MATCH EXISTING.



C A1 A2 PARTIAL SECOND FLOOR PLAN

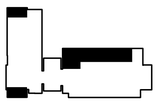
SCALE: 1/4" = 1'-0"

PRIVACY WALL BY OTHERS, NIC

GRAPHIC SCALE:

0 1' 5'

1/4" = 1'- 0"



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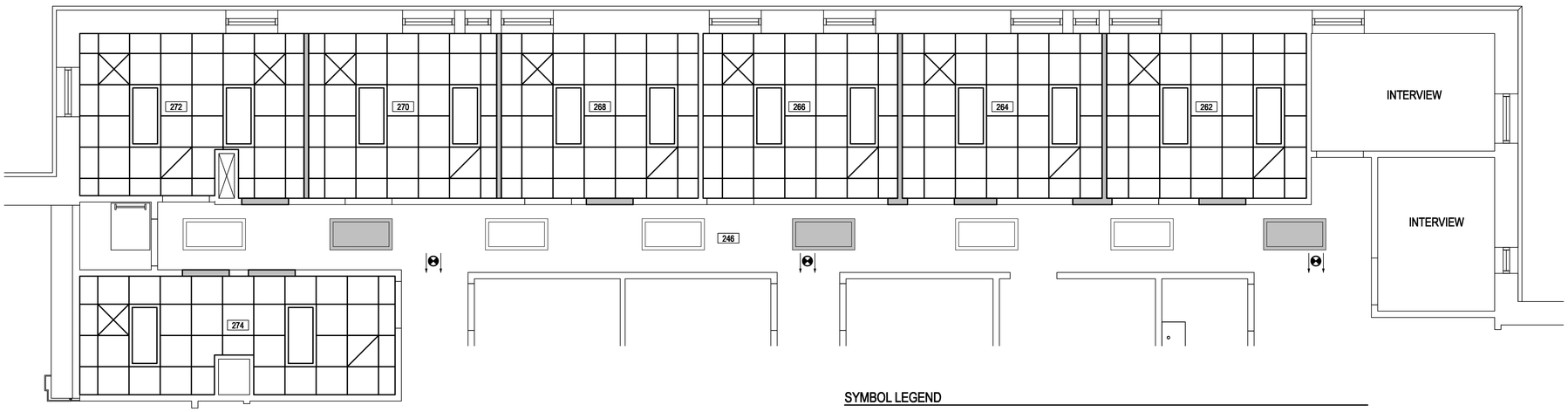
PARTIAL SECOND FLOOR PLANS

A2



PARTIAL SECOND FLOOR REFLECTED CEILING PLAN

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

NORTH

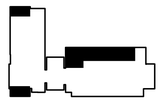
SYMBOL LEGEND

- 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:

0 1' 5'

1/4" = 1'- 0"



NORTH

SECOND FLOOR KEY PLAN

RENOVATIONS FOR THE

SMITH CAREER CENTER

870 WASHINGTON ST. SW
BLACKSBURG, VIRGINIA

95% UBO SUBMITTAL
NOT FOR CONSTRUCTION

TKA ARCHITECTS

300 Church Street
Blacksburg, VA
24060

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PARTIAL SECOND FLOOR REFLECTED CEILING PLANS

A3

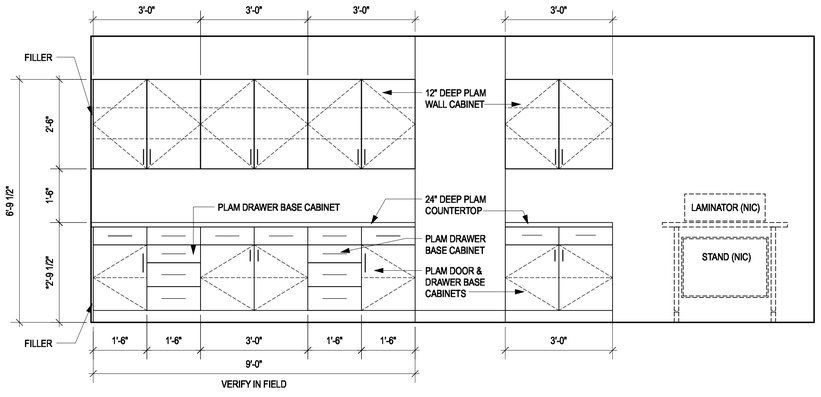
DOOR SCHEDULE

NO.	WIDTH	HEIGHT	THICK.	DOOR MATL.	DOOR TYPE	DOOR CORE	DOOR FINISH	FRAME MATL	FRAME FINISH	HEAD/JAMB DETAIL	HARDWARE SET	COMMENTS	NO.
200	3'-0"	7'-0"	1 3/4"	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	PAINT	A		RELOCATED	200
201	3'-0"	7'-0"	1 3/4"	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	PAINT	A		RELOCATED	201
202	3'-0"	7'-0"	1 3/4"	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	PAINT	A		RELOCATED	202
203	3'-0"	7'-0"	1 3/4"	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	PAINT	A		RELOCATED	203
204	6'-8"	8'-6"	1 3/4"	GLASS	—	—	—	ALUM	PREFINISHED	—			204

FINISH SCHEDULE

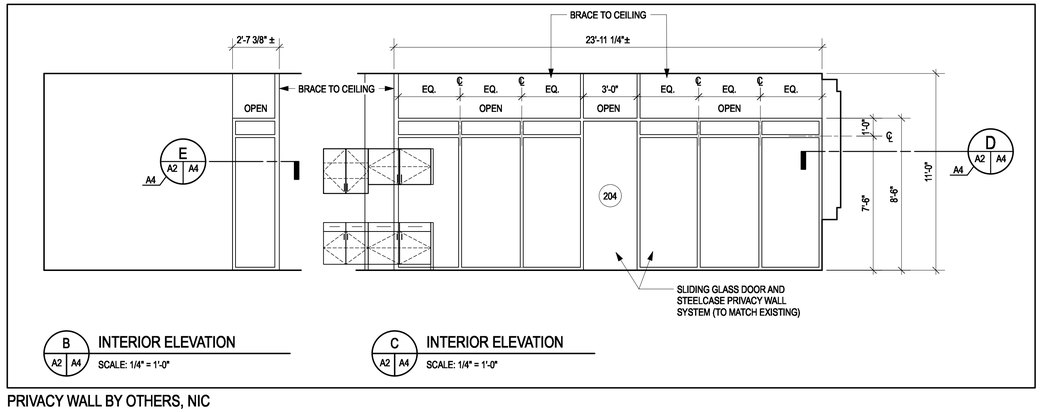
NO.	ROOM NAME	FLOOR MATERIAL	FLOOR BASE	WALLS MATERIAL	WALLS FINISH	CEILING MATERIAL	CEILING FINISH	CEILING HEIGHT	COMMENTS	NO.
200	MERCHANDIZING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING		200
246	CORRIDOR	EXISTING	EXISTING & RUBBER	EXISTING & GWB	PAINT	EXISTING	EXISTING	EXISTING		246
252	CONFERENCE	EXISTING	EXISTING	EXISTING & GLASS	PAINT	EXISTING	EXISTING	EXISTING		252
262	OFFICE	CARPET	RUBBER	EXISTING & GWB	PAINT	ASC	PREFINISHED	9'-6"		262
264	OFFICE	CARPET	RUBBER	EXISTING & GWB	PAINT	ASC	PREFINISHED	9'-6"		264
266	OFFICE	CARPET	RUBBER	EXISTING & GWB	PAINT	ASC	PREFINISHED	9'-6"		266
268	OFFICE	CARPET	RUBBER	EXISTING & GWB	PAINT	ASC	PREFINISHED	9'-6"		268
270	OFFICE	CARPET	RUBBER	EXISTING & GWB	PAINT	ASC	PREFINISHED	9'-6"		270
272	OFFICE	CARPET	RUBBER	EXISTING & GWB	PAINT	ASC	PREFINISHED	9'-6"		272
274	WORK ROOM	CARPET	RUBBER	EXISTING & GWB	PAINT	ASC	PREFINISHED	8'-0"		274

COLORS SHALL MATCH EXISTING



*NOTE: CONFIRM DIMENSION IN FIELD TO INSURE COUNTER HEIGHT MEETS ADA REQUIREMENTS.

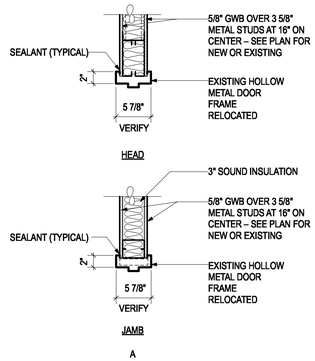
A (A2 | A4) INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



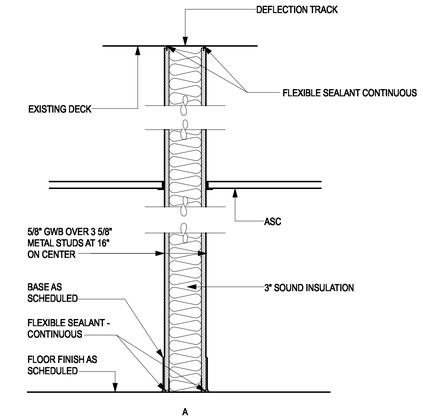
B (A2 | A4) INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"

C (A2 | A4) INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"

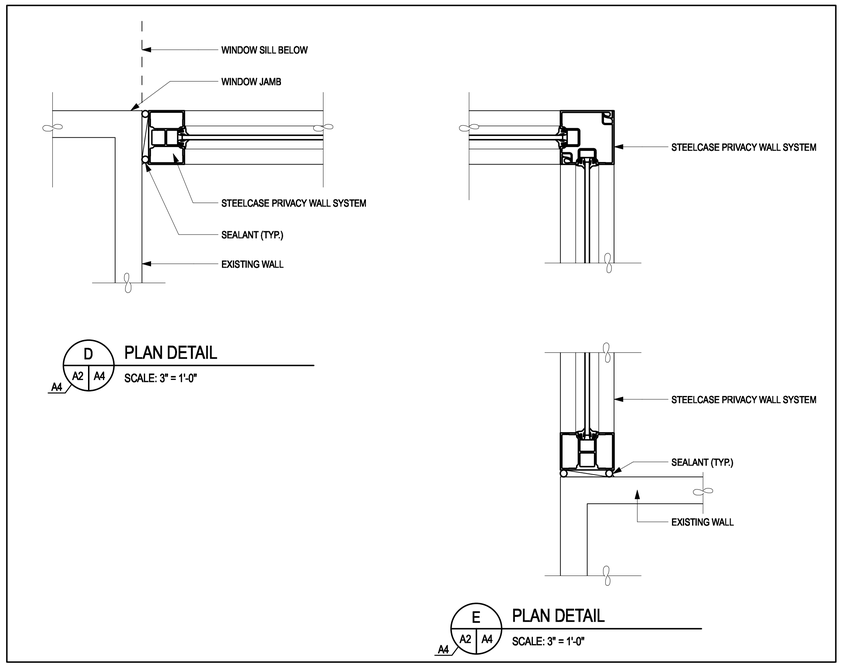
PRIVACY WALL BY OTHERS, NIC



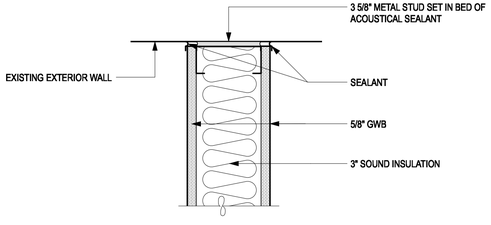
HEAD & JAMB DETAILS



WALL TYPES



PRIVACY WALL BY OTHERS, NIC



F (A2 | A4) PLAN DETAIL
SCALE: 3" = 1'-0"

GRAPHIC SCALES:
0 1' 5'
1/4" = 1'- 0"
0 1' 2' 3'
1/2" = 1' - 0"
0 1" 3" 6"
3" = 1' - 0"

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

COMMONWEALTH OF VIRGINIA
THOMAS A. KOONTZ
Lic. No.005648
03/13/25
ARCHITECT

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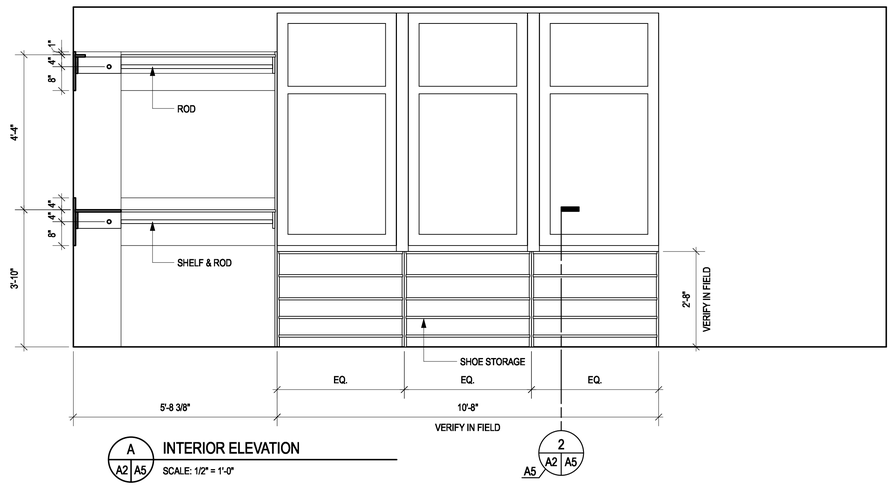
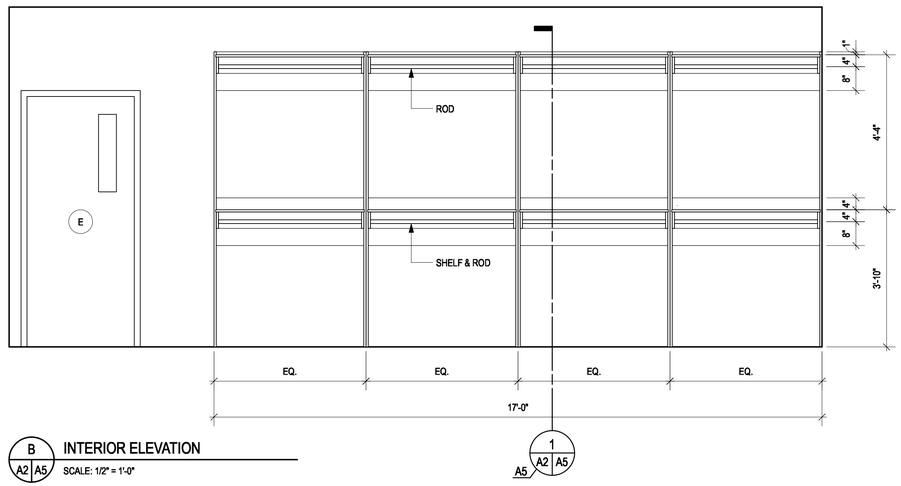
SCHEDULES, DETAILS & INTERIOR ELEVATIONS

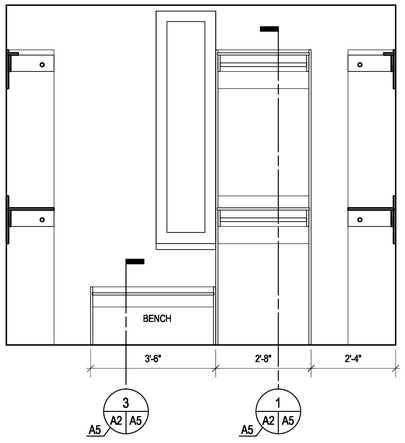
A4



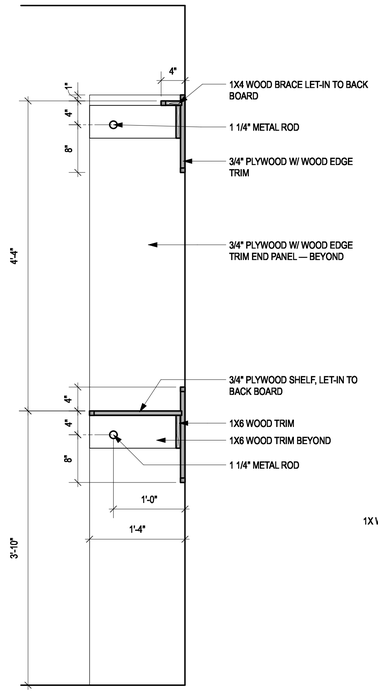
A INTERIOR ELEVATION
A2 A5
SCALE: 1/2" = 1'-0"



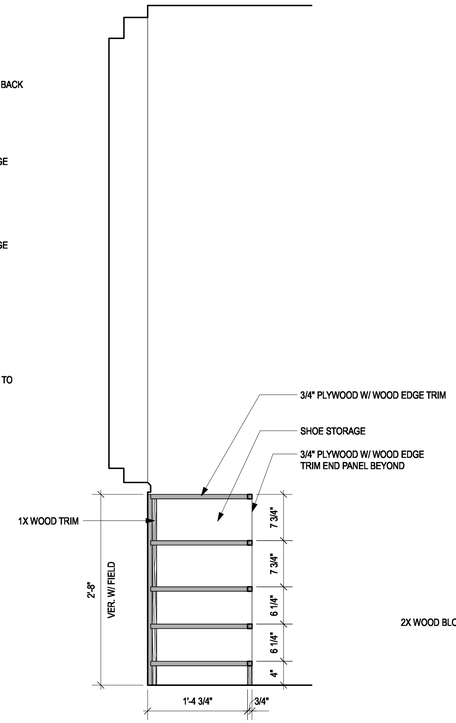
B INTERIOR ELEVATION
A2 A5
SCALE: 1/2" = 1'-0"



C INTERIOR ELEVATION
A2 A5
SCALE: 1/2" = 1'-0"



1 SECTION
A2 A5
SCALE: 1" = 1'-0"



2 SECTION
A2 A5
SCALE: 1" = 1'-0"

3 SECTION
A2 A5
SCALE: 1" = 1'-0"

NOTE: ALL WOOD WORK TO BE PAINTED

GRAPHIC SCALES:

0 1' 2' 3'
1/2" = 1' - 0"

0 6" 1' 2'
1" = 1' - 0"

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INTERIOR ELEVATIONS & SECTIONS

A5

SECTION 024119 - SELECTIVE STRUCTURE DEMOLITION

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.

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.

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.

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.
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.
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.

F. UTILITY SERVICES - MAINTAIN EXISTING UTILITIES, INDICATED TO REMAIN, KEEP IN SERVICE, AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS.

2.1 DEMOLITION

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.
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.
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.

B. DISPOSAL OF DEMOLISHED MATERIALS
1. GENERAL - REMOVE FROM THE SITE DEBRIS, RUBBISH, AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS.
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.

SECTION 062023 - INTERIOR FINISH CARPENTRY

1.1 MATERIALS, GENERAL

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.
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.

B. SOFTWOOD PLYWOOD: DOC PS 1.

C. HARDBOARD: AHA A135.4.

1.2 INTERIOR TRIM

A. SOFTWOOD LUMBER TRIM:
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.

B. HARDWOOD LUMBER TRIM:
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.
1. MDO SOFTWOOD PLYWOOD WITH SOLID-WOOD EDGE.

2.1 PREPARATION

A. BEFORE INSTALLING INTERIOR FINISH CARPENTRY, CONDITION MATERIALS TO AVERAGE PREVAILING HUMIDITY IN INSTALLATION AREAS FOR A MINIMUM OF 24 HOURS.

2.2 INSTALLATION, GENERAL

A. INSTALL INTERIOR FINISH CARPENTRY LEVEL, PLUMB, TRUE, AND ALIGNED WITH ADJACENT MATERIALS. USE CONCEALED SHIMS WHERE NECESSARY FOR ALIGNMENT.
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, CLOSS OR MATTE 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

1.1 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 RABBET 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 LONG-LEG 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. (THE); 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.

D. 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 CONSISTENT 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 COVERING.

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.

RENOVATIONS FOR THE
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BLACKSBURG, VIRGINIA

COMMONWEALTH OF VIRGINIA
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SPECIFICATIONS

H. JOB-FORMED CORNERS:
1. OUTSIDE CORNERS: USE STRAIGHT PIECES OF MAXIMUM LENGTHS POSSIBLE AND FORM WITH RETURNS NOT LESS THAN 12 INCHES IN LENGTH.
a. FORM WITHOUT PRODUCING DISCOLORATION (WHITENING) AT BENDS.
2. INSIDE CORNERS: USE STRAIGHT PIECES OF MAXIMUM LENGTHS POSSIBLE AND FORM WITH RETURNS NOT LESS THAN 12 INCHES IN LENGTH.
3. FIT JOINTS TIGHTLY. MAINATIN A MINIMUM LENGTH OF 24-INCHES BETWEEN JOINTS.

3.3 CLEANING AND PROTECTION

A. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR CLEANING AND PROTECTING RESILIENT PRODUCTS.

B. REMOVE EXCESS ADHESIVE FROM FLOOR, BASE ,AND WALL SURFACES. REPAIR OR REPLACE ALL MATERAIL DAMAGED DURING INSTALLATION. CLEAN ALL RESIDUE AND MARKINGS OFF OF RESILIENT BASE AND SURROUNDING MATERIALS

SECTION 096813 - TILE CARPETING

1.1 REFERENCES

A. COMPLY WITH CRI 104, SECTION 5, "STORAGE AND HANDLING."

B. COMPLY WITH CRI 104, SECTION 7.2, "SITE CONDITIONS: TEMPERATURE AND HUMIDITY" AND SECTION 712, "VENTILATION."

2.1 CARPET TILE

A. CARPET: BASIS OF DESIGN, PATCRAFT MATERIALL EDIT COLLECTION, STYLE-CRAFTER.

2.2 INSTALLATION ACCESSORIES

A. TROWELABLE LEVELING AND PATCHING COMPOUNDS: LATEX-MODIFIED, HYDRAULIC-CEMENT-BASED FORMULATION PROVIDED OR RECOMMENDED BY CARPET TILE MANUFACTURER.
1. ADHESIVES SHALL HAVE A VOC CONTENT OF 50 G/L OR LESS.

B. ADHESIVES: WATER-RESISTANT, MILDEW-RESISTANT, NONSTAINING, PRESSURE-SENSITIVE TYPE TO SUIT PRODUCTS AND SUBFLOOR CONDITIONS INDICATED, THAT COMPLY WITH FLAMMABILITY REQUIREMENTS FOR INSTALLED CARPET TILE, AND ARE RECOMMENDED BY CARPET TILE MANUFACTURER FOR RELEASABLE INSTALLATION.
1. ADHESIVES SHALL HAVE A VOC CONTENT OF 50 G/L OR LESS.

3.1 PREPARATION

A. GENERAL: COMPLY WITH CRI'S "CRI CARPET INSTALLATION STANDARDS" AND WITH CARPET TILE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PREPARING SUBSTRATES INDICATED TO RECEIVE CARPET TILE.

B. USE TROWELABLE LEVELING AND PATCHING COMPOUNDS, ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS, TO FILL CRACKS, HOLES, DEPRESSIONS, AND PROTRUSIONS IN SUBSTRATES. FILL OR LEVEL CRACKS, HOLES AND DEPRESSIONS 1/8 INCH WIDE OR WIDER, AND PROTRUSIONS MORE THAN 1/32 INCH UNLESS MORE STRINGENT REQUIREMENTS ARE REQUIRED BY MANUFACTURER'S WRITTEN INSTRUCTIONS.

C. CONCRETE SUBSTRATES: REMOVE COATINGS, INCLUDING CURING COMPOUNDS, AND OTHER SUBSTANCES THAT ARE INCOMPATIBLE WITH ADHESIVES AND THAT CONTAIN SOAP, WAX, OIL, OR SILICONE, WITHOUT USING SOLVENTS. USE MECHANICAL METHODS RECOMMENDED IN WRITING BY ADHESIVE AND CARPET TILE MANUFACTURERS.

D. BROOM AND VACUUM CLEAN SUBSTRATES TO BE COVERED IMMEDIATELY BEFORE INSTALLING CARPET TILE.

3.2 INSTALLATION

A. GENERAL: COMPLY WITH CRI'S "CRI CARPET INSTALLATION STANDARD," SECTION 18, "MODULAR CARPET" AND WITH CARPET TILE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.

B. VERIFY THAT SUBFLOOR SURFACES ARE SMOOTH AND FLAT WITHIN THE TOLERANCES SPECIFIED IN ASTM F 710 FOR TYPE OF WORK, AND ARE READY TO RECEIVE CARPET. LEVEL FLOOR WITH FLOOR LEVELING COMPOUND AS REQUIRED.

C. INSTALLATION METHOD: MATCH EXISTING.

D. MAINTAIN PILE-DIRECTION PATTERNS INDICATED.

E. CUT AND FIT CARPET TILE TO BUTT TIGHTLY TO VERTICAL SURFACES, PERMANENT FIXTURES, AND BUILT-IN FURNITURE INCLUDING CABINETS, PIPES, OUTLETS, EDGINGS, THRESHOLDS, AND NOSINGS. BIND OR SEAL CUT EDGES AS RECOMMENDED BY CARPET TILE MANUFACTURER.

F. EXTEND CARPET TILE INTO TOE SPACES, DOOR REVEALS, CLOSETS, OPEN BOTTOMED OBSTRUCTIONS, REMOVABLE FLANGES, ALCOVES, AND SIMILAR OPENINGS.

G. MAINTAIN REFERENCE MARKERS, HOLES, AND OPENINGS THAT ARE IN PLACE OR MARKED FOR FUTURE CUTTING BY REPEATING ON CARPET TILE AS MARKED ON SUBFLOOR. USE NONPERMANENT, NONSTAINING MARKING DEVICE.

H. PROTECT CARPET TILE AGAINST DAMAGE FROM CONSTRUCTION OPERATIONS AND PLACEMENT OF EQUIPMENT AND FIXTURES DURING THE REMAINDER OF CONSTRUCTION PERIOD. USE PROTECTION METHODS INDICATED OR RECOMMENDED IN WRITING BY CARPET TILE MANUFACTURER.

SECTION 099123 - INTERIOR PAINTING

1.1 SUMMARY

A. SECTION INCLUDES SURFACE PREPARATION AND THE APPLICATION OF PAINT SYSTEMS ON THE FOLLOWING INTERIOR SUBSTRATES:
1. GYPSUM BOARD.
2. STEEL SUBSTRATES.
3. CONCRETE MASONRY

2.1 MANUFACTURERS

A. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO PRODUCTS LISTED IN OTHER PART 2 ARTICLES FOR THE PAINT CATEGORY INDICATED.

B. MANUFACTURER:
1. BENJAMIN MOORE & COMPANY
2. SHERWIN WILLIAMS COMPANY
3. PITTSBURG PAINTS COMPANY
4. GLIDDEN COMPANY

2.2 PAINT, GENERAL

A. MPI (MASTER PAINTERS INSTITUTE) STANDARDS: PROVIDE PRODUCTS THAT COMPLY WITH MPI STANDARDS INDICATED AND THAT ARE LISTED IN ITS "MPI APPROVED PRODUCTS LIST."

B. MATERIAL COMPATIBILITY:
1. PROVIDE MATERIALS FOR USE WITHIN EACH PAINT SYSTEM THAT ARE COMPATIBLE WITH ONE ANOTHER AND SUBSTRATES INDICATED, UNDER CONDITIONS OF SERVICE AND APPLICATION AS DEMONSTRATED BY MANUFACTURER, BASED ON TESTING AND FIELD EXPERIENCE.
2. FOR EACH COAT IN A PAINT SYSTEM, PROVIDE PRODUCTS RECOMMENDED IN WRITING BY MANUFACTURERS OF TOPCOAT FOR USE IN PAINT SYSTEM AND ON SUBSTRATE INDICATED.

C. MATERIAL QUALITY: PROVIDE MANUFACTURER'S BEST-QUALITY PAINT MATERIAL OF THE VARIOUS COATING TYPES SPECIFIED THAT ARE FACTORY FORMULATED AND RECOMMENDED BY MANUFACTURER FOR APPLICATION INDICATED. PAINT-MATERIAL CONTAINERS NOT DISPLAYING MANUFACTURER'S PRODUCT IDENTIFICATION WILL NOT BE ACCEPTABLE.

D. VOC CONTENT: PRODUCTS SHALL COMPLY WITH VOC LIMITS OF AUTHORITIES HAVING JURISDICTION AND, FOR INTERIOR PAINTS AND COATINGS APPLIED AT PROJECT SITE, THE FOLLOWING VOC LIMITS, EXCLUSIVE OF COLORANTS ADDED TO A TINT BASE, WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
1. FLAT PAINTS AND COATINGS: 50 G/L.
2. NONFLAT PAINTS AND COATINGS: 150 G/L.
3. DRY-FOG COATINGS: 400 G/L.
4. PRIMERS, SEALERS, AND UNDERCOATERS: 200 G/L.
5. ANTICORROSIVE AND ANTIRUST PAINTS APPLIED TO FERROUS METALS: 250 G/L.
6. ZINC-RICH INDUSTRIAL MAINTENANCE PRIMERS: 340 G/L.
7. PRETREATMENT WASH PRIMERS: 420 G/L.

E. LOW-EMITTING MATERIALS: INTERIOR PAINTS AND COATINGS SHALL COMPLY WITH THE TESTING AND PRODUCT REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES' "STANDARD PRACTICE FOR THE TESTING OF VOLATILE ORGANIC EMISSIONS FROM VARIOUS SOURCES USING SMALL-SCALE ENVIRONMENTAL CHAMBERS."

F. COLORS: AS SHOWN ON THE DRAWINGS TO MATCH EXISTING COLOR SCHEME.
1. 30 PERCENT OF SURFACE AREA WILL BE PAINTED WITH DEEP TONES. ACCENT WALL LOCATIONS TO BE COORINATED WITH BUILDING OWNER.

2.3 PRIMERS/SEALERS

A. PRIMER SEALER, LATEX, INTERIOR: MPI #50.
1. BENJAMIN MOORE & CO.; ECO SPEC WB INTERIOR LATEX PRIMAR NO. N372.

B. PRIMER SEALER, INTERIOR, INSTITUTIONAL LOW ODOR/VOC: MPI #149.
1. BENJAMIN MOORE & CO.; ECO SPEC WB INTERIOR LATEX PRIMER NO. N372.

C. PRIMER, BONDING, WATER BASED: MPI #17.
1. BENJAMIN MOORE & CO.; FRESH START ALL PURPOSE INTERIOR/EXTERIOR 100% ACRYLIC PRIMER NO. 023.

2.4 WATER-BASED PAINTS

A. LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, (GLOSS LEVEL 3): MPI #145.
1. BENJAMIN MOORE & CO.; ECO SPEC WB INTERIOR LATEX EGGSHELL FINISH NO. N374.

B. LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, SEMI-GLOSS (GLOSS LEVEL 5): MPI #147.
1. BENJAMIN MOORE & CO.; ECO SPEC WB INTERIOR LATEX SEMI-GLOSS FINISH NO. N376.

3.1 EXAMINATION

A. EXAMINE SUBSTRATES AND CONDITIONS, WITH APPLICATOR PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR MAXIMUM MOISTURE CONTENT AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.

B. MAXIMUM MOISTURE CONTENT OF SUBSTRATES: WHEN MEASURED WITH AN ELECTRONIC MOISTURE METER AS FOLLOWS:
1. GYPSUM BOARD: 12 PERCENT.

C. VERIFY SUITABILITY OF SUBSTRATES, INCLUDING SURFACE CONDITIONS AND COMPATIBILITY WITH EXISTING FINISHES AND PRIMERS.

D. PROCEED WITH COATING APPLICATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
1. APPLICATION OF COATING INDICATES ACCEPTANCE OF SURFACES AND CONDITIONS.

3.2 PREPARATION

A. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS IN "MPI MANUAL" APPLICABLE TO SUBSTRATES INDICATED.

B. REMOVE HARDWARE, COVERS, PLATES, AND SIMILAR ITEMS ALREADY IN PLACE THAT ARE REMOVABLE AND ARE NOT TO BE PAINTED. IF REMOVAL IS IMPRACTICAL OR IMPOSSIBLE BECAUSE OF SIZE OR WEIGHT OF ITEM, PROVIDE SURFACE-APPLIED PROTECTION BEFORE SURFACE PREPARATION AND PAINTING.
1. AFTER COMPLETING PAINTING OPERATIONS, USE WORKERS SKILLED IN THE TRADES INVOLVED TO REINSTALL ITEMS THAT WERE REMOVED. REMOVE SURFACE-APPLIED PROTECTION IF ANY.

C. CLEAN SUBSTRATES OF SUBSTANCES THAT COULD IMPAIR BOND OF PAINTS, INCLUDING DUST, DIRT, OIL, GREASE, AND INCOMPATIBLE PAINTS AND ENCAPSULANTS.
1. REMOVE INCOMPATIBLE PRIMERS AND REPRIME SUBSTRATE WITH COMPATIBLE PRIMERS OR APPLY TIE COAT AS REQUIRED TO PRODUCE PAINT SYSTEMS INDICATED.

3.3 APPLICATION

A. APPLY PAINTS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND TO RECOMMENDATIONS IN "MPI MANUAL."

B. APPLY PAINTS TO PRODUCE SURFACE FILMS WITHOUT CLOUDINESS, SPOTTING, HOLIDAYS, LAPS, BRUSH MARKS, ROLLER TRACKING, RUNS, SAGS, ROPINESS, OR OTHER SURFACE IMPERFECTIONS. CUT IN SHARP LINES AND COLOR BREAKS.

3.4 CLEANING AND PROTECTION

A. PROTECT WORK OF OTHER TRADES AGAINST DAMAGE FROM PAINT APPLICATION. CORRECT DAMAGE TO WORK OF OTHER TRADES BY CLEANING, REPAIRING, REPLACING, AND REFINISHING, AS APPROVED BY ARCHITECT, AND LEAVE IN AN UNDAMAGED CONDITION.

B. AT COMPLETION OF CONSTRUCTION ACTIVITIES OF OTHER TRADES, TOUCH UP AND RESTORE DAMAGED OR DEFACED PAINTED SURFACES.

3.5 INTERIOR PAINTING SCHEDULE

A. STEEL SUBSTRATES:
1. INSTITUTIONAL LOW-ODOR/VOC LATEX SYSTEM (UNPRIMED):
a. PRIME COAT: PRIMER, RUST-INHIBITIVE, WATER BASED, MPI #107.
b. INTERMEDIATE COAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, MATCHING TOPCOAT.
c. TOPCOAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, SEMI-GLOSS (GLOSS LEVEL 5), MPI #147.
2. INSTITUTIONAL LOW-ODOR/VOC LATEX SYSTEM (SHOP PRIMED):
a. PRIME COAT: SHOP PRIMER.
b. INTERMEDIATE COAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, MATCHING TOPCOAT.
c. TOPCOAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, SEMI-GLOSS (GLOSS LEVEL 5), MPI #147.

B. GYPSUM BOARD SUBSTRATES:
1. INSTITUTIONAL LOW-ODOR/VOC LATEX SYSTEM:
a. PRIME COAT: PRIMER SEALER, LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, MPI #49.
b. INTERMEDIATE COAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC MATCHING TOPCOAT.
c. TOPCOAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/ VOC. (GLOSS LEVEL 3) MPI # 145 (VERIFY WITH EXISTING).

C. CONCRETE MASONRY SUBTRATES
1. INSTITUTIONAL LOW-ODOR/VOC LATEX SYSTEM
a. TOPCOAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, SEMI-GLOSS (GLOSS LEVEL 5), MPI #147.

D. WOOD SUBSTRATES
1. INSTITUTIONAL LOW-ODOR/VOC LATEX SYTEM
a. PRIME COAT: PRIMER, LATEX, FOR INTERIOR WOOD. INSTITUTIONAL LOW ODOR/VOC, MPI #39.
b. INTERMEDIATE COAT: LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, MATCH TOPCOAT.
c. LATEX, INTERIOR, INSTITUTIONAL LOW ODOR/VOC, SEMI-GLOSS, (GLASS LEVEL 5), MPI #54.

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

COMMONWEALTH OF VIRGINIA
THOMAS A. KOONTZ
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Revisions

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Checked	DJJ
Date	03/13/25
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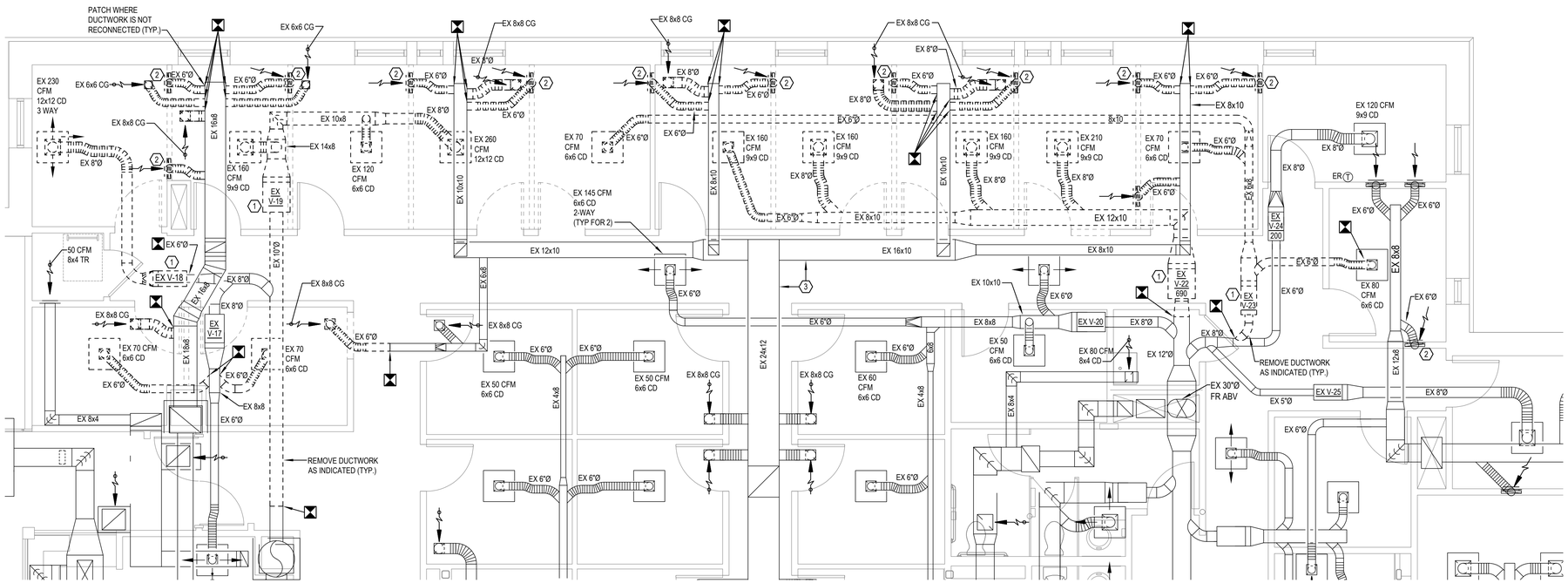
SPECIFICATIONS

A7



NORTH

PARTIAL SECOND FLOOR PLAN - DEMO - DUCTWORK - HVAC

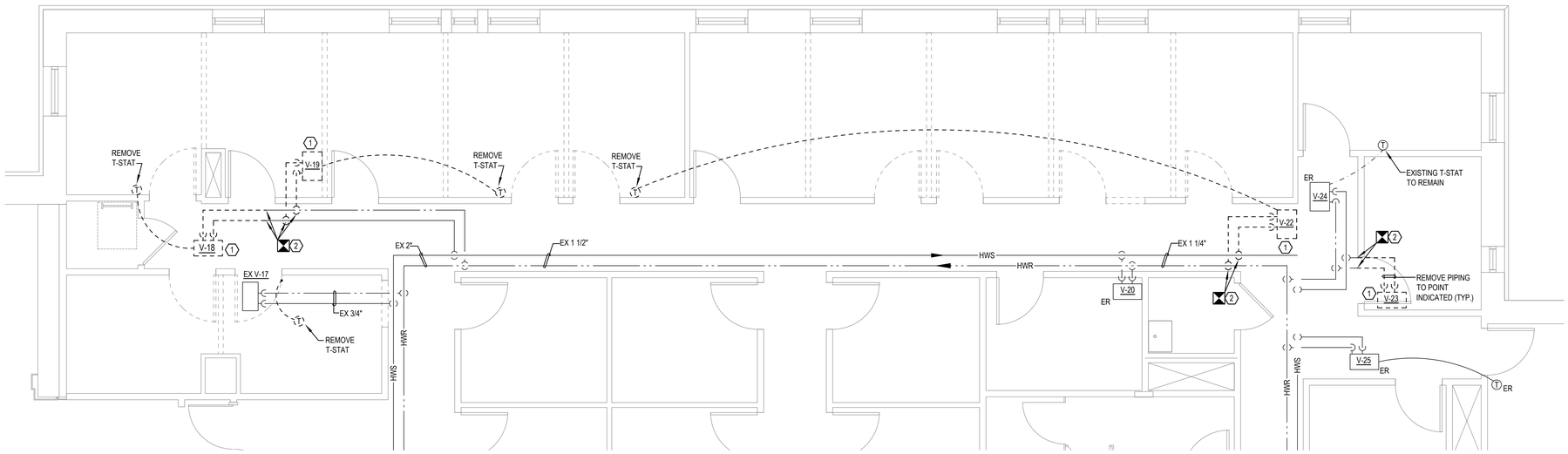
SCALE: 1/4" = 1'-0"

GENERAL DEMOLITION NOTES:

1. THE CONTRACTOR SHALL REMOVE OR ALTER AS NECESSARY ALL EXISTING PIPING, EQUIPMENT, EQUIPMENT FOUNDATIONS, DUCTWORK, AND APPURTENANCES THAT ARE NOT REQUIRED FOR THE EXISTING SYSTEMS TO REMAIN. CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE SCOPE OF THIS WORK AND VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS. THOSE SYSTEMS FOUND TO BE INACTIVE OR NO LONGER REQUIRED AS A RESULT OF THE NEW WORK SHALL BE REMOVED. ACTIVE SYSTEMS SHALL REMAIN IN PLACE, OR SHALL BE RELOCATED AS REQUIRED TO ACCOMMODATE THE INSTALLATION OF THE NEW WORK.
2. EXISTING EQUIPMENT AND MATERIALS TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PREMISES UNLESS DIRECTED OTHERWISE BY THE OWNER. THE OWNER MAY DIRECT THE CONTRACTOR TO TURN OVER PARTICULAR EQUIPMENT TO THE OWNER AND LOCATE AS DIRECTED BY THE OWNER.
3. PROTECT ALL EXISTING ITEMS TO REMAIN FROM DAMAGE DURING DEMOLITION. EXISTING ITEMS THAT ARE DAMAGED OR MISTAKENLY REMOVED DURING DEMOLITION SHALL BE REPAIRED OR REPLACED.
4. BUILDING SURFACES WHICH ARE AFFECTED BY HVAC DEMOLITION SHALL BE PATCHED AND REPAIRED TO MATCH THE EXISTING ADJACENT SURFACES.
5. THE CONTRACTOR IS CAUTIONED THAT THE EXISTING HVAC SYSTEM LAYOUTS ARE INDICATED AS ONLY AN APPROXIMATION OF EXISTING CONDITIONS. THE CONTRACTOR SHALL VERIFY ACTUAL SYSTEM CONFIGURATIONS IN THE FIELD AND SHALL COORDINATE ACCORDINGLY.
6. INSULATION ON EXISTING PIPING AND DUCTWORK THAT IS DAMAGED OR REMOVED DUE TO THE DEMOLITION WORK SHALL BE REPLACED AND SEALED WITH MATCHING INSULATION AS REQUIRED.
7. WHERE EXISTING PIPING OR DUCTWORK IS SHOWN TERMINATED, PROVIDE CAPPED OUTLET.
8. DEMOLITION ACTIVITIES SHALL BE CLOSELY COORDINATED WITH THE OWNER TO MAINTAIN ACTIVE STATUS OF EXISTING SYSTEMS UNTIL SUCH TIME THE PLANNED DEMOLITION CAN BE EXECUTED.
9. THE SAFETY OF BUILDING OCCUPANTS SHALL BE ASSURED AT ALL TIMES. TOOLS, MATERIALS, DIRT AND DEBRIS SHALL BE REMOVED FROM OCCUPIED AREAS WHENEVER WORK AREAS ARE LEFT UNATTENDED.

PLAN DEMOLITION NOTES - DUCTWORK: (#)

1. REMOVE EXISTING VAV BOX, INCLUDING ALL ASSOCIATED DOWN STREAM DUCTWORK, INSULATION AND SUPPORTS. THOROUGHLY CLEAN.
2. REMOVE EXISTING RETURN WALL GRILLES AND ASSOCIATED FLEX DUCT TO MAIN TRUNK DUCTS AND CAP. PATCH WALL TO MATCH EXISTING (IF WALL REMAINS).



NORTH

PARTIAL SECOND FLOOR PLAN - DEMO - PIPING - HVAC

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

PLAN DEMOLITION NOTES PIPING: (#)

1. REMOVE EXISTING VAV BOX.
2. REMOVE EXISTING DOWNSTREAM PIPING, INSULATION, SUPPORTS AND ACCESSORIES. CAP AND PREPARE FOR CONNECTION TO NEW WORK.

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

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SECOND FLOOR KEY PLAN

RENOVATIONS FOR THE
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BLACKSBURG, VIRGINIA

COMMONWEALTH OF VIRGINIA
03/13/25
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PARTIAL SECOND FLOOR PLAN DEMOLITION HVAC

MD1

GRILLES, REGISTERS AND DIFFUSERS: PRICE

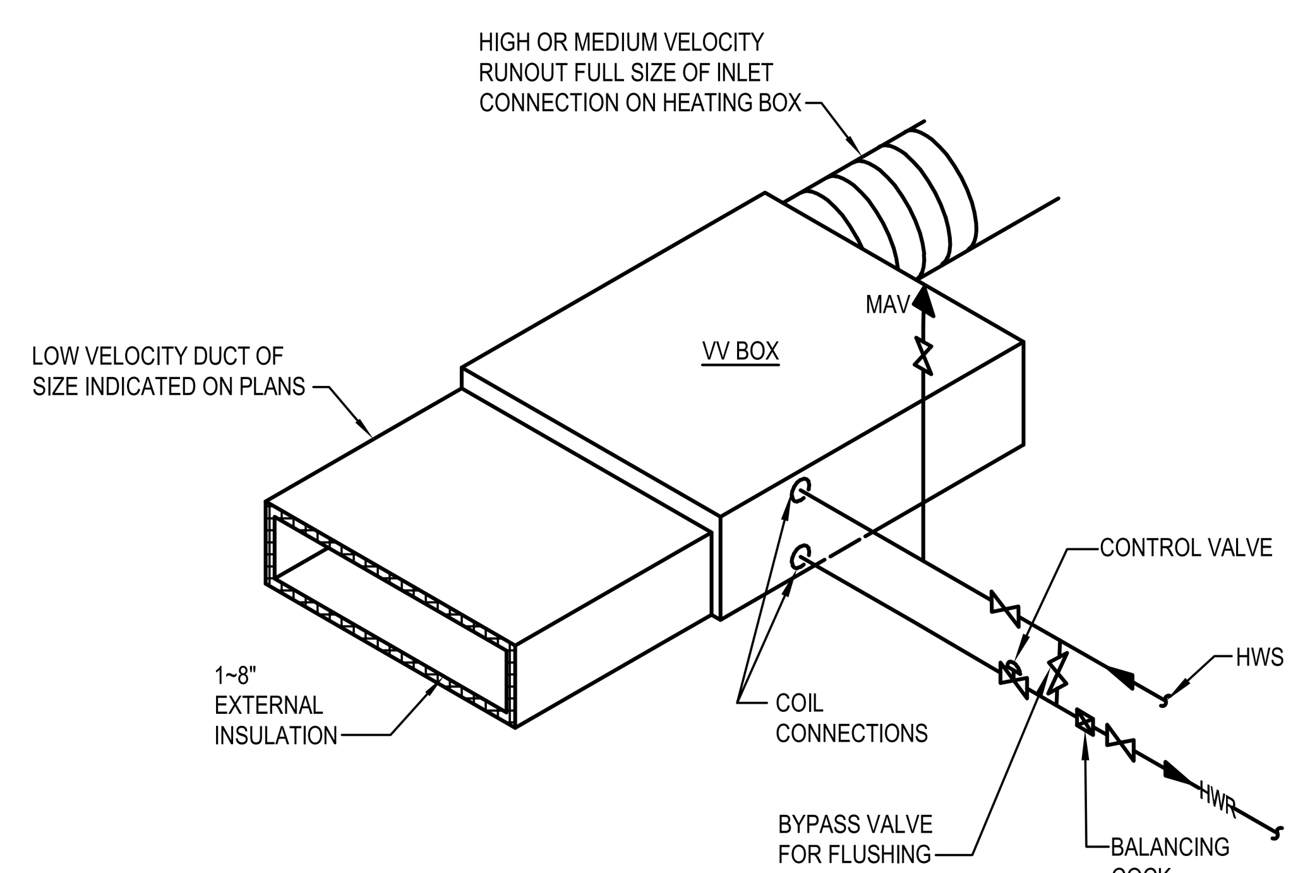
MARK	SERVICE	TYPE	MATERIAL	FACE SIZE, IN. x IN.	NECK SIZE, IN. x IN.	MAX AIR P.D., IN. H2O	MAX N.C.	MODEL #	NOTES
CD	SUPPLY	LAY-IN DIFFUSER	STEEL	24"x24"	6"-8"ø	0.1	25	SCD	1, 2
CG	RETURN	SURFACE MOUNTED GRILLE	STEEL	VARIES	VARIES	0.1	25	530	3
CR	SUPPLY	SURFACE MOUNTED REGISTER	STEEL	VARIES	VARIES	0.1	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

				AIR VALVE				HEATING CAPACITY		
MARK	EXIST OR NEW	SIZE	APD INCHES H2O	MAX (CFM)	MIN (CFM)	HEATING CFM	MAX PD FT H2O	MBH	GPM	RUNOUTS INCHES
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"AFF TO TOP OF BOX.
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	ABV	
ABOVE FINISHED FLOOR	AFF	
AIR HANDLING UNIT	AHU	
BALANCING VALVE		
BELOW	BEL	
CAPACITY	CAP	
CEILING	CLG	
CEILING DIFFUSER	CD	
CEILING GRILLE	CG	
CEILING REGISTER	CR	
CHECK VALVE		
CIRCUIT SETTER		CS(GPM)
CUBIC FEET PER MINUTE	CFM	
DEGREES FAHRENHEIT	°F	
DIAMETER	DIA	Φ
DOWN	DN	
DRY BULB	DB	
DUCTWORK (NEW)		
RETURN & EXHAUST		
SUPPLY		
EACH	EA	
ENTERING AIR TEMPERATURE	EAT	
ENTERING WATER TEMPERATURE	EWT	
EXISTING, REMOVE FROM THIS POINT		
EXISTING	(E)	
FEET PER MINUTE	FPM	
FLEXIBLE DUCT RUNOUT		
FLOOR	FL	
GALLONS PER MINUTE	GPM	
HEATING WATER RETURN PIPE	HWR	HWR
HEATING WATER SUPPLY PIPE	HWS	HWS
HORSEPOWER	HP	
HOUR	HR	
INCH	IN	
LEAVING AIR TEMPERATURE	LAT	
LEAVING WATER TEMPERATURE	LWT	
MANUAL AIR VENT		MAV
NEW CONNECTED TO EXISTING		
OUTDOOR AIR	OA	
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	LBS	
POUNDS PER SQUARE INCH GAGE	PSIG	
PRESSURE DROP	PD	
REVOLUTIONS PER MINUTE	RPM	
SERVICE VALVE		
STATIC PRESSURE	SP	
STRAINER		
SUPPLY AIR	SA	
THERMOMETER		
THERMOSTAT OR TEMPERATURE SENSOR	T'STAT	T
THOUSAND BTU PER HOUR	MBH	
TWO-WAY CONTROL VALVE		
UNION		
WET BULB	WB	

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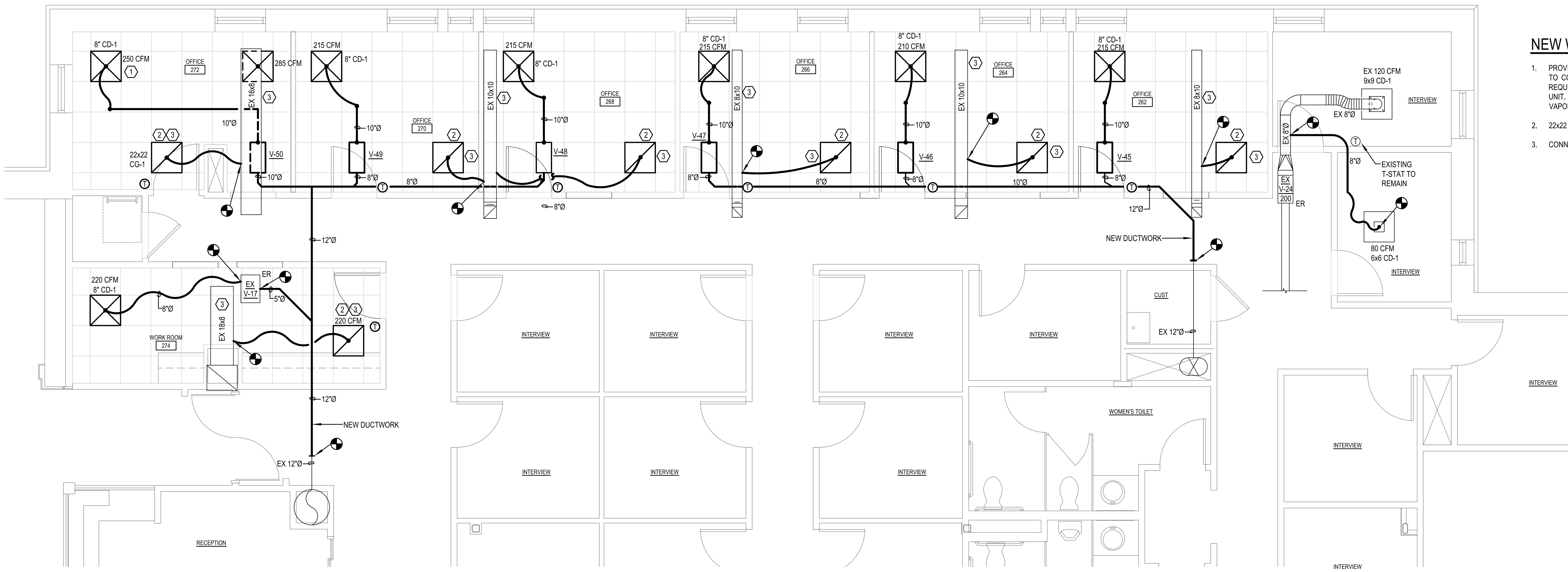
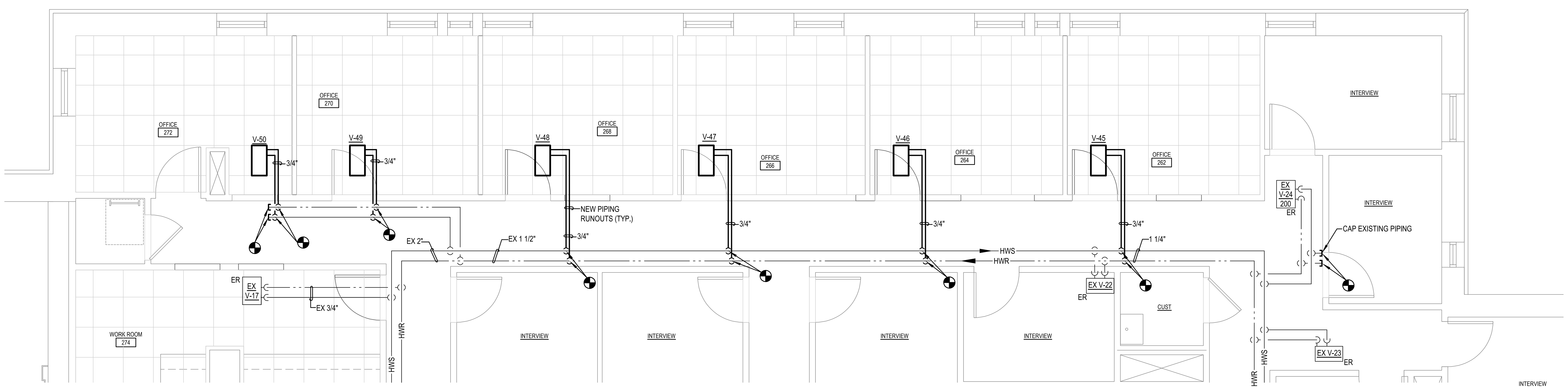
LEGEND, NOTES
DETAIL AND
SCHEDULES
HVAC

M1



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.

NEW WORK NOTES - PIPING:

1. CONNECT NEW PIPING AND CONTROLS TO EXISTING. NEW PIPING INSULATION MUST BE FLUSH-MOUNTED TO EXISTING PIPING INSULATION AND BE COMPLETELY VAPOR SEALED. NEW PIPING RUN-OUTS SHALL BE COORDINATED TO MAINTAIN MANUFACTURER PUBLISHED SERVICE CLEARANCES FOR COMPONENT, CONTROLS, ELECTRICAL AND FILTER ACCESS.

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

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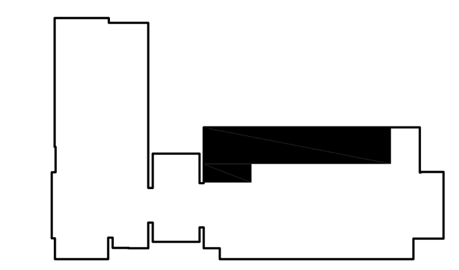

SECOND FLOOR KEY PLAN

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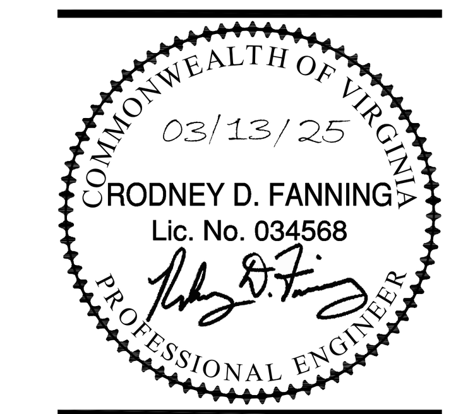

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PARTIAL SECOND FLOOR PLAN NEW WORK HVAC

M2

SPECIFICATIONS FOR HVAC WORK

1. 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 BE AS 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 42CD 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 WHALL 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.

    H. FLEXIBLE DUCTS SHALL BE FLEXIBLE METAL OR METAL AND NEOPRENE-COATED CANVAS HOSE INSULATED WITH 1" THICK FIBERGLASS WITH VINYL VAPOR BARRIER. ALL ROUND DUCT TAKE-OFFS SHALL BE MADE WITH SPIN-IN FITTINGS WITH BALANCING DAMPER. 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 'L' 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 SCREWDRIVER 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).

PIPE SIZE/INSULATION THICKNESS(1)

SYSTEM INS.	TEMP. RANGE (°F)	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/HR. 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 PREMOLDED 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 FOIL-SCRIM-KRAFT PAPER JACKET REINFORCED WITH FIBERGLASS YARN MESH. INSULATION SHALL BE SECURED TO RECTANGULAR DUCTS BY IMPALING 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 CONTROLS 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 VV 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 THE 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.

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

COMMONWEALTH OF VIRGINIA
03/13/25
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Revisions

Drawn	FLM
Checked	RDF
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Project No.	2305-10

HVAC SPECIFICATIONS

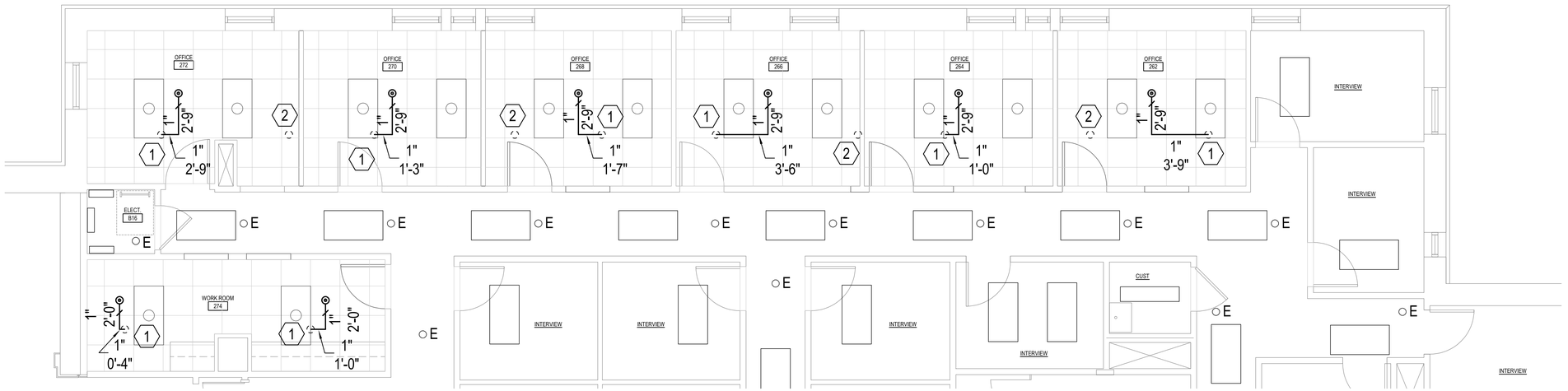
M3

SPRINKLER LEGEND

ABOVE	ABV
BELOW	BEL
CEILING	CLG
NEW CONNECT TO EXISTING	
PIPE HANGER	
SPRINKLER HEAD (RECESSED PENDANT)	
EXISTING SPRINKLER HEAD AND PIPE TO REMAIN	E
EXISTING SPRINKLER HEAD AND PIPE TO BE REMOVED	

SPRINKLER SYSTEM NOTES AND SPECIFICATIONS:

1. THE EXISTING SPRINKLER SYSTEM IN THE RENOVATED AREAS SHALL BE MODIFIED AS REQUIRED TO PROVIDE FULL SPRINKLER COVERAGE IN ACCORDANCE WITH NFPA 13-2019 AND THE 2021 VIRGINIA CONSTRUCTION CODE.
2. INSTALLATION SHALL BE ACCOMPLISHED BY A CONTRACTOR WHO IS DULY LICENSED AND ACCREDITED IN THE INSTALLATION OF AUTOMATIC SPRINKLER SYSTEMS AND FIRE PROTECTION EQUIPMENT FOR THE PAST THREE YEARS.
3. EXISTING SPRINKLER HEADS SHALL BE REMOVED. NEW SPRINKLER HEADS SHALL BE RECESSED PENDENT IN OFFICES, WORKROOMS AND SIMILAR SPACES.
4. PIPING SHALL BE FERROUS PIPING (WELDED AND SEAMLESS), ASTM A795, ASTM A53 OR ASTM A153 IN ACCORDANCE WITH NFPA 13-2019.
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 BEFORE INSTALLATION. SPRINKLER PIPING SHALL NOT BE INSTALLED WHERE ITS LOCATION INHIBITS EQUIPMENT FILTER AND MAINTENANCE ACCESS OR INFRINGES UPON CLEARANCE DICTATED BY THE NATIONAL ELECTRIC CODE. ALL SPRINKLERS TO BE CENTERED IN CEILING TILES - "CENTER OF TILE."
6. THE SPRINKLER SYSTEM IN CORRIDORS, OFFICES, WORKROOMS AND SIMILAR SPACES SHALL LIGHT HAZARD DESIGNED TO PROVIDE 0.10 GPM/SQ. FT. OVER 1500 SQ. FT. PLUS A 100 GPM HOSE ALLOWANCE. THE SYSTEM SHALL BE WET USING 155 DEG. F. SPRINKLER HEADS AND COVER NO MORE THAN 225 SQ. FT. PER HEAD.
7. PROVIDE FIRESTOPPING AT ALL LOCATIONS WHERE PIPES PENETRATE RATED WALL ASSEMBLIES.
8. THE EXISTING SPRINKLER SYSTEM SERVING AREAS NOT BEING RENOVATED MUST BE MAINTAINED DURING CONSTRUCTION.



NORTH

PARTIAL SECOND FLOOR PLAN - NEW WORK - SPRINKLER

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

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

* AS INDICATED ON PLANS.

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

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SECOND FLOOR KEY PLAN

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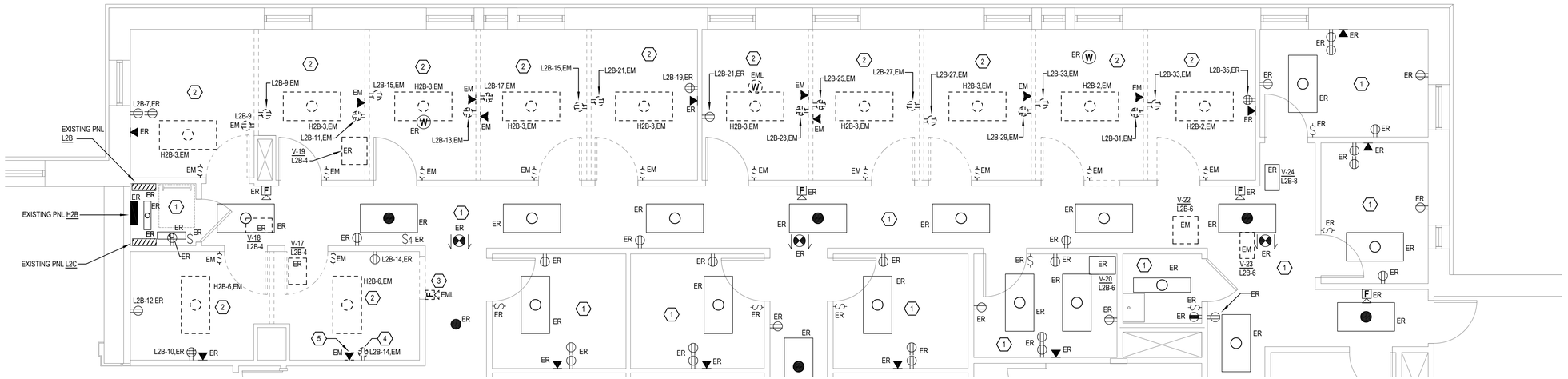
NEW WORK
PLAN - SPRINKLER

SP1



NORTH

PARTIAL SECOND FLOOR PLAN - DEMOLITION - ELECTRICAL

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

PLAN NOTES:

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 DEVICE 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 FOLLOW:
   - 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"AFF 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"AFF, 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.
   - 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 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"AFF WOULD BE PROVIDED WITH A BLANK COVERPLATE (ABANDONED IN PLACE).

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

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SECOND FLOOR KEY PLAN

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

COMMONWEALTH OF VIRGINIA
03/13/25
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Revisions

Drawn	DMK
Checked	WAM
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PARTIAL SECOND FLOOR PLAN - DEMOLITION - ELECTRICAL

ED1

GENERAL NOTES:

1. LOAD SIDE CONDUCTOR AND CONDUIT SIZES FROM TO EQUIPMENT SHALL BE THE SAME AS LINE SIDE CONDUCTORS AND CONDUIT.
2. CAREFULLY COORDINATE ALL ELECTRICAL EQUIPMENT LOCATIONS WITH DUCTWORK, PIPING AND MECHANICAL EQUIPMENT. MAINTAIN ALL CLEARANCES AND SPACES REQUIRED BY THE NEC.
3. WHERE MULTIPLE CIRCUITS ARE COMBINED IN A SINGLE CONDUIT, DERATE CONDUCTORS PER THE NEC.
4. 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.
5. 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.
6. UNLESS INDICATED OTHERWISE, SWITCHES AND OCCUPANCY SENSORS IN A ROOM/SPACE SHALL CONTROL ALL LIGHTING FIXTURES IN THAT ROOM/SPACE.
7. PROVIDE ALL 120-VOLT POWER NEEDED FOR THE FIRE ALARM SYSTEM. PROVIDE CIRCUIT BREAKER LOCKS 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.).
8. 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.
9. 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/IT ROOMS, STORAGE AND HOUSEKEEPING CLOSETS, ETC.). ALL USE OF SURFACE RACEWAY SHALL BE APPROVED BY THE ARCHITECT.
10. 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/IT ROOMS, STORAGE AND HOUSEKEEPING CLOSETS, ETC.). ALL USE OF SURFACE RACEWAY SHALL BE APPROVED BY THE ARCHITECT.
11. PROVIDE SHALLOW BOXES FOR NEW DEVICES IN FURRED WALLS. COORDINATE DEPTH WITH ARCHITECTURAL.
12. 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.
13. FOR WALL DEVICES MOUNTED ABOVE ARCHITECTURAL ITEMS, COORDINATE MOUNTING HEIGHTS OF WALL DEVICES SUCH THAT THEY DO NOT INTERFERE WITH ARCHITECTURAL ITEMS.
14. 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.
15. FOR ALL EXISTING OUTLET BOXES THAT ARE NOT BEING REUSED, PROVIDE BLANK COVER PLATE TO MATCH NEW WALL PLATES IN THAT AREA.
16. 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.
17. "HOMERUN" CONDUITS SHALL BE RUN DOWN CORRIDORS FROM THE RESPECTIVE ELECTRICAL ROOM (NOT THROUGH CLASSROOMS OR OFFICES OR OTHER SIMILAR SPACES).
18. 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.
19. 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.
20. THE CONTRACTOR SHALL PROVIDE COVERPLATES ON ALL EXISTING JUNCTION BOXES ABOVE THE ACCESSIBLE 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.
21. 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.
22. 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.
23. 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, VFD'S, 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:

1. 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 EXISTING WIRING AT DEVICE 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.

3.1.2.1.1.2. 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.

3.1.2.1.1.3. 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 IN BETWEEN (UP STEAM 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; COVERPLATE; 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 STEAM 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 STEAM 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 SLC'S AND NAC'S 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 FEED 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 DEVICES AND EQUIPMENT SHALL BE NEW, UNLESS NOTED OTHERWISE..

10. WIRING: ALL WIRING TO DEMOLISHED DEVICES AND EQUIPMENT SHALL BE REMOVED, UNLESS NOTED OTHERWISE. ALL EXISTING WIRING TO EXISTING-TO-REMAIN DEVICES AND EQUIPMENT SHALL REMAIN, UNLESS NOTED OTHERWISE. ALL ACCESSIBLE UNUSED WIRING SHALL BE REMOVED; ALL INACCESSIBLE UNUSED WIRING SHALL BE CUT AND ABANDONED. ALL WIRING TO NEW DEVICES AND EQUIPMENT SHALL BE NEW, UNLESS NOTED OTHERWISE.

11. MAINTAIN CIRCUIT CONTINUITY AS NECESSARY IN ALL DEMOLITION WORK.

12. THE CONTRACTOR SHALL INFORM THE OWNER'S REPRESENTATIVE OF ELECTRICAL EQUIPMENT REMOVED FROM THE BUILDING. IF THE OWNER DESIRES TO RETAIN EQUIPMENT, THEY WILL REMOVE IT FROM THE SITE. ALL EQUIPMENT NOT RETAINED BY THE OWNER SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE. DISPOSAL OF ALL EQUIPMENT CONTAINING HAZARDOUS MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND THE COST OF DISPOSAL SHALL BE INCLUDED.

13. INFORMATION ON DEMOLITION DRAWINGS DOES NOT INDICATE ALL EXISTING EQUIPMENT AND DEVICES. REFER TO ARCHITECTURAL, SPRIKLER AND MECHANICAL DEMOLITION DRAWINGS FOR ADDITIONAL INFORMATION.

14. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID AND SHALL VERIFY ALL DEMOLITION REQUIRED. ADDITIONAL COMPENSATION WILL NOT BE ALLOWED FOR DEMOLITION DUE TO CONTRACTOR NOT VISITING SITE AND DETERMINING FULL SCOPE OF DEMOLITION REQUIRED.

15. SEE THE DEMOLITION FLOOR PLANS FOR ADDITIONAL DEMOLITION REQUIREMENTS. ON THE DEMOLITION FLOOR PLANS, ALL DASHED ITEMS SHALL BE REMOVED AND ALL SOLID ITEMS SHALL REMAIN, UNLESS NOTED OTHERWISE. NEW WORK FLOOR PLANS MAY CONTAIN ADDITIONAL DEMOLITION INFORMATION IN SOME LOCATIONS.

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RENOVATIONS FOR THE
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BLACKSBURG, VIRGINIA

COMMONWEALTH OF VIRGINIA
03/13/25
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Revisions

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Checked	WAM
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GENERAL AND DEMOLITION NOTES

E1

ELECTRICAL LEGEND - LOW VOLTAGE

MTG. HGT.	SYMBOL	DESCRIPTION
1'-8" TO TOP		COMMUNICATION (DATA AND/OR VOICE) OUTLET, WALL.
1'-8" TO BOT	TV	CABLE TELEVISION OUTLET, WALL.
	W	WIRELESS ACCESS POINT (WAP), CEILING MOUNTED.
8'-0" TO TOP	W	WIRELESS ACCESS POINT (WAP), WALL MOUNTED.
1'-8" TO BOT	1 E,TR,SS,R, C,U,WP,GF	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	2 E,TR,SS,R, C,U,WP,GF	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.

ELECTRICAL LEGEND - FIRE ALARM

MTG. HGT.	SYMBOL	DESCRIPTION
	ERC, DR S	SMOKE DETECTOR, CEILING. "ERC" = ELEVATOR RECALL. "DR" = DOOR RELEASE.
AS NOTED OR DETAILED	S	SMOKE DETECTOR, WALL.
	S_S	SMOKE DETECTOR, SINGLE STATION TYPE, CEILING.
AS NOTED OR DETAILED	S_S	SMOKE DETECTOR, SINGLE STATION TYPE, WALL.
	S_D	SMOKE DETECTOR, DUCT TYPE. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS.
	H	HEAT DETECTOR, CEILING.
AS NOTED OR DETAILED	H	HEAT DETECTOR, WALL.
4'-0" TO TOP	F	FIRE ALARM MANUAL PULL STATION, WALL.
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.
8'-0" TO TOP	F 30	FIRE ALARM VISUAL DEVICE, WALL. NUMBER INDICATES VISUAL DEVICE MINIMUM CANDELA RATING.
	F 30	FIRE ALARM HORN OR SPEAKER (AS INDICATED IN SPECIFICATIONS) WITH INTEGRAL VISUAL DEVICE, CEILING. NUMBER INDICATES VISUAL DEVICE MINIMUM CANDELA RATING.
	F 30	FIRE ALARM VISUAL DEVICE, CEILING. NUMBER INDICATES VISUAL DEVICE MINIMUM CANDELA RATING.
	F	FIRE ALARM HORN OR SPEAKER (AS INDICATED IN SPECIFICATIONS), CEILING.
8'-0" TO TOP	F	FIRE ALARM HORN OR SPEAKER (AS INDICATED IN SPECIFICATIONS), WALL.
8'-0" TO TOP	F	FIRE ALARM BELL, WALL.
6'-0" TO TOP	FACP	MAIN FIRE ALARM CONTROL PANEL, WALL.
5'-0" TO TOP	FAAP	FIRE ALARM ANNUNCIATOR PANEL, WALL.

LOW-VOLTAGE CABLES:

1D: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:

#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.

#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.

#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.

#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.

#F = FIBER: SINGLE MODE FIBER WITH LC CONNECTORS ON BOTH ENDS, UNLESS NOTED OTHERWISE IN DIVISION 27 OR 28 SPECIFICATIONS, ON THE DRAWINGS, OR REQUIRED BY OWNER.

#S = PA SPEAKER CABLE: 2-CONDUCTOR 18 AWG STRANDED, PLEECON II JACKET RoHS, EQUAL TO WEST PENN 25224BWH1000, UNLESS NOTED OTHERWISE IN DIVISION 27 OR 28 SPECIFICATIONS, ON THE DRAWINGS, OR REQUIRED BY OWNER.

#V = VOICE 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.

#W = WIRELESS ACCESS POINT CABLE: PLENUM RATED UTP CATEGORY 6A WITH PANDUIT MINI-COM CONNECTORS ON BOTH ENDS, UNLESS NOTED OTHERWISE IN DIVISION 27 OR 28 SPECIFICATIONS, ON THE DRAWINGS, OR REQUIRED BY OWNER.
DEVICES WITH NO ANNOTATIONS SHALL BE EMPTY FOR FUTURE USE.

ELECTRICAL LEGEND - POWER DEVICES

MTG. HGT.	SYMBOL	DESCRIPTION
1'-8" TO TOP	E,TR,SS,H, R,C,U,WP	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.
	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.
1'-8" TO TOP	E,TR,H,R,WP	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.
	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	E,TR,SS, R,C,U,WP	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.
	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.
1'-8" TO TOP	E,TR,H,R, U,WP	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.
	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.
	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.
1'-8" TO TOP	J	JUNCTION BOX, WALL.
	J	JUNCTION BOX, CEILING.

ELECTRICAL LEGEND - POWER EQUIPMENT

MTG. HGT.	SYMBOL	DESCRIPTION
		FLEXIBLE CONNECTION TO EQUIPMENT.
		DIRECT CONNECTION TO EQUIPMENT.
		GROUND CONNECTION.
1'-0" TO BOTTOM		GROUND BAR, MOUNT WITH LONG DIMENSION HORIZONTAL.
	GR	GROUND ROD.
	M	ELECTRIC MOTOR CONNECTION.
6'-0" TO TOP		208/120 VOLT SURFACE OR FLUSH MOUNTED PANELBOARD.
6'-0" TO TOP		480/277 VOLT SURFACE OR FLUSH MOUNTED PANELBOARD.

ELECTRICAL LEGEND - RACEWAYS

MTG. HGT.	SYMBOL	DESCRIPTION
		CONDUIT EXPOSED.
		CONDUIT CONCEALED IN OR BELOW FLOOR SLAB OR BELOW GRADE.
		CONDUIT CONCEALED IN WALL OR ABOVE CEILING.
		EXISTING CONDUIT TO BE REMOVED.
		CONDUIT TURNED UP.
		CONDUIT TURNED DOWN.
	PS1	PLUG STRIP. NUMBER, WHERE SHOWN, INDICATES TYPE AS SCHEDULED ON DRAWINGS OR IN SPECIFICATIONS.
	SR1	SURFACE RACEWAY. NUMBER, WHERE SHOWN, INDICATES TYPE AS SCHEDULED ON DRAWINGS OR IN SPECIFICATIONS.
	2C4	CONDUIT SLEEVES, THROUGH WALL. MOUNT 4" ABOVE HIGHEST ACCESSIBLE CEILING ON EITHER SIDE OF WALL OR MINIMUM 8'-6" AFF WHERE EXPOSED, UNO. FIRST NUMBER INDICATES QUANTITY OF CONDUITS AND SECOND NUMBER INDICATES DIAMETER OF CONDUITS IN INCHES. BUSH CONDUITS AT EACH END.
	CT12	CABLE TRAY, WALL MOUNTED OR SUSPENDED WITH BOTTOM MINIMUM 4" ABOVE ACCESSIBLE CEILING OR MINIMUM 8'-6" AFF TO BOTTOM WHERE EXPOSED, UNO. CLEAR SPACE ABOVE CABLE TRAY SHALL BE 6" MINIMUM. NUMBER INDICATES CABLE TRAY WIDTH IN INCHES.
	CT12	CABLE TRAY, WALL MOUNTED OR SUSPENDED WITH BOTTOM MINIMUM 4" ABOVE ACCESSIBLE CEILING OR MINIMUM 8'-6" AFF TO BOTTOM WHERE EXPOSED, UNO. CLEAR SPACE ABOVE CABLE TRAY SHALL BE 6" MINIMUM. NUMBER INDICATES CABLE TRAY WIDTH IN INCHES.

ELECTRICAL LEGEND - LIGHTING

MTG. HGT.	SYMBOL	DESCRIPTION
	A1	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	$\$_a^{WP}$	GENERAL USE SWITCH, SINGLE POLE. LOWER CASE ALPHABETIC SUBSCRIPT, WHERE SHOWN, INDICATES LOADS CONTROLLED. (TYPICAL FOR ALL SWITCHES). "WP" = WATERPROOF
4'-0" TO TOP	$3	GENERAL USE SWITCH, THREE WAY.
4'-0" TO TOP	$4	GENERAL USE SWITCH, FOUR WAY.
4'-0" TO TOP	$L1	SWITCH, LOW VOLTAGE LIGHTING CONTROL, WALL-BOX MOUNTED. NUMBER INDICATES TYPE AS SCHEDULED ON DRAWINGS OR IN SPECIFICATIONS.
4'-0" TO TOP	$L2	0-10V DIMMER, LOW VOLTAGE LIGHTING CONTROL, WALL-BOX MOUNTED. NUMBER INDICATES TYPE AS SCHEDULED ON DRAWINGS OR IN SPECIFICATIONS.
4'-0" TO TOP	$V1	SWITCH WITH INTEGRAL VACANCY SENSOR, WALL-BOX MOUNTED. NUMBER INDICATES TYPE AS SCHEDULED ON DRAWINGS OR IN SPECIFICATIONS.
4'-0" TO TOP	$OD	COMBINATION 0-10V DIMMER AND OCCUPANCY SENSOR, WALL-BOX MOUNTED. TYPE AS SCHEDULED ON DRAWINGS OR IN SPECIFICATIONS.
	O1	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 BACKSPLASH.
		NEW CONNECTED TO EXISTING AT THIS POINT.
		EXISTING REMOVED FROM THIS POINT.
	1	PLAN NOTE DESIGNATION.
	1	REVISION DESIGNATION.
	NLA1A-3	CIRCUIT DESIGNATION. DESIGNATION SHOWN INDICATES PANEL NLA1A AND CIRCUIT NUMBER 3.

NOTES (ELECTRICAL LEGEND):

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

NOTE (ELECTRICAL ABBREVIATIONS):

1. ALL ABBREVIATIONS LISTED MAY NOT APPLY TO THIS PROJECT. REFER TO OTHER ABBREVIATION LISTS ELSEWHERE IN THESE DOCUMENTS FOR ABBREVIATIONS NOT LISTED HERE.

LPA
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Consulting Engineers

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

COMMONWEALTH OF VIRGINIA
03/13/25
WINSTON A. MATTHEWS
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Revisions

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ELECTRICAL LEGEND AND ABBREVIATIONS

E2

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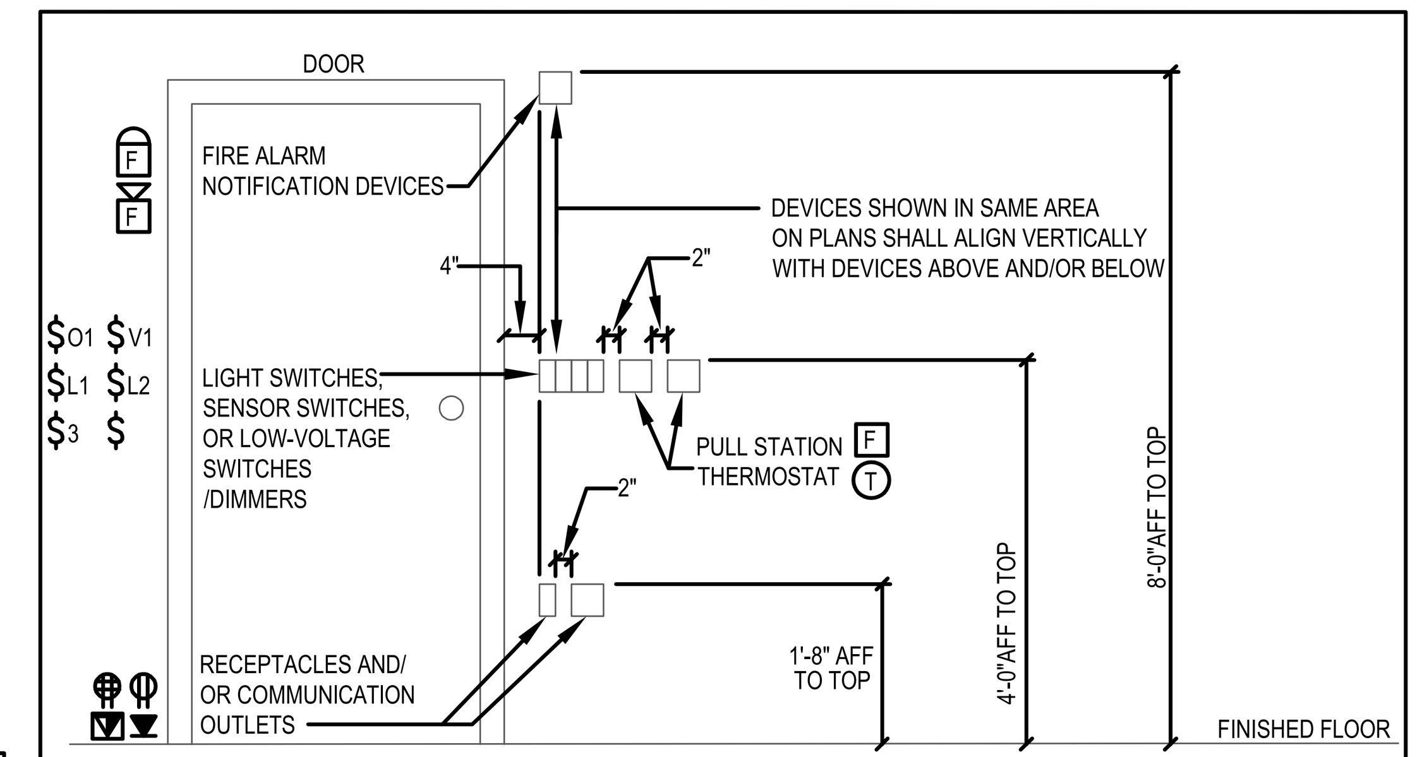
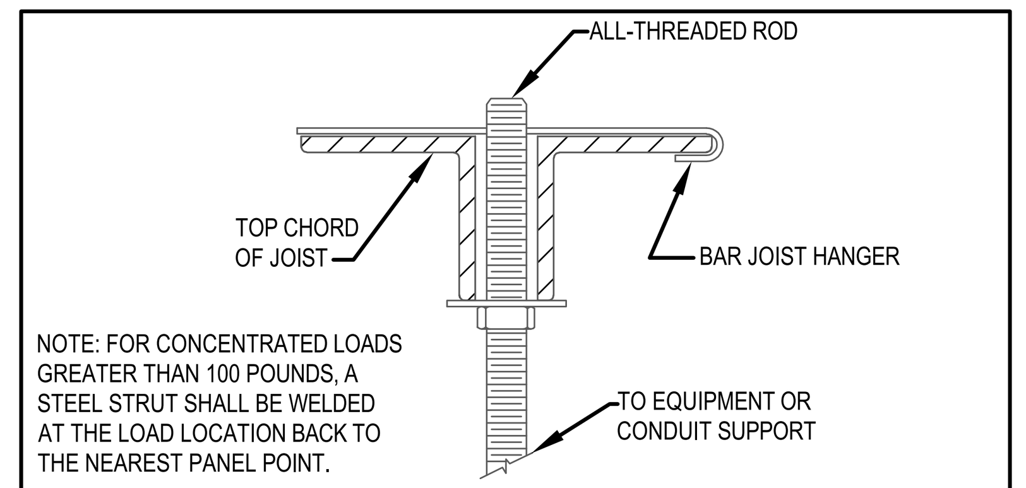


NOTE:

1. NOT ALL DEVICES SHOWN ARE USED IN ALL LOCATIONS. REFER TO THE ELECTRICAL FLOOR PLANS FOR DEVICE LOCATIONS.
2. WHERE DEVICE HEIGHTS INDICATED ON FLOOR PLANS ARE DIFFERENT FROM WHAT IS SHOWN IN THE DETAIL, THE HEIGHTS INDICATED ON FLOOR PLANS SHALL TAKE PRECEDENCE.
3. DEVICES SHOWN SIDE-BY-SIDE ON THE FLOOR PLANS THAT ARE NOT GANGED TOGETHER SHALL HAVE 2" OF SEPARATION BETWEEN THE FACEPLATES UNLESS NOTED OTHERWISE OR UNLESS MORE SEPARATION IS REQUIRED TO MAINTAIN FIRE RATING OF WALL.
4. FOR WALL DEVICES MOUNTED ABOVE ARCHITECTURAL ITEMS (SUCH AS FIRE ALARM STROBES, SPEAKERS, OR CLOCKS MOUNTED ABOVE MARKERBOARDS, TACKBOARDS, SMARTBOARDS, OR TV'S), COORDINATE MOUNTING HEIGHTS OF WALL DEVICES SUCH THAT THEY DO NOT INTERFERE WITH ARCHITECTURAL ITEMS.
5. FIRE ALARM DEVICE LENS SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80" AND NOT GREATER THAN 96" AFF PER NFPA 72.

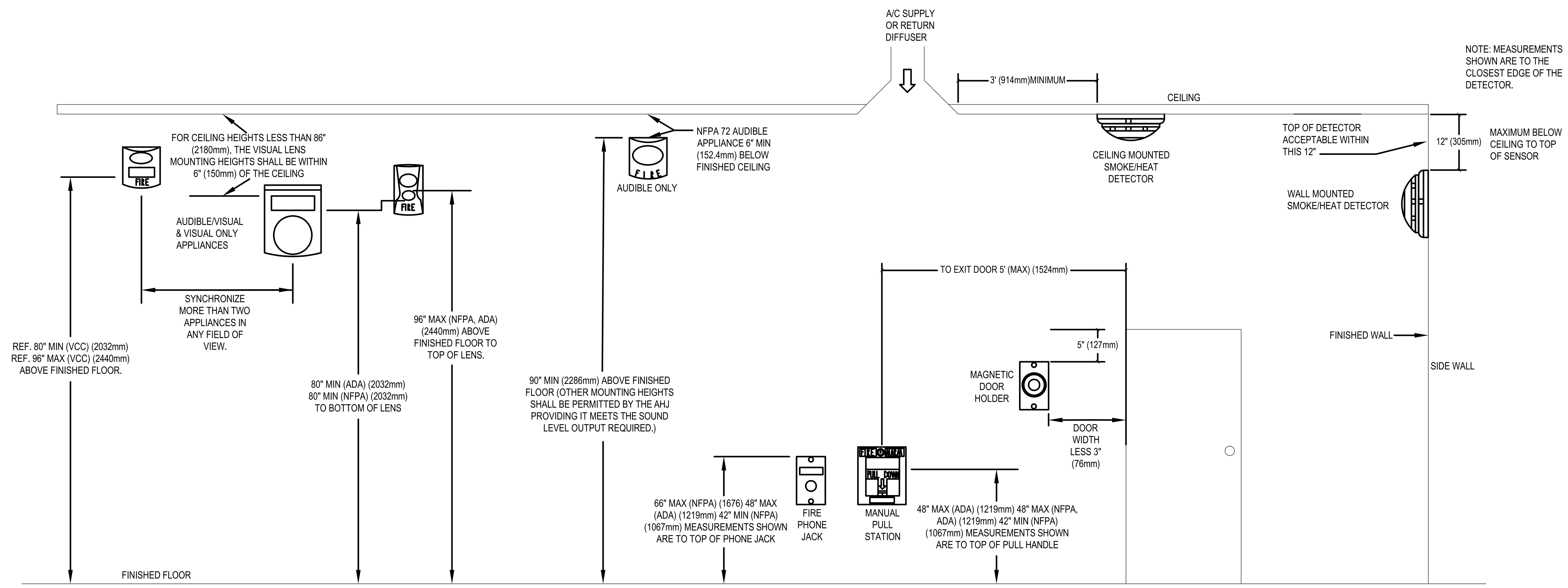
TYPICAL WALL DEVICE LOCATION DETAIL

NO SCALE



CONDUIT SUPPORT ATTACHMENT TO JOIST - DETAIL

NO SCALE



NOTES:

1. REFER TO THE PROPER DEVICE INSTALLATION INSTRUCTIONS FOR BACKBOX MOUNTING HEIGHT.

FIRE ALARM DEVICE ELEVATIONS

PER NFPA 72

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

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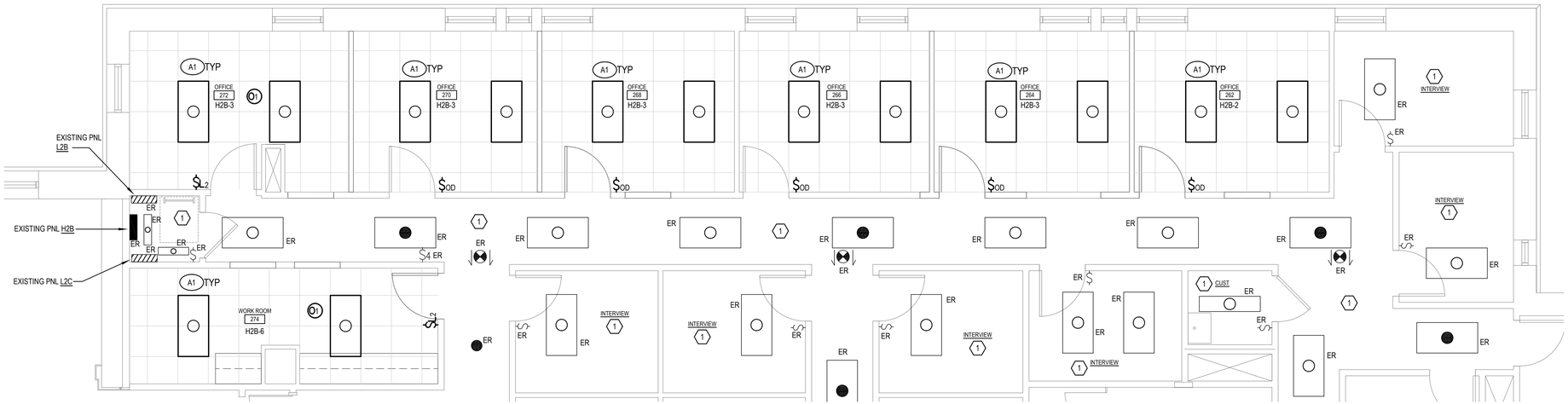
ELECTRICAL DETAILS AND FIRE ALARM DEVICE ELEVATIONS

E3



NORTH

PARTIAL SECOND FLOOR PLAN - NEW WORK - LIGHTING

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

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
$L1	WALL (48"AFF TO TOP)	PJ2-2B-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.
$L2	WALL (48"AFF TO TOP)	PJ2-2BRL-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.
$OD	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.
$V1	WALL (48"AFF TO TOP)	MS-OPS6M2N-DV-*	15 MINUTES UNO	MAESTRO OCCUPANCY SENSOR SWITCH: SET THE AUTO-ON 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.
(O1)	CEILING	LRF2-OCR2B-P-WH	30 MINUTES UNO	WIRELESS CEILING MOUNTED OCCUPANCY SENSOR. SET THE AUTO-ON OPTION 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 CABLING, PLENUM 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:
   - 1.1. 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(S) TO 15 MINUTES. THE LIGHT FIXTURE(S) CAN MANUALLY BE TURNED ON/OFF/RAISED/DIMMED VIA THE $L2 WALL DIMMER.
2. OFFICE 270, 268, 266, 264, 262:
   - 2.1. 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 $OD 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.

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

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SECOND FLOOR KEY PLAN

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03/13/25
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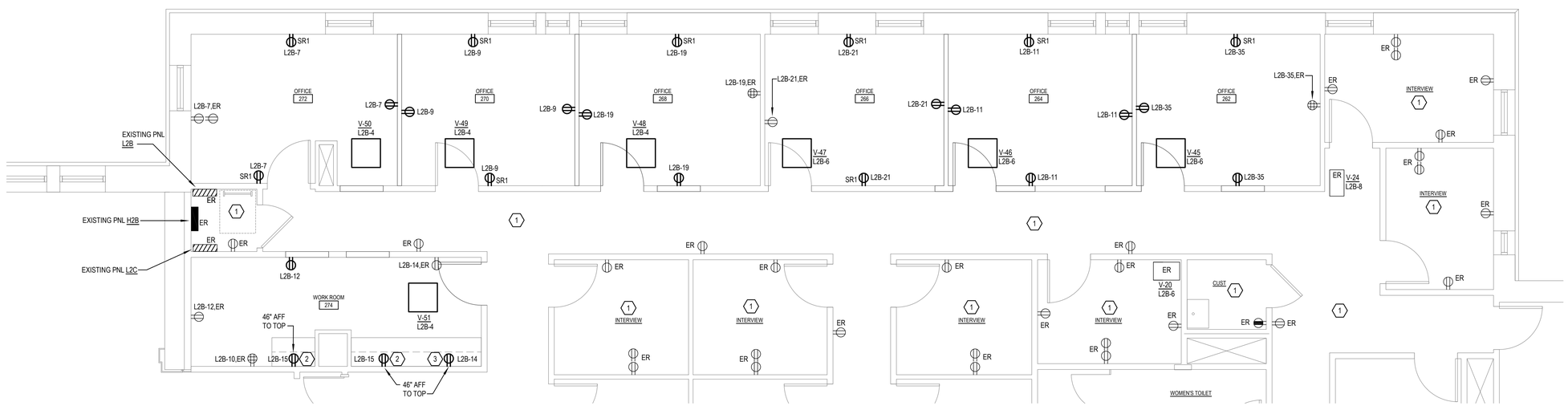
PARTIAL SECOND FLOOR PLAN - NEW WORK - LIGHTING

E4



NORTH

PARTIAL SECOND FLOOR PLAN - NEW WORK - POWER

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

PLAN NOTES: ⬡

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 CEILINGS TO A 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 FOR THIS NEW RECEPTACLE AND THEN REPAIR WALL BACK TO 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 FOR THIS NEW RECEPTACLE AND THEN REPAIR WALL BACK TO 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"

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SECOND FLOOR KEY PLAN

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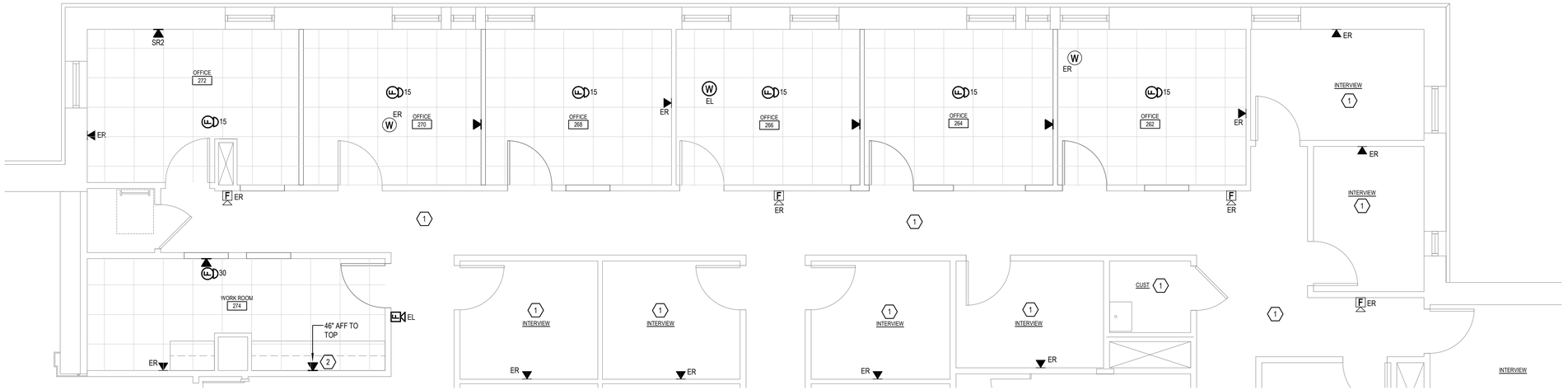
PARTIAL SECOND FLOOR PLAN - NEW WORK - POWER

E5



NORTH

PARTIAL SECOND FLOOR PLAN - NEW WORK - COMM & FIRE ALARM

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

PLAN NOTES:

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 FOLLOW:
   - 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 ALONG WITH THE EXISTING COVERPLATE AND WALL JACKS. THE EXISTING DATA OUTLET MOUNTED AT 18"AFF 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"AFF, 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"AFF WOULD BE PROVIDED WITH A BLANK COVERPLATE (ABANDONED IN PLACE).

GENERAL NOTES:

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.

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

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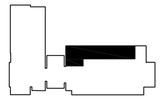

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PARTIAL SECOND FLOOR PLAN - NEW WORK - COMM & FIRE ALARM

E6

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)	CONNECTED	DEMAND FACTOR	DEMAND
LIGHTING	11.84	1.25	14.8
REC TO 10 KVA	0	1.0	0
REC REMAINING	0	0.5	0
SPACE HEATING	0	0.0	0
AIR CONDITIONING	0	1.0	0
NON-SEASONAL MOTORS	1.11	1.0	1.11
LARGEST MOTOR	0	0.25	0
WATER HEATING	0	1.0	0

LOADS (KVA)	CONNECTED	DEMAND FACTOR	DEMAND	
KITCHEN EQUIPMENT	0	1.0	0	
CONTINUOUS	0	1.25	0	
NON-CONTINUOUS	0	1.0	0	
DEMAND	0	1.0	0	
TOTAL CONNECTED LOAD	13	KVA	15.6	AMPS
MIN. FEEDER / PANEL CAPACITY	15.9	KVA	19.1	AMPS
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)	CONNECTED	DEMAND FACTOR	DEMAND
LIGHTING	10.45	1.25	13.06
REC TO 10 KVA	0	1.0	0
REC REMAINING	0	0.5	0
SPACE HEATING	0	0.0	0
AIR CONDITIONING	0	1.0	0
NON-SEASONAL MOTORS	1.11	1.0	1.11
LARGEST MOTOR	0	0.25	0
WATER HEATING	0	1.0	0

LOADS (KVA)	CONNECTED	DEMAND FACTOR	DEMAND	
KITCHEN EQUIPMENT	0	1.0	0	
CONTINUOUS	0	1.25	0	
NON-CONTINUOUS	0	1.0	0	
DEMAND	0	1.0	0	
TOTAL CONNECTED LOAD	11.6	KVA	13.9	AMPS
MIN. FEEDER / PANEL CAPACITY	14.2	KVA	17.1	AMPS
OVERALL DEMAND FACTOR	1.23			

EXISTING PANEL L2B

VOLTAGE: 208Y/120V
SYSTEM: 3PH, 4W
SOLID NEUTRAL: YES

MAIN: 225A MLO
BUS RATING: 225A
GROUND BUS: YES

INTEGRAL SPD: NO
MOUNTING: SURFACE
INTERRUPT RATING: 10,000 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	REC B14	20/1	#12	#12	#12	3/4"	R	.54			2	REC 220	20/1	#12	#12	#12	3/4"	R	.36		
3	REC B14	20/1	#12	#12	#12	3/4"	R		.72		4	VAV-17, 18, 19	20/1	#12	#12	#12	3/4"	N		.6	
5	SECURITY CAMERA	20/1	#12	#12	#12	3/4"	R			.18	6	VAV-20, 22, 23	20/1	#12	#12	#12	3/4"	N			.6
7	REC 276	20/1	#12	#12	#12	3/4"	R	.54			8	VAV-24, 25, 26	20/1	#12	#12	#12	3/4"	N	.6		
9	REC 274, 276	20/1	#12	#12	#12	3/4"	R		.72		10	REC 275	20/1	#12	#12	#12	3/4"	R		.54	
11	REC 274	20/1	#12	#12	#12	3/4"	R			.54	12	REC 273, 275	20/1	#12	#12	#12	3/4"	R			.72
13	REC 272	20/1	#12	#12	#12	3/4"	R	.54			14	REC 242	20/1	#12	#12	#12	3/4"	R	.54		
15	REC 270, 72	20/1	#12	#12	#12	3/4"	R		.72		16	REC 231	20/1	#12	#12	#12	3/4"	R		.54	
17	REC 270	20/1	#12	#12	#12	3/4"	R			.54	18	REC 271, 231	20/1	#12	#12	#12	3/4"	R			.72
19	REC 268	20/1	#12	#12	#12	3/4"	R	.54			20	REC 231	20/1	#12	#12	#12	3/4"	R	.54		
21	REC 266, 268	20/1	#12	#12	#12	3/4"	R		.72		22	REC 276	20/1	#12	#12	#12	3/4"	R		.54	
23	REC 266, 268	20/1	#12	#12	#12	3/4"	R			.54	24	REC 237B, 267	20/1	#12	#12	#12	3/4"	R			.72
25	REC 264	20/1	#12	#12	#12	3/4"	R	.54			26	REC 237B	20/1	#12	#12	#12	3/4"	R	.54		
27	REC 262, 264	20/1	#12	#12	#12	3/4"	R		.72		28	REC 233	20/1	#12	#12	#12	3/4"	R		.54	
29	REC 262	20/1	#12	#12	#12	3/4"	R			.54	30	REC 233, 237B	20/1	#12	#12	#12	3/4"	R			.72
31	REC 260	20/1	#12	#12	#12	3/4"	R	.54			32	REC 237A	20/1	#12	#12	#12	3/4"	R	.54		
33	REC 258, 260	20/1	#12	#12	#12	3/4"	R		.72		34	SPARE	20/1	-	-	-	-	-		-	
35	REC 258	20/1	#12	#12	#12	3/4"	R			.54	36	SPARE	20/1	-	-	-	-	-			-
37	REC 256	20/1	#12	#12	#12	3/4"	R	.54			38	SPARE	20/1	-	-	-	-	-	-		
39	REC 254, 256	20/1	#12	#12	#12	3/4"	R		.72		40	EWH	30/2	#10	#10	#10	3/4"	W		2.25	
41	REC 254	20/1	#12	#12	#12	3/4"	R			.54	42	"	-	#10	-	-	-	W			2.25
												PHASE LOAD TOTALS							6.9	10.05	9.15

LOADS (KVA)	CONNECTED	DEMAND FACTOR	DEMAND
LIGHTING	0	1.25	0
REC TO 10 KVA	10	1.0	10
REC REMAINING	9.8	0.5	4.9
SPACE HEATING	0	0.0	0
AIR CONDITIONING	0	1.0	0
NON-SEASONAL MOTORS	0	1.0	0
LARGEST MOTOR	0	0.25	0
WATER HEATING	4.5	1.0	4.5

LOADS (KVA)	CONNECTED	DEMAND FACTOR	DEMAND	
KITCHEN EQUIPMENT	0	1.0	0	
CONTINUOUS	0	1.25	0	
NON-CONTINUOUS	1.8	1.0	1.8	
DEMAND	0	1.0	0	
TOTAL CONNECTED LOAD	26.1	KVA	72.5	AMPS
MIN. FEEDER / PANEL CAPACITY	21.2	KVA	58.9	AMPS
OVERALL DEMAND FACTOR	0.81			

MODIFIED PANEL L2B

VOLTAGE: 208Y/120V
SYSTEM: 3PH, 4W
SOLID NEUTRAL: YES

MAIN: 225A MLO
BUS RATING: 225A
GROUND BUS: YES

INTEGRAL SPD: NO
MOUNTING: SURFACE
INTERRUPT RATING: 10,000 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	REC B14	20/1	#12	#12	#12	3/4"	R	.54			2	REC 220	20/1	#12	#12	#12	3/4"	R	.36		
3	REC B14	20/1	#12	#12	#12	3/4"	R		.72		4	*VAV-48, 49, 50, 51	20/1	#12	#12	#12	3/4"	N		.8	
5	SECURITY CAMERA	20/1	#12	#12	#12	3/4"	R			.18	6	*VAV-20, 45, 46, 47	20/1	#12	#12	#12	3/4"	N			.8
7	*REC OFFICE 272	20/1	#12	#12	#12	3/4"	R	.9			8	VAV-24, 25, 26	20/1	#12	#12	#12	3/4"	N	.6		
9	*REC OFFICE 270	20/1	#12	#12	#12	3/4"	R		.72		10	*REC WORK ROOM 274	20/1	#12	#12	#12	3/4"	R		.36	
11	*REC OFFICE 264	20/1	#12	#12	#12	3/4"	R			.72	12	*REC WORK ROOM 274	20/1	#12	#12	#12	3/4"	R			.18
13	*REC WORK ROOM 274	20/1	#12	#12	#12	3/4"	R	.18			14	*REC WORK ROOM 274	20/1	#12	#12	#12	3/4"	R	.36		
15	*REC WORK ROOM 274	20/1	#12	#12	#12	3/4"	R		.36		16	REC 231	20/1	#12	#12	#12	3/4"	R		.54	
17	*SPARE	20/1	-	-	-	-	-			-	18	REC 271, 231	20/1	#12	#12	#12	3/4"	R			.72
19	*REC OFFICE 268	20/1	#12	#12	#12	3/4"	R	.9			20	REC 231	20/1	#12	#12	#12	3/4"	R	.54		
21	*REC OFFICE 266	20/1	#12	#12	#12	3/4"	R		.72		22	REC 276	20/1	#12	#12	#12	3/4"	R		.54	
23	*SPARE	20/1	-	-	-	-	-			-	24	REC 237B, 267	20/1	#12	#12	#12	3/4"	R			.72
25	*SPARE	20/1	-	-	-	-	-	-			26	REC 237B	20/1	#12	#12	#12	3/4"	R	.54		
27	*SPARE	20/1	-	-	-	-	-		-		28	REC 233	20/1	#12	#12	#12	3/4"	R		.54	
29	*SPARE	20/1	-	-	-	-	-			-	30	REC 233, 237B	20/1	#12	#12	#12	3/4"	R			.72
31	*SPARE	20/1	-	-	-	-	-	-			32	REC 237A	20/1	#12	#12	#12	3/4"	R	.54		
33	*SPARE	20/1	-	-	-	-	-		-		34	SPARE	20/1	-	-	-	-	-		-	
35	*REC OFFICE 262	20/1	#12	#12	#12	3/4"	R			.9	36	SPARE	20/1	-	-	-	-	-			-
37	REC 256	20/1	#12	#12	#12	3/4"	R	.54			38	SPARE	20/1	-	-	-	-	-	-		
39	REC 254, 256	20/1	#12	#12	#12	3/4"	R		.72		40	EWH	30/2	#10	#10	#10	3/4"	W		2.25	
41	REC 254	20/1	#12	#12	#12	3/4"	R			.54	42	"	-	#10	-	-	-	W			2.25
												PHASE LOAD TOTALS							6	8.27	7.73

LOADS (KVA)	CONNECTED	DEMAND FACTOR	DEMAND
LIGHTING	0	1.25	0
REC TO 10 KVA	10	1.0	10
REC REMAINING	5.3	0.5	2.65
SPACE HEATING	0	0.0	0
AIR CONDITIONING	0	1.0	0
NON-SEASONAL MOTORS	0	1.0	0
LARGEST MOTOR	0	0.25	0
WATER HEATING	4.5	1.0	4.5

LOADS (KVA)	CONNECTED	DEMAND FACTOR	DEMAND	
KITCHEN EQUIPMENT	0	1.0	0	
CONTINUOUS	0	1.25	0	
NON-CONTINUOUS	2.2	1.0	2.2	
DEMAND	0	1.0	0	
TOTAL CONNECTED LOAD	22	KVA	61.1	AMPS
MIN. FEEDER / PANEL CAPACITY	19.4	KVA	53.8	AMPS
OVERALL DEMAND FACTOR	0.88			

LOAD JUSTIFICATION:

1. EXISTING PANEL L2B:
   - 1.1. EXISTING CIRCUIT L2B-4: THREE VAV BOXES HAVE BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 60 VA. FOUR VAV BOXES HAVE BEEN ADDED TO THIS EXISTING CIRCUIT FOR AN ADDITION OF 80 VA.
     - 1.1.1. TOTAL CIRCUIT CHANGE: ADDITION OF 20 VA.
   - 1.2. EXISTING CIRCUIT L2B-6: TWO VAV BOXES HAVE BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 40 VA. THREE VAV BOXES HAVE BEEN ADDED TO THIS EXISTING CIRCUIT FOR AN ADDITION OF 60 VA.
     - 1.2.1. TOTAL CIRCUIT CHANGE: ADDITION OF 20 VA.
   - 1.3. EXISTING CIRCUIT L2B-7: THREE DUPLEX RECEPTACLES HAVE BEEN ADDED TO THIS EXISTING CIRCUIT FOR AN ADDITION OF 540 VA.
     - 1.3.1. TOTAL CIRCUIT CHANGE: ADDITION OF 540 VA.
   - 1.4. EXISTING CIRCUIT L2B-9: TWO DUPLEX RECEPTACLES HAVE BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 360 VA. FOUR NEW DUPLEX RECEPTACLES HAVE BEEN ADDED TO THIS EXISTING CIRCUIT FOR AN ADDITION OF 720 VA.
     - 1.4.1. TOTAL CIRCUIT CHANGE: ADDITION OF 360 VA.
   - 1.5. EXISTING CIRCUIT L2B-11: ONE QUAD RECEPTACLE HAS BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 360 VA. FOUR NEW DUPLEX RECEPTACLES HAVE BEEN ADDED TO THIS EXISTING CIRCUIT FOR AN ADDITION OF 720 VA.
     - 1.5.1. TOTAL CIRCUIT CHANGE: ADDITION OF 360 VA.
   - 1.6. EXISTING CIRCUIT L2B-13: ONE QUAD RECEPTACLE HAS BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 360 VA. ONE DUPLEX RECEPTACLE HAS BEEN ADDED TO THIS EXISTING CIRCUIT FOR AN ADDITION OF 180 VA.
     - 1.6.1. TOTAL CIRCUIT CHANGE: REDUCTION OF 180 VA.
   - 1.7. EXISTING CIRCUIT L2B-14: ONE QUAD RECEPTACLE HAS BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 360 VA. ONE DUPLEX RECEPTACLE HAS BEEN ADDED TO THIS EXISTING CIRCUIT FOR AN ADDITION OF 180 VA.
     - 1.7.1. TOTAL CIRCUIT CHANGE: REDUCTION OF 180 VA.
   - 1.8. EXISTING CIRCUIT L2B-15: ONE DUPLEX RECEPTACLE HAS BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 180 VA. TWO DUPLEX RECEPTACLES HAVE BEEN ADDED TO THIS EXISTING CIRCUIT FOR AN ADDITION OF 360 VA.
     - 1.8.1. TOTAL CIRCUIT CHANGE: ADDITION OF 180 VA.
   - 1.9. EXISTING CIRCUIT L2B-17: ONE QUAD RECEPTACLE HAS BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 360 VA.
     - 1.9.1. TOTAL CIRCUIT CHANGE: REDUCTION OF 360 VA.
   - 1.10. EXISTING CIRCUIT L2B-19: THREE DUPLEX RECEPTACLES HAVE BEEN ADDED TO THIS EXISTING CIRCUIT FOR AN ADDITION OF 540 VA.
     - 1.10.1. TOTAL CIRCUIT CHANGE: ADDITION OF 540 VA.
   - 1.11. EXISTING CIRCUIT L2B-21: ONE DUPLEX RECEPTACLE HAS BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 180 VA. THREE DUPLEX RECEPTACLES HAVE BEEN ADDED TO THIS EXISTING CIRCUIT FOR AN ADDITION OF 540 VA.
     - 1.11.1. TOTAL CIRCUIT CHANGE: ADDITION OF 360 VA.
   - 1.12. EXISTING CIRCUIT L2B-23: ONE QUAD RECEPTACLE HAS BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 360 VA.
     - 1.12.1. TOTAL CIRCUIT CHANGE: REDUCTION OF 360 VA.
   - 1.13. EXISTING CIRCUIT L2B-25: ONE QUAD RECEPTACLE HAS BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 360 VA.
     - 1.13.1. TOTAL CIRCUIT CHANGE: REDUCTION OF 360 VA.
   - 1.14. EXISTING CIRCUIT L2B-27: TWO DUPLEX RECEPTACLES HAVE BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 360 VA.
     - 1.14.1. TOTAL CIRCUIT CHANGE: REDUCTION OF 360 VA.
   - 1.15. EXISTING CIRCUIT L2B-29: ONE QUAD RECEPTACLE HAS BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 360 VA.
     - 1.15.1. TOTAL CIRCUIT CHANGE: REDUCTION OF 360 VA.
   - 1.16. EXISTING CIRCUIT L2B-31: ONE QUAD RECEPTACLE HAS BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 360 VA.
     - 1.16.1. TOTAL CIRCUIT CHANGE: REDUCTION OF 360 VA.
   - 1.17. EXISTING CIRCUIT L2B-33: TWO DUPLEX RECEPTACLES HAVE BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 360 VA.
     - 1.17.1. TOTAL CIRCUIT CHANGE: REDUCTION OF 360 VA.
   - 1.18. EXISTING CIRCUIT L2B-35: THREE DUPLEX RECEPTACLES HAVE BEEN ADDED TO THIS CIRCUIT FOR AN ADDITION OF 540 VA.
     - 1.18.1. TOTAL CIRCUIT CHANGE: ADDITION OF 540 VA.
   - 1.19. TOTAL PANEL LOAD REDUCTION OF 1720 VA.
2. EXISTING PANEL H2B:
   - 2.1. EXISTING CIRCUIT H2B-2: TWO 96 WATT LIGHT FIXTURES HAVE BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 240 VA. TWO TYPE A1 LIGHT FIXTURE HAS BEEN ADDED TO THIS EXISTING CIRCUIT FOR AN ADDITION OF 104 VA.
     - 2.1.1. TOTAL CIRCUIT CHANGE: 104 (ADDITION) - 240 (REDUCTION) = OVERALL REDUCTION OF 144 VA.
   - 2.2. EXISTING CIRCUIT H2B-3: EIGHT (8) 96 WATT LIGHT FIXTURES HAVE BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 960 VA. TEN (10) TYPE A1 LIGHT FIXTURES HAVE BEEN ADDED TO THIS EXISTING CIRCUIT FOR AN ADDITION OF 518 VA.
     - 2.2.1. TOTAL CIRCUIT CHANGE: 518 VA (ADDITION) - 960 VA (REDUCTION) = OVERALL REDUCTION 442 VA.
   - 2.3. EXISTING CIRCUIT H2B-6: TWO 96 WATT LIGHT FIXTURES HAVE BEEN REMOVED FROM THIS EXISTING CIRCUIT FOR A REDUCTION OF 240 VA. TWO TYPE A1 LIGHT FIXTURE HAS BEEN ADDED TO THIS EXISTING CIRCUIT FOR AN ADDITION OF 104 VA.
     - 2.3.1. TOTAL CIRCUIT CHANGE: 104 (ADDITION) - 240 (REDUCTION) = OVERALL REDUCTION OF 144 VA.
   - 2.4. TOTAL PANEL LOAD REDUCTION OF 1700 VA.

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

COMMONWEALTH OF VIRGINIA
03/13/25
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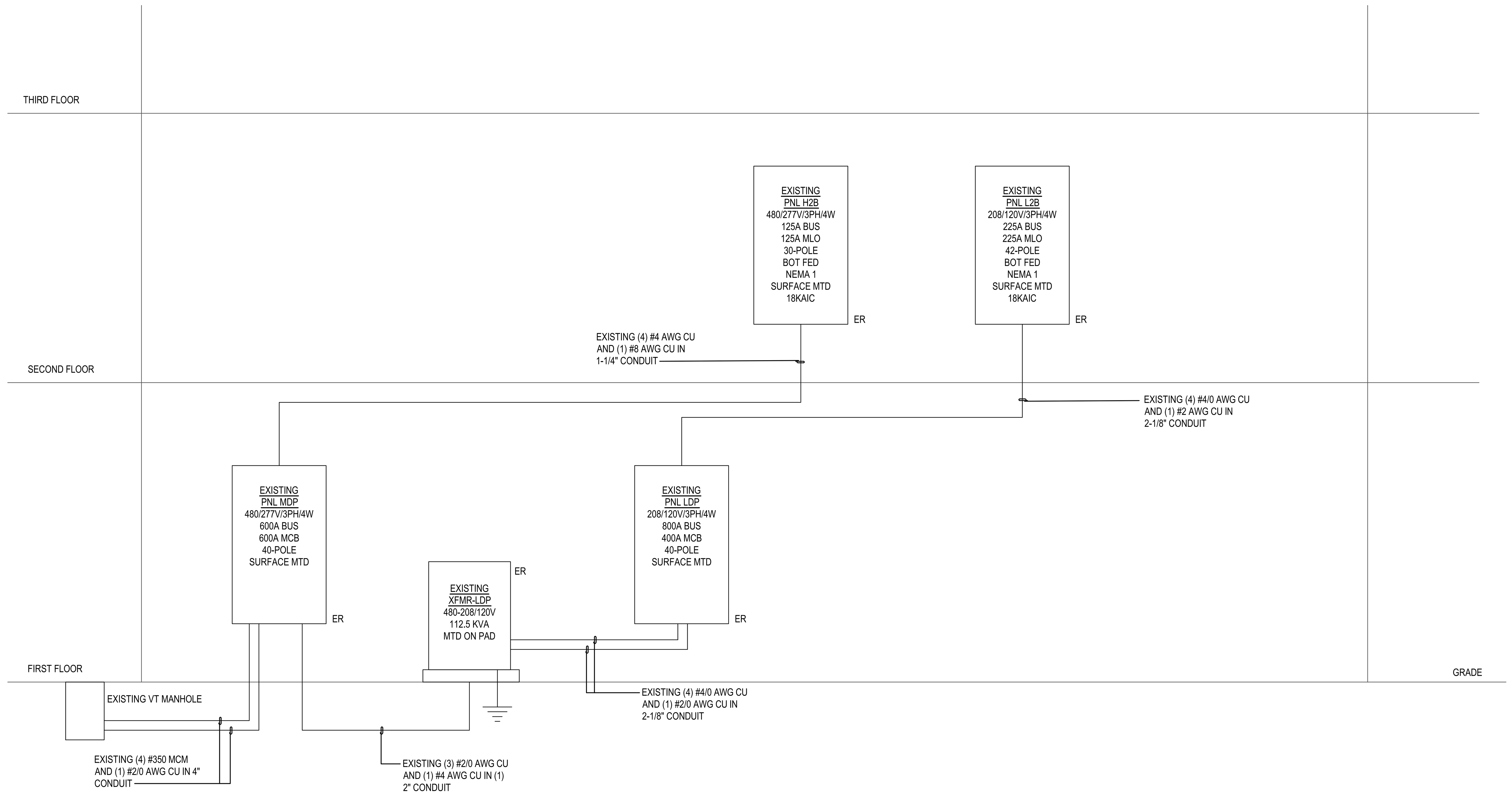
Revisions

Drawn	DMK
Checked	WAM
Date	03/13/25
Project No.	2305-10

EXISTING AND MODIFIED PANEL SCHEDULES

E7



PARTIAL EXISTING ELECTRICAL POWER RISER DIAGRAM

NO SCALE

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Revisions

Drawn	DMK
Checked	WAM
Date	03/13/25
Project No.	2305-10

PARTIAL EXISTING ELECTRICAL POWER RISER DIAGRAM

E8

ELECTRICAL SPECIFICATIONS:

1. SCOPE OF WORK: PROVIDE SUPERVISION, LABOR, MATERIAL, EQUIPMENT, MACHINERY, PLANT AND OTHER ITEMS NECESSARY FOR A COMPLETE AND OPERABLE ELECTRICAL SYSTEM.

   WHERE VARIANCES OCCUR BETWEEN DRAWINGS AND SPECIFICATIONS OR WITHIN EITHER DOCUMENT ITSELF, INCLUDE IN THE CONTRACT PRICE THE ITEM OR ARRANGEMENT OF BETTER QUALITY, GREATER QUANTITY, OR HIGHER COST.

2. STANDARDS AND CODES: THE MATERIALS AND EQUIPMENT SHALL BE NEW AND LISTED BY UNDERWRITERS LABORATORIES, INC. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE 2021 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (USBC); THE 2021 INTERNATIONAL BUILDING CODE (IBC) AS ADOPTED AND MODIFIED BY THE 2021 VIRGINIA CONSTRUCTION CODE (VCC) ; THE 2021 INTERNATIONAL FIRE CODE (IFC); THE 2020 NFPA-70 (NATIONAL ELECTRICAL CODE, OR NEC); THE 2019 NFPA-72 (NATIONAL FIRE ALARM AND SIGNALING CODE); AND OTHER RELATED CODES AND STANDARDS. THE COMPLETED INSTALLATION SHALL COMPLY WITH THE ADAAG *"AMERICAN WITH DISABILITIES ACT GUIDELINES FOR BUILDINGS AND FACILITIES"*. WORKMANSHIP SHALL MEET THE "STANDARDS OF INSTALLATION" AS PUBLISHED BY THE NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION (NECA). THE 2023 VIRGINIA TECH DESIGN AND CONSTRUCTION STANDARDS.

3. PERMITS AND FEES: OBTAIN PERMITS, BONDS, LICENSES AND INSPECTION CERTIFICATES. PAY INSPECTION FEES AND TAXES. FILE PLANS AND PREPARE DOCUMENTS REQUIRED TO OBTAIN APPROVALS OF GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.

4. CONDUIT: WHERE NOT EXTERIOR OR UNDERGROUND OR IN CONCRETE SLABS, PROVIDE ELECTRICAL METALLIC TUBING (EMT) FOR EMPTY CONDUIT RUNS AND STUB-UPS, BRANCH CIRCUITS AND PANEL FEEDERS; ALL CONDUIT STUBS SHALL HAVE BUSHINGS. SCHEDULE 40 PVC CONDUIT MAY BE RUN FROM CONCRETE SLAB UP TO FIRST OUTLET (BUT NOT BEYOND FIRST OUTLET) ONLY IF CONDUIT IS CONCEALED IN STUD OR CMU WALL AND IF FIRST OUTLET IS NO MORE THAN 48" AFF. PROVIDE GALVANIZED SINGLE STRIP FLEXIBLE CONDUIT, MINIMUM 18" LONG, FOR MOTOR CONNECTIONS. USE PVC JACKETED FLEXIBLE LIQUID-TIGHT CONDUIT TYPE UA FOR MOTOR CONNECTIONS IN WET LOCATIONS. CONDUIT SHALL BE MINIMUM 3/4". SUPPORT CONDUIT AS REQUIRED BY THE NEC. FOR ROOF DECKING APPLICATIONS, FOLLOW REQUIREMENTS OF NEC 300.4(E). EXPANSION/DEFLECTION FITTINGS SHALL BE PROVIDED WHERE REQUIRED PER NEC 300.4(H). FOR UNDERGROUND CONDUIT, PROVIDE SEALS WHERE REQUIRED PER NEC 225.27 AND 300.5(G). UNDERGROUND CONDUIT SHALL BE MINIMUM 24" BELOW FINISHED GRADE TO TOP OF CONDUIT, UNLESS NOTED OTHERWISE. FITTINGS SHALL NOT BE CAST POT METAL.

   ALL CONDUITS PASSING THROUGH RATED WALLS OR CEILINGS SHALL BE SLEEVED AND PACKED WITH U.L. LISTED SEALANT TO MAINTAIN RATING.

   TYPE AC, MC, BX, MI, AND NMC CABLE ARE NOT ALLOWED.

5. JUNCTION, OUTLET AND PULL BOXES: PROVIDE JUNCTION, OUTLET AND PULL BOXES FOR WIRING DEVICES, FIXTURES, CONNECTIONS TO EQUIPMENT AND AS REQUIRED BY THE NEC. BOXES SHALL BE STEEL UNLESS REQUIRED OTHERWISE BY ENVIRONMENT.

6. HANGERS AND SUPPORTS: PROVIDE ALL HANGERS, SUPPORTS, ANCHORS, SLEEVES AND SEALS AS REQUIRED BY THE NEC.

7. WIRING: PROVIDE COPPER CONDUCTORS, XHHW OR XHHW-2 OR THHN OR THWN-2, 600 VOLT, 90 DEGREE C RATED. WIRING SHALL BE COLOR-CODED TO IDENTIFY PHASES, NEUTRAL AND GROUND. MATCH EXISTING BUILDING WIRING COLOR-CODING. NUMBER 12 AWG SHALL BE THE SMALLEST SIZE WIRE USED FOR POWER AND LIGHTING. FOR 120-VOLT 15 AMP AND 20 AMP BRANCH CIRCUITS, USE MINIMUM 12 AWG UP TO 60 FEET, 10 AWG FOR 61-95 FEET, 8 AWG FOR 96-155 FEET AND 6 AWG FOR BRANCH CIRCUITS LONGER THAN 155 FEET; CONDUCTORS SHALL BE SAME SIZE FOR ENTIRE LENGTH OF RUN, EXCEPT IF ALL OUTLETS ARE IN THE SAME ROOM (1200 SQUARE FEET OR LESS) THE OVERSIZED CONDUCTORS MAY BE RUN ONLY TO THE FIRST OUTLET. FOR 277-VOLT 15 AMP AND 20 AMP BRANCH CIRCUITS, USE MINIMUM 12 AWG UP TO 140 FEET, 10 AWG FOR 141-220 FEET AND 8 AWG FOR BRANCH CIRCUITS LONGER THAN 220 FEET; CONDUCTORS SHALL BE SAME SIZE FOR ENTIRE LENGTH OF RUN. CONDUCTORS 8 AWG AND LARGER SHALL BE STRANDED; CONDUCTORS 10 AWG AND SMALLER SHALL BE SOLID. WIRING SHALL BE RUN CONCEALED, EXCEPT WHERE INDICATED OTHERWISE ON THE DRAWINGS. DO NOT INSTALL A SHARED NEUTRAL ON ANY CIRCUIT. FOR LIGHT SWITCHES, INSTALL NEUTRAL CONDUCTOR WHERE REQUIRED BY NEC 404.2(C). ALL TERMINATIONS SHALL BE 75 DEGREES C.

8. GROUNDING AND BONDING: PROVIDE AN EQUIPMENT GROUNDING SYSTEM INSTALLED TO METALLIC STRUCTURES, ENCLOSURES, RACEWAYS, JUNCTION BOXES, OUTLET BOXES, PULL BOXES, CABINETS, MACHINE FRAMES, PORTABLE EQUIPMENT AND OTHER CONDUCTIVE ITEMS IN CLOSE PROXIMITY TO ELECTRICAL CIRCUITS. ALL BRANCH AND FEEDER CIRCUITS SHALL INCLUDE A GREEN GROUNDING CONDUCTOR. **[***PARTICULAR ATTENTION IS CALLED TO BONDING REQUIREMENTS IN NEC 250.97, 250.98 AND 250.104.***]** GROUND CORD-AND-PLUG EQUIPMENT PER THE REQUIREMENTS OF NEC 250.114.

9. IDENTIFICATION: IDENTIFY CABLES/CONDUCTORS, INCLUDING VOLTAGE, PHASE AND FEEDER OR CIRCUIT NUMBER, ON EACH CABLE/CONDUCTOR IN EACH BOX/ENCLOSURE/CABINET WHERE WIRES OF MORE THAN ONE CIRCUIT OR COMMUNICATION/SIGNAL SYSTEM ARE PRESENT. WHEREVER REASONABLY REQUIRED FOR SAFETY, MAINTENANCE AND/OR OPERATIONAL PURPOSES, PROVIDE SELF-ADHESIVE PLASTIC SIGNS FOR IDENTIFICATION, INSTRUCTION OR WARNING ON SWITCHES AND OUTLETS, AS WELL AS OTHER CONTROLS, DEVICES AND ENCLOSURE COVERS. PROVIDE A DANGER SIGN WHEREVER IT IS POSSIBLE FOR PERSONS TO COME INTO CONTACT WITH A VOLTAGE HIGHER THAN 120 VOLTS, AS WELL AS ON CRITICAL SWITCHES AND CONTROLS WHERE UNTIMELY OPERATION COULD BE A SAFETY HAZARD. PROVIDE AN ENGRAVED PLASTIC-LAMINATE LABEL ON EACH MAJOR UNIT OF ELECTRICAL EQUIPMENT, INCLUDING BUT NOT LIMITED TO: DISCONNECT SWITCHES. EQUIPMENT LABELS SHALL INCLUDE WHAT IS REQUIRED IN NEC 408.4(B). ENCLOSURE TYPES SHALL BE MARKED PER NEC 110.28. WIRING COLOR-CODE KEY SHALL BE READILY AVAILABLE OR PERMANENTLY POSTED PER NEC 200.6(D) AND 210.5.

10. CONNECTIONS TO EQUIPMENT: MAKE FINAL ELECTRICAL POWER CONNECTIONS TO MECHANICAL **[***AND KITCHEN***]** EQUIPMENT. PROVIDE CONDUITS, OUTLET BOXES AND POWER WIRING FROM THE POWER SOURCE TO THE MOTOR OR EQUIPMENT JUNCTION BOX, INCLUDING WIRING THROUGH STARTERS OR SAFETY SWITCHES, IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

11. WIRING DEVICES (SHOP DRAWINGS REQUIRED): WIRING DEVICES SHALL BE SPECIFICATION GRADE. BACK WIRING IS NOT ALLOWED. WIRING DEVICES SHALL BE OF COLOR TO MATCH EXISTING. SWITCHES SHALL BE TUMBLER TYPE, 20 AMP, LIGHTING, GROUNDED, RATED 120/277 VOLT. EXCEPT WHERE NOTED OTHERWISE ON THE DRAWINGS, RECEPTACLES SHALL BE NEMA 5-20R, GROUNDED. WIRING DEVICE WALLPLATES SHALL BE STAINLESS STEEL TO MATCH EXISTING AND SHALL BE BY SAME MANUFACTURER AS WIRING DEVICES.

    WIRING DEVICE MANUFACTURER SHALL BE BRYANT, EATON ARROW/HART, HUBBELL, LEVITON OR PASS & SEYMOUR.

12. LIGHTING (SHOP DRAWINGS REQUIRED): PROVIDE FIXTURES AS INDICATED ON THE DRAWINGS. MANUFACTURERS SHALL BE AS INDICATED ON THE DRAWINGS OR EQUAL. FIXTURES SHALL BE COMPLETE WITH REQUIRED SOCKETS, WIRING, REFLECTORS, HANGERS, FITTINGS AND MOUNTING TRIM. FIXTURES SHALL BE CLEANED AND COMPLETELY LAMPED. PROVIDE PROPER TRIM, FRAMES, MOUNTING DEVICES, CONFIGURATION AND ACCESSORIES REQUIRED TO PROPERLY INSTALL FIXTURES IN THE BUILDING CONSTRUCTION.

    CATALOG NUMBERS OF FIXTURES SCHEDULED ARE TO ESTABLISH A TYPE OF FIXTURE, NOT TO DETERMINE A METHOD OF MOUNTING. VERIFY CEILING CONSTRUCTION BEFORE ORDERING FIXTURES, AND PROVIDE MOUNTING TRIM SUITABLE FOR THE CEILING FINISH IN WHICH FIXTURE IS INSTALLED. SUPPORT ALL CEILING MOUNTED LUMINAIRES THAT MATCH THE SIZE OF THE LAYOUT OF THE CEILING GRID FROM THE BUILDING STRUCTURAL FRAMING MEMBERS OR THE CEILING FRAMING SYSTEM UTILIZING CONDUIT STEMS, FIXTURE STUDS, SUPPORT CLIPS, STEEL RODS OR BAR HANGERS. IF THE CEILING FRAMING SYSTEM IS USED FOR SUPPORT, INSTALL A MINIMUM OF TWO CEILING SUPPORT SYSTEM RODS OR WIRES FOR EACH LUMINAIRE (ON DIAGONALLY OPPOSITE CORNERS OF THE FIXTURE). LOCATE NOT MORE THAN 6 INCHES FROM FIXTURE CORNERS. INSTALL RECESSED LAY-IN TYPE FIXTURES SO THAT THE LENS HOUSING MAY BE EASILY OPENED AND SO THAT THE FIXTURES MAY BE REMOVED AND RELOCATED WITHOUT FORCING THE FIXTURES.

    COORDINATE LIGHTING LAYOUT WITH CEILING LAYOUT AND FINISH BEFORE CEILING GRID IS INSTALLED. LENS TYPE RECESSED 1X4, 2X2 AND 2X4 FIXTURES SHALL HAVE A MINIMUM 0.125" THICK ACRYLIC LENS WITH 7.8 OZ./SQ. FT. MINIMUM WEIGHT.

    ADDITIONAL REQUIREMENTS FOR LED LUMINAIRES:

    A. COLOR TEMPERATURE SHALL BE 4000K WITH MINIMUM CRI OF 80, UNLESS INDICATED OTHERWISE.
    B. LED'S SHALL BE BINNED WITHIN A MAXIMUM THREE-STEP MACADAM ELLIPSE TO ENSURE COLOR CONSISTENCY AMONGST LUMINAIRES OF THE SAME TYPE.
    C. MERCURY-FREE, LEAD-FREE, ROHS COMPLIANT.
    D. COMPLIANT WITH FCC 47 CFR PART 15 NON-CONSUMER RFI/EMI STANDARDS.
    E. LIGHT OUTPUT SHALL BE MEASURED USING THE ABSOLUTE PHOTOMETRY METHOD FOLLOWING IES LM-79 AND LM-80 REQUIREMENTS AND GUIDELINES.
    F. LUMINAIRES SHALL MAINTAIN AT LEAST 70% LUMEN OUTPUT (L70) FOR A MINIMUM OF 50,000 HOURS.
    G. LUMEN OUTPUT SHALL NOT DEPRECIATE MORE THAN 20% AFTER 20,000 HOURS OF USE.
    H. THERMALLY DESIGNED TO NOT EXCEED THE MAXIMUM JUNCTION TEMPERATURE OF THE LED FOR THE AMBIENT TEMPERATURE OF THE LOCATION IN WHICH THE LUMINAIRE IS TO BE INSTALLED. RATED CASE TEMPERATURE SHALL BE SUITABLE FOR OPERATION IN THE AMBIENT TEMPERATURES TYPICALLY FOUND IN THE INTENDED INSTALLATION. EXTERIOR LUMINAIRES SHALL BE CAPABLE OF OPERATING IN AMBIENT TEMPERATURES OF -20 DEG. F TO 122 DEG F (-29 DEG. C TO 50 DEG. C).
    I. LUMINAIRES SHALL OPERATE NORMALLY FOR INPUT VOLTAGE FLUCTUATIONS OF PLUS OR MINUS 10%.
    J. MAXIMUM TOTAL HARMONIC DISTORTION (THD) OF 20% AT FULL INPUT POWER AND ACROSS SPECIFIED VOLTAGE RANGE.
    K. ALL CONNECTIONS TO LUMINAIRES SHALL BE REVERSE-POLARITY PROTECTED AND PROVIDE HIGH VOLTAGE PROTECTION IN THE EVENT THAT CONNECTIONS ARE REVERSED OR SHORTED DURING INSTALLATION.
    L. THE FAILURE OF ONE INDIVIDUAL LED SHALL NOT AFFECT THE OPERATION OF THE REMAINING LED'S IN THE LUMINAIRE.

    ALL DRIVERS SHALL COMPLY WITH NEMA 410 FOR INRUSH CURRENT.

    REQUIREMENTS FOR LED DRIVERS:

    A. UNLESS SPECIFICALLY INDICATED OTHERWISE, SHALL BE OF THE 0-10V DIMMING TYPE DOWN TO 10% LIGHT LEVEL. THE PERFORMANCE CURVES FOR THE 0-10V CONTROL AND THE 0-10V DRIVERS SHALL NOT BOTH BE LOGARITHMIC. DIMMING SHALL OCCUR DOWN TO THE MINIMUM LEVEL WITH NO VISIBLE FLICKER OR "POPCORN EFFECT". "POPCORN EFFECT" IS WHEN THE LUMINAIRE IS ON A PRESET DIMMED LEVEL, AND THE LED'S GO TO 100% PRIOR TO RETURNING TO THE PRESET LEVEL WHEN POWER IS RETURNED TO THE FIXTURE.
    B. SHALL HAVE RATED LIFE OF MINIMUM 50,000 HOURS.
    C. SHALL HAVE MINIMUM POWER FACTOR OF 0.9 AND MAXIMUM CREST FACTOR OF 1.5 AT FULL INPUT POWER AND ACROSS SPECIFIED VOLTAGE RANGE.
    D. SHALL OPERATE NORMALLY FOR INPUT VOLTAGE FLUCTUATIONS OF PLUS OR MINUS 10%.
    E. SHALL HAVE MAXIMUM TOTAL HARMONIC DISTORTION (THD) OF 20% AT FULL INPUT POWER AND ACROSS SPECIFIED VOLTAGE RANGE.
    F. SHALL HAVE POLARIZED QUICK-DISCONNECTS FOR WIRING CONNECTIONS FOR FIELD MAINTENANCE.
    G. SHALL HAVE BUILT-IN FUSE PROTECTION, WITH ALL POWER SUPPLY OUTPUTS EITHER FUSE PROTECTED OR POLYMERIC POSITIVE TEMPERATURE COEFFICIENT (PTC)-PROTECTED PER CLASS 2 UL LISTING.
    H. SHALL DEMONSTRATE NO VISIBLE CHANGE IN LIGHT OUTPUT WITH A VARIATION OF PLUS OR MINUS 10% CHANGE IN LINE-VOLTAGE INPUT.
    I. ALL DIMMABLE LED DRIVERS OF THE SAME MANUFACTURER FAMILY/SERIES SHALL TRACK EVENLY ACROSS MULTIPLE LIGHT FIXTURES AT ALL LIGHT LEVELS.

       1) EXAMPLE: SAY LIGHT FIXTURE TYPE A IS A 2'X4' LIGHT FIXTURE WITH A DIMMABLE DRIVER THAT IS USED THROUGHOUT AN OFFICE BUILDING IN MULTIPLE ROOMS. THE TYPE A LIGHT FIXTURE SHALL BE PROVIDED FROM THE APPROVED MANUFACTURER WITH THE EXACT SAME DIMMABLE LED DRIVER IN ALL THE TYPE A LIGHT FIXTURES SHIPPED/INSTALLED IN THE BUILDING. THESE DRIVERS SHALL ALL BE ALIKE, SO THE LOW END AND HIGH END OF THE DIMMING RANGES ARE ALL IDENTICAL. THESE DRIVERS SHALL ALL BE ALIKE, SO THE DIMMING CURVES DIM AT THE SAME LEVELS THROUGH THE DIMMING RANGE. WHERE ANY DIMMABLE DRIVERS ARE PROVIDED/SHIPPED FROM THE MANUFACTURER THAT DO NOT MEET THIS REQUIREMENT THEN THE MANUFACTURER SHALL REPLACE THE DIMMABLE DRIVERS (MATERIAL AND LABOR) AT NO COST TO THE OWNER.

    0-10V DIMMING BALLASTS AND DRIVERS SHALL COMPLY WITH IEC 60929. FOR 0-10V DIMMING CONTROLS, THE PERFORMANCE CURVES FOR THE 0-10V CONTROL AND THE 0-10V BALLAST/DRIVERS SHALL NOT BOTH BE LOGARITHMIC. ALL DRIVERS SHALL HAVE TOTAL HARMONIC DISTORTION OF LESS THAN 10% AT FULL OUTPUT.

13. SURFACE METAL RACEWAYS (SHOP DRAWINGS REQUIRED): PROVIDE SURFACE METAL RACEWAYS WHERE SPECIFICALLY INDICATED ON THE DRAWINGS OR WHERE REQUIRED BY GENERAL NOTES. ALL RACEWAYS SHALL BE TYPE SR1 OR SR2 AS SPECIFIED. TYPE SR1 RACEWAY: ONE-PIECE TYPE WITH SINGLE COMPARTMENT, LENGTHS AS NECESSARY; PROVIDE NOMINAL 3/4" WIDE, DEPTH AS REQUIRED, WITH SNAP ON COVER. TYPE SR2 RACEWAY: TWO-PIECE TYPE WITH SINGLE COMPARTMENT, LENGTH AS NECESSARY; PROVIDE NOMINAL 1-1/4" X 7/8" WITH FLUSH, SNAP ON COVER. MAKE CHANGES IN DIRECTION OF RACEWAY RUNS WITH PROPER FITTINGS SUPPLIED BY THE RACEWAY MANUFACTURER. FIELD BENDS OF RACEWAY SECTIONS WILL NOT BE PERMITTED. PROPERLY SUPPORT AND ANCHOR RACEWAYS FOR THE ENTIRE LENGTH BY STRUCTURAL MATERIALS. RACEWAYS SHALL NOT SPAN ANY SPACE UNSUPPORTED. USE BOXES SUPPLIED BY THE RACEWAY MANUFACTURER WHEREVER JUNCTION, PULL OR DEVICE BOXES ARE REQUIRED. STANDARD ELECTRICAL 'HANDY' BOXES, ETC. SHALL NOT BE PERMITTED FOR USE WITH SURFACE RACEWAY INSTALLATIONS. TYPE SR1 SURFACE RACEWAY SHALL BE USED FOR ALL LINE VOLTAGE WIRING. TYPE SR2 RACEWAY SHALL BE USED FOR ALL DATA AND AUDIO-VISUAL WIRING.

14. EXISTING FIRE ALARM SYSTEM (SHOP DRAWINGS REQUIRED): PROVIDE FIRE ALARM DEVICES AS AN EXTENSION OF THE EXISTING SIMPLEX GRINNELL FIRE ALARM SYSTEM. NEW DEVICES SHALL BE ADDRESSABLE. ADDITIONAL MODULES SHALL BE PROVIDED AS NECESSARY TO ACHIEVE A COMPLETE EXTENSION OF THE EXISTING FIRE ALARM SYSTEM. ALL NEW DEVICES SHALL BE BY THE SAME MANUFACTURER AND SHALL MATCH THE EXISTING FIRE ALARM SYSTEM DEVICES. PROVIDE FIRE ALARM INDICATING APPLIANCES WITH CANDELA RATING MATCHING THE NUMBERS SHOWN ON THE DRAWINGS. PROVIDE A FULL CONDUIT (EMT) SYSTEM DEDICATED FOR FIRE ALARM WIRING. ALL NEW FIRE ALARM WIRING SHALL MATCH EXISTING. PROVIDE ALL COMPONENTS, RELAYS, POWER MODULES, EXTENDER PANELS, ETC. NECESSARY FOR A COMPLETE AND OPERABLE EXTENSION OF THE EXISTING SYSTEM. COORDINATE THE LOCATIONS OF ALL REQUIRED EXTENDER PANELS AND/OR MODULES WITH THE A/E PRIOR TO INSTALLATION. REPROGRAM THE FIRE ALARM CONTROL PANEL AS REQUIRED AFTER INSTALLATION OF THE NEW DEVICES HAS BEEN COMPLETED. PROVIDE ALL TESTING REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

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ELECTRICAL SPECIFICATIONS

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