



Finance and Administrative Services Department – Purchasing Division

ADDENDUM No 1: Changes and Revisions

ORANGE COUNTY BID No 367-OC5429

EFLAND COMMUNITY CENTER RENOVATIONS

UPDATED SUBMITTAL DEADLINE:

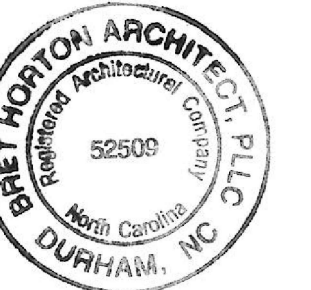
***The bid submittal deadline has been extended to September 12th, 2024, at 2:00 pm.**

REVISED CHANGES:

- *Sheet A0 has been revised to include an updated door schedule, two revisions to the window schedule, a revision to General Note 23 about interior signage, a revision to the General Finish Notes specifying paint manufacturer, and a revision to the requirements for submittals. Revisions have been clouded.
- *Sheet A1. The life safety plans have been revised to show a new toilet room layout. Revisions have not been clouded.
- *Sheet A3 has been revised to show new demolition scope related to the new toilet room layout. Revisions have been clouded.
- *Sheet A4 has been revised to show a new toilet room layout and new notes associated with the new layout. A note regarding flooring in Multipurpose 2 and in its associated storage closet has been revised. Revisions have been clouded.
- *Sheet A5 has been revised to show updated interior elevations, an update to the note regarding exterior siding, and a new note regarding spray foam insulation.
- *A complete set of revised plumbing, mechanical, electrical, and fire alarm drawings has been included. Revisions have not been clouded.
- *As an add alternate, please price the following: Replace the existing slab of the covered patio enclosure and its associated storage closet with a new 4” thick turndown slab, with vapor barrier and gravel base per code. Provide slab-edge insulation per code protected by Nudo Ground Breaker Foundation and Insulation Protection Liner or equal. Flooring to be Mohawk Vivid Step, style: CR706 Vivid Step Stone Color: S142 Moon Walk, to match existing in Multi-Purpose 1.
- *Please price the add alternate addition, shown on Sheet A6, with the same type of slab and details as in the above paragraph.
- *An Appendix B has been included.
- *The insurance requirement will be the standard risk profile.



8.23.24



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GENERAL NOTES

- THE CONTRACT DOCUMENTS DEFINE THE DESIGN INTENT AND SCOPE OF THE WORK AND SHALL BE CONSIDERED AS A WHOLE IN DEFINING THE PROJECT. THOUGH PORTIONS OF THE WORK HAVE BEEN DIVIDED INTO DIFFERENT TRADES AS IS CUSTOMARY, REQUIREMENTS FOR EACH TRADE MAY HAVE INFORMATION PERTINENT TO THAT TRADE IN OTHER PORTIONS OF THE CONTRACT DOCUMENTS.
- THESE NOTES APPLY TO THE CONTRACT DOCUMENTS. REFER TO ARCHITECTURAL AND OTHER CONTRACT DOCUMENTS FOR ADDITIONAL GENERAL NOTES, SCOPE, ABBREVIATIONS AND SYMBOLS.
- IN CASE OF CONFLICT BETWEEN ARCHITECT'S AND ENGINEER'S DRAWINGS IN LOCATION OF MATERIALS OR EQUIPMENT, THE ARCHITECTURAL DRAWINGS SHALL GOVERN, BUT GC SHALL VERIFY WITH ARCHITECT PRIOR TO WORK.
- DRAWINGS OF BASE BUILDING CONDITIONS ARE BASED ON EXISTING BUILDING DRAWINGS AND ON LIMITED FIELD OBSERVATION BY ARCHITECT. ACTUAL CONDITIONS MAY DIFFER FROM THOSE SHOWN. IF DISCREPANCIES ARE FOUND BETWEEN THE DOCUMENTS AND ACTUAL CONDITIONS AT THE SITE, NOTIFY ARCHITECT IMMEDIATELY.
- IF DOCUMENTS ARE AT VARIANCE WITH ONE ANOTHER ON A PARTICULAR ITEM OR ITEMS, THE BETTER QUALITY OR MORE EXPENSIVE OF THE CONDITIONS SHALL GOVERN. ITEMS OR EQUIPMENT SPECIFIED UNDER ONE TRADE SHALL BE BINDING AS IF SPECIFIED UNDER ALL APPLICABLE TRADES.
- WORK SHALL CONFORM TO LOCAL BUILDING CODES AND ORDINANCES AND OTHER AGENCIES HAVING JURISDICTION. ADHERE TO OSHA RULES AND REGULATIONS.
- MAINTAIN FOR ENTIRE LENGTH OF THE WORK EXITS, EXIT LIGHTING, FIRE PROTECTIVE DEVICES AND ALARMS TO CONFORM TO LOCAL BUILDING CODE REQUIREMENTS.
- PROVIDE BRACING AND PROTECT EXISTING WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, DISTORTION, AND/OR MISALIGNMENT IN ACCORDANCE WITH APPLICABLE CODES, STANDARDS, AND GOOD PRACTICE.
- PERFORM WORK SO AS TO NOT UNDERMINE THE STRUCTURAL INTEGRITY OF THE BUILDING.
- PROVIDE INTERIOR FINISH MATERIALS PER CODE REQUIREMENTS FOR FLAME SPREAD / SMOKE DEVELOPED PER LIMITS NOTED ON CODE ANALYSIS BASED ON ASTM E-84 TEST METHOD. COMPLETELY COVER FOAMED PLASTIC INSULATION (URETHANE, POLYSTYRENE, POLYISOCYANURATE OR OTHER TYPE) WITH A MINIMUM 1/2 INCH THICKNESS OF GYPSUM WALLBOARD. PROVIDE CEILINGS AND INSULATION ABOVE CEILINGS THAT ARE NON-COMBUSTIBLE.
- PROVIDE WOOD MATERIALS TO MEET APPLICABLE CODES. BLOCKING SHALL BE FIRE RETARDANT TREATED WOOD WHERE REQUIRED IN ACCORDANCE WITH LOCAL BUILDING CODES.
- PATCH ANY SURFACES WHERE DAMAGED IN THE PERFORMANCE OF WORK IN A MANNER SUITABLE TO RECEIVE SCHEDULED FINISHES AND TO MATCH ADJACENT NON-DAMAGED SURFACES, AND TO NOT BE APPARENT FROM WITHIN 3' OF SURFACE.

- ISOLATE DISSIMILAR METALS FROM EACH OTHER TO AVOID MOLECULAR BREAKDOWN.
- PROVIDE STIFFENERS, BRACINGS, BACKING PLATES AND SUPPORTING BRACKETS REQUIRED FOR THE PROPER INSTALLATION OF CASEWORK, AS WELL AS WALL-MOUNTED OR SUSPENDED MECHANICAL, ELECTRICAL AND/OR MISCELLANEOUS EQUIPMENT WHETHER SHOWN OR NOTED.
- WHETHER OR NOT EXPLICITLY INDICATED, PROVIDE SAFETY GLAZING WHEN GLAZING IS WITHIN 18' OF FLOOR OR WITHIN 3'-0" HORIZONTAL DISTANCE FROM ANY DOOR. SUPPLY A CERTIFICATE TO ACCOMPANY GLAZING PRODUCTS STATING THAT PRODUCTS CONFORM TO APPLICABLE CONSUMER PRODUCT SAFETY STANDARDS. COORDINATE LOCATION OF PERMANENT STAMPS ON GLASS WITH ARCHITECT.
- APPLY, INSTALL, CONNECT, ERECT, CLEAN, AND CONDITION MANUFACTURED ARTICLES, MATERIALS, AND EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS. IN CASE OF CONFLICT BETWEEN MANUFACTURER'S INSTRUCTIONS AND CONTRACT DOCUMENTS, OBTAIN WRITTEN CLARIFICATION FROM ARCHITECT BEFORE PROCEEDING.
- ANY WORK NOTED "BY OTHERS" OR "NIC" WILL BE PROVIDED BY OWNER OR UNDER SEPARATE CONTRACT. COORDINATE AND SCHEDULE THIS WORK WITH OWNER AND OWNER'S SEPARATE CONTRACTORS TO ASSURE ORDERLY SEQUENCE OF INSTALLATION.
- DRAWINGS AT A LARGER SCALE TAKE PRECEDENCE OVER DRAWINGS AT SMALLER SCALE. WHERE INCONSISTENCIES ARE FOUND IN THE DRAWINGS, REQUEST CLARIFICATION FROM ARCHITECT PRIOR TO PROCEEDING.
- DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO THOSE SHOWN. WHERE SPECIFIC DIMENSIONS, DETAILS OR DESIGN INTENT CANNOT BE DETERMINED, NOTIFY ARCHITECT OF REQUIRED CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
- FINISH FLOOR ELEVATIONS ARE TO TOP OF FINISH, UNLESS OTHERWISE NOTED.
- PRIOR TO FINAL FINISHING, PATCH AND REPAIR PARTITIONS TO A SMOOTH CONDITION.
- PROVIDE METAL BACKING PLATES OR SOLID WOOD BLOCKING (FIRE TREATED) IN PARTITIONS FOR MILLWORK AND WALL ATTACHED ITEMS. COORDINATE PLACEMENT OF BLOCKING FOR MILLWORK PRIOR TO CLOSING WALLS.
- OWNER TO PROVIDE ANY NEW REQUIRED INTERIOR SIGNAGE.
- GC SHALL PROVIDE FIRE EXTINGUISHERS AT LOCATIONS DESIGNATED BY LOCAL FIRE OFFICIAL.

GENERAL FINISH NOTES

- LOCATE FLOOR FINISH TRANSITIONS AT CENTERLINE OF DOOR, UNLESS OTHERWISE NOTED. NOTE TRANSITIONS INDICATED ON FINISH PLANS.
- PAINT REVEALS AND FILLER STRIPS TO MATCH ADJACENT PARTITION FINISH, UNLESS OTHERWISE NOTED.
- WHERE NEW PAINTED SURFACES ADJOIN EXISTING SURFACES, ADEQUATELY MASK EXISTING SURFACES TO PREVENT OVER-PAINT.
- WHERE EXISTING PARTITIONS ARE AFFECTED BY NEW WORK, REFINISH GYPSUM WALLBOARD TO MATCH ADJACENT NON-AFFECTED WORK. EXTEND REFINISHING FROM CORNER OF WALL TO CORNER OF WALL FULL HEIGHT. PROVIDE NEW BASE AND WALL FINISHES TO MATCH. COORDINATE WITH BUILDING MANAGEMENT FOR ATTIC STOCK. WHERE FLOOR FINISHES ARE AFFECTED, PROVIDE NEW FLOORING TO MATCH EXISTING FLOORING TO REMAIN. PATCHING SHALL NOT BE EVIDENT WHEN REVIEWED FROM A STANDING POSITION.
- PAINT TO BE BY SHERWIN WILLIAMS. PROVIDE THE FOLLOWING PAINT SHEENS:
 GYPSUM WALLBOARD CEILINGS: FLAT
 GYPSUM WALLBOARD PARTITIONS: EGGSHELL
 WOOD TRIM, FRAMES AND DOORS: WHICH SHALL BE AS SPECIFIED AND BLIND DOORS WHICH SHALL MATCH ADJACENT PARTITION, WHERE APPLICABLE.
- USE PRIMER COMPATIBLE WITH SUBSTRATE TO BE PAINTED AND APPLY FINAL FINISH COAT AS RECOMMENDED BY MANUFACTURER TO MATCH ARCHITECT SPECIFIED FINISH. TINT PRIME COAT TOWARD FINAL COLOR.
- ROLL APPLY PAINT TO GYPSUM BOARD. SPRAY APPLICATION IS NOT ACCEPTABLE.
- SPRAY-APPLY PAINT TO METAL SURFACES UNLESS OTHERWISE NOTED OR APPROVED BY ARCHITECT.
- PAINT AND FINISH EXPOSED SURFACES UNLESS OTHERWISE NOTED. PAINT SURFACES BEHIND REMOVABLE EQUIPMENT/ FURNITURE. PAINT BEHIND NON-REMOVABLE ITEMS WITH PRIME COAT ONLY.
- UNLESS OTHERWISE NOTED, LAY RESILIENT TILE FROM CENTER MARKS ESTABLISHED WITH PRINCIPAL WALLS, DISCOUNTING MINOR OFFSETS, SO THAT TILE AT OPPOSITE EDGES OF THE ROOM ARE EQUAL WIDTH. ADJUST AS NECESSARY TO AVOID USE OF CUT WIDTHS LESS THAN 3" WIDE AT ROOM PERIMETERS. LAY TILE SQUARE TO HALLWAY AXES, UNLESS OTHERWISE NOTED.
- MATCH RESILIENT TILES FOR COLOR AND PATTERN BY USING TILE FROM CARTONS IN SAME SEQUENCE AS MANUFACTURED AND PACKAGED. BROKEN, CRACKED, CHIPPED OR DEFORMED TILE WILL NOT BE ACCEPTABLE.
- LAY RESILIENT TILE DIRECTIONAL GRAIN PATTERN AS DIRECTED BY ARCHITECT.
- GRILLES, PLATES, DIFFUSERS, AND OTHER ITEMS OCCURRING IN WALLS OR CEILING SHALL BE PAINTED TO MATCH SURFACES ON WHICH THEY OCCUR UNLESS OTHERWISE NOTED.
- PRIME METAL SURFACES PRIOR TO PAINTING.
- DO NOT SEAM WALLCOVERING IN MIDDLE OF WALLS OR COLUMNS.
- LEVEL FLOOR THAT EXCEEDS 1/4" VARIANCE IN A 10'-0" RADIUS.

SUBMITTALS FOR ARCHITECT AND OWNER'S REVIEW

DOORS, DOOR HARDWARE, WINDOWS, PLUMBING FIXTURES, TOILET ROOM (WASTE RECEPTACLE) FLOORING, & VINYL BASE

SCOPE OF WORK

SCOPE OF WORK INVOLVES THE ENCLOSURE OF AN EXISTING COVERED PATIO WHICH IS ATTACHED TO THE REAR SIDE OF A COMMUNITY CENTER BUILDING. THE ADDITION ADDS 336 SF OF CONDITIONED SQUARE FOOTAGE TO THE EXISTING BUILDING, BRINGING THE TOTAL CONDITIONED SQUARE FOOTAGE OF THE BUILDING TO 3,091 SF.
 AN ADD ALTERNATE PROPOSES TO ADD AN ADDITIONAL OFF THE COVERED PATIO ENCLOSURE OF 93 SF OF CONDITIONED SQUARE FEET

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
BO	BOTTOM OF
DN	DOWN
DS	DOWNSPOUT
EQ	EQUAL
EXIST	EXISTING
FIN. FL.	FINISHED FLOOR
GB	GRAB BAR
GW/B	GYPSUM WALLBOARD
MC	MEDICINE CABINET
OC	ON CENTER
OF/CI	OWNER FURNISHED, CONTRACTOR INSTALLED
PKT	POCKET DOOR
PT	PRESSURE TREATED
PTD	PAINTED
RO	ROUGH OPENING
SIM	SIMILAR
STD	STAINED
TBD	TO BE DETERMINED
TME	TO MATCH EXISTING
TO	TOP OF
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD

DOOR SCHEDULE

NO.	DOOR SIZE (W x H)	THICKNESS	MATERIAL	TYPE	FRAME	HARDWR	REMARKS
1	Pair 3'-0" x 6'-8"	1 3/4"	Wood/Glass	Full-lite	Metal	See remarks	Tempered glass. Ball bearing hinges. Push pull plates with 8" on center pulls. Kick plates. Door closers
2	3'-0" x 6'-8"	1 3/4"	Metal	Full-lite	Metal	See remarks	Ball bearing hinges. Door closer (non-hold open). Rim panic bar x outside lever passage (no key). Hardware by Design Hardware or equal.
3	Pair 3'-0" x 6'-8"	1 3/4"	Solid Core Wood	Flush	Wood	See remarks	Provide surface-mounted slide bolt at top and bottom of inactive leaf. Active leaf to have lever hardware to match existing with Corbin Russwin L4 keyway.
4	NOT USED						
5	+/- 3'-0" x +/- 6'-8"	Exist.	Exist.	Exist.	Exist.	Exist.	Existing door. Rehang in new wall. Reuse existing metal door buck, as feasible.
Add-Alternate Doors							
6	Pair 2'-0" x +/- 5'-0"	1 3/4"	Solid Core Wood	Flush	Wood	See remarks	Provide surface-mounted slide bolt at top and bottom of inactive leaf. Active leaf to have lever hardware to match existing with Corbin Russwin L4 keyway. Confirm in field that height of doors will work in opening.
7	Pair 3'-0" x 6'-8"	1 3/4"	Wood/Glass	Full-lite	Metal	See remarks	Tempered glass. Ball bearing hinges. Push pull plates with 8" on center pulls. Kick plates. Door closers

NOTES:

- Hardware finish to match existing.
- Doors and doorways shall be ADA compliant and comply with ANSI A117.1-2009 section 404.
- The difference in finished floor elevation on one side of a door and another must be no more than 1/2". A 1/4" difference is preferred. Changes in elevation greater than 1/4" and not more than 1/2" max. Shall be beveled with a slope not steeper than 1:2. Per ANSI A117.1-2009
- Door handles, pulls, latches, locks, and other operating devices on doors shall not require tight grasping, tight pinching or twisting of the wrist to operate. Provide lever handle hardware unless noted otherwise. Per ANSI A117.1-2009 section 404.2.6
- Wood species for new doors to be birch.

WINDOW SCHEDULE

Mark	Mfr. & Model #	Frame Size W x H	Exterior Finish	Interior Finish	Glazing	Misc.
A	Marvin Elevate Double Hung ELDH 3464	2'-9 1/2" x 5'-3 3/4"	Bronze	Painted White	Low-E	White hardware, screen, no factory-supplied exterior trim

Covered Patio Enclosure Renovation

Efland Cheeks Community Center

Efland Cheeks
Community Center

Covered Patio
Enclosure Renovation

117 Richmond Road
Mebane, NC 27302

Bid
Documents

Not For Construction

ISSUED

REVISIONS

NO.	DATE	DESCRIPTION
1	8.23.24	ADDENDUM #1
NO.	DATE	
NO.	DATE	
NO.	DATE	
NO.	DATE	

COVER SHEET

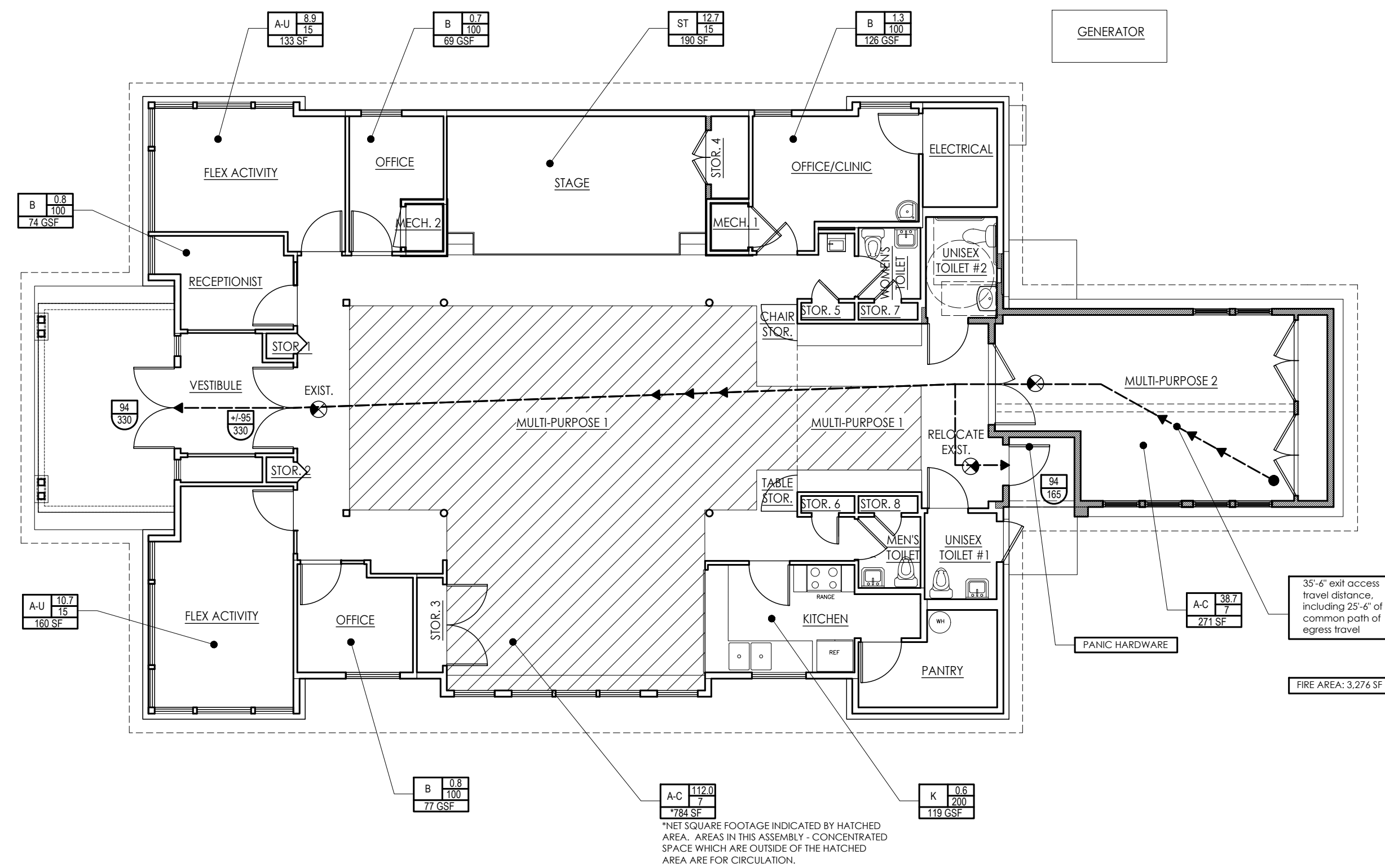
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SCALE	AS NOTED		
DRAWN	BH		
PROJECT NUMBER			

A0

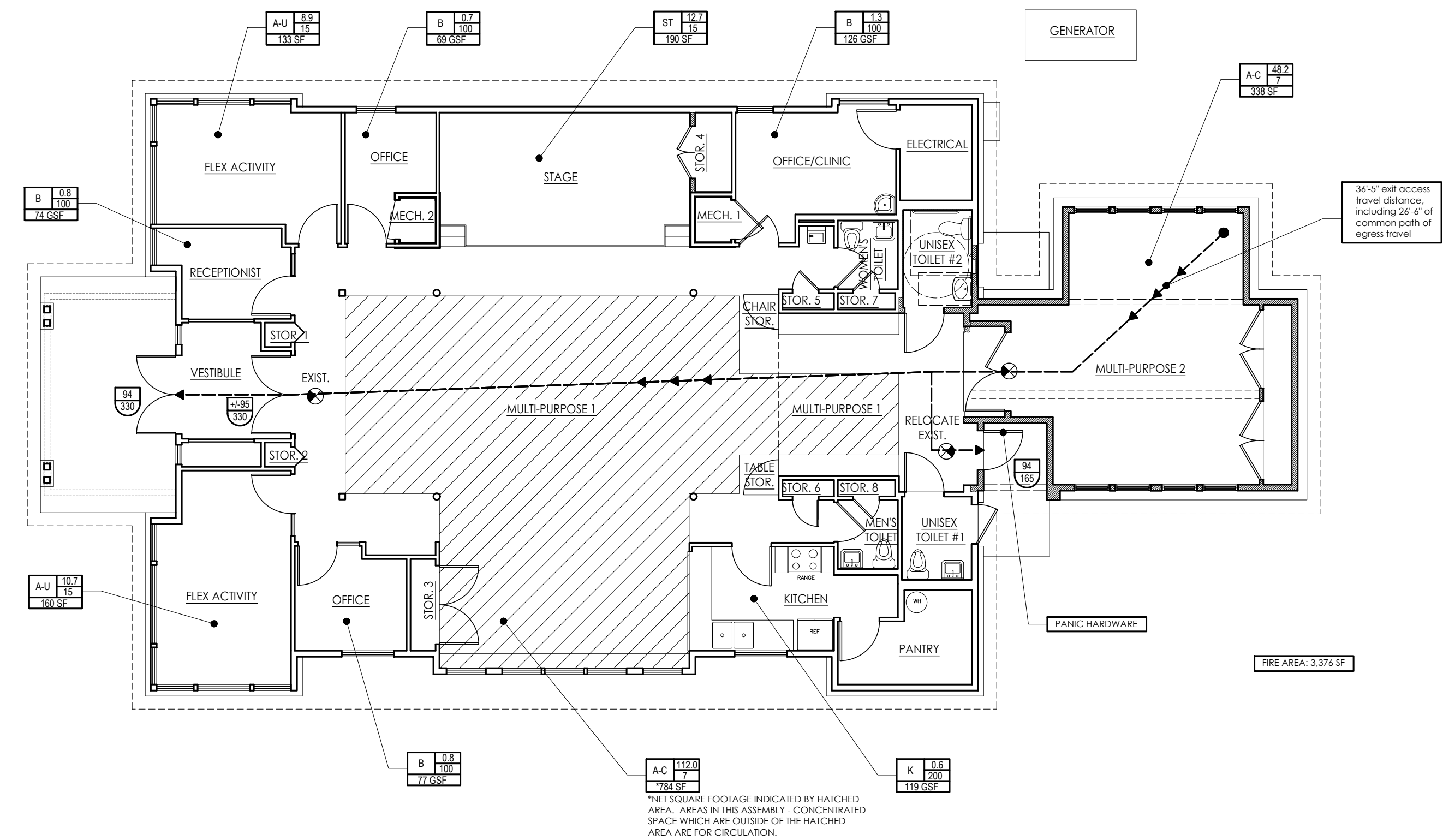
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1
A1
LIFE SAFETY PLAN
1/8" = 1'-0"



2
A1
LIFE SAFETY PLAN - FOR ADD ALTERNATE ADDITION
1/8" = 1'-0"

LIFE SAFETY LEGEND - FUNCTION OF SPACE/EGRESS	
FUNCTION OF SPACE LEGEND:	
B	BUSINESS AREAS
A-C	ASSEMBLY - CONCENTRATED (CHAIRS ONLY - NOT FIXED)
A-U	ASSEMBLY - UNCONCENTRATED (TABLES AND CHAIRS)
K	KITCHENS
ST	STAGES AND PLATFORMS
EGRESS DOOR SYMBOL	
	ACTUAL OCCUPANT LOAD OF OPENING
	ALLOWABLE OCCUPANT LOAD OF OPENING. NOTE: CLEAR OPENING ASSUMED TO BE 3" LESS THAN DOOR WIDTH
ROOM OCCUPANCY SYMBOL	
	FUNCTION OF SPACE
	OCCUPANT LOAD
	ALLOWABLE AREA PER OCCUPANT
	AREA
FIRE EXTINGUISHER CABINET	
	F.E.C.
EXIT SIGN	
	(HATCHED TRIANGLE INDICATES DIRECTION OF DIRECTIONAL INDICATORS FOR SIGN)
MAXIMUM TRAVEL DISTANCE (MEASURED IN FEET)	
PATH OF EGRESS	

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NO. 1 DATE 8.23.24 ADDENDUM #1

NO. DATE

NO. DATE

NO. DATE

NO. DATE

LIFE SAFETY
PLANS

DATE 7.16.24 SHEET

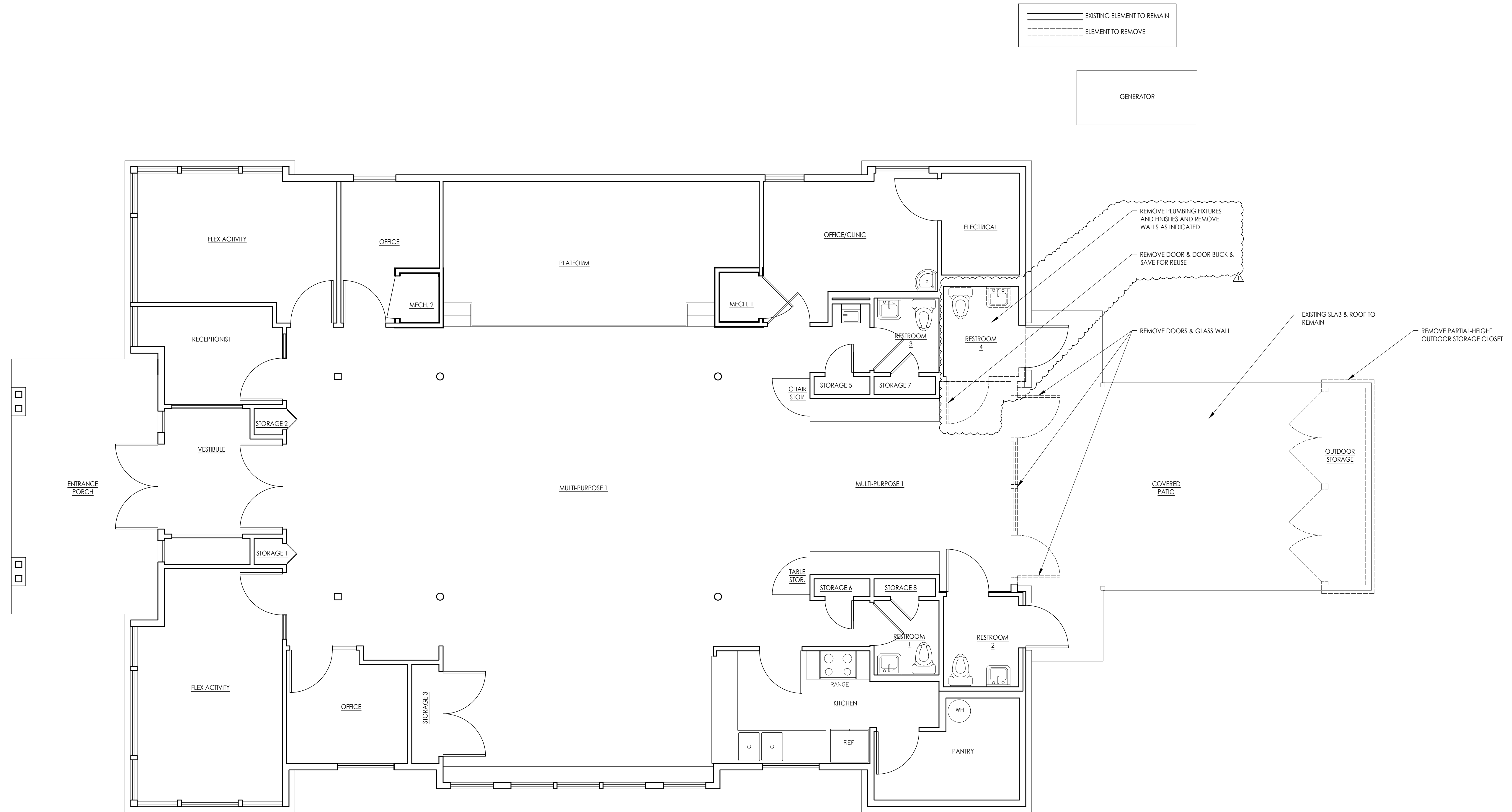
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DRAWN BH PROJECT NUMBER

A1



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1
A3 DEMOLITION PLAN
1/4" = 1'-0"

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1	8.23.24	ADDENDUM #1

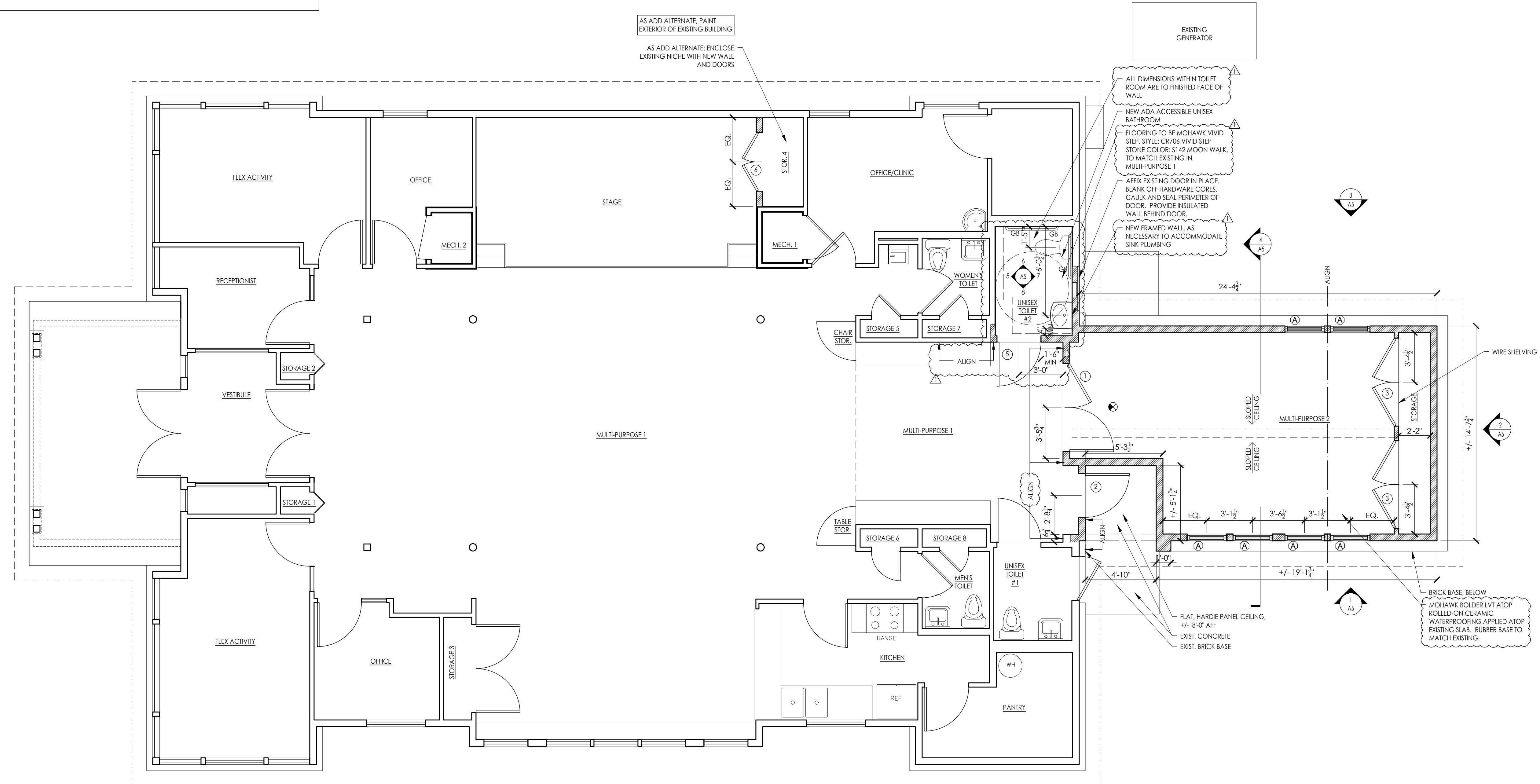
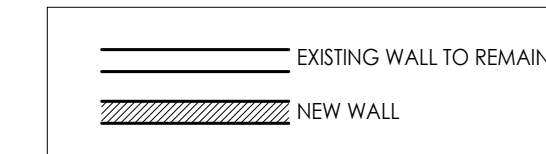
**DEMOLITION
PLAN**

DATE	7.16.24	SHEET	
SCALE	AS NOTED		
DRAWN	BH		
PROJECT NUMBER			

A3

DIMENSION & FRAMING NOTES

- DO NOT SCALE DRAWINGS. CONTACT ARCHITECT CONCERNING DISCREPANCIES IMMEDIATELY WHEN THEY OCCUR.
- ALL PLAN DIMENSIONS ARE GIVEN TO FACE OF FRAMING UNLESS NOTED OTHERWISE. DOORS AND WINDOWS ARE DIMENSIONED TO CENTER LINE, UNLESS NOTED OTHERWISE.
- EXTERIOR WALLS TO BE 2x6 FRAMING AND INTERIOR WALLS TO BE 2x4 FRAMING, UNLESS NOTED OTHERWISE.
- WOOD IN CONTACT WITH MASONRY, CONCRETE, AND STEEL SHALL BE PRESSURE-TREATED, GROUND CONTACT APPROVED.
- INSTALL FIRE BLOCKING AS REQUIRED BY CODE.
- INSTALL BLOCKING FOR CABINETS, MILLWORK, RAILINGS, SHELVING, AS REQUIRED.
- TAPE ALL SHEATHING SEAMS.



FLOOR PLAN
1/4" = 1'-0"

Bret Horton Architect

1308 Broad Street
Durham, NC 27705
919.619.2258



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NO. 1 DATE 8.23.24 ADDENDUM #1

NO. DATE

NO. DATE

NO. DATE

NO. DATE

FLOOR PLAN

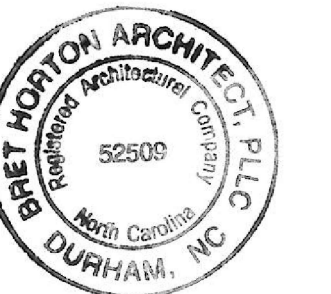
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SCALE AS NOTED

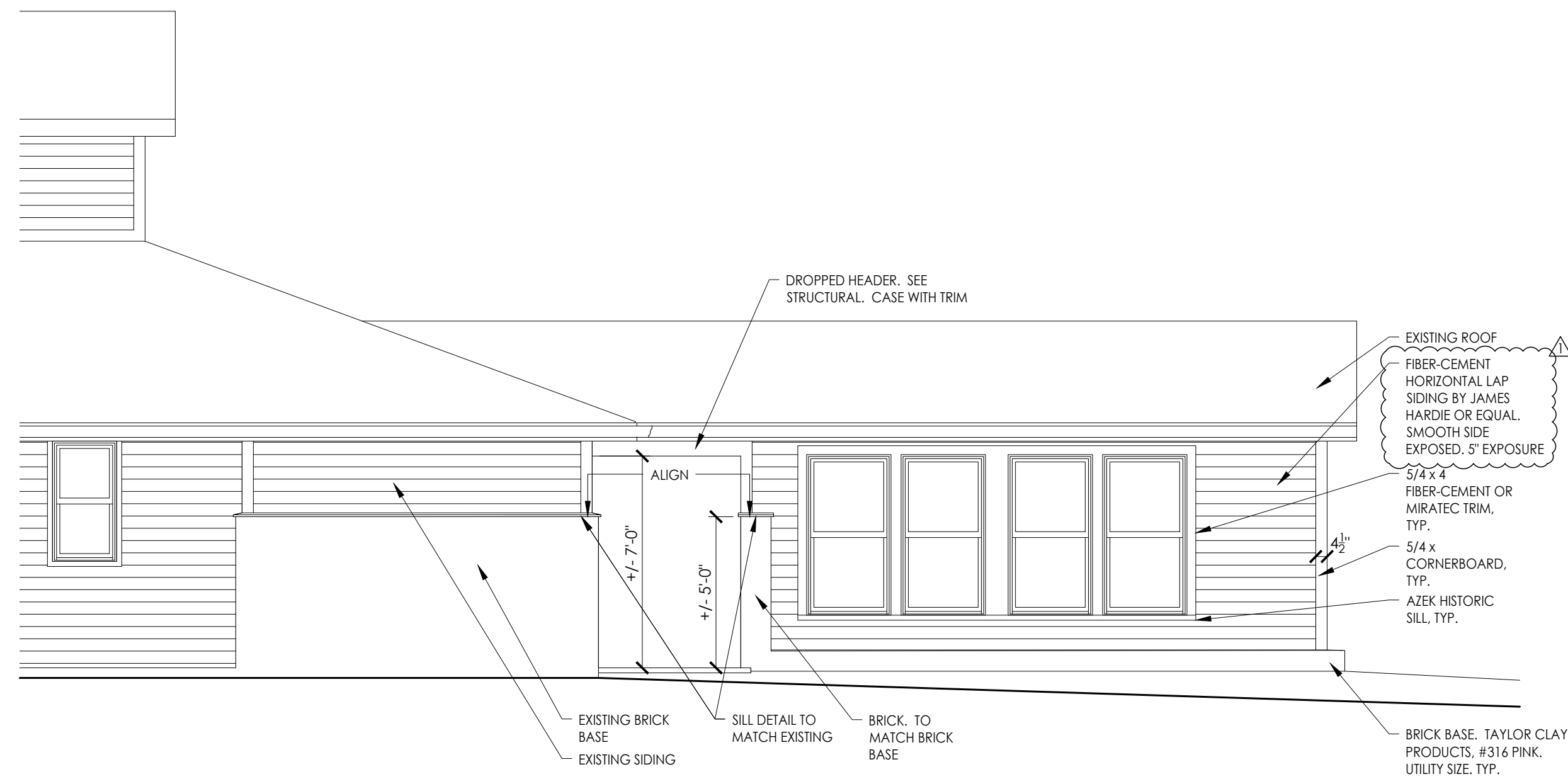
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PROJECT NUMBER

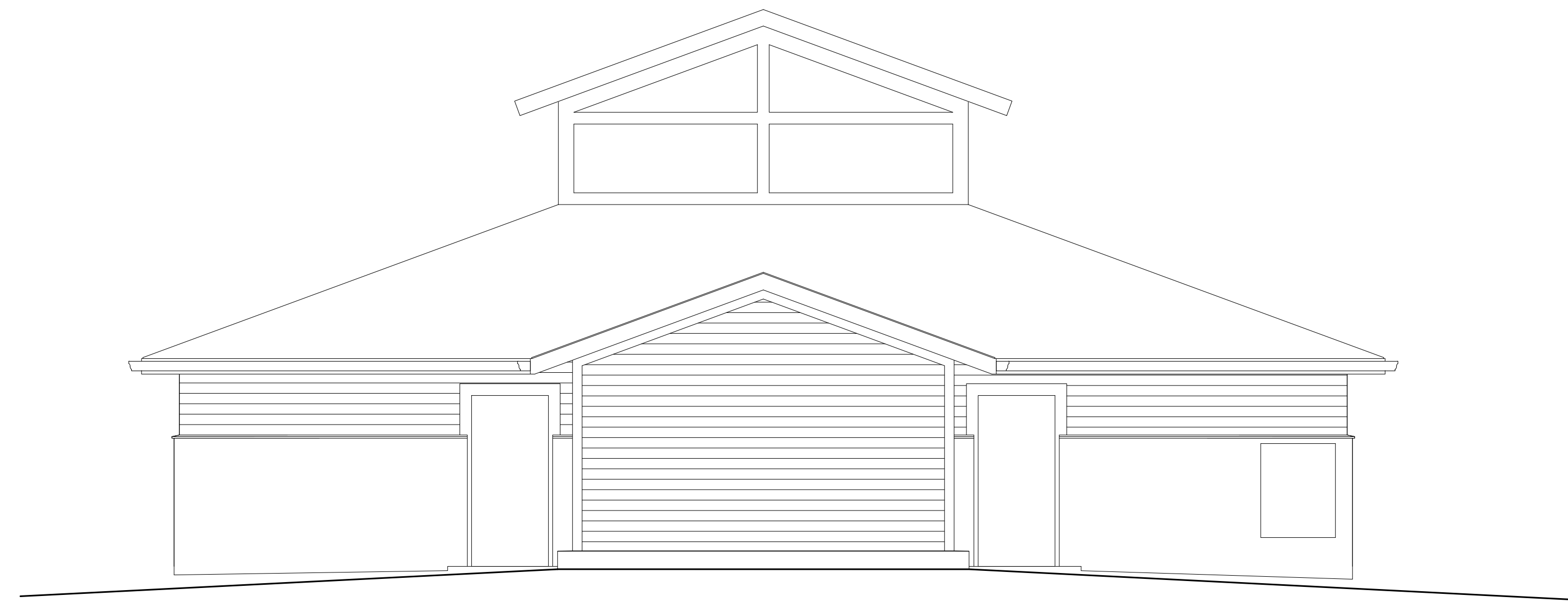
A4



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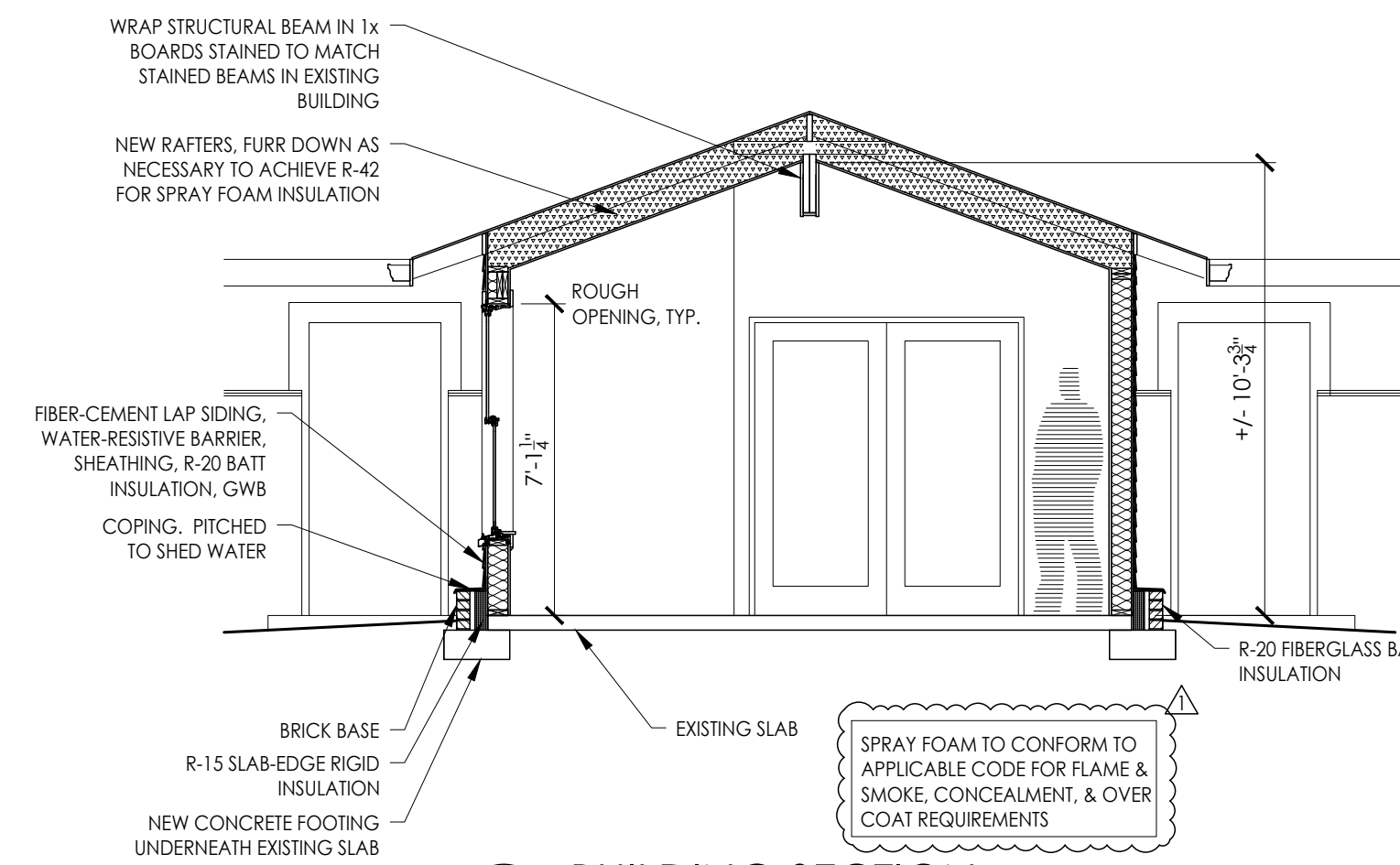
1 SOUTH ELEVATION
A5 1/4" = 1'-0"



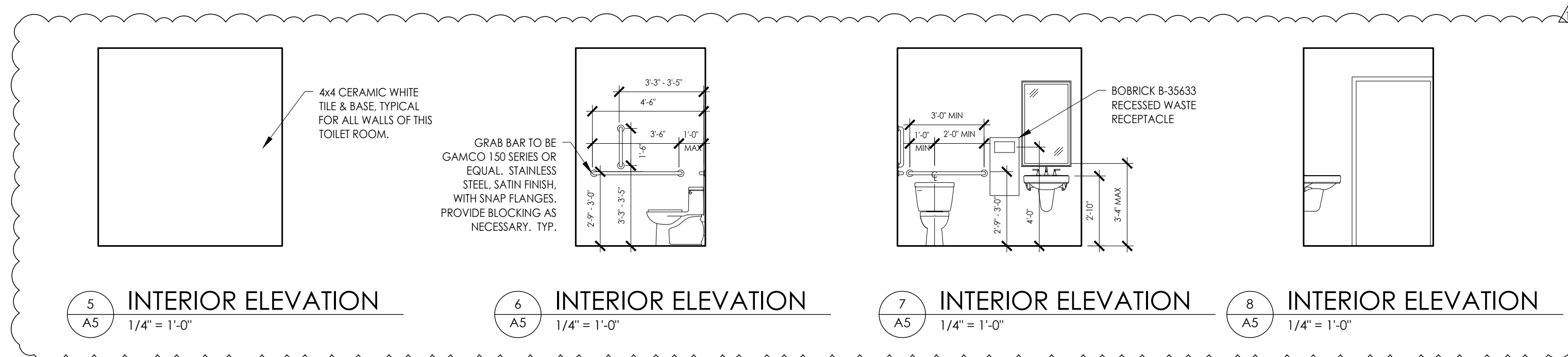
2 EAST ELEVATION
A5 1/4" = 1'-0"



3 NORTH ELEVATION
A5 1/4" = 1'-0"



4 BUILDING SECTION
A5 1/4" = 1'-0"



5 INTERIOR ELEVATION
A5 1/4" = 1'-0"

6 INTERIOR ELEVATION
A5 1/4" = 1'-0"

7 INTERIOR ELEVATION
A5 1/4" = 1'-0"

8 INTERIOR ELEVATION
A5 1/4" = 1'-0"

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NO. 1	DATE 8.23.24	ADDENDUM #1
NO.	DATE	
NO.	DATE	
NO.	DATE	
NO.	DATE	

EXTERIOR &
INTERIOR
ELEVATIONS

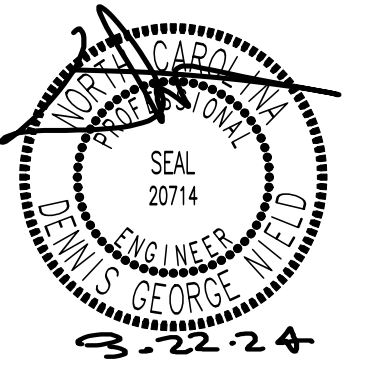
DATE 7.16.24 SHEET

SCALE AS NOTED

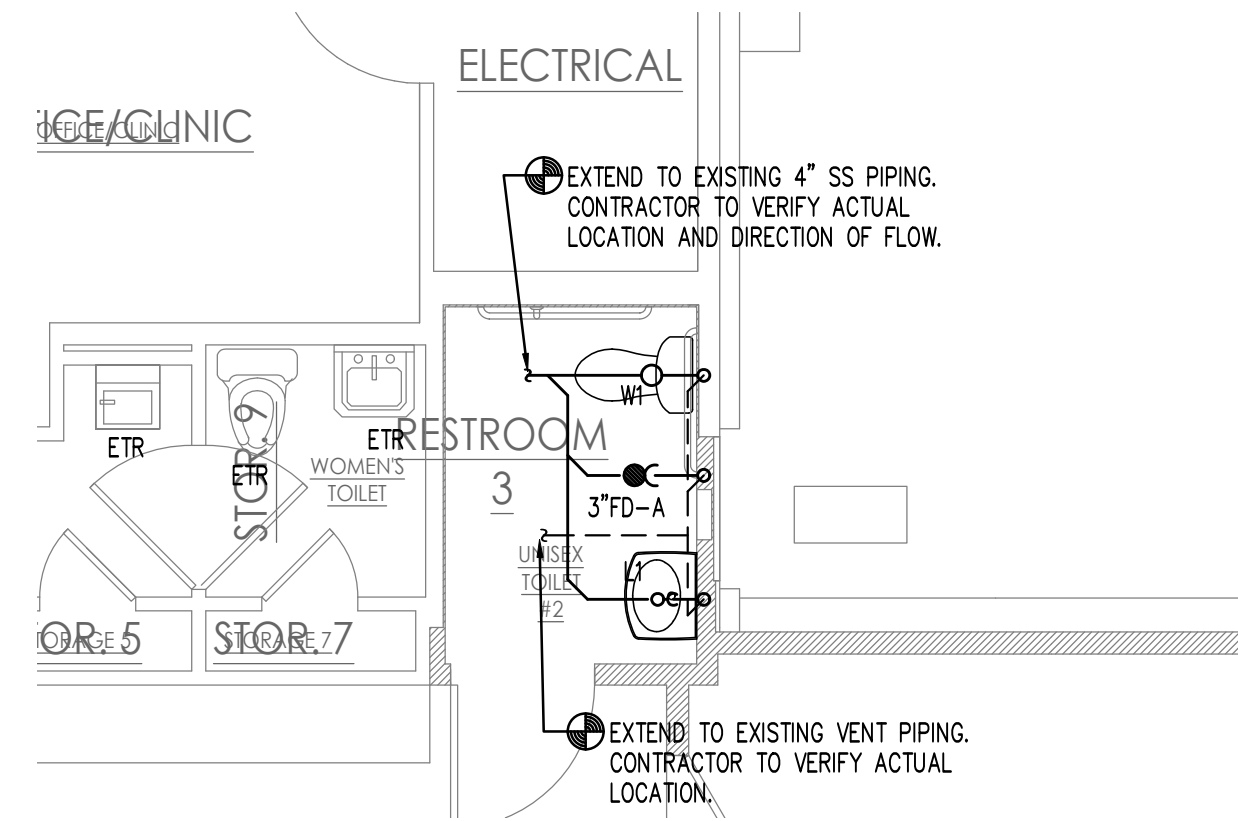
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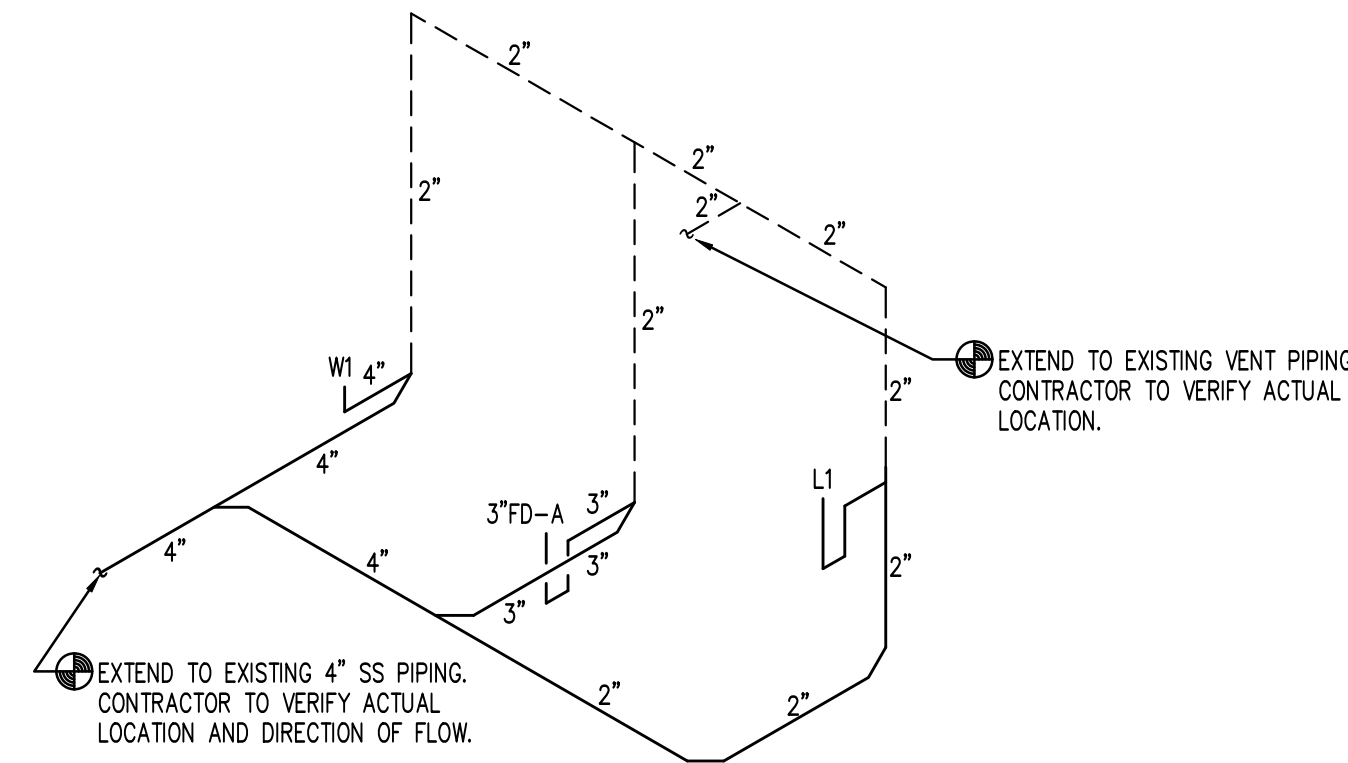
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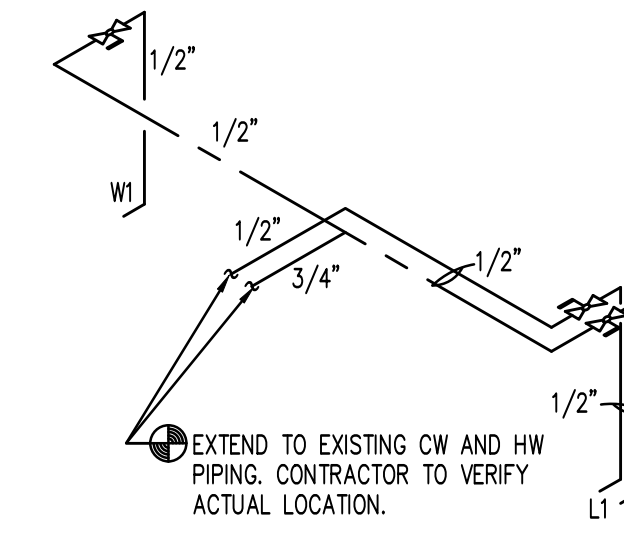
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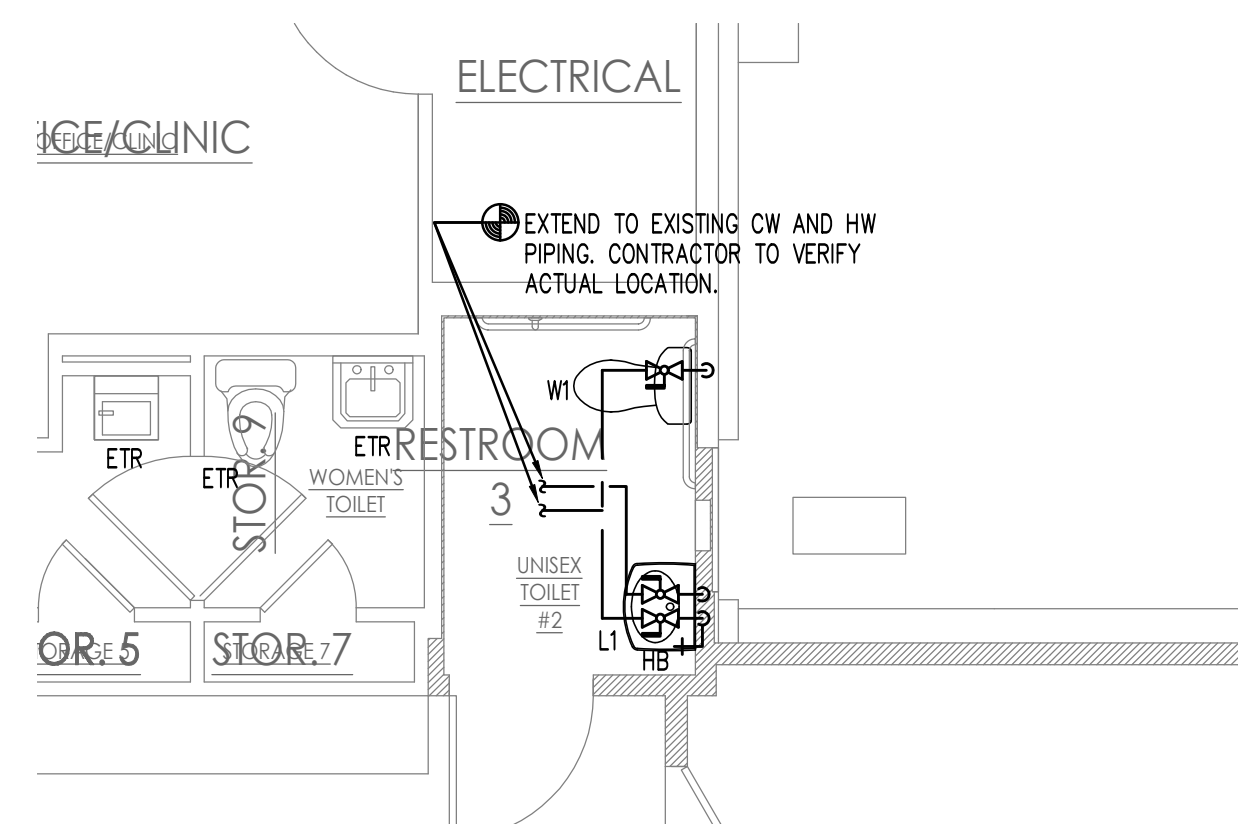
1 FLOOR PLAN - S.W, + V
P1 SCALE: 1/4" = 1' - 0"



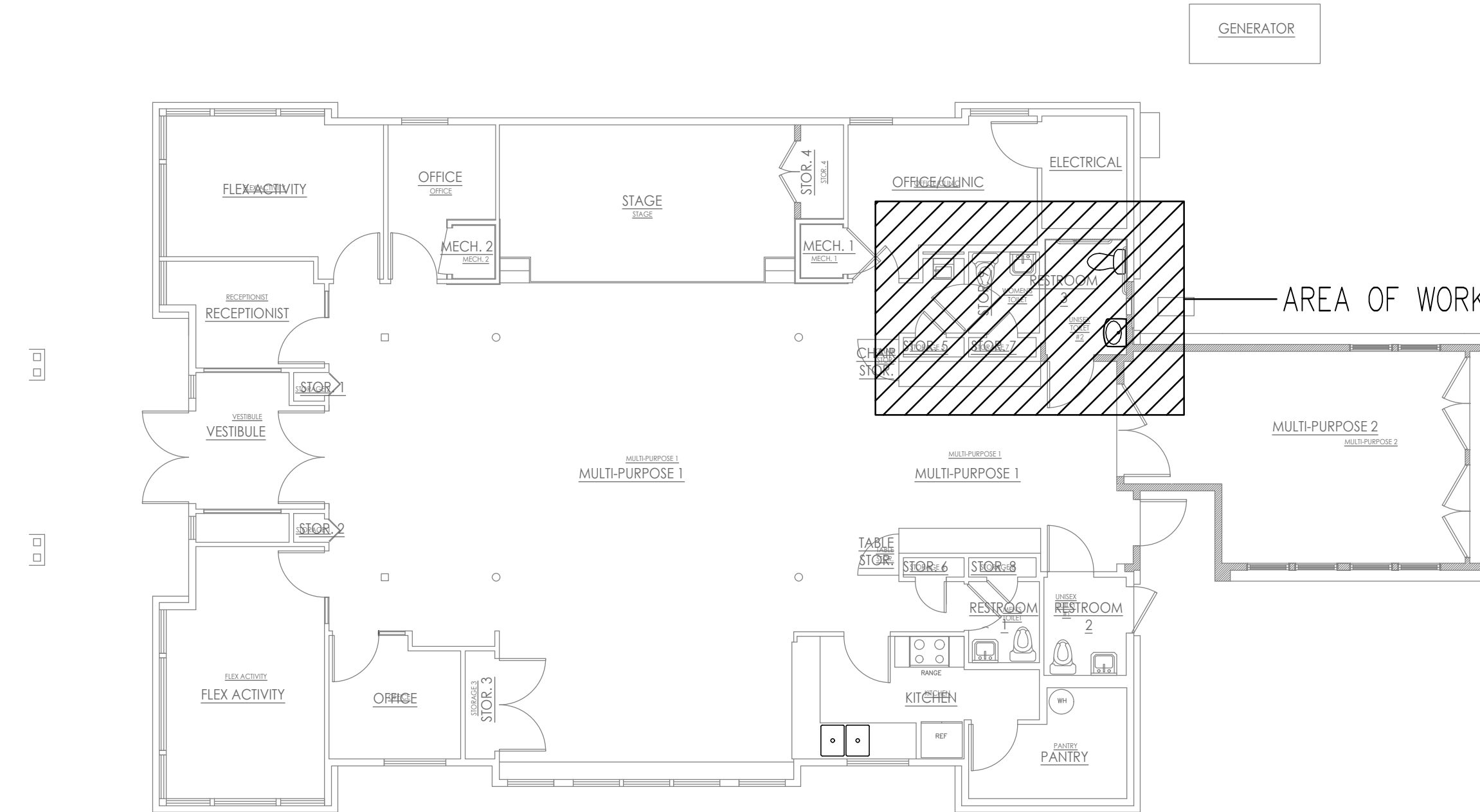
3 RISER - S.W, + V
P1 SCALE: NO SCALE



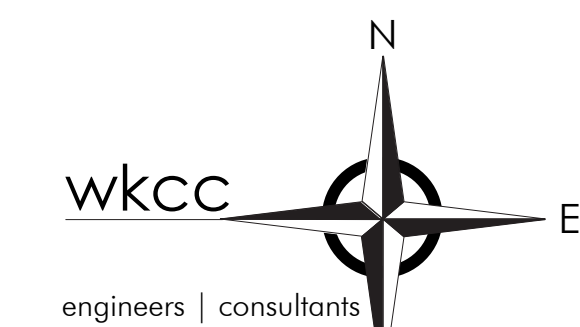
4 RISER - WATER
P1 SCALE: NO SCALE



2 FLOOR PLAN - WATER
P1 SCALE: 1/4" = 1' - 0"



5 KEY PLAN
P1 SCALE: NO SCALE



WEST KEY CONSULTING CORPORATION
4008 BARRETT DR SUITE 304
RALEIGH NC 27609
919.881.8020
www.westkeyconsulting.com
C-1474

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Permitting

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NO.	DATE

PLUMBING
FLOORPLANS
AND RISERS

DATE SHEET

08.22.24

SCALE

DRAWN **P1**

PROJECT NUMBER

PLUMBING SPECIFICATIONS

PLUMBING SPECIFICATIONS:

- THE ENTIRE PLUMBING SYSTEM SHALL BE IN ACCORDANCE WITH 2018 NORTH CAROLINA PLUMBING CODE AND LOCAL PLUMBING INSPECTOR.
- ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE ROUTING OF ALL PIPING WITH EXISTING CONDITIONS AND SHALL PROVIDE ANY NECESSARY OFFSETS, REROUTING, ETC. REQUIRED FOR A COMPLETE AND COORDINATED INSTALLATION.
- THESE PLANS ARE DIAGRAMMATIC. CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSET, TEES, ELBOWS, ETC. FOR A COMPLETE WORKING PLUMBING SYSTEM.
- THE CONTRACTOR SHALL OBTAIN AND PAY ALL FEES RELATED TO PERMITTING, INSPECTIONS, TAPS, ETC.
- CONTRACTOR SHALL COORDINATE ANY PLUMBING SYSTEM REQUIRING SHUTDOWN WITH THE OWNER 48 HOURS PRIOR TO BEGINNING WORK.
- ALL DOMESTIC WATER PIPING SHOWN IS ABOVE CEILING/WITHIN WALLS UNLESS NOTED OTHERWISE.
- ALL DOMESTIC WATER PIPING (ABOVE SLAB) SHALL BE TYPE "L" COPPER WITH 95/5 LEAD FREE SOLDER. ABOVE SLAB, OUTSIDE OF PLENUM SPACES, EXCEPT PIPING IS ACCEPTABLE. ALL WATER PIPING (BELOW SLAB) SHALL BE TYPE "K" SOFT COPPER. COMPLY W/ ASTM B-88-B8A.
- ALL WATER PIPING SHALL BE INSULATED WITH CLOSED CELL (ARMAFLEX) TYPE INSULATION WITH THE FLAME DENSITY RATING NOT EXCEEDING 25 & THE SMOKE DENSITY RATING NOT EXCEEDING 50. THICKNESS FOR COLD WATER PIPING SHALL BE 1/2" THICK. THICKNESS FOR HOT WATER & RETURN PIPING SHALL BE 1" THICK.
- ALL BRANCH LINES SHALL HAVE SHUT-OFF VALVES. ALL DOMESTIC WATER BALL VALVES SHALL BE BRASS BODY, FULL PORT, CHROME PLATED BALL, TEFLON SEATS, 150# WSP, FOR SIZES 1/2" THRU 2". SIZES ABOVE 2" SHALL BE BRONZE GATE VALVE, NRS SOLID DISC, SLOW OVER BONNET, 125# WSP. PROVIDE VALVE HANDLE EXTENSIONS AS REQUIRED FOR INSULATION.
- ALL PLUMBING FIXTURES AND KITCHEN EQUIPMENT SHALL HAVE A PISTON TYPE WATER HAMMER ARRESTOR SIZED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS & PDI STANDARDS.
- ALL SANITARY SEWER PIPING SHOWN IS BELOW SLAB/WITHIN WALLS UNLESS NOTED OTHERWISE. ALL SANITARY VENT PIPING SHOWN IS ABOVE CEILING/WITHIN WALLS UNLESS NOTED OTHERWISE.
- ALL WASTE & VENT PIPING (ABOVE SLAB) SHALL BE PVC-DWV WITH PIPING AND FITTINGS CONFORMING TO ASTM D-2865. PLENUM SPACE WASTE & VENT PIPING (ABOVE SLAB) SHALL BE SERVICE WEIGHT CAST IRON WITH NO-HUB FITTINGS CONFORMING TO CISPI 301. JOINTS SHALL BE ONE-PIECE NEOPRENE GASKET WITH STAINLESS STEEL BAND AND BOLTS CONFORMING TO ASTM C564-85.
- ALL WASTE & VENT PIPING (BELOW SLAB) SHALL BE PVC-DWV WITH PIPING AND FITTINGS CONFORMING TO ASTM D-2665.
- ALL PIPING SYSTEMS SHALL BE SUPPORTED AS REQUIRED BY 2018 NORTH CAROLINA PLUMBING CODE & MANUFACTURER'S RECOMMENDATIONS.
- ALL PIPING PENETRATIONS THRU NEW/EXISTING WALLS/FLOORS SHALL BE SEALED TO EQUAL THE RATING OF THE NEW/EXISTING WALL OR FLOOR.
- ALL PLUMBING SYSTEMS SHALL BE TESTED AS REQUIRED BY 2018 NORTH CAROLINA PLUMBING CODE.
- THE PLUMBING CONTRACTOR SHALL COORDINATE ALL UNDERSLAB PLUMBING PIPING WITH ALL STRUCTURAL FOUNDATIONS. P.C. SHALL COORDINATE ALL UNDERSLAB PLUMBING PIPING ELEVATION INVERTS WITH SITE UTILITY ELEVATION INVERTS.
- P.C. SHALL COORDINATE ALL KITCHEN EQUIPMENT REQUIRING PLUMBING CONNECTIONS WITH KITCHEN EQUIPMENT VENDOR. PROVIDE ALL NECESSARY P-TRAPS, SUPPLY STOPS, INDIRECT PIPING, ETC. REQUIRED FOR COMPLETE HOOK-UP OF KITCHEN EQUIPMENT REQUIRING PLUMBING CONNECTIONS.
- THE BACKFLOW PREVENTION DEVICE SHALL BE INSTALLED AS REQUIRED PER LOCAL AUTHORITY.
- THE ENTIRE DOMESTIC WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH 2018 NORTH CAROLINA PLUMBING CODE.
- ALL VENT THRU THE ROOF PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND SHALL BE CONCEALED BEHIND ROOF RIDGE WHERE POSSIBLE. P.C. SHALL PROVIDE ALL FLASHING MATERIAL REQUIRED FOR VENT THRU ROOF. ALL VTR'S SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ALL OUTSIDE AIR INTAKES.
- ALL GAS PIPING AND GAS FLUE TO GAS WATER HEATER BY PLUMBING CONTRACTOR.
- PLUMBING CONTRACTOR SHALL HAVE RECEIVED APPROVED SHOP DRAWINGS FROM THE ENGINEER PRIOR TO BEGINNING NEW WORK.

PLUMBING LEGEND AND ABBREVIATIONS

	SANITARY SEWER PIPING (W)
	VENT PIPING (V)
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
	HOT WATER RETURN PIPING (HWR)
	ELL TURNS UP
	ELL TURNS DOWN
	CHECK VALVE
	BALL VALVE
	GATE VALVE IN HORIZONTAL POSITION
	CLEANOUT IN GROUND (GCO)
	CLEANOUT IN FLOOR OR SLAB (FCO)
A.F.F.	ABOVE FINISH FLOOR
FD - A	FLOOR DRAIN - TYPE (SEE SCHEDULE)
H.B.	HOSE BIBB
FPWH	FREEZE PROOF WALL HYDRANT
H.D.	HUB DRAIN
INV. ELEV. OR I.E.	INVERT ELEVATION
P.C.	PLUMBING CONTRACTOR
V.T.R.	VENT THROUGH ROOF
CV	COMMON VENT
EOCV	END OF CIRCUIT VENT
BOCV	BEGINNING OF CIRCUIT VENT
	1 HOUR RATED BARRIER/PARTITION/WALL
	2 HOUR RATED BARRIER/PARTITION/WALL
	3 HOUR RATED BARRIER/PARTITION/WALL
	CONNECT TO EXISTING

PLUMBING FIXTURES AND EQUIPMENT

MARK	DESCRIPTION	PIPE SERVICE AND CONN. SIZE			FIXTURE SPECIFICATIONS
		CW	HW	WASTE	
WI	WATER CLOSET FLR. MTD. (ADA)	1/2"		4"	KOHLER "HIGHLINE" K-3979, ADA, 1.6 GPF WHITE VITREOUS CHINA ELONGATED BOWL WITH SIPHON JET FLUSHING, WITH SIDE TRIP LEVER, 12" ROUGH-IN, 17" HIGH, & 2 BOLT CAPS. SEAT, BEAMS MODEL 20555555CT ANTI MICROBIAL HEAVY DUTY ELONGATED WHITE OPEN FRONT SEAT. VALVE: MCGUIRE MODEL 2166. 3/8" x 12" FLEX RISER ANGLE CLOSET SUPPLY WITH STOP. MOUNT SIDE TRIP LEVER ON WIDE SIDE OF TOILET STALL.
L1	LAVATORY WALL MOUNTED (ADA)	1/2"	1/2"	1-1/2"	KOHLER "PINOR" K-2028, VITREOUS CHINA 22"x18" LAVATORY WITH 4" FAUCET CENTERS. MOUNT LAVATORY RIM AT 34" A.F.F. TO MEET ADA REQUIREMENTS. TRAP & SUPPLIES: MCGUIRE NO. 8902 17 GA. 1 1/4" X 1 1/2" P-TRAP AND NIPPLE. MCGUIRE NO. 2165 ANGLE SUPPLY STOPS. FAUCET: DELTA 500-DST SINGLE HANDLE WITH GRID WASTE ASSEMBLY AND 0.5 GPM FLOW RESTRICTOR. ACCESSORIES: TRUEBRO HANDI-LAV GUARD INSULATION MODEL NO. 101 3-PIECE INTERLOCKING TRAP ASSEMBLY AND 2-PIECE INTERLOCKING HOT WATER ANGLE VALVE ASSEMBLY, AND NYLON TYPE FASTENERS. PROVIDE WITH ASSE 1070 COMPLIANT MIXING VALVE.
HB	HOSE BIB	1/2"			WOODFORD MODEL 24 IN POLISHED CHROME WITH VACUUM BREAKER AND LOOSE TEE KEY OPERATION
ETR	EXISTING TO REMAIN	1/2"			EXISTING PLUMBING FIXTURE TO REMAIN

VERIFY FIXTURES WITH OWNER PRIOR TO ORDERING.

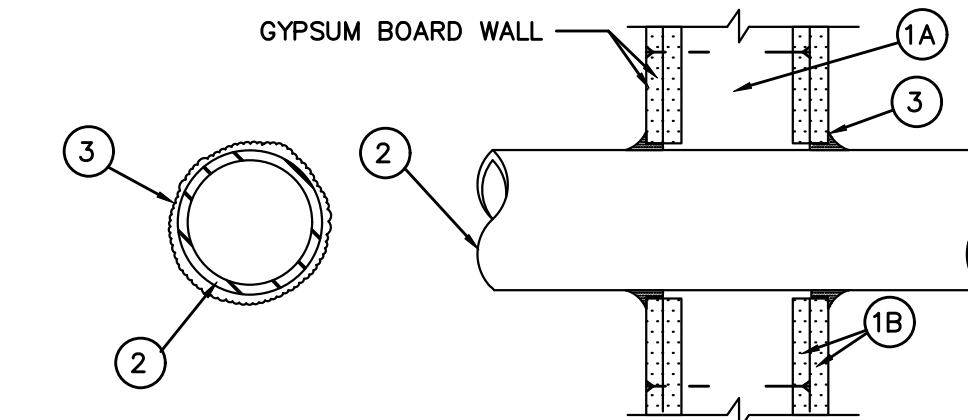
PLUMBING ACCESSORIES

SYMBOL	SPECIFICATION
FS-A	PLASTIC ODDITIES PFS SERIES 12"x12"x10" DEEP, PVC, 1/2 GRATE, WITH PLASTIC, REMOVABLE SECONDARY STRAINER.
FS-B	ZURN Z1907 CAST IRON BODY, 12"x12"x8" DEEP, BOTTOM DOME STRAINER WITH REMOVABLE SECONDARY STRAINER.
FD-A	ZURN ZN-415 DURACOATED CAST IRON BODY WITH BOTTOM OUTLET, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH 6" TYPE " B " POLISHED NICKEL BRONZE STRAINER. DEEP SEAL P-TRAP WITH TRAP PRIMER CONNECTION
FD-B	ZURN ZN-415 DURACOATED CAST IRON BODY WITH BOTTOM OUTLET, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH 7" TYPE " 1 " POLISHED NICKEL BRONZE STRAINER WITH RAISED FLANGE. DEEP SEAL P-TRAP WITH TRAP PRIMER CONNECTION
FCO	ZURN ZN-1400 "LEVELTROL" ADJUSTABLE FLOOR CLEANOUT, DURACOATED CAST IRON BODY WITH GAS AND WATERTIGHT ABS TAPERED THREAD PLUG AND ROUND SCORIATED POLISHED NICKEL BRONZE TOP ADJUSTABLE TO FINISH FLOOR.
WCO	ZURN ZN-1441 WALL CLEANOUT, DURACOATED CAST IRON BODY WITH GAS AND WATERTIGHT ABS TAPERED THREAD PLUG AND ROUND SMOOTH STAINLESS STEEL ACCESS COVER WITH SECURING SCREW.
SA	WATTS SERIES 15 WATER HAMMER ARRESTOR TO MEET ALL REQUIREMENTS OF ASSE 1010 AS REQUIRED BY 2018 NCSBC, PLUMBING CODE, SECTION 604.9.
VB	ZURN MODEL VACUUM BREAKER TO MEET ALL REQUIREMENTS OF ASSE 1011 AS REQUIRED BY 2018 NCSBC, PLUMBING CODE, SECTION 608.13.6.

PLUMBING SUMMARY

SYSTEM & MATERIAL	FIXTURE UNITS	MAIN SIZE
WASTE AND VENT SYSTEM		
SCHEDULE 40 PVC-DWV CONFORMING TO ASTM D-2865	N/A	4"
DOMESTIC WATER SYSTEM		
BELOW SLAB: TYPE "K" SOFT COPPER WITH NO JOINTS BELOW SLAB ABOVE SLAB: TYPE "L" ANNEALED COPPER WITH 95/5 SOLDER JOINTS.	N/A	-"

PLUMBING SUMMARY NOT APPLICABLE - NO NEW FIXTURES ADDED.



System No. W-L-1001

June 15, 2005

F Ratings - 1, 2, 3 and 4 Hr (See Items 2 and 3)
T Ratings - 0, 1, 2, 3, and 4 Hr (See Item 3)
L Rating At Ambient - less than 1 CFM/sq ft
L Rating At 400 F - less than 1 CFM/sq ft

1. **Wall Assembly** - The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs** - Wall framing may consist of either wood studs (max 2 hr fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.

B. **Gypsum Board** - Nom 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in. (660 mm).

2. **Through-Penetrant** - One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in. (0 mm). (point contact) to max 2 in. (51 mm) Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. **Steel Pipe** - Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Iron Pipe** - Nom 24 in. (610 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in (305 mm) diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

C. **Conduit** - Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in (102 mm) diam (or smaller) steel electrical metallic tubing

D. **Copper Tubing** - Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing

E. **Copper Pipe** - Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

F. **Through Penetrating Product*** - Flexible Metal Piping The following types of steel flexible metal gas piping may be used:

1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

OMEGA FLEX INC

2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

GASTITE, DIV OF TITEXLEX

3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

WARD MFG INC

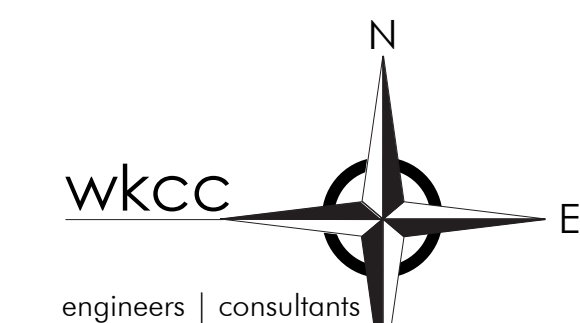
3. **Fill Void or Cavity Material** - Caulk or Sealant - Min 5/8" , 1-1/4", 1-7/8 and 2-1/2 in. (16, 32, 48 and 64 mm) thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Max Pipe or Conduit Diam in (mm)	F Rating Hr	T Rating Hr
1 (25)	1 or 2	0+, 1 or 2
1 (25)	3 or 4	3 or 4
4 (102)	1 or 2	0
6 (152)	3 or 4	0
12 (305)	1 or 2	0

+When copper pipe is used, T Rating is 0 hr.

3M COMPANY - CP 25WB+ or FB-3000 WT.

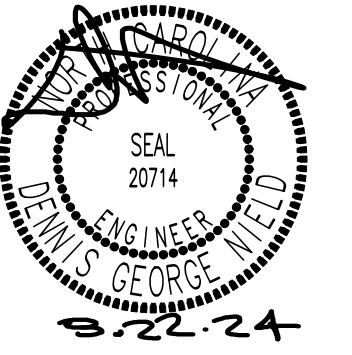
FOR FRAMED WALL ONLY
1,2,3, OR 4 HOUR PENETRATION
FIRESTOP DETAIL
SCALE: NTS



WEST KEY CONSULTING CORPORATION
4038 BARRETT DR SUITE 304
RALEIGH NC 27609
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C-1474

Bret Horton Architect

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Efland Cheeks
Community Center

Covered Patio
Enclosure Renovation

117 Richmond Road
Mebane, NC 27302

Issued for
Permitting

ISSUED

REVISIONS

NO.	DATE

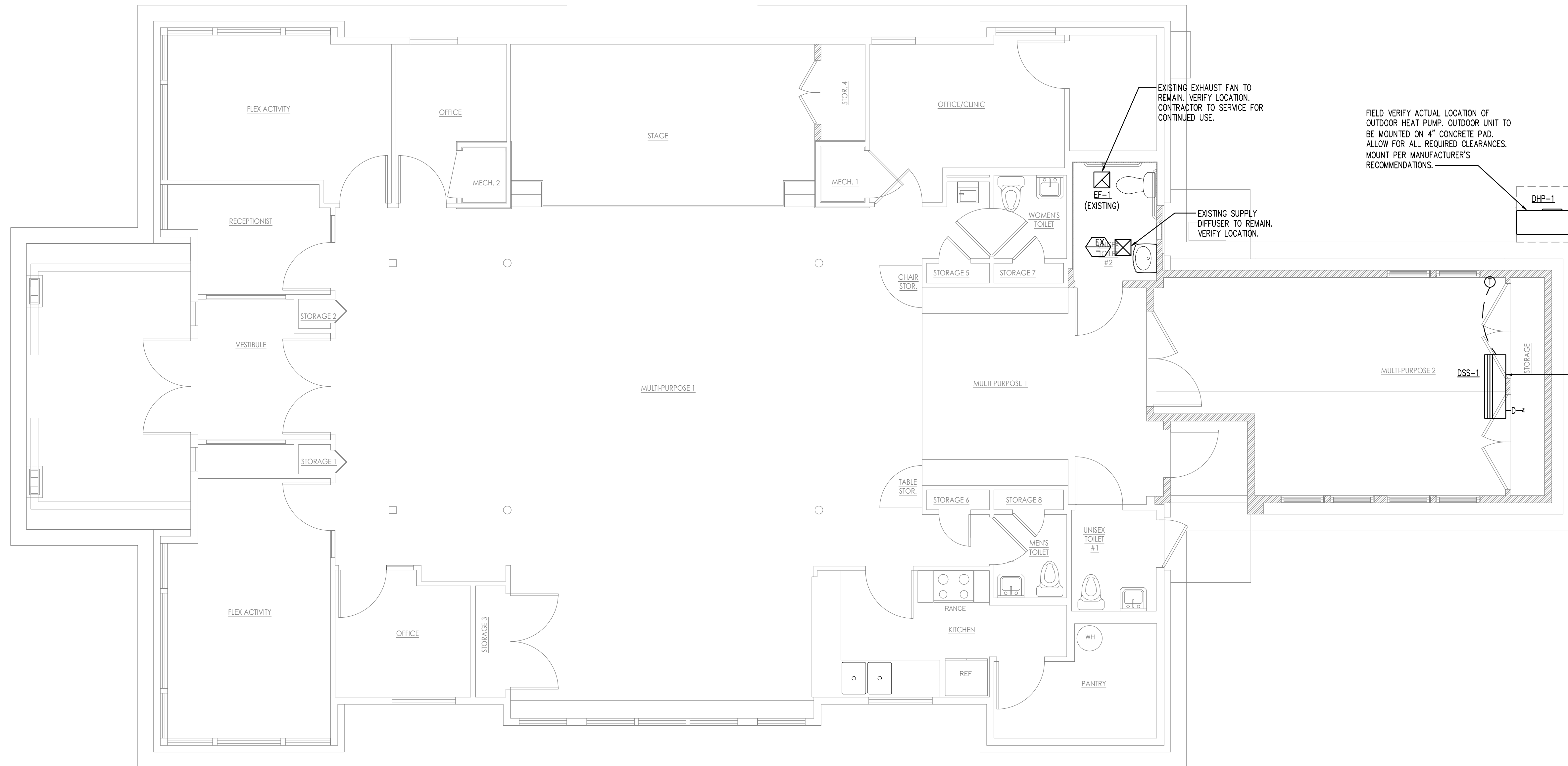
PLUMBING
DETAILS

DATE 08.22.24 SHEET

SCALE

DRAWN **P2**

PROJECT NUMBER



HVAC LEGEND

- CEILING LOUVERED SUPPLY DIFFUSER
- CEILING RETURN GRILLE
- CEILING EXHAUST GRILLE/FAN
- THERMOSTAT
- DIFFUSER MARK
- DIFFUSER CFM
- EXHAUST FAN MARK
- DUCTLESS SPLIT SYSTEM AIR HANDLING UNIT
- DUCTLESS SPLIT SYSTEM CONDENSING UNIT
- CONNECT TO EXISTING

1 FLOOR PLAN - HVAC
 MI SCALE: 1/4" = 1' - 0"

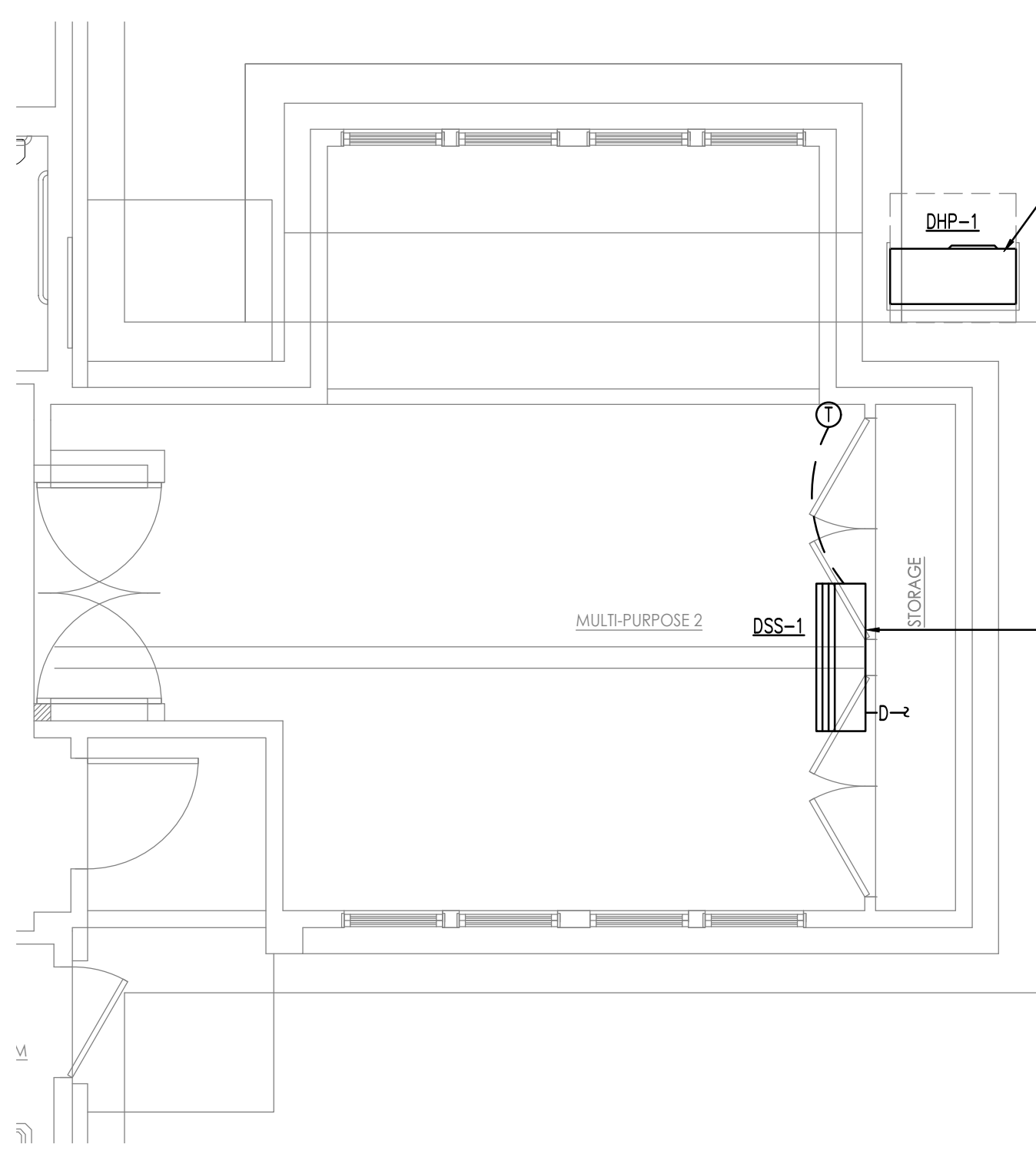
DUCTLESS MINI-SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE																								
INDOOR UNIT										OUTDOOR UNIT														
MARK	SERVICE	SIZE	MITSUBISHI MODEL NO.	TYPE	OFM	ESP	FAN HP	EAT DB/WB	LAT DB/WB	OUTSIDE DESIGN SUMMER/WINTER	VOLT/PH	MCA	MOCOP	REMARKS	MARK	MITSUBISHI MODEL NO.	TOTAL COOLING	SENSIBLE COOLING	ARI HEATING	SEER	MCA	MOCOP	VOLT/PH	REMARKS
DSS-1	MULTI-PURPOSE	2 TONS	PKA-A24KA7	HEAT PUMP	775	-	-	80.0F/67.0F	52.0F/51.0F	92.0F/16.0F	-	1.0	-	(1)	DHP-1	PUZ-HA24NH1	24.0 MBH	- MBH	28.0 MBH	19.0	18.0	25	208/1	(1)

(1) PROVIDE UNIT WITH DISCONNECT SWITCH, SWEAT ADAPTER SET, CONDENSATE PUMP. PROVIDE WITH MICROPROCESSOR CONTROL WITH AUDIBLE AND VISUAL ALARMS. PUMP CONDENSATE TO DRY WELL. CONFIRM REFRIGERANT LENGTH PRIOR TO BEGINNING WORK.

(1) PROVIDE FILTER DRIER, HIGH AND LOW PRESSURE SWITCHES, THERMOSTATIC EXPANSION VALVE, SCROLL COMPRESSOR, WIND BAFFLE, AND ALL ACCESSORIES REQUIRED FOR LOW AMBIENT OPERATION TO 0F. ELECTRICAL SHOWN FOR SINGLE POINT CONNECTION.

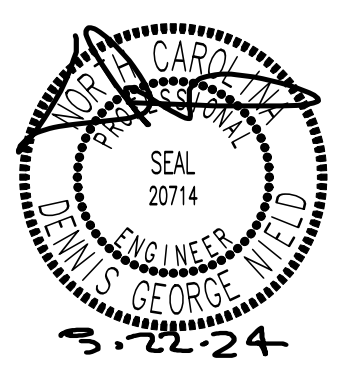
AIR DISTRIBUTION SCHEDULE					
MARK	NAILOR MODEL	PANEL SIZE	TYPE	NECK SIZE	REMARKS
(2)	EXISTING TO REMAIN	-	VARIES	-	VERIFY CEILING TYPES, COLOR BY ARCHITECT

- GENERAL NOTES:**
- ANY NEW OR EXISTING DUCT (INCLUDING SUPPLY AND RETURN DUCTS) PENETRATING A FIRE RATED WALL SHALL BE EQUIPPED WITH A FIRE RATED DAMPER. MECHANICAL CONTRACTOR TO VERIFY THAT THE EXISTING SUPPLY AND RETURN DUCT IS OPEN BACK TO THE RETURN AIR OPENING ON THE AIR HANDLING UNIT. CONTRACTOR SHALL INCLUDE ALL FIRE DAMPERS (IF APPLICABLE) REQUIRED IN BASE PRICE.
 - ALL EXISTING MAIN SUPPLY DUCTS ARE TO BE REUSED.
 - NOTE NOT USED.
 - EXISTING AIR HANDLING UNITS ARE TO BE REUSED. REBALANCE AIR DISTRIBUTION SYSTEM AS SHOWN.
 - REBALANCE OUTSIDE AIR ON EACH OF THE AIR HANDLING UNITS WHICH SERVE THIS AREA. PROVIDE OUTSIDE AIR KITS FOR EXISTING UNIT AS REQUIRED.
 - PRIOR TO BIDDING, MECHANICAL CONTRACTOR IS TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS.
 - SUPPLY AIR DIFFUSERS ARE TO BE ADJUSTED SUCH THAT THE DIFFUSER WILL NOT BLOW AIR DIRECTLY ON THE ROOM OCCUPANTS. DIFFUSERS IN EXTERIOR ROOMS ARE TO DIRECT SUPPLY AIR TOWARDS THE WINDOWS AND THE CENTER OF THE ROOMS AWAY FROM THE OCCUPANT.
 - ALL ZONES AFFECTED BY CONSTRUCTION SHALL BE REBALANCED IN THEIR ENTIRETY.
 - CONTRACTOR TO CAP ALL UNUSED EXISTING DUCT TAKE-OFFS AND SEAL AIRTIGHT.
 - MECHANICAL CONTRACTOR SHALL VERIFY THAT ALL EXISTING DUCTWORK IS INSULATED IN COMPLIANCE WITH N.C. ENERGY CODE.



2 FLOOR PLAN - HVAC (ALTERNATE)
 MI SCALE: 1/4" = 1' - 0"

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Efland Cheeks Community Center

Covered Patio Enclosure Renovation

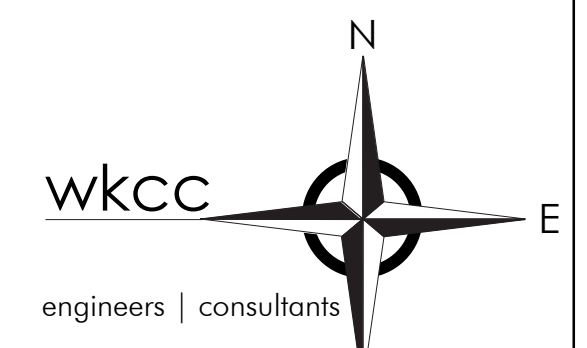
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NO.	DATE

HVAC FLOORPLAN



WEST KEY CONSULTING CORPORATION
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 RALEIGH NC 27609
 919.881.8020
 www.westkeyconsulting.com
 C-1474

DATE 08.22.24 SHEET
 SCALE M1
 DRAWN PROJECT NUMBER

GENERAL NOTES:

- THE HEATING AND AIR CONDITIONING CONTRACTOR (THE CONTRACTOR) SHALL PROVIDE ALL SPECIFIED AND MISCELLANEOUS MATERIAL AND LABOR AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS.
- ALL FLEXIBLE DUCT CONNECTIONS TO HAVE MANUFACTURED SPIN-IN FITTINGS WITH DAMPER, AND MANUAL LOCKING QUADRANT.
- PROVIDE AN ELECTRONIC PROGRAMMABLE THERMOSTAT FOR EACH AIR HANDLING UNIT. THERMOSTAT SHALL BE HONEYWELL MODEL T7351 WITH SUBBASE (OR EQUAL). PROVIDE WITH TRANSPARENT LOCKING COVERS. THE HIGHEST OPERATING COMPONENT OF THE THERMOSTAT SHALL BE MOUNTED AT 48" MAX. A.F.F. AND IN COMPLIANCE WITH NC ACCESSIBILITY CODE. THERMOSTAT SHALL BE CAPABLE OF CONTROLLING COOLING AND HEATING SYSTEM OPERATION IN COMPLIANCE WITH SECTION C403.2.4 OF THE NC ENERGY CONSERVATION CODE.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF THE OTHER TRADES PRIOR TO THE INSTALLATION OF ANY OF HIS EQUIPMENT, DUCTWORK, OR PIPING.
- ALL EQUIPMENT, MATERIALS, AND INSTALLATION OF SUCH SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS. IF THERE IS A CONFLICT IN THE ABOVE REQUIREMENTS, THE MORE STRINGENT SHALL BE USED. ACCESS TO ALL EQUIPMENT SHALL BE PROVIDED IN COMPLIANCE WITH CHAPTER 3 OF THE NORTH CAROLINA MECHANICAL CODE.
- THE MECHANICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS REQUIRED FOR HIS WORK.
- WORKMANSHIP SHALL BE FIRST-CLASS AND PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN.
- REFER TO ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS, DO NOT SCALE THESE DRAWINGS.
- COORDINATE EXACT LOCATION OF ALL DIFFUSERS WITH LIGHTS, SPRINKLER HEADS, AND OTHER CEILING MOUNTED DEVICES.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL HIS OWN SUPPORT EQUIPMENT. LOCATIONS SHALL BE COORDINATED WITH ALL CONTRACTORS PRIOR TO INSTALLATION.
- ALL EQUIPMENT SHALL BE LOCATED AND INSTALLED TO PROVIDE MAXIMUM SPACE FOR MAINTENANCE AND SERVICE. ALL EQUIPMENT INSTALLATIONS SHALL ALLOW FOR ALL CODE AND MANUFACTURER REQUIRED CLEARANCES.
- ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER CONNECTIONS TO THE EQUIPMENT PROVIDED UNDER HIS CONTRACT.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTROL WIRING FOR HIS EQUIPMENT.
- ALL OUTSIDE AIR SUPPLY AND EXHAUST DUCTWORK, FANS, AND EXTERIOR OPENINGS SHALL BE PROVIDED WITH CLASS 1 MOTORIZED DAMPERS IN COMPLIANCE WITH SECTION C403.2.4.3 OF THE NC ENERGY CONSERVATION CODE. GRAVITY DAMPERS MAY BE PERMITTED IN BUILDING LESS THAN 3 STORES IN HEIGHT OR FOR EXHAUST AIRFLOW OF 300 CFM OR LESS.
- FOR SPACES LARGER THAN 500 SQUARE FEET, THE CONTRACTOR SHALL PROVIDE CO2 SENSORS AND MOTORIZED DAMPERS ON ALL HVAC SYSTEMS TO PROVIDE DEMAND CONTROLLED VENTILATION IN COMPLIANCE WITH SECTION C403.2.6 OF THE NC ENERGY CONSERVATION CODE UNLESS OTHERWISE NOTED.
- LINE SUPPLY AND RETURN DUCT WITH DUCT LINER A MINIMUM OF FIVE FEET BEYOND FIRST ELBOW DOWNSTREAM OF DISCHARGE AND INTAKE OF UNIT. DUCT LINER SHALL BE A MINIMUM OF R-6 ACOUSTICAL LINER. INSULATE ALL SUPPLY AND RETURN DUCT DOWN STREAM OF LINED DUCT WITH BLANKET INSULATION. BLANKET INSULATION SHALL A MINIMUM OF R-6 GLASS FIBER WITH FIRE RETARDANT FOIL-SCRIM KRAFT JACKET. AS AN ALTERNATE, THE MECHANICAL CONTRACTOR MAY LINE RIGID DUCTWORK WITH ACOUSTICAL LINER IN LIEU OF WRAPPING DUCTWORK WITH BLANKET INSULATION. PROVIDE R-8 DUCT INSULATION FOR ANY DUCTWORK LOCATED OUTSIDE OF OUTSIDE OF BUILDING ENVELOPE. ALL INSULATION R-VALUES SHALL BE IN COMPLIANCE WITH SECTION C403.2.9 OF THE NORTH CAROLINA ENERGY CONSERVATION CODE.
- DUCTWORK AS SHOWN ON THE DRAWINGS IS STRICTLY DIAGRAMMATIC. ALL DUCT SIZES SHOWN ARE FREE AREA. COORDINATE EXACT LOCATION OF ALL DUCTWORK WITH THE BUILDING STRUCTURE AND OTHER TRADES.
- IT WILL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO ENSURE THAT ITEMS TO BE FURNISHED UNDER HIS CONTRACT WILL FIT THE SPACE AVAILABLE. HE SHALL MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS AND SERVICE CLEARANCES, AND SHALL FURNISH AND INSTALL SUCH SIZES AND SHAPES OF EQUIPMENT THAT ARE THE TRUE INTENT AND MEANING OF THESE DRAWINGS AND SPECIFICATIONS.
- ALL DUCT TO BE CONSTRUCTED OF GALVANIZED STEEL SHEETS IN ACCORDANCE WITH SMACNA GAGES AND STANDARDS. SUPPLY DUCT JOINTS SHALL BE SEALED AIRTIGHT AND SHALL BE IN COMPLIANCE WITH SECTION C403.2.9.1 OF THE NORTH CAROLINA ENERGY CONSERVATION CODE. ALL SQUARE BENDS OR ELBOW FITTINGS SHALL HAVE TURNING VANES. PROVIDE SPLITTER DAMPERS AT SUPPLY TEES AND EXTRACTORS AT ALL SUPPLY AIR BRANCHES. PROVIDE BALANCING DAMPERS IN ALL DUCTS WHERE REQUIRED FOR SYSTEM BALANCING AS SHOWN ON PLANS OR AS REQUIRED.
- INSTALL FLEXIBLE DUCT CONNECTIONS AT THE SUPPLY AND RETURN DUCTWORK CONNECTIONS OF ALL AIR HANDLING UNITS FOR VIBRATION ISOLATION.
- PROVIDE FIRE DAMPERS AT ALL DUCT PENETRATIONS THROUGH THE FIRE-RATED WALLS AS SHOWN ON PLANS OR AS REQUIRED. PROVIDE RADIATION DAMPERS AT ALL DIFFUSERS/GRILLES MOUNTED IN FIRE-RATED CEILINGS AND CEILING ASSEMBLIES AS SHOWN ON PLANS OR AS REQUIRED.
- PROVIDE ACCESS PANELS IN THE DUCTWORK FOR ALL FIRE DAMPERS OR OTHER DUCT MOUNTED EQUIPMENT. LOCATE ACCESS PANEL SO THAT ACCESS TO EQUIPMENT IS EASILY ATTAINED.
- CONTRACTOR SHALL PROVIDE ENTHALPY CONTROLLED ECONOMIZERS FOR ANY AIR CONDITIONING UNIT OVER 65,000 BTUH OF COOLING UNLESS OTHERWISE NOTED. ECONOMIZER SHALL CONFORM TO REQUIREMENTS OF SECTION C403.3 OF THE NC ENERGY CONSERVATION CODE.
- PRIOR TO BIDDING, MECHANICAL CONTRACTOR IS TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS AND RESOLVE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND THESE PLANS WITH THE ENGINEER.
- PROVIDE A COMPLETE 1-YEAR WARRANTY ON ALL LABOR AND MATERIALS. ALSO, MANUFACTURER'S PUBLISHED 5-YEAR NON PRORATED COMPRESSOR WARRANTY.
- CONTRACTOR SHALL FURNISH A BOUND SET OF OPERATING AND MAINTENANCE MANUALS FOR ALL EQUIPMENT TO THE OWNER UPON COMPLETION OF PROJECT. MANUALS SHALL INCLUDE ALL ITEMS AS SPECIFIED IN SECTION C408.2.5 OF THE NORTH CAROLINA ENERGY CONSERVATION CODE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SYSTEM COMMISSIONING AS REQUIRED PER SECTION C408 OF THE NC ENERGY CONSERVATION CODE. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING STATEMENT OF SYSTEM COMMISSIONING (APPENDIX C1) AS REQUIRED IN SECTION 503.2.9.3 OF THE NORTH CAROLINA ENERGY CONSERVATION CODE. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING STATEMENT OF COMPLIANCE AS REQUIRED.
- OUTSIDE AIR INTAKES SHALL BE LOCATED A MINIMUM OF 10 FEET FROM ALL EXHAUST DISCHARGE AND PLUMBING VENTS.
- INSTALL ESCUTCHEONS IN ALL PLACES WHERE PIPING PENETRATES A WALL IN AN EXPOSED LOCATION.
- REPLACE ALL FILTERS JUST PRIOR TO ACCEPTANCE BY THE OWNER.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE SMOKE DETECTORS PER SECTION 606 OF N.C. MECHANICAL CODE IN THE RETURN OF EACH UNIT TO DE-ENERGIZE UNIT IN THE EVENT OF FIRE. SMOKE DETECTORS SHALL BE U.L. LISTED FOR DUCT INSTALLATION. SUPERVISION OF DUCT DETECTOR SHALL BE PER SECTION 606.4.1. MECHANICAL CONTRACTOR SHALL PROVIDE VISUAL AND AUDIBLE ALARM FOR EACH DETECTOR.

- MOUNT AIR HANDLING UNIT IN SUCH A WAY THAT ADEQUATE SLOPE IS PROVIDED FOR ALL DRAIN LINES. PIPE CONDENSATE FROM COIL AND DRAIN PAN FULL SIZE TO AN APPROVED PLACE OF DISPOSAL IN COMPLIANCE WITH NCCM, SECTION 307. PROVIDE FLOAT SWITCH IN CONDENSATE PANS TO STOP FAN UPON ACCUMULATION OF CONDENSATE IN PAN.
- THE MECHANICAL CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE MECHANICAL PLANS, INCLUDING THE SCHEDULES AND DETAILS PRIOR TO INSTALLATION OF ANY MECHANICAL SYSTEMS AND SHALL RESOLVE ANY CONFLICTS WITH THE ENGINEER.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES. ALL DRAWINGS INDICATE THE GENERAL ARRANGEMENT DESIRED. THE EXACT LOCATIONS AND DETAILS OF CONSTRUCTION MAY BE SUCH THAT VARIANCES ARE REQUIRED. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR THE COMPLETE EXECUTION OF THIS CONTRACT. SUCH VARIANCES AND CONTINGENCIES SHALL BE ALLOWED FOR IN THE CONTRACTOR'S BID AND SHALL BE ACCOMPLISHED WITHOUT ADDITIONAL COST TO THE OWNER. PRIOR TO ORDERING EQUIPMENT, THE CONTRACTOR SHALL PREPARE COORDINATION DRAWINGS SHOWING HOW HIS EQUIPMENT IS TO BE LOCATED IN THE SPACE INDICATED. THIS DRAWING SHALL SHOW THE NEW AND EXISTING WORK OF ALL OTHER TRADES. THE CONTRACTOR SHALL CONTACT THE OTHER CONTRACTORS INVOLVED FOR DIMENSIONS, LOCATIONS, AND REQUIRED CLEARANCES OF THE EQUIPMENT THEY INTEND TO PROVIDE FOR THIS JOB. THE FOREMENTIONED COORDINATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- ALL MATERIALS USED SHALL BE NEW AND FREE OF DEFECTS. WHERE TRADE NAMES ARE MENTIONED, THEY ARE GIVEN AS A REFERENCE TO THE QUALITY OF THE APPARATUS REQUIRED. ALL MATERIALS AND EQUIPMENT SHALL BEAR THE UL LABEL OR EQUIVALENT WHERE APPLICABLE. OTHER MAKES MAY BE USED IF APPROVED IN WRITING BY THE ENGINEER. THE CONTRACTOR SHALL SUBMIT A COMPLETE LIST OF MATERIALS AND EQUIPMENT PROPOSED FOR USE IN THIS CONTRACT TO THE ENGINEER WITHIN TEN DAYS FOLLOWING THE AWARD OF CONTRACT. IF SUCH LIST IS NOT SUBMITTED, THE CONTRACTOR SHALL SUPPLY THE MATERIALS AND EQUIPMENT SPECIFIED OR AS DIRECTED BY THE ENGINEER.
- FLEXIBLE DUCT SHALL BE INSULATED, SOUND ATTENUATING, LOW VELOCITY TYPE AND SHALL COMPLY WITH NFPA 90A AND 90B. FLEXIBLE DUCT SHALL BE U.L. LISTED, CLASS 1 INSULATED TYPE, RATED FOR A MINIMUM OF 4" POSITIVE STATIC PRESSURE AND A MINIMUM OF 1" NEGATIVE STATIC PRESSURE. FLEXIBLE DUCT SHALL BE FACTORY-FORMED, COMPOSED OF SPIRAL WOUND, CORROSION RESISTANT WIRE BONDED TO AN INNER FABRIC LINER, COVERED WITH INSULATION WITH A VAPOR BARRIER. INSULATION R-VALUES SHALL BE PER THE NORTH CAROLINA ENERGY CONSERVATION CODE.
- ROUTE REFRIGERANT LINES FROM OUTDOOR CONDENSING UNITS IN THE MOST DIRECT PATH TO AIR HANDLER LOCATED ABOVE CEILING. INSULATE WITH FOAM INSULATION. INSULATION SHALL BE IN COMPLIANCE WITH THE NORTH CAROLINA ENERGY CONSERVATION CODE. PROVIDE LONG LINE REFRIGERATION KIT AS REQUIRED.
- IF FIRE ALARM SYSTEM IS PROVIDED IN BUILDING, THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND WIRE ALL SMOKE DETECTORS. IF FIRE ALARM SYSTEM IS NOT PROVIDED IN BUILDING, THE MECHANICAL CONTRACTOR SHALL PROVIDE AND WIRE SMOKE DETECTORS. REGARDLESS OF WHO PROVIDES DETECTOR, IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO INSTALL THE SMOKE DETECTORS IN THE RETURN OF REQUIRED UNITS TO DE-ENERGIZE UNIT IN THE EVENT OF FIRE. SMOKE DETECTORS SHALL BE U.L. LISTED FOR DUCT INSTALLATION. ELECTRICAL CONTRACTOR AND MECHANICAL CONTRACTOR SHALL COORDINATE SMOKE DETECTOR REQUIREMENTS FOR SYSTEM PRIOR TO INSTALLATION.
- UPON COMPLETION OF THE WORK, A TEST AND BALANCE SHALL BE PERFORMED IN ACCORDANCE WITH "AABC" REQUIREMENTS. AIR FLOW AND STATIC PRESSURE SHALL BE MEASURED AND RECORDED FOR ALL OUTLETS ON EACH SYSTEM. ONE WEEK AFTER THE OWNER HAS OCCUPIED THE BUILDING AND OPENED FOR BUSINESS, THE CONTRACTOR SHALL RE-BALANCE THE SYSTEM ACCORDING TO THE NEEDS OF THE OCCUPANTS. PROVIDE A COMPLETE TEST AND BALANCE REPORT TO THE ENGINEER.
- AS APPLICABLE, THE CONTRACTOR SHALL VERIFY THE OPERATION OF ALL EXISTING MECHANICAL EQUIPMENT IN THE AREA OF WORK. ALL MEASUREMENTS SHALL BE RECORDED NECESSARY TO ASCERTAIN THE PROPER OPERATION OF THE EQUIPMENT INCLUDING, BUT NOT LIMITED TO, AMPERAGE, CFM FLOW, INLET AND OUTLET TEMPERATURES, AIR FLOW, AND INLET AND OUTLET STATIC PRESSURES. ANY DEFICIENCY IN THE RATED OUTPUT OF THE EQUIPMENT SHALL BE REPORTED TO THE ENGINEER AND BUILDING OWNER. IN ANY CASE, SAID REPORT SHALL BE SUBMITTED TO THE ENGINEER UPON REQUEST.
- THE CONTRACTOR SHALL, AT THE COMPLETION OF THE WORK, CLEAN, POLISH, AND/OR WASH ALL EXPOSED ITEMS OF MATERIALS, EQUIPMENT, AND FIXTURES IN HIS CONTRACT TO LEAVE SUCH ITEMS BRIGHT AND CLEAN. THE CONTRACTOR SHALL KEEP THE PRESENT WORK AREA FREE FROM HIS WORK DURING CONSTRUCTION AND LEAVE THE AREA AND BUILDING CLEAN AT COMPLETION OF THE CONTRACT.
- MECHANICAL AND ELECTRICAL EQUIPMENT SHALL OPERATE WITHOUT OBJECTIONABLE NOISE OR VIBRATION, AS DETERMINED BY THE ENGINEER. IF SUCH OBJECTIONABLE NOISE OR VIBRATION SHOULD BE PRODUCED AND TRANSMITTED TO OCCUPIED PORTIONS OF THE BUILDING, THE CONTRACTOR SHALL MAKE THE NECESSARY CHANGES TO CORRECT THE NOISE OR VIBRATION WITHOUT ADDITIONAL COST TO THE OWNER.
- ALL AIR HANDLING UNIT SUPPLY FANS SHALL OPERATE CONTINUOUSLY DURING OCCUPIED HOURS.
- MECHANICAL CONTRACTOR SHALL CONCEAL ALL EXTERIOR PENETRATIONS WHERE POSSIBLE. COORDINATE ALL EXTERIOR PENETRATIONS WITH BUILDING OWNER (TENANT) AND GENERAL CONTRACTOR.
- CATALOG PART NUMBERS INDICATED ARE FOR DESCRIPTIVE AND QUALITY STANDARDS ONLY. NOT TO BE UTILIZED FOR ORDERING WITHOUT VERIFICATION. ENGINEER SHALL NOT BE RESPONSIBLE FOR MISMATCHED OR INACCURATE PART NUMBERS. COORDINATE CLOSELY WITH ALL TRADES PRIOR TO MATERIAL/EQUIPMENT ORDERING.

MECHANICAL SYSTEMS AND EQUIPMENT

METHOD OF COMPLIANCE:

- C401.2 Method 1 (ASHRAE 90.1)
- C401.2 Method 2 (Prescriptive)
- C401.2 Method 3 (Energy Cost Budget)

Thermal Zone 4A

Exterior Design Conditions

winter dry bulb 16°F
summer dry bulb 90°F
summer wet bulb 75°F

Interior Design Conditions

winter dry bulb 70°F
summer dry bulb 75°F
relative humidity 50%

Building Heating Load Area of work - 14,500 BTU/hr

Building Cooling Load Area of work - 19,400 BTU/hr

Mechanical Spacing Conditioning System

Unitary - The area of work is served by one (1) new ductless split system heat pump system. Efficiencies and outputs for heating and cooling are listed in the schedules - See drawings.

Equipment efficiencies

Efficiencies are listed on equipment schedules - See drawings.

Boiler - Not applicable to this project.

Chiller - Not applicable to this project.

Equipment schedules with motors.

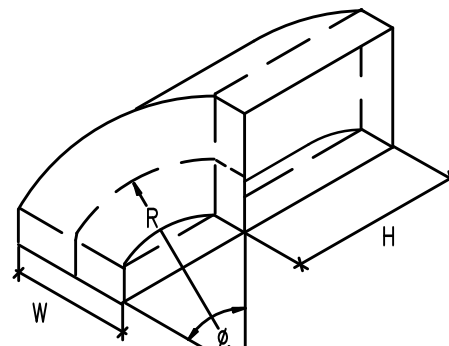
Multispeed motors are used on this project and are included in the efficiency rating of the unit. See drawings for efficiencies.

NCSCB:ENERGY, Section C406 Compliance -

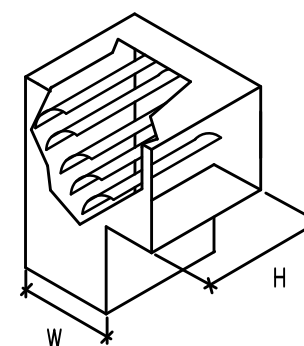
- C406.2 More Efficient Mechanical Equipment
- C406.3 Reduced LPD
- C406.4 Enhanced Digital Lighting Controls
- C406.5 On-site Renewable Energy
- C406.6 Dedicated Outdoor Air System
- C406.7 Reduced Energy Use in Service Water Heating
- C406.8 Load Fraction
- N/A

DESIGNER STATEMENT:

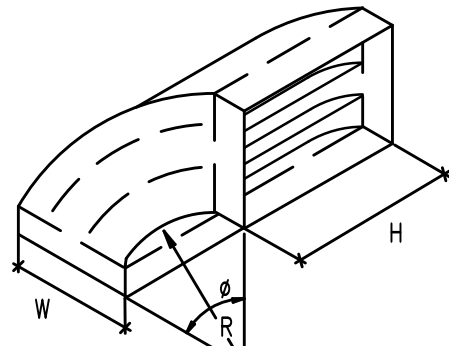
To the best of my knowledge and belief, the design of this building complies with the mechanical system and equipment requirements of the North Carolina State Building Code, Edition-Energy.



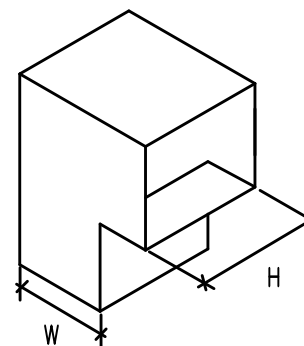
TYPE RE 1 RADIUS ELBOW
CENTERLINE = $\frac{3W}{2}$ = STD RADIUS



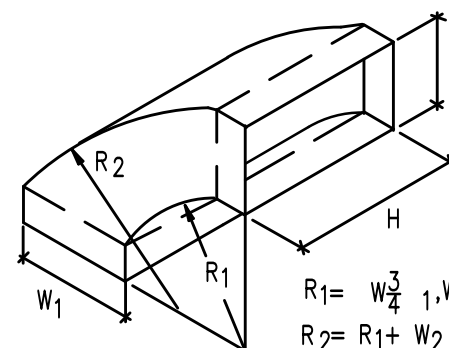
TYPE RE 2 SQUARE THROAT
ELBOW WITH VANES



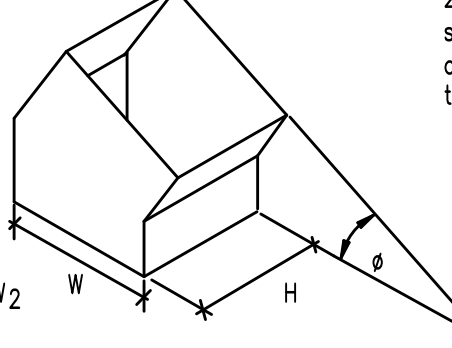
TYPE RE 3 RADIUS ELBOW
WITH VANES



TYPE RE 4 SQUARE THROAT
ELBOW WITH OUT VANES

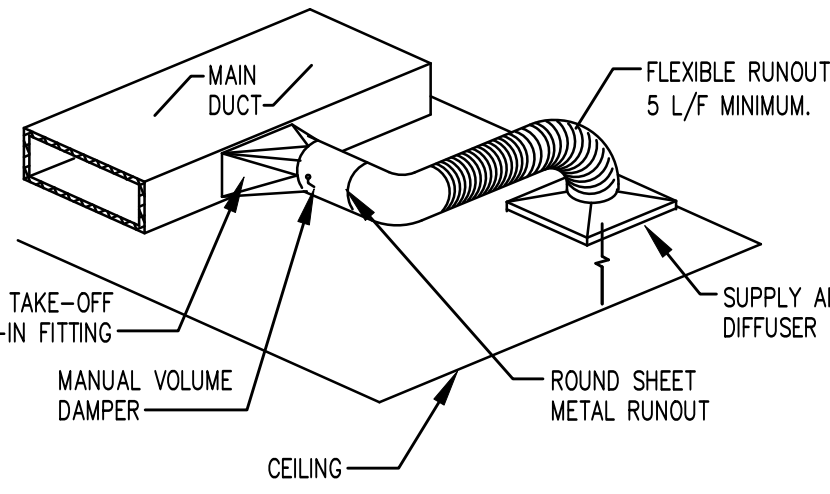


TYPE RE 5 DUAL RADIUS ELBOW

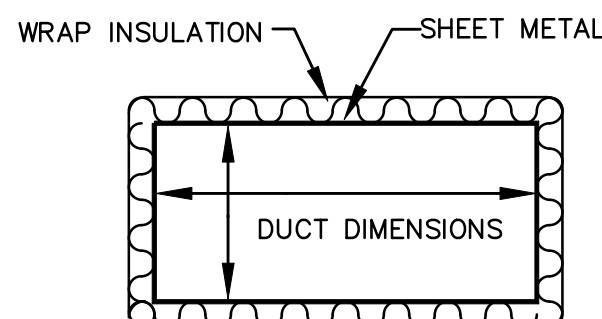


MITERED ELBOW

1 M2 SCALE: NONE
RECTANGULAR SHEETMETAL ELBOWS

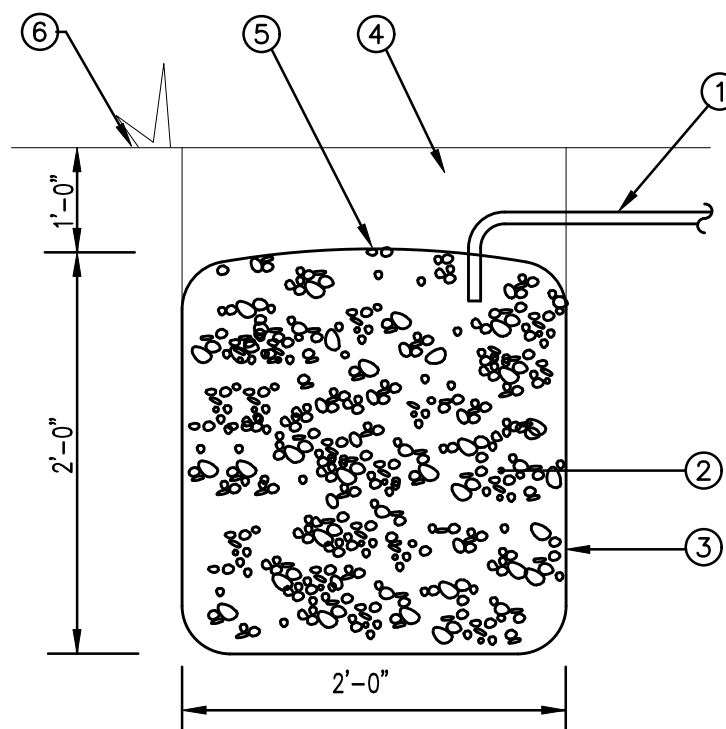


2 M2 SCALE: NONE
SUPPLY DIFFUSER INSTALLATION DETAIL



NOTE: ALL DUCT DIMENSIONS SHOWN ON THESE DRAWINGS ARE INSIDE CLEAR.

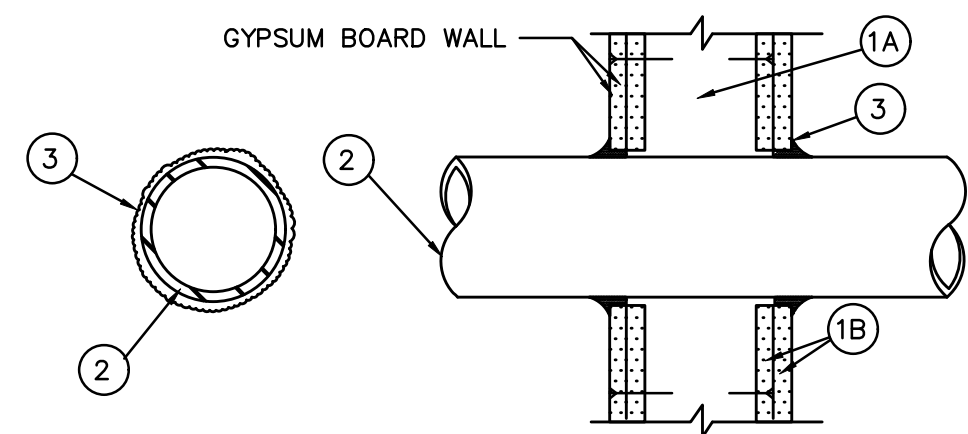
5 M2 SCALE: NONE
PRIMARY DUCT FABRICATION DETAIL



KEY NOTES FOR 02

- RUN CONDENSATE PIPE TO FRENCH DRAIN BELOW GRADE.
- CRUSHED STONE.
- LINE FRENCH DRAIN WITH FILTER FABRIC.
- PROVIDE 1 FOOT MIN. SOIL COVER.
- COVER WITH FILTER FABRIC.
- FINISH GRADE.

4 M2 SCALE: NTS
DRY WELL DETAIL



System No. W-L-1001

June 15, 2005

F Ratings - 1, 2, 3 and 4 Hr (See Items 2 and 3)
T Ratings - 0, 1, 2, 3, and 4 Hr (See Item 3)
L Rating At Ambient - less than 1 CFM/sq ft
L Rating At 400 F - less than 1 CFM/sq ft

1. **Wall Assembly** - The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs** - Wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.

B. **Gypsum Board*** - Nom 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in. (660 mm).

2. **Through-Penetrant** - One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in. (0 mm). (point contact) to max 2 in. (51 mm) Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. **Steel Pipe** - Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Iron Pipe** - Nom 24 in. (610 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in (305 mm) diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

C. **Conduit** - Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in (102 mm) diam (or smaller) steel electrical metallic tubing

D. **Copper Tubing** - Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing

E. **Copper Pipe** - Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

F. **Through Penetrating Product*** - Flexible Metal Piping The following types of steel flexible metal gas piping may be used:

1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

OMEGA FLEX INC

2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

GASTITE, DIV OF TITELFLEX

3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

WARD MFG INC

3. **Fill, Void or Cavity Material*** - Caulk or Sealant - Min 5/8, 1-1/4, 1-7/8 and 2-1/2 in. (16, 32, 48 and 64 mm) thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Max Pipe or Conduit Diam in (mm)	F Rating Hr	T Rating Hr
1 (25)	1 or 2	0+, 1 or 2
1 (25)	3 or 4	3 or 4
4 (102)	1 or 2	0
6 (152)	3 or 4	0
12 (305)	1 or 2	0

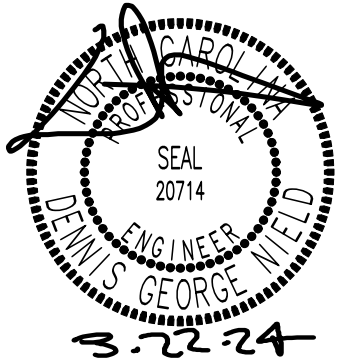
*When copper pipe is used, T Rating is 0 h.

3M COMPANY - CP 25WB+ or FB-3000 WT.

3 M2 SCALE: NONE
FOR FRAMED WALL ONLY
1,2,3, OR 4 HOUR PENETRATION
FIRESTOP DETAIL

Bret Horton Architect

1308 Broad Street
Durham, NC 27705
919.619.2258



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Efland Cheeks
Community Center

Covered Patio
Enclosure Renovation

117 Richmond Road
Mebane, NC 27302

Issued for
Permitting

ISSUED

REVISIONS

NO.	DATE

HVAC
DETAILS

DATE 08.22.24 SHEET

SCALE M2

DRAWN

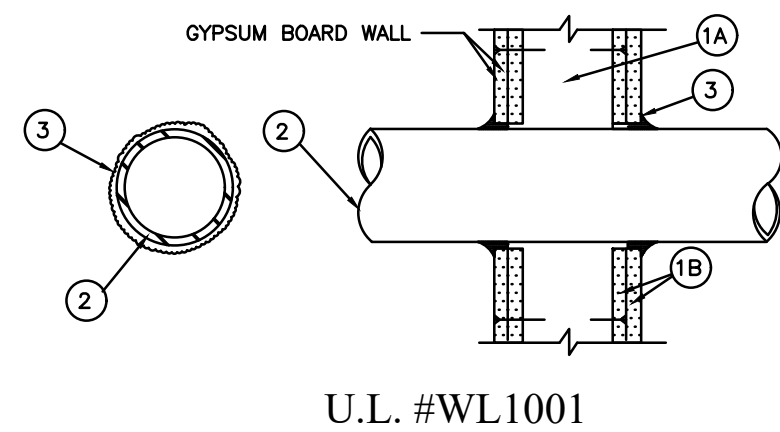
PROJECT NUMBER

wkcc
engineers | consultants

WEST KEY CONSULTING CORPORATION
4038 BARRETT DR SUITE 304
RALEIGH NC 27609
919.881.8020
www.westkeyconsulting.com
C-1474

GENERAL NOTES AND REQUIREMENTS.

- WORKMANSHIP SHALL CONFORM TO NECA PUBLICATION "STANDARDS OF INSTALLATION".
- INSTALLATION SHALL COMPLY WITH NATIONAL ELECTRICAL CODE, STATE BUILDING CODE, AND ALL REQUIREMENTS OF THE LOCAL INSPECTOR (FURNISH INSPECTION CERTIFICATE). ALL WORK SHALL BE BY LICENSED ELECTRICAL CONTRACTOR.
- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS. DO NOT SCALE THESE DRAWINGS.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES INVOLVED IN THE PROJECT, PRIOR TO INSTALLATION OF ELEC. EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND TO ALLOW FOR OPTIMUM MAINTENANCE AND WORKING SPACE.
- ALL BRANCH CIRCUITS SHALL BE IN ZINC-COATED EMT, OR RIGID CONDUIT AS PERMITTED OR REQUIRED BY THE NATIONAL ELECTRICAL CODE. TYPE MC CABLE MAY BE USED AS PERMITTED BY THE NATIONAL ELECTRICAL CODE. SCHEDULE 40 PVC CONDUIT MAY BE USED ONLY FOR THE SECONDARY UNDERGROUND SERVICE, THE UNDERGROUND TELEPHONE SERVICE CONDUIT, AND BRANCH TELEPHONE SYSTEM CONDUITS LOCATED BELOW THE FLOOR SLAB ON GRADE OR BURIED ON THE EXTERIOR OF THE BUILDING, OR IN CONCRETE BLOCK WALLS. ALL CONDUIT SHALL BE A 1/2" MINIMUM SIZE. EMT FITTINGS SHALL BE STEEL COMPRESSION TYPE.
- PROVIDE 4"WIDE PLASTIC TAPE, MAGNETIC DETECTABLE TYPE, COLORED RED WITH SUITABLE WARNING LENGTH DESCRIBING BURIED ELECTRICAL LINES OR ORANGE DESCRIBING BURIED TELEPHONE LINES.
- ALL CONDUCTORS SHALL BE COPPER TYPE THHN, OR XHHW, SOLID FOR #10 AWG OR #12 AWG, AND STRANDED FOR ALL LARGER SIZES.
- ALL WIRING SHALL BE CONCEALED IN WALLS, UNDER SLAB, OR ABOVE SUSPENDED CEILING SPACE.
- ALL WIRE AND CONDUIT SIZES ARE BASED ON 75°C THHN WIRE UNLESS OTHERWISE NOTED.
- CONDUITS MAY BE RUN EXPOSED IN MECHANICAL AREAS. CONDUITS SHALL BE RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS AND SHALL BE RUN IN GROUPS. SEAL ALL PENETRATIONS TIGHT AROUND ALL CONDUITS WHEN PASSING INTO MECHANICAL ROOMS.
- ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE SUSPENDED CEILING SYSTEM.
- WHERE FIRST OUTLET ON BRANCH CIRCUIT IS GREATER THAN FIFTY (50) FEET FROM THE PANELBOARD, USE #10 AWG MINIMUM TO THE FIRST OUTLET.
- ALL MOUNTING HEIGHTS ARE GIVEN TO THE CENTERLINE OF THE DEVICE UNLESS OTHERWISE NOTED. RECEPTACLES, DATA AND TELEPHONE OUTLET TO BE MOUNTED 18" AFF UNLESS OTHERWISE NOTED. LIGHT SWITCHES TO BE MOUNTED 48" AFF UNLESS OTHERWISE NOTED.
- THE LOCATION OF ALL WALL MOUNTED DEVICES, INCLUDING MOUNTING HEIGHTS, SHALL BE FIELD VERIFIED WITH THE ARCHITECT PRIOR TO INSTALLATION.
- ALL FUSES, DISCONNECT SWITCHES, AND BREAKER SIZES, SHOWN FOR MECHANICAL EQUIPMENT, SHALL BE VERIFIED BEFORE THE PURCHASE OR INSTALLATION OF SAID EQUIPMENT, WITH THE EQUIPMENT SUPPLIER AND THE MECHANICAL CONTRACTOR.
- ALL DISCONNECT SWITCHES ARE TO BE FUSIBLE TYPE. FUSE IN ACCORDANCE WITH THE NAMEPLATE DATA WITH DUAL ELEMENT TYPE FUSES BY BUSSMAN OR EQUAL.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS, SWITCHES, AND RECEPTACLES UNDER THE ELECTRICAL BID AND SHALL INCLUDE ALL NECESSARY CIRCUITS TO AND FINAL CONNECTIONS TO THE EQUIPMENT PROVIDED BY ALL SUPPLIERS, UNLESS NOTED OTHERWISE BY OTHER DISCIPLINES. COORDINATE CLOSELY.
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED SO THAT ALL CODE-REQUIRED AND MANUFACTURER-RECOMMENDED SERVICING CLEARANCES ARE MAINTAINED. INSTALLATIONS SHALL FULLY COMPLY WITH NEC 110-26 FOR CLEARANCE REQUIREMENTS.
- COORDINATE LOCATIONS OF ALL LIGHT FIXTURES WITH THE REFLECTED CEILING PLANS. LIGHT FIXTURES INSTALLED IN MECHANICAL AREAS SHALL AVOID MECHANICAL PIPING, EQUIPMENT, DUCTWORK, ETC.
- GROUND SHALL BE PER N.E.C. PROVIDE SEPARATE GROUNDING CONDUCTOR FOR ALL CIRCUITS. PROVIDE DRIVEN AND COLD WATER GROUND FOR MAIN SERVICE.
- GROUND TELEPHONE EQUIPMENT PER NEC.
- THE ELECTRICAL CONTRACTOR SHALL PATCH ANY WALL, CEILING, OR FLOOR OPENING AND PENETRATIONS RESULTING FROM DEMOLITION OR NEW WORK IN EXISTING AREAS.
- ALL WIRING SHALL BE CONCEALED IN METALLIC CONDUIT.
- COMBINE HOMERUNS IN CONDUIT AS DESIRED (3 ON 3-PHASE, 2 ON SINGLE PHASE). DO NOT OVERLOAD NEUTRALS.
- ALL CIRCUITS SHALL BE TESTED WITH 500 VOLT TESTER PRIOR TO ENERGIZING.
- ALL WALL OUTLET BOXES SHALL BE STEEL CITY OR RACO
- RECEPTACLES, SWITCHES, COVERPLATES, ETC. SHALL BE HUBBELL, LEVITON, OR LEGRAND EXCEPT AS SPECIFIED. COLOR SPECIFIED BY ARCHITECT, VERIFY COLOR PRIOR TO PURCHASE.
- PROVIDE PULL WIRE IN ALL EMPTY CONDUIT.
- CONDUIT SHALL BE LABELED EVERY TEN FEET.
- ALL RECEPTACLE AND SWITCH PLATES SHALL BE LEGIBLY MARKED WITH LABEL MARKER TO CLEARLY INDICATE PANELBOARD ORIGIN AND CIRCUIT NUMBER. VERIFY IF LABEL SHOULD BE ON THE INSIDE OR OUTSIDE FACE OF COVERPLATE WITH OWNER/TENANT.
- PROVIDE PHENOLIC LABELS ON ALL MAJOR EQUIPMENT INCLUDING SWITCHBOARDS, MOTOR CONTROL CENTERS, PANELBOARDS, INDIVIDUAL STARTERS, SAFETY SWITCHES, AND TRANSFORMERS. PROVIDE ENGRAVED THREE-LAYER LAMINATED PLASTIC, WHITE LETTERS ON BLACK BACKGROUND.
- ALL CIRCUIT BREAKERS IN PANEL SHALL BE SERIES RATED WITH MAIN BREAKER OR FULLY RATED FOR THE SYSTEM.
- CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 3 COPIES OF SHOP DRAWINGS FOR LIGHTS, SWITCHGEAR, PANELS, ETC.
- IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE W/ ALL OTHER TRADES REGARDING VOLTAGES, LOADS, CIRCUIT BREAKERS, ETC. PRIOR TO BEGINNING ANY WORK.
- AS USED ON THESE DOCUMENTS, THE WORD "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL THE ITEM OR EQUIPMENT AND MAKE THE FINAL CONNECTION AS REQUIRED.
- PANELS SHALL BE BY SQUARE "D", G.E. AND SIEMENS. PANELS SHALL BE SQUARE "D" TYPE NODD OR "I-LINE" AS REQUIRED.
- FOR NEW OR MODIFIED SERVICES, PRIOR TO ENERGIZATION AND AFTER UTILITY FAULT CURRENT CONFIRMATION AT THE DELIVERY POINT, PROVIDE PLAQUE AT SERVICE EQUIPMENT STATING MAXIMUM AVAILABLE FAULT CURRENT AND DATE OF CALCULATION PER NEC 110.24.
- OPERABLE DEVICES SHALL BE ACCESSIBLE IN COMPLIANCE WITH ANSI A17.1, SECTION 309, OPERABLE PARTS. WHERE GFI RECEPTACLES ARE NOT ACCESSIBLE, PROVIDE GFI BREAKER.
- RECESSED LIGHTING FIXTURES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE IC RATED AND LABELED AS MEETING ASTM E283. OR SHALL BE TENTED TO REMOVE THEM FROM THE THERMAL ENVELOPE
- BRANCH CIRCUITS SERVING EXIT & EMERGENCY FIXTURES SHALL BE CLEARLY LABELED ON THE PANELBOARD DIRECTORY PER NEC 110.22(A), 408.4 & 700.12(f).
- UPON PROJECT COMPLETION, THE EC SHALL PROVIDE TYPED CIRCUIT DIRECTORIES FOR ALL NEW AND ALTERED PANELBOARDS WITH CIRCUIT DESIGNATIONS COMPLYING WITH THE REQUIREMENTS OF NEC 408.4(A).
- ALL EXIT AND EMERGENCY LIGHTING SHALL BE FED FROM LOCAL BRANCH CIRCUIT, UNSWITCHED AND HAVE A MINIMUM OF 90 MINUTE BATTERY BACKUP PER NEC 700.12(f)(2).
- ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES AND EQUIPMENT SHALL BE LABELED AND LISTED BY A THIRD PARTY AGENCY. THE THIRD PARTY AGENCY SHALL BE AMONG THOSE ACCEPTABLE TO THE NC BUILDING CODE COUNCIL TO LABEL ELECTRICAL AND MECHANICAL EQUIPMENT.



1. Wall Assembly - The 1,2,3, or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
A. Studs - Wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.
B. Wallboard/Gypsum* - Nom 1/2 or 5/8 in. thick, 4ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 13-1/2 in.
2. Pipe or Conduit - Nom 12 in. diam (or smaller) Schedule 10 (or heavier) steel pipe, nom 12 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) Class 50 (or heavier) ductile iron pressure pipe, nom 6 in. diam (or smaller) steel conduit, nom 4 in. diam (or smaller) steel electrical metallic tubing or Type L or (or heavier) copper tubing or nom 1 in. (or smaller) flexible steel conduit. When copper pipe or flexible steel conduit is used, max F Rating of firestop system (Item 3) is 2h. Steel pipes or conduits larger than nom 4 in. diam may only be used in wall constructed using steel channel studs. A max of one pipe or conduit is permitted in the firestop system. Pipe or conduit to be installed near center of stud cavity width and to be rigidly supported on both sides of wall assembly.
3. Fill, Void or Cavity Material* - Caulk - Caulk fill material installed to completely fill annular space between pipe or conduit and gypsum wallboard and with a min 1/4 in. diam bead of caulk applied to perimeter of pipe or conduit at its egress from the wall. Caulk installed symmetrically on both sides of wall assembly. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

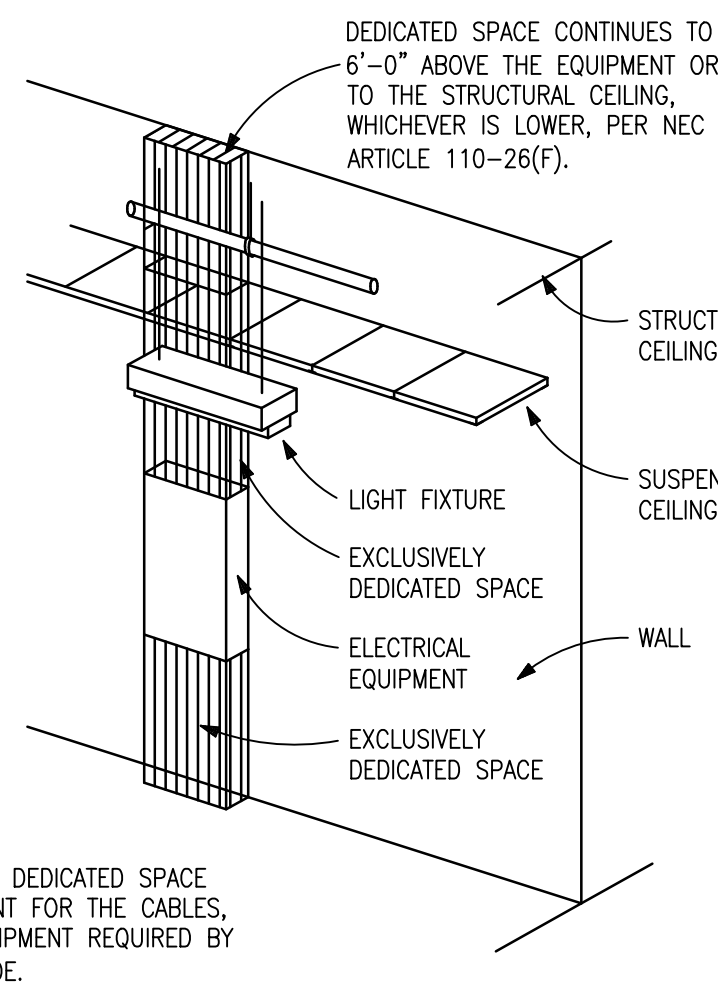
Max Pipe or Conduit Diam, In.	Annular Space, In.	F Rating, Hr.	T Rating, Hr.
1	0 to 3/16	1 or 2	0; 1 or 2
1	1/4 to 1/2	3 or 4	3 or 4
4	0 to 1/4	1 or 2	0
4	0 to 1-1/2"	1 or 2	0
6	1/4 to 1/2	3 or 4	0
12	3/16 to 3/8	1 or 2	0

* When copper pipe is used, T Rating is 0 h
 # 0 to 1-1/2 in. annular space applies only when Type CP-25 WB+ caulk is used.

3 RATED WALL PENETRATION DETAIL
 EI SCALE: NTS

ABBREVIATIONS

A AMPS, AMPERES	KVA KILOVOLT-AMPERES
AIC AMPS INTERRUPTING CURRENT	LTG LIGHTING
ATS AUTOMATIC TRANSFER SWITCH	MC METAL CLAD CABLE
AF AMP FUSE	MCA MINIMUM CIRCUIT AMPACITY
AFC ABOVE FINISHED CEILING	MCB MAIN CIRCUIT BREAKER
AFF ABOVE FINISHED FLOOR	MLO MAIN LUGS ONLY
AFG ABOVE FINISHED GRADE	NA NOT APPLICABLE
AHJ AUTHORITY HAVING JURISDICTION	NCBC NORTH CAROLINA STATE BUILDING CODE
BRKR CIRCUIT BREAKER	NEC NATIONAL ELECTRICAL CODE
BLDG BUILDING	NEMA NATIONAL ELECTRICAL MANUFACTURER'S ASSOC.
C CONDUIT	NF NON-FUSED
CKT CIRCUIT	NL NIGHT LIGHT - UNSWITCHED
CLG CEILING	NT NOT IN CONTRACT
CTR COUNTER - DEVICE MOUNTED ABOVE	NTS NOT TO SCALE
DISC DISCONNECT SWITCH	MC MECHANICAL CONTRACTOR
E EXISTING TO REMAIN	P POLES
EC ELECTRICAL CONTRACTOR	PC PLUMBING CONTRACTOR
ECB ENCLOSED CIRCUIT BREAKER	PH PHASE
EF EXHAUST FAN	PNL PANELBOARD
EM EMERGENCY	R RELOCATED
EMT ELECTRICAL METALLIC TUBING	RS SHOW WINDOW RECEP. 18" MAX ABOVE WINDOW
ETR EXISTING TO REMAIN	T TAMPER RESISTANT RECEPTACLE
EX EXISTING	UL UNDERWRITER'S LABORATORIES
FA FIRE ALARM	ULSE UL SERVICE ENTRANCE
GC GENERAL CONTRACTOR	UON UNLESS OTHERWISE NOTED
GFCI GROUND FAULT CURRENT INTERRUPTER	V VOLTS
G GROUND	W WIRE
HP HORSEPOWER	W/ WITH
IMC INTERMEDIATE METAL CONDUIT	W/O WITHOUT
JB JUNCTION BOX	WP WEATHERPROOF
KW KILOWATT	



1 DEDICATED SPACE FOR ELECTRICAL EQUIPMENT
 EI SCALE: NTS

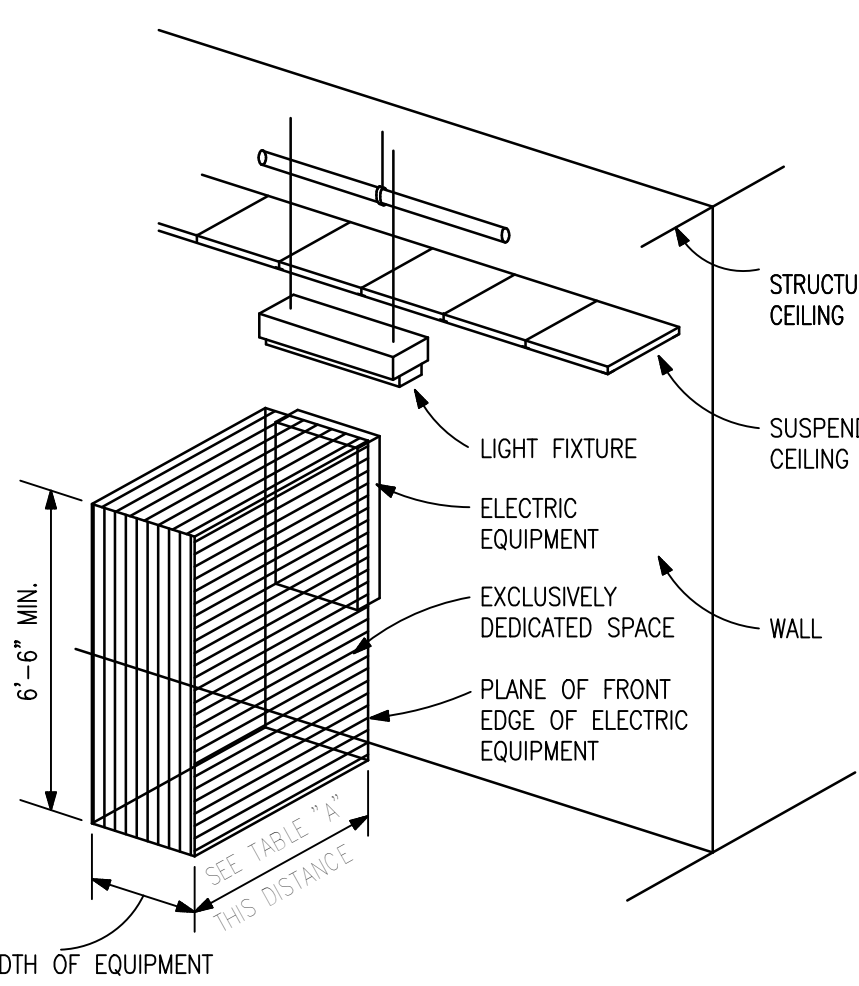
TABLE "A" WORKING CLEARANCES

VOLTAGE TO GROUND, NOMINAL	MINIMUM CLEAR DISTANCE (FEET)		
	CONDITION: 1	2	3
0-150	3	3	3
151-600	3	3 1/2	4

WHERE THE "CONDITIONS" ARE AS FOLLOWS:
 1. EXPOSED LIVE PARTS ON ONE SIDE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES EFFECTIVELY GUARDED BY SUITABLE WOOD OR OTHER INSULATING MATERIALS. INSULATED WIRE OR INSULATED BUSBARS OPERATING AT NOT OVER 300 VOLTS SHALL NOT BE CONSIDERED LIVE PARTS.
 2. EXPOSED LIVE PARTS ON ONE SIDE AND GROUNDED PARTS ON THE OTHER SIDE.
 3. EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE (NOT GUARDED AS PROVIDED IN CONDITION 1) WITH THE OPERATOR BETWEEN.

NOTE:
 THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF ELECTRICAL EQUIPMENT REQUIRED BY SECTION 110.26 OF THE NATIONAL ELECTRICAL CODE.

2 WORKING CLEARANCE FOR ELECTRICAL EQUIPMENT
 EI SCALE: NTS



ELECTRICAL SYSTEM AND EQUIPMENT (SECTION C405)

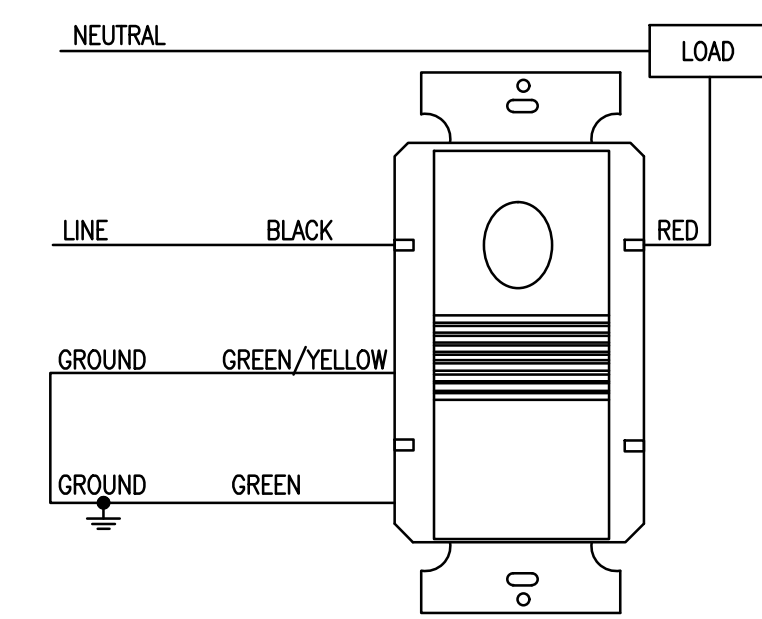
METHOD OF COMPLIANCE SECTION C405.1 ■

LIGHTING SCHEDULE
 LAMP TYPE REQUIRED IN FIXTURE } SEE LIGHTING FIXTURE SCHEDULE
 NUMBER OF LAMPS IN FIXTURE }
 BALLAST TYPE USED IN FIXTURE }
 NUMBER OF BALLASTS IN FIXTURE }
 TOTAL WATTAGE PER FIXTURE }
 TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED: .25KW VS x.5KW
 TOTAL EXTERIOR WATTAGE SPECIFIED VS ALLOWED: .025KW VS .65KW

ADDITIONAL EFFICIENCY PACKAGE OPTIONS
 C406.2 MORE EFFICIENT HVAC EQUIPMENT PERFORMANCE
 C406.3 REDUCED LIGHTING POWER DENSITY
 C406.4 ENHANCED DIGITAL LIGHTING CONTROLS
 C406.5 ON-SITE RENEWABLE ENERGY
 C406.6 DEDICATED OUTDOOR AIR SYSTEM
 C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING

DESIGNER STATEMENT:
 TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENTS OF THE NORTH CAROLINA STATE BUILDING CODE, ENERGY CODE 2018 EDITION

NAME: _____ ANGUS M. CLARK PE
 TITLE: _____ ELECTRICAL ENGINEER



4 OCC. SENSOR SWITCH WIRING DIAGRAM (TYP.)
 EI SCALE: NTS

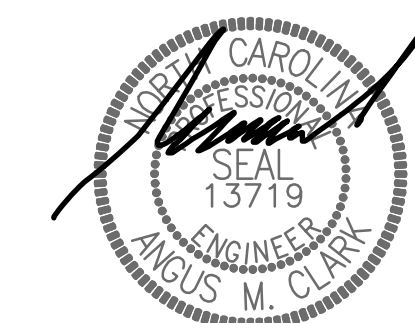
ELECTRICAL LEGEND

(ALL SYMBOLS MAY NOT BE USED ON THIS PROJECT)

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Bret Horton Architect

1308 Broad Street
 Durham, NC 27705
 919.619.2258



8/22/2024

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Efland Cheeks Community Center

Covered Patio Enclosure Renovation

117 Richmond Road
 Mebane, NC 27302

Issued for Permitting

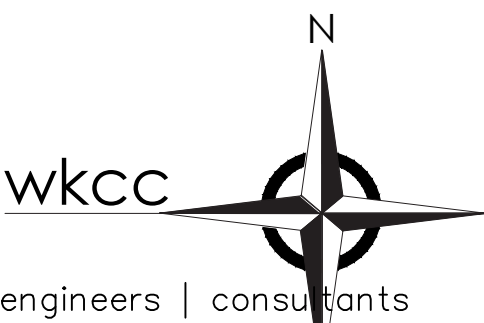
ISSUED

REVISIONS

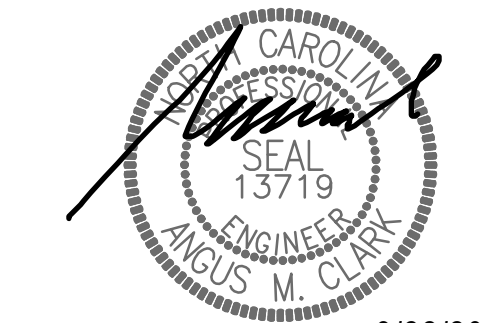
NO.	DATE

DATE 08.22.24 SHEET
 SCALE AS NOTED
 DRAWN CC
 PROJECT NUMBER
E1

ANGUS CLARK ENGINEERING PC
 P.O. Box 1507
 CARY NORTH CAROLINA 27512
 C-2726
 919.859.2674



WEST KEY CONSULTING CORPORATION
 4008 BARRETT DR SUITE 204
 RALEIGH NC 27609
 919.881.8020
 www.westkeyconsulting.com
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8/22/2024

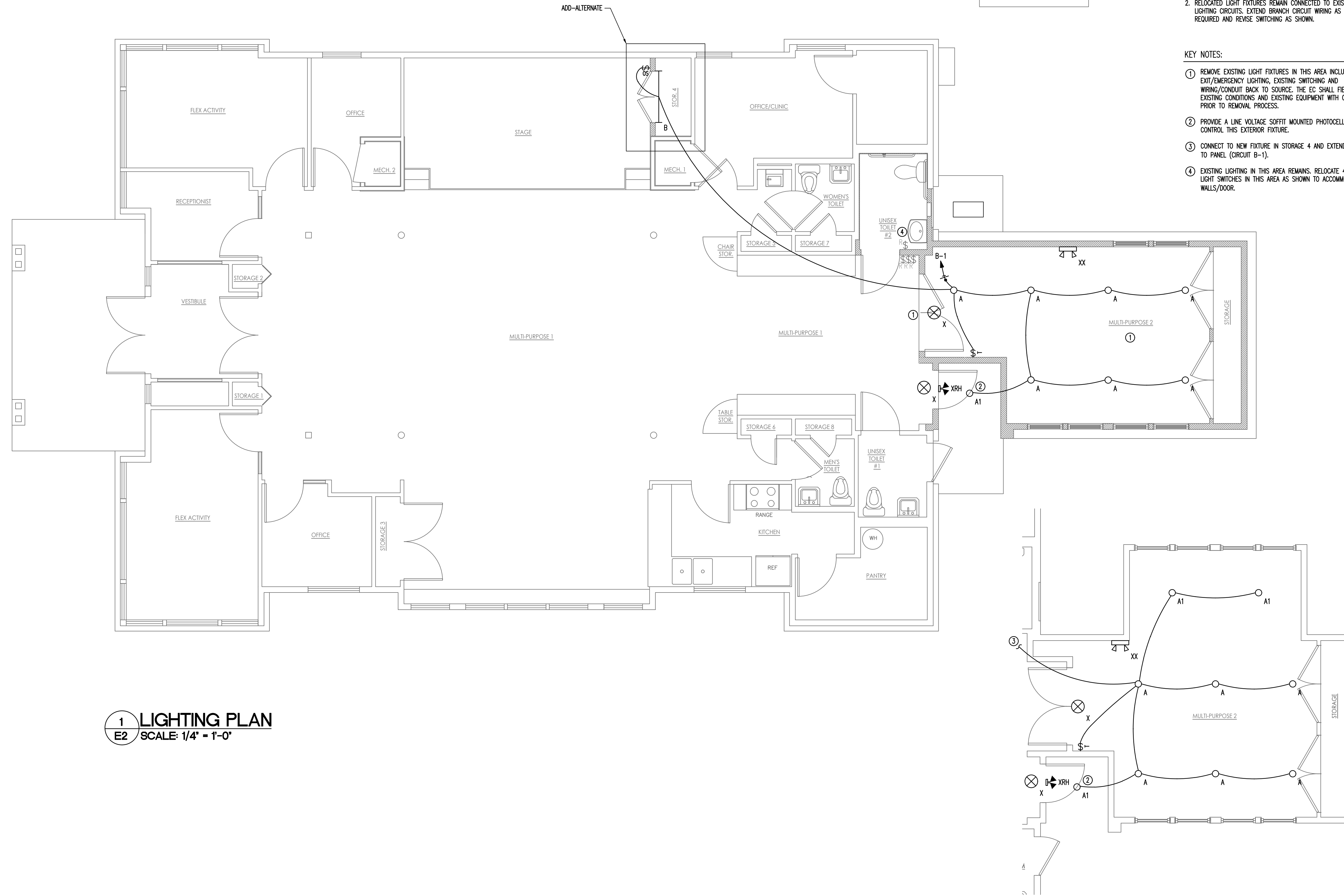
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GENERAL NOTES:

- EXIT, EMERGENCY AND NIGHT LIGHTS (NL) SHALL BE CONNECTED "UNSWITCHED" TO LIGHTING CIRCUIT SERVING ROOM WHERE THEY ARE LOCATED (TYPICAL)
- RELOCATED LIGHT FIXTURES REMAIN CONNECTED TO EXISTING LIGHTING CIRCUITS. EXTEND BRANCH CIRCUIT WIRING AS REQUIRED AND REVISE SWITCHING AS SHOWN.

KEY NOTES:

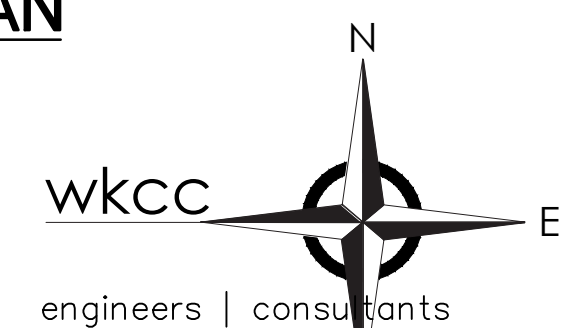
- REMOVE EXISTING LIGHT FIXTURES IN THIS AREA INCLUDING EXIT/EMERGENCY LIGHTING, EXISTING SWITCHING AND WIRING/CONDUIT BACK TO SOURCE. THE EC SHALL FIELD VERIFY EXISTING CONDITIONS AND EXISTING EQUIPMENT WITH OWNER PRIOR TO REMOVAL PROCESS.
- PROVIDE A LINE VOLTAGE SOFFIT MOUNTED PHOTOCELL TO CONTROL THIS EXTERIOR FIXTURE.
- CONNECT TO NEW FIXTURE IN STORAGE 4 AND EXTEND HOMERUN TO PANEL (CIRCUIT B-1).
- EXISTING LIGHTING IN THIS AREA REMAINS. RELOCATE 4 EXISTING LIGHT SWITCHES IN THIS AREA AS SHOWN TO ACCOMMODATE NEW WALLS/DOOR.



1 LIGHTING PLAN
E2 SCALE: 1/4" = 1'-0"

2 ADD-ALTERNATE LIGHTING PLAN
E2 SCALE: 1/4" = 1'-0"

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C-1474

Efland Cheeks Community Center
Covered Patio Enclosure Renovation

117 Richmond Road
Mebane, NC 27302

Issued for Permitting

ISSUED

REVISIONS	NO.	DATE
	NO.	DATE
	NO.	DATE
	NO.	DATE
	NO.	DATE
	NO.	DATE

DATE	08.22.24	SHEET
SCALE	AS NOTED	E2
DRAWN	CG	
PROJECT NUMBER		



8/22/2024

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**Efland Cheeks
Community Center**

**Covered Patio
Enclosure Renovation**

117 Richmond Road
Mebane, NC 27302

**Issued for
Permitting**

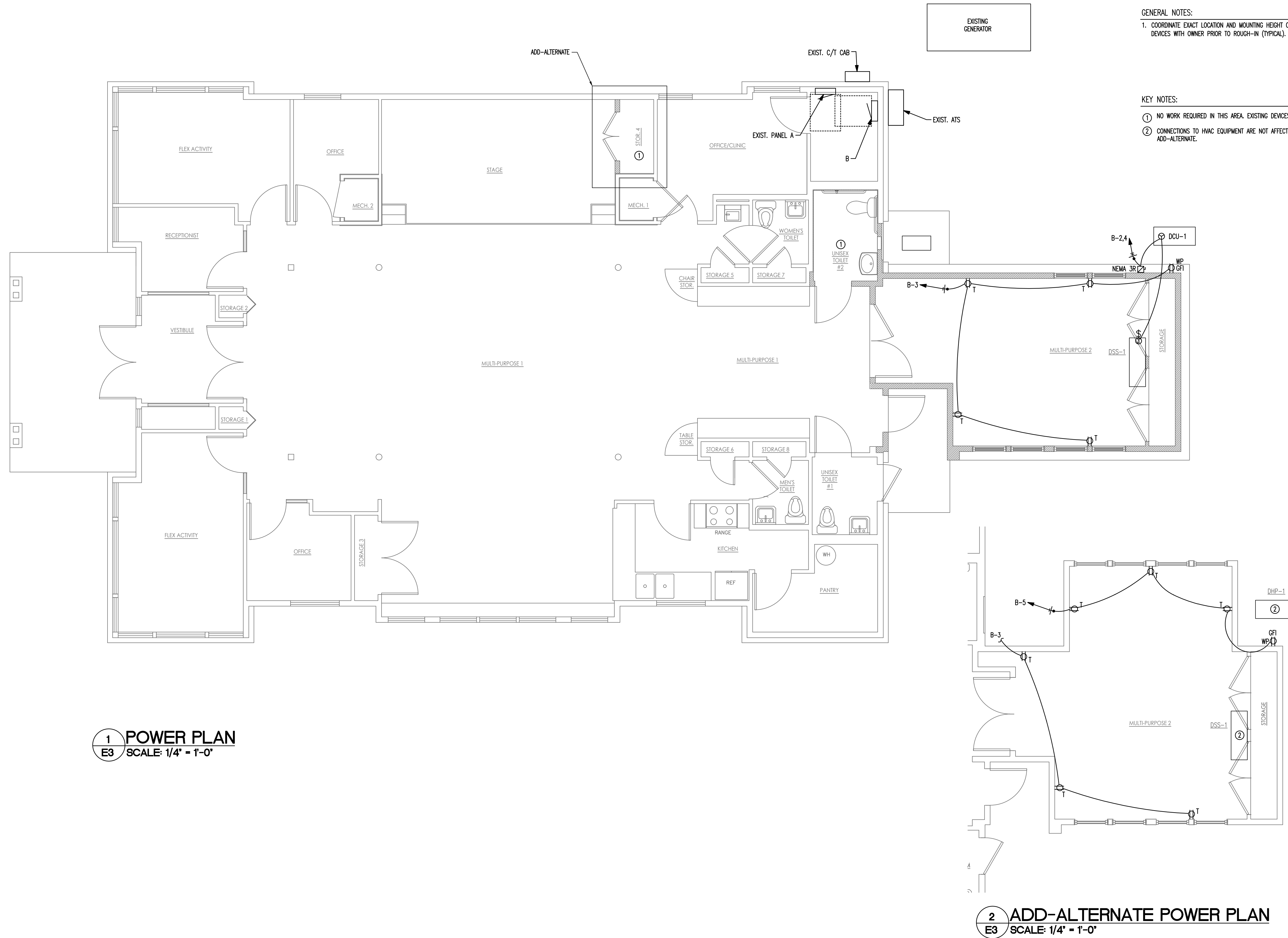
ISSUED

NO.	DATE

DATE	SHEET
08.22.24	E3
SCALE AS NOTED	
DRAWN CG	
PROJECT NUMBER	

GENERAL NOTES:
1. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ALL DEVICES WITH OWNER PRIOR TO ROUGH-IN (TYPICAL).

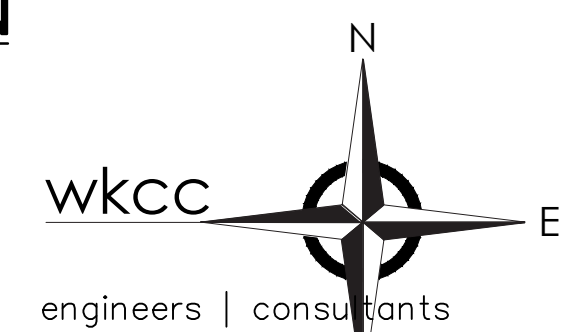
KEY NOTES:
① NO WORK REQUIRED IN THIS AREA. EXISTING DEVICES REMAIN.
② CONNECTIONS TO HVAC EQUIPMENT ARE NOT AFFECTED BY THE ADD-ALTERNATE.



1 POWER PLAN
E3 SCALE: 1/4" = 1'-0"

2 ADD-ALTERNATE POWER PLAN
E3 SCALE: 1/4" = 1'-0"

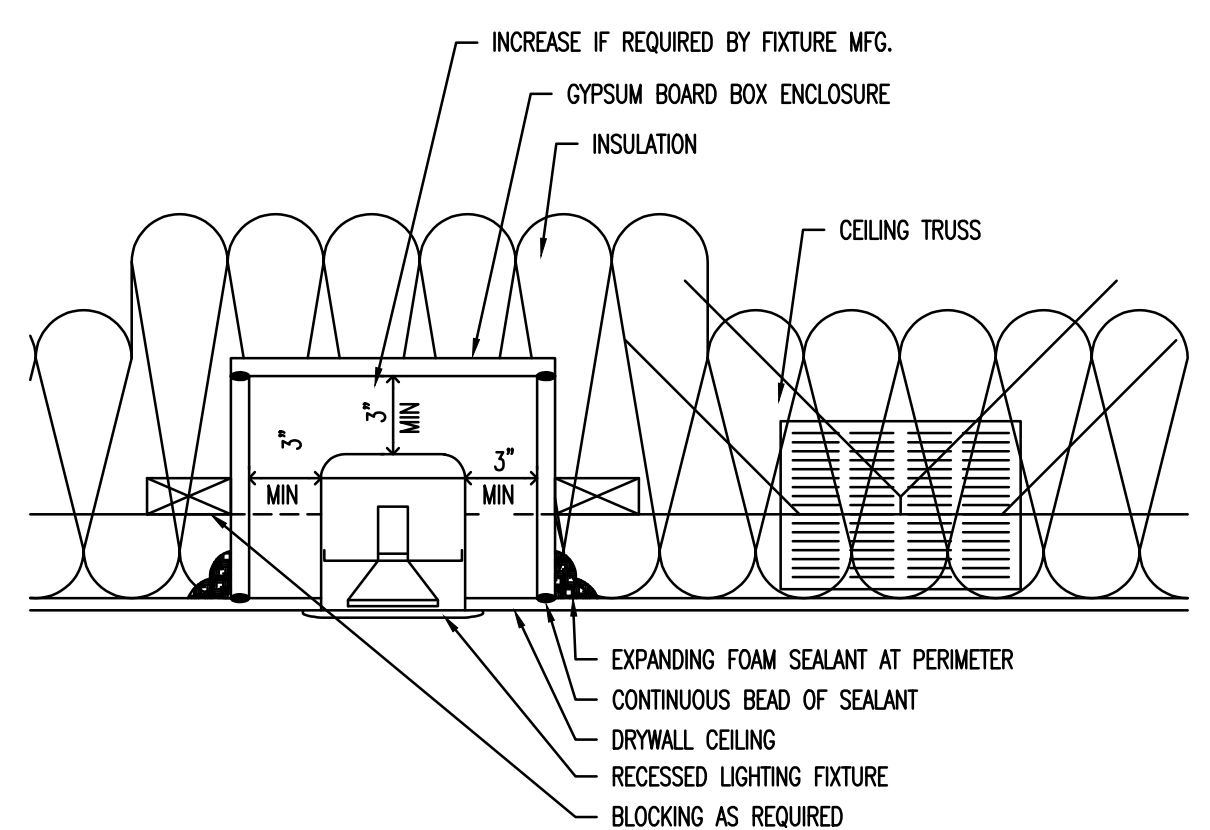
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LUMINAIRE SCHEDULE								
CALLOUT	SYMBOL	DESCRIPTION	MODEL	LAMP	MOUNTING	INPUT WATTS	VOLTS	NOTE 1
A	○	6" ROUND LED DOWNLIGHT - SLOPED CEILING ADAPTER	GOHAM EV06-35-25-AR-LSS-MD-MVOLT-G210-SCA(12/4)	(1) LED	RECESSED	25	120V 1P 2W	
A1	○	6" ROUND LED DOWNLIGHT	GOHAM EV06-35-25-AR-LSS-MD-MVOLT	(1) LED	RECESSED	25	120V 1P 2W	DAMP LABEL
B	— —	4' LENSED STRIPLIGHT	COLUMBIA LCL-4-35-ML-ED-U	(1) LED	SURFACE	42	120V 1P 2W	
X	⊗	EXIT SIGN	COMPASS CER	(1) LED	WALL/CEILING	2	MULTIPLE	UNSWITCHED
XRH	▲	EMERGENCY LIGHT (REMOTE HEAD)	COMPASS CORD	(1) LED	WALL/CEILING	2	MULTIPLE	UNSWITCHED
XX	⌂	EMERGENCY LIGHT	COMPASS CU2	(1) LED	WALL/CEILING	1	MULTIPLE	UNSWITCHED

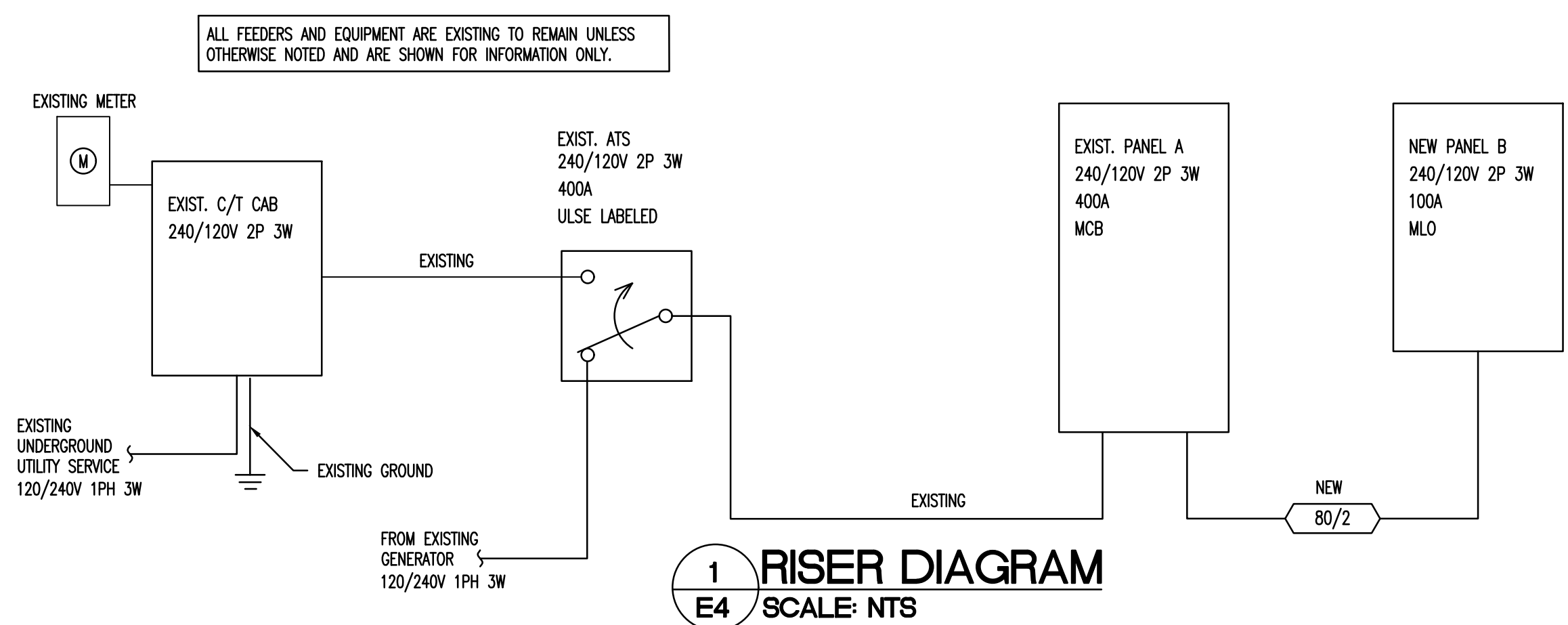
- GENERAL LIGHTING FIXTURE SCHEDULE NOTES:
- FIXTURES OF EQUAL QUALITY MAY BE SUBMITTED. ALL FINAL FIXTURE TYPES, FINISHES AND ANY SUBSTITUTIONS SHALL BE REVIEWED/APPROVED BY ARCHITECT PRIOR TO RELEASE.
 - ALL EXIT, EMERGENCY & NIGHT LIGHTS (NL) SHALL BE CONNECTED "UNSWITCHED" TO LIGHTING CIRCUIT SERVING ROOM WHERE THEY ARE LOCATED.
 - COORDINATE EXACT LOCATION & MOUNTING HEIGHT WITH PLUMBING & MECHANICAL CONTRACTORS SO THAT FIXTURE IS SUSPENDED BELOW PIPING & DUCTWORK.
 - SEE ARCHITECTURAL ELEVATIONS & COORDINATE WITH GC FOR MOUNTING HEIGHTS.



2 AIR SEALING AT RECESSED LIGHTING
E4 SCALE: NTS

FEEDER SCHEDULE			
ID	FEEDER AMPS	CONDUIT AND FEEDER	FEEDING THESE DEVICES
80/2	80	1" C, 2#3, #3N, #8G	B

SIZING METHOD: COPPER, 80°C #12 THROUGH #1, 75°C 1/0 AND ABOVE



1 RISER DIAGRAM
E4 SCALE: NTS

NOTE: UPON PROJECT COMPLETION, THE EC SHALL PROVIDE TYPED CIRCUIT DIRECTORIES FOR ALL NEW AND ALTERED PANELBOARDS WITH CIRCUIT DESIGNATIONS COMPLYING WITH THE REQUIREMENTS OF NEC 408.4(A).

EXIST. PANEL A											
ROOM MOUNTING SURFACE			VOLTS 240/120V 2P 3W			AIC 22,000					
FED FROM EXIST. ATS			BUS AMPS 400			MAIN BKR 400					
NOTE			NEUTRAL 100%			LUGS STANDARD					
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			
			A	B				A	B		
1	20/1	EXIST. LOAD	0.60		2	80/2	PANEL B	3.66			
3	20/1	EXIST. LOAD		0.80	4					3.78	
5	20/1	EXIST. LOAD	0.80		6	20/1	EXIST. LOAD	0.54			
7	20/1	EXIST. LOAD		0.50	8	20/1	EXIST. LOAD		0.72		
9	20/1	EXIST. LOAD	0.70		10	20/1	EXIST. LOAD	0.54			
11	20/1	EXIST. LOAD		0.40	12	20/1	EXIST. LOAD		0.72		
13	20/1	EXIST. LOAD	0.20		14	20/1	EXIST. LOAD	0.72			
15	20/1	EXIST. LOAD		0.30	16	20/1	EXIST. LOAD		0.72		
17	20/1	EXIST. LOAD	0.10		18	20/1	EXIST. LOAD	0.90			
19	20/1	EXIST. LOAD		0.10	20	20/1	EXIST. LOAD		0.90		
21	20/1	EXIST. LOAD	0.20		22	20/1	EXIST. LOAD	0.90			
23	20/1	EXIST. LOAD		0.20	24	20/1	EXIST. LOAD		0.10		
25	20/1	EXIST. LOAD	0.60		26	20/1	EXIST. LOAD	0.50			
27	20/1	EXIST. LOAD		1.00	28	20/1	EXIST. LOAD		0.54		
29	30/2	EXIST. LOAD	2.25		30	25/1	EXIST. LOAD	0.40			
31				2.25	32	20/1	EXIST. LOAD		0.70		
33	50/2	EXIST. LOAD	4.80		34	60/2	EXIST. LOAD	5.75			
35				4.80	36				5.75		
37	25/1	EXIST. LOAD	0.72		38	60/2	EXIST. LOAD	5.75			
39	20/1	EXIST. LOAD		0.54	40				5.75		
TOTAL CONNECTED KVA BY PHASE								30.63	30.57		
			CONN KVA	CALC KVA				CONN KVA	CALC KVA		
LIGHTING			5.74	7.18	(125%)			4.90	6.13	(125%)	
LARGEST MOTOR			11.50	2.88	(25%)			1.10	1.10	(100%)	
MOTORS			0.70	0.70	(100%)			36.92	36.92	(100%)	
RECEPTACLES			11.84	10.92	(50%>10)			27.32	0.00	(0%)	
						TOTAL LOAD			65.82		
						BALANCED LOAD			274.24 A		

PANEL A KEY NOTES:
① RELOCATE TWO 20A/1P CIRCUITS TO NEW PANEL B AS SHOWN TO ALLOW SPACE FOR NEW 80A/2P BREAKER.

B											
ROOM MOUNTING SURFACE			VOLTS 240/120V 2P 3W			AIC 10,000					
FED FROM EXIST. PANEL A			BUS AMPS 100			MAIN BKR MLO					
NOTE			NEUTRAL 100%			LUGS STANDARD					
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			
			A	B				A	B		
1	20/1	LIGHTING	0.24		2	25/2	DCU-1	2.16			
3	20/1	RECEPTACLE		0.90	4					2.16	
5	20/1	RECEPTACLE	0.72		6	20/1	EXIST. RECEPT. CIRCUIT RELOCATED FROM PANEL A	0.54			
7	-/1	SPACE		0.00	8	20/1	EXIST. RECEPT. CIRCUIT RELOCATED FROM PANEL A		0.72		
9	-/1	SPACE	0.00		10	-/1	SPACE	0.00			
11	-/1	SPACE		0.00	12	-/1	SPACE		0.00		
13	-/1	SPACE	0.00		14	-/1	SPACE		0.00		
15	-/1	SPACE		0.00	16	-/1	SPACE		0.00		
17	-/1	SPACE	0.00		18	-/1	SPACE		0.00		
19	-/1	SPACE		0.00	20	-/1	SPACE		0.00		
21	-/1	SPACE	0.00		22	-/1	SPACE		0.00		
23	-/1	SPACE		0.00	24	-/1	SPACE		0.00		
TOTAL CONNECTED KVA BY PHASE								3.66	3.78		
			CONN KVA	CALC KVA				CONN KVA	CALC KVA		
LIGHTING			0.24	0.30	(125%)			2.88	2.88	(50%>10)	
LARGEST MOTOR			4.32	1.08	(25%)			4.32	4.32	(100%)	
						RECEPTACLES			4.32		
						HEATING			0.00		
						COOLING			8.58		
						TOTAL LOAD			35.76 A		
						BALANCED LOAD					

- GENERAL PANELBOARD NOTES:
- EXISTING LOADS ACCOUNTED FOR BY FIELD INVESTIGATION.
 - *EXIST. - INDICATES BREAKER/CIRCUIT IS EXISTING TO REMAIN. ALL OTHER BREAKERS/CIRCUITS SHOWN ARE NEW.
 - PANELBOARD CONFIGURATIONS ARE BASED ON PREVIOUS AS-BUILT DOCUMENTS AND MAY VARY ON SITE. EC SHALL FIELD VERIFY EXISTING CONDITIONS AND MODIFY ACCORDINGLY.
 - PROVIDE BLANK FILLER COVERS OVER EMPTY BREAKER SLOTS.
 - ALL UNUSED BREAKERS SHALL BE TURNED TO THE "OFF" POSITION & LABELED AS "SPARES" ACCORDINGLY.
 - ALL NEW 120V, SINGLE-PHASE, 15- & 20- AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES SHALL BE PROTECTED BY ARC-FAULT CIRCUIT-INTERRUPTER PER NEC 210.12.

NOTE: UPON PROJECT COMPLETION, THE EC SHALL PROVIDE TYPED CIRCUIT DIRECTORIES FOR ALL NEW AND ALTERED PANELBOARDS WITH CIRCUIT DESIGNATIONS COMPLYING WITH THE REQUIREMENTS OF NEC 408.4(A).

EQUIPMENT SCHEDULE										
CALLOUT	SYMBOL	NEMA	VOLTAGE	BREAKER	CIRCUIT	MCA	MOCP	WIRING	NOTE 1	
DCU-1	⊕	NEMA 3R	240/120V 2P	25/2	B-2,4	18	25	1/2" C, 2#12, #12N, #12G		

GENERAL NOTE: VERIFY BREAKER & WIRE SIZES WITH EQUIPMENT NAMEPLATES.

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Efland Cheeks Community Center

Covered Patio Enclosure Renovation

117 Richmond Road
Mebane, NC 27302

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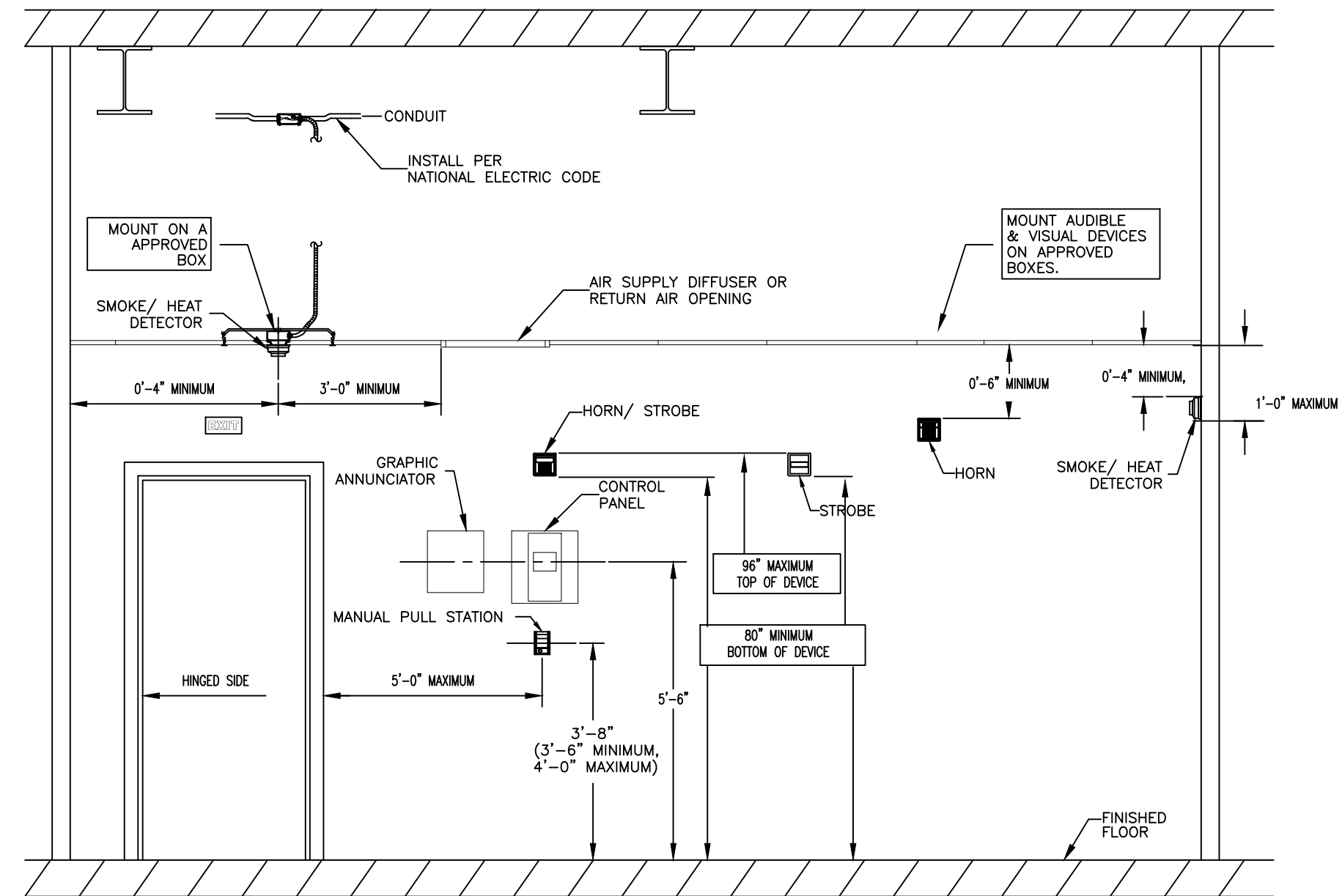
FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX

SYSTEM INPUTS	SYSTEM OUTPUTS																									
	FACP ANNUNCIATION										NOTIFICATION										REQUIRED FIRE SAFETY CONTROL					
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	
1 FIRE ALARM SYSTEM AC POWER FAILURE																										
2 FIRE ALARM SYSTEM LOW BATTERY																										
3 OPEN CIRCUIT																										
4 GROUND FAULT																										
5 NOTIFICATION APPLIANCE CIRCUIT SHORT																										
6 BUILDING MANUAL PULL STATIONS																										
7 CORRIDOR SMOKE DETECTORS																										
8 AREA SMOKE DETECTORS																										
9 HVAC AIR DUCT SMOKE DETECTORS																										
10 AREA HEAT DETECTORS																										

ABBREVIATIONS

AFC ABOVE FINISHED CEILING	NA NOT APPLICABLE
AFF ABOVE FINISHED FLOOR	NAC NOTIFICATION APPLIANCE CIRCUIT
AFC ABOVE FINISHED GRADE	NCSCB NORTH CAROLINA STATE BUILDING CODE
AHJ AUTHORITY HAVING JURISDICTION	NEC NATIONAL ELECTRICAL CODE
BLDG BUILDING	NEMA NATIONAL ELECTRICAL MANUFACTURER'S ASSOC.
C CONDUIT	NFPA NATIONAL FIRE PROTECTION ASSOCIATION
CLG CEILING	NIC NOT IN CONTRACT
EC ELECTRICAL CONTRACTOR	NTS NOT TO SCALE
EM EMERGENCY	MC MECHANICAL CONTRACTOR
EMT ELECTRICAL METALLIC TUBING	R RELOCATED
EX EXISTING TO REMAIN	SLC SIGNAL LINE CIRCUIT
FA FIRE ALARM	UL UNDERWRITER'S LABORATORIES
FAA FIRE ALARM ANNUNCIATOR	UON UNLESS OTHERWISE NOTED
FACP FIRE ALARM CONTROL PANEL	W WIRE
GC GENERAL CONTRACTOR	W/ WITH
G GROUND	W/O WITHOUT
IMC INTERMEDIATE METAL CONDUIT	WP WEATHERPROOF
JB JUNCTION BOX	

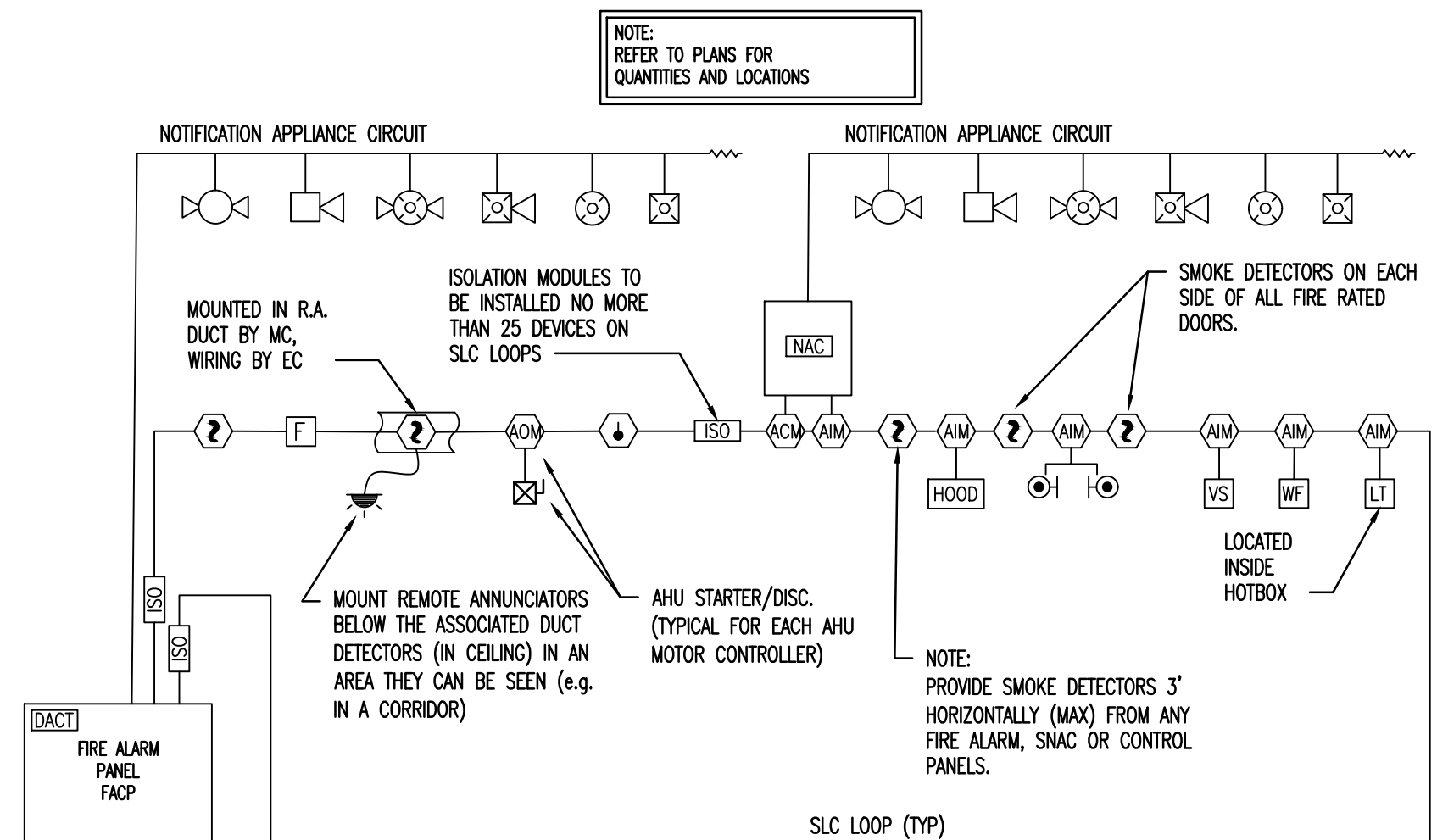
NFPA 72 AND ADA DEVICE INSTALLATION REQUIREMENTS



2 FIRE ALARM DEVICE MOUNTING DETAIL
FA1 SCALE: NTS

FIRE ALARM GENERAL NOTES

- AS USED ON THESE DOCUMENTS, THE WORD "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL THE ITEM OR EQUIPMENT AND MAKE THE FINAL CONNECTION AS REQUIRED.
- FIRE ALARM CONTRACTOR TO ENSURE CANDELA RATINGS OF EXISTING DEVICES MATCH THOSE INDICATED. ADJUST OR REPLACE EXISTING DEVICES AS REQUIRED TO ACHIEVE PROPER RATINGS AND COVERAGE. ALL FIRE ALARM NOTIFICATION DEVICES SHALL SYNC.
- A SOUND PRESSURE LEVEL OF 75db or 15db ABOVE AVERAGE AMBIENT NOISE LEVEL, WHICHEVER IS GREATER, IS REQUIRED IN ALL ROOMS (WITH DOORS CLOSED). ADJUST HORN OUTPUT LEVELS TO MEET THIS REQUIREMENT PRIOR TO FIRE MARSHALL INSPECTION.
- EXISTING NOTIFICATION DEVICES SHALL BE FIELD INSPECTED BY FIRE ALARM CONTRACTOR TO ENSURE SYNCHRONIZATION CAPABILITY PRIOR TO PRICING. EXISTING DEVICES SHALL BE REMOVED & REPLACED AS REQUIRED.



1 FIRE ALARM RISER DIAGRAM
FA1 SCALE: NTS

WIRE LEGEND:
NAC CIRCUITS - 2 CONDUCTOR, #12AWG, BLUE+, BLACK-
CLASS "B" LOOP - 1 PAIR, #18AWG TWISTED, OVERALL SHIELD,
RED+, BLACK-RED JACKET.

FIRE ALARM RISER NOTES

- PROVIDE "ADDRESSABLE" FIRE ALARM SYSTEM AS SHOWN. ALL WORK SHALL BE IN ACCORDANCE WITH NFPA 72. ALL WIRING SHALL BE SIZED AS REQUIRED BY THE MANUFACTURER.
- SEE FIRE ALARM PLAN FOR LOCATION AND NUMBER OF DEVICES. THE DRAWINGS INDICATE THE SUGGESTED LOCATIONS FOR INITIATING, NOTIFICATION, AND OTHER MISCELLANEOUS DEVICES INDIRECTLY CONNECTED TO THE FIRE ALARM SYSTEM. MISCELLANEOUS REQUIREMENTS ARE FOR THE GENERAL INFORMATION OF THE CONTRACTOR EXACT LOCATIONS, INSTALLATIONS, AND CONNECTIONS SHALL BE PER FIRE ALARM MANUFACTURERS INSTRUCTIONS AND DIRECTIONS FOR A COMPLETED SYSTEM. CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, PULL BOXES, JUNCTION BOXES, AND MISCELLANEOUS REQUIREMENTS AS REQUIRED BY FIRE ALARM EQUIPMENT SUPPLIER.
- PROVIDE BATTERY CALCULATIONS FOR THE DEVICES REQUIRED. ALLOW 25% ADDITIONAL CAPACITY FOR FUTURE DEVICES.
- FIRE SEAL ALL CONDUIT PENETRATIONS.
- PROVIDE GRAPHIC ANNUNCIATOR CHART AT THE MAIN LOBBY TO INDICATE ALL DEVICE POINT ASSIGNMENTS AND LOCATIONS.
- ALL COMPONENTS SHALL BE COMPATIBLE. PROVIDE ALL NECESSARY CONTROL WIRING AND CONDUIT PER MANUFACTURERS REQUIREMENTS.
- INITIATION OF FIRE ALARM SHALL CAUSE ALL AIR HANDLING UNITS TO SHUT DOWN.
- ALL DEVICES/SUBMITTALS SHALL BE APPROVED BY THE FIRE MARSHALL PRIOR TO ORDERING/INSTALLATION.
- COORDINATE WITH ELEVATOR CONTRACTOR/GC AND PROVIDE ALL CONTROL MODULES/RELAYS TO ACCOMPLISH ELEVATOR RECALL.
- COORDINATE QUANTITY AND LOCATION OF TAMPER AND FLOW SWITCHES WITH SPRINKLER CONTRACTOR.
- COORDINATE QUANTITY, LOCATION AND VOLTAGE OF FIRE DAMPERS WITH MECHANICAL CONTRACTOR. THE FIRE ALARM INSTALLER SHALL BE RESPONSIBLE FOR ALL WIRING REQUIRED TO FACILITATE DAMPER CONTROL FUNCTIONS AS INITIATED BY THE FACP.

NEW - FIRE ALARM SCHEDULE

SYMBOL	CALLOUT	NOTE
⊠	AUDIBLE-VISUAL APPLIANCE (WALL MOUNTED)	CANDELA RATING AS NOTED
⊗	SMOKE DETECTOR SENSOR - PHOTOELECTRIC TYPE	

EXISTING - FIRE ALARM SCHEDULE

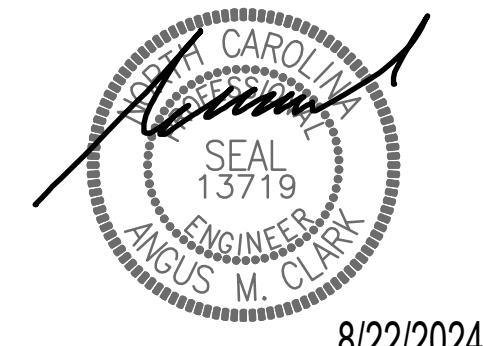
SYMBOL	CALLOUT	NOTE
⊠	PULL STATION - FIRE ALARM	
⊗	VISUAL ONLY APPLIANCE (CEILING MOUNTED)	CANDELA RATING AS NOTED

"E" INDICATES DEVICE IS EXISTING TO REMAIN
"R" INDICATES DEVICE IS RELOCATE

FIRE ALARM SCOPE OF WORK: PROVIDE SMOKE DETECTORS AND A HORN/STROBE IN THE ADDITION AS SHOWN.

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8/22/2024

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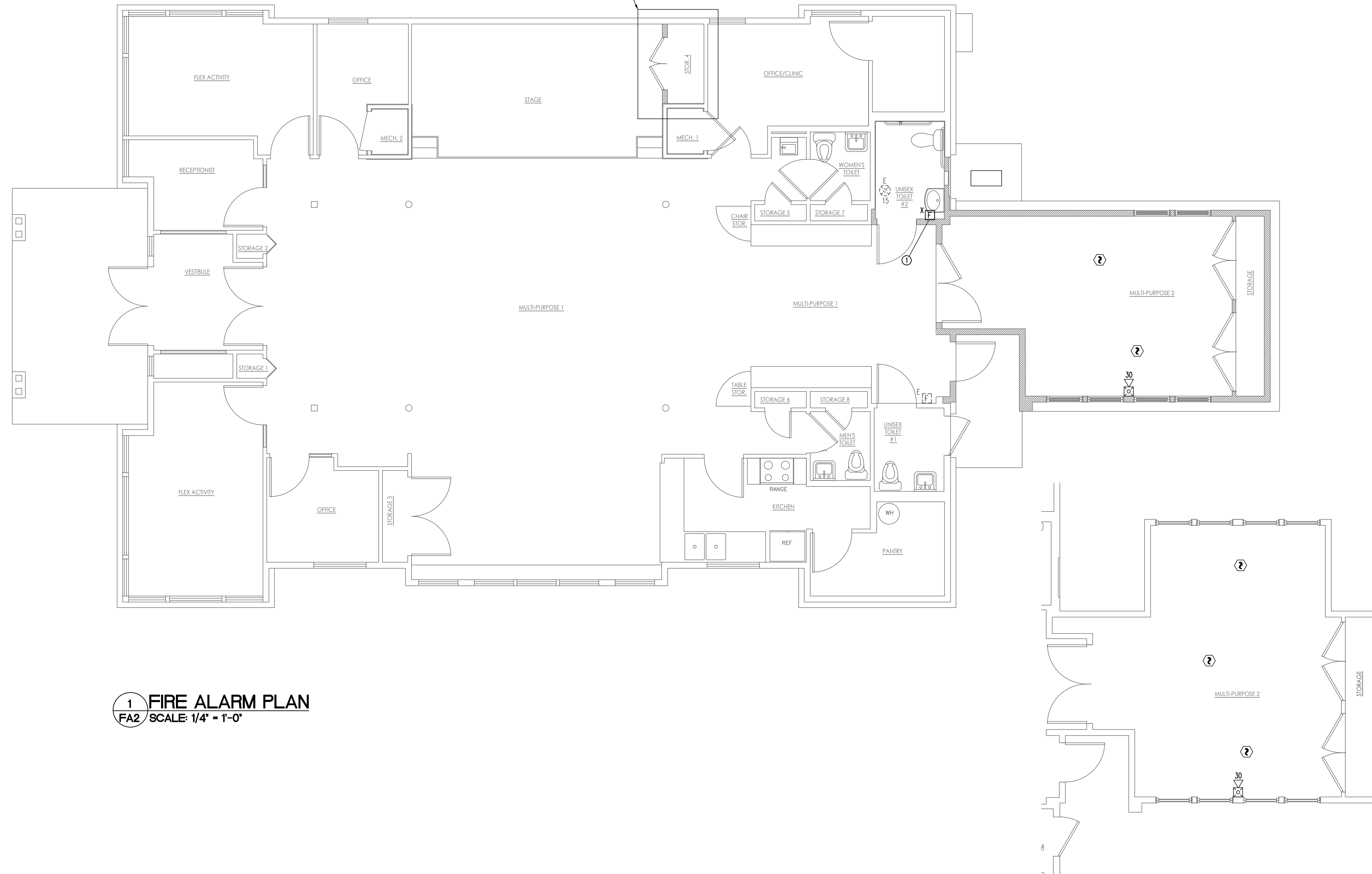
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KEY NOTES:

- ① REMOVE EXISTING PULL STATION IN THIS AREA.

ADD-ALTERNATE
(NO FIRE ALARM
WORK REQ'D)



① FIRE ALARM PLAN
FA2 SCALE: 1/4" = 1'-0"

② ADD-ALTERNATE FIRE ALARM PLAN
FA2 SCALE: 1/4" = 1'-0"

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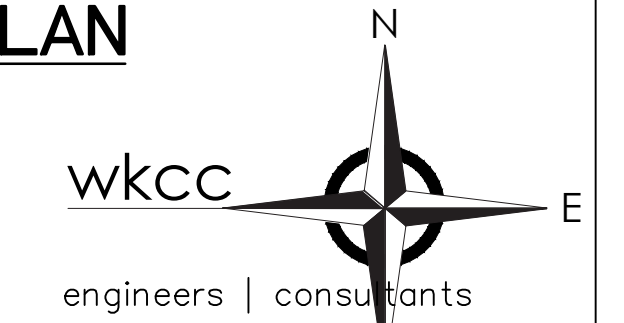
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DATE	SHEET
08.22.24	FA2
SCALE AS NOTED	
DRAWN CG	
PROJECT NUMBER	

SUBMIT WITH PROPOSAL

Section I:	General Government and Administration
Policy 10.0:	Living Wage Contractor Policy
Reviewed by:	County Attorney/County Manager
Approved by:	County Manager
Original Effective Date:	April 21, 2016
Revisions:	August 1, 2016

Policy Statement

It is the policy of Orange County to ensure its employees, and all individuals who provide services for Orange County, are paid a living wage.

Purpose

To encourage all vendors and contractors to pay a living wage to all employees who perform work pursuant to a contract with Orange County.

Applicability

Applies to all Orange County contracts and purchases.

Policy

10.1 Living Wage

10.1.1 Orange County is committed to providing its employees with a living wage and encourages all contractors and vendors doing business with Orange County to pursue the same goal. Orange County's living wage is as reflected in the adopted Orange County Budget and as that budget document is amended from time to time. To the extent possible, Orange County recommends that contractors and vendors seeking to do business with Orange County provide a living wage to their employees.

10.1.2 Prior to final execution of a contract with Orange County all contractors and vendors seeking to do business with Orange County shall submit to the County's representative a statement indicating whether those employees who will perform work on the Orange County contract are paid at least the living wage amount set out above. If such employees do not make at least the living wage amount set out above the contractor or vendor shall indicate in the statement the actual amount paid to such employees. For bid projects this statement should be submitted as part of the bid packet.

This policy may be reviewed annually and updated as needed by the Manager's Office

Acknowledged Receipt by: _____

Company Name: _____

Date: _____