ABBREVIATIONS

PLEASE NOTE THAT THIS LIST OF ABBREVIATIONS IS SPECIFIC TO OUR INDUSTRY AND DOES NOT INCLUDE COMMON USE ABBREVIATIONS OR MEASUREMENT UNIT DESIGNATIONS. FOR A REFERENCE LIST OF ABBREVIATIONS USED BY EACH DESIGN DISCIPLINE REFER TO THEIR DRAWINGS, SCHEDULES, SPECIFICATIONS, AND LEGENDS. THE ABSENCE OF AN ABBREVIATION FROM THIS LIST DOES NOT IMPLY ITS NON-EXISTENCE OR NON-USAGE. USERS ARE ENCOURAGED TO SEEK CLARIFICATION IF THEY ENCOUNTER AN ABBREVIATION NOT INCLUDED IN THIS LIST.

AFF	ABOVE FINISH FLOOR	LW	LIGHTWEIGHT
AP	ACCESS PANEL	LTL	LINTEL
ACT	ACOUSTIC CEILING TILE	LL	LIVE LOAD
ACPL	ACOUSTICAL PLASTER	LVR	LOUVER
A/C	AIR CONDITIONING		
ALUM	ALUMINUM	MH	MAN HOLE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MFR	MANUFACTURER
		MAS	MASONRY
AB	ANCHOR BOLT	MO	MASONRY OPENING
ANOD	ANODIZED	MATL, MAT	MATERIAL
APPROX	APPROXIMATELY	MAX	MAXIMUM
AD	AREA DRAIN	MECH	MECHANICAL
ARCH	ARCHITECTURAL)	MTL	METAL
ASPH	ASPHALT	MTL BLDG MFR	METAL BUILDING MANUFACTURER
		MFD	METAL FLOOR DECKING
BP	BASE PLATE	MRD	METAL ROOF DECKING
BSMT	BASEMENT	MIN	MINIMUM
BM	BEAM	MISC	MISCELLANEOUS
BRG	BEARING	MB	MOISTURE BARRIER
BFF	BELOW FINISHED FLOOR	MLDG	MOLDING, MOULDING
BIT	BITUMINOUS	MTG, MNTG	MOUNTING
BLKG	BLOCKING		
BD	BOARD	N/A	NOT APPLICABLE
BOT	BOTTOM	NOM	NOMINAL
BRK	BRICK	NIC	NOT IN CONTRACT
BC	BRICK COURSES	NTS	NOT TO SCALE
BLDG	BUILDING	NO. #	NUMBER
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED	OC	ON CENTER
		OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CFOI	CONTRACTOR FURNISHED OWNER INSTALLED	OFOI	OWNER FURNISHED OWNER INSTALLED
CPT	CARPET		
CO	CASED OPENING	OPG	OPENING
CSMT	CASEMENT	OPP	OPPOSITE
CIP	CAST IN PLACE	OPH; OPPH	OPPOSITE HAND
CLG	CEILING	OSB	ORIENTED STRAND BOARD
CH	CEILING HEIGHT	OD	OUTSIDE DIAMETER
CL	CENTER LINE	OF	OUTSIDE FACE
CT	CERAMIC TILE	OA	OVERALL
CR	CHAIR RAIL	OH	OVERHANG
CLR	CLEAR(ANCE)		
CLS	CLOSET	PNL	PANEL
COL	COLUMN	PVMT	PAVEMENT
CONC	CONCRETE	PTD	PAINTED
CMU	CONCRETE MASONRY UNIT	PBD	PARTICLE BOARD
CONST	CONSTRUCTION	PLAST	PLASTER
CONT	CONTINUOUS	PLAM	PLASTIC LAMINATE
CJ	CONTROL JOINT	PL	PLATE
CORR	CORRIDOR	PLGL	PLATE GLASS
CTR	COUNTER	PWD	PLYWOOD
CRS	COURSE	PVC	POLYVINYL CHLORIDE
		PFE	PORTABLE FIRE EXTINGUISHER
DEM	DEMOLITION	LB	POUND
DEPT	DEPARTMENT	PSF	POUNDS/SQUARE FOOT
DIAG	DIAGONAL	PSI	POUNDS/SQUARE INCH
DIAM	DIAMETER	PC CONC	PRECAST CONCRETE
DIM	DIMENSION	PREFIN	PREFINISHED
DO	DITTO	PL	PROPERTY LINE
DIV	DIVISION	PROP	PROPOSED
DR	DOOR		
DH	DOUBLE HUNG	QT	QUARRY TILE
DS	DOWN SPOUT		
D.	DRAIN	RAD	RADIUS
DT	DRAIN TILE	R.	RISER
DWG	DRAWING	RC	RESILIENT CHANNEL
		REC	RECEPTACLE/ELECTRICAL
ELEC	ELECTRIC	REF	REFRIGERATOR
EWC	ELECTRIC WATER COOLER	REG	REGISTER
EP	ELECTRICAL PANEL BOARD	REINF	REINFORCED
ELEV	ELEVATOR	REM	REMOVE
EMER	EMERGENCY	REQD	REQUIRED
ENCL	ENCLOSE, ENCLOSURE	RES	RESILIENT
ENG	ENGINEER(ING)	RET	RETURN
ENT	ENTRANCE	RA	RETURN AIR
EQ	EQUAL	REV	REVISION
EQUIP	EQUIPMENT	RH	RIGHT HAND
EXH	EXHAUST	ROW	RIGHT OF WAY
EXIST	EXISTING	RD	ROOF DRAIN
EB	EXPANSION BOLT	RM	ROOM
EJ	EXPANSION JOINT	RO	ROUGH OPENING
EXT	EXTERIOR		
		SCH	SCHEDULE
FB	FACE BRICK	SEC	SECTION
FOB	FACE OF BRICK	SHTH	SHEATHING
FT	FEET, FOOT	SHT	SHEET
FN	FENCE	SIM	SIMILAR
FIN	FINISH	SOG	SLAB ON GRADE
FIN FL	FINISH FLOOR	SL DR	SLIDING DOOR
FEC	FIRE EXTINGUISHER CABINET	SC	SOLID CORE
FHC	FIRE HOSE CABINET	SOW	SOLID CORE WOOD
FPL	FIREPLACE	SYP	SOUTHERN YELLOW PINE
FLR	FLOOR(ING)	SPEC	SPECIFICATION
FD	FLOOR DRAIN	SPR	SPRINKLER
FLUOR	FLUORESCENT	SF	SQUARE FEET
FDN	FOUNDATION	SS	STAINLESS STEEL
FTG	FOOTING	STOR	STORAGE
FRA	FRESH AIR	STRUCT	STRUCTURAL
FBO	FURNISHED BY OTHERS	SUSP	SUSPENDED
		SYS	SYSTEM
GA	GAGE, GAUGE		
GALV	GALVANIZED	TELE	TELEPHONE
GC	GENERAL CONTRACTOR	TV	TELEVISION
GL	GLASS	THK	THICKNESS
GLB	GLASS BLOCK	TCP	THIN COAT PLASTER
GD	GRADE, GRADING	THRD	THRESHOLD
GWB	GYPSUM WALL BOARD	THRU	THROUGH
GYP BD	GYPSUM BOARD	TOL	TOILET
		T&G	TONGUE and GROOVE
HC	HANDICAP	TSL	TOP OF SLAB
HDWR	HARDWARE	TOS	TOP OF STEEL
HWD	HARDWOOD	TOW	TOP OF WALL
HDR	HEADER	T	TREAD
HTG	HEATING	TYP	TYPICAL
HVAC	HEATING/VENTING/AIR CONDITIONING		
HD	HEAVY DUTY	UNFIN	UNFINISHED
HGT	HEIGHT	UNO	UNLESS NOTED OTHERWISE
HC	HOLLOW CORE		
HM	HOLLOW METAL	VB	VAPOR BARRIER
HORIZ	HORIZONTAL	VENT THRU ROOF	VENT THRU ROOF
HB	HOSE BIBB	VERT	VERTICAL
HW	HOT WATER HEATER	VCB	VINYL COVE BASE
		VBS	VINYL BASE STRAIGHT
ID	INSIDE DIAMETER	VCT	VINYL COMPOSITION TILE
INCL	INCLUDE(D)(ING)	VWC	VINYL WALL COVERING
INSUL	INSULATE		
INT	INTERIOR	W/CT	WAINSCOT
		WH, WLH	WALL HUNG
JAN	JANITOR'S CLOSET	WH	WALL HYDRANT
		W/C	WATER CLOSET
KIT	KITCHEN	WP	WATER PROOF
KD	KNOCK DOWN	WWF	WELDED WIRE FABRIC
KO	KNOCKOUT	W.	WIDTH, WIDE
		WIN	WINDOW
LBL	LABEL	WG	WIRE GLASS
LAM	LAMINATE(D)	W/	WITH
LAV	LAVATORY	W/O	WITHOUT
LH	LEFT HAND	WD	WOOD
LG	LENGTH, LONG	WB	WOOD BASE

SYMBOLS & MATERIALS

GRAPHIC STANDARDS

100A — DOOR NUMBER TAG
Room name / 101 / 150 SF — ROOM NUMBER TAG
S — WINDOW NUMBER TAG
1 / A101 SIM — LETTER/NUMBER COMBINATION INDICATES ELEVATION OR DETAIL; SHEET NUMBER WHERE ELEVATION, SECTION OR DETAIL IS DRAWN
DRAWING DESIGNATION — 1 / A101 SIM; SHEET DESIGNATION
BUILDING SECTION
REVISION CLOUD AND TAG
SF101A — STOREFRONT ELEVATION
X'-X" — SPOT ELEVATION
01 / A — COLUMN LINE: USE NUMBERS HORIZONTALLY, LEFT TO RIGHT; USE LETTERS VERTICALLY, TOP TO BOTTOM
1/A1.01, 1/A1.02 — MATCHLINE AND REFERENCES
PROPERTY LINES
S6-4.21 — WALL TAG
(1)U419 — FIRE RATING TAG
X — NOTE TAG
#:12 — SLOPE
DETAIL 1 / A101 SIM
WALL SECTION 1 / A101 SIM
EXTERIOR ELEVATION 1 / A101 SIM
INTERIOR ELEVATION 1 / A101 SIM
Name / Elevation — FLOOR/STRUCT LEVEL

LIFE SAFETY LEGEND

0 OCC — ACTUAL NUMBER OF OCCUPANTS USING EGRESS COMPONENT
OCC — EGRESS ELEMENT CAPACITY
FE — FIRE EXTINGUISHER SEMI-RECESSED CABINET
ILLUMINATED EXIT LIGHT (WITH BATTERY BACKUP OR TIED TO EMERGENCY CIRCUIT, SEE ELEC DRAWINGS)
ILLUMINATED EXIT LIGHT WITH DIRECTIONAL ARROW (WITH BATTERY BACKUP OR TIED TO EMERGENCY CIRCUIT, SEE ELEC DRAWINGS)
EMERGENCY EGRESS LIGHT WITH BACKUP BATTERY
1-HOUR RATED WALL
2-HOUR RATED WALL
3-HOUR RATED WALL
SMOKE PARTITION
PATH OF EGRESS

PHASE LEGEND

EXISTING WALLS AND DOORS TO REMAIN
WALLS SHOWN WITHOUT PATTERNS, DOORS AT 45° ANGLE

NEW WALLS AND DOORS
WALLS SHOWN WITH PATTERNS, DOORS AT 90° ANGLE

EXISTING WALLS AND DOORS TO BE REMOVED
ALL ELEMENTS OR PORTIONS OF ELEMENTS SHOWN DASHED

MATERIAL LEGEND

ALUMINUM
BRICK (ELEVATION)
BRICK (PLAN & SECTION)
CONCRETE
CONCRETE MASONRY UNIT
EARTH OR COMPACTED FILL
INSULATION BATTS
SPRAY INSULATION
RIGID INSULATION
PLYWOOD (DETAILS)
POROUS FILL
GRAVEL BASE
STEEL
WOOD MILLWORK
WOOD FRAMING OR BLOCKING
WOOD SHIMS

PARTITION / WALL LEGEND

EXISTING PARTITION / WALL
WOOD FRAMED PARTITION / WALL
WOOD FRAMED PARTITION / WALL STC CLASSIFIED
METAL FRAMED PARTITION / WALL
METAL FRAMED PARTITION / WALL STC CLASSIFIED
METAL FRAMED PARTITION / WALL FIRE RATED ASSEMBLY
CONCRETE MASONRY UNIT PARTITION / WALL
BRICK VENEER
CONCRETE PARTITION / WALL

WALL TAGS AND CODES LEGEND

ABBREVIATED WALL TAG — 6-4: APPROXIMATE THICKNESS; WALL TYPE CODE
STANDARD WALL TAG — S6-4.21: APPROXIMATE THICKNESS AND FINISH CODES; STRUCTURAL MATERIAL AND WALL TYPE CODE
WALL TAG WITH UL DATA — S6-4.21 (1)UI419: FIRE RATING AND UL ASSEMBLY CODE; APPROXIMATE THICKNESS AND FINISH CODES; STRUCTURAL MATERIAL AND WALL TYPE CODE

FLOOR FINISH LEGEND

CERAMIC TILE (CT)
VINYL COMPOSITE TILE (VCT)
WOOD (WD)
CARPET (CPT)
CONCRETE (CONC)

CEILING LEGEND

TYPICAL CEILING GRID SYSTEM, REFER TO SCHEDULE FOR DIMENSIONS AND TYPE
GYPSUM WALL BOARD
EXPOSED (OPEN) DECK, REFER TO STRUCTURAL DRAWINGS
RECESSED CAN LIGHT FIXTURE, REFER TO ELEC DRAWINGS
TYPICAL 2'X2' RECESSED LIGHT FIXTURE, REFER TO ELEC DRAWINGS
TYPICAL 2'X4' RECESSED LIGHT FIXTURE, REFER TO ELEC DRAWINGS
SOUND BATT INSULATION PLACED ABOVE CEILING MATERIAL

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PRT SHOP BUILDING

RENOVATION

5305 HOLLINS ROAD
ROANOKE, VIRGINIA

BALZER PROJECT NO. 03220077.00

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COMMONWEALTH OF VIRGINIA
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ROANOKE COUNTY VA
PARKS, RECREATION & TOURISM

CODE SUMMARY - ALTERATIONS LEVEL 2

Project Description
This proposed project is a **Level 2 Alteration** to an existing previously occupied building with a current or past Certificate of Occupancy issued by the Authority Having Jurisdiction (AHJ). This Level Alteration includes the **elimination or addition of a door**, **extension of a building system**, **the installation of new equipment**.

A change of occupancy is **not** proposed. An addition to the existing structure is **not** proposed. The existing building is **not** in a Flood Hazard Area, and is **not** Historic.

This proposed project consists of the renovation of an existing **one** (**1**) story commercial building **and site re-development**. The building is **concrete slab-on-grade**, **with wood framed offices and pre-engineered steel warehouse**, **with metal panel siding**, **with shop-built window units** construction. The roof consists of **steel framing** and **metal panels**. The building consists of **warehouse storage, and offices**.

Code Edition
2021 Virginia Existing Building Code (VEBC) (2021 IEBC w/ Virginia Amendments)
2021 Virginia Construction Code (VCC) (2021 IBC w/ Virginia Amendments)

Project Summary
Apply N/A
(**X**) (-) Accessibility: Comply with VEBC Chapter 4.
(**X**) (-) Repairs: Comply with VEBC Chapter 5.
(**X**) (-) Alterations: Comply with VEBC Chapter 6.
(-) (**X**) Change of Occupancy: Comply with VEBC Chapters 7 or 14.
(-) (**X**) Additions: Comply with VEBC Chapter 8.
(-) (**X**) Historic Buildings: Comply with VEBC Chapter 9.
(-) (**X**) Moved Buildings: Comply with VEBC Chapter 10.
(-) (**X**) Retrofit Requirements: Comply with VEBC Chapter 11.
(**X**) (-) Construction Safeguards: Comply with VEBC Chapter 12.

Existing Use and Occupancy Classification Group(s):	**(B) Business & (S-1) Moderate-Hazard Storage, Non-Separated Mixed Use (F-2) Low-Hazard Factory Industrial for Metal Fabrication (Accessory Use <10%)**
Existing Construction Type:	**presumed to be type 2B (noncombustible, nonprotected)**
Existing Building Height in Feet Above Grade Plane:	**approximately 24 feet (unchanged)**
Existing Number of Stories Above Grade Plane:	**1 stories (unchanged)**
Existing Floor Area in Square Feet:	**approximately 23,223 square feet (unchanged) (footprint)**
Existing Sprinkler System:	**No**
Allowable Building Height in Feet Above Grade Plane (VCC Table 504.3):	55 feet
Allowable Number of Stories Above Grade Plane (VCC Table 504.4):	2 stories (S-1 governs)
Allowable Area Factor in Square Feet (VCC Table 506.2):	17,500 square feet (S-1 governs)
Allowable Frontage Increase Factor (VCC Table 506.3.3):	0.75 (80% open perimeter of 30 feet or greater, see life safety plan for calculations)
Allowable Area Factor with Frontage Increase:	30,625 square feet

General Special Provisions and Special Detailed Requirements (VEBC Chapter 3):
1. Except as otherwise required by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for repairs and alterations, provided no hazard to life, health or property is created per Section 302.1.

Accessibility (VEBC Chapter 4):
1. Where proposed Alterations affect the area(s) of the primary function, the route to the primary function is made accessible and includes toilet facilities and drinking fountains.
2. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area(s) of primary function per Section 404.3 exception 1. Those proposed improvements are:
   a. Parking improvements (including signage).
   b. Exterior sidewalk improvements.
   c. Improvements to door hardware.
   d. Improvements to public restrooms.

Alterations (VEBC Chapter 6):
1. Section 601.1 General: Proposed alterations to the building or structure shall comply with the requirements of the Virginia Construction Code (VCC) for new construction. Alterations shall be such that the existing building or structure is no less conforming to the provisions of the VCC than the existing building or structure was prior to the alteration. Portions of the building or structure not being altered shall not be required to comply with the requirements of the VCC.
2. Section 601.2.1 Level 1: Level 1 alterations include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose, or the removal without replacement of materials, elements, equipment, or fixtures. Level 1 alterations shall comply with the applicable provisions of Section 602.
3. Section 601.2.2 Level 2: Level 2 alterations shall comply with the applicable provisions of Sections 602 and 603 and shall include the following:
   A. The addition or elimination of any door or window.
   B. The addition or elimination of any wall, floor, or ceiling assembly.
   C. The reconfiguration or extension of any system.
   D. The installation of any additional equipment, materials, elements, or fixtures
4. Section 601.4 Energy conservation: The proposed alterations to the existing building, building system, or structure shall conform to the applicable provisions of the Virginia Energy Conservation Code (VECC) or Virginia Residential Code (VRC) as they relate to new construction without requiring the unaltered portions of the existing building, building system, or structure to comply with the VECC or VRC.
5. Section 602.2 Conformance: The proposed Alterations shall be done in a manner that maintains the following:
   A. Levels of fire protection for existing building elements shall be maintained.
   B. Level of protection for existing means of egress shall be maintained.
6. Section 602.3 Building elements and materials: All new work and new finishes shall comply with relevant sections of the VCC.
7. Section 603.3 Compliance: All new construction elements, components, systems, and spaces shall comply with the requirements of the VCC. With the following exceptions:
   A. Windows may be added without requiring compliance with the light and ventilation requirements of the VCC.
   B. The minimum ceiling height of the newly created habitable and occupiable spaces and corridors shall be 7 feet.

Fire Protection Systems (VCC Chapter 9)
1. An NFPA Automatic Fire Sprinkler System **is not required to** be provided throughout building per Sections 903.2.1 thru 903.2.11. The existing building is not equipped with a supression system, and the relative level of hazard remains the same (S-1 use).
2. A Class I standpipe **is is not required** to be provided per Section 905.3.
3. Fire extinguishers shall be provided per Section 906 and per Virginia Fire Prevention Code (VFPC) Section 906. **See the Life Safety Plan(s) for the proposed locations.**
4. A Fire Alarm and Detection System **is not required to** be provided throughout the building per Section 907.2 (B use group with less than 500 occupants and no requirement for S-1 uses).

Means of Egress (VCC Chapter 10):
1. Per Section 1004.9, every assembly occupancy room with greater than 50 occupants is proposed to have posted signs stating the total occupancy load for the space.
2. Maximum common path of travel per Table 1006.2.1 shall not be more than **172** feet. **See the Life Safety Plan(s) for proposed configuration and distances.**
3. Minimum number of Building Exits and Exit Access Doorways per story per Table 1006.3.3: **2** required, **4** provided.
4. Provide means of egress illumination per Section 1008.
5. Provide accessibility compliant signage to all publicly accessed areas within the building. This includes but is not limited to restrooms, lobby areas, and mechanical rooms per Sections 1009.9, 1009.10, and 1009.11.
6. Minimum door width clearance shall not be less than **32** inches per Section 1010.1.1. **34 inches** provided at the most restrictive point**.**
7. Doors are **not required to swing the direction of egress** for where serving an area with 49 or fewer occupants per Section 1010.1.2.1.
8. All locks, latches and operations shall comply with Section 1010.1.3. All doors shall be equipped with lever handles or panic devices as required.
9. Exit signs shall be provided per Section 1013. **See the Life Safety Plan(s) for proposed configuration.**
10. Maximum exit access travel distance per Table 1017.2 shall not be more than 200 feet, **172 feet** provided. **See the Life Safety Plan(s) for proposed configuration and distances.**
11. Exit access corridor fire-resistance rating per Table 1020.2 **is not required** with sprinkler systems or for less than 30 occupants.
12. Minimum corridor width shall not be less than 44 inches per Table 1020.3. **Approximately 60 inches** provided at the most restrictive point.

Minimum Number of Required Plumbing Fixtures (Virginia Plumbing Code Table 403.1)
See the Life Safety Plan(s) for Occupancy tabulation and fixture counts.
64 Occupants Total (**32** Males, **32** Females)

Business Areas		
Water Closets Male:	**12.5** Occupants @ 1 per **25** =	**0.50** required
Water Closets Female:	**12.5** Occupants @ 1 per **25** =	**0.50** required
Warehouse Areas		
Water Closets Male:	**19.5** Occupants @ 1 per **100** =	**0.19** required
Water Closets Female:	**19.5** Occupants @ 1 per **100** =	**0.19** required
		1.38 total required, **2** provided
Business Areas		
Lavatories Male:	**12.5** Occupants @ 1 per **40** =	**0.31** required
Lavatories Female:	**12.5** Occupants @ 1 per **40** =	**0.31** required
Warehouse Areas		
Lavatories Male:	**19.5** Occupants @ 1 per **100** =	**0.19** required
Lavatories Female:	**19.5** Occupants @ 1 per **100** =	**0.19** required
		1.00 total required, **2** provided
Business Areas		
Drinking Fountains:	**25** Occupants @ 1 per **100** =	**0.25** total required
Warehouse Areas		
Drinking Fountains:	**39** Occupants @ 1 per **1,000** =	**0.04** total required
		0.29 total required, **1** provided
Other (Service Sinks):		**1** total required, **1** provided

DRAWING INDEX

REVISIONS 7	6	5	4	3	2	1	SHEET NO.	SHEET TITLE
							T1.01	COVER SHEET
							T2.01	2017 ACCESSIBILITY REFERENCE DETAILS
							D1.01	DEMOLITION PLAN & NOTES
							A0.01	LIFE SAFETY PLANS
							A1.01	RENOVATION FLOOR PLAN
							A1.21	REFLECTED CEILING PLAN
							A1.31	ROOF PLAN
							A1.41	DETAILS, NOTES & SCHEDULES
							A1.51	ENLARGED PLANS, INTERIOR ELEVATIONS & DETAILS
							A2.01	EXTERIOR ELEVAITONS
							A6.01	SHED
							M1.01	MECHANICAL LEGEND, SCHEDULES, AND NOTES
							M2.01	MECHANICAL DEMOLITION PLAN
							M3.01	MECHANICAL NEW WORK PLAN
							M4.01	MECHANICAL CONTROLS
							M4.02	MECHANICAL CONTROLS
							E1.1	LEGEND, GENERAL NOTES, & LIGHTING FIXTURE SCHEDULE
							E2.1	LIGHTING PLAN
							E3.1	POWER & DATA PLAN
							E4.1	MECHANICAL AND EQUIPMENT PLAN
							E5.1	POLE BARN LIGHTING PHOTOMETRICS
							ED1.1	DEMOLITION PLAN
							P1.01	PLUMBING LEGEND, SCHEDULES, DETAILS, AND NOTES
							P2.01	PLUMBING DEMOLITION PLAN
							P3.01	PLUMBING NEW WORK PLAN - WASTE AND VENT
							P4.01	PLUMBING NEW WORK PLAN - WATER AND GAS
							P4.02	PLUMBING NEW WORK PLAN - SHED

PROJECT MANUAL

This series of drawings is accompanied by a project manual. The project manual includes three-part specifications detailing the standards, products, materials, and installation procedures associated with the project. Adherence to these documents is crucial for the successful execution of the project. The project manual is an integral part of the project documentation and is designed to provide detailed guidance and instructions. This series of drawings, in isolation, do not constitute a full guide for the project execution. They are part of a comprehensive project documentation that includes a crucial project manual. Without this manual, the drawings should not be considered as a standalone or complete guide for the project execution.

ALTERNATES

1. SILICONE ROOF PAINT SHALL BE INSTALLED ON THE EXISTING METAL PANELS ROOFS.

PRT SHOP BUILDING
RENOVATION
COVER SHEET
5305 HOLLINS ROAD
ROANOKE, VIRGINIA

DRAWN BY	**JR3**
DESIGNED BY	**JR3**
CHECKED BY	**JR3, RWP**
DATE	**2025-07-16**
SCALE	**As indicated**
REVISIONS	

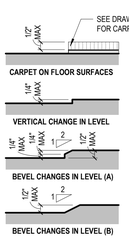
ATTACHMENT F

T1.01
PROJECT NO 03220077.00

Reference the edition of the **Virginia Construction Code (VCC)** and **International Code Council (ICC) A117.1** edition cited in the **Code Summary** for section numbers and as the base for notes and diagrams.

Accessibility Diagrams Disclaimer

This set of **2017 ICC A117.1** standards has been indicated here for general reference purposes only. In no way does this sheet represent all applicable components of the **"Accessible and Usable Buildings and Facilities"** National Standard. For clarifications, accompanying texts, descriptions, or interpretations, refer to the national standard code. The excerpts from the national standard code indicated here have been included for their relevance to this project and are not to be construed as a complete and exhaustive list. For any dimensional discrepancies, please consult the Architect.

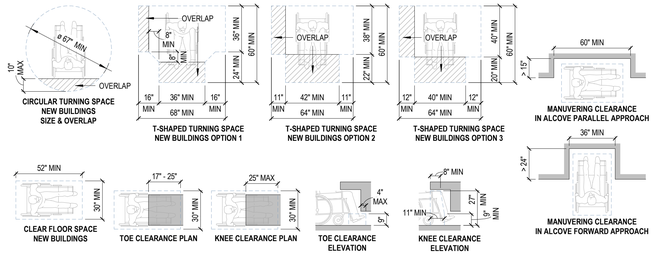


THE FLOOR(S) OR LANDING(S) SHALL BE NO MORE THAN 1/2 INCH LOWER THAN THE THRESHOLD OF THE DOORWAY CHANGE IN LEVEL BETWEEN 1/4 INCH AND 1/2 INCH SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2.

FLOOR SURFACES SHALL BE CONSTRUCTED OF SLIP-RESISTANT MATERIALS TO MEET LOCAL CODE.

FLOOR SURFACES & CHANGES IN LEVEL

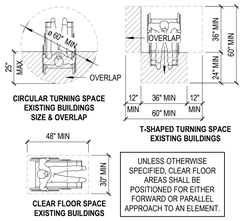
SEE 2017 ICC A117.1 SECTION 302 & 303 FOR ADDITIONAL REQUIREMENTS



UNLESS OTHERWISE SPECIFIED, CLEAR FLOOR AREAS SHALL BE POSITIONED FOR EITHER FORWARD OR PARALLEL APPROACH TO AN ELEMENT.

TURNING SPACE & FLOOR SPACE, KNEE & TOE CLEARANCE

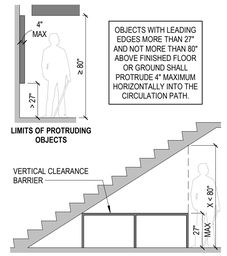
SEE 2017 ICC A117.1 SECTION 304, 305, 306 & 307 FOR ADDITIONAL REQUIREMENTS



UNLESS OTHERWISE SPECIFIED, CLEAR FLOOR AREAS SHALL BE POSITIONED FOR EITHER FORWARD OR PARALLEL APPROACH TO AN ELEMENT.

EXISTING TURNING & CLEAR FLOOR SPACE, KNEE & TOE CLEARANCE

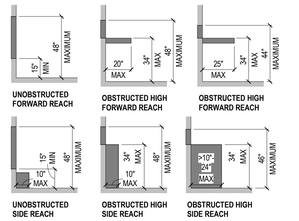
SEE 2017 ICC A117.1 SECTION 304, 305, 306 & 307 FOR ADDITIONAL REQUIREMENTS



OBJECTS WITH LEADING EDGES MORE THAN 27" AND NOT MORE THAN 80" ABOVE FINISHED FLOOR OR GROUND SHALL PROTRUDE 4" MAXIMUM HORIZONTALLY INTO THE CIRCULATION PATH.

REDUCED CLEARANCE

SEE 2017 ICC A117.1 SECTION 307 FOR ADDITIONAL REQUIREMENTS

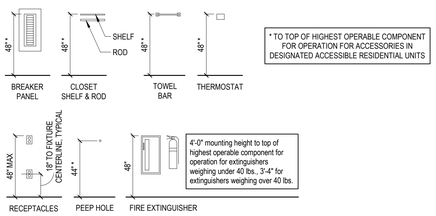


OPERABLE PARTS SHALL BE PLACED WITHIN ONE OR MORE OF THE REACH RANGES AND BE PROVIDED WITH A CLEAR FLOOR SPACE COMPLYING WITH SECITON 305.

NOTE: PER 2021 VIRGINIA CONSTRUCTION CODE SECTION 1110.15 EXCEPTION 1, OPERABLE PARTS THAT ARE INTENDED FOR USE ONLY BY SERVICE OR MAINTENANCE PERSONNEL SHALL NOT BE REQUIRED TO BE ACCESSIBLE.

REACH RANGES

SEE 2017 ICC A117.1 SECTION 308 FOR ADDITIONAL REQUIREMENTS



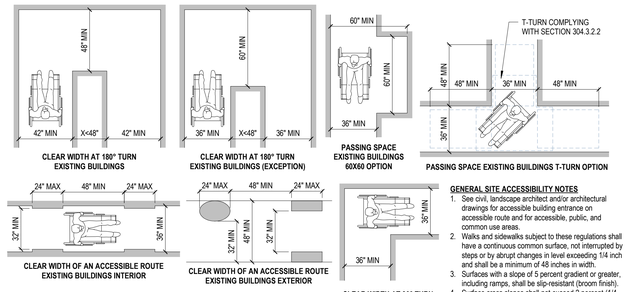
* TO TOP OF HIGHEST OPERABLE COMPONENT FOR OPERATION FOR ACCESSORIES IN DESIGNATED ACCESSIBLE RESIDENTIAL UNITS

4'-0" mounting height to top of highest operable component for operation for extinguishers weighing under 40 lbs., 3'-4" for extinguishers weighing over 40 lbs.

1. The top of fire alarm initiating devices (boxes) shall be located no higher than 48 inches above the level of the floor working platform, ground surface or sidewalk.
2. Tops of light switches, environmental controls, locks, and electrical outlets shall be mounted no higher than 48 inches above finished floor. Bottoms of electrical outlets shall be mounted no lower than 15 inches above finished floor.
3. All controls in accessible spaces must meet clear floor requirements.

ADDITIONAL STANDARDS

SEE 2017 ICC A117.1 SECTION 308 FOR ADDITIONAL REACH RANGE REQUIREMENTS

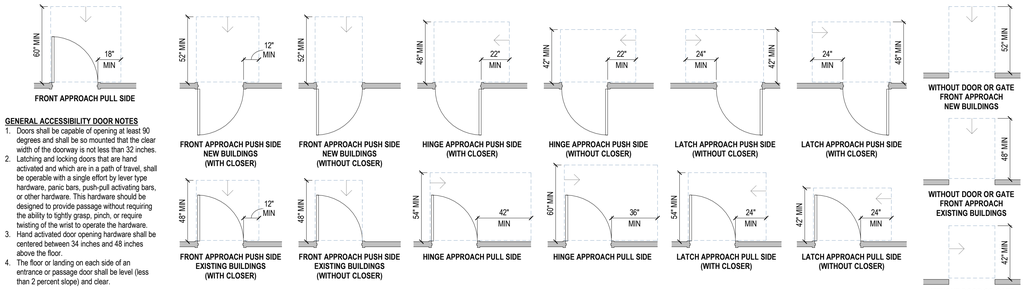


GENERAL SITE ACCESSIBILITY NOTES

1. See civil, landscape architect and/or architectural drawings for accessible building entrance on accessible route and for accessible, public, and common use areas.
2. Walks and sidewalks subject to these regulations shall have a continuous common surface, not interrupted by steps or by abrupt changes in level exceeding 1/4 inch and shall be a minimum of 48 inches in width.
3. Surfaces with a slope of 5 percent gradient or greater, including ramps, shall be slip-resistant (broom finish).
4. Surface cross slopes shall not exceed 2 percent (1/4 inch per foot).

ACCESSIBLE ROUTES

SEE 2017 ICC A117.1 SECTION 403 FOR ADDITIONAL REQUIREMENTS



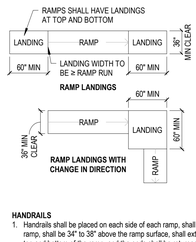
GENERAL ACCESSIBILITY DOOR NOTES

1. Doors shall be capable of opening at least 90 degrees and shall be so mounted that the clear width of the doorway is not less than 32 inches.
2. Latching and locking doors that are hand activated and which are in a path of travel, shall be operable with a single effort by lever type hardware, panic bars, push-pull activating bars, or other hardware. This hardware should be designed to provide passage without requiring the ability to tightly grasp, pinch, or require twisting of the wrist to operate the hardware.
3. Hand activated door opening hardware shall be centered between 34 inches and 48 inches above the floor.
4. The floor or landing on each side of an entrance or passage door shall be level (less than 2 percent slope) and clear.

DESIGNATES APPROACH

DOORS, DOORWAYS & GATES

SEE 2017 ICC A117.1 SECTION 404 FOR ADDITIONAL REQUIREMENTS



RAMPS

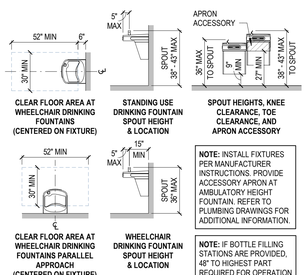
1. The maximum slope of a ramp that serves as exit way, provides access or is in the path of travel shall be 8 percent maximum (1 foot rise in 12 feet of horizontal run).
2. Access ramp runs with a rise greater than 6 inches but not to exceed the 1:12 (8 percent) slope are required to have handrails.
3. In existing buildings, ramps shall be permitted to have slopes steeper than 1:12. Slopes may be steeper than 1:10 but not steeper than 1:8 with a maximum rise of 3". Slopes may be steeper than 1:12 but not steeper than 1:10 with a maximum rise of 6".

HANDRAILS

1. Handrails shall be placed on each side of each ramp, shall be continuous the full length of the ramp, shall be 34" to 38" above the ramp surface, shall extend a minimum of 12" beyond the top and bottom of the ramp, and the ends shall be returned to a wall, guard, or floor.
2. Handrails projecting from a wall shall have a space of not less than 1-1/2" between the wall and the handrail.
3. All stairs shall have handrails. Handrails shall be 34" to 38" maximum above nosing, shall extend 12" horizontally beyond top riser and one tread beyond the bottom riser.
4. Handrail ends shall be returned to wall, guard, or the landing surface.

RAMPS & HANDRAILS

SEE 2017 ICC ANSI A117.1 SECTION 405 AND 505 FOR ADDITIONAL REQUIREMENTS

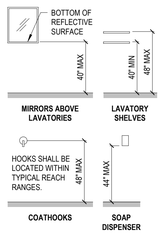


NOTE: INSTALL FIXTURES PER MANUFACTURER INSTRUCTIONS. PROVIDE ACCESSORY APRON AT AMBULATORY HEIGHT FOUNTAIN. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.

NOTE: IF BOTTLE FILLING STATIONS ARE PROVIDED, 48" TO HIGHEST PART REQUIRED FOR OPERATION

FOUNTAIN ACCESSIBILITY

SEE 2017 ICC ANSI A117.1 SECTION 602 FOR ADDITIONAL REQUIREMENTS

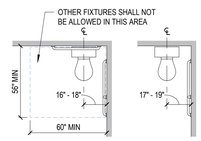


NOTE: OPERABLE PARTS OF BATHING ROOMS ACCESSORIES SHALL BE PLACED WITHIN ONE OR MORE OF THE TYPICAL VERTICAL REACH RANGES, WETHER THEY BE CLEAR OR OBSTRUCTED. BATHING ROOM ACCESSORIES INCLUDE SHELVING, COAT HOOKS, SOAP DISHES, SOAP DISHES, AUTOMATIC HAND DRYERS, MANUAL TOWEL DISPENSERS, WASTE RECEPTACLES, SANITARY NAPKIN DISPENSERS, BABY CHANGING TABLES, TOILET SEAT COVER DISPENSERS, AND SIMILAR ACCESSORIES.

NOTE: PER 2021 VIRGINIA CONSTRUCTION CODE SECTION 1110.15 EXCEPTION 1, OPERABLE PARTS THAT ARE INTENDED FOR USE ONLY BY SERVICE OR MAINTENANCE PERSONNEL SHALL NOT BE REQUIRED TO BE ACCESSIBLE.

BATHING ROOMS ACCESSORIES

SEE 2017 ICC ANSI A117.1 SECTION 603 FOR ADDITIONAL REQUIREMENTS



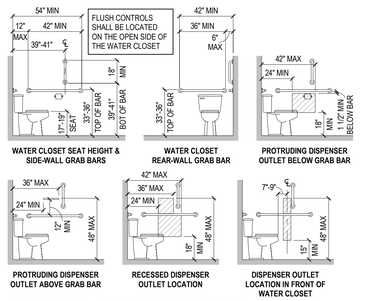
NOTE: TURNING SPACE SHALL BE PROVIDED WITHIN THE ROOM. DOORS SHALL NOT SWING INTO THE SPACE OR CLEARANCE FOR ANY FIXTURE, UNLESS THERE IS A RECTANGULAR FLOOR SPACE BEYOND THE ARC OF THE DOOR SWING.

NOTE: WATER CLOSET CLEAR FLOOR AREA PERMITTED TO OVERLAP OTHER ACCESSIBILITY CLEARANCES, BUT IS NOT PERMITTED TO OVERLAP OTHER FIXTURES OR DOOR SWING.

NOTE: FLUSH CONTROLS FOR TOILETS (AND URINALS WHEN APPLICABLE) SHALL BE MOUNTED ON THE WIDE/ACCESS SIDE OF THE TOILET, NO HIGHER THAN 44 INCHES ABOVE FINISHED FLOOR.

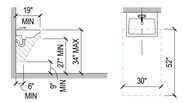
WATER CLOSETS

SEE 2017 ICC ANSI A117.1 SECTION 603 FOR ADDITIONAL REQUIREMENTS



WATER CLOSET GRAB BARS

SEE 2017 ICC ANSI A117.1 SECTION 604 FOR ADDITIONAL REQUIREMENTS



Note: Lavatory and sink clear floor area permitted to overlap other accessibility clearances, lavatory fixture and wall-mounted accessories but is not permitted to overlap other fixtures or door swing

PLUMBING

1. Water supply and drainpipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.
2. The dip of the lavatory overflow shall not be considered in determining knee and toe clearances.
3. Rough-in plumbing shall be located, insulated, or guarded to provide clear open knee space.
4. Provide at least one accessible lavatory.
5. Faucet controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.
6. The force required to activate controls shall be no greater than 5 lbs. Lever operated push type and electronically controlled mechanisms are examples of acceptable designs. Self-closing valves are allowed if the faucet remains open for at least 10 seconds.

LAVATORIES & SINKS

SEE 2017 ICC ANSI A117.1 SECTION 606 FOR ADDITIONAL REQUIREMENTS

Door Signage

1. Where a sign containing raised characters and braille is provided at a door, the sign shall be alongside the door at the latch side.
2. Where a sign containing raised characters and braille is provided at double doors with one active leaf, the sign shall be located on the inactive leaf.
3. Where a sign containing raised characters and braille is provided at double doors with two active leaves, the sign shall be to the right of the right-hand door.
4. Where there is no wall space on the latch side of a single door, or to the right side of double doors, signs shall be on the nearest adjacent wall.
5. Signs containing raised characters and braille shall be located so that a clear floor area 18 inches minimum by 18 inches minimum, centered on the raised characters is provided beyond the arc of any door swing between the closed position and 45-degree open position.
6. Provide stair level identification signs at each floor level landing in all enclosed stairways adjacent to the door leading from the stairwell into the corridor to identify the floor level. The exit discharge door shall have a sign with raised characters and braille stating "EXIT".

SIGNS

SEE 2017 ICC A117.1 SECTION 703 FOR ADDITIONAL REQUIREMENTS

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COMMONWEALTH OF VIRGINIA
JAMES R. RUHLAND III
Lic. No. 0401014487
2025-07-16
ARCHITECT

ROANOKE COUNTY VA
PARKS, RECREATION & TOURISM

PRT SHOP BUILDING
RENOVATION
2017 ACCESSIBILITY REFERENCE DETAILS

5305 HOLLINS ROAD
ROANOKE, VIRGINIA

DRAWN BY	JR3
DESIGNED BY	JR3
CHECKED BY	JR3, RWP
DATE	2025-07-16
SCALE	As indicated
REVISIONS	

T2.01

PROJECT NO 03220077.00

7/16/2025 8:02:24 AM

1 / D1.01 **DEMOLITION FLOOR PLAN**
1/8" = 1'-0"

DEMOLITION KEYNOTES

KEY	NOTE
D01	REMOVE EXISTING NON-LOADBEARING NON-RATED PARTITION
D02	REMOVE DOOR
D05	REMOVE EXISTING STAIRS / RAILING
D05.1	REMOVE EXISTING RAILING
D05.5	REMOVE EXISTING WOOD FRAMING AND DECKING
D06	REMOVE EXISTING EXTERIOR AC UNIT
D07	REMOVE EXISTING OVERHEAD DOOR
D09	REMOVE EXISTING TOILET. CAP AND RELOCATE OR ABANDON LINES PER NEW PLUMBING PLANS.
D10	REMOVE EXISTING SINK. CAP AND RELOCATE OR ABANDON LINES PER NEW PLUMBING PLANS.
D12	REMOVE EXISTING STEEL COLUMN
D14	REMOVE PORTION OF WALL FOR NEW OVERHEAD DOOR. MODIFY EXISTING STRUCTURE AS REQUIRED FOR NEW OPENING. SEE STRUCTURAL PLANS.
D14.1	REMOVE PORTION OF WALL FOR NEW PERSONNEL DOOR. MODIFY EXISTING STRUCTURE AS REQUIRED FOR NEW OPENING. SEE STRUCTURAL PLANS.
D20	REMOVE EXISTING MEZZANINE AND ASSOCIATED FRAMING.
D30	REMOVE EXISTING BASEBOARD RADIANT HOT WATER HEATERS, TYPICAL
D40	REMOVE EXISTING CEILING TILES, GRID, BATT INSULATION, LIGHT FIXTURES AND HVAC DIFFUSERS, ABOVE, TYPICAL
D50	REMOVE EXISTING WATER HEATER. CAP PLUMBING AT CURRENT LOCATION FOR FUTURE RELOCATION TO MEZZANINE.
D60	REMOVE EXISTING HVAC UNITS ON MEZZANINE OVER EXISTING OFFICE AREA. REMOVE ALL ABOVE CEILING DUCT, CEILING DIFFUSERS, ETC.
D70	REMOVE EXISTING CARPET. DO NOT REMOVE FLOORING BELOW THE CARPET IF ANY EXISTS.
D71	REMOVE EXISTING VCT. DO NOT REMOVE FLOORING BELOW THE VCT IF ANY EXISTS.

GENERAL DEMOLITION NOTES

1. DRAWINGS OF EXISTING CONDITIONS HAVE BEEN COMPILED FROM EXISTING DATA SUPPLIED BY THE OWNER AND BASED ON FIELD INVESTIGATIONS. THE ARCHITECT MAKES NO WARRANTY EITHER EXPRESSED OR IMPLIED, FOR THE ACCURACY OR COMPLETENESS OF THE EXISTING INFORMATION RECORDED. VERIFY ALL EXISTING CONDITIONS. NOTIFY ARCHITECT OF ANY DISCREPANCIES FOR CLARIFICATION PRIOR TO PROCEEDING WITH WORK.
2. MOST DEMO ITEMS HAVE BEEN NOTED ON PLAN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DEMOLISH ANY ITEMS NOT NECESSARILY NOTED BUT INTENDED TO BE REMOVED AND PREPARE EXISTING ITEMS TO REMAIN FOR NEW WORK. PROVIDE ALL NECESSARY BARRICADES AND OTHER FORMS OF PROTECTION AS REQUIRED TO PROTECT THE GENERAL PUBLIC FROM INJURY DUE TO DEMO WORK.
3. WHERE ITEMS ARE TO BE REMOVED THE CONTRACTOR SHALL BE CAUTIONED NOT TO DAMAGE ITEMS THAT ARE TO BE RETAINED BY THE OWNER OR RELOCATED. ALL EXPOSED OR DAMAGED AREAS, AFTER REMOVAL OF ITEMS, SHALL BE REPAIRED.
4. DEMOLITION WORK WILL BE GOVERNED BY THE EXTENT OF THE NEW CONSTRUCTION INVOLVED. CONTRACTOR WILL VERIFY AND COORDINATE DEMOLITION WORK WITH RESPECT TO THE NEW CONSTRUCTION. CONTRACTOR TO VERIFY EXISTING CONDITIONS BEFORE START OF WORK.
5. REMOVAL OF EXISTING EQUIPMENT, PIPING, DUCTS, AND SIMILAR UTILITIES SHALL INCLUDE ALL ANCHORS, HANGERS, AND OTHER ACCESSORIES. AFTER REMOVAL, FLOORS, WALLS, AND CEILINGS SHALL BE FINISHED TO MATCH ADJOINING SURFACES OR SHALL BE PREPARED TO RECEIVE NEW FINISHES AS INDICATED IN THE NEW FINISH SCHEDULE. MAINTAIN EXISTING FINISHES AS NOTED ON THE NEW FINISH SCHEDULE.
6. MATCH THICKNESS OF EXISTING WALL AND CEILING FINISH MATERIAL WHERE PATCHING AND REPAIRING IS REQUIRED.
7. COORDINATE DEMOLITION PLANS WITH PLANS FOR NEW CONSTRUCTION FOR EXTENT OF REMOVAL. REMOVE ONLY THOSE PORTIONS OF WALLS AND FLOORS NECESSARY TO ACCOMMODATE THE NEW CONSTRUCTION. TAKE REASONABLE CARE IN REMOVAL OF ITEMS TO BE RELOCATED AND REUSED.
8. THE CONTRACTOR SHALL CHECK ALL EXISTING CORRIDOR WALLS IN THOSE AREAS OF RENOVATION FOR OPENINGS. ANY OPENINGS SHALL BE CLOSED TIGHT AS REQUIRED. TO MATCH EXISTING CONSTRUCTION AND TO MAINTAIN NEW OR EXISTING WALL RATING. THIS IS TYPICAL FOR ALL WORK DONE IN AREAS WHERE RENOVATION IS BEING DONE.
9. ALL WALLS SHOWN BY DASHED LINES ARE TO BE REMOVED COMPLETELY, ALONG WITH DOORS AND FRAMES. ELECTRICAL ITEMS, PLUMBING FIXTURES, CASEWORK, AND SIMILAR INFRASTRUCTURE.
10. CONCRETE FLOORS SHALL BE REMOVED FOR INSTALLATION AND CONNECTION OF NEW PLUMBING. PATCH WITH 3,000 PSI CONCRETE.
11. SEE LIMITS OF CONSTRUCTION ON NEW FLOOR PLANS. GENERALLY, ROOMS OUTSIDE OF THE LIMITS OF CONSTRUCTION ARE NOT TO HAVE ANY WORK DONE IN THEM WITH THE EXCEPTION OF FLOOR OR CEILING TO BE PATCHED OR REPAIRED FOR INSTALLATION OF NEW WORK. THE CONTRACTOR SHALL USE THE EXISTING FLOOR OR CEILING MATERIAL FOR REPAIR; SALVAGED FROM AREAS WHERE EXISTING MATERIALS ARE REMOVED OR ALL THE NEW MATERIAL IN A ROOM, IF NECESSARY, THAT MATCH EXISTING FINISHES. IN THE CASE OF ANY REPAIR WORK REQUIRED FOR EXISTING TERRAZZO FLOORS, THE MATERIALS MAY BE PATCHED WITH CEMENT OR EPOZY COMPTIBLE WITH THE EXISTING SYSTEM AND CAN MAINTAIN A LEVEL SURFACE.
12. ALL EXISTING DIMENSION NOTES ON THIS PLAN ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS PRIOR TO NEW WORK. IF THE CONTRACTOR FINDS ANY DISCREPANCY BETWEEN THE EXISTING CONDITION AND DRAWING, THE CONTRACTOR MUST NOTIFY THE ARCHITECT IMMEDIATELY AND REQUEST CLARIFICATION.
13. THE CONTRACTOR MUST REMOVE EXISTING FINISHES AS NECESSARY PRIOR TO THE INSTALLATION OF NEW FINISHES.
14. ALL FLOORS AND WALLS OF EXISTING AREAS THAT WILL BE AFFECTED BY CONSTRUCTION PROCEDURES INCLUDING DEBRIS REMOVAL MUST RECEIVE PROTECTION. DUST BARRIERS MUST BE INSTALLED BETWEEN WORK AREAS, UNDISTURBED AREAS, AND OCCUPIED SPACES.
15. PROVIDE TEMPORARY SHORING OF EXISTING STRUCTURE ABOVE AS REQUIRED WHERE ANY EXISTING LOAD BEARING ELEMENTS (OR PORTION OF) ARE TO BE REMOVED AS REQUIRED BY FLOOR PLAN; PROVIDE NEW HEADER/STRUCTURE/INFILL PER NEW FLOOR PLAN; REPAIR/PATCH WALLS/FLOOR/CEILING AS REQUIRED.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES; INCLUDING BUT NOT LIMITED TO: TEMPORARY/PERMANENT BEAMS AND LINTELS; SHORING OF EXISTING CONSTRUCTION; AND FOR SAFETY PRECAUTIONS AND PROGRAMS AS THEY RELATE TO THE WORK OF THIS PROJECT.
17. ALL DEMOLISHED MATERIAL SHALL BE REMOVED FROM SITE UNLESS NOTED OTHERWISE.

GENERAL DEMOLITION FINISH NOTES

1. PATCH AND REPAIR TO MATCH EXISTING CEILINGS, FLOORS, OR WALL FINISHES AFFECTED BY DEMOLITION WORK UNLESS OTHERWISE NOTED ON THE PLANS. NEW WORK TO HAVE SMOOTH AND LEVEL TRANSITION WITH THE EXISTING CONSTRUCTION.
2. ALL ABANDONED FLOOR PENETRATIONS SHALL BE PATCHED WITH LIKE MATERIALS AND REPAIRED TO MATCH EXISTING CONSTRUCTION AND TO MAINTAIN FLOOR INTEGRITY. EXISTING TERRAZZO FLOORING WHICH NEEDS REPAIR MAY BE PATCHED WITH CEMENT OR EPOXY.
3. ANY ITEMS REMOVED BY CONTRACTOR FROM WALLS TO HAVE THE REMAINING HOLE PATCHED TO MATCH THE EXISTING CONSTRUCTION.
4. THE CONTRACTOR SHALL PROVIDE SMOOTH WALL SURFACES BEFORE INSTALLING THE NEW WALL BASE OR PAINTING AN EXISTING WALL.
5. REPLACE ALL CEILING TILE AND CEILING GRIDS WITH NEW TILE AND GRID. PATCH AND REPAIR GYPSUM BOARD CEILINGS AS REQUIRED FOR NEW WORK.

GENERAL SALVAGE NOTES

1. SALVAGE AND REUSE AND/OR RECYCLE MATERIALS AS NOTED IN CONSTRUCTION DRAWINGS AND CONTRACTS.
2. COORDINATE WITH THE OWNER'S REPRESENTATIVE THE SALVAGE OF LIGHT FIXTURES, FURNISHINGS, DOORS, AND MISCELLANEOUS EQUIPMENT.
3. CARE SHALL BE TAKEN IN REMOVAL OF REUSED ITEMS THAT CAN BE RELOCATED. RETURN TO OWNER ALL OTHER ITEMS.
4. ALL ITEMS WHICH ARE HUNG ON WALLS TO BE DEMOLISHED (BULLETIN BOARDS, ILLUMINATORS, FIRE EXTINGUISHERS, OR SIMILAR FURNISHINGS.) SHALL BE OFFERED TO THE OWNER. ITEMS NOT DESIRED BY THE OWNER SHALL BE REMOVED BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ANY MATERIAL BEING REMOVED THAT ARE TO BE STORED FOR REUSE IN CONSTRUCTION OR FUTURE USE BY THE OWNER.

GENERAL STRUCTURAL DEMOLITION NOTES

1. THESE DEMOLITION PLAN DRAWINGS ARE INTENDED TO SHOW THE GENERAL CONDITIONS WHICH ARE EXPECTED TO OCCUR. VERIFY ALL CONDITIONS BEFORE PROCEEDING WITH THE DEMOLITION WORK. WHERE DISCREPANCIES INVOLVE STRUCTURAL ITEMS, REPORT SUCH DIFFERENCES AND SECURE INSTRUCTIONS BEFORE PROCEEDING IN THE AFFECTED AREA.
2. DEMOLITION ITEMS SHOWN ARE INTENDED TO BE NON-STRUCTURAL ITEMS ONLY. THE CONTRACTOR SHALL INSPECT ALL ITEMS TO BE DEMOLISHED PRIOR TO DEMOLITION TO ENSURE ITEMS ARE NOT STRUCTURAL ELEMENTS. NOTIFY ARCHITECT/ENGINEER IMMEDIATELY AND PRIOR TO DEMOLITION FOR ANY ITEMS THAT APPEAR TO BE STRUCTURAL/ LOAD-BEARING. THE EXISTING MEZZANINE IS PRESUMED TO BE STRUCTURAL.
3. A PROFESSIONAL ENGINEER SHALL BE CONSULTED IN ALL CASES WHERE CUTTING INTO AN EXISTING STRUCTURAL PORTION OF ANY BUILDING IS EITHER EXPEDIENT OR NECESSARY, PRIOR TO PROCEEDING WITH WORK. PRIOR TO CUTTING INTO STRUCTURAL PORTIONS OF ANY BUILDING SHALL PROVIDE REINFORCEMENT AND/OR SUPPORT SATISFACTORY TO THE PROFESSIONAL ENGINEER.

GENERAL MECHANICAL, ELECTRICAL AND PLUMBING DEMOLITION NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ARCHITECT AND COORDINATE INSPECTIONS (IF REQUIRED) BY STATE AGENCIES AND MEET ANY APPLICABLE CODE FOR REUSE OF EXISTING PLUMBING FIXTURES, DIFFUSERS AND DUCTWORK.
2. REMOVE ALL EXISTING NON-COMPLIANT GROUND-FAULT CIRCUIT INTERRUPTED OUTLETS.
3. REMOVE ALL EXISTING BROKEN OR PAINTED OUTLET COVER PLATES.
4. AFTER REMOVAL OF PLUMBING FIXTURES, CAP WASTE LINES BELOW FLOOR SLAB AND SUPPLY LINES ABOVE CEILING.
5. AT ALL AREAS WHERE MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT IS REMOVED, PROPERLY CAP AND TERMINATE ALL UTILITIES AS REQUIRED BY ALL PREVAILING NATIONAL AND LOCAL CODES.

GENERAL REPAIR NOTES

1. REPAIR DAMAGES CAUSED TO ADJACENT FACILITIES BY DEMOLITION WORK.
2. REPAIR DRYWALL WHERE CASEWORK AND TRIM ARE REMOVED.
3. MAINTAIN CONTINUITY OF FINISHED SURFACE WITH LIKE QUALITIES AND CONSTRUCTION AND WITH LIKE FINISHES.
4. RESTORE EXPOSED FINISHES OF PATCHED AREAS AND WHERE NECESSARY EXTEND FINISH RESTORATION INTO RETAINED ADJOINING WORK IN A MANNER WHICH WILL ELIMINATE EVIDENCE OF PATCHING AND REFINISHING.
5. DO NOT CUT AND PATCH WORK IN A MANNER THAT WOULD RESULT IN SUBSTANTIAL VISUAL EVIDENCE OF CUT AND PATCH WORK.
6. USE MATERIALS FOR CUTTING AND PATCHING THAT ARE IDENTICAL TO EXISTING MATERIALS.
7. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION AND RESTORATION WORK WITH OWNERS. USE MATERIALS FOR PATCHING THAT ARE IDENTICAL TO EXISTING MATERIALS.

HAZARDOUS MATERIALS NOTES

1. ANY HAZARDOUS MATERIALS REMOVED (ASBESTOS, OIL, GAS, LEAD-BASED MATERIAL, OR SIMILAR HAZARDS) SHALL BE COMPLETELY REMOVED FROM WORK AREAS AND DISPOSED OF OFFSITE. DISPOSAL SHALL BE DONE IN A MANNER COMPLIANT WITH ALL LOCAL, STATE AND FEDERAL LAWS AND ALL GOVERNING BODIES HAVING JURISDICTION.
2. AN ASBESTOS INSPECTION WAS PERFORMED (**ASBESTOS & LEAD REPORT FOR 5305 HOLLINS ROAD**, DATED **DECEMBER 22, 2021** BY **HDH TECHNICAL INC.**),AND ASBESTOS-CONTAINING-MATERIALS (ACMS) WERE FOUND. THE ASBESTOS SURVEY/INSPECTION REPORT IS AVAILABLE FOR GENERAL INFORMATION. THE ACMS SHALL BE REMOVED PRIOR TO ANY OTHER WORK BEING PERFORMED IN THE INDICATED AREAS. THE ABATEMENT CONTRACTOR SHALL MARK UP THE ASBESTOS MANAGEMENT PLAN TO SHOW THE "AS-BUILT" CONDITIONS RESULTING FROM ITS WORK TO INCLUDE AREAS WHERE ASBESTOS WAS ABATED, AREAS WHERE ASBESTOS WAS ENCAPSULATED, AND AREAS WHERE ASBESTOS CONTAINING MATERIALS EXIST BUT WERE LEFT IN PLACE.
3. SEE THE SURVEY FOR ASBESTOS-CONTAINING MATERIALS FOR LOCATIONS OF ANY MATERIALS THAT WILL BE DISTURBED AS PART OF DEMOLITION WORK. ANY MATERIALS THAT ARE DISTURBED OR REMOVED DURING DEMOLITION PROCESSES SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A MANNER THAT MEETS ALL FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.
4. A LEAD-BASED MATERIALS INSPECTION WAS PERFORMED AND LEAD-BASED MATERIAL WAS NOT FOUND.

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2025-07-16
ARCHITECT

ROANOKE COUNTY VA
PARKS, RECREATION & TOURISM

PRT SHOP BUILDING
RENOVATION
DEMOLITION PLAN & NOTES
5305 HOLLINS ROAD
ROANOKE, VIRGINIA

DRAWN BY	JR3
DESIGNED BY	JR3
CHECKED BY	JR3, RWP
DATE	2025-07-16
SCALE	As indicated
REVISIONS	

D1.01
PROJECT NO 03220077.00

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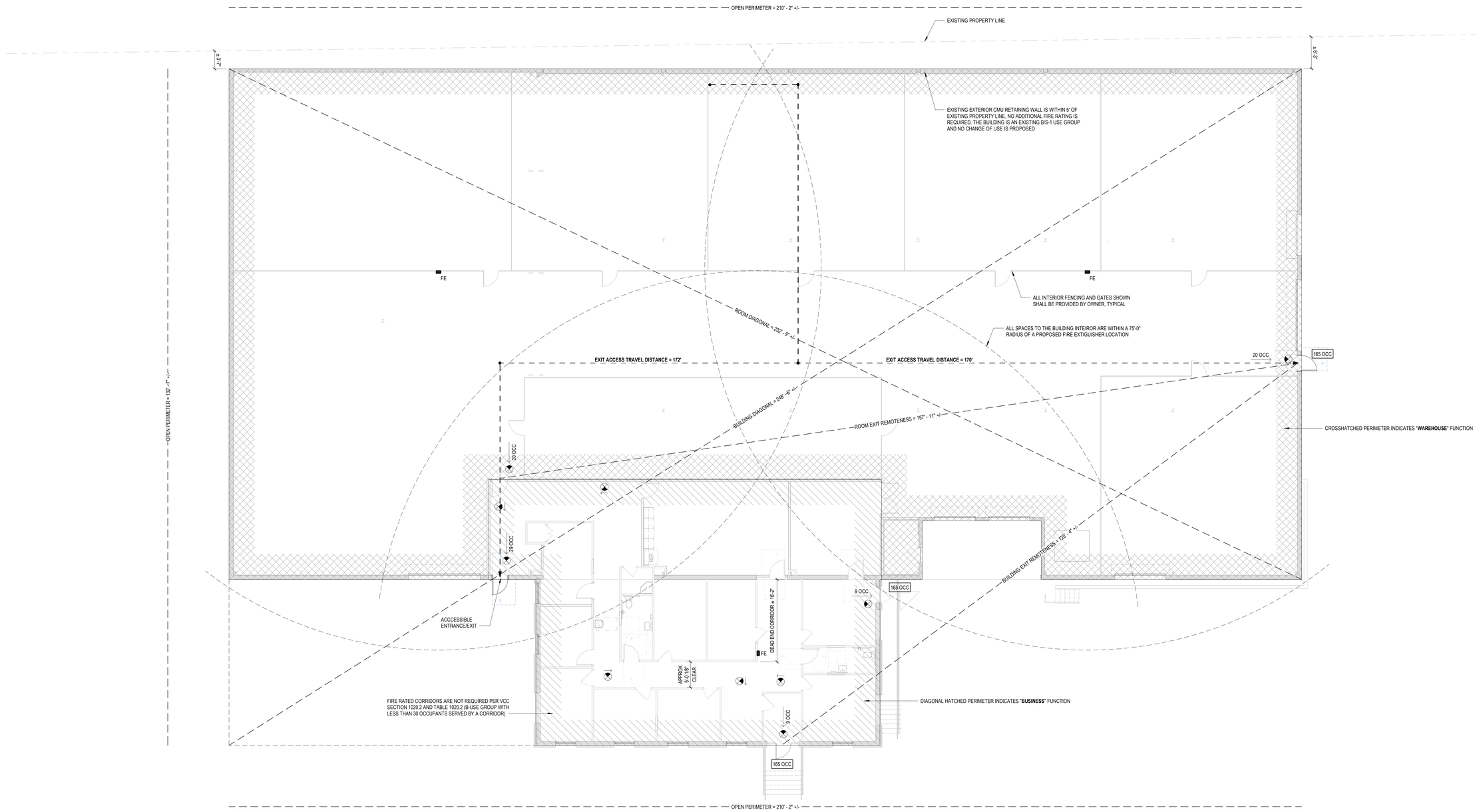


NOTE: EACH EXIT CAN ACCOMMODATE MORE THAN HALF OF THE TOTAL BUILDING OCCUPANT LOAD.

NOTE: SEE ELECTRICAL PLANS FOR LOCATIONS OF EMERGENCY LIGHTING.

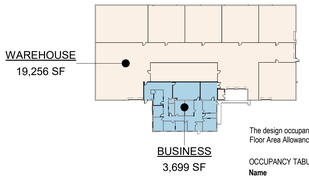
TOTAL BUILDING PERIMETER = APPROXIMATELY 685 FEET
TOTAL OPEN PERIMETER = APPROXIMATELY 552 FEET
OPEN PERIMETER = APPROXIMATELY 80%

1 A0.01 LIFE SAFETY PLAN

1/8" = 1'-0"

LIFE SAFETY GENERAL NOTES

1. SEE ELECTRICAL DRAWINGS FOR ALL EMERGENCY LIGHTING, EXIT SIGNAGE LOCATIONS, AND SIMILAR ACCESSORIES.
2. SEE CODE ANALYSIS FOR MEANS OF EGRESS REQUIREMENTS.



Function of Space

- Business Areas
- Warehouses

OCCUPANCY PLAN

NOT TO SCALE

The design occupant load tabulation based on Maximum Floor Area Allowances Per Occupant per Table 1004.5.

OCCUPANCY TABULATION

Name	Area	Occupant Load
WAREHOUSE	19,256 SF	39
BUSINESS	3,699 SF	25
TOTAL OCCUPANT LOAD		64

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PRT SHOP BUILDING
RENOVATION
LIFE SAFETY PLANS

5305 HOLLINS ROAD
ROANOKE, VIRGINIA

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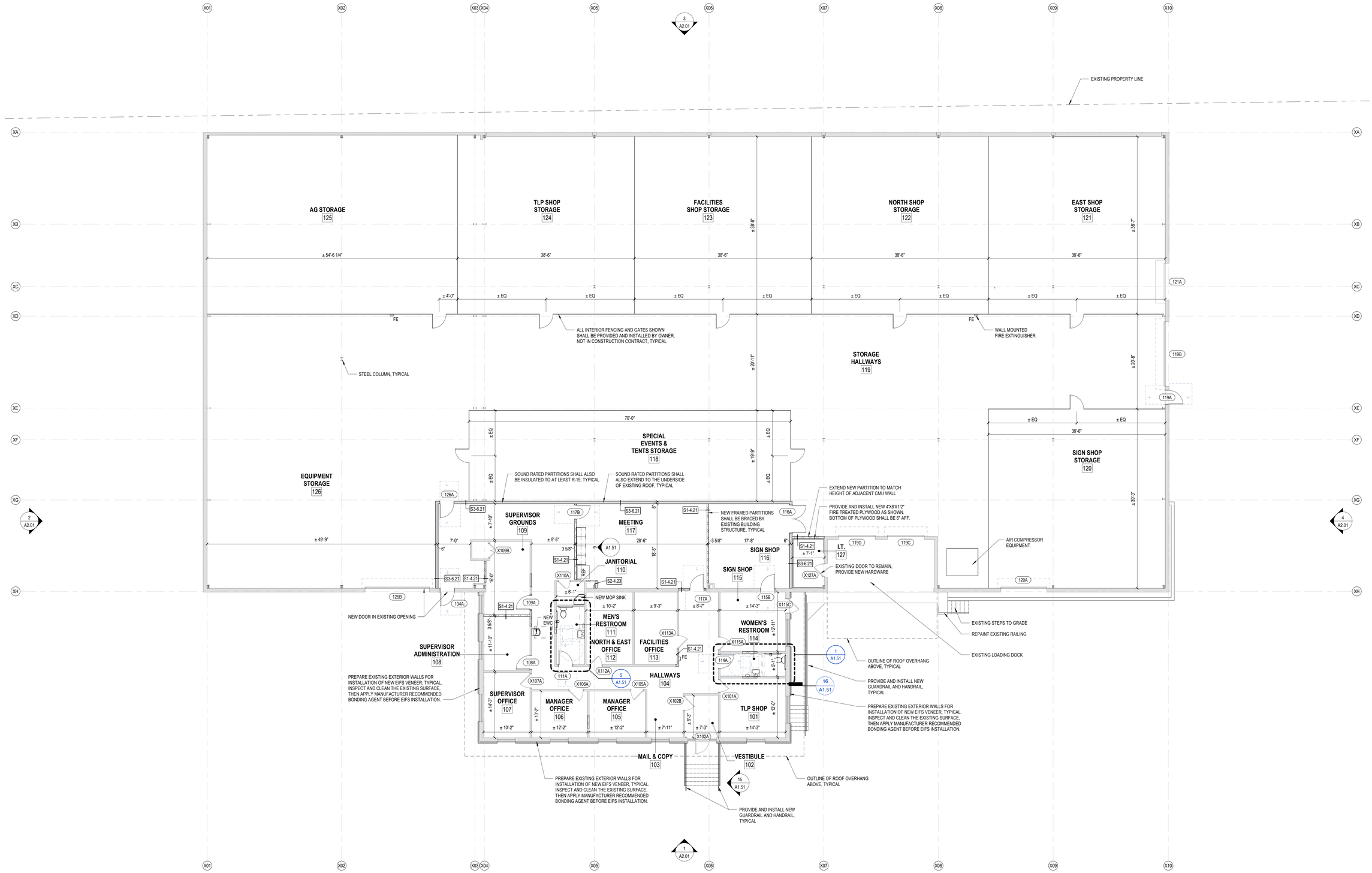

1 / A1.01 RENOVATION FLOOR PLAN

1/8" = 1'-0"

GENERAL FLOOR PLAN NOTES

1. REPAIR ALL EXISTING PARTITIONS/WALLS AS NEEDED, ESPECIALLY IN AREAS WHERE EXISTING WOOD PANELING WAS REMOVED. ALL PARTITIONS SHALL BE PAINTED.
2. REFER TO ACCESSIBLE CLEARANCE INFORMATION FOR DOORS, CASEWORK, SITE WORK AND PLUMBING FIXTURES.
3. SEE PARTITION SCHEDULE FOR WALLS THAT REQUIRE SOUND ATTENUATION BLANKETS AND/OR SPECIFIC SOUND WALL CONSTRUCTIONS.
4. SEE FINISH DRAWINGS AND/OR SCHEDULE FOR SPECIFIC FINISH AND SURFACE PREPARATION REQUIREMENTS.
5. SEE REFLECTED CEILING PLANS FOR SPECIFIC CEILING TYPES, HEIGHTS, DETAILS, LIGHTS, DIFFUSERS, AND SIMILAR CONSTRUCTION.
6. PROVIDE BLOCKING FOR WALL MOUNTED ACCESSORIES AND EQUIPMENT AS REQUIRED.
7. EXISTING WINDOWS AND FRAMES SHALL REMAIN.
8. WHERE EXPOSED, REPAIR ALL EXISTING METAL BUILDING INSULATION.

REGULATORY REQUIRED SIGNAGE FOR CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED BY THE CONTRACTOR. ALL OTHER INTERIOR SIGNAGE WILL BR PROVIDED BY THE OWNER.

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RENOVATION
RENOVATION FLOOR PLAN
5305 HOLLINS ROAD
ROANOKE, VIRGINIA

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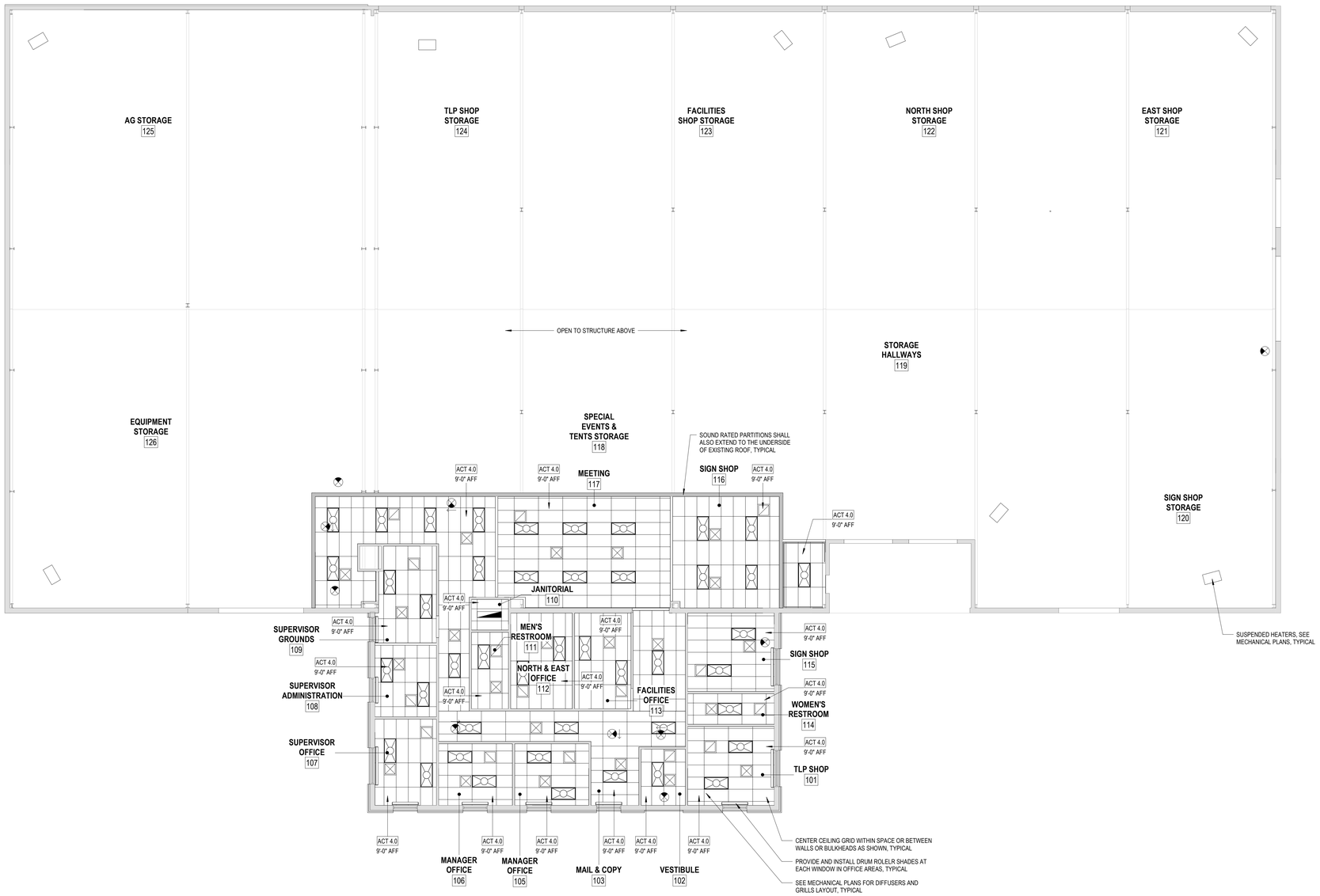

1 / A1.21 REFLECTED CEILING PLAN

1/8" = 1'-0"

GENERAL REFLECTED CEILING PLAN NOTES

1. CEILING PLAN LAYOUTS SHALL BE COORDINATED WITH MECHANICAL, ELECTRICAL, AND OWNER'S REQUIREMENTS. IN THE EVENT OF CONFLICT, MECHANICAL, ELECTRICAL, OR PLUMBING DRAWINGS WILL GOVERN FOR THEIR SPECIFIC COMPONENT.
2. SEE ELECTRICAL DRAWINGS FOR ALL LIGHTING AND ELECTRICAL LAYOUTS AND FIXTURE SPECIFICATIONS.
3. PROVIDE EXIT SIGNS AND/OR LIGHTS. SEE LIFE SAFETY PLANS AND/OR ELECTRICAL DRAWINGS FOR EMERGENCY EGRESS LIGHTING.
4. CONTRACTOR SHALL COORDINATE WITH MECHANICAL, ELECTRICAL, AND PLUMBING CONTRACTOR(S) FOR SCHEDULING AND COORDINATION FOR INSTALLATION OF ALL LIGHTING AND ELECTRICAL COMPONENTS.
5. CEILING HEIGHTS SHOWN ARE APPROXIMATE/ NOMINAL DIMENSIONS. CONTRACTOR SHALL VERIFY EXACT HEIGHT IN FIELD.
6. REFER TO GENERAL FINISH NOTES AND FINISH SCHEDULES FOR ADDITIONAL INFORMATION.
7. OWNER PROVIDED SECURITY SYSTEM NOT SHOWN.
8. SOFFITS SHALL BE 1 INCH BELOW ADJACENT LOWEST CEILING HEIGHT, UNLESS OTHERWISE NOTED ON PLAN.

CEILING TYPES

MARK	DESCRIPTION
ACT 4.0	2'x4' ACOUSTIC CEILING GRID

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PRT SHOP BUILDING
RENOVATION
REFLECTED CEILING PLAN

5395 HOLLINS ROAD
ROANOKE, VIRGINIA

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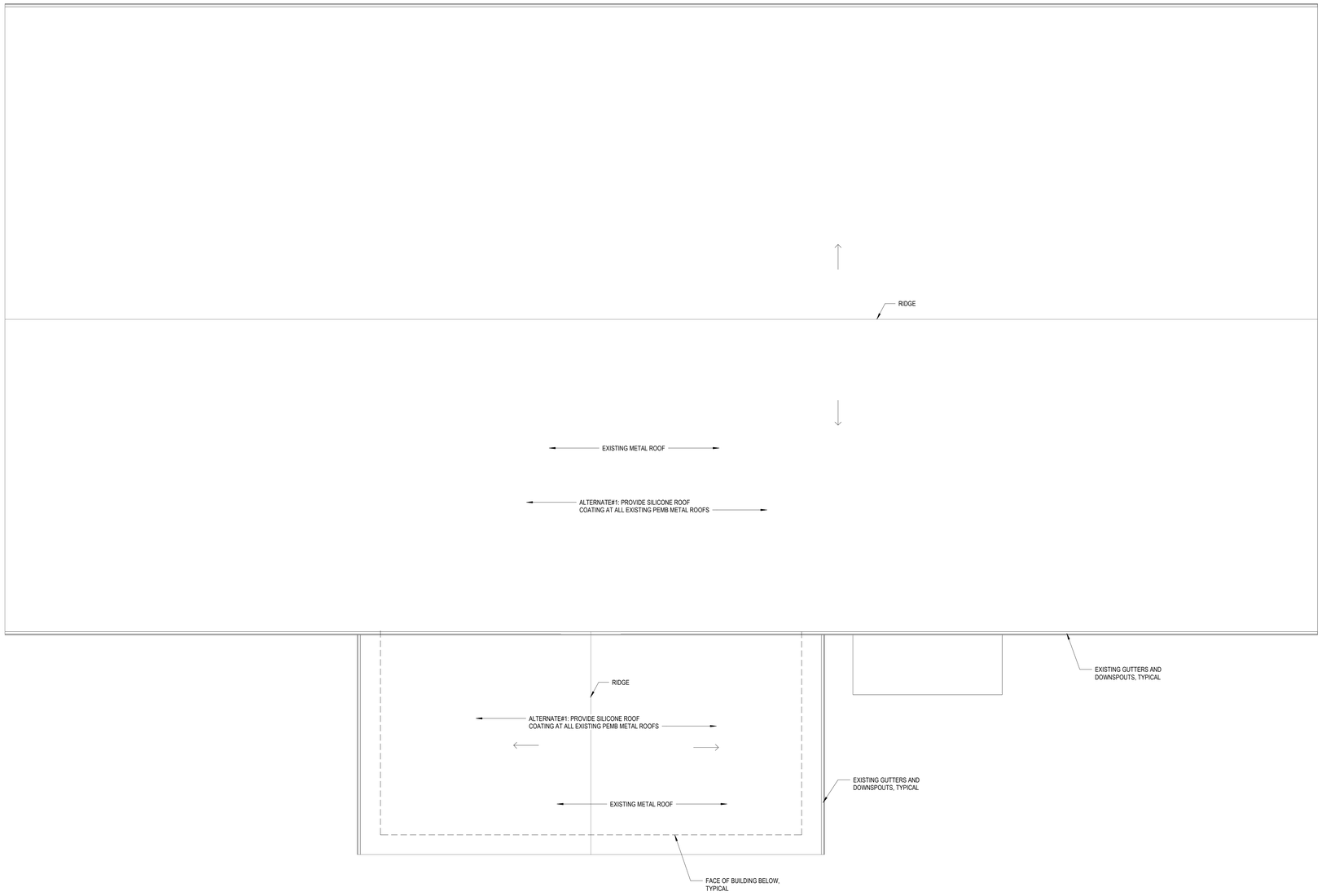

1 A1.31 **ROOF PLAN**
1/8" = 1'-0"

GENERAL ROOF NOTES

1. ALL ROOFING, UNDERLAYMENT, COATINGS, AND SIMILAR MATERIALS SHALL MEET OR EXCEED CURRENT GOVERNING CODE. MATERIAL INSTALLATIONS SHALL BE PER MANUFACTURER INSTRUCTIONS.
2. PROVIDE "CRICKETS" AROUND ANY ROOF MOUNTED EQUIPMENT (IF SHOWN), PENETRATIONS, AND SIMILAR CONDITIONS AS REQUIRED TO PREVENT FLOW STOPPAGE OR PONDING. CONTRACTOR SHALL COORDINATE WITH ROOFING MANUFACTURER.
3. ARROWS ON THE ROOF PLAN INDICATE WATER DRAINAGE DIRECTION.

GENERAL ROOF FLASHING NOTES

1. ALL METAL FLASHING WORK SHALL CONFORM TO LATEST EDITION OF "SHEET METAL & AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION" (SMACNA) STANDARD DETAILS.
2. ROOFING CONTRACTOR IS TO INSTALL FLASHING AT ALL ROOF PENETRATIONS AS PER MANUFACTURER'S STANDARD DETAILS.

GENERAL ROOF PENETRATION NOTES

1. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ROOF PENETRATIONS WITH ELECTRICAL, MECHANICAL AND PLUMBING DRAWINGS, INCLUDING ROOF-MOUNTED EQUIPMENT, EXHAUST FANS, VENT PIPES, LIGHTNING PROTECTION AND SIMILAR SYSTEMS PRIOR TO CONSTRUCTION. REPORT ANY INCONSISTENCIES IMMEDIATELY TO THE ARCHITECT.
2. PROVIDE INSULATED ROOF BOOTS AND CURBS.
3. ALL PLUMBING VENTS SHALL BE HELD A MINIMUM OF 10'-0" FROM ANY AIR INTAKE.
4. PLUMBING PENETRATIONS NOT SHOWN.

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PRT SHOP BUILDING
RENOVATION
ROOF PLAN
5305 HOLLINS ROAD
ROANOKE, VIRGINIA

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PROJECT NO 03220077.00

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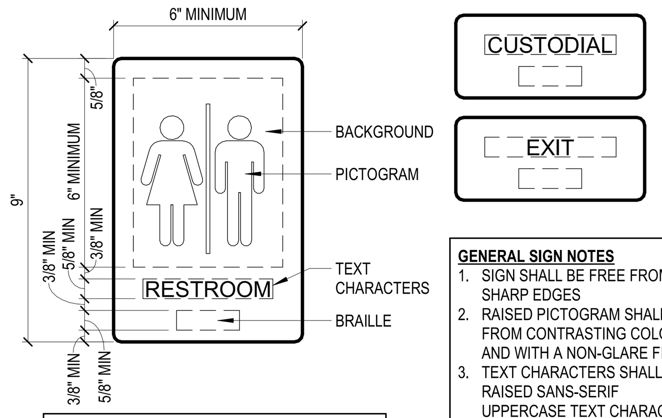
NOTE:

DOOR DETAILS ONLY DEPICT THE GENERAL CONDITIONS FOR TYPICAL HOLLOW METAL FRAMED DOORS AND OPENINGS. FOR DOORS IN FIRE-RATED ASSEMBLIES COORDINATE THE PARTITION DESCRIPTION AND OVERALL PARTITION/WALL THICKNESS TO THE DOOR FRAME WITH APPROPRIATE OVERALL THICKNESS AND NECESSARY THROAT DIMENSION, TYPICAL.

COORDINATE GENERAL DETAILS WITH PROPOSED DOOR TYPE, DOOR HARDWARE SET, ACCESSIBLE DOOR CLEARANCES, AND ADJACENT FINISHES.

REFER TO GENERAL PROJECT NOTES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

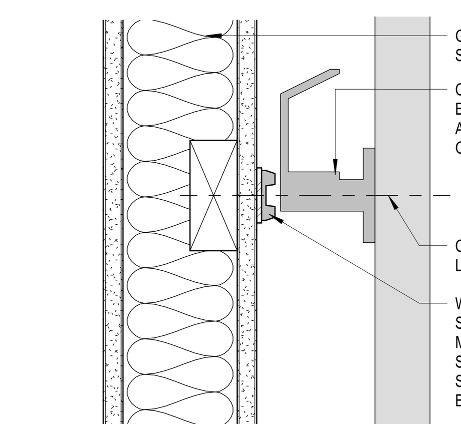
1 / A1.41 DOOR NOTES
NOT TO SCALE



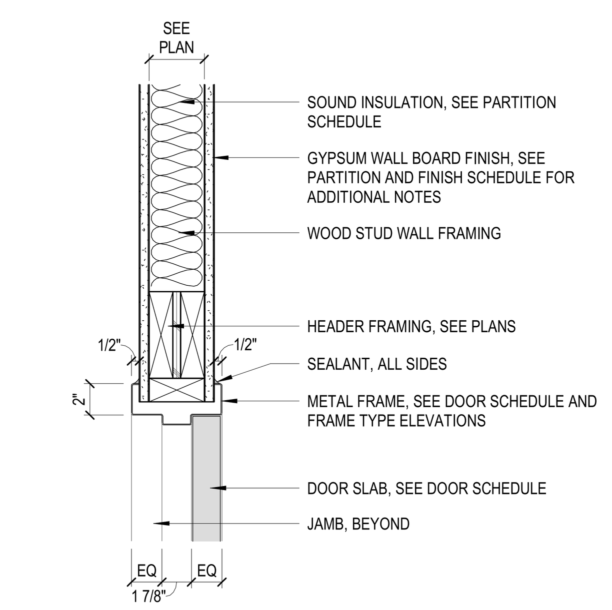
MOUNT SIGN ON WALL ADJACENT TO ASSOCIATED DOOR OR OPENING AND 2" CLEAR FROM EDGE OF DOOR FRAME. THE BASELINE OF THE LOWEST TACTILE CHARACTERS (BRAILLE) SHALL BE NO LOWER THAN 48"AFF AND THE BASELINE OF THE HIGHEST TACTILE CHARACTERS TO BE NO HIGHER THAN 60"AFF.

GENERAL SIGN NOTES
1. SIGN SHALL BE FREE FROM SHARP EDGES
2. RAISED PICTOGRAM SHALL BE FROM CONTRASTING COLORS AND WITH A NON-GLARE FINISH.
3. TEXT CHARACTERS SHALL BE RAISED SANS-SERIF UPPERCASE TEXT CHARACTERS INDICATING ROOM TYPE, CHARACTERS SHALL NOT BE ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF ANY OTHER UNUSUAL FORMS.
4. BRAILLE SHALL BE DOMED OR ROUNDED CONTRACTED DOTS.

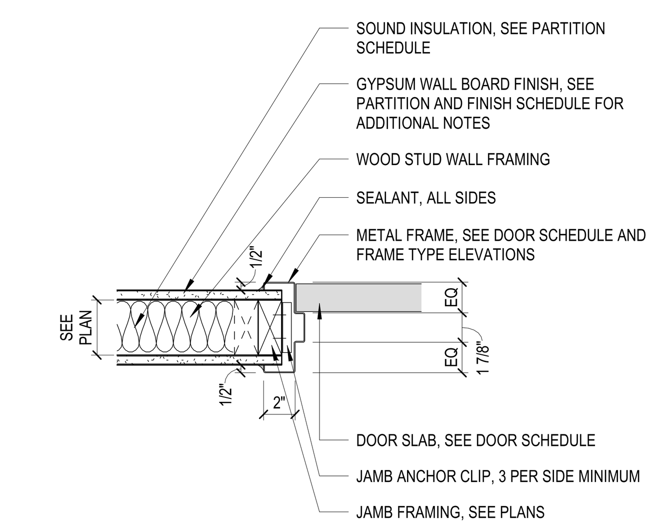
2 / A1.41 REGULATORY SIGNS
NOT TO SCALE



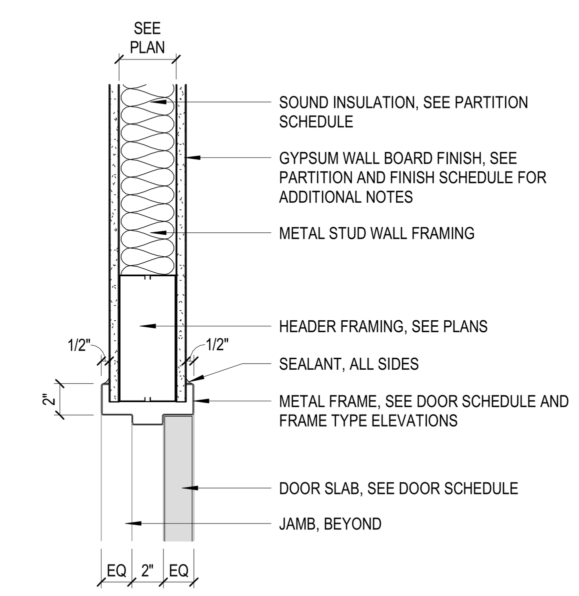
3 / A1.41 DOOR STOP
NOT TO SCALE



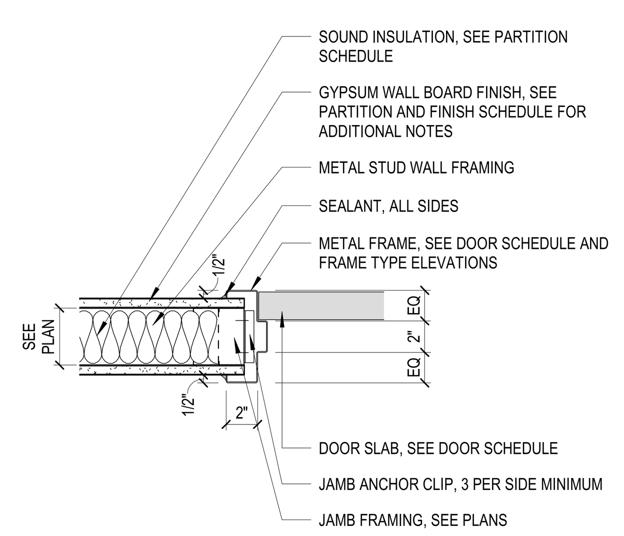
4 / A1.41 HEAD DETAIL
NOT TO SCALE



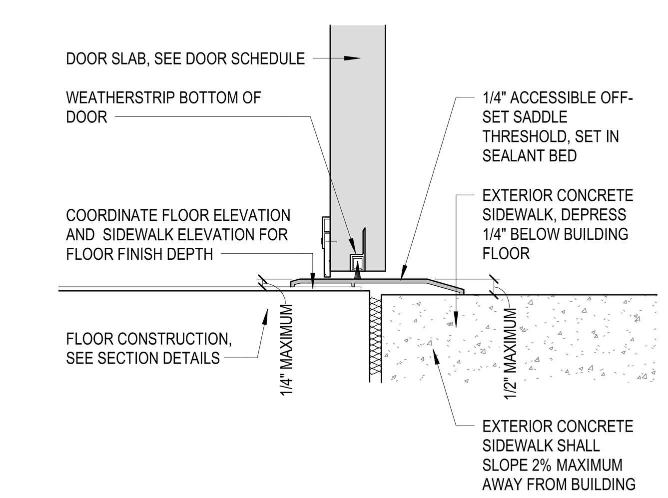
5 / A1.41 JAMB DETAIL
NOT TO SCALE



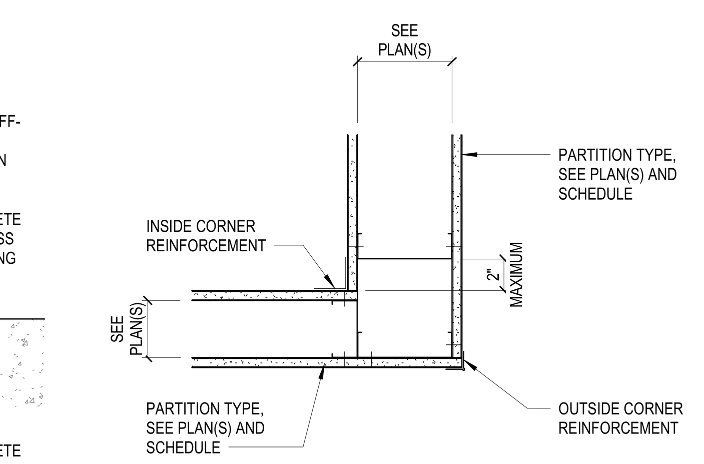
6 / A1.41 HEAD DETAIL
NOT TO SCALE



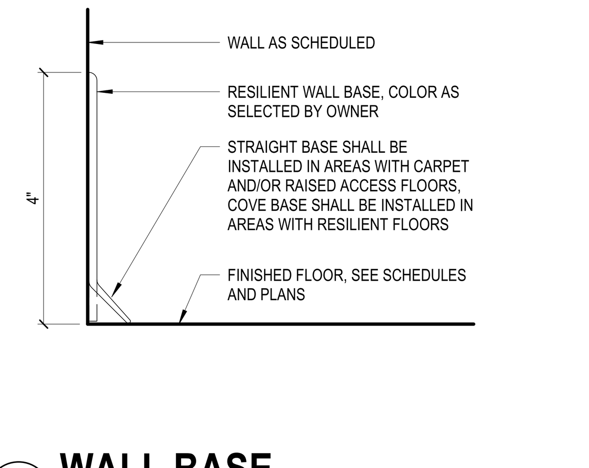
7 / A1.41 JAMB DETAIL
NOT TO SCALE



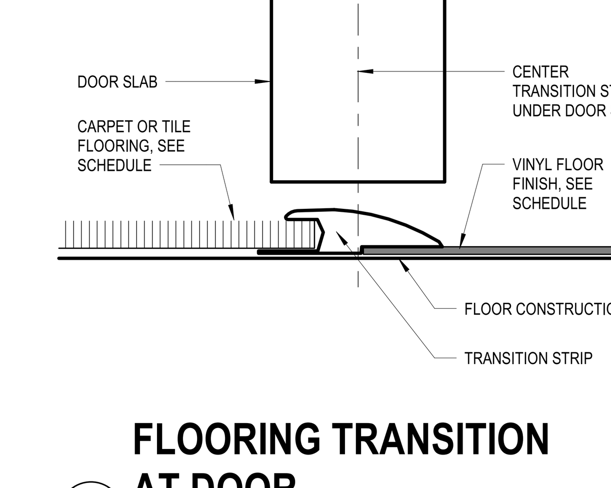
8 / A1.41 EXTERIOR THRESHOLD
NOT TO SCALE



9 / A1.41 PARTITION CORNER
NOT TO SCALE



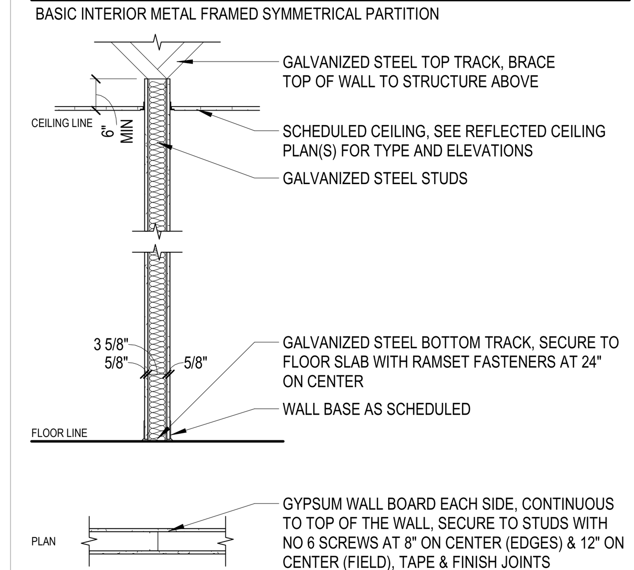
10 / A1.41 WALL BASE
NOT TO SCALE



11 / A1.41 FLOORING TRANSITION AT DOOR
NOT TO SCALE

TAG	1-4 / S1-4.21 / S1-4.21(-)---(-)

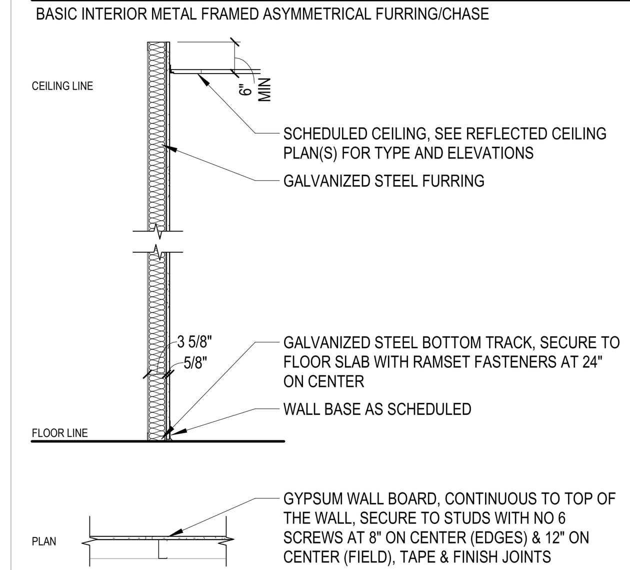
BASIC INTERIOR METAL FRAMED SYMMETRICAL PARTITION



STRUCTURE	**STEEL STUDS, 3-5/8", 20 GAUGE, 16" ON CENTER**
TYPE	STANDARD INTERIOR
FINISH	5/8" GYPSUM BOARD, BOTH SIDES PAINTED
FIRE RATING	NONE
STC RATING	NONE
COMMENTS	NONE

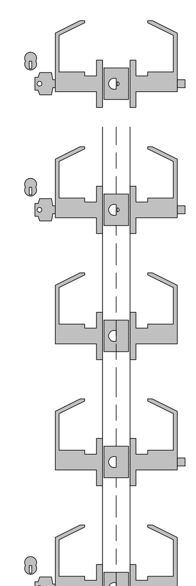
TAG	2-4 / S2-4.23 / S2-4.23(-)---(-)

BASIC INTERIOR METAL FRAMED ASYMMETRICAL FURRING/CHASE



STRUCTURE	**STEEL FURRING, 3-5/8", 20 GAUGE, 16" ON CENTER**
TYPE	FURRING / CHASE
FINISH	5/8" GYPSUM BOARD ON ONE SIDE, PAINTED
FIRE RATING	NONE
STC RATING	NONE
COMMENTS	NONE

OUTSIDE / INSIDE — **FUNCTIONS WITH ANSI CODES AND GENERAL DESCRIPTION**



ENTRANCE (ANSI F109)
PUSHING TURN-BUTTON INSIDE LOCKS OUTSIDE LEVER. TURNING LEVER OR OPERATING KEY IN OUTSIDE LEVER RELEASES BUTTON AUTOMATICALLY. CLOSING DOOR DOES NOT RELEASE BUTTON. BUTTON IS FIXED IN LOCKED POSITION BY TURNING TO HORIZONTAL POSITION.

ENTRANCE/OFFICE (ANSI F82)
PUSHING BUTTON INSIDE LEVER LOCKS OUTSIDE LEVER. TURNING INSIDE LEVER OR OPERATING KEY IN OUTSIDE LEVER RELEASE BUTTON AUTOMATICALLY. CLOSING DOOR DOES NOT RELEASE BUTTON. INSIDE LEVER ALWAYS UNLOCKED.

PASSAGE (ANSI F75)
LATCH BOLT OPERATED BY LEVER OR KNOB FROM EITHER SIDE AT ALL TIMES.

PRIVACY (ANSI F76A)
LATCH BOLT OPERATED BY LEVER FROM EITHER SIDE. OUTSIDE LEVER IS LOCKED BY PUSH BUTTON INSIDE AND UNLOCKED BY EMERGENCY RELEASE, ROTATING LEVER, OR CLOSING DOOR. INSIDE ALWAYS UNLOCKED. PUSH BUTTON INSIDE CHANGES INDICATOR DISPLAY STATUS OUTSIDE.

STOREROOM (ANSI F86)
DEADLOCKING LATCH BOLT OPERATED BY KEY IN OUTSIDE LEVER OR ROTATING INSIDE LEVER. OUTSIDE LEVER IS ALWAYS LOCKED. INSIDE LEVER ALWAYS UNLOCKED.

ACCESSIBLE DOOR CLEARANCE NOTES

1. UNLESS SPECIFICALLY NOTED OR DIMENSIONED OTHERWISE ALL NEW DOORS SHALL BE LOCATED WITH THE DOOR OPENING 4" FROM A PARTITION CORNER (I.E. 2" OF FRAMING AND A 2" DOOR FRAME).
2. ALL NEW AND SPECIFICALLY DESIGNATED DOORS SHALL MAINTAIN CLEAR AREAS BASED ON THE APPROACH DIRECTION AND THEIR OPERATIONAL SIDE. REQUIRED CLEAR AREAS MUST BE FREE OF "PROJECTIONS" AS DESCRIBED BY THE GOVERNING ACCESSIBILITY CODE (THIS INCLUDES WALL MOUNTED ACCESSORIES, PLUMBING FIXTURES, ADJACENT PARTITIONS, CURBS, AND SIMILAR SYSTEMS).
3. DIAGRAMS OF RELEVANT REQUIRED CLEARANCES ARE PROVIDED ON THE ACCESSIBILITY REFERENCE PAGE IN THIS DRAWING SET. THIS SET OF ICC ANSI A117.1 STANDARDS HAS BEEN INDICATED HERE FOR GENERAL REFERENCE PURPOSES ONLY. IN NO WAY DOES THIS SHEET REPRESENT ALL APPLICABLE COMPONENTS OF THE "ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES" NATIONAL STANDARD.

GENERAL DOOR NOTES

1. PROVIDE WEATHERSTRIPPING AND DOOR SWEEPS AT ALL EXTERIOR DOORS.
2. FINAL DOOR STYLE SELECTIONS, COLOR, AND HARDWARE ARE TO BE DETERMINED. CONTRACTOR SHALL VERIFY AND COORDINATE IN THE FIELD.
3. PROVIDE DOOR FRAMES WITH 4" HEADS AT ALL DOORS WITHIN MASONRY WALLS AS REQUIRED TO MAINTAIN COURSING.
4. PAINT HOLLOW METAL FRAMES AND DOORS WHERE SCHEDULED WITH 2 FINISH COATS OF HIGH-GLOSS ACRYLIC ENAMEL. REFER TO ELEVATIONS AND FINISH SCHEDULE.
5. ALL THRESHOLDS SHALL BE 1/4" MAXIMUM OFFSET, ACCESSIBLE.
6. DOOR DETAILS DO NOT DEPICT ALL INTERIOR FINISHES. REFER TO INTERIOR ELEVATIONS AND FINISH MATERIAL SCHEDULE FOR REQUIRED FINISHES.

GENERAL HARDWARE NOTES

1. ALL HARDWARE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS NOTED OTHERWISE.
2. SEE OUTLINE SPECIFICATIONS FOR REQUIRED FINISHES.
3. PROVIDE FRAME SILENCERS AND DOOR STOPS FOR ALL DOORS. STOPS MAY BE FLOOR MOUNTED OR WALL MOUNTED.
4. PROVIDE 1 1/2 PAIR HINGES PER LEAF UP TO 7'-0" TALL DOORS. PROVIDE 2 PAIR HINGES PER LEAF FOR DOORS EXCEEDING 7'-0" TALL, UNLESS NOTED OTHERWISE.
5. THE MAXIMUM DIMENSION FROM THE TOP OF THE THRESHOLD TO THE EXTERIOR LANDING AT EXTERIOR DOORS SHALL NOT EXCEED 1/2". (VERIFY IN FIELD).
6. ADJUST CLOSERS SUCH THAT SWEEP PERIOD FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO AN OPEN POSITION OF 12 DEGREES SHALL BE 5 SECONDS MINIMUM. MAXIMUM OPENING FORCE OF DOORS SHALL BE 5 LBF FOR INTERIOR DOORS, AND 15 LBF FOR EXTERIOR DOORS.
7. HARDWARE PROVIDER TO REVIEW HARDWARE SETS, DOOR LOCKING ARRANGEMENTS, OVERALL FUNCTIONALITY ASPECTS & KEYING WITH OWNER AND CONTRACTOR TO COMPLETE HARDWARE ORDER. PROVIDE SAMPLES AS REQUIRED.

INTERIOR SIGNAGE NOTES

1. VEVERY OPENING SHALL BE PROVIDED WITH SIGNAGE. VERIFY NAMING REQUIREMENTS WITH OWNER.

GENERAL FINISHES NOTES

1. CONSULT WITH OWNER FOR ALL REQUIRED FINISH COLORS/TEXTURES. OWNER SHALL HAVE CHOICE OF COLOR FROM MANUFACTURER. FULL RANGE OF COLORS FOR ALL FINISHES SPECIFIED.
2. ALL CLOSETS AND AUXILIARY SPACES SHALL HAVE SAME FLOOR AND WALL FINISHES AS ROOMS THEY ARE LOCATED IN, UNLESS NOTED OTHERWISE.
3. IN ROOMS NOTED IN SCHEDULE PROVIDE BASE AROUND ROOM PERIMETER, UNLESS NOTED OTHERWISE.
4. INTERIOR WALLS AND INTERIOR FACE OF EXTERIOR WALLS SHALL BE PAINTED, CONSISTING OF (1) COAT OF PRIMER AND (2) COATS OF INTERIOR FINISH LATEX, UNLESS OTHERWISE NOTED.

HARDWARE SETS

REFER TO DOOR SCHEDULE FOR SIGNAGE REQUIREMENTS

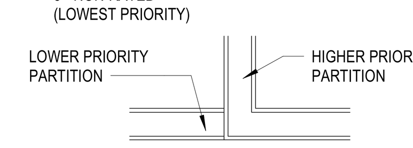
ALL DOORS TO RECEIVE WALL STOPS.
ALL NEW DOORS TO RECEIVE SILENCERS.

1. CONFERENCE ROOM
   A. (1-1/2) PAIR HINGES
   B. LEVER HANDLE PRIVACY SET (ANSI F76)
2. STORAGE DOUBLE DOOR
   A. (3) PAIR HINGES
   B. FLUSH BOLT FOR INACTIVE LEAF
   C. DUMMY LEVER FOR INACTIVE LEAF
   D. LEVER HANDLE PASSAGE SET (ANSI F75)
3. RESTROOM (SINGLE OCCUPANT)
   A. (1-1/2) PAIR HINGES
   B. LEVER HANDLE PRIVACY SET (ANSI F76A)
   C. (1) SURFACE CLOSER
4. MANAGER'S OFFICE, ADMIN OFFICE
   A. (1-1/2) PAIR HINGES
   B. LEVER HANDLE OFFICE SET (ANSI F82)
5. STANDARD OFFICE
   A. (1-1/2) PAIR HINGES
   B. LEVER HANDLE PASSAGE SET (ANSI 75)*
6. EXTERIOR EGRESS
   A. (1-1/2) PAIR HINGES
   B. LEVER HANDLE EXIT LOCK SET (ANSI F89)
   C. (1) ACCESSIBLE THRESHOLD
   D. (1) SURFACE CLOSER
   E. (1) WEATHERSTRIPPING
   F. (1) KICKPLATE (INTERIOR)
   G. ELECTRIC STRIKE
7. STORAGE/JANITOR CLOSET SINGLE DOOR
   A. (1-1/2) PAIR HINGES
   B. LEVER HANDLE STOREROOM SET (ANSI F86)

* VERIFY WITH OWNER

WALL PRIORITY LEGEND

(HIGHEST PRIORITY)
1 - 2 HOUR FIRE AND SMOKE WALL
2 - 2 HOUR FIRE AND 2 HOUR SHAFT WALL
3 - 1 HOUR FIRE AND SMOKE WALL
4 - 1 HOUR FIRE WALL
5 - NON-RATED
(LOWEST PRIORITY)



GENERAL PARTITION NOTES

1. INSTALL CONTINUOUS BLOCKING/FRAMING AT MID-HEIGHT OF ALL STUD WALLS GREATER THAN 10'-0" HIGH AS REQUIRED BASED ON MANUFACTURER SPECIFICATIONS.
2. ALL PARTITIONS SHALL BE FINISHED PER FINISH SCHEDULE.
3. ALL STUD WALLS NOT EXTENDED TO UNDERSIDE OF ROOF DECK AND TALLER THAN 8'-0" ABOVE FINISHED FLOOR SHALL BE BRACED AT TOP AT ±6'-0" ON CENTER WITH EITHER STUD "KICKERS" OR STUDS EXTENDED UP TO ROOF STRUCTURE FOR ANY WALL GREATER THAN 10'-0" IN LENGTH.
4. ALL GYPSUM WALL BOARD WALL INTERSECTING EXTERIOR WALLS SHALL BE GLUED TO END STUDS AND SEALED AT WALL JOINT CONTINUOUS WITH ACOUSTICAL SEALANT.
5. PRESSURE-TREATED BOTTOM PLATE REQUIRED AT ALL WOOD FRAMED WALLS RESTING ON SLAB-ON-GRADE OR CONCRETE AND/OR MASONRY THAT IS IN DIRECT CONTACT WITH GROUND.
6. INFORMATION ON THE PARTITION SCHEDULE IS TO BE USED IN CONJUNCTION WITH FLOOR PLANS, REFLECTED CEILING PLANS, INTERIOR ELEVATIONS AND SECTIONS.
7. EXTERIOR ENVELOPE IS NOT SCHEDULED. REFER TO SECTIONS AND DETAILS FOR TYPICAL BUILDING EXTERIOR WALL DESCRIPTION.
8. ALL SINGLE-LAYER GYPSUM BOARD WALLS CONTINUOUS AND CONTIGUOUS WITH MULTI-LAYER GYPSUM BOARD WALLS SHALL MAINTAIN ONE CONTIGUOUS OUTER LAYER OF GYPSUM BOARD AT THE SAME FACE OF FINISH. STUDS AND FURRING CHANNELS SHALL BE OFFSET ACCORDINGLY.
9. PARTITION TYPES ARE CONTINUOUS ACROSS DOOR AND WINDOW OPENINGS AND AROUND CORNERS UNLESS OTHERWISE NOTED.

GENERAL PARTITION DEFLECTION NOTES

1. LIMITING HEIGHTS OF GYPSUM BOARD PARTITIONS ARE AS PUBLISHED FOR THE U.S. GYPSUM BOARD PRODUCTS FOR MAXIMUM L/240 DEFLECTION AT 5 PSF LATERAL LOAD. VERIFY ACTUAL LIMITING HEIGHT FOR APPROVED MANUFACTURER'S PRODUCTS. WHERE SCHEDULED PARTITION EXCEEDS LIMITING HEIGHT, INSTALLERS SHALL ADD BRACING ELEMENTS (ABOVE CEILING), OR DECREASE STUD SPACING, AND/OR GAUGE AS REQUIRED TO MAINTAIN L/240 DEFLECTION CRITERIA.
2. INSTALLERS SHALL CONFIRM ALLOWABLE DEFLECTIONS FOR FINISH MATERIALS APPLIED TO STUD PARTITIONS. WHERE ALLOWABLE DEFLECTION OF FINISH MATERIALS IS LESS THAN DEFLECTION OF SCHEDULED PARTITION, STUD SPACING AND/OR GAUGE SHALL BE ADJUSTED TO CONFORM TO FINISH MATERIAL DEFLECTION REQUIREMENTS.

GENERAL MOISTURE RESISTANT PARTITION NOTES

1. PROVIDE MOISTURE RESISTANT GYPSUM BOARD IN ALL WET OR DAMP SPACES.
2. MOISTURE RESISTANT GYPSUM BOARD SHALL BE USED AT ALL GYPSUM WALLBOARD PARTITIONS IN KITCHEN AREAS, AND AT ALL TOILET ROOM PARTITIONS.

PARTITION SCHEDULE

TAG	RATING	WALL FIRE TYPE	UL DESIGN	STC RATING	DESCRIPTION
S1-4.21	-	-	-	-	INTERIOR 3-5/8" STEEL STUD WALL, PAINTED 5/8" GWB ON BOTH SIDES. STUDS TO BE 20 GAUGE GALVANIZED STEEL, SPACED @ 16" O.C., WITH 20 GAUGE GALVANIZED STEEL TOP AND BOTTOM TRACKS. SECURE BOTTOM TRACK TO FLOOR SLAB WITH RAMSET FASTENERS @ 24" O.C. SECURE GWB TO STUDS WITH NO. 6 SCREWS @ 12" O.C. MAX. TAPE AND FINISH ALL JOINTS. PROVIDE INTERMEDIATE WALL BLOCKING FOR PARTITIONS RECEIVING MOUNTED ACCESSORIES. SEE GENERAL NOTES AND SCHEDULES FOR FINISH REQUIREMENTS. REFER TO SPECIFICATIONS AND STRUCTURAL NOTES (IF PROVIDED) FOR ADDITIONAL INFORMATION.
S2-4.23	-	-	-	-	INTERIOR 3-5/8" STEEL STUD FURRING/CHASE WALL, PAINTED 5/8" GWB ON ONE SIDE. STUDS TO BE 20 GAUGE GALVANIZED STEEL, SPACED @ 16" O.C., WITH 20 GAUGE GALVANIZED STEEL TOP AND BOTTOM TRACKS. SECURE BOTTOM TRACK TO FLOOR SLAB WITH RAMSET FASTENERS @ 24" O.C. SECURE GWB TO STUDS WITH NO. 6 SCREWS @ 12" O.C. MAX. TAPE AND FINISH ALL JOINTS. PROVIDE INTERMEDIATE WALL BLOCKING FOR PARTITIONS RECEIVING MOUNTED ACCESSORIES. SEE GENERAL NOTES AND SCHEDULES FOR FINISH REQUIREMENTS. REFER TO SPECIFICATIONS AND STRUCTURAL NOTES (IF PROVIDED) FOR ADDITIONAL INFORMATION.
S3-6.21	-	-	-	50	INTERIOR 6" STEEL STUD STC-RATED WALL, PAINTED 5/8" GWB ON BOTH SIDES. STUDS TO BE 20 GAUGE GALVANIZED STEEL, SPACED @ 16" O.C., WITH 20 GAUGE GALVANIZED STEEL TOP AND BOTTOM TRACKS. SECURE BOTTOM TRACK TO FLOOR SLAB WITH RAMSET FASTENERS @ 24" O.C. 3-1/2" MIN. SOUND BATT INSULATION, CONTINUOUS FROM FLOOR TO CEILING. SECURE GWB TO STUDS WITH NO. 6 SCREWS @ 12" O.C. MAX. TAPE AND FINISH ALL JOINTS. PROVIDE INTERMEDIATE WALL BLOCKING FOR PARTITIONS RECEIVING MOUNTED ACCESSORIES. SEE GENERAL NOTES AND SCHEDULES FOR FINISH REQUIREMENTS. REFER TO SPECIFICATIONS AND STRUCTURAL NOTES (IF PROVIDED) FOR ADDITIONAL INFORMATION.

NOTE: SOUND RATED PARTITIONS SHALL ALSO BE INSULATED TO AT LEAST R-19, TYPICAL

ROOM FINISH SCHEDULE

				WALL		CEILING		
NO.	ROOM NAME	FLOOR	BASE	MTL.	FINISH	MTL.	FINISH	REMARKS
101	TLP SHOP	NOTE 3	VCB-01	NEW GWB	PNT-01	ACT 4.0	-	
102	VESTIBULE	NOTE 3	VCB-01	EXISTING	PNT-01	ACT 4.0	-	
103	MAIL & COPY	NOTE 3	VCB-01	EXISTING	PNT-01	ACT 4.0	-	
104	HALLWAYS	NOTE 3	VCB-01	EXISTING	PNT-01	ACT 4.0	-	
105	MANAGER OFFICE	NOTE 3	VCB-01	NEW GWB	PNT-01	ACT 4.0	-	
106	MANAGER OFFICE	NOTE 3	VCB-01	NEW GWB	PNT-01	ACT 4.0	-	
107	SUPERVISOR OFFICE	NOTE 3	VCB-01	NEW GWB	PNT-01	ACT 4.0	-	
108	SUPERVISOR ADMINISTRATION	NOTE 3	VCB-01	EXISTING / GWB	PNT-01	ACT 4.0	-	
109	SUPERVISOR GROUNDS	NOTE 3	VCB-01	EXISTING / GWB	PNT-01	ACT 4.0	-	
110	JANITORIAL	NOTE 3	VCB-01	EXISTING	PNT-01	ACT 4.0	-	
111	MEN'S RESTROOM	NOTE 3	VCB-01	EXISTING	PNT-01	ACT 4.0	-	
112	NORTH & EAST OFFICE	NOTE 3	VCB-01	EXISTING	PNT-01	ACT 4.0	-	
113	FACILITIES OFFICE	NOTE 3	VCB-01	NOTE 1	PNT-01	ACT 4.0	-	
114	WOMEN'S RESTROOM	NOTE 3	VCB-01	EXISTING	PNT-01	ACT 4.0	-	
115	SIGN SHOP	NOTE 3	VCB-01	NEW GWB	PNT-01	ACT 4.0	-	
116	SIGN SHOP	NOTE 3	VCB-01	EXISTING / GWB	PNT-01	ACT 4.0	-	
117	MEETING	NOTE 3	VCB-01	EXISTING / GWB	PNT-01	ACT 4.0	-	
118	SPECIAL EVENTS & TENTS STORAGE	NOTE 3	VCB-01	-	PNT-01	-	-	PROVIDE FINISHES AT NEW PARTITION
119	STORAGE HALLWAYS	NOTE 3	VCB-01	-	PNT-01	-	-	PROVIDE FINISHES AT NEW PARTITION
120	SIGN SHOP STORAGE	NOTE 3	-	-	-	-	-	
121	EAST SHOP STORAGE	NOTE 3	-	-	PNT-01	-	-	
122	NORTH SHOP STORAGE	NOTE 3	-	-	PNT-01	-	-	
123	FACILITIES SHOP STORAGE	NOTE 3	-	-	PNT-01	-	-	
124	TLP SHOP STORAGE	NOTE 3	-	-	PNT-01	-	-	
125	AG STORAGE	NOTE 3	-	-	PNT-01	-	-	PAINT EXISTING CMU
126	EQUIPMENT STORAGE	NOTE 3	VCB-01	-	PNT-01	-	-	PROVIDE FINISHES AT NEW PARTITION
127	I.T.	NOTE 3	VCB-01	EXISTING / GWB	PNT-01	ACT 4.0	-	

FINISH SCHEDULE NOTES
1. PROVIDE AND INSTALL NEW 1/4" GWB LAMINATED TO EXISTING PARTITIONS.
2. IF EXISTING FINISHES ON PARTITIONS NEEDS TO BE REMOVED, NEW GWB FINISHES SHOULD BE 5/8".
3. BROOM SWEEP AND WET MOP ALL EXPOSED INTERIOR CONCRETE AND TERRAZZO FLOOR SURFACES.

FINISH TYPES (BASIS OF DESIGN)

CEILING:
ACT 4.0: MANUFACTURER, USG; BASIS OF DESIGN, 2310; COLOR, WHITE; DESCRIPTION, USG RADAR BASIC ACOUSTICAL PANELS, USG DONN BRAND DX/DXL ACOUSTICAL SUSPENSION SYSTEM

DOORS:
METAL DOORS.

LAMINATE CABINETS:
PLAM-1: HIGH PRESSURE DECORATIVE LAMINATE (HPDL), FORMICA LAMINATE, OR EQUAL. SELECTED FROM FULL RANGE OF COLORS AND PATTERNS.

LAMINATE COUNTERTOPS:
PLAM-2: HIGH PRESSURE DECORATIVE LAMINATE (HPDL), FORMICA LAMINATE, OR EQUAL. SELECTED FROM FULL RANGE OF COLORS AND PATTERNS.

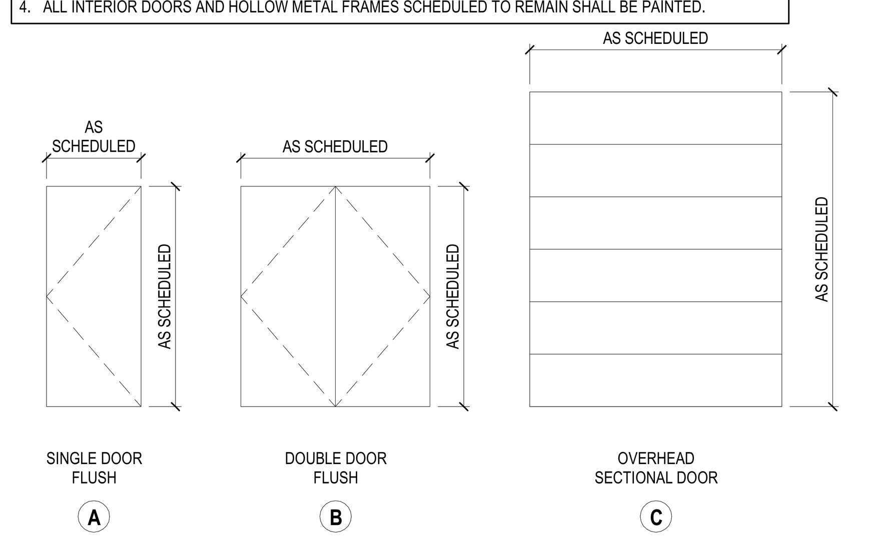
PAINTS:
PNT-01: WALL PAINT, SHERWIN WILLIAMS, EGGSHELL, COLOR SELECTED BY OWNER

WALL BASE
VCB-01: JOHNSONITE (TARKETT), TRADITIONAL WB, COLOR SELECTED BY OWNER, 4" H TRADITIONAL RUBBER WALL BASE

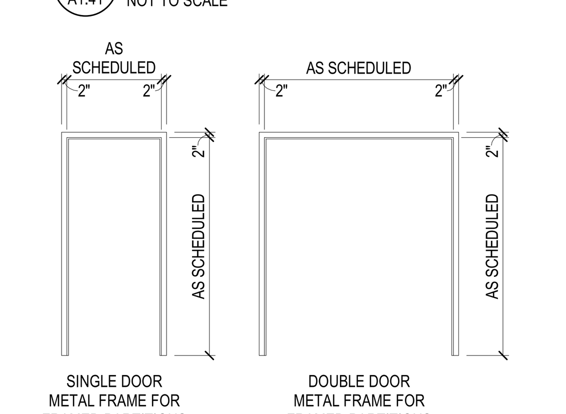
DOOR SCHEDULE

	SIZE								
DOOR NO.	WIDTH	HEIGHT	THICKNESS	MATERIAL	LABEL (MIN)	DOOR TYPE	FRAME TYPE	HDWR SET #	REMARKS
104A	3'-0"	7'-0"	0'-1 3/4"	MTL	-	A	1	6	CARD READER
108A	3'-0"	7'-0"	0'-1 3/4"	MTL	-	A	EXISTING	4	NEW DOOR IN EXISTING FRAME
109A	3'-0"	7'-0"	0'-1 3/4"		-	A			
111A	3'-0"	7'-0"	0'-1 3/4"	MTL	-	A	1	3	
114A	3'-0"	7'-0"	0'-1 3/4"	MTL	-	A	1	3	
115B	3'-0"	7'-0"	0'-1 3/4"	MTL	-	A	1	5	
116A	6'-0"	7'-0"	0'-1 3/4"	MTL	-	B	2	2	
117A	3'-0"	7'-0"	0'-1 3/4"	MTL	-	A	1	1	
117B	3'-0"	7'-0"	0'-1 3/4"	MTL	-	A	1	1	
119A	3'-0"	7'-0"	0'-1 3/4"	MTL	-	A	1	6	CARD READER
119B	14'-0"	14'-0"	0'-3"	MTL	-	C	-	BY MFR	PROVIDE MOTORIZED OPERATOR
119C	8'-0"	10'-0"	0'-3"	MTL	-	C	-	BY MFR	
119D	8'-0"	10'-0"	0'-3"	MTL	-	C	-	BY MFR	
120A	10'-0"	10'-0"	0'-3"	MTL	-	C	-	BY MFR	
121A	8'-0"	10'-0"	0'-3"	MTL	-	C	-	BY MFR	
126A	3'-0"	7'-0"	0'-1 3/4"	MTL	-	A	1	5	CARD READER & ELECTRONIC STRIKE
126B	14'-0"	14'-0"	0'-3"	MTL	-	C	-	BY MFR	PROVIDE MOTORIZED OPERATOR
X101A	2'-8"	7'-0"	0'-1 3/4"	EXISTING	-	A	EXISTING	4	
X102A	3'-0"	7'-0"	0'-1 3/4"	EXISTING	-	-	EXISTING	-	EXISTING STOREFRONT, NEW CARD READER & ELECTRONIC STRIKE
X102B	3'-0"	7'-0"	0'-1 3/4"	EXISTING	-	A	EXISTING	-	PROVIDE NEW LOCK/CYLINDER
X105A	2'-8"	7'-0"	0'-1 3/4"	EXISTING	-	A	EXISTING	4	
X106A	3'-0"	7'-0"	0'-1 3/4"	EXISTING	-	A	EXISTING	4	
X107A	3'-0"	7'-0"	0'-1 3/4"	EXISTING	-	A	EXISTING	4	
X109B	3'-0"	7'-0"	0'-1 3/4"	EXISTING	-	-	-	-	EXISTING BIFOLD
X110A	2'-6"	7'-0"	0'-1 3/4"	EXISTING	-	A	EXISTING	7	
X112A	2'-8"	7'-0"	0'-1 3/4"	EXISTING	-	A	EXISTING	4	
X113A	2'-8"	7'-0"	0'-1 3/4"	EXISTING	-	A	EXISTING	4	
X115A	2'-8"	7'-0"	0'-1 3/4"	EXISTING	-	A	EXISTING	4	
X115C	3'-0"	7'-0"	0'-1 3/4"	EXISTING	-	A	EXISTING	6	CARD READER
X127A	2'-8"	7'-0"	0'-1 3/4"	EXISTING	-	A	EXISTING	6	CARD READER, INFILL EXISTING VISION PANEL WITH METAL PLATE

DOOR SCHEDULE NOTES
1. NEW INTERIOR METAL DOORS SHALL BE PAINTED.
2. REPLACE ALL DOOR HARDWARE WITH LEVER HANDLES WITH CORES TO ACCEPT MEDECO CYLINDERS.
3. ACCESS CONTROLS WILL BE BY OWNER. ELECTRONIC STRIKES SHALL BE PROVIDED BY THE CONTRACTOR.
4. ALL INTERIOR DOORS AND HOLLOW METAL FRAMES SCHEDULED TO REMAIN SHALL BE PAINTED.



12 / A1.41 GRAPHIC LEGEND - DOOR TYPES
NOT TO SCALE



13 / A1.41 GRAPHIC LEGEND - DOOR FRAME TYPES
NOT TO SCALE

BALZER & ASSOCIATES
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COMMONWEALTH OF VIRGINIA
JAMES R. RUHLAND III
Lic. No. 0401014487
2025-07-16
ARCHITECT

ROANOKE COUNTY VA
PARKS, RECREATION & TOURISM

PRT SHOP BUILDING
RENOVATION
DETAILS, NOTES & SCHEDULES

5305 HOLLINS ROAD
ROANOKE, VIRGINIA

DRAWN BY	JR3
DESIGNED BY	JR3
CHECKED BY	JR3, RWP
DATE	2025-07-16
SCALE	As indicated
REVISIONS	

A1.41

PROJECT NO 03220077.00

N:_BAL\Projects\2200\03\03220077.00 ROANOKE COUNTY PUBLIC SERVICES - PRT BUILDING\ARCH\DRAWINGS\03220077.00 ROCO PRT BLDG A24.rvt

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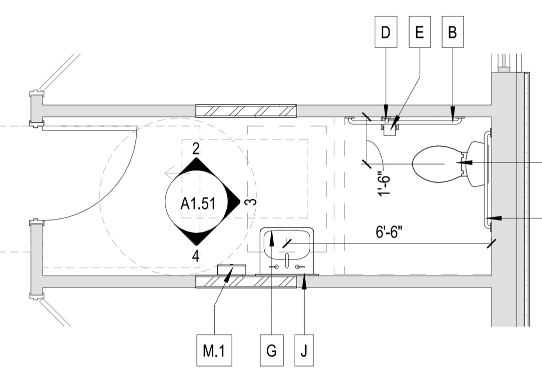
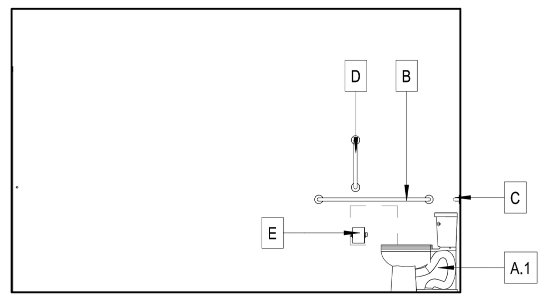


1 A1.51 **ENLARGED FLOOR PLAN**
1/4" = 1'-0"



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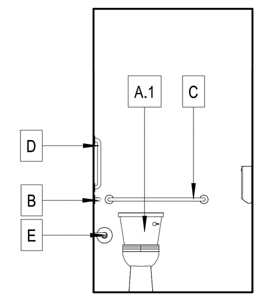

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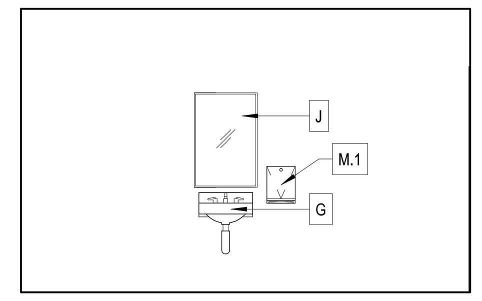


4 A1.51 **INT ELEV**
1/4" = 1'-0"

TOILET ACCESSORIES NOTES

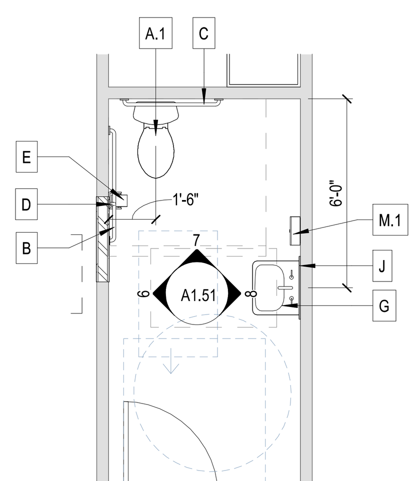
1. CONTRACTOR TO SUPPLY AND INSTALL SCHEDULED TOILET ACCESSORIES IN RESTROOMS UNLESS NOTED OTHERWISE. VERIFY IF OWNER OR OWNER'S VENDOR IS SUPPLYING SCHEDULED ACCESSORIES. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL ACCESSORIES WETHER PROVIDE BY THE OWNER OR NOT.
2. PROVIDE WOOD BLOCKING AT ALL WALL-HUNG ITEMS IN FRAMED PARTITIONS.
3. ALL ACCESSORIES MUST BE ACCESSIBILITY COMPLIANT, SEE ACCESSIBILITY REFERENCE DETAILS SHEET.
4. VERIFY MOUNTING HEIGHT OF TOILET TISSUE HOLDER PRIOR TO MOUNTING. HEIGHT MAY VARY DEPENDING ON UNIT FURNISHED BY OWNER.
5. INSULATE ALL EXPOSED HOT WATER SUPPLY AND DRAIN PIPES.
6. TOILET LEVER SHALL BE TO THE WIDE SIDE OF ROOM OR STALL.
7. PROVIDE VENTILATION FAN TO OUTSIDE FOR ALL TOILETS.
8. CONTRACTOR SHALL VERIFY FINAL FIXTURE SELECTIONS WITH OWNER PRIOR TO PURCHASING.

GENERAL CASEWORK/MILLWORK NOTES

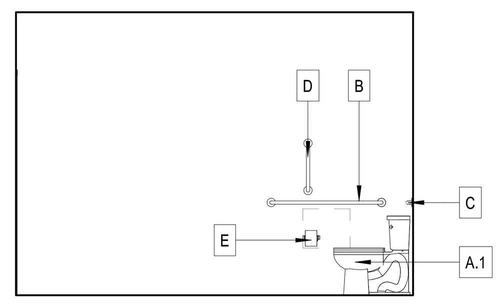
1. THESE ARE SCHEMATIC CASEWORK DRAWINGS. BALZER AND ASSOCIATES IS NOT RESPONSIBLE FOR DIMENSIONING, FABRICATION DETAILS (INCLUDING BRACING, FASTENING, AND CONCEALED BLOCKING, AND SIMILAR FRAMING) NORMALLY ASSOCIATED WITH SHOP DRAWINGS.
2. ALLOW A MINIMUM OF 1 INCH CLEARANCE FROM THE EDGE OF ALL WALLS AND THE OUTSIDE FACE OF CASEWORK, TYPICAL
3. PROVIDE 1-1/2" HOLE FOR ELECTRICAL, TELEPHONE, AND COMPUTER OUTLET ACCESS IN COUNTERS WHERE CABLE OPENINGS/GROMMETS OCCUR AND WHERE NOTED. VERIFY LOCATION WITH OWNER, COORDINATE POWER AND TELEPHONE PLAN WITH CABINET ELEVATION.
4. FILLER STRIPS ARE TO BE PROVIDED AT ALL WALLS.

RESTROOM ACCESSORY SCHEDULE

MARK	DESCRIPTION	BASIS-OF-DESIGN	MODEL	DESCRIPTION	MOUNTING HEIGHT	COMMENTS
A.1	TANK WATER CLOSET (ADA)	SEE PLUMBING PLANS	-	CADET 3 ELONGATED 16-1/2" RIGHT HEIGHT LOW CONSUMPTION TANK TOILET, FLOOR MOUNTED, VITREOUS CHINA	SEAT 17"-19" ABOVE FINISHED FLOOR	
B	SIDE WALL GRAB BAR	BOBRICK	B-5806.99x42	STRAIGHT PEENED GRAB BAR	33"-36" ABOVE FINISHED FLOOR TO TOP OF BAR	REINFORCED WALL
C	REAR WALL GRAB BAR	BOBRICK	B-5806.99x36	STRAIGHT PEENED GRAB BAR	33"-36" ABOVE FINISHED FLOOR TO TOP OF BAR	REINFORCED WALL
D	VERTICAL GRAB BAR	BOBRICK	B-5806.99x18	STRAIGHT PEENED GRAB BAR	39"-41" ABOVE FINISHED FLOOR TO BOTTOM OF BAR	REINFORCED WALL
E	TOILET PAPER DISPENSER	-	-	-	24" ABOVE FINISHED FLOOR TO TOP	BY OWNER / CONTRACTOR INSTALLED
G	WALL MOUNTED LAVATORY	SEE PLUMBING PLANS	-	WHITE WITH ADA FAUCET	34" ABOVE FINISHED FLOOR TO TOP OF SINK RIM	
H	DRAIN INSULATION	TRUBRO	102 E-Z	MOUNTED TO SINK DRAIN LINE	SEE ADA REFERENCE DETAILS	
J	2-0" WIDE X 3'-0" TALL MIRROR	BOBRICK	B-165-2436	STAINLESS STEEL FRAME	40" ABOVE FINISHED FLOOR TO BOTTOM OF REFLECTIVE SURFACE	
M.1	SURFACE MOUNTED PAPER TOWEL DISPENSER	-	-	-	48" ABOVE FINISHED FLOOR TO HIGHEST OPERABLE COMPONENT	BY OWNER / CONTRACTOR INSTALLED
W.3	LOW (ONLY) WATER FOUNTAIN WITH BOTTLE FILLER	ELKAY	EZH20	SINGLE LEVEL ADA COOLER, NON-FILTERED, WITH BOTTLE FILLING STATION	34" ABOVE FINISHED FLOOR TO ACCESSIBLE SPOUT	-



5 A1.51 **ENLARGED FLOOR PLAN**
1/4" = 1'-0"



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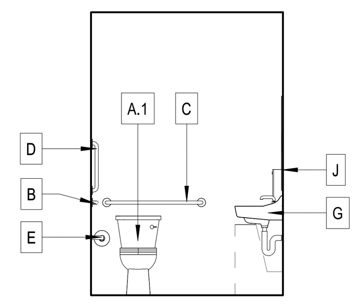

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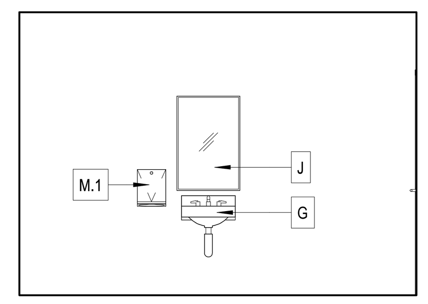

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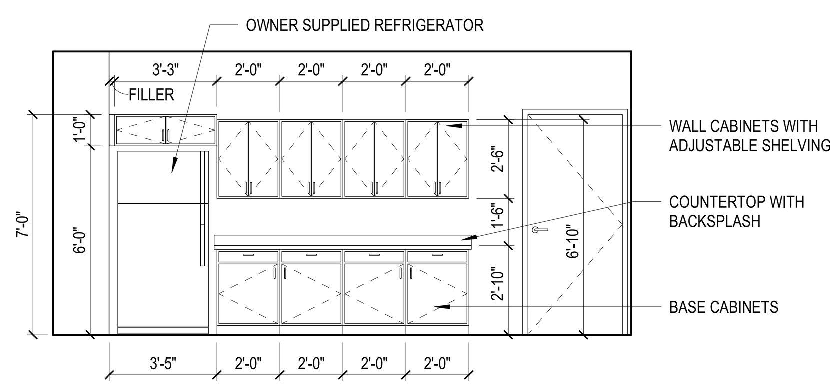
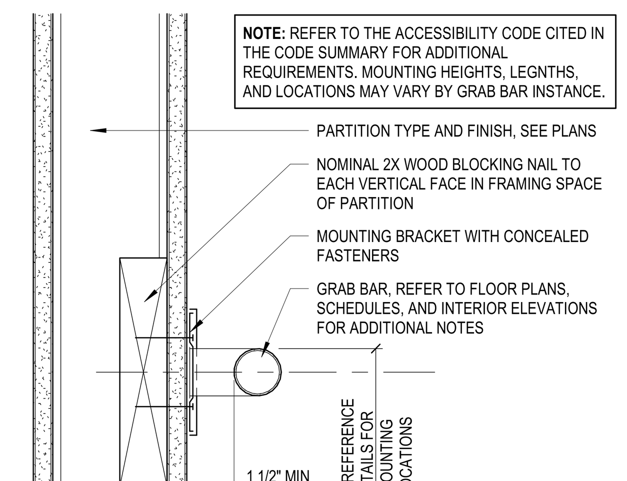
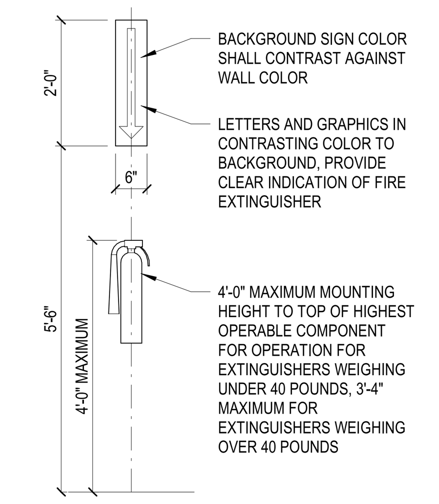


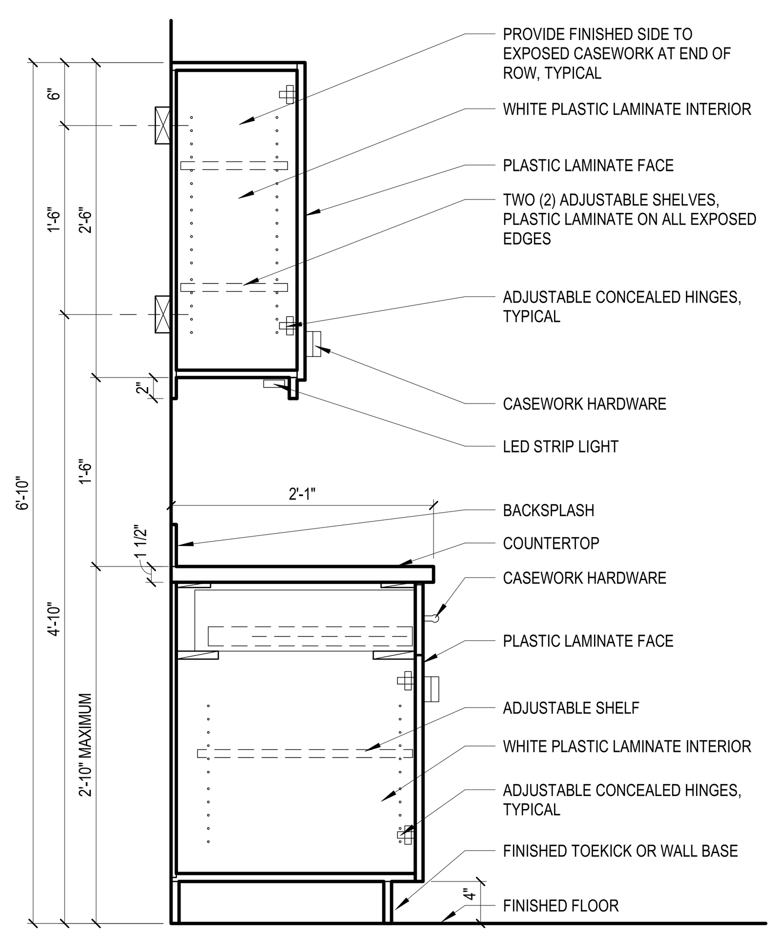
9 A1.51 **KITCHENETTE**
1/4" = 1'-0"



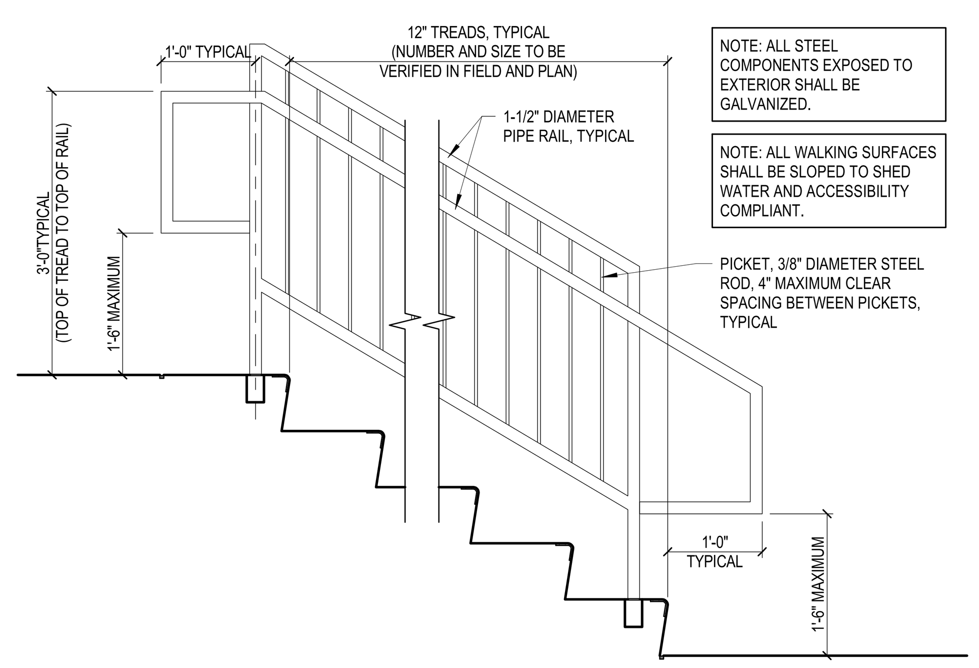
10 A1.51 **GRAB BAR DETAIL**
NOT TO SCALE



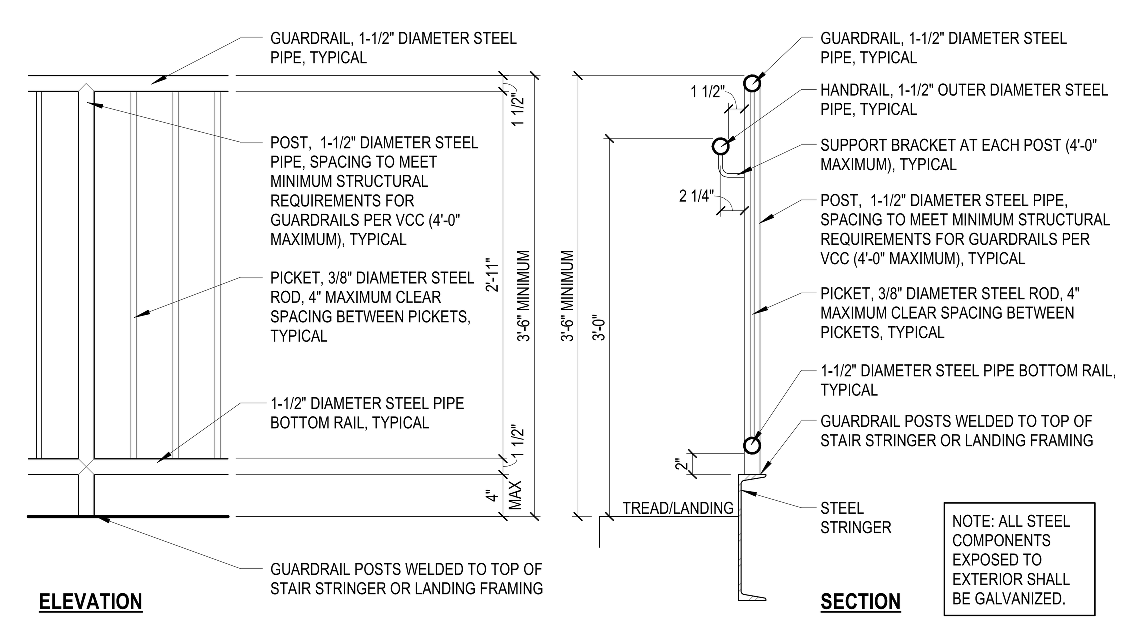
11 A1.51 **FIRE EXTINGUISHER MOUNTING**
NOT TO SCALE



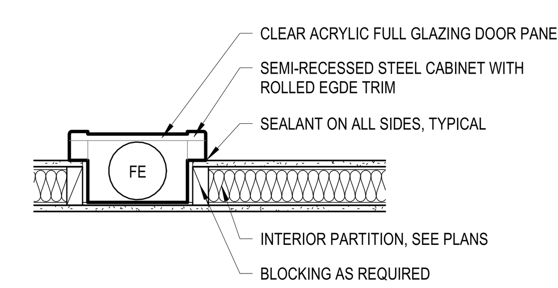
14 A1.51 **CASEWORK SECTION**
1" = 1'-0"



15 A1.51 **CONCRETE EXTERIOR STEPS**
3/4" = 1'-0"



16 A1.51 **GUARDRAIL AND HANDRAIL DETAILS**
1" = 1'-0"



NOTE: WHERE CABINETS ARE LOCATED IN FIRE RATED ASSEMBLIES, PROVIDE FIRE RATED CABINETS.

17 A1.51 **LIFE SAFETY - FIRE EXTINGUISHER CABINET**
NOT TO SCALE

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2025-07-16
ARCHITECT

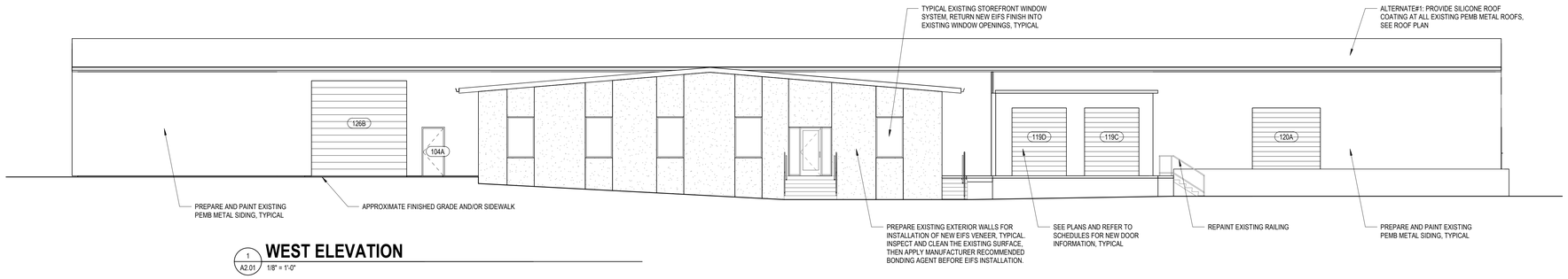
ROANOKE COUNTY VA
PARKS, RECREATION & TOURISM

PRT SHOP BUILDING
RENOVATION
ENLARGED PLANS, INTERIOR ELEVATIONS & DETAILS
5305 HOLLINS ROAD
ROANOKE, VIRGINIA

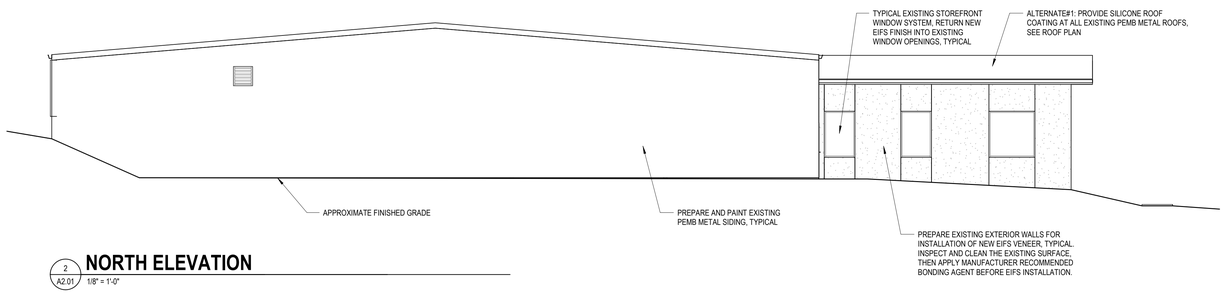
DRAWN BY	JR3
DESIGNED BY	JR3
CHECKED BY	JR3, RWP
DATE	2025-07-16
SCALE	As indicated
REVISIONS	

A1.51
PROJECT NO 03220077.00

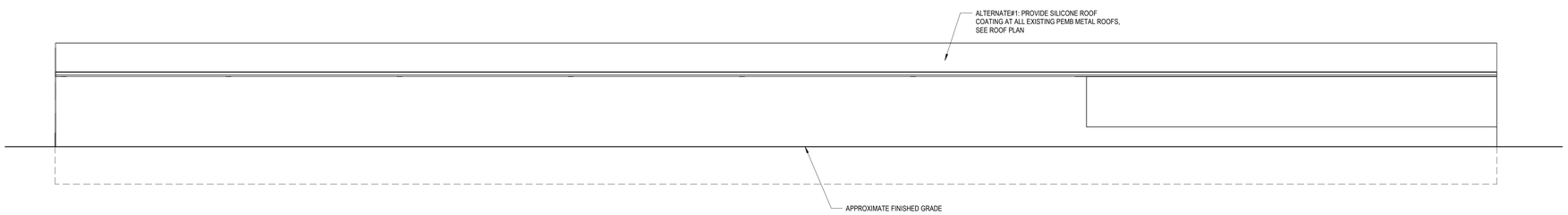
N:_BAL\Projects\22\00\03\03220077.00 ROANOKE COUNTY PUBLIC SERVICES - PRT BUILDING\ARCH\DRAWINGS\03220077.00 ROCO PRT BLDG A24.rvt



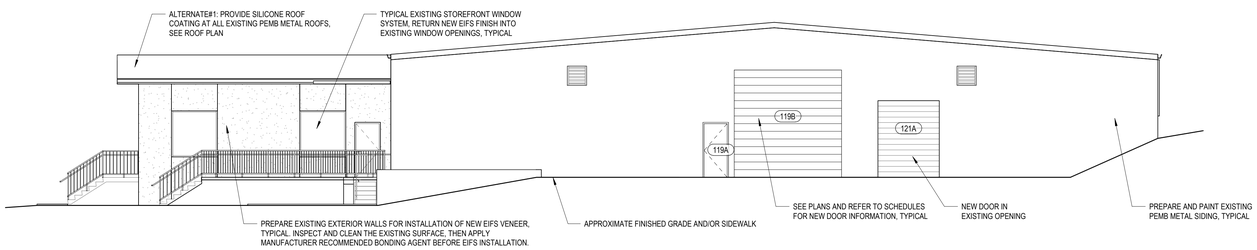
1 A2.01 **WEST ELEVATION**
1/8" = 1'-0"



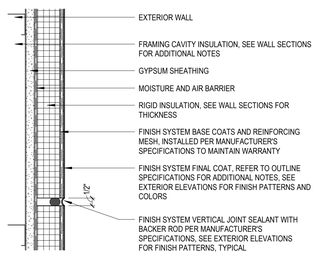
2 A2.01 **NORTH ELEVATION**
1/8" = 1'-0"



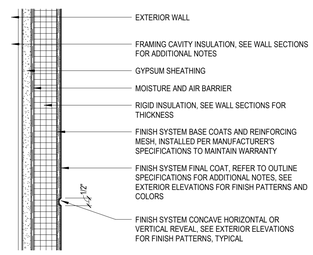
3 A2.01 **EAST ELEVATION**
1/8" = 1'-0"



4 A2.01 **SOUTH ELEVATION**
1/8" = 1'-0"



5 A2.01 **EIFS VERTICAL JOINT**
3" = 1'-0"



6 A2.01 **EIFS REVEAL**
3" = 1'-0"

GENERAL EXTERIOR ELEVATION NOTES

1. COORDINATE ALL EXTERIOR WALL PENETRATIONS WITH OTHER TRADES.
2. GRADING CONDITIONS AT THE BUILDING FACE MAY VARY AS SITE CONDITIONS AND BUILDING TECHNIQUES MAY DICTATE.
3. EXTERIOR WALL PLUMBING AND VENTILATION PENETRATIONS ARE NOT SHOWN. COORDINATE PROPOSED LOCATIONS WITH OWNER PRIOR TO INSTALLATION.
4. ALL EXTERIOR FINISHES/COLORS/TEXTURES AND/OR MANUFACTURERS SHOWN HEREIN SHALL BE VERIFIED WITH OWNER PRIOR TO CONSTRUCTION.

GENERAL EXTERIOR PAINT NOTES

1. ALL EXTERIOR FINISHES/COLORS/TEXTURES AND/OR MANUFACTURERS SHOWN HEREIN SHALL BE VERIFIED WITH OWNER PRIOR TO CONSTRUCTION.
2. PAINTING SHALL BE LABELED FOR EXTERIOR APPLICATIONS. USE ONLY PAINT LISTED BY MANUFACTURER FOR INTENDED SUBSTRATES.
3. MASK ANY EXTERIOR ELEMENTS (LIGHTS, WINDOWS, DOORS, AND SIMILAR OBJECTS) WHICH ARE NOT TO BE PAINTED PRIOR TO PAINTING. REMOVE ANY SPILLS OR EXCESS PAINT BEFORE PAINT DRIES.
4. PAINT ALL EXPOSED UTILITY JUNCTION BOXES/METERS AND ASSOCIATED CONDUIT SHALL BE PAINTED TO MATCH IMMEDIATELY ADJACENT BUILDING COLOR.

GENERAL ROOFING & GUTTERING NOTES

1. ALL EXTERIOR FINISHES/COLORS/TEXTURES AND/OR MANUFACTURERS SHOWN HEREIN SHALL BE VERIFIED WITH OWNER PRIOR TO CONSTRUCTION.

GENERAL EXTERIOR BUILDING SIGNAGE NOTES

1. ALL EXTERIOR BUILDING SIGNAGE SHALL BE PROVIDED AND INSTALLED BY OWNER. ALL EXTERIOR BUILDING SIGNAGE SHALL BE UNDER A SEPARATE LOCALITY PERMIT. BUILDING OWNER SHALL BE RESPONSIBLE FOR PERMIT APPLICATION AND FEES. COORDINATE/VERIFY PREFERRED LOCATIONS WITH OWNER SPECIFICATIONS.

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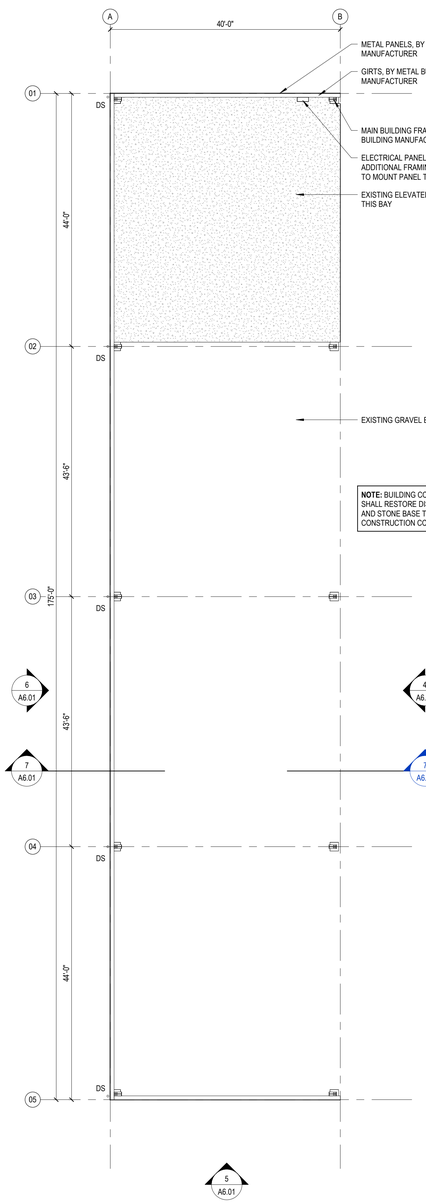
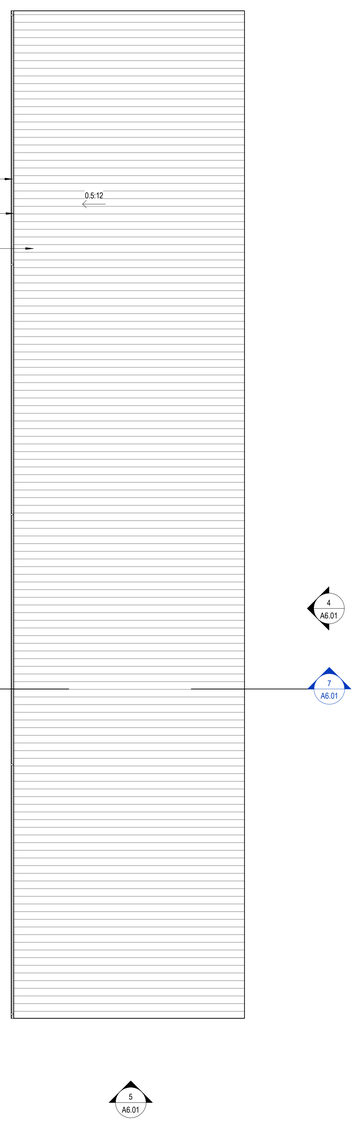
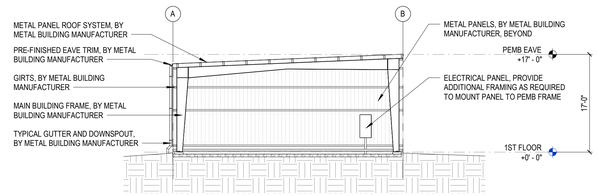


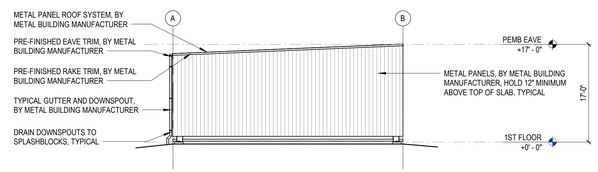
1 A6.01 **SHED PLAN**
3/32" = 1'-0"



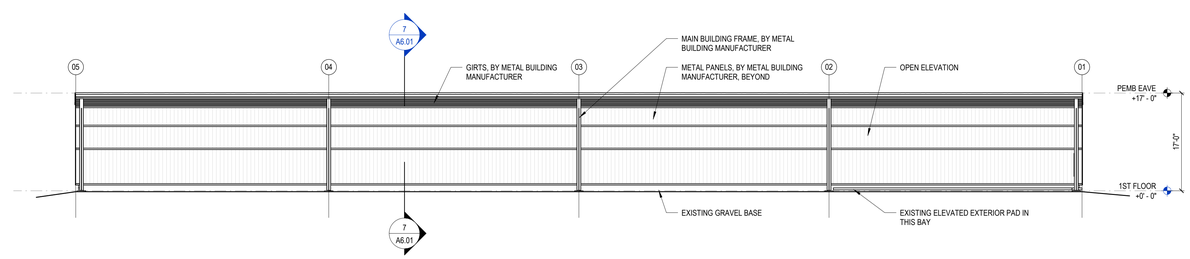
2 A6.01 **SHED ROOF**
3/32" = 1'-0"



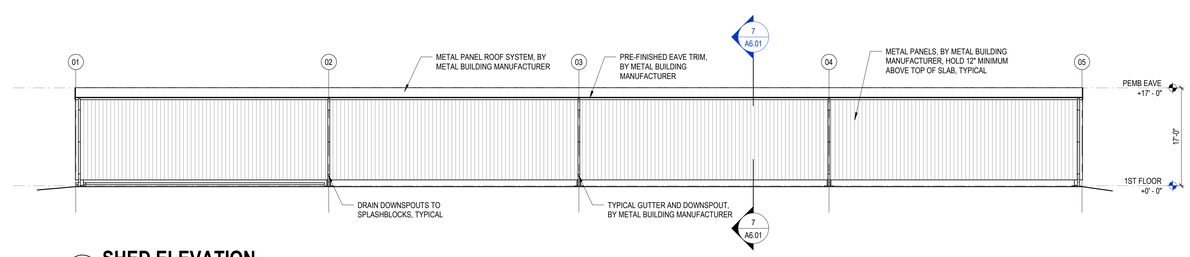
7 A6.01 **SHED SECTION**
3/32" = 1'-0"



5 A6.01 **SHED ELEVATION**
3/32" = 1'-0"



4 A6.01 **SHED ELEVATION**
3/32" = 1'-0"



6 A6.01 **SHED ELEVATION**
3/32" = 1'-0"

CODE ANALYSIS (UTILITY SHED)

Project Description

This proposed project is a **one (1)** new **open-air storage roof utility structure**. The structure is proposed to be **metal building, with metal panel exterior walls** construction. This structure is considered a separate building from the primary existing building and addition.

Code Edition: **2021 Virginia Construction Code (VCC) (2021 IBC with Virginia Amendments)**

Project Summary

Use and Occupancy Classification Group(s):	**Utility (U) (Sheds)**
Construction Type:	**2B (Non-Combustible, Non-Protected)**
Building Height in Feet Above Grade Plane:	**approximately 16 feet**
Number of Stories Above Grade Plane:	**1 stories**
Sprinkler System:	**No**
Area Factor in Square Feet:	**approximately 7,000 square feet**

Use and Occupancy Classification (VCC Chapter 3): Refer to Summary above.

Special Detailed Requirements Based on Use and Occupancy (VCC Chapter 4):
1. No notes.

General Building Heights and Areas (VCC Chapter 5):

Allowable Building Height in Feet Above Grade Plane (Table 504.3):	55 feet
Allowable Number of Stories Above Grade Plane (Table 504.4):	2 stories
Allowable Area Factor in Square Feet (Table 506.2):	8,500 square feet
Required Separation of Occupancies (Hours) (Table 508.4):	N/A

Types of Construction (VCC Chapter 6): Refer to Summary above.

Fire-Resistance Rating Requirements for Building Elements (Hours) (VCC Table 601)

Primary structural frame:	**0 hours**
Bearing walls (Exterior):	**0 hours**
Bearing walls (Interior):	**0 hours**
Nonbearing walls and partitions (Interior):	**0 hours**
Floor construction and associated secondary members:	**0 hours**
Roof construction and associated secondary members:	**0 hours**

Fire-Resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance (VCC Table 602)

Nonbearing Walls and Partitions (Exterior):	**0 hours (10≤X<30 feet, 2B Construction type, U occupancy)**

Fire and Smoke Protection Features (VCC Chapter 7):
1. None.

Interior Finishes (VCC Chapter 8):
1. None.

Fire Protection Systems (VCC Chapter 9)
1. An Automatic Fire Sprinkler System **is not required to** be provided throughout building per Section 903.2, installed in accordance with Section 903.3, and **not** tied to an Automatic Fire Alarm System and off-site monitored per Section 903.4 .
2. A Class I standpipe is **not** required per Section 905.
3. Fire extinguishers are **not required** be provided per Section 906 and per Virginia Fire Prevention Code (VFPC) Section 906.
4. An approved Fire Alarm and Detection System **is not required to** be provided throughout the building per Section 907.2.

Means of Egress (VCC Chapter 10):
1. The design occupant load calculaiton is based on the designation of the utility structure as an outdoor space per Section 1004.7 and is reserved for occupants o the amin building.
2. The minimum number of Building Exits and Exit Access Doorways per Section 1004.7 Exception 1 is one (1) means of egress. One full side of the structure is open, and provides the primary path of egress.

Accessibility (VCC Chapter 11):
1. An accessible route and features are not required per Section 1103.2.4.

Interior Environment (VCC Chapter 12):
1. None.

Energy Efficiency (VCC Chapter 13)
1. None.

Structural Design (VCC Chapter 16)
1. Refer to structural load table below.

Special Inspections and Tests (VCC Chapter 17):
1. Contractor shall coordinate and owner shall pay for special inspections to be provided by an independent testing agency per VCC Section 1704.
2. Inspection reports are to be submitted to the architect and building official as described in VCC Section 1704.2 for the work indicated on the "Statement of Special Inspections" submitted as part of the building permit application.

Plumbing Systems (VCC Chapter 29)
1. Refer to plumbing fixture summary for minimum number of required plumbing fixtures (Virginia Plumbing Code Table 403.1).

Plumbing and Mechanical Codes:
1. All mechanical and plumbing designs, construction, materials, and workmanship shall comply with all provisions of the current edition of the Virginia Plumbing Code (VPC), and the current edition of the Virginia Mechanical Code (VMC), as a minimum level of construction detail and quality.

DESIGN LOAD SCHEDULE (2021 IBC)

DEAD LOADS:	
ROOF DEAD LOAD:	20 psf
LIVE LOADS:	
ROOF LIVE LOAD:	20 psf
GROUND SNOW LOAD:	41 psf
WIND LOAD DESIGN CRITERIA:	
ULTIMATE DESIGN WIND SPEED:	115 mph
NOMINAL DESIGN WIND SPEED:	85 mph
RISK CATEGORY:	II
EXPOSURE:	B
SEISMIC LOADS:	
SITE CLASS:	D
SEISMIC DESIGN CATEGORY:	B
DESIGN ALLOWABLE SOIL BEARING CAPACITY:	1500 psf (ASSUMED)

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A6.01

PROJECT NO 03220077.00

IM #:5317500024
N:_BAL Projects\2003\03220077.00 ROANOKE COUNTY PUBLIC SERVICES - PRT BUILDING\ARCHI\DRAWINGS\03220077.00_PRT BLDG.A24.rvt

AIR HANDLER UNIT SCHEDULE (FURNACE+COIL)

MARK	SUPPLY AIR FLOW (CFM)	OUTSIDE AIR FLOW (CFM)	SUPPLY FAN PERFORMANCE		GAS HEATING PERFORMANCE		AHU ELECTRICAL		BASIS OF DESIGN (MANUFACTURER,MODEL#)	WEIGHT (LBS.)
			MIN. ESP IN. WC	FAN HP	1ST/2ND STAGE INPUT (MBH)	1ST/2ND STAGE OUTPUT (MBH)	V / PH	MCA/MOCP (AMP.)		
AHU-1	1770	265	0.9"	1	52 / 80	41.6 / 64	120 / 1	14.1 /15	TRANE, 5TXCC007AS3+S8X2C080M5PSC	220
AHU-2	1195	200	0.9"	1	52 / 80	41.6 / 64	120 / 1	14.1 /15	TRANE, 5TXCC007AS3+S8X2C080M5PSC	220

NOTES:
1. PROVIDE COMPLETE HEATING/COOLING SYSTEM INCLUDING GAS FURNACE INTERLOCKED WITH INDOOR HEAT PUMP COIL AND ASSOCIATED OUTDOOR HEAT PUMP UNIT.
2. PROVIDE 3/4" CONDENSATE WITH P-TRAP ROUTED TO FLOOR DRAIN. PROVIDE 2" AIR GAP AT DISCHARGE. SEE PIPING PLANS FOR EXACT LOCATIONS & DETAILS.
3. PROVIDE REFRIGERANT LINES TO/FROM OUTDOOR HEAT PUMP UNIT SIZED AND ROUTED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
4. PROVIDE FIELD MOUNTED DISCONNECT SWITCH - TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
5. PROVIDE FLEXIBLE DUCT CONNECTION TO UNITS.
6. PROVIDE MERV 8 FILTER AT UNIT INLET WITH FILTER RACK/ACCESS AS NEEDED.

OUTDOOR HEAT PUMP UNIT SCHEDULE

MARK	INDOOR UNIT MARK	NET COOLING CAPACITY (MBH)	HEATING OUTPUT @ 47°F/7°F (MBH)	ELECTRICAL		WEIGHT (LBS.)	BASIS OF DESIGN (MANUFACTURER,MODEL#)
				V / PH	MCA/MOCP (AMP.)		
HP-1	AHU-1	54.6	53.5/35.6	208-230 / 1	22.8/35	305	TRANE, 5TWA4060A3
HP-2	AHU-2	54.6	53.5/35.6	208-230 / 1	22.8/35	305	TRANE, 5TWA4060A3

NOTES:
1. REFRIGERANT PIPING TO BE SIZED PER THE TOTAL INSTALLED EQUIVALENT LENGTH. PROVIDE LONG LINE REFRIGERANT PIPING KIT (INCLUDING LIQUID LINE SOLENOID VALVES, ACCUMULATOR, ETC.) WHENEVER MANUFACTURER'S RECOMMENDED LENGTHS ARE EXCEEDED. SEE INSTALLATION INSTRUCTIONS FOR MANUFACTURER'S RECOMMENDED EQUIVALENT REFRIGERANT PIPING LENGTHS PRIOR TO PERFORMING ANY WORK.
2. PROVIDE FIELD MOUNTED DISCONNECT SWITCH - TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
3. PROVIDE 4" CONCRETE PAD BELOW UNIT WITH RUBBER ISOLATORS.

FAN SCHEDULE

MARK	AIR FLOW (CFM)	ESP	FAN POWER HP (WATTS)	DRIVE TYPE	V/FREQ./PH	WEIGHT (LBS)	MOUNTING/ ORIENTATION	BASIS OF DESIGN (MANUFACTURER,MODEL#)
EF-1	80	0.25	(11)	DIRECT	115/60/1	8	CEILING	GREENHECK SP-LP0511
EF-2	80	0.25	(11)	DIRECT	115/60/1	8	CEILING	GREENHECK SP-LP0511
EF-3	560	0.2	1/8	DIRECT	115/60/1	30	SIDEWALL	GREENHECK AER-20-03-0607
EF-4	560	0.2	1/8	DIRECT	115/60/1	30	SIDEWALL	GREENHECK AER-20-03-0607

NOTES:
1. PROVIDE EACH FAN WITH GRAVITY BACKDRAFT DAMPER.
2. FOR EF-3 AND EF-4, PROVIDE WITH INTERIOR ACCESS WALL HOUSING WITH PROPELLER GUARD, BACKDRAFT DAMPER AT WALL, AND GALVANIZED WEATHER HOOD WITH 45° DOWNWARD DISCHARGE AND BIRD SCREEN.
3. FANS EF-3 AMD EF-4 SHALL RUN CONTINUOUSLY WHILE BUILDING IS OCCUPIED. INTERLOCK FAN OPERATION WITH MOTOR OPERATED DAMPER IN OUTSIDE AIR INTAKE LOUVER.
4. PROVIDE FANS EF-1 AND EF-2 WITH WALL MOUNTED ON/OFF SWITCH AT BATHROOM ENTRANCE.

GAS UNIT HEATER SCHEDULE

MARK	HEATING CAPACITY		BLOWER POWER (HP)	ELECTRICAL		BASIS OF DESIGN
	HEATING INPUT (MBH)	HEATING OUTPUT HIGH/LOW (MBH)		V / PH	AMPS / MCA	
GUH-1	150	124.5	1/4	115 / 1	6.9 / 15	TRANE, GNNE

NOTES:
1. PROVIDE ELECTRONIC MODULATING GAS CONTROL VALVE WITH REMOTE MOUNTED THERMOSTAT.
2. HEAT EXCHANGER SHALL BE CONSTRUCTED OF 20 GAUGE, 409 STAINLESS STEEL TUBES.

AIR DEVICE SCHEDULE

MARK	SERVICE	MOUNTING	FINISH	BASIS OF DESIGN
A	SUPPLY	SURFACE / LAY-IN	WHITE	PRICE, SCD - SQUARE CODE DIFFUSER
B	RETURN	LAY-IN	WHITE	PRICE, 80 - EGG CRATE GRILLE

ELECTRIC HEATER SCHEDULE

MARK	HEATING CAPACITY		ELECTRICAL		BASIS OF DESIGN
	KW	MBH	V / PH	AMPS	
WH-1	3.0	10.2	208 / 1	14.4	MARKEL MODEL HF3326TD-RP, RECESSED WALL HEATER

GENERAL MECHANICAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT 2021 UNIFIED VIRGINIA BUILDING CODE, ALL FEDERAL, STATE, AND CITY CODES, ORDINANCES, AND STANDARDS.
2. IT IS THE INTENT OF THESE DOCUMENTS THAT THE CONTRACTOR PROVIDE ALL LABOR, MATERIAL, EQUIPMENT AND TOOLS FOR THE COMPLETE INSTALLATION OF ALL WORK SHOWN ON THE PLANS AND/OR DESCRIBED HEREIN, INCLUDING ALL DEVISES AND CONTROLS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.
3. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE. NOT ALL FITTINGS, OFFSETS, VENTS, OR DRAINS ARE SHOWN. THE CONTRACTOR SHALL INCLUDE ALL OFFSETS, VENTS, AND DRAINS AS REQUIRED FOR A FULLY FUNCTIONING SYSTEM.
4. IN AREAS WITH UNFINISHED CEILINGS, DUCTWORK AND PIPING SHALL BE ROUTED AS TIGHT TO THE STRUCTURE AS POSSIBLE.
5. ENSURE MECHANICAL EQUIPMENT IS INSTALLED TO PROVIDE SUFFICIENT CLEARANCE FOR COIL PULL, AND MINIMUM MANUFACTURER RECOMMENDED MAINTENANCE ACCESS TO EQUIPMENT.
6. ALL SUPPLY AIR DIFFUSERS, RETURN, AND EXHAUST GRILLES SHALL BE INSTALLED WITH BALANCING DAMPER LOCATED IN DUCT RUN OUT. DIFFUSERS AND GRILLES SHALL HAVE AN OPPOSED BLADE DAMPER ONLY WHEN DUCT DAMPERS ARE INACCESSIBLE.
7. PROVIDE ALL SUPPLY AIR SYSTEMS WITH A MINIMUM MERV 8 FILTER, UNLESS NOTED OTHERWISE. PROVIDE TEMPORARY AIR FILTERS IN AIR HANDLER UNITS AND RETURN AIR INLETS AND GRILLES DURING CONSTRUCTION AND REPLACE AT COMPLETION. FILTERS SHALL BE INSTALLED SUCH THAT THEY ARE ACCESSIBLE FOR REPLACEMENT AND LOCATED PRIOR TO ANY HEATING OR COOLING COILS.

DUCTLESS MINI SPLIT OUTDOOR HEAT PUMP SCHEDULE (OU-)

MARK	COOLING CAPACITY @95°F (MBH)	HEATING CAPACITY @17°F (MBH)	ELECTRICAL			WEIGHT (LBS)	BASIS OF DESIGN
			V / PH	MCA	MOCP		
OU-1	18.0	11.7	208 / 1	16.0	27	100	MITSUBISHI, PUZ-AK18NL

NOTES:
1. PROVIDE REFRIGERANT PIPING TO ASSOCIATED INDOOR UNIT (DS-1). INSTALL AS PER MANUFACTURER'S REQUIREMENTS.
2. REFRIGERANT SHALL BE R454B.
3. PROVIDE 4" CONCRETE EQUIPMENT PAD BELOW UNIT. SECURE UNIT TO PAD AS PER MANUFACTURES RECOMMENDATIONS.

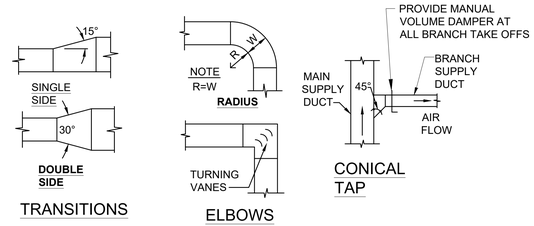
DUCTLESS INDOOR UNIT SCHEDULE (DS-)

MARK	UNIT TYPE	ASSOCIATED OUTDOOR UNIT TAG	COOLING CAPACITY @95°F (MBH)	HEATING CAPACITY @17°F (MBH)	WEIGHT (LBS.)	BASIS OF DESIGN (MANUFACTURER,MODEL#)
DS-1	WALL MOUNT	OU-1	18.0	11.7	31	MITSUBISHI, PKA-AL18NL

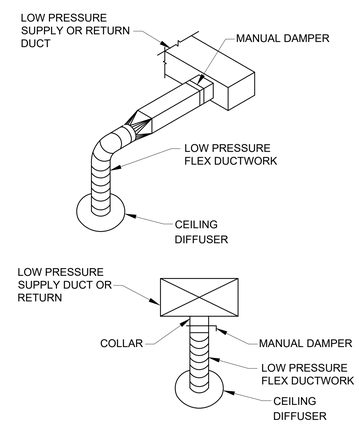
NOTES:
1. PROVIDE EACH INDOOR UNIT WITH WALL MOUNTED WIRELESS THERMOSTAT/CONTROLLER.
2. PROVIDE EACH WALL MOUNT INDOOR UNIT WITH CONDENSATE REMOVAL PUMP (CP-1), EQUIVALENT TO ASPEN PUMPS, MINI WHITE UNIVOLT WITH ABILITY TO PUMP 3.2 GAL/HR AT 33FT HEAD. PROVIDE 120V POWER SUPPLY.
3. PROVIDE CONTROLS WIRING FROM OUTDOOR UNIT TO EACH INDOOR UNIT AS RECOMMENDED BY THE MANUFACTURER.

HVAC LEGEND

	SUPPLY AIR DUCT, (RECTANGULAR)
	RETURN AIR DUCT, (RECTANGULAR)
	EXHAUST DUCT, (RECTANGULAR)
T	THERMOSTAT
12x6	RECTANGULAR DUCTWORK (1ST FIG. SIDE SHOWN, 2ND SIDE NOT SHOWN)
12"Ø	ROUND DUCTWORK
	FLEXIBLE DUCT, (ROUND)
	SUPPLY DIFFUSER
	RETURN GRILLE
	EXHAUST GRILLE
AIR DEVICE TAG: 100 / 12 - A - 3	AIRFLOW (CFM); INLET SIZE - TAG - # OF THROW DIRECTIONS
	DUCT TRANSITION, RECTANGULAR OR ROUND
EQUIPMENT TAG: AHU / 1	EQUIPMENT TYPE ABREVIATION; UNIT MARK #
	MVD, MANUAL VOLUME DAMPER
M	MOTORIZED CONTROL DAMPER
	CONNECT TO EXISTING
	LIMITS OF DEMOLITION
(E)	EXISTING (EQUIPMENT OR DUCTWORK/PIPING)
	DEMOLITION (EQUIPMENT, PIPING, DUCTWORK, ETC.)



2 / M1.1 **DUCTWORK DETAILS**
SCALE = N/A



2 / M1.1 **FLEX DUCT TO DIFFUSER DETAIL**
SCALE = N/A

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06-05-2025
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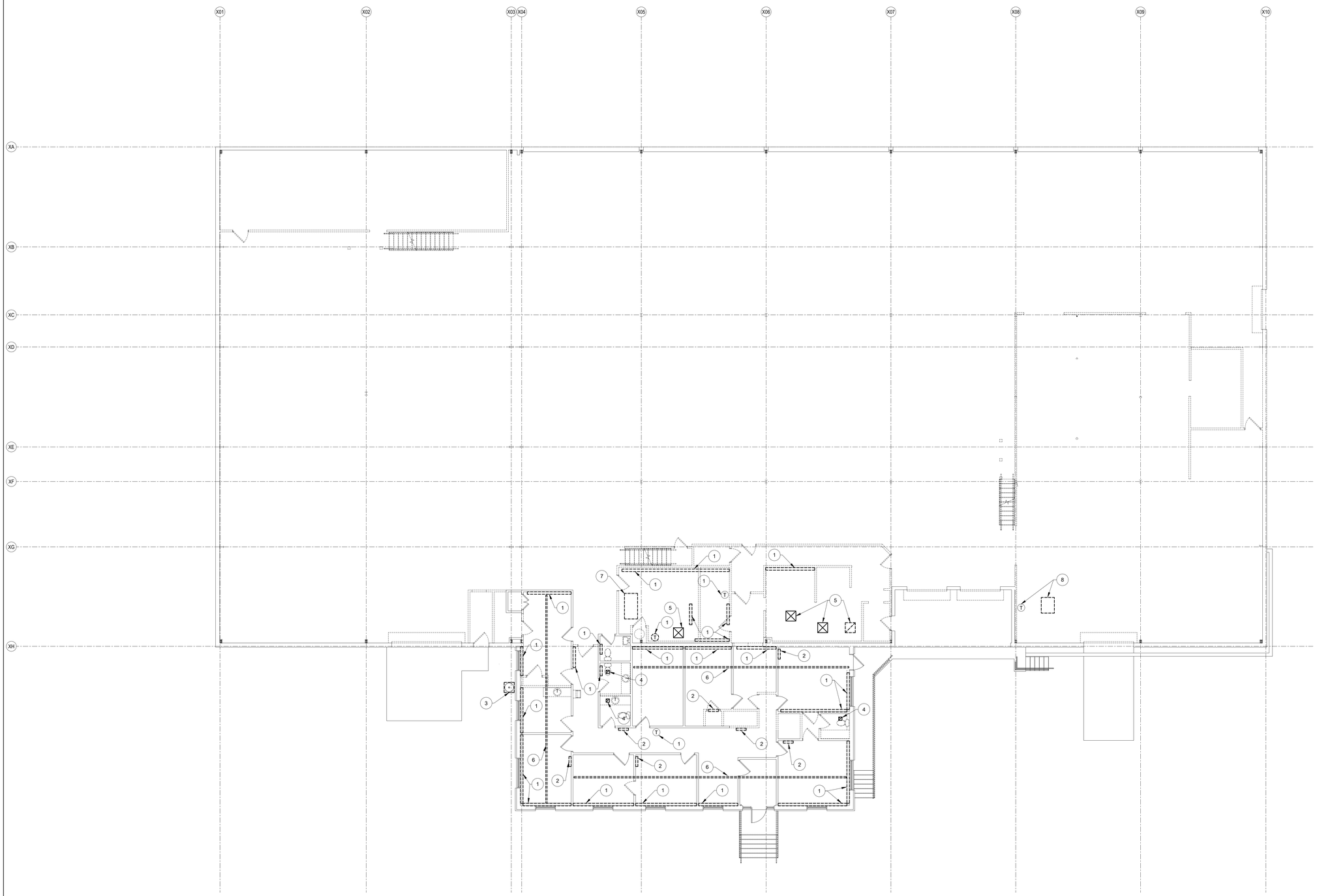
ROANOKE COUNTY VA
PARKS, RECREATION & TOURISM

PRT SHOP BUILDING
RENOVATION
MECHANICAL LEGEND, SCHEDULES, AND NOTES
5335 HOLLINS ROAD
ROANOKE, VIRGINIA

DRAWN BY	JNB
DESIGNED BY	JNB
CHECKED BY	JNB
DATE	2025-06-05
SCALE	As indicated
REVISIONS	

M1.01
PROJECT NO 03220077.00



1 M2.01 **MECHANICAL DEMOLITION PLAN**

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

GENERAL NOTES:

1. ALL EXISTING MECHANICAL SYSTEMS SHALL BE REMOVED IN THEIR ENTIRETY.
2. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING.

KEYED NOTES:

1. EXISTING HYDRONIC BASEBOARD HEATER, ALL ASSOCIATE WATER PIPING, AND ASSOCIATED THERMOSTAT TO BE REMOVED IN THEIR ENTIRETY.
2. EXISTING SIDEWALL DIFFUSER AND ALL ASSOCIATED DUCTWORK TO BE REMOVED IN THEIR ENTIRETY.
3. EXISTING HEAT PUMP AND ALL ASSOCIATED REFRIGERANT PIPING TO BE REMOVED IN THEIR ENTIRETY.
4. EXISTING EXHAUST FAN AND ALL ASSOCIATED DUCTWORK TO BE REMOVED IN THEIR ENTIRETY.
5. EXISTING DIFFUSERS, RETURN GRILLES, AND ALL ASSOCIATED DUCTWORK TO BE REMOVED IN THEIR ENTIRETY.
6. EXISTING LINEAR SLOT DIFFUSER AND ALL ASSOCIATED DUCTWORK TO BE REMOVED IN THEIR ENTIRETY.
7. EXISTING AIR HANDLING UNIT ON MEZZANINE LEVEL, ALL ASSOCIATED DUCTWORK, AND ASSOCIATED REFRIGERANT PIPING TO BE REMOVED IN THEIR ENTIRETY.
8. EXISTING UNIT HEATER, ASSOCIATED GAS PIPING, AND ASSOCIATED THERMOSTAT TO BE REMOVED IN THEIR ENTIRETY.

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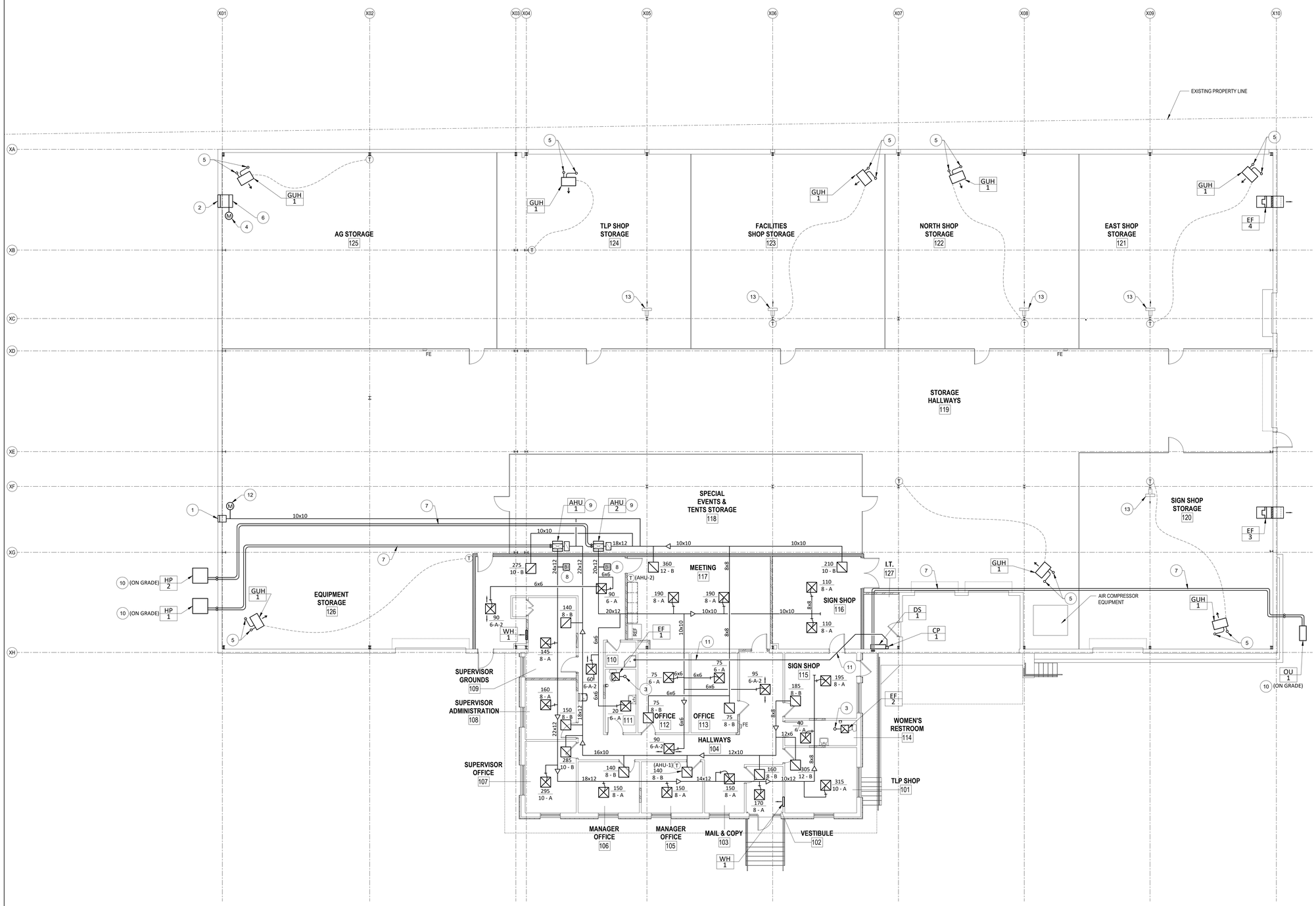
PRT SHOP BUILDING
RENOVATION
MECHANICAL DEMOLITION PLAN
5305 HOLLINS ROAD
ROANOKE, VIRGINIA

DRAWN BY	**JNB**
DESIGNED BY	**JNB**
CHECKED BY	**JNB**
DATE	**2025-06-05**
SCALE	**As indicated**
REVISIONS	

M2.01

PROJECT NO 03220077.00



1 M3.01 **MECHANICAL NEW WORK PLAN**

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

GENERAL NOTES:

1. PROVIDE DUCT TRANSITIONS FROM UNIT INLET/OUTLET SIZE TO DUCT SIZES NOTED AND PROVIDE FLEXIBLE DUCT CONNECTORS AT UNIT.
2. REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES AND NUMBERS IF NOT SHOWN ON THIS PLAN.
3. FOR DUCTWORK RUNOUT SIZES NOT SHOWN, PROVIDE SQUARE DUCT SIZE MATCHING AIR DEVICE SIZE (6=6x6, 8=8x8, ETC.).
4. ALL PENETRATIONS THROUGH FULL HEIGHT WALLS SHALL BE SEALED TO PREVENT THE INFILTRATION OF NOISE AROUND THE PENETRATION.
5. PROVIDE MANUAL VOLUME DAMPERS IN ALL BRANCH DUCT TAKE-OFFS TO SUPPLY, RETURN, EXHAUST AIR DEVICES.
6. REFRIGERANT PIPING IS SHOWN SCHEMATICALLY. EXACT PIPING LENGTHS AND PATHS WILL NEED TO BE CONFIRMED BY CONTRACTOR PER FIELD CONDITIONS. ALL REFRIGERANT PIPING SHALL BE INSTALLED AND SIZED AS RECOMMENDED BY MANUFACTURER. PROVIDE ALL ACCESSORIES AS REQUIRED.
7. NEW LOUVERS SHALL BE EQUIVALENT TO GREENHECK, MODEL EHH-201, 2" DEEP ALUMINUM LOUVERS WITH INSECT SCREEN, COLOR TO MATCH BUILDING EXTERIOR.

KEYED NOTES:

1. 16x16 SIDEWALL INTAKE LOUVER. MOUNT AS HIGH AS POSSIBLE AND PROVIDE FRAMING/ BRACING AS NEEDED FOR SUPPORT.
2. 36"X36" SIDEWALL INTAKE LOUVER. MOUNT AS HIGH AS POSSIBLE AND PROVIDE FRAMING/ BRACING AS NEEDED FOR SUPPORT.
3. PROVIDE 6"Ø EXHAUST DUCT FROM EXHAUST FAN UP TO ROOF AND PROVIDE GOOSNECK WITH DISCHARGE AT 18" ABOVE ROOF DECK. COVER OPEN END DUCT WITH WIRE MESH INSECT SCREEN.
4. PROVIDE MOTORIZED CONTROL DAMPER IN DUCT BEHIND LOUVER. INTERLOCK WITH EXHAUST FANS EF-3 AND EF-4.
5. PROVIDE 5" EXHAUST VENT FROM UNIT HEATER AND 5" COMBUSTION AIR INTAKE VENT TO UNIT HEATER FROM ROOF ABOVE, PROVIDE ROOF CAPS. LOCATE INTAKE AND VENT A MIN. OF 24" APART.
6. OPEN ENDED DUCT, COVER OPENING WITH 1/2"x1/2" WIRE MESH.
7. REFRIGERANT LINE SETS (LIQUID AND GAS REFRIGERANT) FROM OUTDOOR UNIT TO CORRESPONDING INDOOR UNIT.
8. PROVIDE DUCT MOUNTED BIPOLAR IONIZATION SYSTEM IN SUPPLY DUCTWORK ABOVE AHU. SHALL BE EQUIVALENT TO GLOBAL PLASMA SOLUTIONS, MODEL DM-2, DUCT MOUNTED AUTO CLEANING W/ 110V, 1PH POWER SUPPLY (14W POWER CONSUMPTION).
9. PROVIDE 5"Ø FLUE VENT AND 5"Ø COMBUSTION AIR INTAKE FROM FURNACE UP TO ROOF WITH ROOF CAPS AT 24" ABOVE ROOF. LOCATE INTAKE AND VENT A MIN. OF 24" APART.
10. PROVIDE 4" CONCRETE PAD, REINFORCED WITH REBAR BELOW UNIT ON GRADE.
11. 1/4" PUMPED CONDENSATE DRAIN FROM CONDENSATE PUMP (CP-1) TO MOP SINK.
12. MOTORIZED DAMPER. SHALL BE CLOSED DURING UNOCCUPIED HOURS AND OPEN WHEN BUILDING IS OCCUPIED.
13. OWNER PROVIDED CIRCULATION FAN, SIMILAR TO GREENHECK, MODEL ICO-18. CONTRACTOR TO PROVIDE POWER FEED AND ON/OFF SWITCH ON WALL (0.25HP AT 115V/1PH).

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M3.01

PROJECT NO 03220077.00

1.1 BUILDING AUTOMATION SYSTEM - GENERAL DESCRIPTION

A. PROVIDE A NEW BUILDING AUTOMATION SYSTEM (BAS) TO INTEGRATE AND CONTROL ALL MECHANICAL EQUIPMENT ASSOCIATED WITH THIS PROJECT.

1. THE BUILDING AUTOMATION SYSTEM SHALL BE AS INDICATED ON THE DRAWINGS AND DESCRIBED IN THESE SPECIFICATIONS. SYSTEM MUST BE FULLY INTEGRATED AND COORDINATED WITH MECHANICAL EQUIPMENT DDC CONTROLLERS FURNISHED AND INSTALLED IN THE EQUIPMENT MANUFACTURER'S FACTORY AS SPECIFIED IN THOSE SECTIONS. THE INTENT OF THE BAS IS TO INTEGRATE ALL MECHANICAL EQUIPMENT INTO ONE SYSTEM FOR GLOBAL MONITORING, CONTROL, AND ALARMING ASSOCIATED WITH THE BUILDING. IT IS THE BAS MANUFACTURER'S RESPONSIBILITY TO PROVIDE ALL THE DESIGN, ENGINEERING, AND FIELD COORDINATION REQUIRED TO ENSURE ALL EQUIPMENT SEQUENCE OF OPERATIONS ARE MET AS SPECIFIED AND THE DESIGNATED BAS OPERATORS HAVE THE CAPABILITY OF MANAGING THE BUILDING MECHANICAL SYSTEM TO ENSURE OCCUPANT COMFORT WHILE MAINTAINING ENERGY EFFICIENCY.

2. THE BAS SHALL MEET OPEN STANDARD PROTOCOL COMMUNICATION STANDARDS (AS DEFINED IN SYSTEM COMMUNICATIONS SECTION) TO ENSURE THE SYSTEM MAINTAINS "INTEROPERABILITY" TO AVOID PROPRIETARY ARRANGEMENTS THAT WILL MAKE IT DIFFICULT FOR THE OWNER TO CONSIDER OTHER BAS MANUFACTURERS IN FUTURE PROJECTS.

3. DIRECT DIGITAL CONTROL (DDC) TECHNOLOGY SHALL BE USED TO PROVIDE THE FUNCTIONS NECESSARY FOR CONTROL OF MECHANICAL SYSTEMS AND TERMINAL DEVICES ON THIS PROJECT.

4. THE BAS SHALL ACCOMMODATE SIMULTANEOUS MULTIPLE USER OPERATION. ACCESS TO THE CONTROL SYSTEM DATA SHOULD BE LIMITED ONLY BY THE SECURITY PERMISSIONS OF THE OPERATOR ROLE. MULTIPLE USERS SHALL HAVE ACCESS TO ALL VALID SYSTEM DATA. AN OPERATOR SHALL BE ABLE TO LOG ONTO ANY WORKSTATION ON THE CONTROL SYSTEM AND HAVE ACCESS TO ALL APPROPRIATE DATA.

1.2 APPROVED CONTROL SYSTEM MANUFACTURERS

A. APPROVED BAS MANUFACTURERS:

1. TRANE TRACER®– BASIS OF DESIGN

1.3 SYSTEM COMMUNICATION

A. SYSTEM COMMUNICATIONS

1. EACH WORKSTATION, BUILDING CONTROLLER, AND EQUIPMENT CONTROLLER COMMUNICATION INTERFACE SHALL UTILIZE THE BACNET™ PROTOCOL WITH AN ETHERNET (IEEE 802.3), WI-FI (IEEE 802.11), RS485 (EIA-485), OR ZIGBEE® (802.15.4) PHYSICAL INTERFACE AND AN APPROPRIATE DATA LINK TECHNOLOGY AS DEFINED IN ANSI®/ASHRAE® STANDARD 135-2012. (E.G. BACNET OVER IP, BACNET OVER IPV6, BACNET SC, BACNET OVER MS/TP, BACNET ZIGBEE).

2. ALL SYSTEM CONTROLLERS SHALL BE BTL LISTED AS A BACNET BUILDING CONTROLLER (B-BC) AS DEFINED IN ANSI®/ASHRAE® STANDARD 135-2012.

3. ALL DOCUMENTED STATUS AND CONTROL POINTS, SCHEDULE, ALARM, AND DATA-LOG SERVICES OR OBJECTS SHALL BE AVAILABLE AS STANDARD OBJECT TYPES AS DEFINED IN ANSI®/ASHRAE® STANDARD 135-2012.

4. EACH SYSTEM CONTROLLER SHALL COMMUNICATE WITH A NETWORK OF CUSTOM APPLICATION AND APPLICATION SPECIFIC CONTROLLERS UTILIZING ONE OR MORE OF THE INTERFACES DOCUMENTED WITHIN FIELD BUS COMMUNICATIONS BELOW.

5. ALL OPERATOR WORKSTATIONS (B-OWS, B-AWS) AND BUILDING CONTROLLERS (B-BC) SHALL SUPPORT BACNET SECURE CONNECT (BACNET SC), A SECURE AND ENCRYPTED DATALINK LAYER SPECIFICALLY DESIGNED FOR THOSE NETWORKS.

B. FIELD BUS COMMUNICATIONS

1. BACNET™

A. ALL EQUIPMENT AND PLANT CONTROLLERS SHALL BE BTL LISTED AS A BACNET APPLICATION SPECIFIC CONTROLLER (B-ASC) OR A BACNET ADVANCED APPLICATION CONTROLLER (B-AAC) AS DEFINED IN ANSI®/ASHRAE® STANDARD 135-2012.

B. ALL COMMUNICATION SHALL CONFORM TO ANSI®/ASHRAE® STANDARD 135-2012.

C. SYSTEM CONTROLLER SHALL FUNCTION AS A BACNET ROUTER TO EACH UNIT CONTROLLER PROVIDING A GLOBALLY UNIQUE BACNET DEVICE ID FOR ALL BACNET CONTROLLERS WITHIN THE SYSTEM.

D. BACNET ZIGBEE®

1) COMMUNICATION BETWEEN SYSTEM CONTROLLER AND EQUIPMENT/PLANT CONTROLLERS SHALL UTILIZE BACNET ZIGBEE AS DEFINED IN ANSI®/ASHRAE® STANDARD 135-2012.

2) EACH EQUIPMENT CONTROLLER WIRELESS COMMUNICATION INTERFACE SHALL SELF-HEAL TO MAINTAIN OPERATION IN THE EVENT OF NETWORK COMMUNICATION FAILURE.

3) EACH ZONE SENSOR WIRELESS COMMUNICATION INTERFACE SHALL BE CAPABLE OF MANY-TO-ONE SENSORS PER CONTROLLER TO SUPPORT AVERAGING, MONITORING, AND MULTIPLE ZONE APPLICATIONS. SENSING OPTIONS SHALL INCLUDE TEMPERATURE, RELATIVE HUMIDITY, CO2, AND OCCUPANCY.

E. BACNET MS/TP

1) COMMUNICATION BETWEEN SYSTEM CONTROLLER AND EQUIPMENT/PLANT CONTROLLERS SHALL UTILIZE BACNET MS/TP AS DEFINED IN ANSI®/ASHRAE® STANDARD 135-2012.

1.4 OPERATOR INTERFACE

A. PROVIDE BUILDING OPERATOR WEB INTERFACE

1. MANUFACTURER SHALL PROVIDE A USER INTERFACE WITH TIME-OF-DAY SCHEDULES, DATA COLLECTION, DASHBOARDS, REPORTS AND BUILDING SUMMARY, SYSTEM APPLICATIONS, AND SELF-EXPIRING TIMED OVERRIDES. MANUFACTURER SHALL PROVIDE A PUBLISHED USER AND APPLICATIONS GUIDE(S) THAT DETAIL THE SYSTEM APPLICATION OPERATION, CONFIGURATION, SETUP AND TROUBLESHOOTING.

2. THE BUILDING OPERATOR WEB INTERFACE SHALL BE ACCESSIBLE VIA A WEB BROWSER WITHOUT REQUIRING ANY "PLUG-INS" (I.E. JAVA RUNTIME ENVIRONMENT (JRE), ADOBE FLASH).

3. USER ROLES

A. THE SYSTEM SHALL INCLUDE PRE-DEFINED "ROLES" THAT ALLOW A SYSTEM ADMINISTRATOR TO QUICKLY ASSIGN PERMISSIONS TO A USER.

B. USER LOGON/LOGOFF ATTEMPTS SHALL BE RECORDED.

C. THE SYSTEM SHALL PROTECT ITSELF FROM UNAUTHORIZED USE BY AUTOMATICALLY LOGGING OFF FOLLOWING THE LAST KEYSTROKE. THE DELAY TIME SHALL BE USER DEFINABLE.

4. ON-LINE HELP AND TRAINING

A. PROVIDE A CONTEXT SENSITIVE, ON LINE HELP SYSTEM TO ASSIST THE OPERATOR IN OPERATION AND CONFIGURATION OF THE SYSTEM.

B. ON-LINE HELP SHALL BE AVAILABLE FOR ALL SYSTEM FUNCTIONS AND SHALL PROVIDE THE RELEVANT DATA FOR EACH PARTICULAR SCREEN.

5. EQUIPMENT AND APPLICATION PAGES

A. THE BUILDING OPERATOR WEB INTERFACE SHALL INCLUDE STANDARD PAGES FOR ALL EQUIPMENT AND APPLICATIONS. THESE PAGES SHALL ALLOW AN OPERATOR TO OBTAIN INFORMATION RELEVANT TO THE OPERATION OF THE EQUIPMENT AND/OR APPLICATION, INCLUDING:

1) ANIMATED EQUIPMENT GRAPHICS FOR EACH MAJOR PIECE OF EQUIPMENT AND FLOOR PLAN IN THE SYSTEM. THIS INCLUDES:

A) EACH CHILLER, AIR HANDLER, VAV TERMINAL, FAN COIL, BOILER, AND COOLING TOWER. THESE GRAPHICS SHALL SHOW ALL POINTS DYNAMICALLY AS SPECIFIED IN THE POINTS LIST.

B) ANIMATION CAPABILITIES SHALL INCLUDE THE ABILITY TO SHOW A SEQUENCE OF IMAGES REFLECTING THE POSITION OF ANALOG OUTPUTS, SUCH AS VALVE OR DAMPER POSITIONS. GRAPHICS SHALL BE CAPABLE OF LAUNCHING OTHER WEB PAGES.

2) ALARMS RELEVANT TO THE EQUIPMENT OR APPLICATION WITHOUT REQUIRING A USER TO NAVIGATE TO AN ALARM PAGE AND PERFORM A FILTER.

3) HISTORICAL DATA (AS DEFINED IN TREND LOGS SECTION OF CONTROLLER SOFTWARE) FOR THE EQUIPMENT OR APPLICATION WITHOUT REQUIRING A USER TO NAVIGATE TO A DATA LOG PAGE AND PERFORM A FILTER.

6. SYSTEM GRAPHICS. BUILDING OPERATOR WEB INTERFACE SHALL BE GRAPHICALLY BASED AND SHALL INCLUDE AT LEAST ONE GRAPHIC PER PIECE OF EQUIPMENT OR OCCUPIED ZONE. GRAPHICS FOR EACH CHILLED WATER AND HOT WATER SYSTEM, AND GRAPHICS THAT SUMMARIZE CONDITIONS ON EACH FLOOR OF EACH BUILDING AREA INCLUDED IN THIS CONTRACT. INDICATE THERMAL COMFORT ON FLOOR PLAN SUMMARY GRAPHICS USING COLORS TO REPRESENT ZONE TEMPERATURE RELATIVE TO ZONE SET POINT.

A. GRAPHIC IMAGERY – GRAPHICS SHALL USE 3D IMAGES FOR ALL STANDARD AND CUSTOM GRAPHICS. THE ONLY ALLOWABLE EXCEPTIONS WILL BE PHOTO IMAGES, MAPS, SCHEMATIC DRAWINGS, AND SELECTED FLOOR PLANS.

B. ANIMATION. GRAPHICS SHALL BE ABLE TO ANIMATE BY DISPLAYING DIFFERENT IMAGE LIES FOR CHANGED OBJECT STATUS.

C. ALARM INDICATION. INDICATE AREAS OR EQUIPMENT IN AN ALARM CONDITION USING COLOR OR OTHER VISUAL INDICATOR.

7. GRAPHICS LIBRARY. FURNISH A LIBRARY OF STANDARD HVAC EQUIPMENT SUCH AS CHILLERS, AIR HANDLERS, TERMINALS, FAN COILS, UNIT VENTILATORS, ROOFTOP UNITS, AND VAV BOXES, IN 3-DIMENSIONAL GRAPHIC DEPICTIONS. THE LIBRARY SHALL BE FURNISHED IN A FILE FORMAT COMPATIBLE WITH THE GRAPHICS GENERATION PACKAGE PROGRAM.

8. MANUAL CONTROL AND OVERRIDE

A. POINT CONTROL. PROVIDE A METHOD FOR A USER TO VIEW, OVERRIDE, AND EDIT IF APPLICABLE, THE STATUS OF ANY OBJECT AND PROPERTY IN THE SYSTEM. THE POINT STATUS SHALL BE AVAILABLE BY MENU, ON GRAPHICS OR THROUGH CUSTOM PROGRAMS.

B. TEMPORARY OVERRIDES. THE USER SHALL BE ABLE TO PERFORM A TEMPORARY OVERRIDE WHEREVER AN OVERRIDE IS ALLOWED, AUTOMATICALLY REMOVING THE OVERRIDE AFTER A SPECIFIED PERIOD OF TIME.

C. OVERRIDE OWNERS. THE SYSTEM SHALL CONVEY TO THE USER THE OWNER OF EACH OVERRIDE FOR ALL PRIORITIES THAT AN OVERRIDE EXISTS.

D. PROVIDE A SPECIFIC ICON TO SHOW TIMED OVERRIDE OR OPERATOR OVERRIDE, WHEN A POINT, UNIT CONTROLLER OR APPLICATION HAS BEEN OVERRIDDEN MANUALLY.

9. SCHEDULING. - THE SCHEDULING APPLICATION SHALL PROVIDE GRAPHICAL REPRESENTATION OF THE DAY, WEEK, MONTH AND EXCEPTION EVENTS.

10. ALARM/EVENT NOTIFICATION

A. ALARM/EVENT LOG. THE OPERATOR SHALL BE ABLE TO VIEW ALL LOGGED SYSTEM ALARMS/EVENTS FROM ANY BUILDING OPERATOR WEB INTERFACE.

1) THE OPERATOR SHALL BE ABLE TO SORT AND FILTER ALARMS FROM EVENTS. ALARMS SHALL BE SORTED IN A MINIMUM OF 4 CATEGORIES BASED ON SEVERITY.

2) THE OPERATOR SHALL BE ABLE TO ACKNOWLEDGE AND ADD COMMENTS TO ALARMS

3) ALARM/EVENT MESSAGES SHALL USE FULL LANGUAGE, EASILY RECOGNIZED DESCRIPTORS.

B. ALARM SUPPRESSION. ALARMS SHALL BE ABLE TO BE SUPPRESSED BASED ON LOAD/SOURCE RELATIONSHIPS TO PRESENT THE LIKELY ROOT CAUSE TO THE BUILDING OPERATOR AS DESCRIBED IN ASHRAE GUIDELINE 36. LOAD/SOURCE RELATIONSHIPS SHALL BE CONFIGURABLE BY THE USER THROUGH A WEB INTERFACE.

11. REPORTS AND LOGS.

A. THE BUILDING OPERATOR WEB INTERFACE SHALL PROVIDE A REPORTING PACKAGE THAT ALLOWS THE OPERATOR TO SELECT REPORTS.

B. THE BUILDING OPERATOR WEB INTERFACE SHALL PROVIDE THE ABILITY TO SCHEDULE REPORTS TO RUN AT SPECIFIED INTERVALS OF TIME.

C. THE FOLLOWING STANDARD REPORTS SHALL BE AVAILABLE WITHOUT REQUIRING A USER TO MANUALLY CONFIGURE THE REPORT:

1) ALL POINTS IN ALARM REPORT: PROVIDE AN ON DEMAND REPORT SHOWING ALL CURRENT ALARMS.

2) ALL POINTS IN OVERRIDE REPORT: PROVIDE AN ON DEMAND REPORT SHOWING ALL OVERRIDES IN EFFECT.

3) COMMISSIONING REPORT: PROVIDE A ONE-TIME REPORT THAT LISTS ALL EQUIPMENT WITH THE UNIT CONFIGURATION AND PRESENT OPERATION.

4) POINTS REPORT: PROVIDE A REPORT THAT LISTS THE CURRENT VALUE OF ALL POINTS

D. THE CONTROLS VENDOR SHALL PROVIDE A HARDENING REPORT THAT SUMMARIZES THE PORT CONFIGURATION DETAILS TO ENSURE SITES HAVE NOT BEEN EXPOSED TO THE INTERNET IN ALIGNMENT WITH CYBER SECURITY BEST PRACTICES.

B. PROVIDE MOBILE APP INTERFACE

1. PROVIDE MOBILE (SMART PHONE OR TABLET) INTERFACES TO THE BUILDING AUTOMATION SYSTEM, COMPATIBLE WITH IOS AND ANDROID™ OPERATING SYSTEMS.

2. CONTROLS MANUFACTURER SHALL PROVIDE A PHONE/TABLET INTERFACE WITH THE ABILITY TO VIEW/OVERRIDE STATUS AND SETPOINTS, VIEW/CHANGE SCHEDULES, VIEW/ACKNOWLEDGE/COMMENT ON ALARMS, AND VIEW GRAPHICS FOR ALL SPACES AND EQUIPMENT.

3. THIS PHONE/TABLET INTERFACE SHALL RESIZE ITSELF APPROPRIATELY FOR THE SIZE OF THE INTERFACE (I.E. NO "PINCHING AND ZOOMING" REQUIRED).

4. THIS PHONE/TABLET INTERFACE SHALL FUNCTION REMOTELY FROM THE FACILITY WHILE FOLLOWING IT SECURITY BEST PRACTICES (E.G. NO PORTS EXPOSED TO THE INTERNET).

5. THE OPERATOR INTERFACE SHALL SUPPORT SYSTEM ACCESS ON A MOBILE DEVICE VIA A MOBILE APP TO:

A. ALARM LOG

B. SYSTEM STATUS

C. EQUIPMENT STATUS

D. SPACE STATUS

E. STANDARD EQUIPMENT GRAPHICS

F. OVERRIDE SET POINTS

G. OVERRIDE OCCUPANCY

H. ACKNOWLEDGE ALARMS

I. ADD COMMENT(S) TO ALARMS

1.5 BUILDING / SYSTEM CONTROLLERS

A. THERE SHALL BE ONE OR MORE INDEPENDENT, STANDALONE MICROPROCESSOR BASED SYSTEM CONTROLLERS TO MANAGE THE GLOBAL STRATEGIES DESCRIBED IN CONTROLLER SOFTWARE SECTION.

1. THE CONTROLLER SHALL PROVIDE A USB COMMUNICATIONS PORT FOR CONNECTION TO A PC.

2. THE OPERATING SYSTEM OF THE CONTROLLER SHALL MANAGE THE INPUT AND OUTPUT COMMUNICATIONS SIGNALS TO ALLOW DISTRIBUTED CONTROLLERS TO SHARE REAL AND VIRTUAL POINT INFORMATION AND ALLOW CENTRAL MONITORING AND ALARMS.

3. ALL SYSTEM CONTROLLERS SHALL HAVE A REAL TIME CLOCK AND SHALL BE ABLE TO ACCEPT A BACNET TIME SYNCHRONIZATION COMMAND FOR AUTOMATIC TIME SYNCHRONIZATION.

4. DATA SHALL BE SHARED BETWEEN NETWORKED SYSTEM CONTROLLERS.

5. SERVICEABILITY – THE SYSTEM CONTROLLER SHALL HAVE A DISPLAY ON THE MAIN BOARD THAT INDICATES THE CURRENT OPERATING MODE OF THE CONTROLLER.

B. CONTROLS MANUFACTURER SHALL PROVIDE SECURE REMOTE ACCESS TO THE BUILDING AUTOMATION SYSTEM (BAS). SECURE REMOTE ACCESS SHALL NOT REQUIRE IP PORTS TO BE "EXPOSED" (I.E. PORT-FORWARDED OR EXTERNAL PUBLIC IP ADDRESSES) TO THE INTERNET. CONTROLS MANUFACTURER SHALL UPDATE SECURE REMOTE ACCESS SOFTWARE AS NECESSARY TO FOLLOW CYBER SECURITY BEST PRACTICES AND RESPOND TO CYBER SECURITY EVENTS.

1.6 BUILDING CONTROLLER SOFTWARE

A. MANUFACTURER SHALL PROVIDE STANDARD APPLICATIONS TO DELIVER HVAC SYSTEM CONTROL. STANDARD APPLICATIONS INCLUDE TIME OF DAY SCHEDULING WITH OPTIMAL START/STOP, VAV AIR SYSTEMS CONTROL, CHILLER PLANT CONTROL, HISTORICAL TREND LOGS AND TRIM AND RESPOND. MANUFACTURER SHALL PROVIDE SYSTEM OPTIMIZATION STRATEGIES FOR FUNCTIONS SUCH AS FAN PRESSURE OPTIMIZATION AND VENTILATION OPTIMIZATION.

B. FURNISH THE FOLLOWING APPLICATIONS SOFTWARE FOR BUILDING AND ENERGY MANAGEMENT. ALL SOFTWARE APPLICATIONS SHALL RESIDE AND RUN IN THE SYSTEM CONTROLLERS. EDITING OF APPLICATIONS SHALL OCCUR AT THE BUILDING OPERATOR INTERFACE.

1. TREND LOGS

A. THE SYSTEM SHALL HARVEST TREND LOGS FOR DEFINED KEY MEASUREMENTS FOR EACH CONTROLLED HVAC DEVICE AND HVAC APPLICATION. TREND LOGS SHALL BE CAPTURED FOR A MINIMUM OF 5 KEY OPERATING POINTS FOR EACH PIECE OF HVAC EQUIPMENT AND HVAC APPLICATION AND STORED FOR NO LESS THAN 1 YEAR AT 15-MINUTE INTERVALS. DATA LOGS SHALL BE CAPABLE OF BEING CONFIGURED ON AN INTERVAL OR CHANGE OF VALUE BASIS.

AIR HANDLING UNIT (CV)

A) DISCHARGE AIR TEMPERATURE

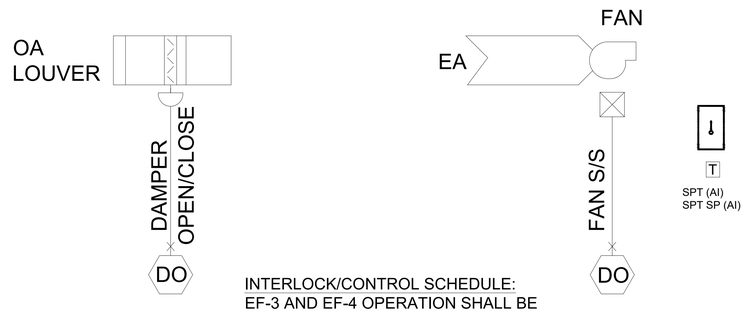
B) SPACE TEMPERATURE ACTIVE

C) SPACE TEMPERATURE SETPOINT ACTIVE

D) COOLING CAPACITY STATUS

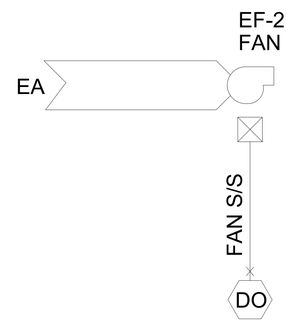
E) HEATING CAPACITY PRIMARY STATUS

F) OUTDOOR AIR DAMPER POSITION



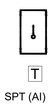
INTERLOCK/CONTROL SCHEDULE:
EF-3 AND EF-4 OPERATION SHALL BE INTERLOCKED WITH OUTSIDE AIR DAMPER. DURING OCCUPIED TIMES, THE OUTSIDE AIR DAMPER SHALL BE OPENED AND BOTH EXHAUST FANS SHALL BE ACTIVATED BY THE BUILDING AUTOMATION SYSTEM. THE BAS SHALL ALSO MONITOR THE GARAGE SPACE TEMPERATURE.

GARAGE FAN CONTROL



EF-2 SHALL OPERATE ANYTIME THE BUILDING IS OCCUPIED AND SHALL BE ACTIVATED BY THE BAS.

EXHAUST FAN CONTROL



PROVIDE DDC TYPE SPACE TEMPERATURE SENSOR IN ROOM (IN ADDITION TO SPLIT SYSTEM CONTROLLER/ THERMOSTAT) THAT SHALL MONITOR SPACE TEMPERATURE AND PROVIDE ALARM TO DDC WHEN ABOVE SET POINT.

IT ROOM 127 CONTROL

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DATE	2025-06-05
SCALE	As indicated
REVISIONS	

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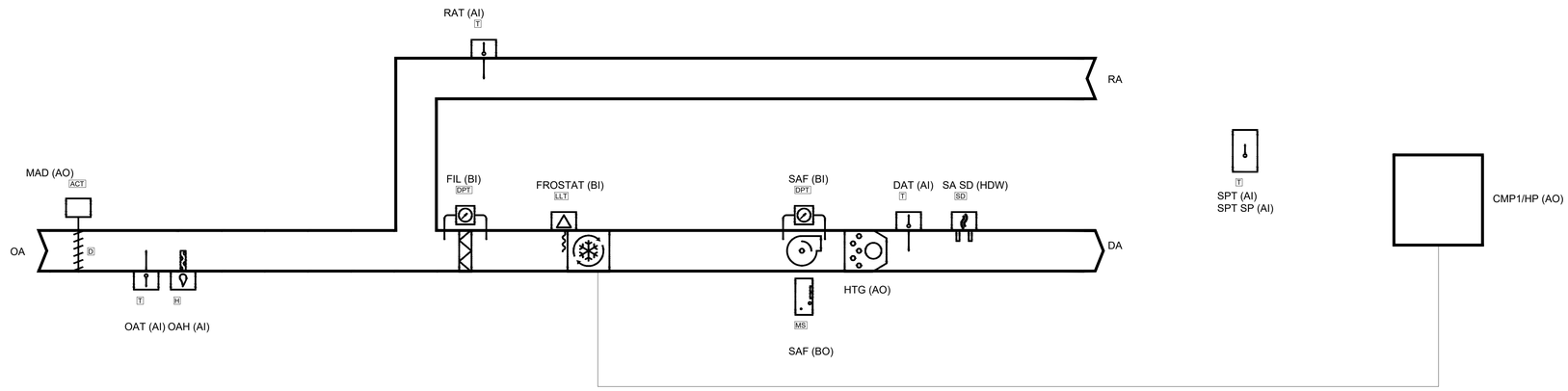
PROJECT NO 03220077.00

Flow Diagram: AHU 1 & 2



Sequence of Operation:

BUILDING AUTOMATION SYSTEM INTERFACE:

THE BUILDING AUTOMATION SYSTEM (BAS) SHALL SEND THE CONTROLLER OCCUPIED BYPASS, MORNING WARM-UP/PRE-COOL, OCCUPIED/UNOCCUPIED AND HEAT/COOL MODES. IF A BAS IS NOT PRESENT, OR COMMUNICATION IS LOST WITH THE BAS THE CONTROLLER SHALL OPERATE USING DEFAULT MODES AND SETPOINTS.

OCCUPIED:

DURING OCCUPIED PERIODS, THE SUPPLY FAN SHALL RUN CONTINUOUSLY AND THE OUTSIDE AIR DAMPER SHALL OPEN TO MAINTAIN MINIMUM VENTILATION REQUIREMENTS. UPON A CALL FOR DX COOLING, THE UNIT CONTROLLER SHALL ENABLE THE COMPRESSOR/HEAT PUMP. THE COMPRESSOR SHALL MODULATE TO MAINTAIN THE ACTIVE SPACE TEMPERATURE SETPOINT. THE DISCHARGE AIR TEMPERATURE SETPOINT SHALL BE DYNAMICALLY RESET BASED ON THE DEVIATION OF ACTUAL SPACE TEMPERATURE FROM THE ACTIVE SPACE TEMPERATURE SETPOINT. IF THE DISCHARGE AIR TEMPERATURE SENSOR FAILS, THE DX COOLING AND THE GAS HEAT SHALL CONTROL TO MAINTAIN THE ACTIVE SPACE TEMPERATURE SETPOINT AND AN ALARM SHALL ANNUNCIATE AT THE BAS. IF THE DISCHARGE AIR TEMPERATURE SENSOR AND THE SPACE TEMPERATURE SENSOR FAIL, THE DX COOLING SHALL BE DISABLED, THE GAS HEAT SHALL BE DISABLED, AND AN ALARM SHALL ANNUNCIATE AT THE BAS.

UNOCCUPIED:

WHEN THE SPACE TEMPERATURE IS BELOW THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL BE COMMANDED ON, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND THE GAS HEAT SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE RISES ABOVE THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) PLUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL STOP AND THE GAS HEAT SHALL BE DISABLED. WHEN THE SPACE TEMPERATURE IS ABOVE THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL BE COMMANDED ON, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND THE DX COOLING SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE FALLS BELOW THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F MINUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL STOP, THE DX COOLING SHALL BE DISABLED AND THE OUTSIDE AIR DAMPER SHALL CLOSE.

OPTIMAL START:

THE BAS SHALL MONITOR THE SCHEDULED OCCUPIED TIME, OCCUPIED SPACE SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL START OCCURS.

OPTIMAL STOP:

THE BAS SHALL MONITOR THE SCHEDULED UNOCCUPIED TIME, OCCUPIED SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL STOP OCCURS. WHEN THE OPTIMAL STOP MODE IS ACTIVE THE UNIT CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE TO THE SPACE TEMPERATURE OFFSET SETPOINT. OUTSIDE AIR DAMPER SHALL REMAIN ENABLED TO PROVIDE MINIMUM VENTILATION.

MORNING WARM-UP MODE:

DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT A MORNING WARM-UP MODE SHALL BE ACTIVATED. WHEN MORNING WARM-UP IS INITIATED THE UNIT SHALL ENABLE THE HEATING AND FAN(S). THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. WHEN THE SPACE TEMPERATURE REACHES THE OCCUPIED HEATING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

PRE-COOL MODE:

DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING SETPOINT, PRE-COOL MODE SHALL BE ACTIVATED. WHEN PRE-COOL IS INITIATED THE UNIT SHALL ENABLE THE FAN AND COOLING. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED, UNLESS ECONOMIZING. WHEN THE SPACE TEMPERATURE REACHES OCCUPIED COOLING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

OCCUPIED BYPASS:

THE BAS SHALL MONITOR THE STATUS OF THE ON AND CANCEL BUTTONS OF THE SPACE TEMPERATURE SENSOR. WHEN AN OCCUPIED BYPASS REQUEST IS RECEIVED FROM A SPACE SENSOR, THE UNIT SHALL TRANSITION FROM ITS CURRENT OCCUPANCY MODE TO OCCUPIED BYPASS MODE AND THE UNIT SHALL MAINTAIN THE SPACE TEMPERATURE TO THE OCCUPIED SETPOINTS (ADJ.).

HEAT/COOL MODE:

WHEN THE SPACE TEMPERATURE RISES ABOVE THE OCCUPIED COOLING SETPOINT THE MODE SHALL TRANSITION TO COOLING. WHEN THE SPACE TEMPERATURE FALLS BELOW THE OCCUPIED HEATING SETPOINT THE MODE SHALL TRANSITION TO HEATING. WHEN THE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING SETPOINT OR BELOW THE OCCUPIED HEATING SETPOINT THE MODE SHALL REMAIN IN ITS LAST STATE. IF THE SPACE TEMPERATURE SENSOR FAILS THE MODE SHALL REMAIN IN ITS LAST STATE AND AN ALARM SHALL ANNUNCIATE AT THE BAS. IF THE LOCAL AND COMMUNICATED SETPOINTS FAIL THE CONTROLLER SHALL DISABLE THE SUPPLY FAN AND AN ALARM SHALL ANNUNCIATE AT THE BAS.

SUPPLY FAN:

THE SUPPLY FAN SHALL BE ENABLED WHILE IN THE OCCUPIED MODE AND CYCLED ON DURING THE UNOCCUPIED MODE.

FILTER STATUS:

A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER(S) WHEN THE FAN IS RUNNING. IF THE SWITCH CLOSES DURING NORMAL OPERATION A DIRTY FILTER ALARM SHALL ANNUNCIATE AT THE BAS.

Guide Specification:

1.1 APPLICATION CONTROLLER FOR SPLIT SYSTEM UNITS

A. THE SPLIT SYSTEM APPLICATION CONTROLLER SHALL BE A MICROPROCESSOR-BASED DDC CONTROLLER WHICH, THROUGH HARDWARE OR FIRMWARE DESIGN, CONTROLS SPECIFIED EQUIPMENT. THE CONTROLLER IS NOT USER PROGRAMMABLE, BUT IS CUSTOMIZED FOR OPERATION WITHIN THE CONFINES OF THE EQUIPMENT IT IS DESIGNED TO SERVE.

B. THE APPLICATION CONTROLLER SHALL BE CAPABLE OF OPERATING AS A STAND-ALONE CONTROLLER OR AS A MEMBER OF A BUILDING AUTOMATION SYSTEM (BAS).

C. WHEN THE APPLICATION CONTROLLER IS OPERATING AS A MEMBER OF A BUILDING AUTOMATION SYSTEM (BAS), THE APPLICATION CONTROLLER SHALL OPERATE AS FOLLOWS:

1. APPLICATION CONTROLLER WILL RECEIVE OPERATION MODE COMMANDS FROM THE BAS NETWORK CONTROLLER. THE BAS COMMANDS SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOW: OCCUPIED HEAT/COOL, UNOCCUPIED HEAT/COOL, MORNING WARM-UP, / PRE-COOL, OCCUPIED BYPASS).

2. APPLICATION CONTROLLER WILL PROVIDE EQUIPMENT STATUS PARAMETERS TO THE BAS THROUGH BACNET COMMUNICATION.

3. APPLICATION CONTROLLER WILL OPERATE AS A STAND-ALONE CONTROLLER IN THE EVENT OF COMMUNICATION FAILURE WITH THE BAS.

4. IN CASE OF COMMUNICATIONS FAILURE STAND-ALONE OPERATION SHALL USE DEFAULT VALUES OR LAST KNOWN VALUES FOR REMOTE SENSORS READ OVER THE NETWORK SUCH AS OUTDOOR AIR TEMPERATURE.

D. SOFTWARE

1. TO MEET THE SEQUENCE OF OPERATION FOR EACH ZONE CONTROL, THE CONTROLLER SHALL USE PROGRAMS DEVELOPED AND TESTED BY THE CONTROLLER MANUFACTURER THAT ARE EITHER FACTORY LOADED OR CUSTOMIZED WITH USE OF SERVICE TOOL NATIVE TO THE CONTROLLER.

E. ENVIRONMENT: CONTROLLER HARDWARE SHALL BE SUITABLE FOR THE ANTICIPATED AMBIENT CONDITIONS.

1. STORAGE: -55° TO 203° F (-48° TO 95° C) AND 5 TO 95% RH, NON-CONDENSING.

2. OPERATING: -40° TO 158° F (-40 TO 70° C) AND 5 TO 95% RH, NON-CONDENSING.

3. CONTROLLERS USED INDOORS SHALL BE MOUNTED IN A NEMA 1 ENCLOSURE AT A MINIMUM.

4. CONTROLLERS USED OUTDOORS AND/OR IN WET AMBIENT SHALL BE MOUNTED WITHIN NEMA 4 TYPE WATERPROOF ENCLOSURES, AND SHALL BE RATED FOR OPERATION AT -40° TO 158° F [-40° TO 70° C].

F. CONTROLLER INPUT/OUTPUT: THE CONTROLLER SHALL HAVE ON BOARD CAPABLE OF PERFORMING ALL FUNCTIONALITY NEEDED FOR THE APPLICATION. CONTROLS PROVIDED BY THE EQUIPMENT MANUFACTURE MUST SUPPLY THE REQUIRED I/O FOR THE EQUIPMENT.

1. FOR FLEXIBILITY IN SELECTION AND REPLACEMENT OF VALVES, THE CONTROLLERS SHALL BE CAPABLE OF SUPPORTING ALL OF THE FOLLOWING OUTPUT TYPES; 0-10VDC, 0-5VDC, 4-20MA, BINARY.

2. FOR FLEXIBILITY IN SELECTION AND REPLACEMENT OF SENSORS, THE CONTROLLERS SHALL BE CAPABLE OF READING SENSOR INPUT RANGES OF 0 TO10V, 0 TO 20MA, PULSE COUNTS, AND 200 TO 20KOHM.

G. SERVICEABILITY – THE CONTROLLER SHALL PROVIDE THE FOLLOWING IN ORDER TO IMPROVE SERVICEABILITY OF THE CONTROLLER.

1. DIAGNOSTIC LEDS SHALL INDICATE CORRECT OPERATION OR FAILURES/FAULTS FOR ALL OF THE FOLLOWING: POWER, SENSORS, BACNET COMMUNICATIONS, AND I/O COMMUNICATIONS BUS.

2. ALL BINARY OUTPUT SHALL HAVE LED'S INDICATING THE OUTPUT STATE.

3. ALL WIRING CONNECTORS SHALL REMOVABLE WITHOUT THE USE OF A TOOL.

4. SOFTWARE SERVICE TOOL CONNECTION THROUGH THE FOLLOWING METHODS: DIRECT CABLE CONNECTION TO THE CONTROLLER, CONNECTION THROUGH ANOTHER CONTROLLER ON BACNET LINK.

H. SOFTWARE RETENTION: ALL ZONE CONTROLLER OPERATING PARAMETERS, SETPOINTS, BIOS, AND SEQUENCE OF OPERATION CODE MUST BE STORED IN NON-VOLATILE MEMORY IN ORDER TO MAINTAIN SUCH INFORMATION FOR MONTHS WITHOUT POWER.

I. CONTROLLER SHALL MEET THE FOLLOWING AGENCY COMPLIANCE:

1. UL916 PAZX, OPEN ENERGY MANAGEMENT EQUIPMENT

2. UL94-5V, FLAMMABILITY

3. FCC PART 15, SUBPART B, CLASS B LIMIT

4. BACNET TESTING LABORATORY (BTL) LISTED

Points List:

System Point Description	POINTS									ALARMS				
	GRAPHIC	ANALOG HARDWARE INPUT (AI)	BINARY HARDWARE INPUT (BI)	ANALOG HARDWARE OUTPUT (AO)	BINARY HARDWARE OUTPUT (BO)	SOFTWARE POINT (SFT)	HARDWARE INTERLOCK (HDW)	WIRELESS (WLS)	NETWORK (NET)	HIGH ANALOG LIMIT	LOW ANALOG LIMIT	BINARY	LATCH DIAGNOSTIC	SENSOR FAIL	COMMUNICATION FAIL
COMPRESSOR 1 MODULATION COMMAND CMP1	X			X											
COOLING OUTPUT COMMAND CLG	X			X											
DISCHARGE AIR TEMPERATURE DAT	X	X												X	
DX COIL FROST STAT FROSTAT	X		X									X			
HEATING OUTPUT COMMAND HTG	X			X											
OUTSIDE AIR DAMPER COMMAND OAD	X			X											
OUTSIDE AIR HUMIDITY LOCAL OAH	X	X												X	
OUTSIDE AIR TEMPERATURE LOCAL OAT	X	X												X	
PRIMARY FILTER STATUS LOCAL FIL	X		X									X			
RETURN AIR TEMPERATURE LOCAL RAT	X	X												X	
SPACE TEMPERATURE LOCAL (WIRED) SPT	X	X								X	X				
SPACE TEMPERATURE SETPOINT LOCAL (WIRED) SPT SP	X	X													
SUPPLY FAN START/STOP SAF	X				X										
SUPPLY FAN STATUS LOCAL SAF	X		X												
APPLICATION MODE APP MODE						X									
BAS COMMUNICATION STATE BAS COM						X									X
COMPRESSOR ENABLE CMP ENA	X					X									
COMPRESSOR LOCKOUT STATUS CMP LCK						X									
COOL OUTPUT CLG						X									
FAN MODE COMMAND FAN MODE															
FILTER TIMER HOURS FIL HRS						X									
HEAT / COOL MODE REQUEST H/C REQ	X					X									
HEAT OUTPUT HTG						X									
OCCUPANCY OCC	X					X									
OCCUPIED COOLING SETPOINT OCC CLG SP	X					X									
TIMED OVERRIDE STATUS TOV						X									
UNOCCUPIED COOLING SETPOINT UNOCC CLG SP	X					X									
UNOCCUPIED HEATING SETPOINT UNOCC HTG SP	X					X									

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PRT SHOP BUILDING
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MECHANICAL CONTROLS

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DESIGNED BY	JNB
CHECKED BY	JNB
DATE	2025-06-05
SCALE	As indicated
REVISIONS	

M4.02

PROJECT NO 03220077.00

GENERAL NOTES

1. MECHANICAL EQUIPMENT IS SHOWN IN APPROXIMATE LOCATIONS. FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND PIPING, SEE MECHANICAL DRAWINGS. SOME MECHANICAL EQUIPMENT IS LOCATED ON THE ROOF. VERIFY LOCATION WITH MECHANICAL AND PROVIDE ALL CONDUIT AND WIRING TO OUTDOOR EQUIPMENT.
2. WHERE LIGHT SWITCHES ARE INDICATED TO BE MOUNTED BEHIND DOOR, MOUNT SUCH SWITCHES A MINIMUM OF 3'–9" FROM HINGED SIDE.
3. REVISE PANELBOARD SCHEDULES ON PANEL DIRECTORIES TO REFLECT FINAL INSTALLATION CONDITIONS.
4. LOCATE ALL RACEWAYS TO AVOID INTERFERENCE WITH DUCTS, PIPES, MECHANICAL EQUIPMENT, WITH REMOVAL OF CEILING TILES, OR WITH ACCESS TO EQUIPMENT WHICH REQUIRES PERIODIC ADJUSTMENT OR MAINTENANCE.
5. PROVIDE NAMEPLATES ON THE EXTERIOR OF ALL ELECTRICAL PANELS AND ENCLOSURES WITH THE DEVICE ID, RATING, POWER SOURCE AND INSTALLATION DATE AND BY WHICH SWITCH OR STARTER.
6. COUNTER AND TOILET RECEPTACLES TO BE GFI AND COUNTER HEIGHT EXCEPT WHERE NOTED. REFRIGERATOR RECEPTACLE TO BE 36" AFF.
7. LIGHT FIXTURE TYPE IS SHOWN ONLY ONCE AS TYPICAL FOR THE ENTIRE ROOM UNLESS SPECIFICALLY INDICATED OTHERWISE.
8. UNLESS INDICATED OTHERWISE, SIZE CONDUITS IN ACCORDANCE WITH NFPA 70.
9. COORDINATE WITH THE MECHANICAL CONTRACTOR TO ENSURE ALL WORKING CLEARANCE AND DEDICATED WORKING SPACE OF PANELBOARDS.
10. COORDINATE ELECTRICAL INSTALLATION WITH ALL CASEWORK TO BE INSTALLED. PROVIDE THE NECESSARY JUNCTION BOXES FOR ALL POWER AND DATA CONNECTIONS INDICATED.
11. GROUNDING CONDUCTORS ARE NOT INDICATED IN BRANCH CIRCUIT RACEWAYS. PROVIDE GROUND CONDUCTORS AS REQUIRED BY NEC.
12. OCCUPANCY SENSORS SHOULD CONTROL ALL LIGHTING IN ROOMS, BOTH INBOARD AND OUTBOARD SWITCHING WHERE APPLICABLE, UNLESS INDICATED OTHERWISE.
13. PROVIDE PLASTIC BUSHING ON THE END OF ALL CONDUIT.
14. PROVIDE LABELS ON ALL RECEPTACLE INDICATING PANEL AND CIRCUIT FEEDING EACH DEVICE.
15. COORDINATE WITH OWNER TO PROVIDE DATA DROPS AS REQUIRED AND TO LOCATION EXACT LOCATION OF DESIRED DROPS. PROVIDE PULL CORDS WITH ALL DATA BOXES. ALL WORK STATIONS REQUIRE DATA DROP.
16. PROVIDE STAINLESS STEEL WALL PLATES, ALL DEVICES SHALL BE GRAY.

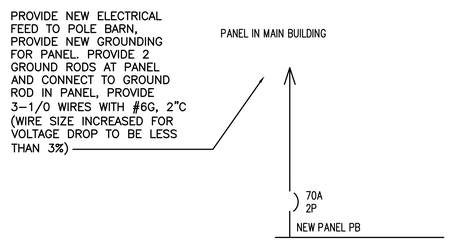
ELECTRICAL LEGEND

	LED LIGHTING FIXTURE, RECESSED, SURFACE OR PENDANT CEILING MOUNTED, ALL LIGHTING INDICATED ARE CONNECTED TO EMERGENCY GENERATOR CIRCUIT. N INDICATES NIGHT LIGHT (TYP). COORDINATE WITH OWNER FOR DESIRED NIGHT LIGHT LOCATIONS.
	EXIT LIGHTING FIXTURE, SURFACE CEILING MOUNTED, DIRECTIONAL ARROWS AS INDICATED. VR SUBSCRIPT INDICATES VANDAL RESISTANT.
	EXIT LIGHTING FIXTURE, SURFACE WALL MOUNTED, DIRECTIONAL ARROWS AS INDICATED.
J	FURNITURE WHIPS UNLESS INDICATED OTHERWISE, FOR FURNITURE WHIPS PROVIDE DATA AND POWER
	QUAD–PLEX WALL RECEPTACLE
	DUPLEX WALL RECEPTACLE, MOUNTING HEIGHT = 1'–6", EXCEPT 'C' SUBSCRIPT INDICATES MOUNTING IN CASEWORK(TYP). 'GF' SUBSCRIPT INDICATES GROUND FAULT, 'WP' SUBSCRIPT INDICATES WEATHERPROOF, 'EWC' SUBSCRIPT INDICATES GROUND FAULT BEHIND ELECTRIC WATER COOLER. '*' INDICATES MOUNTED HEIGHT = 8" ABOVE COUNTER(TYP). 'TV' INDICATES COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL PLANS FOR TV LOCATIONS., SEE GENERAL NOTES 16.
OS	OCCUPANCY SENSOR, DUAL TECHNOLOGY
	EMERGENCY BATTERY UNIT
	CONDUCTORS IN CONDUIT CONCEALED IN CEILING OR WALL.
	BRANCH CIRCUIT HOME RUN TO PANELBOARD. NOTATION INDICATES PANELBOARD & BRANCH CIRCUIT CONNECTION.
	CONDUCTORS IN CONDUIT CONCEALED IN SLAB OR BELOW GRADE.
	CONDUCTORS IN CONDUIT TURNED UP.
	CONDUCTORS IN CONDUIT TURNED DOWN.
a,b	SINGLE–POLE SWITCH, MOUNTING HEIGHT = 4'–0" TO TOP. LOWER CASE SUBSCRIPT WHEN USED, INDICATES FIXTURES CONTROLLED (TYP).
S_3	THREE–WAY SWITCH, MOUNTING HEIGHT = 4'–0" TO TOP.
S_{OS}	INTEGRAL OCCUPANCY SENSOR SWITCH, MOUNTING HEIGHT = 4'–0" TO TOP.
S_P	SINGLE–POLE SWITCH WITH PILOT CONTROL
	COMBINATION PHONE OUTLET AND DATA OUTLET. DATA SYSTEM OUTLET, MOUNTING HEIGHT = 1'–6" UNLESS INDICATED OTHERWISE. PROVIDE 1" CONDUIT FROM BOX TO ABOVE ACCESSIBLE CEILING. WHERE MOUNTED BESIDE COUNTER RECEPTACLE: MOUNT SAME HEIGHT AS RECEPTACLE, PROVIDE 2 CAT 6 CABLES BACK TO SERVER AREA IN ROOM M101
S_D	DIMMER SWITCH, MOUNTING HEIGHT = 4'–0" TO TOP, SUBSCRIPT INDICATES FIXTURES CONTROLLED WITH THIS SWITCH
	COAX CABLE

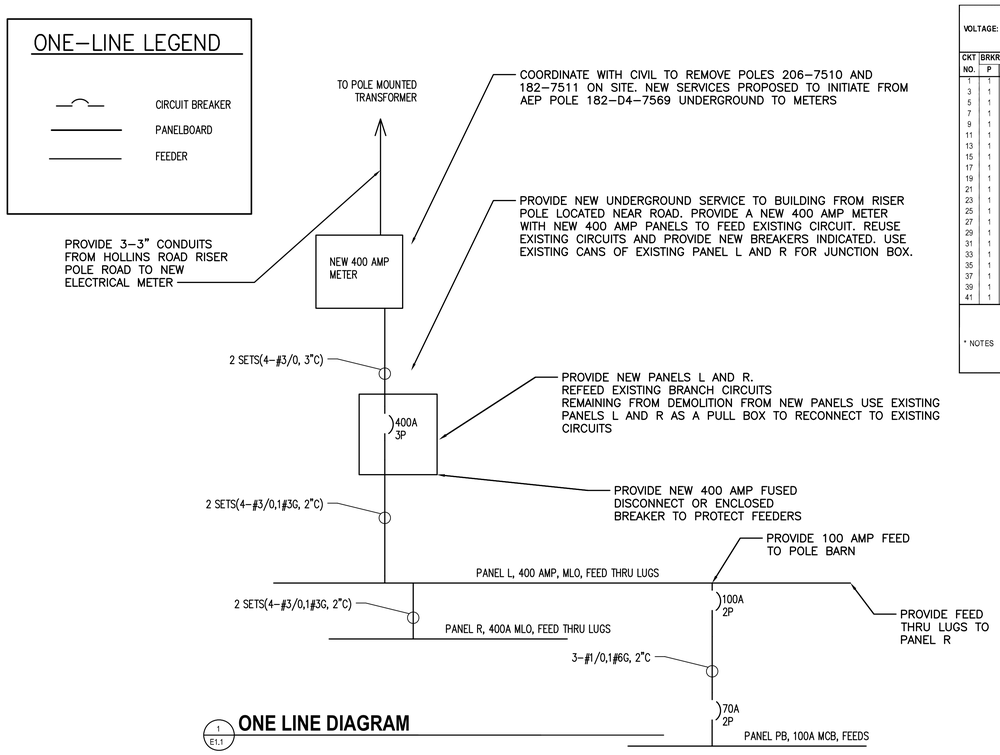
LEGEND NOTES:
1. ALL MOUNTING HEIGHTS ARE TO TOP OF DEVICE UNLESS INDICATED OTHERWISE.

LIGHTING FIXTURE SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	INPUT VOLTAGE	LAMPS TYPE	TOTAL WATTS	MNTG.	REMARKS
A	LITHONIA LIGHTING	CPX 2X4 6000LM 80CRI 40K SWL	MVOLT	LED	41.8	REC	2X4 RECESSED FLAT PANEL
B	LITHONIA LIGHTING	CSS L48 ALO3 MVOLT 35K 80CRI	MVOLT	LED	36.2	SURF	4' STRIP LIGHT
C	LITHONIA LIGHTING	CPHB 12000LM HEF GCL MD 40K 90CRI	MVOLT	LED	75	SURF	14" LED HIGH BAY
D	LITHONIA LIGHTING	VAP 15000LM FST MD MVOLT GZ10 40K 80CRI	MVOLT	LED	75	SURF	POLE BARN LIGHTS
E	LITHONIA LIGHTING	TXF2LED 40K MVOLT	MVOLT	LED	75	SURF	POLE BARN FLOOD LIGHTS, BLACK FINISH
F	LITHONIA LIGHTING	DSXW1 P5 40K 80CRI T3M MVOLT PE	MVOLT	LED	37	SURF	EXTERIOR WALL SCONCES, BLACK FINISH
	LITHONIA	ELM2L			10	SURF	EMERGENCY BATTERY UNIT
EXIT	LITHONIA LIGHTING	EDG–R–EL	MVOLT		5	SURF/ WALL	EXIT LIGHT, RED LETTERS ON WHITE FACE. PROVIDE CHEVRONS AS NEEDED. , NICKEL CADMIUM BATTERY.



1 E1.1B **ONE LINE DIAGRAM**
1/8" = 1'-0"



1 E1.1 **ONE LINE DIAGRAM**

PANEL L

VOLTAGE: 208Y/120 | PHASE: 3 | WIRE: 4 | BUS AMPS: 400A | MAIN BREAKER AMPS: MLO | X SURFACE MOUNTED | FLUSH MOUNTED | kAIC RATING: 22,000

CKT NO.	BRKR P	BRKR AMPS	WIRE NO	WIRE SZ	*	CIRCUIT DESCRIPTION	LOAD - KVA PHA	PHB	PHC	3 PH	CKT NO.	BRKR P	BRKR AMPS	WIRE NO	WIRE SZ	*	CIRCUIT DESCRIPTION	LOAD - KVA PHA	PHB	PHC	3 PH
1	1	20	2	12		109	0.9				2	1	20	2	12		117	0.7			
3	1	20	2	12		108		0.5			4	1	20	2	12		117 COUNTER		0.2		
5	1	20	2	12		104 WTR FTN			0.2		6	1	20	2	12		117 COUNTER			0.2	
7	1	20	2	12		107	0.7				8	1	20	2	12		117 FRIDGE	0.2			
9	1	20	2	12		106		0.9			10	1	20	2	12		117 COUNTER		0.2		
11	1	20	2	12		105			0.7		12	1	20	2	12		104 SIDE ENTRANCE			0.5	
13	1	20	2	12		111	0.2				14	1	20	2	12		124	0.4			
15	1	20	2	12		112		0.7			16	1	20	2	12		123		0.4		
17	1	20	2	12		113			0.7		18	1	20	2	12		122			0.4	
19	1	20	2	12		112,113	0.7				20	1	20	2	12		121	0.5			
21	1	20	2	12		104,WEST.		0.5			22	1	20	2	12		120		0.5		
23	1	20	2	12		101			0.7		24	1	20	2	12		118			0.5	
25	1	20	2	12		114	0.2				26	1	20	2	12		126	0.9			
27	1	20	2	12				0.5			28	1	20	2	12		125		0.7		
29	1	20	2	12		WAREHOUSE 119			0.7		30	1	20	2	12		INTERIOR LTS			0.9	
31	1	20	2	12		116	0.9				32	1	20	2	12		WAREHOUSE LTS	0.8			
33	1	20	2	12		WAREHOUSE FAN		0.2			34	1	20	2	12		WAREHOUSE LTS		1.2		
35	1	20	2	12		WAREHOUSE FAN			0.2		36	1	20	2	12		INTERIOR LTS			0.9	
37	1	20	2	12		WAREHOUSE FAN	0.2				38	1	20				SPARE				
39	1	20	2	12		WAREHOUSE FAN		0.2			40	1	20				SPARE				
41	1	20	2	12		WAREHOUSE FAN			0.2		42	1	20				SPARE				
						TOTAL LEFT SIDE	3.8	3.6	3.4	0.0							TOTAL RIGHT SIDE	3.5	3.2	3.5	0.0
						TOTAL RIGHT SIDE	3.5	3.2	3.5	0.0							TOTAL CONNECTED LOAD				21.0
						TOTAL	7.3	6.8	6.9	0.0											

* NOTES

PANEL R

VOLTAGE: 208Y/120 | PHASE: 3 | WIRE: 4 | BUS AMPS: 400A | MAIN BREAKER AMPS: MLO | X SURFACE MOUNTED | FLUSH MOUNTED | kAIC RATING: 22,000

CKT NO.	BRKR P	BRKR AMPS	WIRE NO	WIRE SZ	*	CIRCUIT DESCRIPTION	LOAD - KVA PHA	PHB	PHC	3 PH	CKT NO.	BRKR P	BRKR AMPS	WIRE NO	WIRE SZ	*	CIRCUIT DESCRIPTION	LOAD - KVA PHA	PHB	PHC	3 PH
1	1	20	2	12		EF-1, EF-2	0.0				2	1	20	2	12		AHU-1	1.4			
3	1	20	2	12		EF-3, EF-4		0.2			4	1	20	2	12		AHU-2		1.4		
5	1	20				SPARE					6	2	30	3	10		WH-1			1.5	
7	2	35	3	8		CU-1	1.9				8							1.5			
9								1.9			10	2	30	3	10		WH-1		1.5		
11	2	35	3	8		CU-2			1.9		12									1.5	
13							1.9				14	2	30	3	10		EWH-1	2.3			
15	1	20	2	12		GUH-1 126		1.4			16								2.3		
17	1	20	2	12		GUH-1 125			1.4		18	1	20	2	12		HWCP-1			0.1	
19	1	20	2	12		GUH-1 124	1.4				20	2	30	2	10		ICE MACHINE	2.0			
21	1	20	2	12		GUH-1 123		1.4			22								2.0		
23	1	20	2	12		GUH-1 122			1.4		24	1	20	2	10		MEETING RCPT			0.7	
25	1	20	2	12		GUH-1 121	1.4				26	2	30	2	10	1	COPY ROOM	1.5			
27	1	20	2	12		GUH-1 120		1.4			28								1.5		
29	1	20	2	12		GUH-1 119			1.4		30	1	20	2	12		DOOR OPERATOR			1.5	
31	1	20	2	12		IT RCPT	1.0				32	1	20				SPARE				
33	1	20	2	12		IT RCPT		1.0			34	1	20				SPARE				
35	1	20	2	12		IT RCPT			1.0		36	1	20				SPARE				
37	1	20	2	12		IT RCPT	1.0				38						BLANK				
39	1	20	2	12		IT RCPT		1.0			40	1	20	4	12	2	AIR COMPRESSOR				
41	1	20				SPARE					42						BLANK				
						TOTAL LEFT SIDE	8.7	8.4	7.2	0.0							TOTAL RIGHT SIDE	8.6	8.6	5.3	0.0
						TOTAL RIGHT SIDE	8.6	8.6	5.3	0.0											
						TOTAL	17.3	17.0	12.5	0.0							TOTAL CONNECTED LOAD				46.8

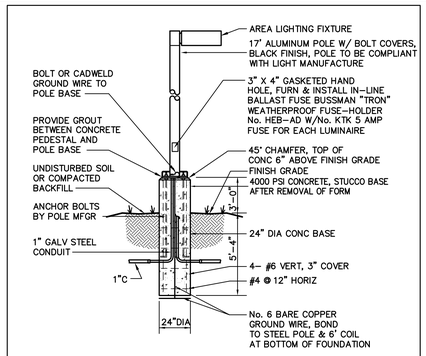
* NOTES
1. VERIFY VOLTAGE REQUIREMENTS OF COPIER.
2. VERIFY VOLTAGE REQUIREMENTS OF AIR COMPRESSOR

PANEL PB

VOLTAGE: 120/240 | PHASE: 1 | WIRE: 3 | BUS AMPS: 100A | MAIN BREAKER AMPS: 70A | X SURFACE MOUNTED | FLUSH MOUNTED | kAIC RATING: 22,000

CKT NO.	BRKR P	BRKR AMPS	WIRE NO	WIRE SZ	*	CIRCUIT DESCRIPTION	LOAD - KVA PHASE	CKT NO.	BRKR P	BRKR AMPS	WIRE NO	WIRE SZ	*	CIRCUIT DESCRIPTION	LOAD - KVA PHASE
1	1	20	2	12		FLOOD LTS	1.0	2	1	20	2	12		BACK WALL RCPT	0.4
3	1	20	2	12		BAY LIGHTS	1.0	4	1	20	2	12		BACK WALL RCPT	0.4
5	2	20	2	8	1	SITE LIGHTING	1.0	6	1	20	2	12		BACK WALL RCPT	0.4
								8	1	20	2	12		BACK WALL RCPT	0.4
9	1	20				SPARE		10	1	20	2	12		BACK WALL RCPT	0.4
11	1					SPACE		12	1					SPACE	
13	1					SPACE		14	1					SPACE	
15	1					SPACE		16	1					SPACE	
17	1					SPACE		18	1					SPACE	
19	1					SPACE		20	1					SPACE	
21	1					SPACE		22	1					SPACE	
23	1					SPACE		24	1					SPACE	
25	1					SPACE		26	1					SPACE	
27	1					SPACE		28	1					SPACE	
29	1					SPACE		30	1					SPACE	
31	1					SPACE		32	1					SPACE	
33	1					SPACE		34	1					SPACE	
35	1					SPACE		36	1					SPACE	
37	1					SPACE		38	1					SPACE	
39	1					SPACE		40	1					SPACE	
41	1					SPACE		42	1					SPACE	
						TOTAL LEFT SIDE	3.0							TOTAL RIGHT SIDE	1.8
						TOTAL RIGHT SIDE	1.8							TOTAL CONNECTED LOAD	4.8
						TOTAL	4.8								

* NOTES
1. CONNECT SITE LIGHTS TO POLE BARN PANEL. SITE LIGHTS TO BE 208 VOLT, 2 POLE. PROVIDE PHOTOCELL AND TIME CLOCK IN NEMA 3R CABINET ON BARN



AREA LIGHTING FIXTURE
NO SCALE

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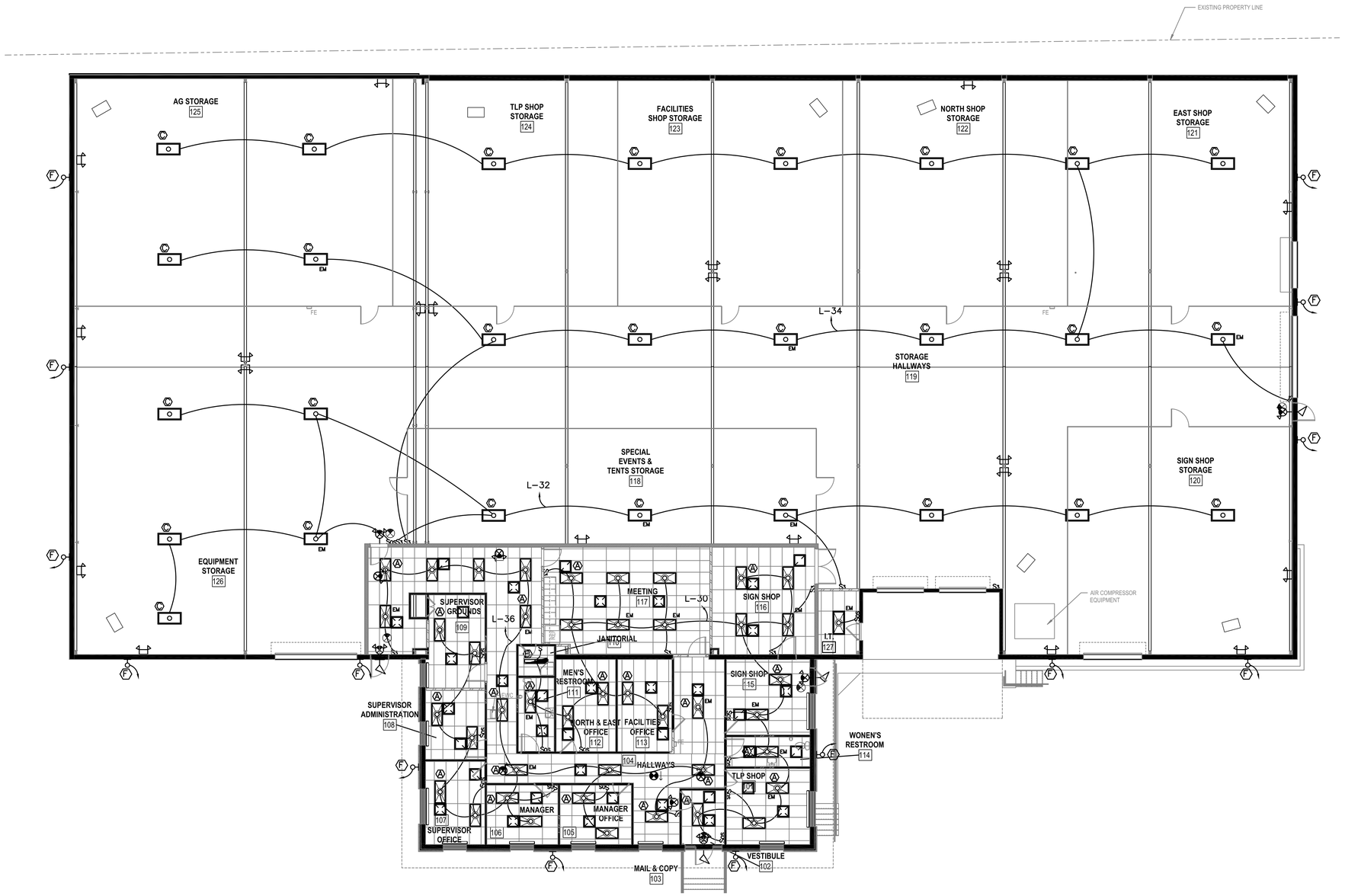
PARKS, RECREATION & TOURISM

PRT SHOP BUILDING
RENOVATION
LEGEND, GENERAL NOTES, & LIGHTING FIXTURE SCHEDULE
5305 HOLLINS ROAD
ROANOKE, VIRGINIA

DRAWN BY	DWG
DESIGNED BY	DWG
CHECKED BY	DWG
DATE	06-05-2025
SCALE	As Indicated
REVISIONS	

E1.1

PROJECT NO 03220077.00



1 E2.1 **LIGHTING PLAN**
1/8" = 1'-0"

GENERAL NOTES THIS SHEET:

1. PROVIDE NEW LIGHTING AND CONTROLS. CONNECT TO NEW LIGHTING CIRCUIT.

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PRT SHOP BUILDING
RENOVATION
LIGHTING PLAN
5305 HOLLINS ROAD
ROANOKE, VIRGINIA

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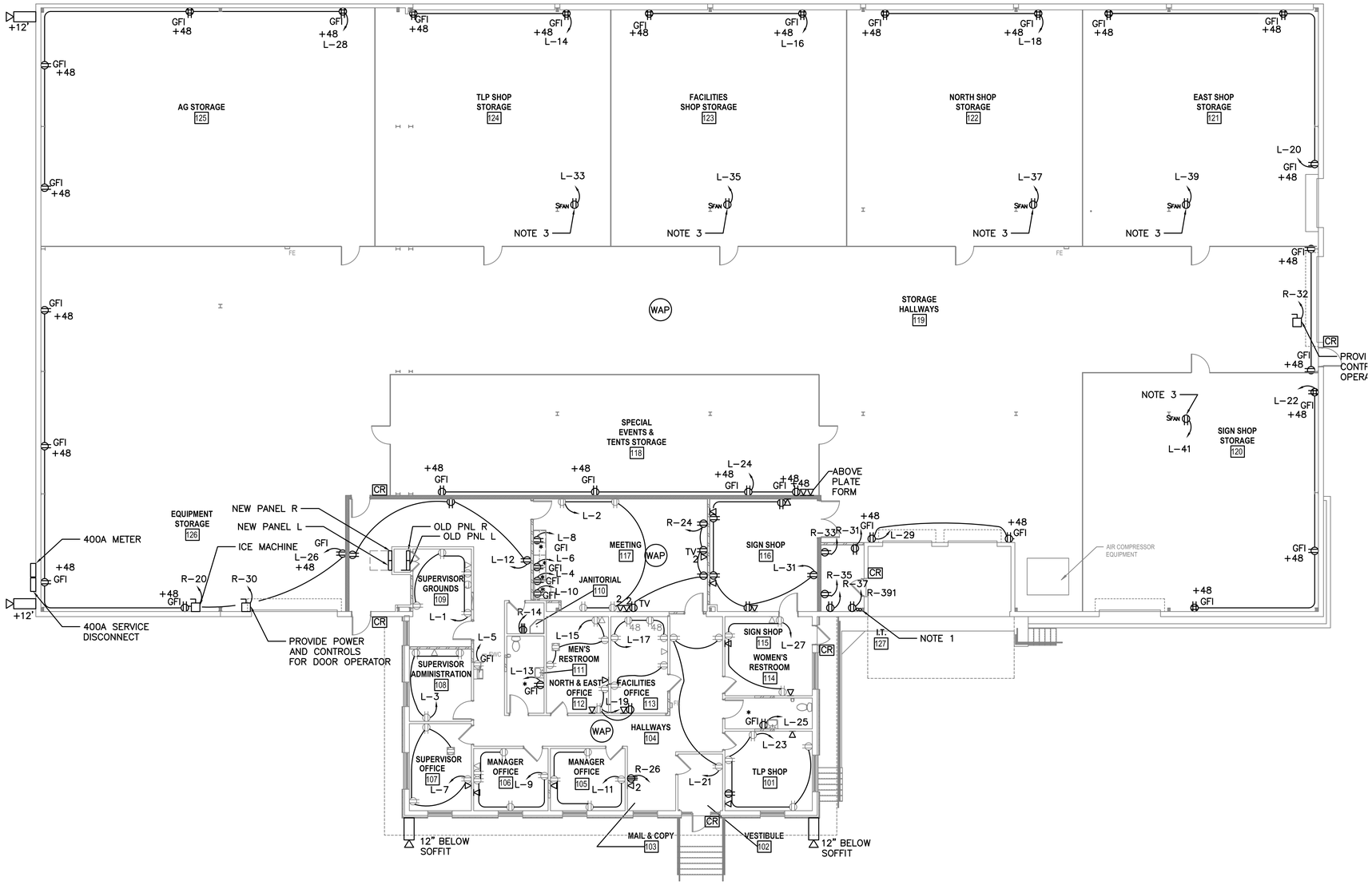
REVISIONS	

E2.1

PROJECT NO 03220077.00

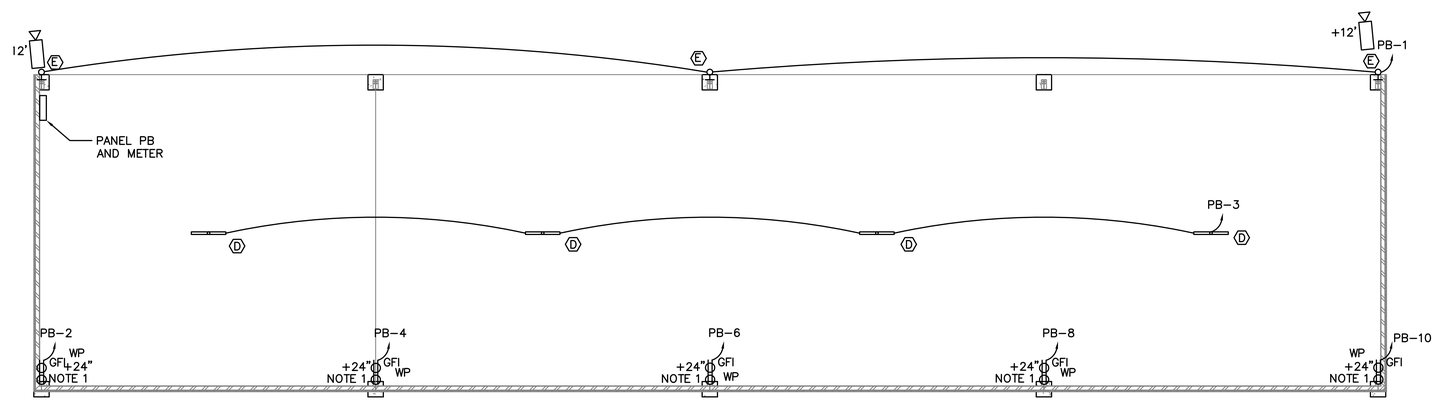


POWER & DATA PLAN

1 / E3.1 — 1/8" = 1'-0"

NOTES THIS SHEET:

1. PROVIDE 2–4" PVC CONDUITS FROM HAND HOLD TO IT CLOSET.
2. PROVIDE AN EMPTY 4X4 JUNCTION BOX WITH CONDUIT TO ABOVE CEILING. TYPICAL FOR ALL CARD READERS.
3. PROVIDE A RECEPTACLE MOUNTED AT 10'0" AFF ON COLUMN AND A SWITCH MOUNTED AT 48" TO TOP FOR OWNER PROVIDED FAN.



LIGHTING, POWER & DATA PLAN: POLE BARN

1 / E3.1 — 1/8" = 1'-0"

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RENOVATION
POWER & DATA PLAN
5305 HOLLINS ROAD
ROANOKE, VIRGINIA

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E3.1

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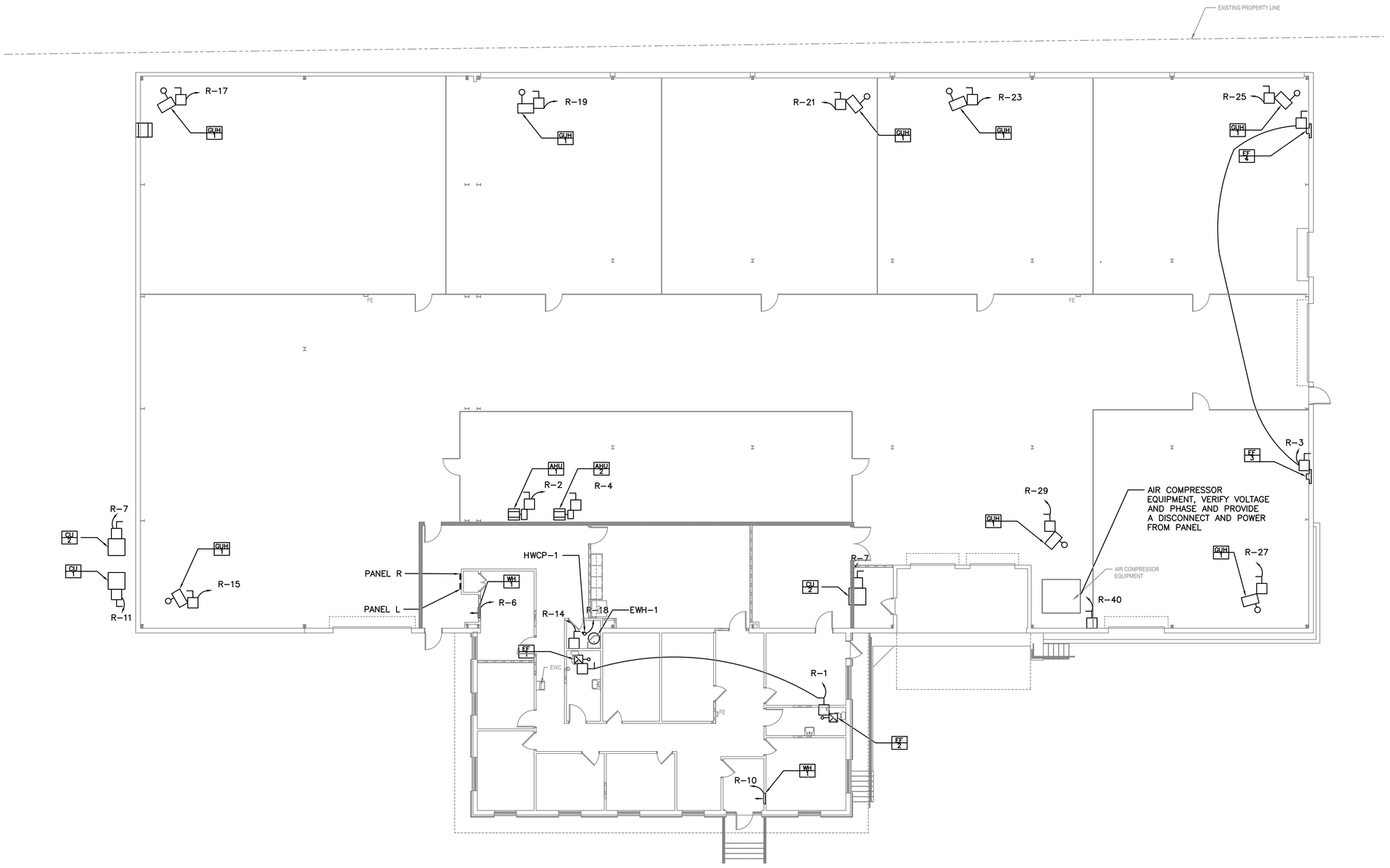

MECHANICAL AND EQUIPMENT PLANS

1 / E4.1 — 1/8" = 1'-0"

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MECHANICAL AND EQUIPMENT PLAN
5305 HOLLINS ROAD
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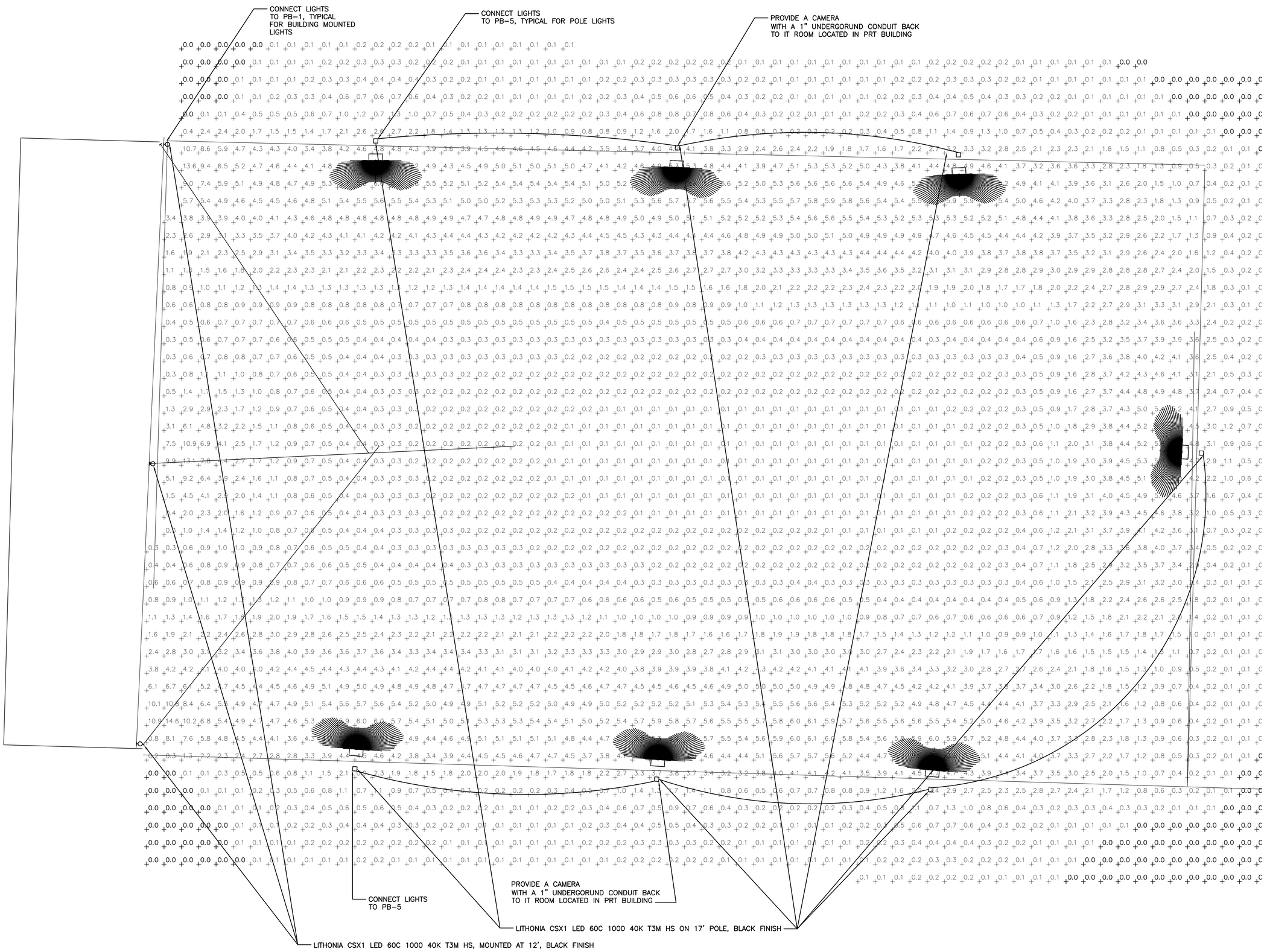

1 E5.1 **POLE BARN: LIGHTING PHOTOMETRIC**
1/8" = 1'-0"

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RENOVATION
POLE BARN LIGHTING PHOTOMETRICS
5305 HOLLINS ROAD
ROANOKE, VIRGINIA

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E5.1

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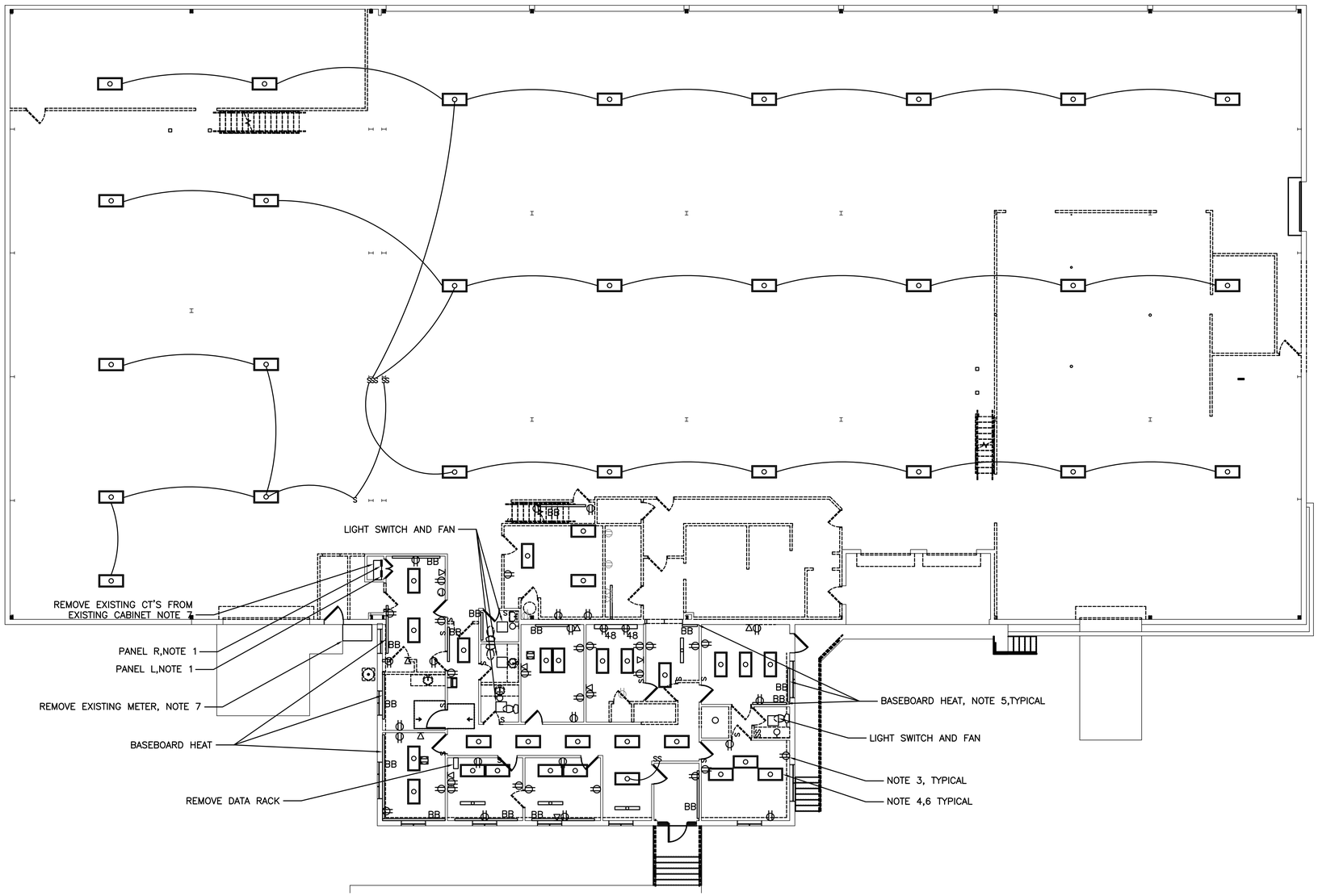

1 ED1.1 **DEMOLITION PLAN**
1/8" = 1'-0"

NOTES THIS SHEET:

1. BUILDING WILL RECEIVE NEW ELECTRICAL CIRCUITS. REUSE BOXES FOR EXISTING PANEL L AND R FOR NEW WORK. RETAIN EXISTING ELECTRICAL BRANCH CIRCUITS AND EXTEND TO NEW LOCATION OF NEW PANEL L AND R.
2. REMOVE EXISTING SUB PANEL BACK TO SOURCE. REMOVE ALL CONDUIT AND WIRING BACK TO PANEL.
3. REPLACE EXISTING RECEPTACLES ON WALLS SCHEDULED TO REMAIN. RETAIN EXISTING CIRCUITS BACK TO PANEL. DISCONNECT EXISTING CIRCUITS AND EXTEND AND RECONNECT TO NEW PANELS. PROVIDE NEW RECEPTACLES AND COVER PLATES.
4. REMOVE EXISTING LIGHTING AND REPLACE WITH NEW LED LIGHTING. RECONNECT TO NEW CIRCUITS INDICATED.
5. REMOVE EXISTING BASEBOARD HEATING. REMOVE CIRCUIT BACK TO BRANCH CIRCUIT PANEL.
6. REMOVE EXISTING SWITCHING WITH EXISTING LIGHTING. NEW SWITCHES TO GO IN EXISTING SWITCH LOCATION.
7. REMOVE EXISTING ELECTRICAL SERVICE AND RISER POLES BACK TO HOLLINS ROAD. REFEED NEW SERVICE UNDERGROUND WITH POLE LOCATED AT HOLLINS ROAD. COORDINATE UNDERGROUND INSTALLATION WITH CIVIL.

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RENOVATION
DEMOLITION PLAN
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ROANOKE, VIRGINIA

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ED1.1

PROJECT NO 03220077.00

GENERAL PLUMBING NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2021 VIRGINIA UNIFORM STATEWIDE BUILDING CODE, ALL FEDERAL, STATE, AND CITY CODES, ORDINANCES, AND STANDARDS.

2. IT IS THE INTENT OF THESE DOCUMENTS THAT THE CONTRACTOR PROVIDE ALL LABOR, MATERIAL, EQUIPMENT AND TOOLS FOR THE COMPLETE INSTALLATION OF ALL WORK SHOWN ON THE PLANS AND/OR DESCRIBED HEREIN, INCLUDING ALL DEVISES AND CONTROLS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.

3. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE. NOT ALL FITTINGS, OFFSETS, VENTS, OR DRAINS ARE SHOWN. THE CONTRACTOR SHALL INCLUDE ALL OFFSETS, VENTS, AND DRAINS AS REQUIRED FOR A FULLY FUNCTIONING SYSTEM.

4. SLOPES AND INVERT ELEVATIONS OF EXISTING SEWER SHALL BE ESTABLISHED AND VERIFIED BY CONTRACTOR BEFORE ANY PIPING IS INSTALLED IN ORDER THAT PROPER SLOPE WILL BE MAINTAINED AND NECESSARY INVERT ELEVATIONS OBTAINED.

5. ALL PIPES SHALL BE COORDINATED WITH OTHER NEW AND EXISTING DUCTS, PIPES, LIGHTS, STRUCTURAL SYSTEM, CEILING SUPPORTS AND FRAMING BEFORE INSTALLATION. MINOR PIPE OFFSETS SHALL BE PROVIDED AS REQUIRED. MEASUREMENTS FOR VERTICAL CLEARANCES SHALL BE TAKEN AT THE JOB SITE BEFORE INSTALLATION OF ANY PIPING.

6. PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL PANELS. COORDINATE INSTALLATION OF PIPES WITH ELECTRICAL PANELS WHEN SHOWN NEAR PANELS OR OVER ELECTRICAL ROOMS.

PLUMBING EQUIPMENT SCHEDULE:

FD — FLOOR DRAIN, ZURN MODEL Z415, DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS.

FOR MECHANICAL ROOM DRAINS NOT RECIEVING INDIRECT WASTE, FINISHED SPACES INCLUDING TOILET, SHOWER, LOCKER ROOMS, ETC., PROVIDE WITH TYPE B, ROUND, POLISHED NICKEL BRONZE, LIGHT DUTY HEEL PROOF STRAINER.

FOR ANY FLOOR DRAINS RECIEVING INDIRECT WASTE OR CONDESATE (NOT FLOOR SINKS), PROVIDE TYPE I POLISHED NICKEL BRONZE STRAINER WITH RAISED FLANGE.

ALL FLOOR DRAINS SHALL BE PROTECTED AGAINST LOSS OF TRAP SEAL BY EVAPORATION BY INSTALLATION OF ELASTOMERIC TRAP GUARD DRAIN INSERT, EQUAL TO PROSET SYSTEMS MODEL #TG.

FS — FLOOR SINK, ZURN MODEL Z1900, 12"X12"X6" DEEP CAST IRON BODY AND SQUARE, LIGHT DUTY GRATE WITH 1/2" SLOTTED OPENINGS, WHITE ACID RESISTING PORCELAIN ENAMEL INTERIOR AND TOP, WITH WHITE ABS ANTI SPLASH INTERIOR BOTTOM DOME STRAINER. PROVIDE WITH 1/2 GRATE TOP COVER.

WH — WALL HYDRANT, ZURN MODEL Z1320XL, ENCASED, ECOLOTROL, LEAD-FREE, NON-FREEZE AUTOMATIC DRAINING WALL HYDRANT FOR FLUSH INSTALLATION. HYDRANT FEATURES INTEGRAL BACKFLOW PREVENTER WITH ANTI-SIPHON TECHNOLOGY, COPPER CASING, ALL-BRONZE INTERIOR COMPONENTS WITH 1/2 TURN LONG-LIFE CERAMIC DISC CARTRIDGE, COMBINATION 3/4" FEMALE SOLDER AND 3/4" MALE PIPE THREAD INLET CONNECTION, AND 3/4" MALE HOSE CONNECTION. HYDRANT FURNISHED WITH TYPE 304 STAINLESS STEEL HOUSING WITH LOCKING HINGED COVER STAMPED "WATER" AND INCLUDES OPERATING KEY. CONTRACTOR SHALL COORDINATE WITH WALL THICKNESS. MOUNT AT 24" ABOVE GRADE.

YH — YARD HYDRANT, ZURN MODEL Z1396XL, EXPOSED, LEAD FREE, NON-FREEZE YARD HYDRANT W/ DURA-COATED CAST IRON HEAD AND LIFT HANDLE WITH LOCK OPTION, GALVANIZED STEEL CASING, 3/4" INLET, 1/8" TAPPED DRAINAGE PORT, AND 3/4" MALE HOSE CONNECTION ON DISCHARGE.

BFP — REDUCED PRESSURE ZONE BACK FLOW PREVENTER (FOR BUILDING SERVICE)
SIZES 1/2" - 2": WATTS SERIES LFU009. PROVIDE WITH AIR GAP DRAIN OUTLET PIPED TO NEAREST FLOOR DRAIN.
SIZES 2-1/2" - 4": WATTS SERIES 909. PROVIDE WITH OUTSIDE STEM AND YOKE RESILLIENT SEATED GATE VALVES AND AIR GAP DRAIN OUTLET PIPED TO NEAREST FLOOR DRAIN.

EX — EXPANSION TANK - AMTROL THERM-X-TROL MODEL #ST-5 THERMAL EXPANSION TANK, 2.0 GALLONS MIN. ACCEPTANCE VOLUME WITH DIAPHRAGM. FACTORY PRE-CHARGED TO 40 PSI, SET EQUAL TO LINE PRESSURE.

EWH-1 — ELECTRIC WATER HEATER, A.O. SMITH MODEL #DEL-40D-5.5 , SINGLE ELEMENT, 40 GALLON CAPACITY TANK, 23 GAL./HR. RECOVERY AT 40 DEG.F. ENT.AND 100 DEG.F. RISE, 5.5 KW, 208V/1PH; T & P RELIEF VALVE. PIPING CONNECTIONS INCLUDING T&P RELIEF VALVE ON SIDE OF EQUIPMENT.

HWCP-1 — B&G SERIES ECOCIRC 20-18 CIRCULATING PUMP, 0-70 WATTS., 120V/1PH, 1.0 GPM AT 10 FT. OF HEAD. RECIRCULATION SYSTEM IS TO FUNCTION AS A CONSTANT TEMPERATURE SYSTEM WITH CONTROLS AS REQUIRED TO MAINTAIN A CONSTANT TEMP IN THE HOT WATER LOOP. PROVIDE WITH REMOTE TEMPERATURE SENSOR TO MONITOR LOOP TEMPS. PUMP SHALL BE AUTOMATICALLY DISABLED DURING NIGHT MODE/AFTER BUSINESS HOURS.

TV — WATTS MODEL SERIES LFUSG-B-M2 UNDER-SINK GUARDIAN ASSE 1070 THERMOSTATIC TEMPERING VALVE FOR SINGLE FIXTURE APPLICATIONS; 3/4" SERIES LFMMV FOR MULTIPLE FIXTURE APPLICATIONS. SET VALVE FOR MAXIMUM 109 DEG. F.

CO — JOSAM CLEANOUT
WALL: CHROME FLUSH WALL PLATE, RECESSED PLUG.
FLOOR (UNFINISHED) - SATIN NIKALOY BRONZE TOP, RECESSED PLUG.
FLOOR (FINISHED) - RECESSED SATIN BRONZE TOP TO RECEIVE FLOOR FINISH MATERIAL
(CARPET/TILE), RECESSED PLUG.

LEGEND

- BRANCH CONNECTION - BOTTOM OF MAIN
- BRANCH CONNECTION - SIDE OF MAIN
- BRANCH CONNECTION - TOP OF MAIN
- PIPE DOWN OR PIPE FROM BELOW
- PIPE UP OR PIPE FROM ABOVE
- DIRECTION OF FLOW
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC HOT WATER RECIRCULATING
- G — NATURAL GAS PIPING
- SANITARY SEWER, GREASE WASTE OR DRAIN
- SANITARY VENT
- CO — CLEANOUT FLUSH WITH FLOOR
- OUTLET WITH P-TRAP
- WH — WALL HYDRANT
- WHA — WATER HAMMER ARRESTER
- BALL VALVE
- AUTOMATIC GAS SHUT OFF VALVE, INTERLOCK WITH HOOD
- SHUTOFF VALVE IN VERTICAL
- CHECK VALVE
- T&P RELIEF VALVE
- BALANCING COCK
- UNION
- PRESSURE GAUGE AND GAUGE COCK
- THERMOMETER
- GAS PRESSURE REGULATOR
- RELIEF VALVE
- BACKFLOW PREVENTER (BFP)
- (E) — EXISTING (EQUIPMENT OR DUCTWORK/PIPING)
- DEMOLITION (EQUIPMENT, PIPING, DUCTWORK, ETC.)
- A — COMPRESSED AIR PIPING

ABBREVIATIONS

AAV	AIR ADMITTANCE VALVEV
ABV	ABOVE
AFF	ABOVE FINISHED FLOOR
BFF	BELOW FINISHED FLOOR
BTU	BRITISH THERMAL UNIT
BEL	BELOW
CLG	CEILING
CO	CLEANOUT
CONN	CONNECT, CONNECTION
CW	COLD WATER
CONT	CONTINUED
DN	DOWN
EA	EACH
ELEV	ELEVATION
EWC	ELECTRIC WATER COOLER
F	DEGREES FAHRENHEIT
FD	FLOOR DRAIN
FIN	FINISHED
FLR	FLOOR
FR	FROM
FT	FEET
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GW	GREASE WASTE
HB	HOSE BIBB
HC	HANDICAPPED ACCESSIBLE
HW	HOT WATER
HP	HORSEPOWER
IN	INCH, INCHES
INV	INVERT
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MIN	MINIMUM
SH	SHEET
TYP	TYPICAL
V	SANITARY VENT
VTR	VENT THRU ROOF
W	SANITARY WASTE
WCO	WALL CLEANOUT
WH	WALL HYDRANT
WHA	WATER HAMMER ARRESTER
ZVB	MEDICAL GAS ZONE VALVE BOX

CONNECT TO EXISTING

LIMITS OF DEMOLITION

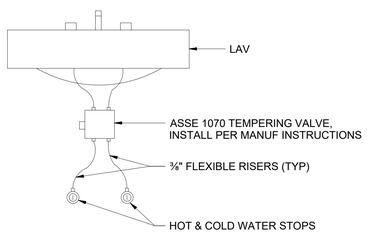
PLUMBING FIXTURE SCHEDULE:

WC-1 — WATER CLOSET: AMERICAN STANDARD "RIGHT HEIGHT" MODEL #3461.001, VITREOUS CHINA ELONGATED SIPHON JET BOWL, FLOOR MOUNTED, WHITE EXTRA HEAVY DUTY SOLID PLASTIC OPEN FRONT SEAT WITHOUT COVER, 2" MAXIMUM LIFT, STAINLESS STEEL CHECK HINGE, ADA COMPLIANT. FLUSH VALVE SHALL BE MOEN 8310M128 SERIES OR EQUAL, 1.28 GPF CHROME PISTON FLUSH VALVE WITH ADA COMPLIANT HANDLE.

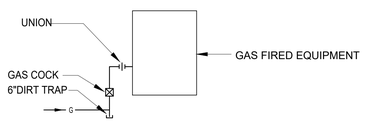
L-1 — AMERICAN STANDARD "LUCERNE" 0355.012 WHITE VITREOUS CHINA WALL HUNG HANDICAP LAVATORY, THREE HOLE MOUNT FOR 4" CENTERS, WITH MOEN 8413F05 CENTERSET CHROME FAUCET WITH SINGLE LEVER HANDLE, METAL GRID STRAINER, OFFSET PVC P-TRAP, FLEXIBLE TUBING SUPPLIES, COMPRESSION FITTINGS AND STOPS. PROVIDE TRUEBRO #102W PRE- MOLDED INSULATION ON BOTH WATER SUPPLIES AND DRAIN. PROVIDE WITH WALL CARRIER.

MS-1 — MOP SINK: FIAT MODEL MSB-2424, 24 INCH X 24 INCH X 10 INCH MOLDED STONE MOP SERVICE BASIN, WITH BUMPER GUARD, STAINLESS STEEL DRAIN BODY, COMBINATION S.S. DOME STRAINER AND REMOVEABLE BASKET, FIAT 830-AA WALL MOUNTED CHROME COMBINATION FAUCET, SUPPLY FITTING WITH VACUUM BREAKER, FOUR ARM HANDLES, INTEGRAL STOPS, WALL BRACE, PAIL HOOK, THREADED SPOUT, RUBBER HOSE, WALL HOOK AND MOP HANGER

EWC-1 — ELECTRIC WATER COOLER: OASIS MODEL PGF8EBF SHALL DELIVER 8.0 GPH OF 50° F DEGREE WATER AT 90° F AMBIENT AND 80° F INLET WATER. MODEL PGF8EBF SHALL INCLUDE PG8AC AND THE VERSAFILLER SPORTS BOTTLE FILLER WITH HANDS FREE ACTIVATION; LOWER UNIT SHALL HAVE FOUR ANTIMICROBIAL COPPER PUSH PADS TO ACTIVATE THE MANUAL FLOW OF WATER FOR THE COOLER. VERSAFILLER COMPONENTS CONTAIN FRESHIELD®, WHICH UTILIZES A SILVER-BASED ANTIMICROBIAL COMPOUND THAT REDUCES THE GROWTH OF MICRO-ORGANISMS AND MILDEW TO PROTECT THE SURFACES FROM DISCOLORATION, ODORS AND DEGRADATION. BASIN SHALL BE DESIGNED TO ELIMINATE SPLASHING AND STANDING WATER. SHALL HAVE VERSAFILTER FOR TASTE, ODOR, LEAD AND CHLORINE REDUCTION. WATER SAVER BUBBLER REDUCE WASTE WATER BY 50% AND SHALL HAVE FLEXIBLE GUARD AND OPERATE BETWEEN 20 AND 100 PSI. CABINET FINISH SHALL BE SANDSTONE ON GALVANIZED STEEL OR BRUSHED STAINLESS STEEL. SHALL USE R-134A REFRIGERANT. SHALL COMPLY WITH ANSI 117.1 AND ADA. SHALL BE LISTED BY UNDERWRITERS LABORATORIES TO US AND CANADIAN STANDARDS. SHALL COMPLY WITH ANSI/NSF 61 AND NSF/ANSI 372.



TYPICAL TEMPERING VALVE FOR LAV'S
NO SCALE



DETAIL-GAS PIPING CONNECTIONS
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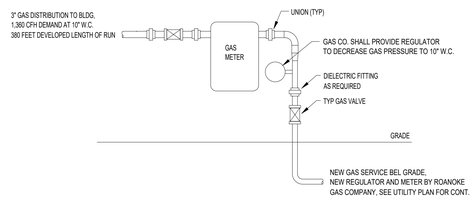

DETAIL-GAS METER CONNECTION
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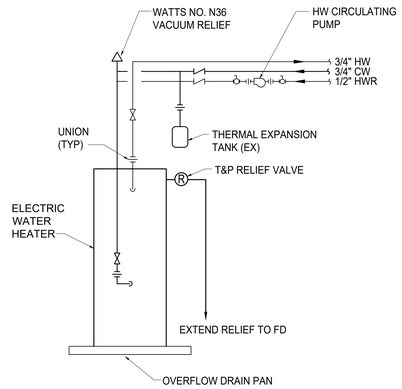

WATER HEATER PIPING DETAIL
NO SCALE

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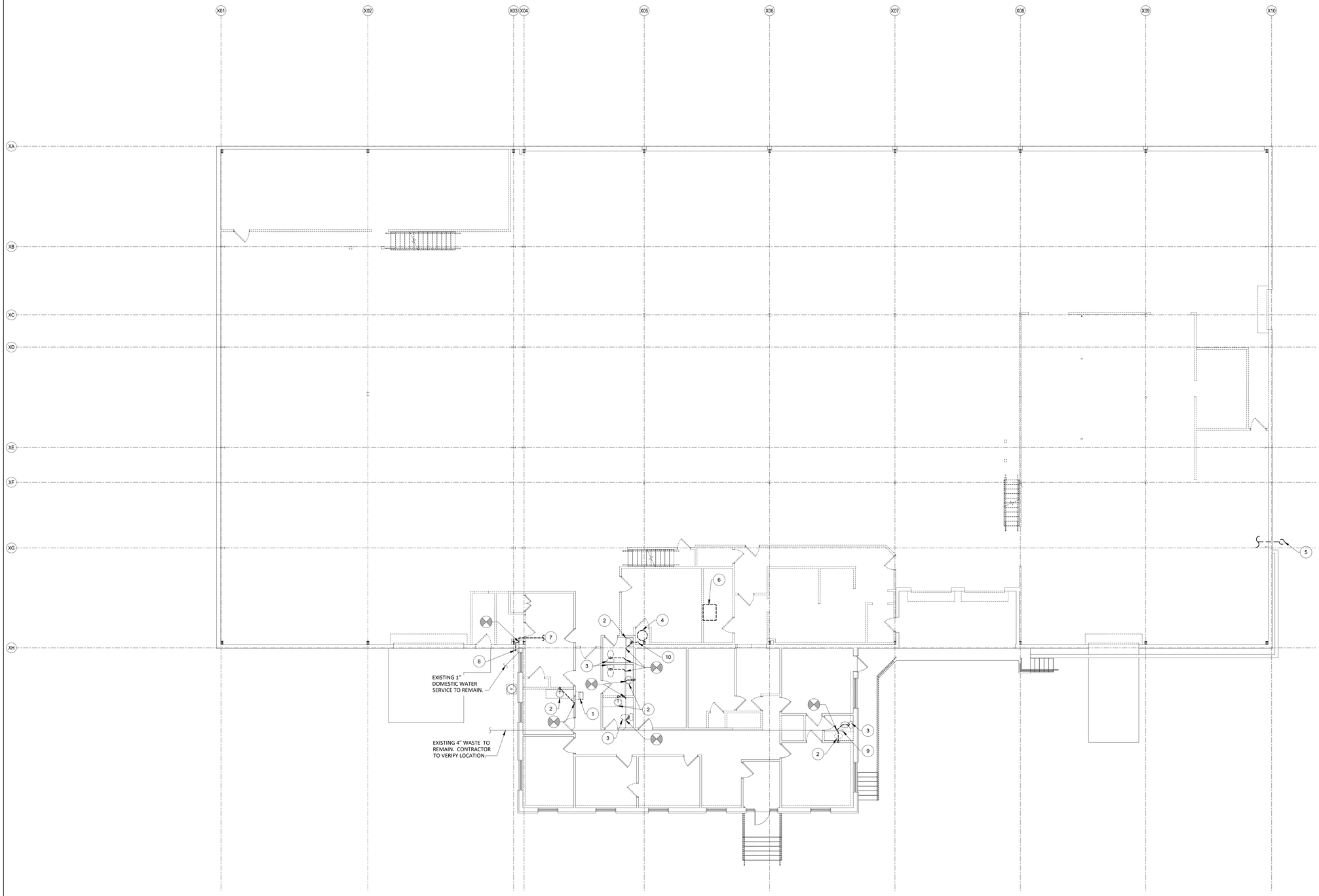
ROANOKE COUNTY VA
PARKS, RECREATION & TOURISM

PRT SHOP BUILDING
RENOVATION
PLUMBING LEGEND, SCHEDULES, DETAILS, AND NOTES
5305 HOLLINS ROAD
ROANOKE, VIRGINIA

DRAWN BY	JNB
DESIGNED BY	JNB
CHECKED BY	JNB
DATE	2025-06-05
SCALE	As indicated
REVISIONS	

P1.01
PROJECT NO 03220077.00



1 P2.01 **PLUMBING DEMOLITION PLAN**

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

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING.
2. ALL EXISTING DOMESTIC WATER PIPING TO BE REMOVED DOWNSTREAM OF MAIN SHUT OFF VALVE.

KEYED NOTES:

1. EXISTING WATER COOLER TO BE REMOVED IN ITS ENTIRETY. REMOVE EXISTING WATER SUPPLY AND PREPARE EXISTING WASTE TO BE RECONNECTED TO.
2. EXISTING SINK AND ALL ASSOCIATED WASTE AND WATER SUPPLY PIPING TO BE REMOVED IN THEIR ENTIRETY.
3. EXISTING WATER CLOSET AND ALL ASSOCIATED WASTE AND WATER SUPPLY PIPING TO BE REMOVED IN THEIR ENTIRETY.
4. EXISTING WATER HEATER AND ALL ASSOCIATED PIPING TO BE REMOVED IN THEIR ENTIRETY.
5. EXISTING PROPANE CONNECTION, 3/4" GAS LINE, AND REGULATOR TO BE REMOVED IN THEIR ENTIRETY.
6. EXISTING BOILER AND ALL ASSOCIATED WATER PIPING TO BE REMOVED IN THEIR ENTIRETY.
7. ALL EXISTING WATER PIPING DOWNSTREAM OF MAIN SHUT OFF VALVE IN VERTICAL TO BE REMOVED.
8. EXISTING WALL HYDRANT AND ASSOCIATED BRANCH WATER PIPING TO BE REMOVED.
9. EXISTING FLOOR CLEAN OUT. REMOVE COVER AND PROVIDE NEW.
10. EXISTING VENT PIPING UP TO VTR. REMOVE PIPING FROM 18" BELOW ROOF DECK AND PREPARE FOR CONNECTION TO NEW VENT PIPING.

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PRT SHOP BUILDING
RENOVATION
PLUMBING DEMOLITION PLAN
5305 HOLLINS ROAD
ROANOKE, VIRGINIA

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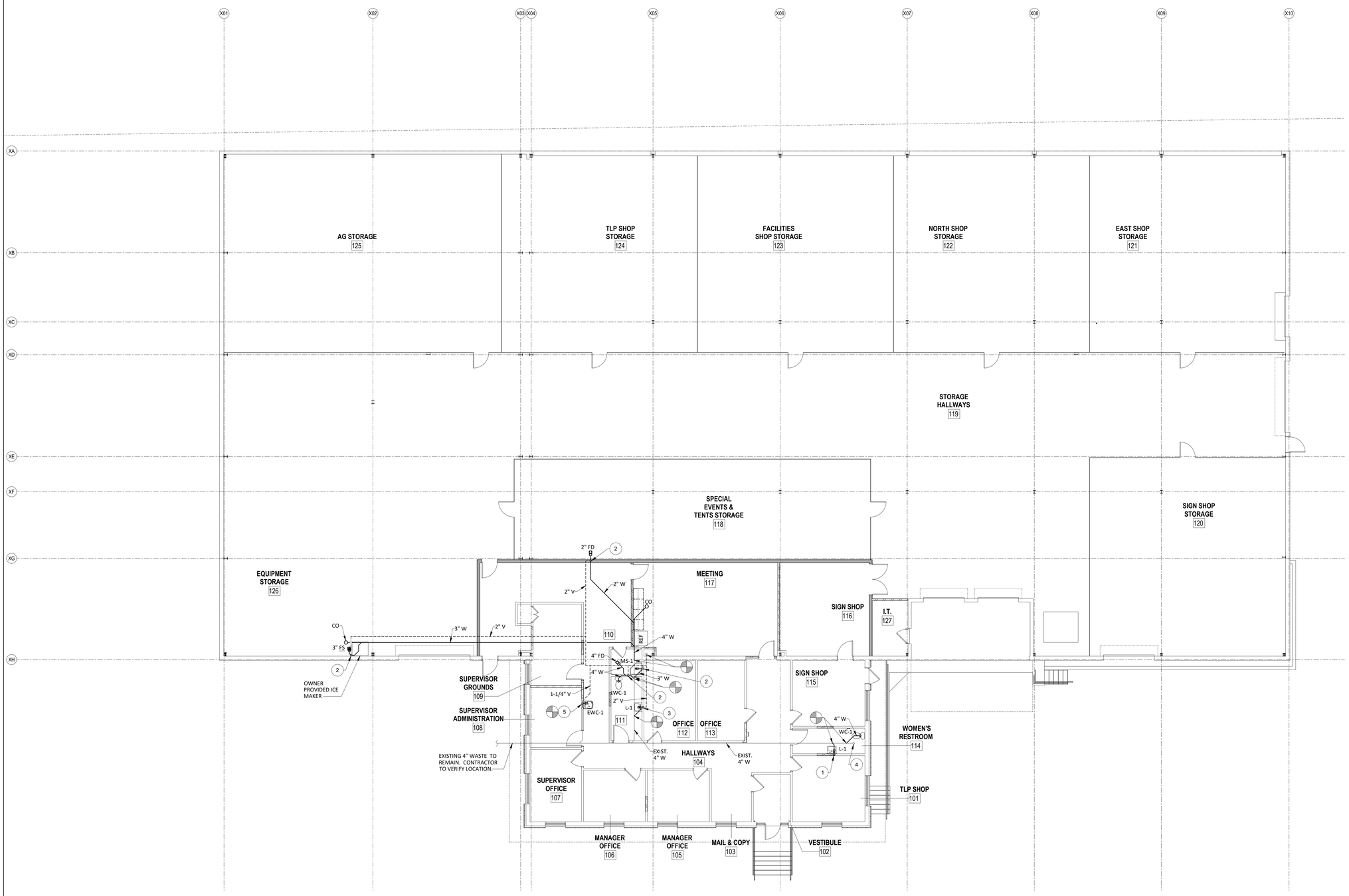

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P3.01

PLUMBING NEW WORK PLAN - W&V

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

GENERAL NOTES:

1. REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES AND NUMBERS IF NOT SHOWN ON THIS PLAN.
2. ALL PENETRATIONS THROUGH FULL HEIGHT WALLS SHALL BE SEALED TO PREVENT THE INFILTRATION OF NOISE AROUND THE PENETRATION.
3. CONTRACTOR SHALL VERIFY SIZE, LOCATION, AND INVERT ELEVATION OF EXISTING SANITARY PRIOR TO STARTING NEW CONSTRUCTION.

KEYED NOTES:

1. 2" WASTE DOWN AND 2" VENT UP TO VTR.
2. 2" VENT DOWN.
3. 2" WASTE AND 2" VENT DOWN.
4. PROVIDE NEW COVER FOR EXISTING CLEAN OUT.
5. 1-1/4" VENT DOWN. CONNECT 1-1/4" WASTE FROM NEW WATER COOLER TO EXISTING WASTE LINE BELOW FLOOR.

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PRT SHOP BUILDING
RENOVATION
PLUMBING NEW WORK PLAN - WASTE AND VENT
5305 HOLLINS ROAD
ROANOKE, VIRGINIA

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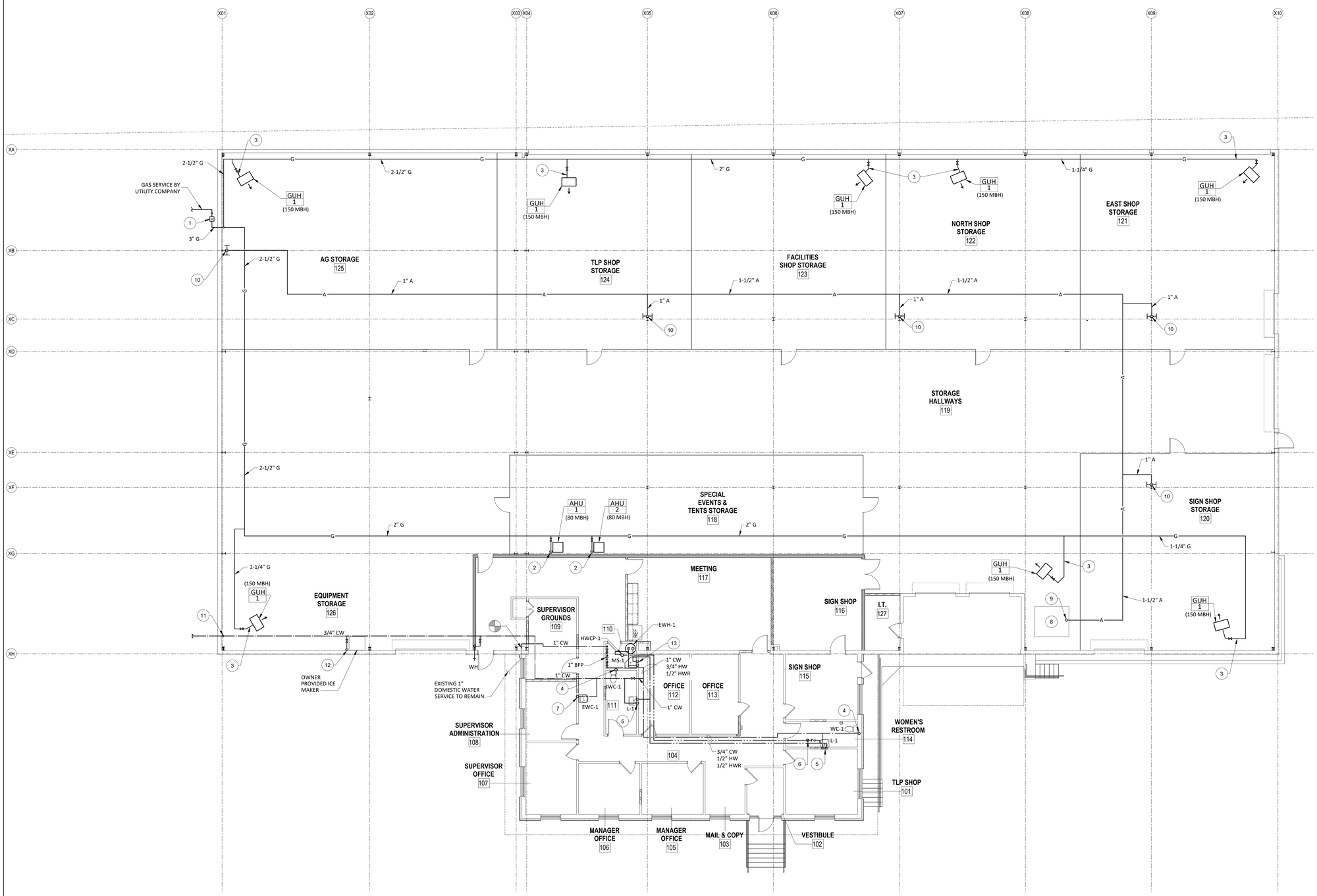

1 P4.01 **PLUMBING NEW WORK PLAN - W&G**

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

GENERAL NOTES:

1. REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES AND NUMBERS IF NOT SHOWN ON THIS PLAN.
2. ALL PENETRATIONS THROUGH FULL HEIGHT WALLS SHALL BE SEALED TO PREVENT THE INFILTRATION OF NOISE AROUND THE PENETRATION.

KEYED NOTES:

1. NEW GAS METER AND PRESSURE REGULATOR. REGULATOR SHALL REDUCE THE GAS DELIVERY PRESSURE DOWN TO 10" W.C. SYSTEM IS SIZED FOR A TOTAL LOAD OF 1,360 CFH. GAS PRESSURE DROP BASED ON 400 FT. TOTAL EQUIVALENT PIPING RUN LENGTH AT 0.5 IN W.C. PRESSURE DROP.
2. 1" GAS TO AHU/ FURNACE.
3. 1-1/4" GAS TO UNIT HEATER AND PROVIDE SHUT OFF VALVE, TYPICAL FOR ALL.
4. 1/2" CW DOWN TO WATER CLOSET.
5. 1/2" CW AND 1/2" HW DOWN TO LAV. PROVIDE TV.
6. CHECK VALVE AND BALANCING COCK. SET TO 0.5 GPM.
7. 1/2" CW DOWN TO NEW WATER COOLER.
8. OWNER PROVIDED AIR COMPRESSOR.
9. 1-1/2" COMPRESSED AIR MAIN FROM COMPRESSOR.
10. 1" COMPRESSED AIR DROP. PROVIDE SHUT OFF VALVE AT 48" AFF WITH TEE FITTING AND DRAIN VALVE. TO DRAIN AT LOW POINT. PROVIDE 3/4" AIR OUTLET ON EACH SIDE OF COLUMN (2 OUTLETS PER DROP) WITH QUICK CONNECT FITTING.
11. 3/4" CW DOWN TO BELOW GRADE AND OUT TO NEW POLE BARN/ SHED. PROVIDE SHUT OFF VALVE IN VERTICAL PIPING AT 36" ABOVE GRADE.
12. 1/2" CW DOWN TO ICE MAKER.
13. 3/4" CW AND 3/4" HW DOWN TO MOP SINK.

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PRT SHOP BUILDING
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PLUMBING NEW WORK PLAN - WATER AND GAS
5305 HOLLINS ROAD
ROANOKE, VIRGINIA

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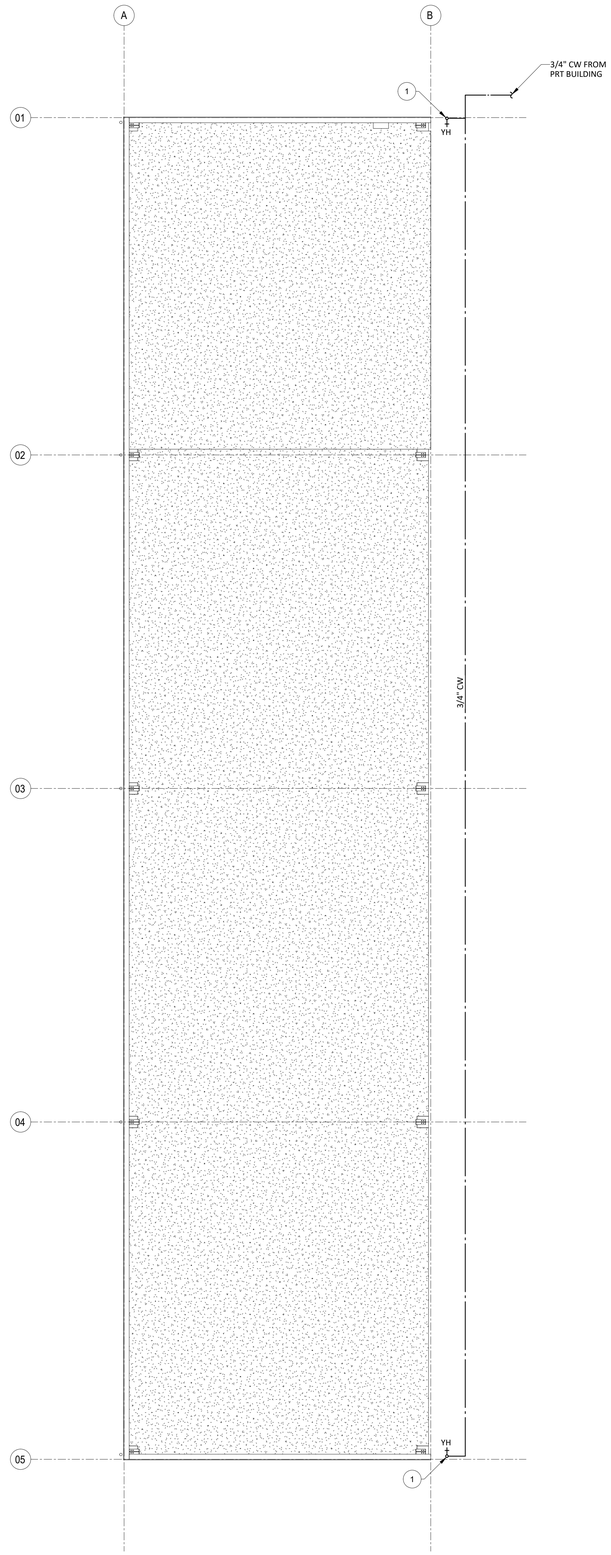

1 P4.02 **PLUMBING NEW WORK PLAN - SHED**
SCALE = 1/8"=1'-0"

KEYED NOTES:

1. 3/4" CW UP TO YARD HYDRANT AT 30" ABOVE GRADE. INSTALL YH SUCH THAT DRAIN PORT IS LOCATED AT 40" BELOW GRADE. PROVIDE 24" DIAMETER CRUSHED STONE DRAIN BED AROUND DRAIN. DRAIN BED SHALL EXTEND 24" BELOW DRAIN AND 6" ABOVE.

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