



NCSU- TEXTILES COMPLEX- FLEX FACTORY RENOVATIONS

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

BID SET

THIS SUBMISSION IS FOR BIDDING THE WORK OF RENOVATIONS TO THE NCSU COLLEGE OF TEXTILES FLEX FACTORY. THIS IS A LEVEL II ALTERATION WITH INTERIOR DEMOLITION, NEW PARTITIONS, ELECTRICAL, MECHANICAL, PLUMBING, EQUIPMENT, AND FINISHES.

ALTERNATES

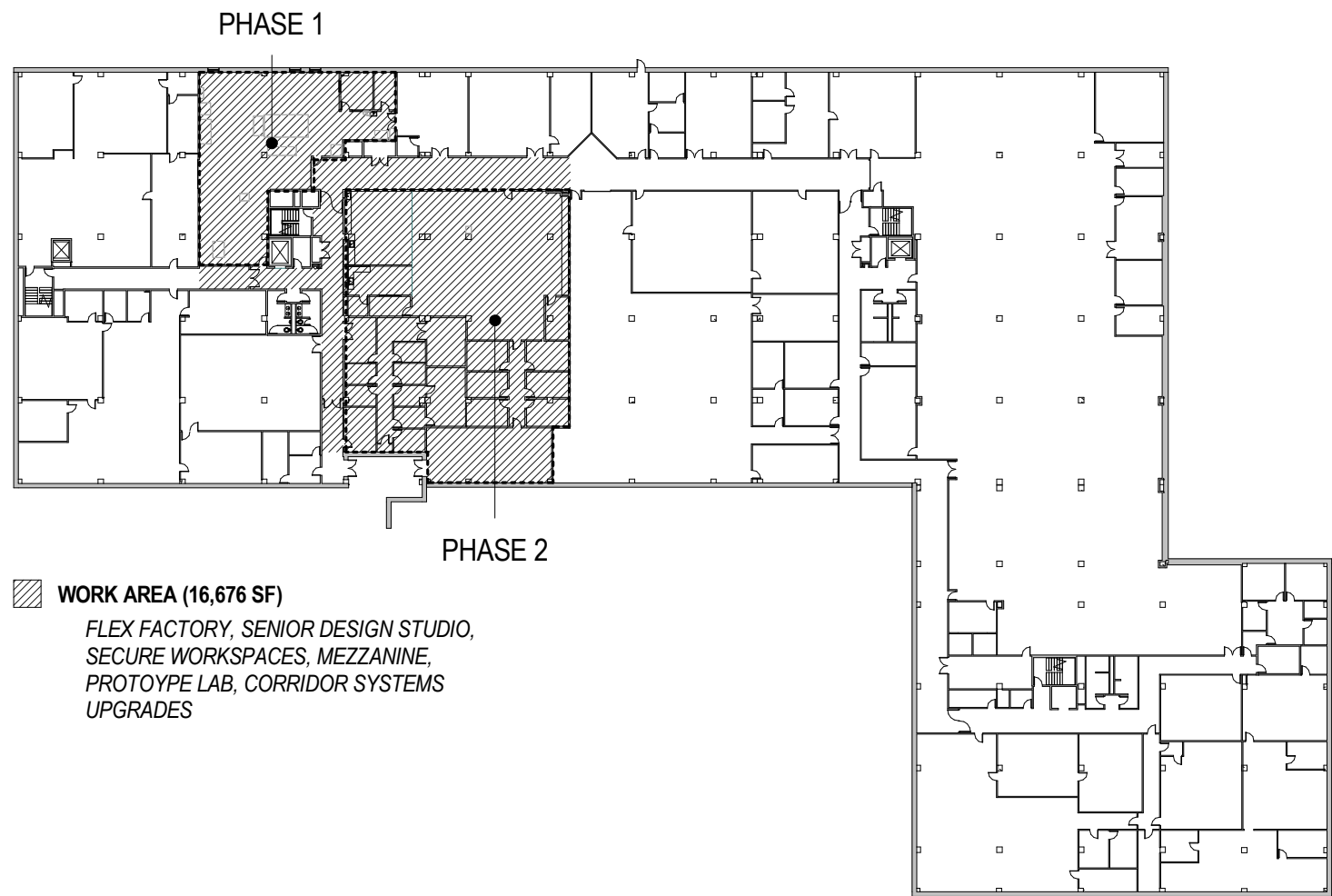
SEE PROJECT MANUAL FOR COMPLETE LIST OF ALTERNATES

ALTERNATE NO.1: FOLDING GLASS DOORS
BIDS TO PROVIDE **ADD** PRICING FOR FOLDING GLASS DOORS IN EXISTING COILING DOOR OPENINGS, INCLUDING:
• TWO NEW FOLDING GLASS DOORS, SCHEDULED AS 1103A AND 1210AA.
• NEW STRUCTURAL STEEL OPENING FRAMING.
• INSTALLATION.
• REMOVAL OF EXISTING COILING DOOR, MOTORS, AND ASSOCIATED COMPONENTS.

ALTERNATE NO.2: FINISHES
BIDS TO PROVIDE **ADD** PRICING FOR THE FOLLOWING FINISH CHANGES, ITEMIZED AS FOLLOWS:
2A. NEW HOMASOTE WALL PANELS IN THE SENIOR DESIGN STUDIO (1202) AND BLOCKING AS REQ'D.
2B. CONCRETE FLOOR STAINS F02 AND F03 WITH SEALANT AND SAW CUTTING OF SLAB.
2C. PAINTING OF EXPOSED STRUCTURE AND SYSTEMS IN SENIOR DESIGN (1202) AND INNOVATION LAB (1210A).

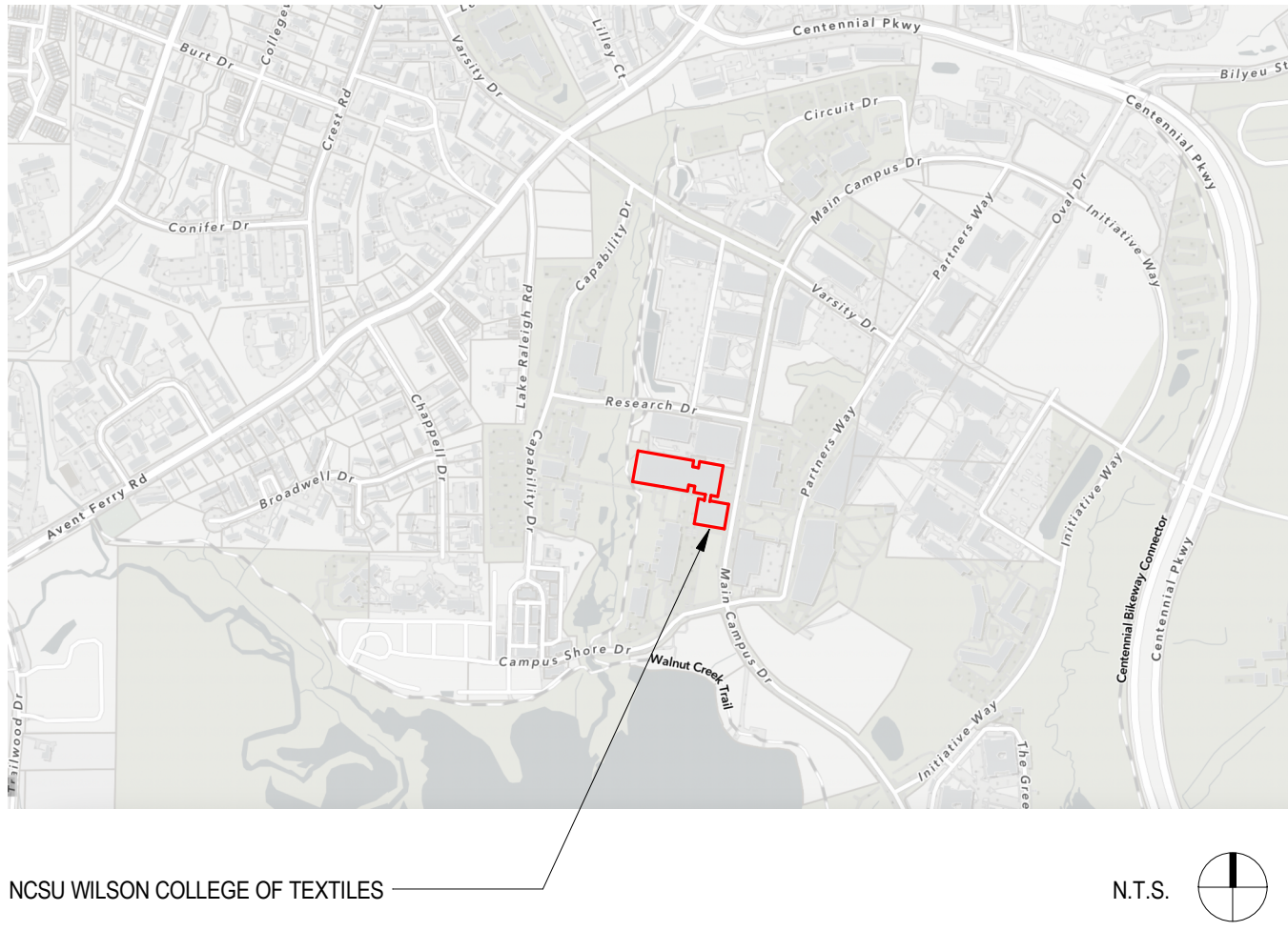
ALTERNATE NO.3: SECURE WORKSPACE MILLWORK
BIDS TO PROVIDE **ADD** PRICING FOR BASE CABINETS IN THE SECURE WORKSPACES (1204, 1206, 1208), INCLUDING:
• NEW OPEN BASE CABINETS WITH SOLID SURFACE COUNTERTOPS.

WORK AREA + SEQUENCING



CMAR TO COORDINATE AND CONFIRM CONSTRUCTION SEQUENCING AND SCHEDULE WITH OWNER. THE ANTICIPATED CONSTRUCTION SCHEDULE NECESSITATES THAT THE BUILDING, INCLUDING THE COURTYARD LEVEL, WILL BE PARTIALLY OCCUPIED DURING PERIODS OF DEMOLITION AND CONSTRUCTION. ALL EGRESS PATHS, EXITS, AND EXIT DISCHARGE ROUTES MUST BE KEPT CLEAR AND UNIMPEDED AT ALL TIMES. CONSTRUCTION TUNNELS MAY BE ASSEMBLED OF TEMPORARY WALLS AND CEILINGS IN WORK AREAS TO MAINTAIN CODE-REQUIRED EGRESS COMPONENTS, INCLUDING CLEARANCES AND LIGHTING.

VICINITY MAP



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G002	CODE SUMMARY			E401	ELECTRICAL PANELBOARD SCHEDULES, C2LDP, C1L, C2L
G003	LIFE SAFETY PLAN - COURTYARD LEVEL	P001	PLUMBING LEGEND AND SYMBOLS	E402	ELECTRICAL PANELBOARD SCHEDULES, C2PDP, C1PA, C1PL
G004	LIFE SAFETY PLAN - MEZZANINE	P100	PLUMBING DEMOLITION PLAN	E403	ELECTRICAL PANELBOARD SCHEDULES, C1PH, C1PJ, C1PK
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G007	CONSTRUCTION LOGISTICS			E500	ELECTRICAL DETAILS
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A303	BUILDING SECTIONS			FP201	FIRE PROTECTION NEW WORK PLAN
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A421	STAIR PLANS + DETAILS	E201	ELECTRICAL LIGHTING NEW WORK PLAN	FP220	FIRE PROTECTION GREEN LEVEL (FOR REFERENCE)
A441	HEAD, JAMB + SILL DETAILS	E202	ELECTRICAL LIGHTING NEW WORK PLAN	FP300	FIRE PROTECTION DETAILS
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S100.1	SPECIAL INSPECTIONS				

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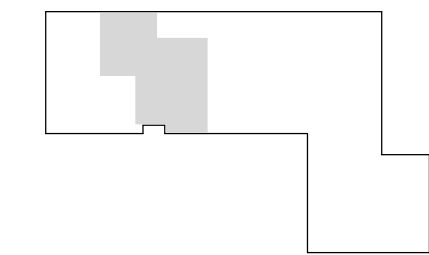
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KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT

**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**

1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS

No.	Description	Date

PROJECT DATA

DATE: 04.25.2025
DRAWN: TLW
CHECKED: MC
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

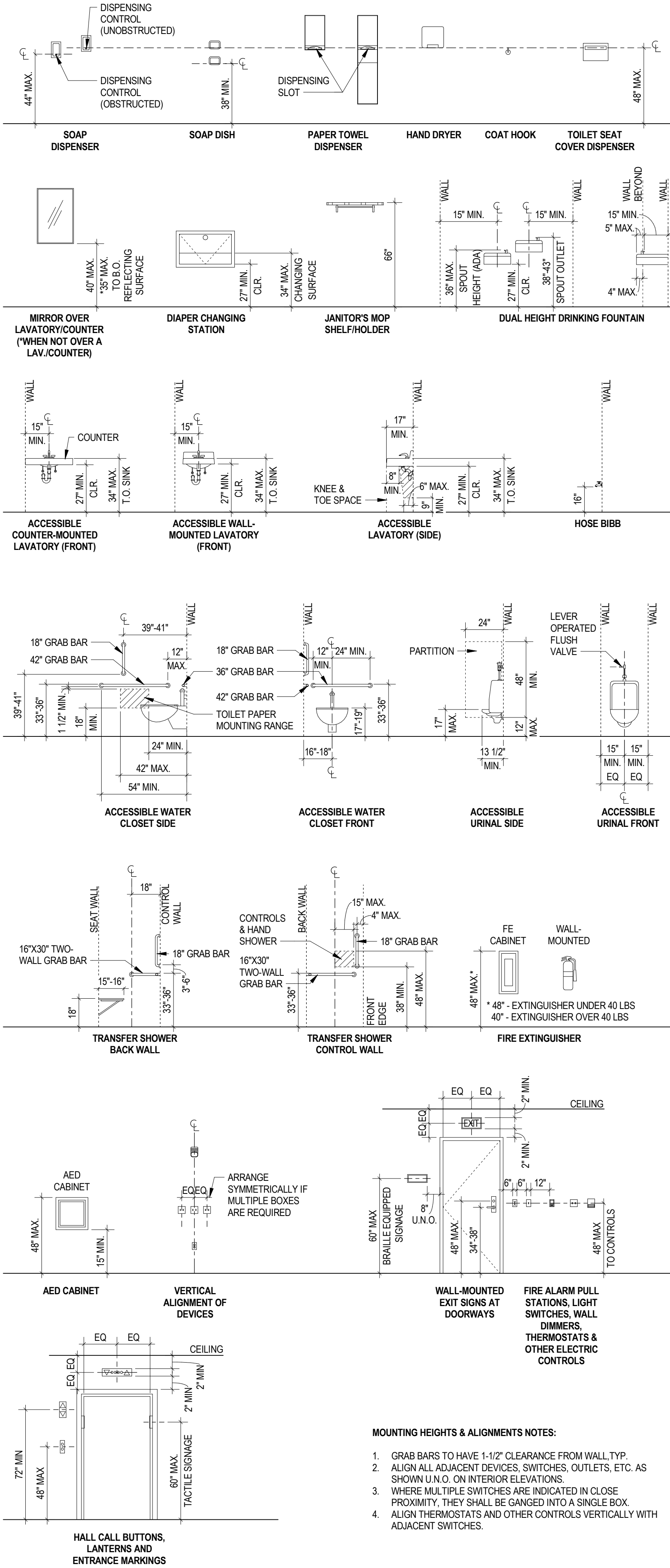
SHEET DATA

COVER

SHEET NO.

G000

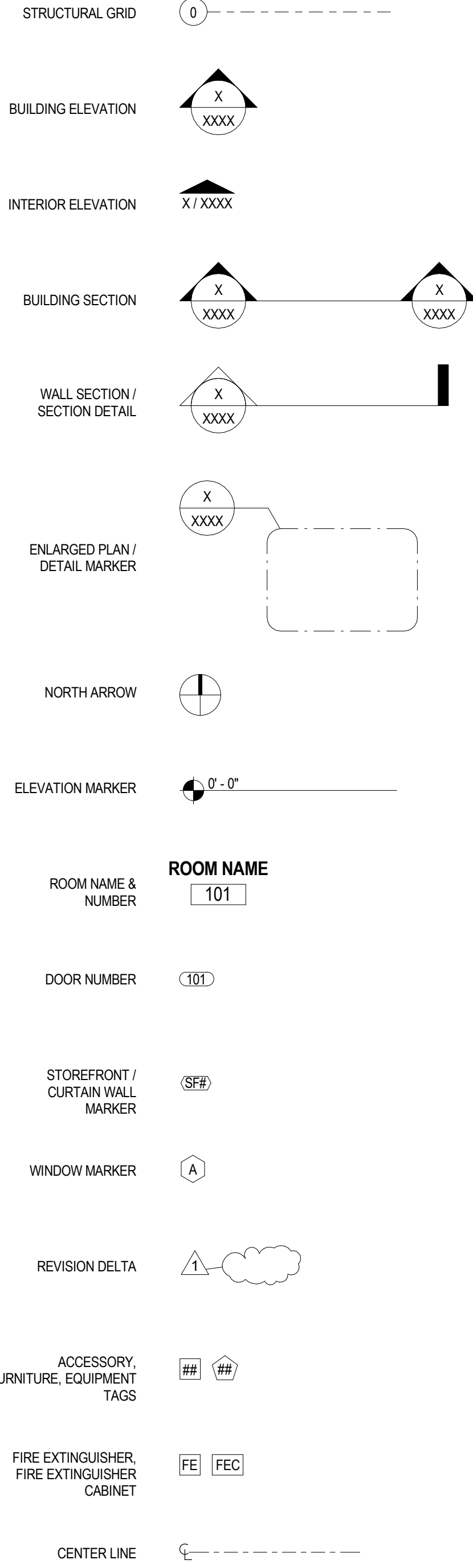
MOUNTING HEIGHTS



MOUNTING HEIGHTS & ALIGNMENTS NOTES:

- 1. GRAB BARS TO HAVE 1-1/2" CLEARANCE FROM WALL TYP.
- 2. ALIGN ALL ADJACENT DEVICES, SWITCHES, OUTLETS, ETC. AS SHOWN U.N.O. ON INTERIOR ELEVATIONS.
- 3. WHERE MULTIPLE SWITCHES ARE INDICATED IN CLOSE PROXIMITY, THEY SHALL BE GANGED INTO A SINGLE BOX.
- 4. ALIGN THERMOSTATS AND OTHER CONTROLS VERTICALLY WITH ADJACENT SWITCHES.

SYMBOLS



ABBREVIATIONS

&	AND	H	HEIGHT
◊	ANGLE	HB	HOSE BIBB
°	ANGLE IN DEGREES	HC	HANDICAPPED, HOLLOW CORE
@	AT	HDWD	HARDWOOD
X.x	BY	HDWR	HARDWARE
Ø	DIAMETER	HM	HOLLOW METAL
(E)	EXISTING	HO	HOLD OPEN
(N)	NEW	HORIZ	HORIZONTAL
%	PERCENT	HR	HOUR
#	POUNDS OR NUMBER	HSS	HOLLOW STRUCTURAL SECTION
		HVAC	HEATING, VENTILATION AND AIR CONDITIONING
ABV	ABOVE	ID	INSIDE DIAMETER
ACC	ACCESSIBLE	IFO	INSIDE FACE OF
ACM	ALUMINUM COMPOSITE MATERIAL	INCAND	INCANDESCENT
ACT	ACOUSTICAL CEILING TILE	INCL	INCLUDE(D), INCLUSIVE
AD	ACCESS DOOR, AREA DRAIN	INFO	INFORMATION
ADA	AMERICANS WITH DISABILITIES ACT	INSUL	INSULATION
ADDL	ADDITIONAL	INT	INTERIOR
ADJ	ADJACENT	INV	INVERT
ADMIN	ADMINISTRATION	IRR	IRRIGATION
AF	ACCESS FLOOR		
AFF	ABOVE FINISH FLOOR	JB	JUNCTION BOX
AGGR	AGGREGATE	JST	JOIST
AHU	AIR HANDLING UNIT	JT	JOINT
ALT	ALTERNATE		
AL	ALUMINUM	LAM	LAMINATE(D)
ANOD	ANODIZED	LAV	LAVATORY
APPROX	APPROXIMATE(LY)	LB	POUND
ATR	ABOVE TOP OF RAIL	LD	LINEAR DIFFUSER
AUX	AUXILIARY	LDR	LEADER
AV	AUDIO VISUAL	LED	LIGHT EMITTING DIODE
		LH	LEFT HAND
BD	BOARD	LN	LINEAR
BIT	BITUMEN	LO	LINE OF
BLDG	BUILDING	LOC	LOCATION
BLST	BALLAST		
BLW	BELOW	MAINT	MAINTAIN, MAINTENANCE
BM	BEAM	MAS	MASONRY
BOF	BOTTOM OF	MATL	MATERIAL
BOT	BOTTOM OF FOOTING	MAX	MAXIMUM
BOI	BOLLARD	MDF	MEDIUM DENSITY FIBERBOARD
BOT	BOTTOM	MECH	MECHANICAL
BRKT	BRACKET	MEZZ	MEZZANINE
BTWN	BETWEEN	MFR	MANUFACTURER
BUR	BUILT UP ROOF	MH	MANHOLE
		MIN	MINIMUM
CB	CATCH BASIN	MISC	MISCELLANEOUS
CEM.	CEMENT(ITIOUS)	MO	MASONRY OPENING
CI	CAST IRON	MTD	MOUNTED
C.I.P.	CAST IN PLACE	MTL	METAL
CJ	CONTROL JOINT	N	NORTH
CL	CENTER LINE	NA	NOT APPLICABLE
CLK	CAULK(ING)	NF	NO FINISH
CLNG	CEILING	NFC	NO FINISH CEILING
CLO	CLOSET	N.I.C.	NOT IN CONTRACT
CLR	CLEAR	NO	NUMBER
CMU	CONCRETE MASONRY UNIT	NOM	NOMINAL
COL	COLUMN	NPRN	NEOPRENE
COMP	COMPOSITE	NTS	NOT TO SCALE
CONC	CONCRETE		
CONST	CONSTRUCTION		
CONT	CONTINUOUS	O	OVER
CPT	CARPET	OAE	OR APPROVED EQUAL
CSJ	CONSTRUCTION JOINT	OAC	ON CENTER
CTR	CENTER	OD	OUTSIDE DIAMETER
		OFF	OFFICE
DBL	DOUBLE	OFO	OUTSIDE FACE OF
DEG	DEGREE	OF/O	OWNER FURNISHED / CONTRACTOR INSTALLED
DEMO	DEMOLITION	OF/OI	OWNER FURNISHED / OWNER INSTALLED
DET	DETAIL(S)	OH	OPPOSITE HAND
D.G.	DECOMPOSED GRANITE	OPP	OPPOSITE
DIRECT	DIRECT/DIRECT	OVFL	OVERFLOW
DIA	DIAMETER	OVHD	OVERHEAD
DIM	DIMENSION	OZ	OUNCE
DIST	DISTANCE		
DIV	DIVISION	PASS	PASSENGER
DN	DOWN	P/C	PRECAST
DR	DOOR	PERF	PERFORATED
DS	DOWNSPOUT	PERP	PERPENDICULAR
DSP	DRY STANDPIPE	PKG	PACKAGING
DTL	DETAIL	PL	PROPERTY LINE
DWG	DRAWING	PLAM	PLASTIC LAMINATE
DWR	DRAWER	PLBG	PLUMBING
		PLY	PLYWOOD
E	EAST	POL	POLISHED
EA	EACH	POT	PATH OF TRAVEL
EJ	EXPANSION JOINT	PR	PAIR
EL	ELEVATION	PREFIN	PREFINISHED
ELEC	ELECTRICAL	PRELIM	PRELIMINARY
ELEV	ELEVATION OR ELEVATOR	PRESS	PRESSURE
EQ	EDGE OF	PROJ	PROJECT
EQ	EQUAL/EQUAL TO	PROP	PROPERTY
EQP	EQUIPMENT	PROT	PROTECTION
EQUIV	EQUIVALENT	PT	PRESSURE TREATED
ES	EXIT SIGN	PTD	PAINTED
EW	ELECTRIC WATER COOLER	PVC	POLYVINYL CHLORIDE
EXT	EXTERIOR		
		RAD	RADIUS
F	FIRE ALARM	RCP	REFLECTED CEILING PLAN
FD	FLOOR DRAIN	RE	REFER TO
FDC	FIRE DEPARTMENT CONNECTION	REIN	REINFORCE(D)
FDM	FOUNDATION	REQD	REQUIRED
FE	FIRE EXTINGUISHER	RH	RIGHT HAND
FEC	FIRE EXTINGUISHER CABINET	RM	ROOM
FFL	FINISH FLOOR LEVEL	R.O.	ROUGH OPENING
FR	FIRE HYDRANT		
FLR	FLOOR	S	SOUTH
FLUOR	FLUORESCENT	SB	SPLASH BLOCK
FIN	FINISH	S.C.	SOLID CORE
F.O.	FACE OF	S.C.D.	SEE CIVIL DRAWINGS
FOC	FACE OF CONCRETE	SCHED	SCHEDULE
FOF	FACE OF FINISH	SECT	SECTION
FOM	FACE OF MASONRY	S.E.O.	SEE ELECTRICAL DRAWINGS
FOS	FACE OF STUD	SIM	SIMILAR
FR	FIRE RETARDANT	SL	SLOPE
FRP	FIBERGLASS REINFORCED PLASTIC	S.L.A.D.	SEE LANDSCAPE DRAWINGS
FRPT	FIRE RETARDANT/PT FASTENER	S.M.	SURFACE MOUNTED
FSR	SEE MECHANICAL DRAWINGS	S.M.D.	SEE MECHANICAL DRAWINGS
FT	FOOT, FEET	S.P.D.	SEE PLUMBING DRAWINGS
FTG	FOOTING	SPECS	SPECIFICATIONS
FURN	FURNITURE	S.S.	STAINLESS STEEL
		S.S.D.	SEE STRUCTURAL DRAWINGS
GA	GAUGE	STL	STEEL
GALV	GALVANIZED	STRUCT	STRUCTURE
GC	GENERAL CONTRACTOR/ CONSTRUCTION MANAGER		
GLAZ	GLAZING	THK	THICK
GOVT	GOVERNMENT	THRU	THROUGH
GR	GRANITE	T.O.	TOP OF
GRD	GRADE	T.O.F.	TOP OF FOOTING
GSM	GALVANIZED SHEET METAL	TYP	TYPICAL
GT	GROUT		
GUT	GUTTER	UNO/UON	UNLESS NOTED OTHERWISE
GWB	GYPSON BOARD		
GYP BD	GYPSON BOARD	VER	VERIFY
		VIF	VERIFY IN FIELD
		w/	WITH
		WC	WATER CLOSET
		WD	WOOD

GENERAL NOTES

GENERAL REGULATORY REQUIREMENTS

- 0-1. ALL WORK SHALL CONFORM TO:
 - 2018 NORTH CAROLINA STATE EXISTING BUILDING CODE (AND CURRENT NC AMENDMENTS), REFERENCING 2018 NORTH CAROLINA STATE BUILDING CODE
 - RULES AND REGULATIONS OF APPLICABLE STATE AND/OR LOCAL PUBLIC UTILITIES
 - AMERICANS WITH DISABILITIES ACT, 26 JULY 1991 AND ANSI 117.1 (2009) WITH RESPECTIVE CURRENT AMENDMENTS
 - RULES AND REGULATIONS OF THE STATE OF NORTH CAROLINA PER THE STATE CONSTRUCTION MANUAL
 - RULES AND REGULATIONS OF NORTH CAROLINA STATE UNIVERSITY
- 0-2. THE BUILDING CODE COMPLIANCE SUMMARIES AND LIFE SAFETY PLANS ARE GENERAL GUIDES TO THE CONSTRUCTION CRITERIA DEVELOPED FOR THIS PROJECT. THEY ARE NOT INTENDED TO BE A COMPLETE LIST OF CODE REQUIREMENTS.
- 0-3. PENETRATIONS OF ALL PIPES, CONDUITS, SWITCHES, OUTLETS, AND ANY OTHER ITEMS AT RATED ASSEMBLIES SHALL BE FIRE-STOPPED.
- 0-4. THE INTEGRITY OF THE FIRE RESISTANCE RATING OF ALL RATED SHAFT ENCLOSURES, CEILINGS, AND PARTITIONS SHALL BE MAINTAINED BEHIND RECESSED WALL OR CEILING ACCESSORIES, INCLUDING FIRE EXTINGUISHER CABINETS, TOILET ACCESSORIES, ELECTRICAL JUNCTION BOXES, AND ANY OTHER ITEMS WHERE THEY OCCUR.
- 0-5. GENERAL CONTRACTOR SHALL INSPECT ALL WALLS THROUGHOUT THE WORK AREA DESIGNATED AS FIRE RATED AND REMEDY ANY VIOLATIONS INCLUDING SEALS AT JOINTS, HEAD AND BASE AND ANY HOLES AND PENETRATIONS TO ACHIEVE REQUIRED FIRE RATINGS OF THE WALL ASSEMBLY. REFER TO APPLICABLE UL-DESIGNATIONS ON APPENDIX B AND SUBSEQUENT UL-SHEETS.

GENERAL COORDINATION REQUIREMENTS

- 1-1. THE CONTRACT DOCUMENTS INCLUDE THE DRAWINGS, PROJECT MANUAL, ANY ADDENDA, AND ANY RELATED REGULATORY DOCUMENTS PROVIDED BY THE ARCHITECT. EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO, PART 2 HISTORIC TAX CREDIT APPLICATIONS AND LOCAL DESIGN OR HISTORIC APPROVALS.
- 1-2. REFER TO THE PROJECT MANUAL (IF PROVIDED) FOR COMPLETE GENERAL REQUIREMENTS AND CONDITIONS OF THE CONTRACT DOCUMENTS. IF A PROJECT MANUAL IS NOT PROVIDED, AIA DOCUMENT A201 (2007) GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION SHALL SERVE AS THE GENERAL REQUIREMENTS AND CONDITIONS OF THE CONTRACT DOCUMENTS. IN THE EVENT OF A CONFLICT BETWEEN THE VARIOUS ELEMENTS OF CONTRACT DOCUMENTS, THE MORE RESTRICTIVE PROVISION OR REQUIREMENT SHALL APPLY.
- 1-3. THE CONTRACT DOCUMENTS REPRESENT THE DESIGN INTENT FOR THE FINISHED STRUCTURE AND/OR SITE. UNLESS SPECIFICALLY NOTED, THEY DO NOT INDICATE THE MEANS OR METHOD OF INSTALLATION. THE GENERAL CONTRACTOR (OR CMAR) SHALL COORDINATE, SUPERVISE, AND DIRECT ALL WORK. SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCE, AND SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS.
- 1-4. PRIOR TO BIDDING, THE CMAR AND EACH SUB-CONTRACTOR ARE RESPONSIBLE FOR REVIEWING AND COMPARING THE VARIOUS ELEMENTS OF THE CONTRACT DOCUMENTS. BIDS ARE REQUIRED TO INCLUDE ALL WORK REQUIRED FOR A COMPLETE JOB BASED ON ALL ELEMENTS OF THE CONTRACT DOCUMENTS.
- 1-5. PRIOR TO BIDDING, THE GENERAL CONTRACTOR (OR CMAR) AND EACH SUB-CONTRACTOR ARE RESPONSIBLE FOR VISITING THE PROJECT SITE TO FAMILIARIZE THEMSELVES WITH THE PROJECT AND THE WORK TO BE PERFORMED AND ARE RESPONSIBLE FOR INCLUDING IN THEIR BID ALL WORK REQUIRED FOR A COMPLETE JOB.
- 1-6. THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR REVIEWING AND COORDINATING THEIR WORK WITH ALL OF THE CONTRACT DOCUMENTS PRIOR TO BEGINNING ANY WORK ON SUBMITTALS, SHOP DRAWINGS, FABRICATION, OR INSTALLATION. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BY THE GENERAL CONTRACTOR (OR CMAR) IN WRITING AND SHALL BE RESOLVED WITH THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK.
- 1-7. THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR COORDINATING THEIR WORK WITH ALL OWNERS VENDORS INCLUDING, BUT NOT LIMITED TO, TELECOMMUNICATIONS, AUDIO VISUAL, AND SECURITY SYSTEMS. ANY CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF CONTRACT DOCUMENTS AND THE OWNERS VENDORS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BY THE GENERAL CONTRACTOR (OR CMAR) IN WRITING AND SHALL BE RESOLVED WITH THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK.
- 1-8. EXISTING CONDITIONS FOR THE BUILDING AND/OR SITE AS REPRESENTED IN THE CONTRACT DOCUMENTS ARE NOT GUARANTEED PRIOR TO BEGINNING ANY WORK ON SUBMITTALS, SHOP DRAWINGS, FABRICATION, OR INSTALLATION. THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR INVESTIGATING AND VERIFYING THE EXISTENCE AND LOCATION OF EXISTING CONSTRUCTION AFFECTING THE WORK INCLUDING, BUT NOT LIMITED TO, UNDERGROUND AND OVERHEAD UTILITIES, EXISTING BUILDING SYSTEMS, FLOOR ELEVATIONS, AND OTHER STRUCTURAL OR BUILDING DATUMS.

GENERAL DIMENSIONING REQUIREMENTS

- 2-1. DIMENSIONS ARE NOTED OR CAN BE DETERMINED FROM OTHER INFORMATION INCLUDED IN THE DRAWINGS. VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES OR OMISSIONS. DO NOT PROCEED WITH AFFECTED WORK OR RELATED WORK UNTIL THE VARIATIONS OR OMISSIONS HAVE BEEN RESOLVED BY THE ARCHITECT. DO NOT SCALE DRAWINGS. DRAWING SIZES LESS THAN 24X36" MAY HAVE BEEN REDUCED FROM THE ORIGINALS.
- 2-2. ALL DIMENSIONS ARE TO FINISHED FACE OF WALL UNLESS OTHERWISE NOTED.
- 2-3. WALLS, BULKHEADS, AND/OR OTHER ARCHITECTURAL ELEMENTS SHOWN TO ALIGN ARE TO HAVE FINISH FACES ALIGN UNLESS OTHERWISE NOTED.
- 2-4. IF PROVIDED, REFER TO ENLARGED PLANS AND PLAN DETAILS FOR ADDITIONAL INFORMATION AND DIMENSIONS.
- 2-5. ANY DIMENSIONS AND/OR ELEVATIONS OF OR TYING INTO EXISTING BUILDING COMPONENTS ARE TO BE FIELD-VERIFIED BY GENERAL CONTRACTOR (OR CMAR) PRIOR TO COMMENCEMENT OF SHOP DRAWINGS, FABRICATION, OR INSTALLATION. VERIFY ANY DISCREPANCIES W/ ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
- 2-6. REFER TO PM/IEFP DRAWINGS FOR QUANTITY AND DESIGN OF ALL FIXTURES / DEVICES / ETC. REFER TO ARCHITECTURAL ENLARGED PLANS AND ELEVATIONS FOR EXACT PLACEMENT OF ANY DEVICES. INDICATED. LOCATIONS OF ALL PLUMBING, MECHANICAL, ELECTRICAL, FIRE ALARM, SPRINKLER, AND TELECOMMUNICATIONS DEVICES, FIXTURES, AND ACCESSORIES DIMENSIONED, NOTED, OR OTHERWISE DESCRIBED ON ARCHITECTURAL ENLARGED PLANS AND ELEVATIONS, ARE EXACT. ALL NEW FRAMING MUST ACCOMMODATE THESE LOCATIONS.
- 2-7. ALIGN ALL ELECTRICAL, MECHANICAL, FIRE ALARM, AND TELEDATA / CABLE DEVICES WHERE IN CLOSE PROXIMITY. COORDINATE WITH OTHER TRADES TO RESERVE PATHWAYS TO MULTIPLE DEVICES - THIS MAY REQUIRE PIPING TO THE SIDES OF JUNCTION BOXES OR DEVICES.

GENERAL MATERIAL REQUIREMENTS

- 3-1. PROVIDE GALVANIC ISOLATION AT ALL DISSIMILAR MATERIALS.
- 3-2. PROVIDE PRESSURE-TREATED MATERIAL AT LOCATIONS OF WOOD IN CONTACT WITH MASONRY.
- 3-3. MAINTAIN CONTINUITY OF AIR/WEATHER BARRIER AT ALL OPENINGS AND PENETRATIONS.
- 3-4. PROVIDE END DAMS AT ALL SILL CONDITIONS.

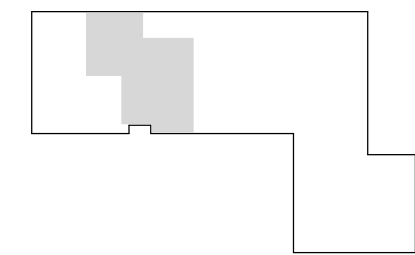
OTHER REQUIREMENTS

- 4-1. TYPICAL DETAILS SHOWN ON THE DRAWINGS SHALL BE INCORPORATED AT ALL APPROPRIATE LOCATIONS WHETHER OR NOT SPECIFICALLY REFERENCED AT EACH LOCATION.
- 4-2. THE GENERAL CONTRACTOR (OR CMAR) IS RESPONSIBLE FOR ANY REQUIRED DEMOLITION, TEMPORARY SUPPORT OF, AND/OR DAMAGE TO NEW OR EXISTING STRUCTURE DURING CONSTRUCTION. ANY UTILITY LINES, PIPING, EQUIPMENT, FINISHES, OR ANY OTHER PORTIONS OF THE EXISTING BUILDING OR NEW CONSTRUCTION DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED AT THE ARCHITECT'S DIRECTION AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR.
- 4-3. THE GENERAL CONTRACTOR (OR CMAR) IS TO COORDINATE, PROVIDE, AND INSTALL CONCEALED BLOCKING FOR ALL WALL- AND CEILING-MOUNTED ITEMS INCLUDING, BUT NOT LIMITED TO, HAND RAILS, GRAB BARS, CABINETS, AND OTHER CASEWORK, EQUIPMENT, OWNER- AND/OR VENDOR-PROVIDED ITEMS, ETC. BLOCKING IS TO BE FIRE-RETARDANT WOOD OR 20ga METAL WITH A FLAME SPREAD AND SMOKE DEVELOPMENT RATING <25 IF THE PROJECT IS IDENTIFIED AS A TYPE 1 OR TYPE 2 BUILDING IN THE CODE SUMMARY.
- 4-4. CONDUIT, WIRING, OR PIPING SHALL BE ROUTED SUCH THAT IT MAY BE CONCEALED WHEREVER POSSIBLE UNLESS SPECIFICALLY NOTED OTHERWISE. ANY CONDUIT, WIRING, OR PIPING THAT CANNOT BE ROUTED IN A CONCEALED MANNER MUST BE IDENTIFIED BY THE GENERAL CONTRACTOR AND REVIEWED AND COORDINATED W/ ARCHITECT PRIOR TO COORDINATION DRAWINGS (IF REQUIRED) OR INSTALLATION (IF COORDINATION DRAWINGS ARE NOT REQUIRED).
- 4-5. IN AREAS OF HARD CEILING, BUILDING SYSTEMS SHALL BE CONFIGURED TO MINIMIZE REQUIRED ABOVE-CEILING ACCESS. THE LOCATION OF ALL ACCESS DOORS MUST BE COORDINATED WITH AND APPROVED BY THE ARCHITECT PRIOR TO THE INSTALLATION OF ANY ABOVE-CEILING EQUIPMENT, DAMPERS, VALVES, JUNCTION BOXES, ETC. ACCESS DOORS SHALL BE PROVIDED AND INSTALLED FOR ANY WORK THAT REQUIRES ABOVE-CEILING ACCESS. ADDITIONALLY, ANY ACCESS DOORS OR PANELS REQUIRED IN WALLS MUST BE COORDINATED WITH AND APPROVED BY THE ARCHITECT PRIOR TO THE INSTALLATION OF ANY EQUIPMENT REQUIRING ACCESS.
- 4-6. ALL FRAMING, SOUND ATTENUATION, AND GYP BOARD FOR NON-RATED SOUND-ATTENUATED WALLS SHALL CONTINUE TO THE UNDERSIDE OF DECK UNLESS SPECIFICALLY NOTED OTHERWISE. GYP BOARD SHALL BE SEALED TO DECK AT EACH FACE WITH JOINT COMPOUND, SEALANT, AND/OR EXPANDING FOAM (ACCEPTABLE ONLY IN CONCEALED CONDITIONS). ANY REQUIRED PIPE, DUCT, OR WIRING PENETRATIONS SHALL BE SEALED AS DESCRIBED ABOVE.
- 4-7. ALL DEBRIS SHALL BE TRANSPORTED FROM THE SITE AND LEGALLY DISPOSED OF BY THE GENERAL CONTRACTOR UNLESS OTHERWISE NOTED.
- 4-8. ALL MATERIALS, COMPONENTS, AND SYSTEMS SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION REQUIREMENTS/RECOMMENDATIONS AND WARRANTY REQUIREMENTS EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE REQUIRED BY THE CONTRACT DOCUMENTS OR APPLICABLE CODES OR REGULATIONS.

Structural

MEP Engineer

KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS

No.	Description	Date

PROJECT DATA

DATE: 04.25.2025
DRAWN: TLW
CHECKED: MC
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

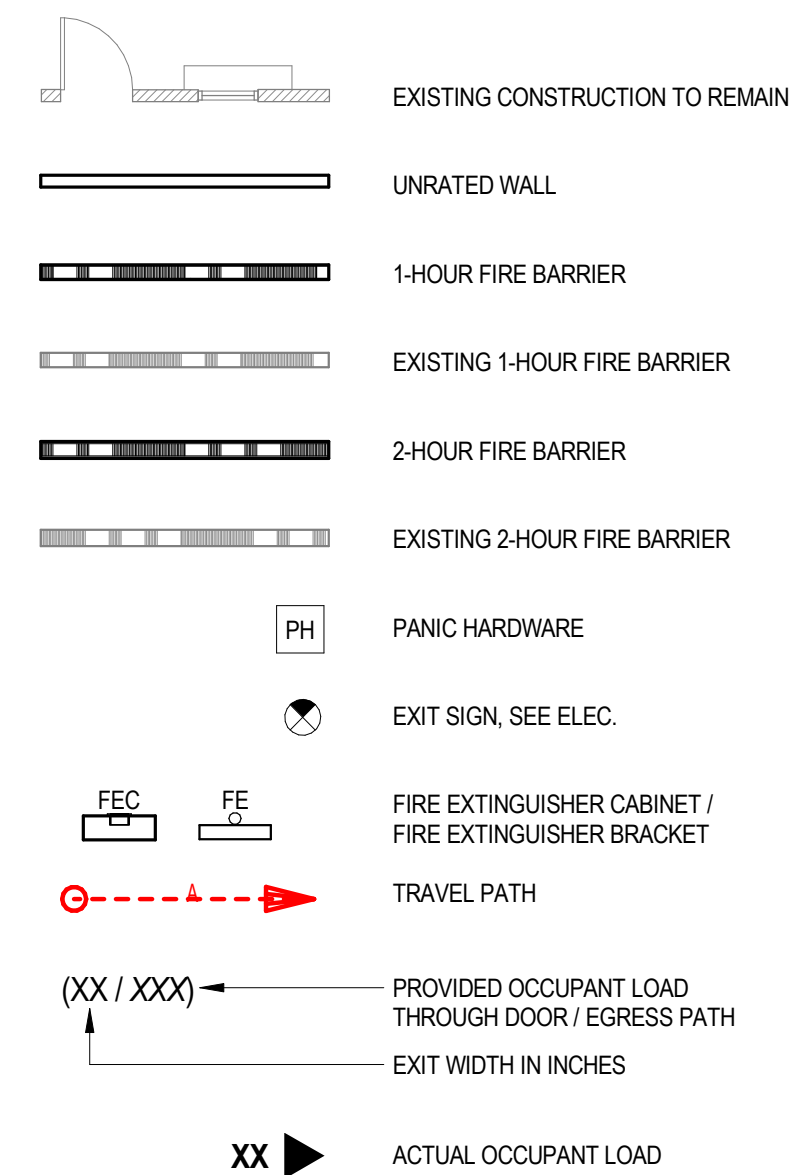
GENERAL
NOTES

SHEET NO.

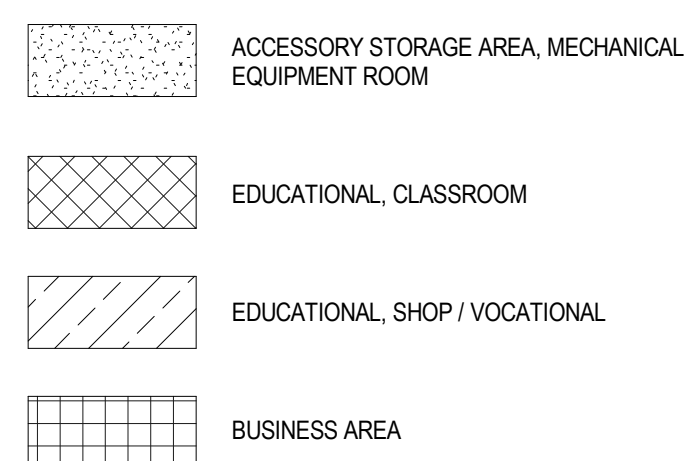


EGRESS TRAVEL DISTANCES				
PATH ID	ACTUAL TRAVEL DISTANCE	ALLOWABLE TRAVEL DISTANCE	ACTUAL COMMON PATH OF TRAVEL	ALLOWABLE COMMON PATH
A	154'- 3"	250'- 0"	71'- 9"	100'- 0"
B	171'- 11"	250'- 0"	55'- 0"	100'- 0"
C	120'- 11"	250'- 0"	49'- 6"	75'- 0"

LIFE SAFETY OCCUPANCY SCHEDULE				
FUNCTION OF SPACE (TABLE 1004.1.2)	AREA	SF PER PERSON	SF TYPE	OCCUPANT LOAD
BUSINESS	1523 SF	100 SF	GROSS	18
EDUCATIONAL, CLASSROOM	1789 SF	20 SF	NET	90
EDUCATIONAL, SHOP / VOCATIONAL	3348 SF	50 SF	NET	68
MECH / STORAGE	1031 SF	300 SF	GROSS	8
COURTYARD LEVEL	7692 SF			184
BUSINESS	1738 SF	100 SF	GROSS	21
MECH / STORAGE	85 SF	300 SF	GROSS	1
C. MEZZANINE	1823 SF			22
WORK AREA TOTAL	9515 SF			206



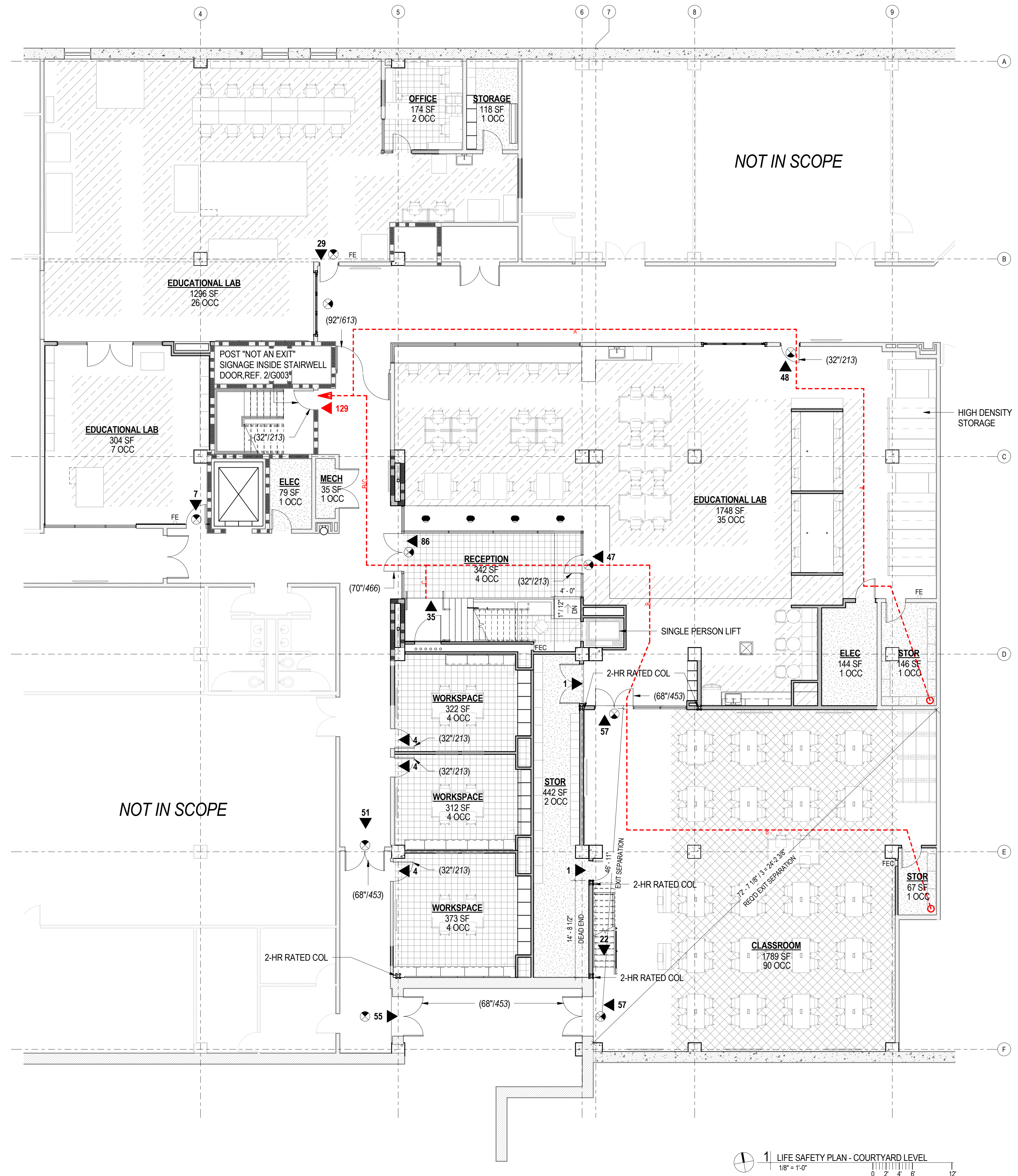
FUNCTION OF SPACE



NOTES

1. ALL PENETRATIONS IN RATED WALLS TO MEET RATED WALL REQUIREMENTS. SEE PLAN FOR RATED WALL LOCATIONS.
 2. FIRE EXTINGUISHER CABINET TO BE SEMI-RECESSED TYPE, TYP. (ONLY SHOWN IN WORK AREA; EXISTING TO REMAIN OUTSIDE OF WORK AREA)
 3. EXISTING TO REMAIN TO EXISTING FIRE EXTINGUISHER CABINET TO CONTRIBUTE TO BUILDING AREA AS REGULATED BY NBCG 503.1 (505.2)
 4. EXISTING OCCUPANT LOAD (833) INCREASED ON COURTYARD LEVEL BY 3.8%
 5. EXISTING PLUMBING CONNECTIONS TO REMAIN; NO NEW PLUMBING FIXTURES REQUIRED PER NC EXISTING BUILDING CODE #01.0
 6. NO CHANGE TO EXTERIOR WALL OPENING AREA.
- WHERE WORK OCCURS IN THE CORRIDOR WHILE THE BUILDING IS OCCUPIED, THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A 44" MIN. CLEARANCE OF EGRESS FREE OF ANY MATERIALS AND TEMPORARY WALLS.

* PER 2018 NCBC TABLE 1004.1.2.B ASSEMBLY OCCUPANCY CONFERENCE ROOMS ACCESSORY TO GROUP B OCCUPANCIES HAVE BEEN CALCULATED AT 100 SF PER OCCUPANT FOR THE OVERALL OCCUPANT LOAD, AND THE ASSEMBLY OCCUPANT LOAD OF 15 SF PER OCCUPANT HAS BEEN USED FOR DETERMINING MEANS OF EGRESS SIZING



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CONSULTANTS

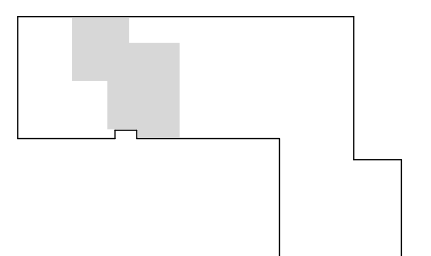
Structural

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MEP Engineer

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adams@sigmaaes.com

KEY PLAN

 SEALS

ID DOCUMENTS
 04.25.2025

PROJECT

**NCSSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**

020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

ECO ID# 23-26253-01A
 CSU PROJECT ID: 202220031
 FACILITY ID: 700
 REVISIONS

[illegible]

PROJECT DATA

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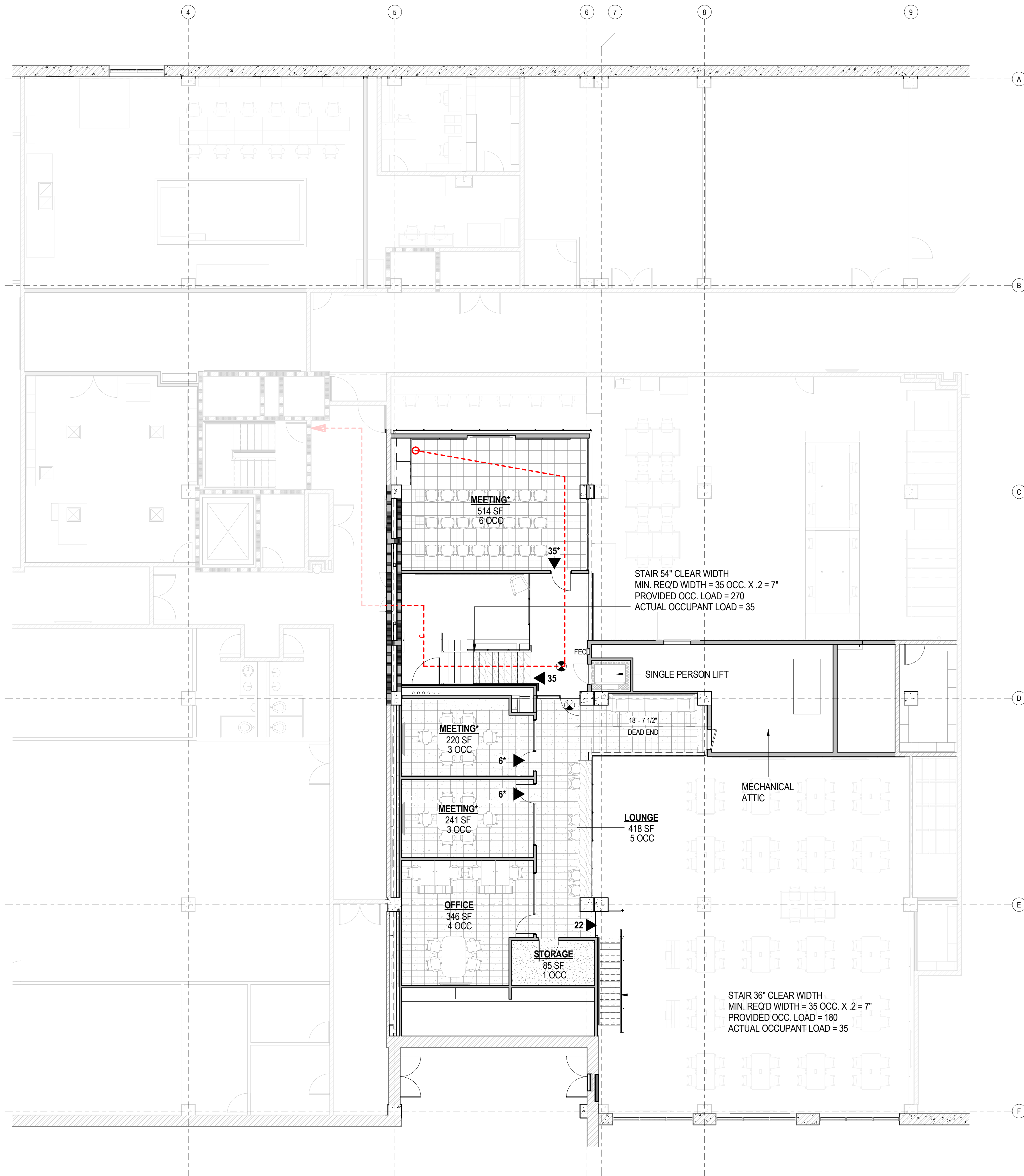
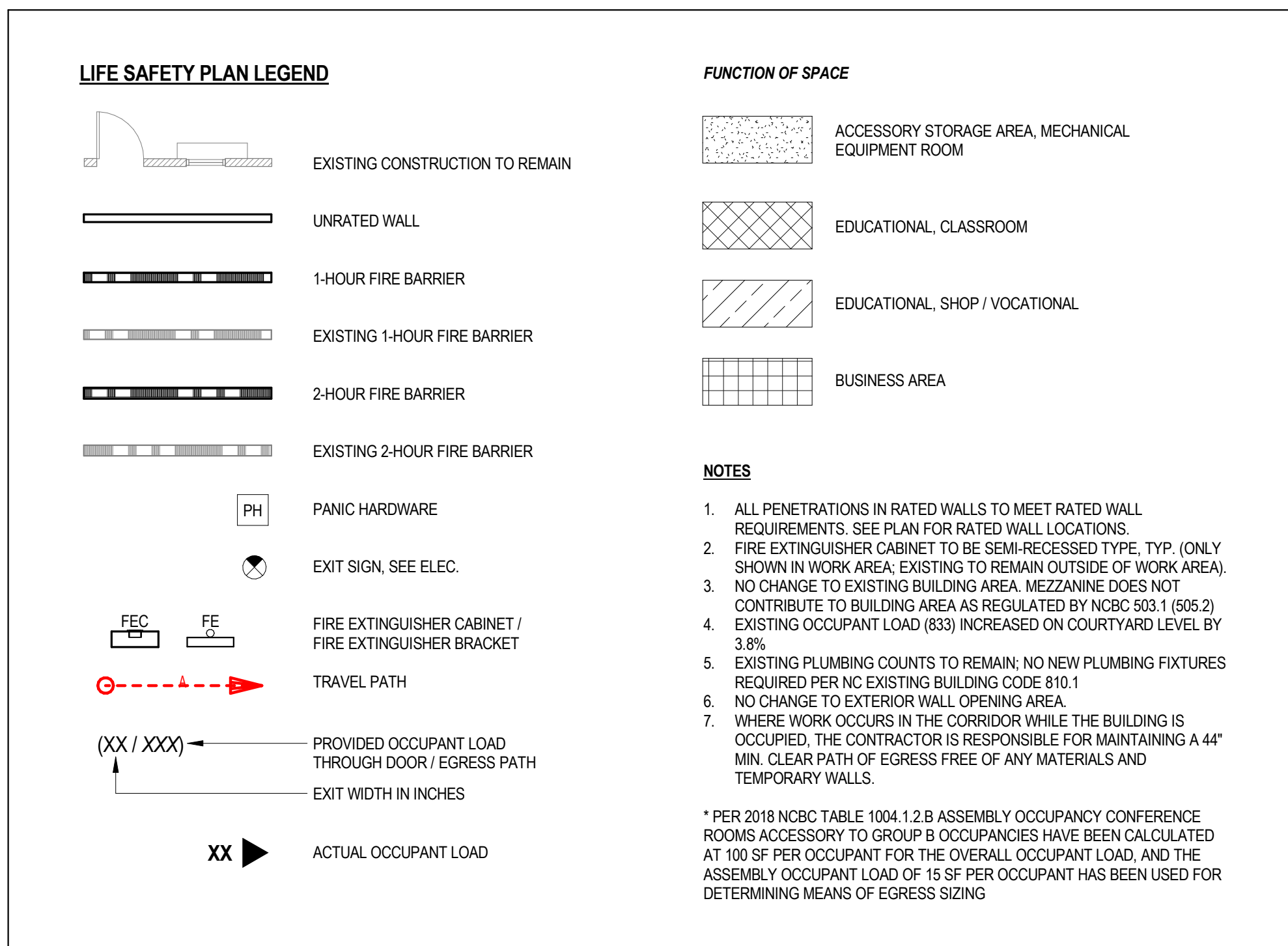
LIFE SAFETY
PLAN -
COURTYARD
LEVEL

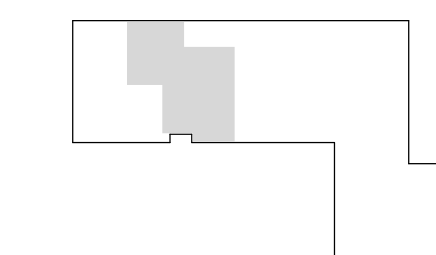
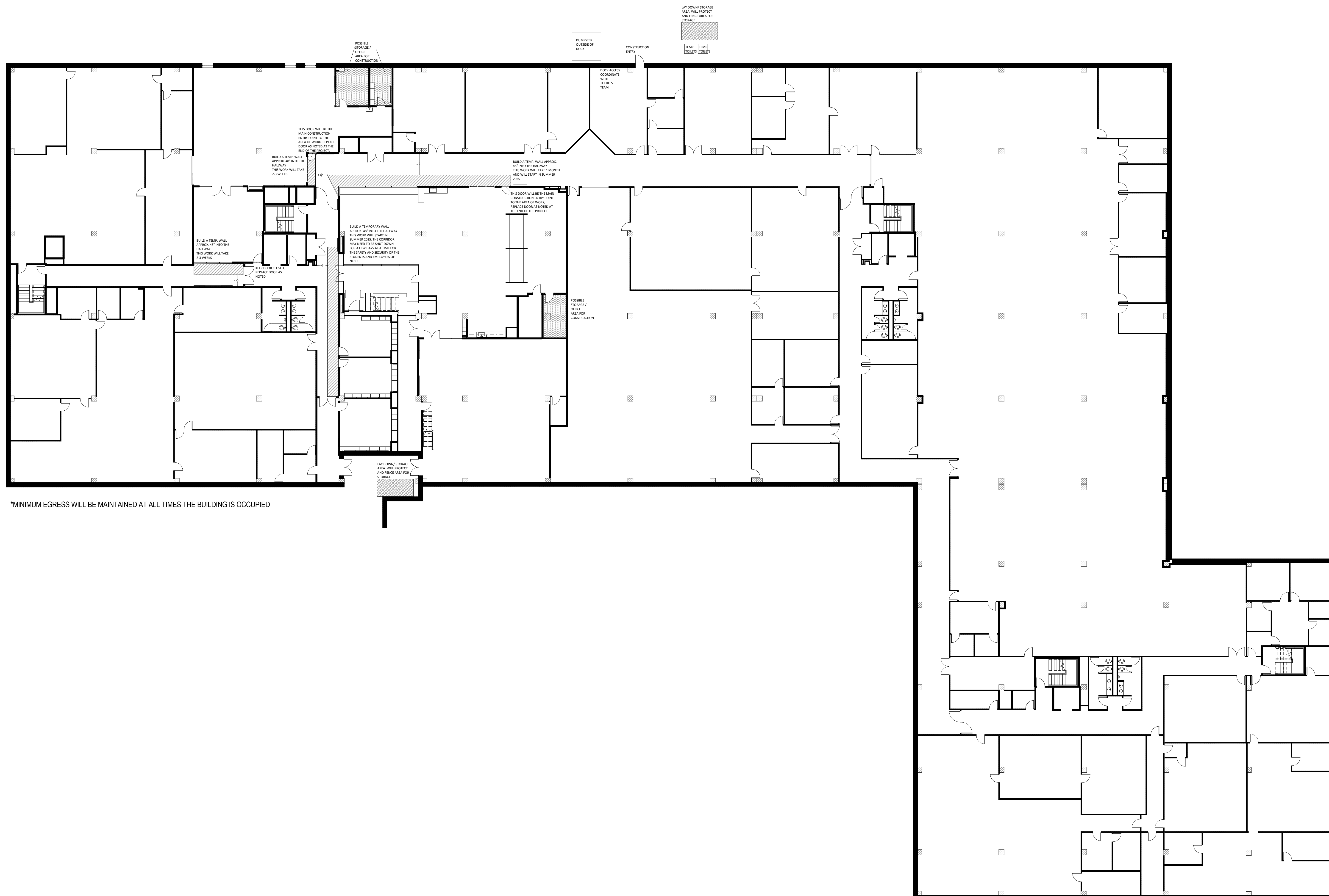
_____ *Journal of Management Education* 32(1)

G003

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WORK AREA TOTAL	9515 SF			206



[illegible]

*MINIMUM EGRESS WILL BE MAINTAINED AT ALL TIMES THE BUILDING IS OCCUPIED

1 CONSTRUCTION LOGISTICS PLAN

CONSTRUCTION DIAGRAM PROVIDED BY I.L. LONG,
SEPTEMBER 4, 2024

DEMOLITION GENERAL NOTES

THE DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED AS DESCRIBED IN THE DEMOLITION DOCUMENTS. THE WORK REQUIRED SHALL BE DONE WITH CARE, AND SHALL INCLUDE ALL REQUIRED SHORING, BRACING, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE, WHICH MAY BE CAUSED BY DEMOLITION AND REMOVAL WORK TO ANY PART OR PARTS OF EXISTING STRUCTURES OR ITEMS DESIGNATED FOR REUSE OR TO REMAIN. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL PROVIDE A DETAILED DESCRIPTION OF METHODS AND EQUIPMENT TO BE USED FOR EACH OPERATION AND THE SEQUENCE THEREOF FOR REVIEW BY THE ARCHITECT.

INVESTIGATION AND DISCOVERY OF CONCEALED CONDITIONS

THE CONTRACTOR SHALL MAKE SUCH INVESTIGATIONS, EXPLORATIONS AND PROBES AS ARE NECESSARY TO ASCERTAIN ANY REQUIRED PROTECTIVE MEASURES BEFORE PROCEEDING WITH DEMOLITION AND REMOVAL. THE CONTRACTOR SHALL GIVE PARTICULAR ATTENTION TO SHORING AND BRACING REQUIREMENTS SO AS TO PREVENT ANY DAMAGE TO NEW OR EXISTING CONSTRUCTION. IN THE EVENT THE CONTRACTOR DISCOVERS UNFORESEEN CONCEALED CONDITIONS THAT DIFFER MATERIALLY FROM THOSE INDICATED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO DISTURBING THE EXISTING CONDITIONS FOR THAT PORTION OF WORK.

HAZARDOUS MATERIAL

THE CONTRACTOR MAY ENCOUNTER HAZARDOUS MATERIAL, INCLUDING, BUT NOT LIMITED TO, LEAD-BASED PAINT. ALL HAZARDOUS MATERIALS SHALL BE ADDRESSED IN ACCORDANCE WITH OSHA AND NCDENR REQUIREMENTS. ANY QUESTIONABLE MATERIALS SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT. THE OWNER WILL MAKE ARRANGEMENTS TO SAMPLE AND TEST MATERIALS. IF DEEMED HAZARDOUS, THE OWNER WILL FURTHER ARRANGE ABATEMENT OF THE MATERIAL. UNLESS NOTED OTHERWISE, LEAD-BASED PAINTS WILL NOT BE ABATED.

MATERIAL DISPOSAL/SALVAGE

ALL DEBRIS RESULTING FROM THE DEMOLITION AND REMOVAL WORK SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR UNLESS NOTED OTHERWISE. MATERIAL DESIGNATED BY THE ARCHITECT OR ENGINEER TO BE SALVAGED SHALL BE STORED ON THE CONSTRUCTION SITE AS DIRECTED. A PRE-DEMOLITION WALKTHROUGH WITH THE ARCHITECT AND OWNER SHALL BE CONDUCTED TO IDENTIFY COMPONENTS THAT ARE TO BE SALVAGED. RECYCLING AND/OR DISPOSAL IS TO BE CONDUCTED IN ACCORDANCE WITH UNIVERSITY REQUIREMENTS.

EXISTING STRUCTURES

WHERE PORTIONS OF THE EXISTING STRUCTURE TO REMAIN ARE TO BE IMPACTED, DEMOLISH THE PORTIONS TO BE REMOVED, REPAIR DAMAGE, AND LEAVE THE STRUCTURE IN PROPER CONDITION FOR THE INTENDED USE. REMOVE CONCRETE AND MASONRY TO THE LINES DESIGNATED BY DRILLING, CHIPPING, OR OTHER SUITABLE METHODS UNLESS DIRECTED OTHERWISE BY ARCHITECT. LEAVE THE RESULTING SURFACES REASONABLY TRUE AND EVEN, WITH SHARP STRAIGHT CORNERS THAT WILL RESULT IN NEAT JOINTS WITH NEW CONSTRUCTION AND BE SATISFACTORY FOR THE PURPOSE INTENDED. WHERE ALTERATIONS OCCUR, OR NEW AND OLD WORK ARE TO JOIN, THE CONTRACTOR SHALL CUT, REMOVE, PLUS, REPAIR OR REMOVE THE ADJACENT MATERIALS TO THE EXTENT REQUIRED BY THE CONSTRUCTION CONDITIONS, SO AS TO LEAVE THE ALTERED WORK IN AS GOOD A CONDITION AS PRACTICAL.

TEMPORARY PROTECTION

THE CONTRACTOR SHALL PROVIDE, ERECT, AND MAINTAIN, LIGHTS, BARRIERS, WEATHER PROTECTION, WARNING SIGNS AND OTHER ITEMS AS REQUIRED FOR PROPER PROTECTION OF THE PUBLIC AS WELL AS WORKMEN ENGAGED IN DEMOLITION OPERATIONS. THE CONTRACTOR SHALL ALSO PROTECT WALLS, WINDOWS, ROOFS, AND OTHER ADJACENT EXTERIOR CONSTRUCTION THAT ARE TO REMAIN AND THAT ARE EXPOSED TO BUILDING DEMOLITION OPERATIONS. THE CONTRACTOR SHALL REMOVE TEMPORARY WORK, SUCH AS ENCLOSURES, SIGNS, GUARDS, AND THE LIKE WHEN SUCH TEMPORARY WORK IS NO LONGER REQUIRED OR WHEN DIRECTED AT THE COMPLETION OF THE WORK.

SITE DISTURBANCE

THE PROPERTY IS SURROUNDED AND BISECTED BY BOTH PUBLICLY AND PRIVATELY OWNED RIGHT-OF-WAYS WHICH ARE TO REMAIN OPEN AND CLEAR OF CONSTRUCTION DEBRIS. NEIGHBORING PROPERTY OWNERS AND TENANTS WILL CONTINUE TO ENTER/EGRESS FROM WEST STREET DURING THE DEMOLITION WORK. CONTRACTOR SHALL MINIMIZE, AS MUCH AS POSSIBLE, ANY DISRUPTION TO THE NEIGHBORS' DAILY OPERATIONS DURING THE COURSE OF THIS WORK. THE ARCHITECT SHALL BE NOTIFIED OF ANY NECESSARY ACTIVITIES WHICH WILL NECESSITATE BLOCKING AND/OR DISRUPTING ALLEY TRAFFIC SO THAT WORK CAN BE COORDINATED AT A TIME WHEN IT IS LEAST DISRUPTIVE TO ALL PARTIES.

EXISTING UTILITIES

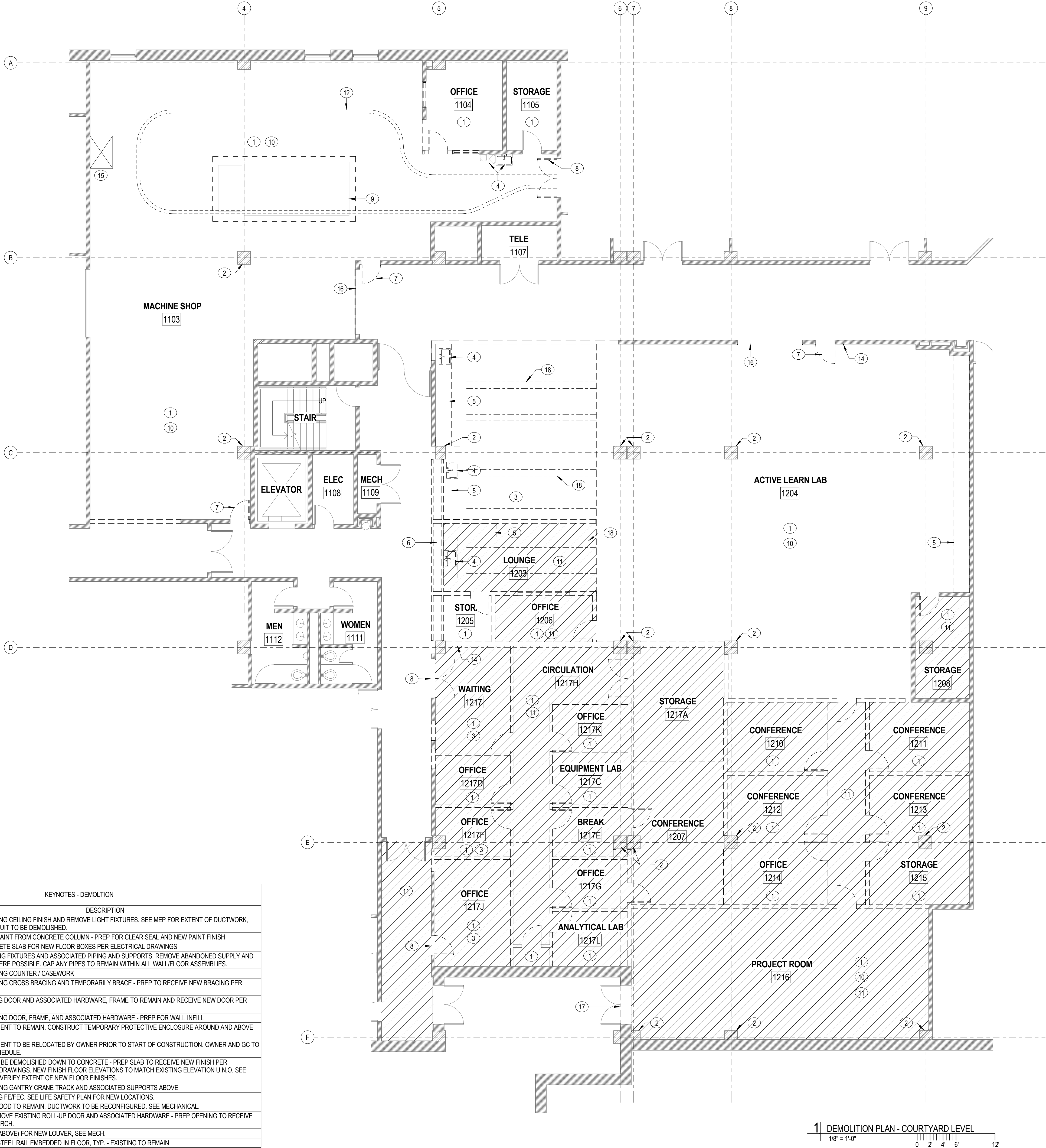
THE CONTRACTOR SHALL INSPECT THE EXISTING UTILITIES, INCLUDING ELECTRICAL, PLUMBING, TELE/DATA AND MECHANICAL SYSTEMS TO DETERMINE THE EXTENT OF THE WORK REQUIRED. CARE SHALL BE TAKEN TO NOT REMOVE UTILITIES THAT ARE FEEDING THE ADJACENT PROPERTIES.

- COORDINATE DE-ENERGIZATION AND REMOVAL/DISPOSAL OF ALL INCOMING UTILITIES TO BE REMOVED WITH NCSU. SUBMIT CONFIRMATION THAT SERVICES HAVE BEEN DECOMMISSIONED IN WRITING TO THE ARCHITECT.
- WITH THE EXCEPTION OF A PANEL TO DISTRIBUTE POWER DURING THE CONSTRUCTION PERIOD, ALL ELECTRICAL APPARATUS AND ASSOCIATED COMPONENTS THROUGHOUT THE AREA OF WORK ARE TO BE REMOVED AND DISPOSED. ITEMS TO BE REMOVED INCLUDE, BUT ARE NOT LIMITED TO, SUBPANELS, CONDUIT, TELE/DATA, WIRING, BOXES, RECEPTACLES, FIXTURES, SWITCHES, SUPPORTS, MISCELLANEOUS DEVICES, ETC. LIGHTING LAMP COMPONENTS AND BALLASTS, AS WELL AS ELECTRONIC EQUIPMENT CONTAINING HAZARDOUS MATERIALS SUCH AS MERCURY, LEAD AND PCBs (POLYCHLORINATED BIPHENYL) SHALL BE PROPERLY HANDLED, PROTECTED, STORED AND DISPOSED OF IN ACCORDANCE WITH ALL ENVIRONMENTAL, SAFETY, AND GOVERNMENTAL REGULATIONS RELATED TO THESE ITEMS.
- IN THE EVENT THAT IT IS PRESENT, REMOVE EXISTING GAS PIPING, REGULATORS, ETC. THROUGHOUT THE BUILDING. COORDINATE WORK WITH LOCAL GAS UTILITY COMPANY. GAS PIPING TO BE ABANDONED IN PLACE SHALL BE PURGED THEN CAPPED AND SEALED WITH SAME MATERIALS AS EXISTING PIPING.
- REMOVE EXISTING ABANDONED DOMESTIC WATER PIPING, VALVES, ETC. THROUGHOUT THE BUILDING. CAP INCOMING SERVICE WHERE APPLICABLE (OTHERWISE, SERVICES TO BE REMOVED IN ACCORDANCE WITH CIVIL DRAWINGS) AND PREP FOR NEW WORK. COORDINATE WORK WITH LOCAL AUTHORITIES AS REQUIRED.
- REMOVE ALL EXISTING ABANDONED SANITARY SEWER PIPING THROUGHOUT THE WORK AREA. COORDINATE WORK WITH LOCAL AUTHORITIES. SANITARY SEWER PIPING ABANDONED IN PLACE SHALL BE CAPPED OR PLUGGED WITH SAME MATERIAL AS EXISTING PIPING.
- ANY FEES AND/OR PERMITS REQUIRED BY NCSU LOCAL UTILITIES AND LOCAL JURISDICTION ASSOCIATED WITH REMOVAL OF EXISTING EQUIPMENT, PIPING, METERS, ETC. BY THE CONTRACTOR SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

PARTITION LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- UNRATED WALL
- PARTITION TYPE
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER

KEYNOTES - DEMOLITION	
NUMBER	DESCRIPTION
1	DEMOLISH EXISTING CEILING FINISH AND REMOVE LIGHT FIXTURES. SEE MEP FOR EXTENT OF DUCTWORK, PIPES, AND CONDUIT TO BE DEMOLISHED.
2	STRIP EXISTING PAINT FROM CONCRETE COLUMN - PREP FOR CLEAR SEAL AND NEW PAINT FINISH
3	PREPARE CONCRETE SLAB FOR NEW FLOOR BOXES PER ELECTRICAL DRAWINGS
4	REMOVE PLUMBING FIXTURES AND ASSOCIATED PIPING AND SUPPORTS. REMOVE ABANDONED SUPPLY AND WASTE LINES WHERE POSSIBLE. CAP ANY PIPES TO REMAIN WITHIN ALL WALL/FLOOR ASSEMBLIES.
5	DEMOLISH EXISTING COUNTER / CASEWORK
6	DEMOLISH EXISTING CROSS BRACING AND TEMPORARILY BRACE - PREP TO RECEIVE NEW BRACING PER STRUCTURAL
7	REMOVE EXISTING DOOR AND ASSOCIATED HARDWARE, FRAME TO REMAIN AND RECEIVE NEW DOOR PER ARCH.
8	DEMOLISH EXISTING DOOR, FRAME, AND ASSOCIATED HARDWARE - PREP FOR WALL INFILL
9	EXISTING EQUIPMENT TO REMAIN. CONSTRUCT TEMPORARY PROTECTIVE ENCLOSURE AROUND AND ABOVE EQUIPMENT.
10	EXISTING EQUIPMENT TO BE RELOCATED BY OWNER PRIOR TO START OF CONSTRUCTION. OWNER AND GC TO COORDINATE SCHEDULE.
11	FLOOR FINISH TO BE DEMOLISHED DOWN TO CONCRETE - PREP SLAB TO RECEIVE NEW FINISH PER ARCHITECTURAL DRAWINGS. NEW FINISH FLOOR ELEVATIONS TO MATCH EXISTING ELEVATION U.N.O. SEE FINISH PLANS TO VERIFY EXTENT OF NEW FLOOR FINISHES.
12	DEMOLISH EXISTING GANTRY CRANE TRACK AND ASSOCIATED SUPPORTS ABOVE
14	REMOVE EXISTING FE/FEC. SEE LIFE SAFETY PLAN FOR NEW LOCATIONS.
15	EXISTING VENT HOOD TO REMAIN. DUCTWORK TO BE RECONFIGURED. SEE MECHANICAL.
16	ADD ALT. 01 - REMOVE EXISTING ROLL-UP DOOR AND ASSOCIATED HARDWARE - PREP OPENING TO RECEIVE NEW DOOR PER ARCH.
17	DEMO OPENING (ABOVE) FOR NEW LOUVER, SEE MECH.
18	CENTERLINE OF STEEL RAIL EMBEDDED IN FLOOR, TYP. - EXISTING TO REMAIN



ARCHITECTURAL SITE PLAN GENERAL NOTES

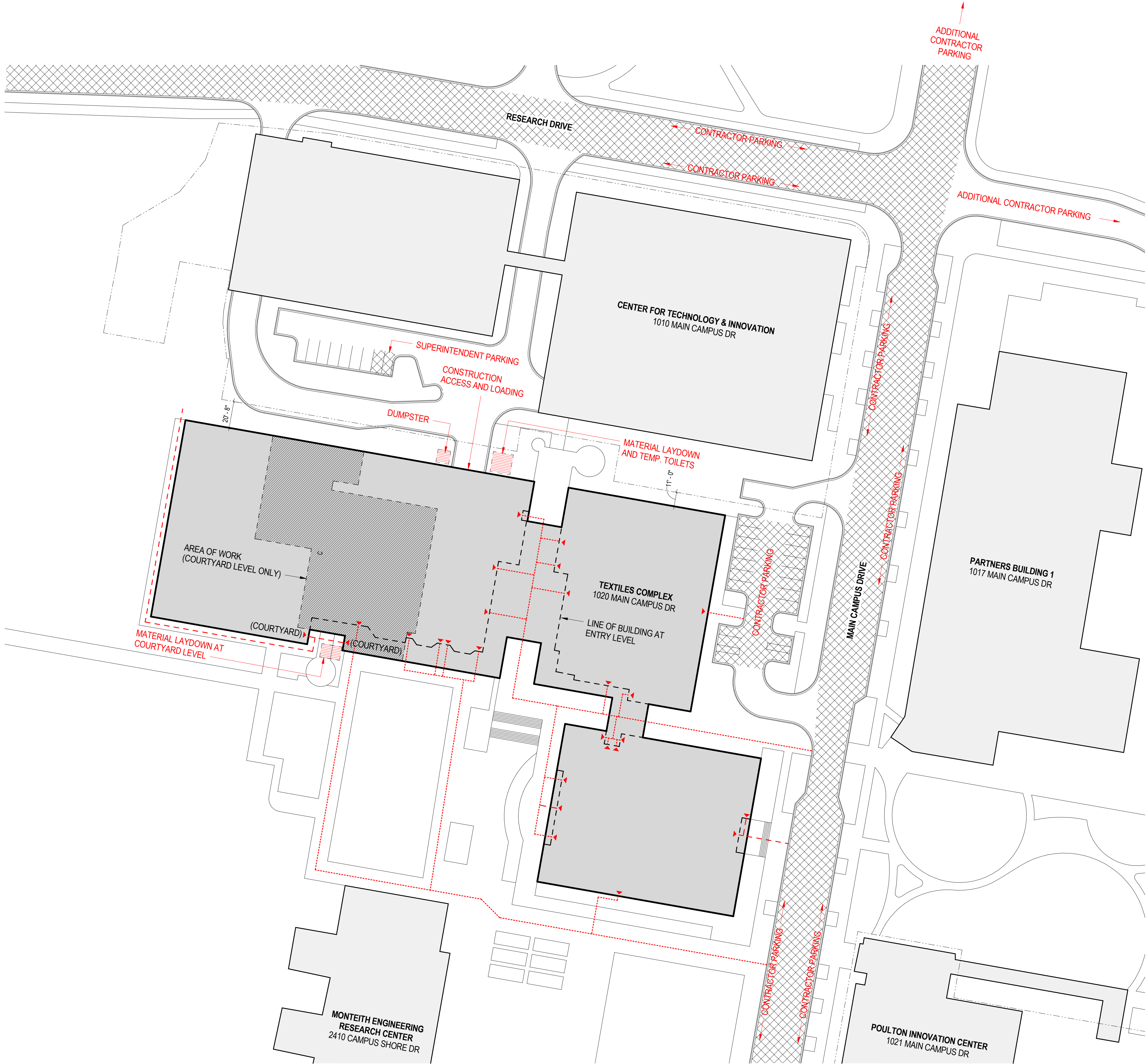
1. SITE LAYOUT SHOWN FOR REFERENCE ONLY.
2. EXITS SHOWN ARE FROM GROUND FLOOR LEVEL, U.N.O.

SITE ACCESS AND CONSTRUCTION STAGING

1. SEE CONSTRUCTION LOGISTICS PLAN ON SHEET G007 FOR CONSTRUCTION TRAFFIC AND LOADING. GC TO PROVIDE TEMPORARY CONSTRUCTION CYLINDER FOR ACCESS CONTROL THROUGHOUT CONSTRUCTION PHASE.
2. ABSOLUTELY NO CONSTRUCTION ACCESS OR LOADING/UNLOADING OF MATERIALS OR EQUIPMENT TO BE THROUGH LOBBY.
3. SEE SITE PLAN FOR CONSTRUCTION STAGING, INCLUDING DUMPSTERS AND PORTABLE RESTROOMS. MAINTAIN ACCESS SHOWN ON PLAN AND COORDINATE WITH CAMPUS FACILITIES. NOTE THAT THE BUILDING RESTROOMS WILL NOT BE AVAILABLE FOR CONTRACTOR USE.
4. SEE SITE PLAN FOR CONSTRUCTION PARKING. ADDITIONAL PARKING IS AVAILABLE PER THE PROJECT MANUAL - GC TO COORDINATE TRANSPORTATION TO THE SITE AS REQUIRED.
5. AREAS OF CONSTRUCTION, INCLUDING STAGING, MUST BE SECURED BY THE GC. CONSTRUCTION FENCING AND SECURITY OF WORK AREAS, EQUIPMENT, AND MATERIALS IS THE RESPONSIBILITY OF THE GC.
5. NO MODIFICATIONS ARE TO BE MADE TO THE BUILDING ENVELOPE (EXTERIOR WALLS, OPENINGS, AND ROOF) AS PART OF THE WORK EXCEPT AS SPECIFICALLY CALLED FOR ON DRAWINGS.
7. GC TO PROTECT PAVING AND SITE FIXTURES FROM CONSTRUCTION ACTIVITIES. DAMAGE THAT OCCURS TO PAVED SURFACES DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR TO MEET AND MATCH EXISTING ADJACENT PAVING AND DETAILS.
8. CONTRACTORS ARE REQUIRED TO OBSERVE ANY STATE, LOCAL, OR CAMPUS HEALTH AND SAFETY REQUIREMENTS. SEE PROJECT MANUAL.

ARCHITECTURAL SITE PLAN LEGEND

- EXISTING BUILDING
- BUILDING EXIT
- AREA OF WORK
- PEDESTRIAN ROUTE
- ACCESSIBLE PEDESTRIAN ROUTE



1 ARCHITECTURAL SITE PLAN
1" = 40'-0"

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Raleigh, NC 27601
(919) 821-2775
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artarc@clearscapes.com

CONSULTANTS

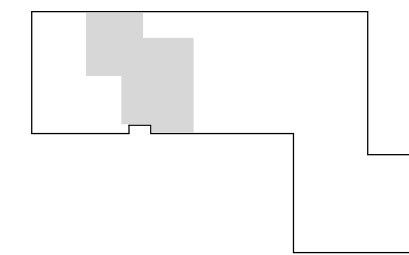
Structural

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MEP Engineer

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KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT

NCSU-TEXTILES
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1020 MAIN CAMPUS DRIVE
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REVISIONS

No.	Description	Date

PROJECT DATA

DATE: 04.25.2025
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CHECKED: MC
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PRINTING: BID DOCUMENTS

SHEET DATA

ARCHITECTURAL
SITE PLAN

SHEET NO.

A100

1-1. THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR REVIEWING AND COORDINATING THEIR WORK WITH ALL OF THE CONTRACT DOCUMENTS PRIOR TO BEGINNING ANY WORK ON SUBMITTALS, SHOP DRAWINGS, FABRICATION, OR INSTALLATION. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BY THE GENERAL CONTRACTOR (OR CMAR) IN WRITING AND SHALL BE RESOLVED WITH THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK.

1-2. THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR COORDINATING THEIR WORK WITH ALL OWNERS' VENDORS INCLUDING, BUT NOT LIMITED TO, TELECOMMUNICATIONS, AUDIO/VISUAL AND SECURITY SYSTEMS. ANY CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF CONTRACT DOCUMENTS AND THE OWNERS' VENDORS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BY THE GENERAL CONTRACTOR (OR CMAR) IN WRITING AND SHALL BE RESOLVED WITH THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK.

1-3. EXISTING CONDITIONS FOR THE BUILDING AND/OR SITE AS REPRESENTED IN THE CONTRACT DOCUMENTS SHALL BE PRESERVED. PRIOR TO BEGINNING ANY WORK ON SUBMITTALS, SHOP DRAWINGS, FABRICATION, OR INSTALLATION, THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR INVESTIGATING AND VERIFYING THE EXISTENCE AND LOCATION OF EXISTING CONSTRUCTION AFFECTING THE WORK INCLUDING, BUT NOT LIMITED TO, UNDERGROUND UTILITIES, EXISTING BUILDINGS, SYSTEMS, FLOOR ELEVATIONS, AND OTHER STRUCTURAL OR BUILDING DATUMS.

2-1. ALL DIMENSIONS ARE TO FINISHED FACE OF WALL UNLESS OTHERWISE NOTED.
2-2. WALLS SHOWN TO ALIGN ARE TO HAVE FINISHED FACES ALIGN UNLESS NOTED OTHERWISE.
2-3. IF PROVIDED, REFER TO ENLARGED PLANS AND PLAN DETAILS FOR ADDITIONAL INFORMATION AND DIMENSIONS.
2-4. LOCATIONS OF ALL DEVICES AND FIXTURES DIMENSIONED. NOTED OR OTHERWISE DESCRIBED ARE EXACT. ALL NEW FRAMING MUST ACCOMMODATE THESE LOCATIONS.
2-5. ANY DIMENSIONS OF OR TYING INTO EXISTING BUILDING COMPONENTS ARE TO BE FIELD-VERIFIED PRIOR TO COMMENCEMENT OF WORK. VERIFY WITH ARCHITECT.

3-1. TYPICAL DETAILS SHOWN ON THE DRAWINGS SHALL BE INCORPORATED AT ALL APPROPRIATE LOCATIONS WHETHER OR NOT SPECIFICALLY REFERENCED AT EACH LOCATION.

3-2. THE GENERAL CONTRACTOR (OR CMAR) IS RESPONSIBLE FOR ANY REQUIRED DEMOLITION, TEMPORARY SUPPORT OF, AND DAMAGE TO NEW OR EXISTING STRUCTURE DURING CONSTRUCTION. ANY UTILITY LINES, PIPING, OR EQUIPMENT LOCATED WITHIN THE EXISTING BUILDING OR NEW CONSTRUCTION SHALL BE PROTECTED DURING CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED AT THE ARCHITECT'S DIRECTION AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR.

3-3. THE GENERAL CONTRACTOR (OR CMAR) IS TO COORDINATE, PROVIDE, AND INSTALL CONCEALED BLOCKING FOR ALL WALL- AND CEILING-MOUNTED ITEMS INCLUDING, BUT NOT LIMITED TO, HAND RAILS, GRAB BARS, CABINETS AND OTHER CASEWORK, EQUIPMENT, AND/OR VENDOR-PROVIDED ITEMS, ETC. BLOCKING IS TO BE PROVIDED FOR 20ga STEEL WITH A FLAME SMOKE AND SMOKE DEVELOPMENT RATING OF 2-0.

3-4. CONDUIT, WIRING, OR PIPING SHALL BE ROUTED SUCH THAT IT MAY BE CONCEALED WHEREVER POSSIBLE UNLESS SPECIFICALLY NOTED OTHERWISE. ANY CONDUIT, WIRING, OR PIPING THAT CANNOT BE ROUTED IN A CONCEALED MANNER MUST BE IDENTIFIED BY THE GENERAL CONTRACTOR AND REVIEWED AND COORDINATED BY ARCHITECT PRIOR TO COORDINATION DRAWINGS (IF REQUIRED) OR INSTALLATION (IF COORDINATION DRAWINGS ARE NOT REQUIRED).

3-5. IN AREAS OF HARD CEILING, BUILDING SYSTEMS SHALL BE CONFIGURED TO MINIMIZE REQUIRED ABOVE-CEILING ACCESS. THE LOCATION OF ALL ACCESS DOORS MUST BE COORDINATED WITH AND APPROVED BY THE ARCHITECT PRIOR TO THE INSTALLATION OF ANY ABOVE-CEILING EQUIPMENT, DAMPERS, VALVES, JUNCTION BOXES, ETC. ACCESS DOORS SHALL BE PROVIDED AND INSTALLED FOR ANY WORK THAT REQUIRES ABOVE-CEILING ACCESS. ADDITIONALLY, ANY ACCESS DOORS OR PANELS REQUIRED IN WALLS MUST BE COORDINATED WITH THE ARCHITECT PRIOR TO THE INSTALLATION OF ANY EQUIPMENT REQUIRING ACCESS.

3-6. ALL FRAMING, SOUND ATTENUATION, AND GYP BOARD FOR NON-RATED SOUND-ATTENUATED WALLS SHALL CONTINUE TO THE UNDERSIDE OF DECK UNLESS SPECIFICALLY NOTED OTHERWISE. GYP BOARD SHALL BE SEALED TO DECK AT EACH FACE WITH JOINT COMPOUND, SEALANT, AND/OR EXPANDING FOAM (ACCEPTABLE ONLY IN CONCEALED CONDITIONS). ANY REQUIRED PIPE, DUCT, OR WIRING PENETRATIONS SHALL BE SEALED AS DESCRIBED.

3-7. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL ACT CEILING SHALL BE CENTERED WITHIN EACH ROOM OR SPACE WITH NO CUT PERIMETER TILES TO BE CE'ING.

3-8. ALL ELECTRICAL, CATV, AND TELEDATA OUTLETS TO BE LOCATED 16" O.C. ABOVE FINISH FLOOR UNLESS NOTED OTHERWISE. ALL ELECTRICAL FIXTURES AT KITCHEN COUNTERTOPS AND BATHROOM VANITIES TO BE LOCATED 48" O.C. ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. ALL ELECTRICAL SWITCHES, THERMOSTATS, AND OTHER CONTROL DEVICES TO BE CENTERED 46" O.C. ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.

3-9. UNLESS DIMENSIONED OR OTHERWISE NOTED, SET THE NEAREST EDGE OF SWITCHPLATES 24" FROM THE CENTER OF DOOR OPENINGS. AT ALL LOCATIONS WHERE MULTIPLE SWITCHES ARE SHOWN, THEY SHOULD BE GANGED UNLESS SPECIFICALLY NOTED OTHERWISE. IN ANY LOCATIONS WITH MULTIPLE DEVICES (ELECTRICAL OUTLETS, ELECTRICAL SWITCHES, HORN/STROBES, EMERGENCY LIGHTS, ETC), ALL DEVICES ARE TO BE GANGED UNLESS SPECIFICALLY NOTED OTHERWISE.

3-10. ACOUSTICAL INSULATION NOT REQUIRED FOR CLARITY. REFER TO PARTITION TYPES FOR LOCATION OF ACOUSTICAL INSULATION.

4-1. SEE G001 FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS
4-2. SEE G004 FOR INTERIOR PARTITION TYPES.
4-3. SEE BUILDING SECTIONS FOR MOUNTING HEIGHTS OF ALL LIGHT FIXTURES

EXISTING CONSTRUCTION TO REMAIN

EXISTING WALL TO BE DEMOLISHED

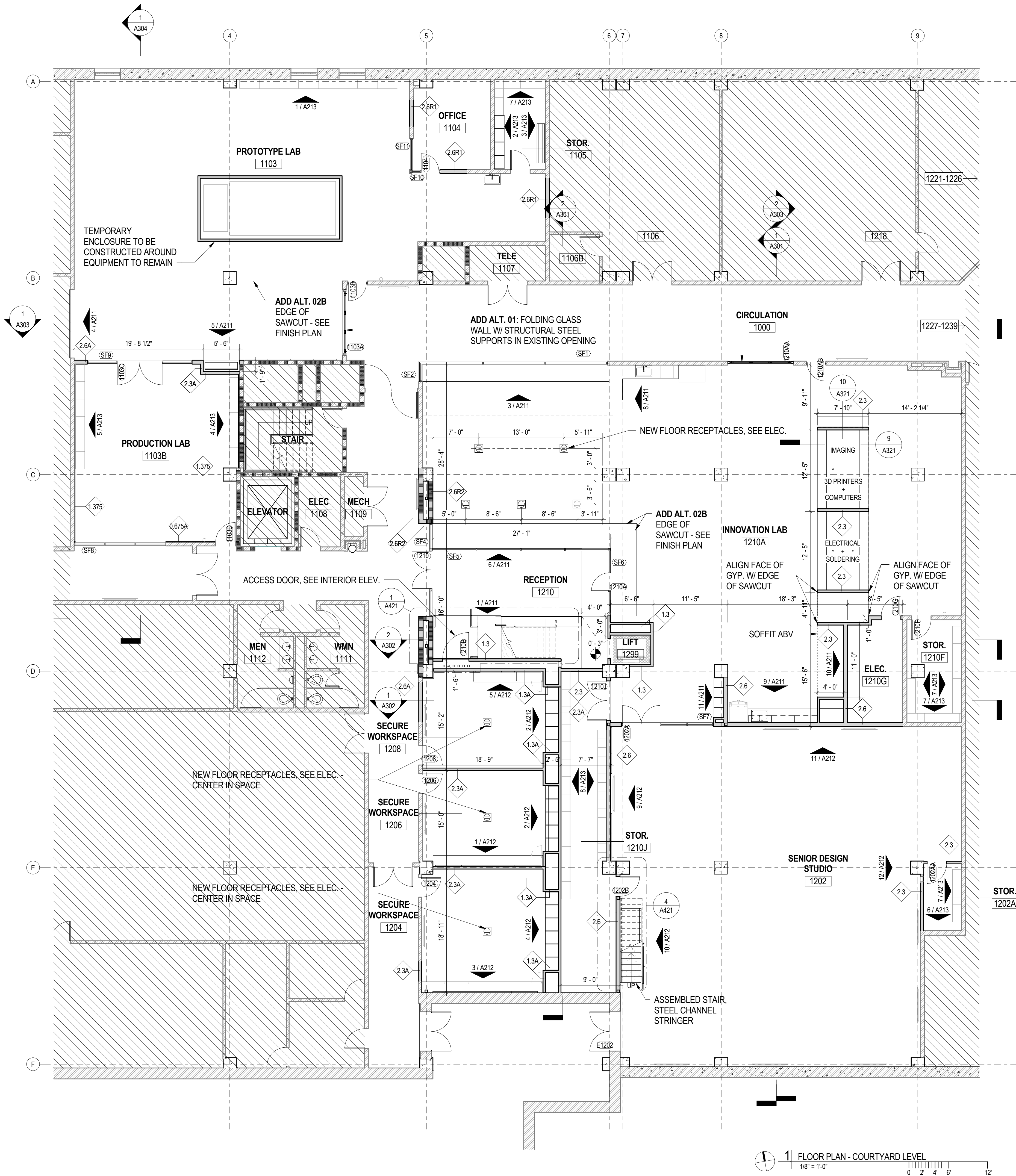
UNRATED WALL

PARTITION TYPE

1-HOUR FIRE BARRIER

2-HOUR FIRE BARRIER

INTERIOR PARTITION TYPES							
WALL TAG	CONSTRUCTION			THICKNESS	HEIGHT	FIRE PROTECTION	SOUND BAT.
	DESCRIPTION					RATING	
				<varies>			
0.675A	FURRING WALL: 5/8" GWB WITH GREEN GLUE ON EXISTING WALL			0" - 0 5/8"			No
1.3	5/8" GWB OUTSIDE ONLY, 3-5/8" MTL. STUDS @ 16" O.C.			0" - 4 1/4"			No
1.3A	5/8" GWB OUTSIDE ONLY, 3-5/8" MTL. STUDS @ 16" O.C. W/ 3-1/2" SOUND BATTS			0" - 4 1/4"			Yes
1.6	5/8" GWB OUTSIDE ONLY, 6" MTL. STUDS @ 16" O.C.			0" - 6 5/8"			No
1.375	FURRING WALL: 5/8" GWB WITH GREEN GLUE ON EXISTING WALL			0" - 1 3/8"			No
2.3	5/8" GWB EA. SIDE, 3-5/8" MTL. STUDS @ 16" O.C.			0" - 4 7/8"			No
2.3A	5/8" GWB EA. SIDE, 3-5/8" MTL. STUDS @ 16" O.C. W/ 3-1/2" SOUND BATT			0" - 4 7/8"			Yes
2.3R1	5/8" TYPE X GWB EA. SIDE, 3-5/8" MTL. STUDS @ 16" O.C. W/ 3-1/2" SOUND BATTS			0" - 4 7/8"	1 HOUR		Yes
2.6	5/8" GWB EA. SIDE, 6" MTL. STUDS @ 16" O.C.			0" - 7 1/4"			No
2.6A	5/8" GWB EA. SIDE, 6" MTL. STUDS @ 16" O.C. W/ 3-1/2" SOUND BATT			0" - 7 1/4"			Yes
2.6R1	5/8" TYPE X GWB EA. SIDE, 6" MTL. STUDS @ 16" O.C. W/ 3-1/2" SOUND BATTS			0" - 7 1/4"	1 HOUR		Yes
2.6R2	5/8" TYPE X GWB EA. SIDE, 6" MTL. STUDS @ 16" O.C. W/ 3-1/2" SOUND BATTS			0" - 8"	2 HOUR		No



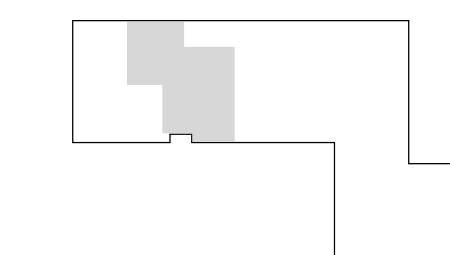
Structura

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MEP Engineer

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KEY PLAN

 SEALS

BID DOCUMENTS
04.25.2025

PROJECT

**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700
REVISIONS

[illegible]

PROJECT DATA

DATE: 04.25.2025
DRAWN: TLW
CHECKED: MC
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

FLOOR PLAN -
COURTYARD
LEVEL

SHEET NO.

A101

1-1. THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR REVIEWING AND COORDINATING THEIR WORK WITH ALL OF THE CONTRACT DOCUMENTS PRIOR TO BEGINNING ANY WORK ON SUBMITTALS, SHOP DRAWINGS, FABRICATION, OR INSTALLATION. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BY THE GENERAL CONTRACTOR (OR CMAR) IN WRITING AND SHALL BE RESOLVED WITH THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK.

1-2. THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR COORDINATING THEIR WORK WITH ALL OWNERS' VENDORS INCLUDING, BUT NOT LIMITED TO, TELECOMMUNICATIONS, AUDIOVISUAL AND SECURITY SYSTEMS. ANY CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF CONTRACT DOCUMENTS AND THE OWNER'S VENDORS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BY THE GENERAL CONTRACTOR (OR CMAR) IN WRITING AND SHALL BE RESOLVED WITH THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK.

1-3. EXISTING CONDITIONS FOR THE BUILDING AND/OR SITE AS REPRESENTED IN THE CONTRACT DOCUMENTS SHALL BE THE BASIS FOR THE PROJECT. PRIOR TO BEGINNING ANY WORK ON SUBMITTALS, SHOP DRAWINGS, FABRICATION, OR INSTALLATION, THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR INVESTIGATING AND VERIFYING THE EXISTENCE AND LOCATION OF EXISTING CONSTRUCTION AFFECTING THE WORK INCLUDING, BUT NOT LIMITED TO, UNDERGROUND UTILITIES, EXISTING BUILDING SYSTEMS, FLOOR ELEVATIONS, AND OTHER STRUCTURAL OR BUILDING DATUMS.

- 2-1. ALL DIMENSIONS ARE TO FINISHED FACE OF WALL UNLESS OTHERWISE NOTED.
- 2-2. WALLS SHOWN TO ALIGN ARE TO HAVE FINISHED FACE ALIGN UNLESS NOTED OTHERWISE.
- 2-3. IF PROVIDED, REFER TO ENLARGED PLANS AND PLAN DETAILS FOR ADDITIONAL INFORMATION AND DIMENSIONS.
- 2-4. LOCATIONS OF ALL DEVICES AND FIXTURES DIMENSIONED, NOTED OR OTHERWISE DESCRIBED ARE EXACT. ALL NEW FRAMING MUST ACCOMMODATE THESE LOCATIONS.
- 2-5. ANY DIMENSIONS OF OR TYING INTO EXISTING BUILDING COMPONENTS ARE TO BE FIELD-VERIFIED PRIOR TO COMMENCEMENT OF WORK. VERIFY WITH ARCHITECT.

- 3-1. TYPICAL DETAILS SHOWN ON THE DRAWINGS SHALL BE INCORPORATED AT ALL APPROPRIATE LOCATIONS WHETHER OR NOT SPECIFICALLY REFERENCED AT EACH LOCATION.
- 3-2. THE GENERAL CONTRACTOR (OR CMAR) IS RESPONSIBLE FOR ANY REQUIRED DEMOLITION, TEMPORARY SUPPORT OF, AND/OR DAMAGE TO NEW OR EXISTING STRUCTURE DURING CONSTRUCTION. ANY UTILITY LINES, PIPING, OR ELECTRICAL CONDUIT OR RIGGING TO BE REMOVED OR RELOCATED DURING CONSTRUCTION OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED AT THE ARCHITECT'S DIRECTION AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR.
- 3-3. THE GENERAL CONTRACTOR (OR CMAR) IS TO COORDINATE, PROVIDE, AND INSTALL CONCEALED BLOCKING FOR ALL WALL- AND CEILING-MOUNTED ITEMS INCLUDING, BUT NOT LIMITED TO, HAND RAILS, GRAB BARS, CABINETS AND OTHER CASEWORK, EQUIPMENT, OWNER- AND/OR VENDOR-PROVIDED ITEMS, ETC., BLOCKING IS TO BE PROVIDED TO SUPPORT THE WEIGHT OF THE ITEMS AND TO PREVENT OVERLOADING OF THE CEILING.
- 3-4. CONDUIT, WIRING, OR PIPING SHALL BE ROUTED SUCH THAT IT MAY BE CONCEALED WHEREVER POSSIBLE UNLESS SPECIFICALLY NOTED OTHERWISE. ANY CONDUIT, WIRING, OR PIPING THAT CANNOT BE ROUTED IN A CONCEALED MANNER MUST BE IDENTIFIED BY THE GENERAL CONTRACTOR AND REVIEWED AND COORDINATED WITH ARCHITECT PRIOR TO CONSTRUCTION DRAWINGS (IF REQUIRED) OR INSTALLATION (IF COORDINATION DRAWINGS ARE NOT REQUIRED).
- 3-5. IN ALL CASES, HARD CORK, INSULATING BUILDING SYSTEMS SHALL BE CONFIGURED TO MINIMIZE REQUIRED ABOVE-CEILING ACCESS. THE LOCATION OF ALL ACCESS DOORS MUST BE COORDINATED WITH AND APPROVED BY THE ARCHITECT PRIOR TO THE INSTALLATION OF ANY ABOVE-CEILING EQUIPMENT, DAMPERS, VALVES, JUNCTION BOXES, ETC. ACCESS DOORS SHALL BE PROVIDED AND INSTALLED FOR ANY WORK THAT REQUIRES ABOVE-CEILING ACCESS. ADDITIONALLY, ANY ACCESS DOORS OR PANELS REQUIRED IN WALLS MUST BE COORDINATED WITH ARCHITECT PRIOR TO THE INSTALLATION OF ANY EQUIPMENT OR ACCESS DOORS.
- 3-6. ALL FRAMING, SOUND ATTENUATION, AND GYP BOARD FOR NON-RATED SOUND-ATTENUATED WALLS SHALL CONTINUE TO THE UNDERSIDE OF DECK UNLESS SPECIFICALLY NOTED OTHERWISE. GYP BOARD SHALL BE SEALED TO DECK AT EACH FACE WITH JOINT COMPOUND, SEALANT, AND/OR EXPANDING FOAM (ACCEPTABLE ONLY IN CONCEALED CONDITIONS). ANY REQUIRED PIPE, DUCT, OR WIRING PENETRATIONS SHALL BE SEALED AS DESCRIBED ABOVE.
- 3-7. ALL WALLS SHALL BE FULLY NOTED PERIMETER, ALL AC CEILING GRIDS SHALL BE CENTERED WITHIN EACH ROOM OR SPACE WITH NO CUT PERIMETER TILES TO BE LEFT.
- 3-8. ALL ELECTRICAL, CATV, AND TELEDATA OUTLETS TO BE LOCATED 16" O.C. ABOVE FINISH FLOOR UNLESS NOTED OTHERWISE. ALL ELECTRICAL FIXTURES AT KITCHEN COUNTERTOPS AND BATHROOM VANITIES TO BE LOCATED 46" O.C. ABOVE FINISH FLOOR UNLESS NOTED OTHERWISE. ALL ELECTRICAL SWITCHES, THERMOSTATS, AND OTHER CONTROL DEVICES TO BE CENTERED 46" O.C. ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.
- 3-9. UNLESS DIMENSIONED OR OTHERWISE NOTED, SET THE NEAREST EDGE OF SWITCHPLATES 24" FROM THE CENTER OF DOOR OPENINGS. AT ALL LOCATIONS WHERE MULTIPLE SWITCHES ARE SHOWN, THEY SHOULD BE GANGED UNLESS SPECIFICALLY NOTED OTHERWISE. IN ANY LOCATIONS WITH MULTIPLE DEVICES (ELECTRICAL OUTLETS, ELECTRICAL SWITCHES, HORN/STROBES, EMERGENCY LIGHTS, ETC), ALL DEVICES ARE TO BE CENTERED UNLESS SPECIFICALLY NOTED OTHERWISE.
- 3-10. ACOUSTICAL INSULATION NOT SHOWN FOR CLARITY. REFER TO PARTITION TYPES FOR LOCATION OF ACOUSTICAL INSULATION.

- 4-1. SEE G001 FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS
4-2. SEE G004 FOR INTERIOR PARTITION TYPES.
4-3. SEE BUILDING SECTIONS FOR MOUNTING HEIGHTS OF ALL LIGHT FIXTURES

EXISTING CONSTRUCTION TO REMAIN

EXISTING WALL TO BE DEMOLISHED

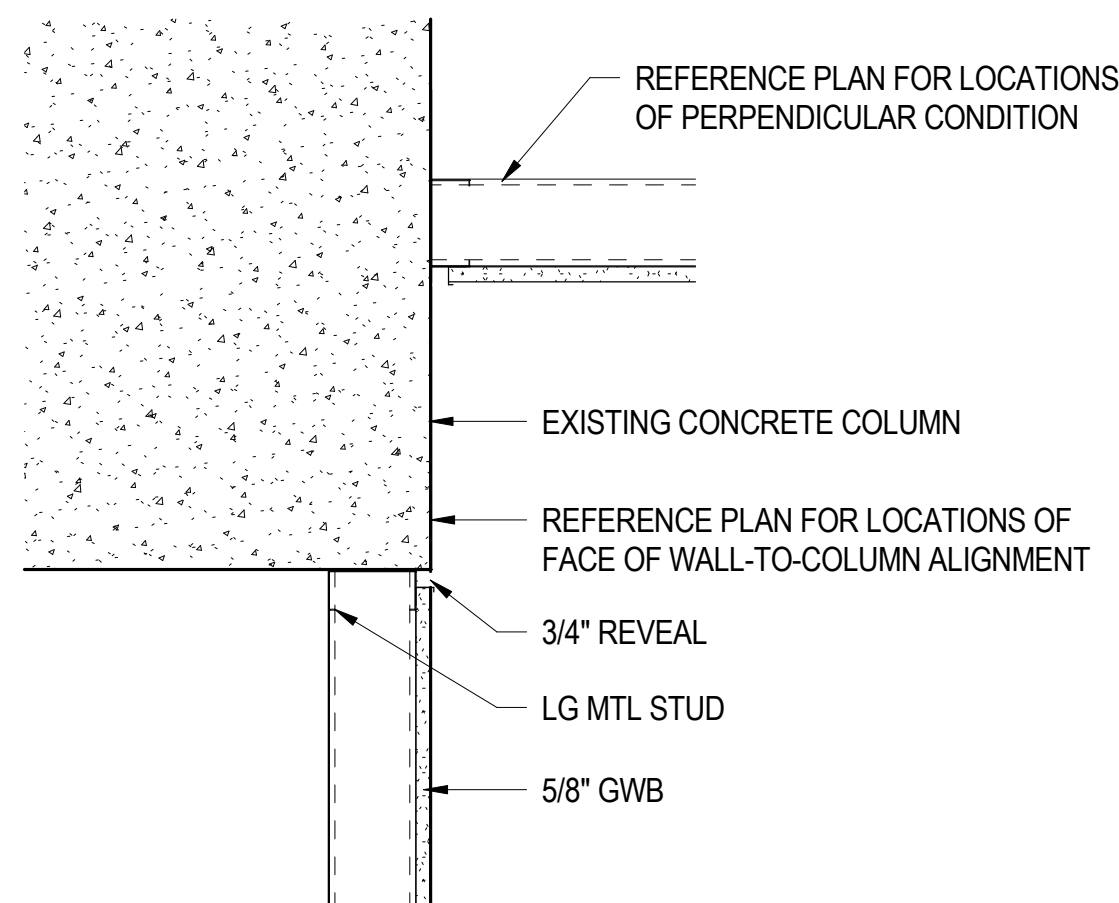
UNRATED WALL

PARTITION TYPE

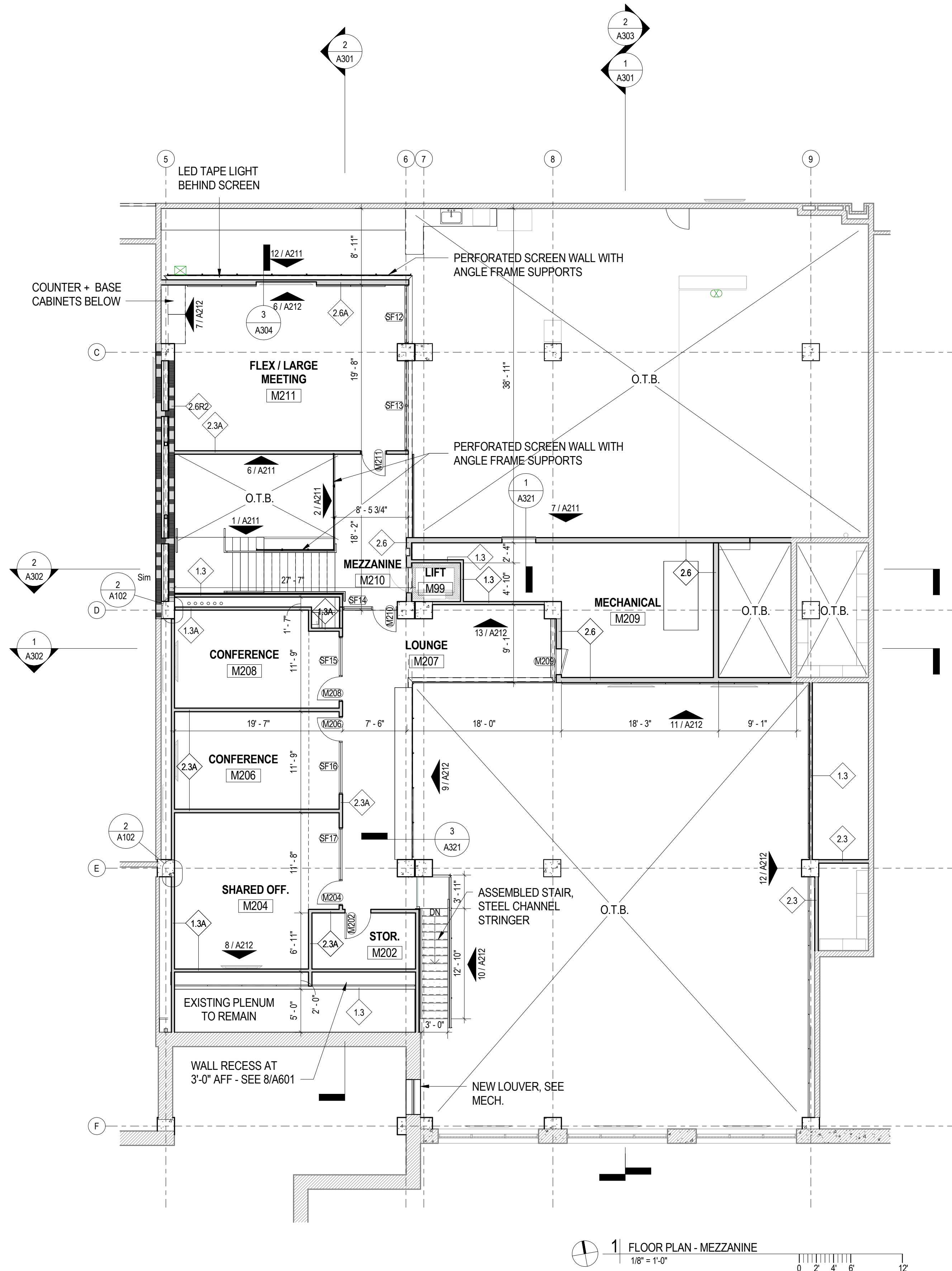
1-HOUR FIRE BARRIER

2-HOUR FIRE BARRIER

INTERIOR PARTITION TYPES							
WALL TAG	CONSTRUCTION		THICKNESS	HEIGHT	FIRE PROTECTION		SOUND BATT
	DESCRIPTION				RATING	UL #	
			<varies>				
0.675A	FURRING WALL: 5/8" GWB WITH GREEN GLUE ON EXISTING WALL		0'-0 5/8"				No
1.3	5/8" GWB OUTSIDE ONLY, 3-5/8" MTL. STUDS @ 16" O.C.		0'-4 1/4"				No
1.3A	5/8" GWB OUTSIDE ONLY, 3-5/8" MTL. STUDS @ 16" O.C. W/ 3-1/2" SOUND BATTS		0'-4 1/4"				Yes
1.6	5/8" GWB OUTSIDE ONLY, 6" MTL. STUDS @ 16" O.C.		0'-6 5/8"				No
1.375	FURRING WALL: 5/8" GWB WITH GREEN GLUE ON EXISTING WALL		0'-1 3/8"				No
2.3	5/8" GWB EA. SIDE, 3-5/8" MTL. STUDS @ 16" O.C.		0'-4 7/8"				No
2.3A	5/8" GWB EA. SIDE, 3-5/8" MTL. STUDS @ 16" O.C. W/ 3-1/2" SOUND BATT		0'-4 7/8"				Yes
2.3R1	5/8" TYPE X GWB EA. SIDE, 3-5/8" MTL. STUDS @ 16" O.C. W/ 3-1/2" SOUND BATTS		0'-4 7/8"		1 HOUR		Yes
2.6	5/8" GWB EA. SIDE, 6" MTL. STUDS @ 16" O.C.		0'-7 1/4"				No
2.6A	5/8" GWB EA. SIDE, 6" MTL. STUDS @ 16" O.C. W/ 3-1/2" SOUND BATT		0'-7 1/4"				Yes
2.6R1	5/8" TYPE X GWB EA. SIDE, 6" MTL. STUDS @ 16" O.C. W/ 3-1/2" SOUND BATTS		0'-7 1/4"		1 HOUR		Yes
2.6R2	5/8" TYPE X GWB EA. SIDE, 6" MTL. STUDS @ 16" O.C. W/ 3-1/2" SOUND BATTS		0'-8"		2 HOUR		No



2 TYP. WALL TO COLUMN INTERSECTION



1 FLOOR PLAN - MEZZANINE
1/8" = 1'-0"

1-1. THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR REVIEWING AND COORDINATING THEIR WORK WITH ALL OF THE CONTRACT DOCUMENTS PRIOR TO BEGINNING ANY WORK ON SUBMITTALS, SHOP DRAWINGS, FABRICATION, OR INSTALLATION. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BY THE GENERAL CONTRACTOR (OR CMAR) IN WRITING AND SHALL BE RESOLVED WITH THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK.

1.2. THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR COORDINATING THEIR WORK WITH ALL OWNER'S VENDORS INCLUDING, BUT NOT LIMITED TO, TELECOMMUNICATIONS, AUDIO/VISUAL AND SECURITY SYSTEMS. ANY CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF CONTRACT DOCUMENTS AND THE OWNER'S VENDORS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BY THE GENERAL CONTRACTOR (OR CMAR) IN WRITING AND SHALL BE RESOLVED WITH THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK.

1-3. EXISTING CONDITIONS FOR THE BUILDING AND/OR SITE AS REPRESENTED IN THE CONTRACT DOCUMENTS ARE NOT GUARANTEED. PRIOR TO BEGINNING ANY WORK ON SUBMITTALS, SHOP DRAWINGS, FABRICATION, OR INSTALLATION, THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR INVESTIGATING AND VERIFYING THE EXISTENCE AND LOCATION OF EXISTING CONSTRUCTION AFFECTING THE WORK INCLUDING, BUT NOT LIMITED TO, UNDERGROUND UTILITIES, EXISTING BUILDING SYSTEMS, FLOOR ELEVATIONS, AND OTHER STRUCTURAL OR BUILDING DATUMS.

2-1. ALL DIMENSIONS ARE TO FINISHED FACE OF WALL UNLESS OTHERWISE NOTED

2-2. WALLS SHOWN TO ALIGN ARE TO HAVE FINISHED FACES ALIGN UNLESS NOTED OTHERWISE.

2-3. IF PROVIDED, REFER TO ENLARGED PLANS AND PLAN DETAILS FOR ADDITIONAL INFORMATION AND DIMENSIONS.

2.4. LOCATIONS OF ALL DEVICES AND FIXTURES DIMENSIONED, NOTED OR OTHERWISE DESCRIBED ARE EXACT. ALL NEW FRAMING MUST ACCOMMODATE THESE LOCATIONS.

2-5. ANY DIMENSIONS OF OR TYING INTO EXISTING BUILDING COMPONENTS ARE TO BE FIELD-VERIFIED PRIOR TO COMMENCEMENT OF WORK. VERIFY WITH ARCHITECT.

3-1. TYPICAL DETAILS SHOWN ON THE DRAWINGS SHALL BE INCORPORATED AT ALL APPROPRIATE LOCATIONS WHETHER OR NOT SPECIFICALLY REFERENCED AT EACH LOCATION.

3.2. THE GENERAL CONTRACTOR (OR CMAR) IS RESPONSIBLE FOR ANY REQUIRED DEMOLITION, TEMPORARY SUPPORT OF, AND/OR DAMAGE TO NEW OR EXISTING STRUCTURE DURING CONSTRUCTION. ANY UTILITY LINES, PIPING, EQUIPMENT, FINISHES, OR ANY OTHER PORTIONS OF THE EXISTING BUILDING OR NEW CONSTRUCTION DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED AT THE ARCHITECT'S DIRECTION AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR.

3-3. THE GENERAL CONTRACTOR (OR GMAH) IS TO COORDINATE, PROVIDE, AND INSTALL CONCEALED BLOCKING FOR ALL WALL- AND CEILING-MOUNTED ITEMS INCLUDING, BUT NOT LIMITED TO, HAND RAILS, GRAB BARS, CABINETS AND OTHER CASEWORK, EQUIPMENT, OWNER- AND/OR VENDOR-PROVIDED ITEMS, ETC. BLOCKING IS TO BE FIRE-RETARDANT WOOD OR 20ga metal WITH A FLAME SPREAD AND SMOKE DEVELOPMENT RATING <25.

3-4. CONDUIT, WIRING, OR PIPING SHALL BE ROUTED SUCH THAT IT MAY BE CONCEALED WHEREVER POSSIBLE AND NOT OTHERWISE. ANY CONDUIT, WIRING, OR PIPING THAT CANNOT BE ROUTED IN A CONCEALED MANNER MUST BE IDENTIFIED BY THE GENERAL CONTRACTOR AND REVIEWED AND COORDINATED WITH ARCHITECT PRIOR TO COORDINATION DRAWINGS (IF REQUIRED) OR INSTALLATION (IF COORDINATION DRAWINGS ARE NOT REQUIRED).

3.5. IN AREAS OF HARD CEILING, BUILDING SYSTEMS SHALL BE CONFIGURED TO MINIMIZE REQUIRED ABOVE-CEILING ACCESS. THE LOCATION OF ALL ACCESS DOORS MUST BE COORDINATED WITH AND APPROVED BY THE ARCHITECT PRIOR TO THE INSTALLATION OF ANY ABOVE-CEILING EQUIPMENT, DAMPERS, VALVES, JUNCTION BOXES, ETC. ACCESS DOORS SHALL BE PROVIDED AND INSTALLED FOR ANY WORK THAT REQUIRES ABOVE-CEILING ACCESS. ADDITIONALLY, ANY ACCESS DOORS OR PANELS REQUIRED IN WALLS MUST BE COORDINATED

WITH AND APPROVED BY THE ARCHITECT PRIOR TO THE INSTALLATION OF ANY EQUIPMENT REQUIRING ACCESS.

3.6. ALL FRAMING, SOUND ATTENUATION, AND GYP BOARD FOR NON-RATED SOUND-ATTENUATED WALLS SHALL CONTINUE TO THE UNDERSIDE OF DECK UNLESS SPECIFICALLY NOTED OTHERWISE. GYP BOARD SHALL BE SEALED TO DECK AT EACH FACE WITH JOINT COMPOUND, SEALANT, AND/OR EXPANDING FOAM (ACCEPTABLE ONLY IN CONCEALED CONDITIONS). ANY REQUIRED PIPE, DUCT, OR WIRING PENETRATIONS SHALL BE SEALED AS

3-7. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL ACT CEILING GRIDS SHALL BE CENTERED WITHIN EACH ROOM OR SPACE WITH NO CUT PERIMETER TILES TO BE <6".

3-8. ALL ELECTRICAL, CATV, AND TELEDATA OUTLETS TO BE LOCATED 16" O.C. ABOVE FINISH FLOOR UNLESS NOTED OTHERWISE. ALL ELECTRICAL FIXTURES AT KITCHEN COUNTERS AND BATHROOM VANITIES TO BE LOCATED 46" O.C. ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. ALL ELECTRICAL SWITCHES, THERMOSTATS, AND OTHER CONTROL DEVICES TO BE CENTERED 46" O.C. ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.

3.9. UNLESS DIMENSIONED OR OTHERWISE NOTED, SET THE NEAREST EDGE OF SWITCHPLATES 24" FROM THE CENTER OF DOOR OPENINGS. AT ALL LOCATIONS WHERE MULTIPLE SWITCHES ARE SHOWN, THEY SHOULD BE GANGED UNLESS SPECIFICALLY NOTED OTHERWISE. IN ANY LOCATIONS WITH MULTIPLE DEVICES (ELECTRICAL OUTLETS, ELECTRICAL SWITCHES, HORN/STROBES, EMERGENCY LIGHTS, ETC), ALL DEVICES ARE TO BE CENTERED ON A VERTICAL AXIS UNLESS SPECIFICALLY NOTED OTHERWISE.

3-10. ACOUSTICAL INSULATION NOT SHOWN FOR CLARITY. REFER TO PARTITION TYPES FOR LOCATION OF ACOUSTICAL INSULATION.

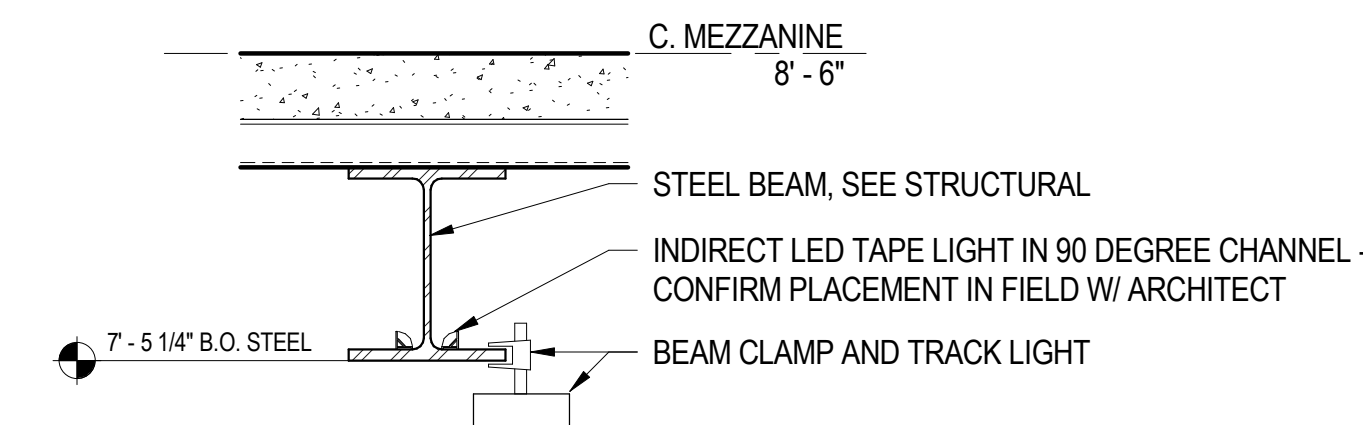
4-1. SEE G001 FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS

4-2. SEE G004 FOR INTERIOR PARTITION TYPES.
4-3. SEE BUILDING SECTIONS FOR MOUNTING HEIGHTS OF ALL LIGHT FIXTURES

The diagram illustrates various types of fire barriers and partitions, categorized into five rows:

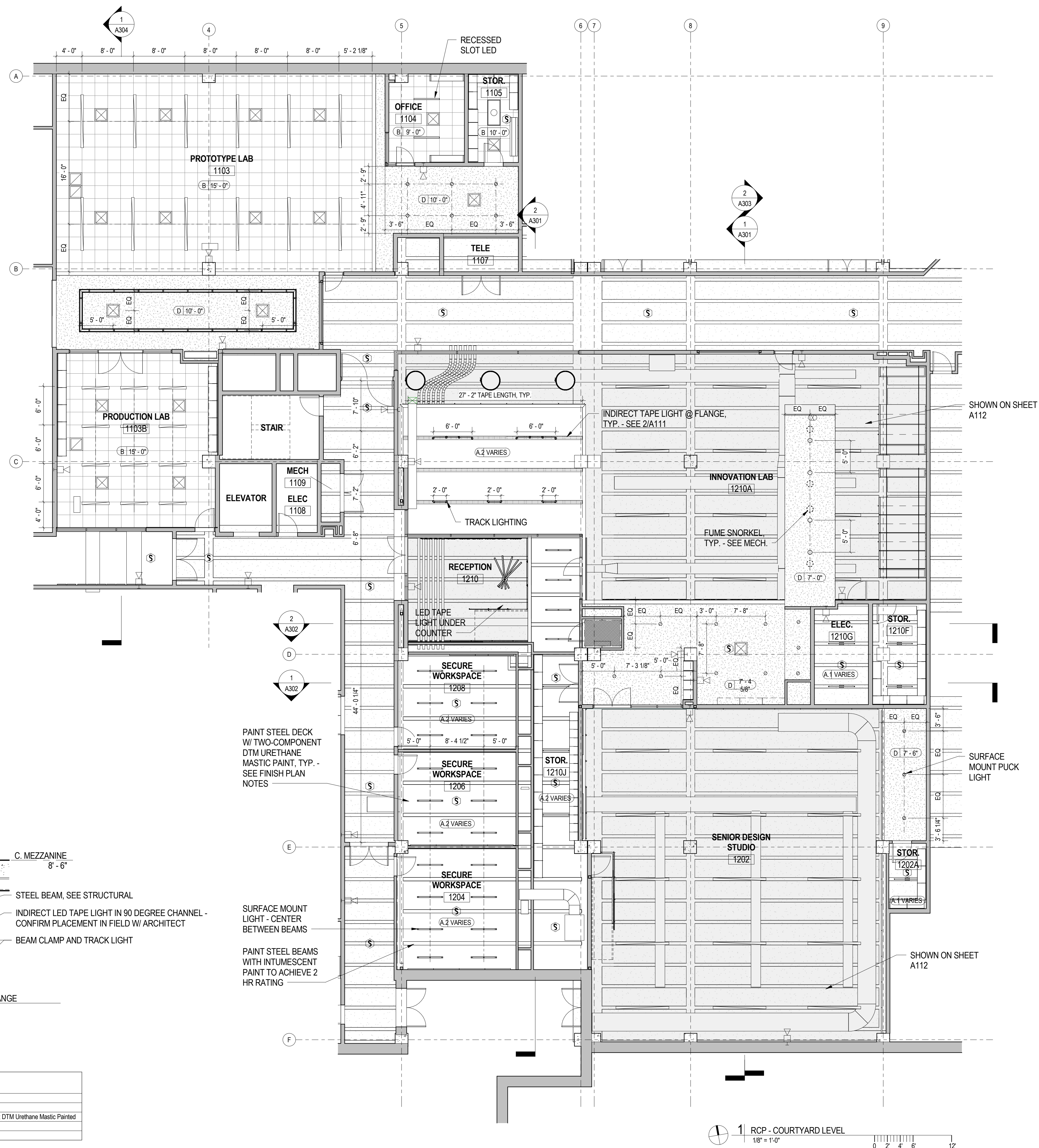
- EXISTING CONSTRUCTION TO REMAIN:** Shows a cross-section of a wall with a door and a window, indicating existing construction to remain.
- EXISTING WALL TO BE DEMOLISHED:** Shows a cross-section of a wall with a door and a window, indicating existing construction to be demolished.
- UNRATED WALL:** Shows a cross-section of a wall with a door and a window, indicating an unrated wall.
- PARTITION TYPE:** Shows a cross-section of a wall with a door and a window, indicating a partition type.
- 1-HOUR FIRE BARRIER:** Shows a cross-section of a wall with a door and a window, indicating a 1-hour fire barrier.
- 2-HOUR FIRE BARRIER:** Shows a cross-section of a wall with a door and a window, indicating a 2-hour fire barrier.

	2X2X2 ACOUSTICAL CEILING TILES		LAY-IN LIGHT FIXTURES - SEE ELECTRICAL DRAWINGS
	GWB CEILING		SURFACE MOUNT PUCK LIGHT - SEE ELECTRICAL DRAWINGS
	PERFORATED METAL CEILING		SUSPENDED LINEAR LIGHT FIXTURE - SEE ELECTRICAL DRAWINGS
	WOOD FIBER ACOUSTIC PANEL		EMERGENCY WALL LIGHT
	HVAC DIFFUSERS - SEE MECHANICAL DRAWINGS		FIRE ALARM FIXTURE - SEE ELECTRICAL DRAWINGS
	CEILING HEIGHT CEILING TYPE		SMOKE DETECTOR - SEE ELECTRICAL DRAWINGS
			EXIT LIGHT - SEE ELECTRICAL DRAWINGS
			SPRINKLER HEAD - SEE FIRE PROTECTION DRAWINGS



2 TYP. DETAIL - LIGHTING @ BEAM FLANGE
1 1/2" = 1'-0"

CEILING SCHEDULE	
KEY	TYPE
A.1	Exposed Structure - Concrete Slab, Painted
A.2	Exposed Structure - Metal Deck, Two-Component DTM Urethane Mastic Painted
B	2' x 2' AEST System w/ Tegalur Edge
D	GWR on Mill Stud



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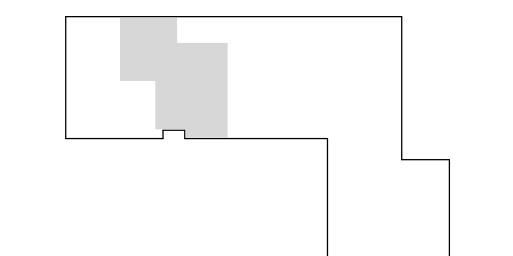
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KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700
REVISIONS

[illegible]

PROJECT DATA

DATE: 04.25.2025
DRAWN: TLW
CHECKED: MC
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

REFLECTED
CEILING PLAN -
COURTYARD
LEVEL

A111

1.1. THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR REVIEWING AND COORDINATING THEIR WORK WITH ALL OF THE CONTRACT DOCUMENTS PRIOR TO BEGINNING ANY WORK ON SUBMITTALS, SHOP DRAWINGS, FABRICATION, OR INSTALLATION. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BY THE GENERAL CONTRACTOR (OR CMAR) IN WRITING AND SHALL BE RESOLVED WITH THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK.

1.2. THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR COORDINATING THEIR WORK WITH ALL OWNERS' SYSTEMS INCLUDING, BUT NOT LIMITED TO, TELECOMMUNICATIONS, AUDIOVISUAL AND SECURITY SYSTEMS. ANY CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF CONTRACT DOCUMENTS AND THE OWNERS' VENDORS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BY THE GENERAL CONTRACTOR (OR CMAR) IN WRITING AND SHALL BE RESOLVED WITH THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK.

1.3. EXISTING CONDITIONS FOR THE BUILDING AND/OR SITE AS REPRESENTED IN THE CONTRACT DOCUMENTS ARE NOT GUARANTEED. PRIOR TO BEGINNING ANY WORK ON SUBMITTALS, SHOP DRAWINGS, FABRICATION, OR INSTALLATION, THE GENERAL CONTRACTOR (OR CMAR) AND ALL SUB-CONTRACTORS ARE RESPONSIBLE FOR INVESTIGATING THEIR RESPECTIVE WORK AREAS FOR THE LOCATION OF EXISTING OBSTACLES TO CONSTRUCTION OF THE WORK INCLUDING, BUT NOT LIMITED TO, UNDERGROUND UTILITIES, EXISTING BUILDING SYSTEMS, FLOOR ELEVATIONS, AND OTHER STRUCTURAL OR BUILDING DATUMS.

2-1. ALL DIMENSIONS ARE TO FINISHED FACE OF WALL UNLESS OTHERWISE NOTED.

2-2. WALLS SHOWN TO ALIGN ARE TO HAVE FINISHED FACES ALIGN UNLESS NOTED OTHERWISE.

2-3. IF PROVIDED, REFER TO ENLARGED PLANS AND PLAN DETAILS FOR ADDITIONAL INFORMATION AND DIMENSIONS.

2-4. LOCATIONS OF ALL DEVICES AND FIXTURES DIMENSIONED, NOTED OR OTHERWISE DESCRIBED ARE EXACT. ALL NEW FRAMING MUST ACCOMMODATE THESE LOCATIONS.

2-5. ANY DIMENSIONS OF OR TYING INTO EXISTING BUILDING COMPONENTS ARE TO BE FIELD-VERIFIED PRIOR TO COMMENCEMENT OF WORK. VERIFY WITH ARCHITECT.

3-1. TYPICAL DETAILS SHOWN ON THE DRAWINGS SHALL BE INCORPORATED AT ALL APPROPRIATE LOCATIONS, WHETHER OR NOT SPECIFICALLY REFERENCED AT EACH LOCATION.

3-2. THE GENERAL CONTRACTOR (OR CMAR) IS RESPONSIBLE FOR ANY REQUIRED DEMOLITION, TEMPORARY SUPPORT OF, AND/OR DAMAGE TO NEW OR EXISTING STRUCTURE DURING CONSTRUCTION. ANY UTILITY LINES, PIPING, EQUIPMENT, FINISHES, OR ANY OTHER PORTIONS OF THE EXISTING BUILDING OR NEW CONSTRUCTION SHALL BE PROTECTED, REPAIRED, REFINISHED AND/OR REPLACED AT THE ARCHITECT'S DIRECTION AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR.

3-3. THE GENERAL CONTRACTOR (OR CMAR) IS TO COORDINATE, PROVIDE, AND INSTALL CONCEALED BLOCKING FOR ALL WALL- AND CEILING-MOUNTED ITEMS INCLUDING, BUT NOT LIMITED TO, HAND RAILS, GRAB BARS, CABINETS AND OTHER CASEWORK, EQUIPMENT, OWNER- AND/OR VENDOR-PROVIDED ITEMS, ETC. BLOCKING IS TO BE 2" X 4" WOOD OR 20ga METAL WITH A FLAME SPREAD AND SMOKE DEVELOPMENT RATING <G. TO BE CONDUIT, WIRING, OR OTHER ROUTED ITEMS. BLOCKING MAY BE CONCEALED WHEREVER POSSIBLE, UNLESS SPECIFICALLY NOTED OTHERWISE. ANY CONDUIT, WIRING, OR PIPING THAT CANNOT BE ROUTED IN A CONCEALED MANNER MUST BE IDENTIFIED BY THE GENERAL CONTRACTOR AND REVIEWED AND COORDINATED WITH ARCHITECT PRIOR TO COORDINATION DRAWINGS (IF REQUIRED) OR INSTALLATION (IF COORDINATION DRAWINGS ARE NOT REQUIRED).

3-4. IN ALL BUILDING SYSTEMS SHALL BE CONFIGURED TO MINIMIZE REQUIRED ABOVE-CEILING ACCESS. THE LOCATION OF ALL ACCESS DOORS MUST BE COORDINATED WITH AND APPROVED BY THE ARCHITECT PRIOR TO THE INSTALLATION OF ANY ABOVE-CEILING EQUIPMENT, DAMPERS, VALVES, JUNCTION BOXES, ETC. ACCESS DOORS SHALL BE PROVIDED AND INSTALLED FOR ANY WORK THAT REQUIRES ABOVE-CEILING ACCESS. ADDITIONALLY, ANY ACCESS DOORS OR PANELS REQUIRED IN WALLS MUST BE COORDINATED WITH AND APPROVED BY THE ARCHITECT PRIOR TO THE INSTALLATION OF ANY EQUIPMENT REQUIRING ACCESS TO WALLS. ANY ACCESS DOORS OR PANELS REQUIRED IN CEILING SHALL BE COORDINATED WITH ARCHITECT. GYP BOARD SHALL BE SEALED TO THE UNDERSIDE OF DECK UNLESS SPECIFICALLY NOTED OTHERWISE. GYP BOARD SHALL BE SEALED TO DECK AT EACH FACE WITH JOINT COMPOUND, SEALANT, AND/OR EXPANDING FOAM (ACCEPTABLE ONLY IN CONCEALED CONDITIONS). ANY REQUIRED PIPE, CONDUIT, OR WIRING PENETRATIONS SHALL BE SEALED AS DESCRIBED ABOVE.

3-7. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL AC CEILING GRIDS SHALL BE CENTERED WITHIN EACH ROOM OR SPACE WITH NO CUT PERIMETER TILES TO BE CUT.

3-8. ALL ELECTRICAL, CATV, AND TELEDATA OUTLETS TO BE LOCATED 16" O.C. ABOVE FINISH FLOOR UNLESS NOTED OTHERWISE. ALL ELECTRICAL FIXTURES AT KITCHEN COUNTERS AND BATHROOM VANITIES TO BE LOCATED 46" O.C. ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. ALL ELECTRICAL SWITCHES, THERMOSTATS, AND OTHER CONTROL DEVICES TO BE CENTERED 46" O.C. ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.

3-9. UNLESS DIMENSIONED OR OTHERWISE NOTED, SET THE NEAREST EDGE OF SWITCHPLATES 24" FROM THE CENTER OF DOOR OPENINGS. AT ALL LOCATIONS WHERE MULTIPLE SWITCHES ARE SHOWN, THEY SHOULD BE GANGED UNLESS SPECIFICALLY NOTED OTHERWISE. IN ANY LOCATIONS WITH MULTIPLE DEVICES (ELECTRICAL OUTLETS, ELECTRICAL SWITCHES, HORNSTROBES, EMERGENCY LIGHTS, ETC), ALL DEVICES ARE TO BE CENTERED ON THE SAME AXIS UNLESS SPECIFICALLY NOTED OTHERWISE.

3-10. ADDITIONAL INSULATION NOT SHOWN FOR CLARITY. REFER TO PARTITION TYPES FOR LOCATION OF ACoustICAL INSULATION.

4-1. SEE G001 FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS
4-2. SEE G004 FOR INTERIOR PARTITION TYPES.
4-3. SEE BUILDING SECTIONS FOR MOUNTING HEIGHTS OF ALL LIGHT FIXTURES

EXISTING CONSTRUCTION TO REMAIN

EXISTING WALL TO BE DEMOLISHED

UNRATED WALL

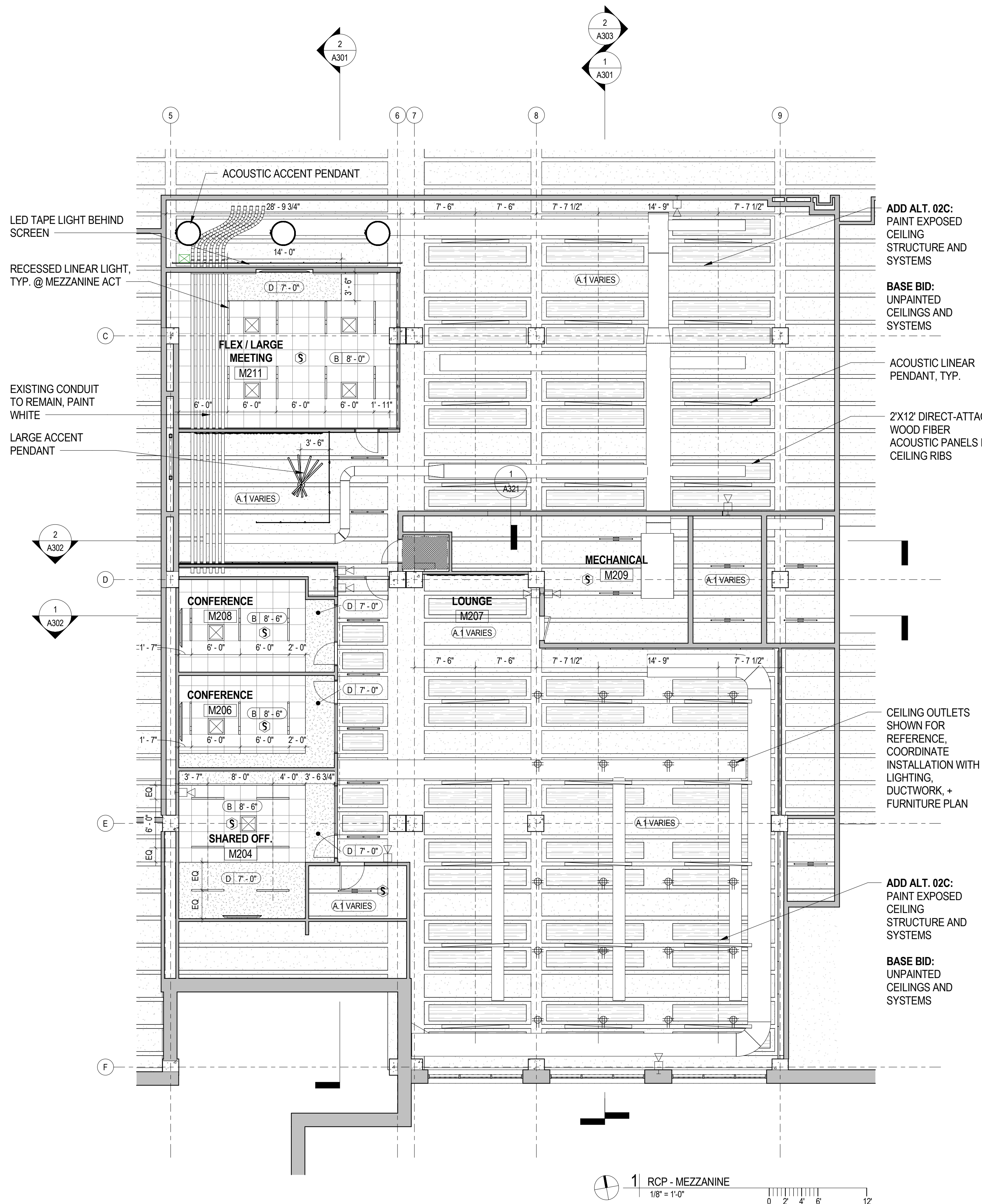
PARTITION TYPE

1-HOUR FIRE BARRIER

2-HOUR FIRE BARRIER

	2'X2' ACOUSTICAL CEILING TILES		LAY-IN LIGHT FIXTURES - SEE ELECTRICAL DRAWINGS
	GWB CEILING		SURFACE MOUNT PUCK LIGHT - SEE ELECTRICAL DRAWINGS
	PERFORATED METAL CEILING		SUSPENDED LINEAR LIGHT FIXTURE - SEE ELECTRICAL DRAWINGS
	WOOD FIBER ACOUSTIC PANEL		EMERGENCY WALL LIGHT
	HVAC DIFFUSERS - SEE MECHANICAL DRAWINGS		FIRE ALARM FIXTURE - SEE ELECTRICAL DRAWINGS
	CEILING HEIGHT CEILING TYPE		SMOKE DETECTOR - SEE ELECTRICAL DRAWINGS
			EXIT LIGHT - SEE ELECTRICAL DRAWINGS
			SPRINKLER HEAD - SEE FIRE PROTECTION DRAWINGS

CEILING SCHEDULE	
KEY	TYPE
A.1	Exposed Structure - Concrete Slab, Painted
A.2	Exposed Structure - Metal Deck, Two-Component DTM Urethane Mastic Painted
B	2' x 2' ACT System w/ Tegular Edge
D	GWB on Mil. Stud



CONSULTANTS:

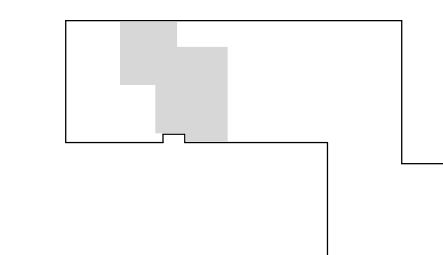
Structura

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MEP Engineer

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KEY PLAN

 SEALS

BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

[illegible]

PROJECT DATA

DATE: 04.25.2025
DRAWN: TLW
CHECKED: MC
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

REFLECTED
CEILING PLAN -
MEZZANINE

SHEET NO.

A112

EXISTING CONSTRUCTION TO REMAIN

EXISTING WALL TO BE DEMOLISHED

UNRATED WALL

PARTITION TYPE

1-HOUR FIRE BARRIER

2-HOUR FIRE BARRIER

The diagram shows a rectangular box representing a room data structure. The box is divided into four sections. The top section is labeled 'Room name' and contains three hash symbols '###'. Below this, the box is divided into three columns: 'F##', 'B##', and 'W##'. Arrows point from labels to these columns: 'FLOOR FINISH' points to 'F##', 'WALL BASE MATERIAL' points to 'B##', and 'WALL FINISH' points to 'W##'. An arrow labeled 'ROOM NUMBER' points to the '###' symbols in the top section.

NOTE: SEE REFLECTED CEILING
PLAN FOR CEILING FINISHES

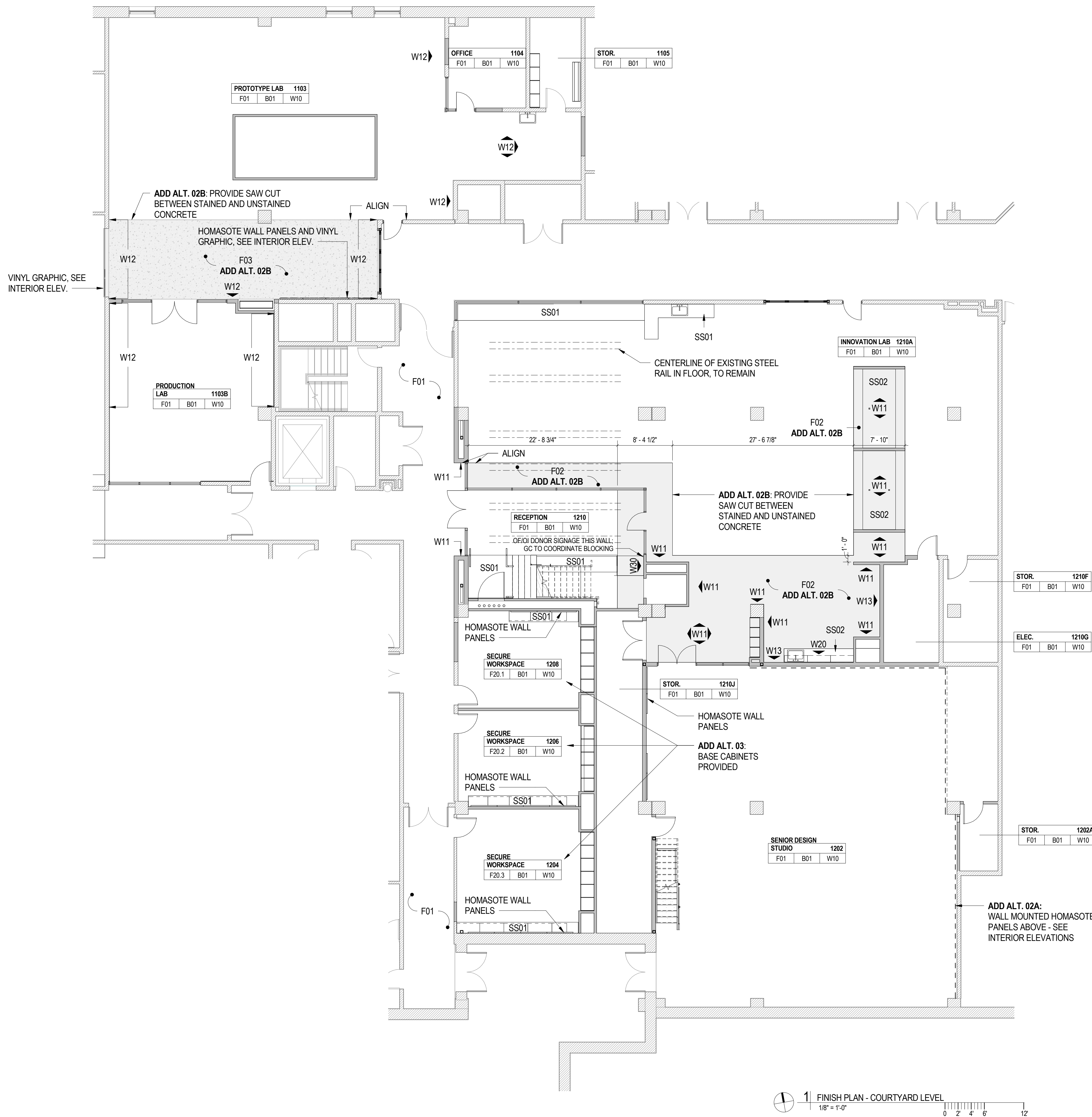
1. SEE G001 FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS.
2. HOLLOW METAL FRAMES AND DOORS TO RECEIVE SEMI-GLOSS FINISH U.N.O.
3. IF NOT DIMENSIONED, ALIGN FLOOR MATERIALS AT ARCHITECTURAL ELEMENTS WHERE SHOWN ON FINISH PLAN. I.E. AT EDGE OF WALL.
4. ALL PAINT FINISHES TO BE EGGSHELL U.N.O.
5. PAINTED GUARDRAILS AND HANDRAILS TO BE SEMI-GLOSS FINISH.
6. SEE DOOR SCHEDULE FOR FRAME AND DOOR COLORS.
7. PORCELAIN AND CERAMIC TILE GROUT TO BE SELECTED BY ARCHITECT.
8. ALL SPACES REQUIRE CLASS C FLOOR SPREAD INIE AT A MINIMUM EXCEPT CORRIDORS, EXIT STAIRS AND EXIT PASSAGeways WHICH REQUIRE CLASS B MINIMUM FLOOR SPREAD INIE PER TABLE 803.11.
9. PROTECT EXISTING FINISHES TO REMAIN, INCLUDING CONCRETE SLAB, SHEETROCK WALLS, AND EXPOSED CONCRETE COLUMNS.
10. FIELD VERIFY CONDITION OF ALL FINISHES TO REMAIN. AREAS OF DAMAGE TO BE BROUGHT TO THE ATTENTION OF OWNER AND ARCHITECT.
11. CLEAN EXISTING CONCRETE SLAB.
12. WHERE EXISTING CONCRETE FLOOR IS TO REMAIN, REPAIR AND PATCH CRACKS AND HOLES TO MATCH EXISTING.
13. PREP SLAB PER SPECIFICATIONS TO RECEIVE FINAL FINISH PER PLAN AND SCHEDULE.
14. GYPSUM AND FINISH THROUGHOUT TO BE LEVEL 4 U.N.O. IN AREAS OF W30 - VINYL, TRANSFER GRAPHIC, PROVIDE LEVEL 5 GYPSUM BOARD FINISH.
15. AREAS OF W30 - VINYL, TRANSFER GRAPHIC, WALL TO BE PREPPED AND PAINTED PER MANUFACTURER'S AND INSTALLER'S RECOMMENDATION.
16. PROVIDE MOCKUP SAMPLES OF EACH PAINT COLOR/FINISH INDICATED TO VERIFY PRELIMINARY SELECTIONS. ARCHITECT TO SELECT ONE SURFACE TO REPRESENT SURFACES AND CONDITIONS FOR EACH SYSTEM. APPLY GYPSUM AND FINISH THROUGHOUT TO BE LEVEL 4 U.N.O. IN AREAS OF W30 - VINYL, TRANSFER GRAPHIC, PROVIDE LEVEL 5 GYPSUM BOARD FINISH.
17. EXPOSED CONCRETE COLUMNS AND CEILINGS TO BE CLEANED AND PRIMED WITH MASONRY PRIMER BEFORE RECEIVING PAINT.
18. PAINT EXPOSED CONCRETE COLUMNS W10 FROM B.O. MEZZANINE SLICE STRUCTURE TO UNDERSIDE OF CONCRETE DECK, TYPE - USE BUILDING SECTIONS FOR CONDITION.
19. CORNER GUARDS (GO TO INSTANT 10.0 TO 10.0) - SEE PLAN FOR LOCATIONS. (BOD: INPRO CORP, ENVIROST 52 SERIES TAPE-ON CORNER GUARDS, MODEL 11298N, STANDARD SOLID COLORS).
20. ALL CEILINGS (EXCEPT FOR AREAS OF ACT AND STRUCTURAL MEMBERS TO RECEIVE INTUMESCENT PAINT) INCLUDING EXPOSED STRUCTURE, CONDUIT, DUCTWORK, SPRINKLER LINES, PLUMBING LINES, ETC. TO BE PAINTED COLOR W10.
21. IN AREAS OF EXPOSED GALVANIZED METAL, DECK AND EXPOSED STEEL MEMBERS THAT ARE NOT INTUMESCENT COLORED, USE TWO-COMPONENT BTD LINE FINE MASTIC PAINT AND FOLLOW MFR'S RECOMMENDATIONS FOR PREP AND APPLICATION. BTD L: PPGS DURETHANE TM 95-3300 COLOR W10.
22. ALL AREAS TO RECEIVE INTUMESCENT PAINT SHALL RECEIVE A FINISH TOPCOAT, COLOR TO MATCH ADJACENT AREAS, PER INTUMESCENT PAINT MANUFACTURER'S APPROVED PRODUCT LIST.

WALL BASE SCHEDULE	
KEY	BASE MATERIAL
B01	4" RUBBER COVE BASE - MATCH WALL COLOR

SOLID SURFACE SCHEDULE	
KEY	SURFACE MATERIAL
SS01	SOLID SURFACE - WHITE, CONFIRM SELECTION WITH ARCHITECT
SS02	SOLID SURFACE - BLACK PHENOLIC RESIN, CONFIRM SELECTION WITH ARCHITECT

P-LAM SCHEDULE	
KEY	LAMINATE MATERIAL
PLAM1	PLASTIC LAMINATE - B.O.D. FORMICA NATURAL ASH
PLAM2	PLASTIC LAMINATE - B.O.D. FORMICA BLACK
PLAM3	PLASTIC LAMINATE - B.O.D. FORMICA WHITE

*REFERENCE CASEWORK DETAILS FOR PLASTIC LAMINATE SELECTIONS



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CONSULTANTS

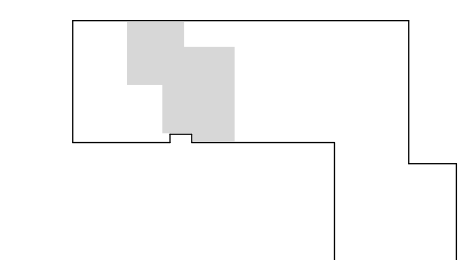
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MEP Engineer

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KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT

**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**

1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700
REVISIONS

[illegible]

PROJECT DATA

DATE: 04.25.2025
DRAWN: TLW
CHECKED: BBT
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

FINISH PLAN - COURTYARD LEVEL

_____ SHEET NO.

A121

EXISTING CONSTRUCTION TO REMAIN

EXISTING WALL TO BE DEMOLISHED

UNRATED WALL

PARTITION TYPE

1-HOUR FIRE BARRIER

2-HOUR FIRE BARRIER

Diagram illustrating the structure of a Room record:

- Room name** (indicated by ###)
- FLOOR FINISH** (indicated by F##)
- WALL BASE MATERIAL** (indicated by B##)
- ROOM NUMBER** (indicated by W##)

NOTE: SEE REFLECTED CEILING
PLAN FOR CEILING FINISHES

1. SEE G001 FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS.
2. HOLLOW METAL FRAMES AND DOORS TO RECEIVE SEMI-GLOSS FINISH U.O.
3. IF NOT DIMENSIONED, ALIGN FLOOR MATERIALS AT ARCHITECTURAL ELEMENTS WHERE SHOWN ON FINISH PLAN, I.E. AT EDGE OF WALL.
4. ALL PAINT FINISHES TO BE EGGSHELL U.O.
5. PAINTED GUARDRAILS AND HANDRAILS TO BE SEMI-GLOSS FINISH.
6. SEE DOOR SCHEDULE FOR FRAME AND DOOR COLORS.
7. PORCELAIN AND CERAMIC TILE GROUT TO BE SELECTED BY ARCHITECT.
8. ALL SPACES REQUIRE CLASS C FLOOR SPREAD INDEX AT A MINIMUM EXCEPT CORRIDORS, EXIT STAIRS AND EXIT PASSAGeways WHICH REQUIRE CLASS B MINIMUM FLOOR SPREAD INDEX PER TABLE 803.11.
9. PROTECT EXISTING FINISHES TO REMAIN, INCLUDING CONCRETE SLAB, SHEETROCK WALLS, AND EXPOSED CONCRETE COLUMNS.
10. FIELD VERIFY CONDITION OF ALL FINISHES TO REMAIN AREAS OF DAMAGE TO BE BROUGHT TO THE ATTENTION OF OWNER AND ARCHITECT.
11. CLEAN EXISTING CONCRETE SLAB.
12. WHERE EXISTING CONCRETE FLOOR IS TO REMAIN, REPAIR AND PATCH CRACKS AND HOLES TO MATCH EXISTING. PREP SLAB PER SPECIFICATIONS TO RECEIVE FINAL FINISH PER PLAN AND SCHEDULE.
13. CYPRESS TRIM FINISH THROUGHOUT TO BE LEVEL 4 U.O. IN AREAS OF W30 - VINYL TRANSFER GRAPHIC, PROVIDE LEVEL 5 CYPRESS BOUND FINISH.
14. AREAS OF W30 - VINYL TRANSFER GRAPHIC, WALL TO BE PREPARED AND PAINTED PER MANUFACTURER'S AND INSTALLER'S RECOMMENDATION.
15. PROVIDE MOCKUP SAMPLES OF EACH PAINT COLOR/FINISH INDICATED TO VERIFY PRELIMINARY SELECTIONS. ARCHITECT TO SELECT ONE SURFACE TO REPRESENT SURFACES AND CONDITIONS FOR EACH SYSTEM. APPLY AFTER PRELIMINARY SELECTIONS THROUGHOUT TO ENVIRONMENTAL SERVICES HAVE BEEN ACTIVATED.
16. EXPOSED CONCRETE COLUMNS AND CEILINGS TO BE CLEANED AND PRIMED WITH MASONRY PRIMER BEFORE RECEIVING PAINT.
17. PAINT EXPOSED CONCRETE COLUMNS W10 FROM B.O. MEZZANINE STEEL STRUCTURE TO UNDERSIDE OF CONCRETE DECK, TYP. - SEE BUILDING SECTIONS FOR CONDITION.
18. CORNER GUARDS (CG) TO BE INSTALLED TO 1'-0" - SEE PLAN FOR LOCATIONS. (BOD: INPRO CORP, ENVIRONMENTAL SERVICES, INPRO CORP, ENVIRONMENTAL SERVICES) 1128EN STANDARD SOLID COLORS.
19. ALL CEILINGS (EXCEPT FOR AREAS OF ACT AND STRUCTURAL MEMBERS TO RECEIVE INTUMESCENT PAINT) INCLUDING EXPOSED STRUCTURE, CONDUIT, DUCTWORK, SPRINKLER LINES, PLUMBING LINES, ETC. TO BE PAINTED COLOR W10.
20. IN AREAS OF EXPOSED GALVANIZED METAL DECK AND EXPOSED STEEL MEMBERS THAT ARE NOT INTUMESCENT COATED, USE TWO COMPONENT DTM URETHANE MASTIC PAINT AND FOLLOW MFR'S APPLICATION AND RECOAT TIMES AND APPLICATION. B.O.D.: PPS DURETHANE DTM 95-300 COLOR W10.
21. ALL AREAS TO RECEIVE INTUMESCENT PAINT SHALL RECEIVE A FINISH TOPCOAT, COLOR TO MATCH ADJACENT AREAS, PER INTUMESCENT PAINT MANUFACTURER'S APPROVED PRODUCT LIST.

KEY	FLOOR MATERIAL
F00	UNFINISHED PLYWOOD
F01	EXISTING SLAB, CLEAN AND RESEAL
F02	EXISTING SLAB, STAINED AND RESEALED - ATRIUM BLUE
F03	EXISTING SLAB, STAINED AND RESEALED - INNOVATION GREEN
F10	CARPET TILE, B.O.D. MILLIKEN EXPLORER BREAKLINE
F20.1	RESILIENT FLOORING, B.O.D. SIENA VULCANIZED RUBBER + CORK TILE "CHAPS" VRC3007
F20.2	RESILIENT FLOORING, B.O.D. SIENA VULCANIZED RUBBER + CORK TILE "LASSO" VRC3015
F20.3	RESILIENT FLOORING, B.O.D. SIENA VULCANIZED RUBBER + CORK TILE "SHERIFF" VRC 3005

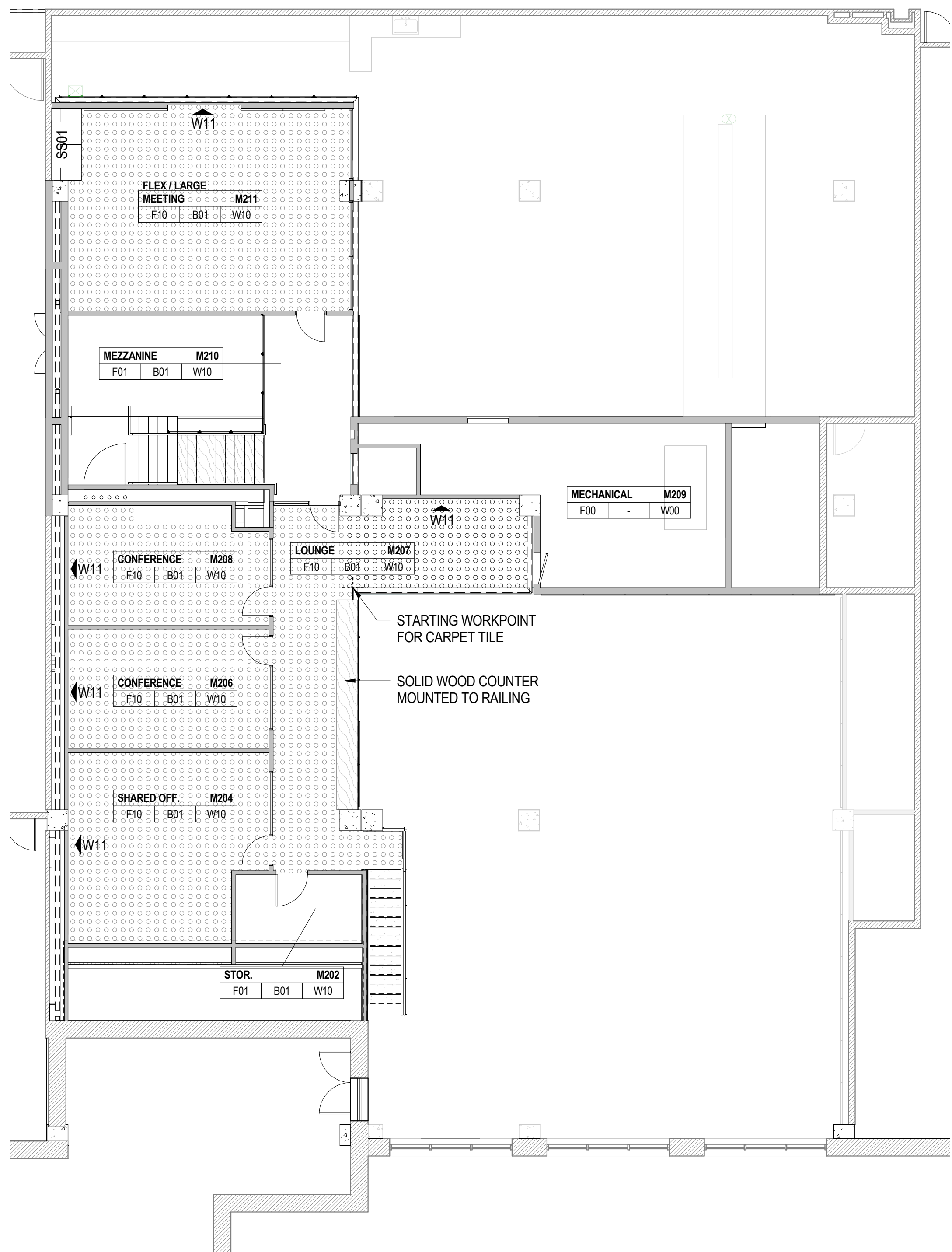
KEY	BASE MATERIAL
B01	4" RUBBER COVE BASE - MATCH WALL COLOR

KEY	WALL MATERIAL
W00	UNFINISHED GWB
W10	PAINT: WHITE - SW 7006
W11	PAINT: BLUE - SW 6508
W12	PAINT: GREEN - SW 6718
W13	PAINT: BLACK - SW 6258
W20	PORCELAIN TILE - BLACK GLAZED SUBWAY TILE W/ BLACK GROUT
W30	CUSTOM VINYL TRANSFER GRAPHIC

KEY	SURFACE MATERIAL
SS01	SOLID SURFACE - WHITE, CONFIRM SELECTION WITH ARCHITECT
SS02	SOLID SURFACE - BLACK PHENOLIC RESIN, CONFIRM SELECTION WITH ARCHITECT

KEY	LAMINATE MATERIAL
PLAM1	PLASTIC LAMINATE - B.O.D. FORMICA NATURAL ASH
PLAM2	PLASTIC LAMINATE - B.O.D. FORMICA BLACK
PLAM3	PLASTIC LAMINATE - B.O.D. FORMICA WHITE

*REFERENCE CASEWORK DETAILS FOR PLASTIC LAMINATE SELECTIONS



1 FINISH PLAN - MEZZANINE
1/8" = 1'-0"

CONSULTANTS

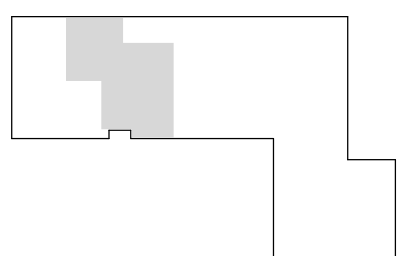
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KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT

NCSU-TEXTILES COMPLEX-FLEX FACTORY RENOVATIONS

1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

[illegible]

PROJECT DATA

DATE: 04.25.2025
DRAWN: TLW
CHECKED: BBT
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

FINISH PLAN - MEZZANINE

SHEET NO.

A122

1. SEE G001 FOR ADDITIONAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. EQUIPMENT TO BE OWNER-FURNISHED/OWNER-INSTALLED U.N.O. - SEE NOTES ON DRAWINGS FOR CONTRACTOR PROVIDED EQUIPMENT. SEE MEP FOR EQUIPMENT-SPECIFIC REQUIREMENTS, INCLUDING POWER, COMPRESSED AIR, EXHAUST, ETC. GC TO COORDINATE BLOCKING AS REQUIRED.
3. POWER / DATA RECEPTACLE LOCATIONS TO BE COORDINATED WITH EQUIPMENT LOCATIONS - SEE MEP DRAWINGS.
4. AV EQUIPMENT, INCLUDING SPEAKERS AND DISPLAYS, IS TO BE OWNER-FURNISHED/OWNER-INSTALLED AND IS SHOWN FOR REFERENCE & COORDINATION ONLY. GC TO COORDINATE POWER LOCATIONS AND CONDUIT.
5. SEE INTERIOR ELEVATIONS FOR ADDITIONAL DETAILS.

EXISTING CONSTRUCTION TO REMAIN

EXISTING WALL TO BE DEMOLISHED

UNRATED WALL

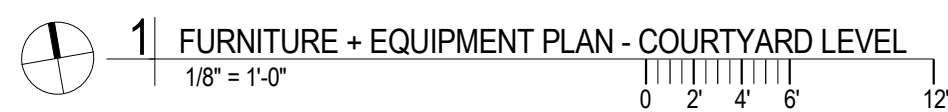
PARTITION TYPE

1-HOUR FIRE BARRIER

2-HOUR FIRE BARRIER

**PROTECTING EQUIPMENT TO REMAIN IS THE RESPONSIBILITY OF THE G.C.
CONDITION OF EQUIPMENT TO BE CONFIRMED BEFORE START OF CONSTRUCTION**

ALL FURNITURE TO BE OF/OI U.N.O.: GC TO COORDINATE POWER



1. SEE G001 FOR ADDITIONAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. EQUIPMENT TO BE OWNER-FURNISHED/OWNER-INSTALLED U.N.O. - SEE NOTES ON DRAWINGS FOR CONTRACTOR PROVIDED EQUIPMENT. SEE MEP FOR EQUIPMENT-SPECIFIC REQUIREMENTS, INCLUDING POWER, COMPRESSED AIR, EXHAUST, ETC. GC TO COORDINATE BLOCKING AS REQUIRED.
3. POWER / DATA RECEPTACLE LOCATIONS TO BE COORDINATED WITH EQUIPMENT LOCATIONS - SEE MEP DRAWINGS.
4. AV EQUIPMENT, INCLUDING SPEAKERS AND DISPLAYS, IS TO BE OWNER-FURNISHED/OWNER-INSTALLED AND IS SHOWN FOR REFERENCE & COORDINATION ONLY. GC TO COORDINATE POWER LOCATIONS AND CONDUIT.
5. SEE INTERIOR ELEVATIONS FOR ADDITIONAL DETAILS.

EXISTING CONSTRUCTION TO REMAIN

EXISTING WALL TO BE DEMOLISHED

UNRATED WALL

PARTITION TYPE

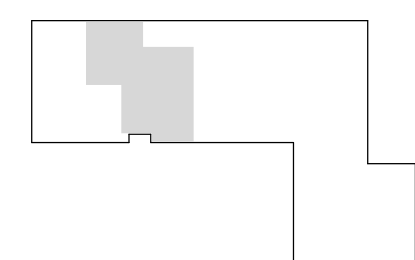
1-HOUR FIRE BARRIER

2-HOUR FIRE BARRIER

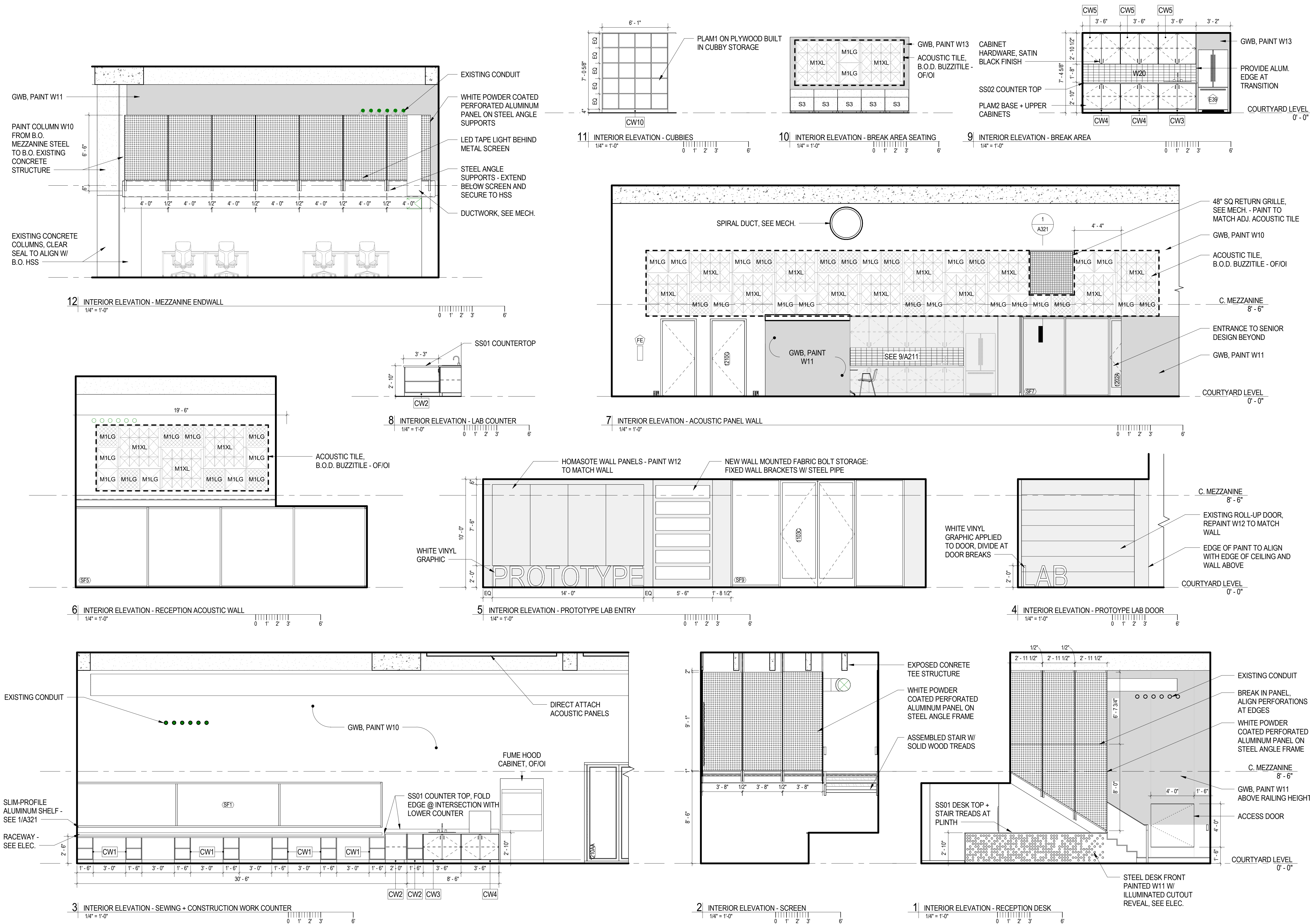
**PROTECTING EQUIPMENT TO REMAIN IS THE RESPONSIBILITY OF THE G.C.
CONDITION OF EQUIPMENT TO BE CONFIRMED BEFORE START OF CONSTRUCTION**

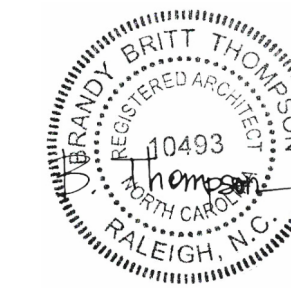
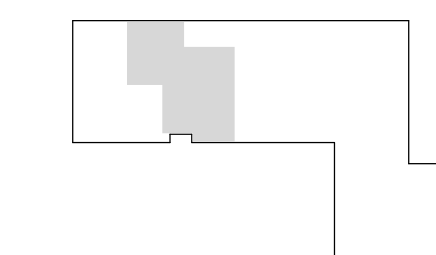
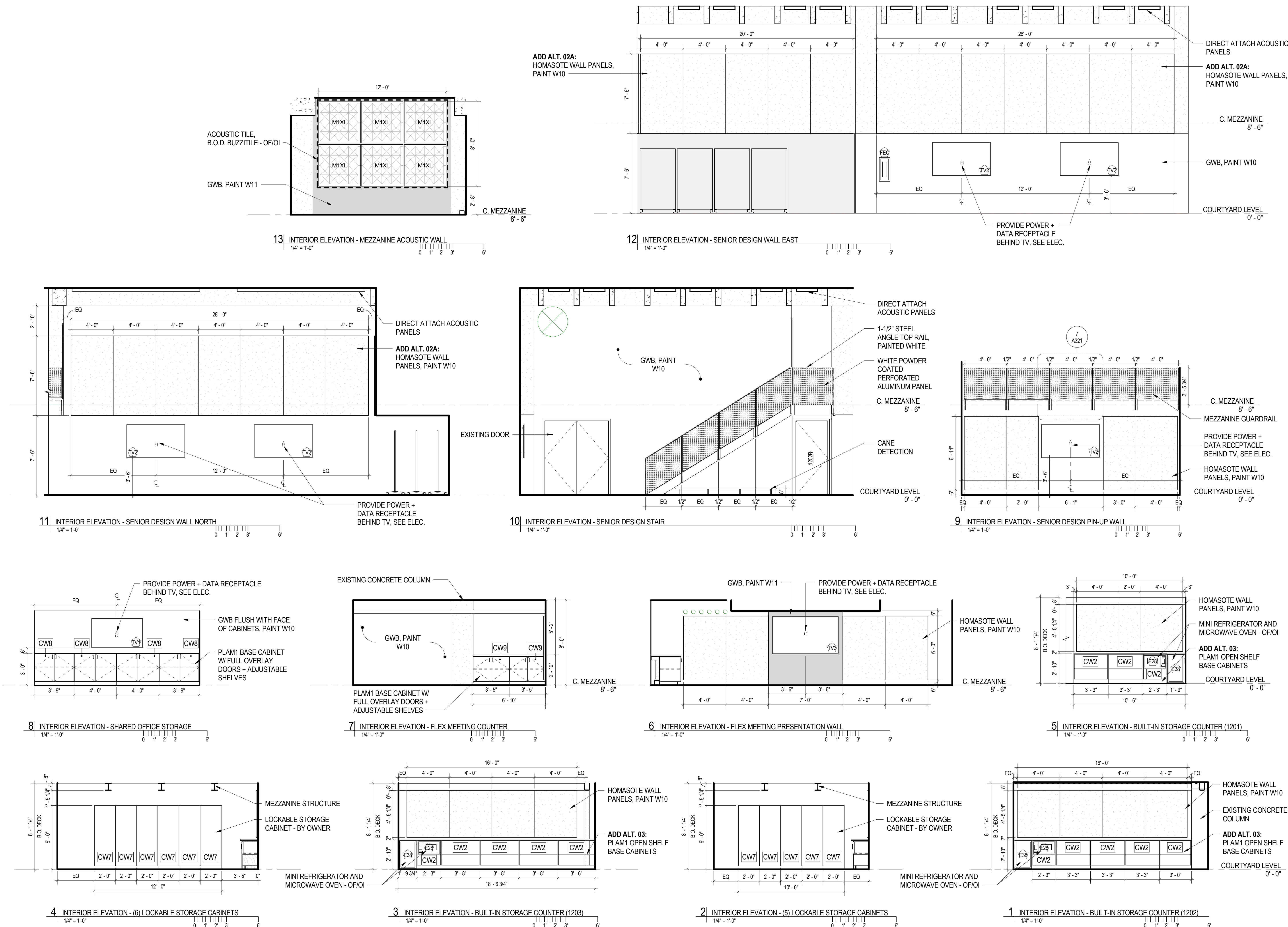
ALL FURNITURE TO BE OF/OI U.N.O.; GC TO COORDINATE POWER





REVISIONS		
No.	Description	Date



[illegible]

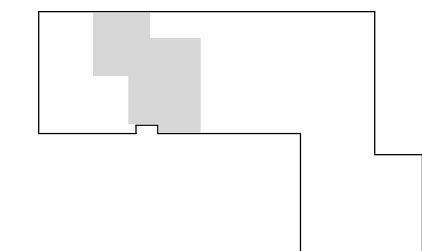
SHELVING SYSTEM KEY:

SHELVING 01: B.O.D. KNAPE & VOGT 82/182 SERIES - BY GC
18"D HD EXTRUDED ALUMINUM STANDARDS AND BRACKETS, PLAM3 ON PLYWOOD
SHELVES - PROVIDE (6) SHELVES TYP.

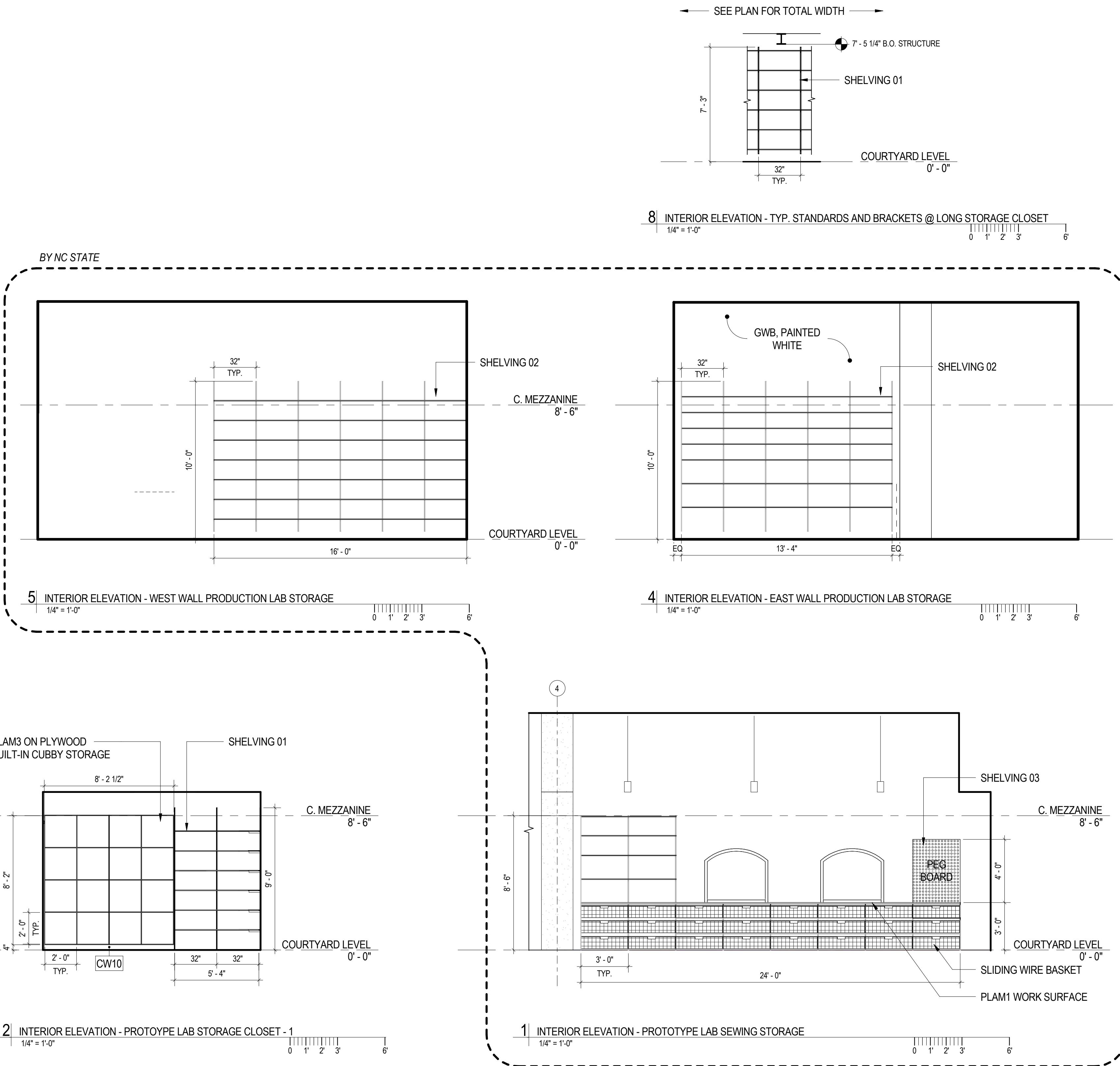
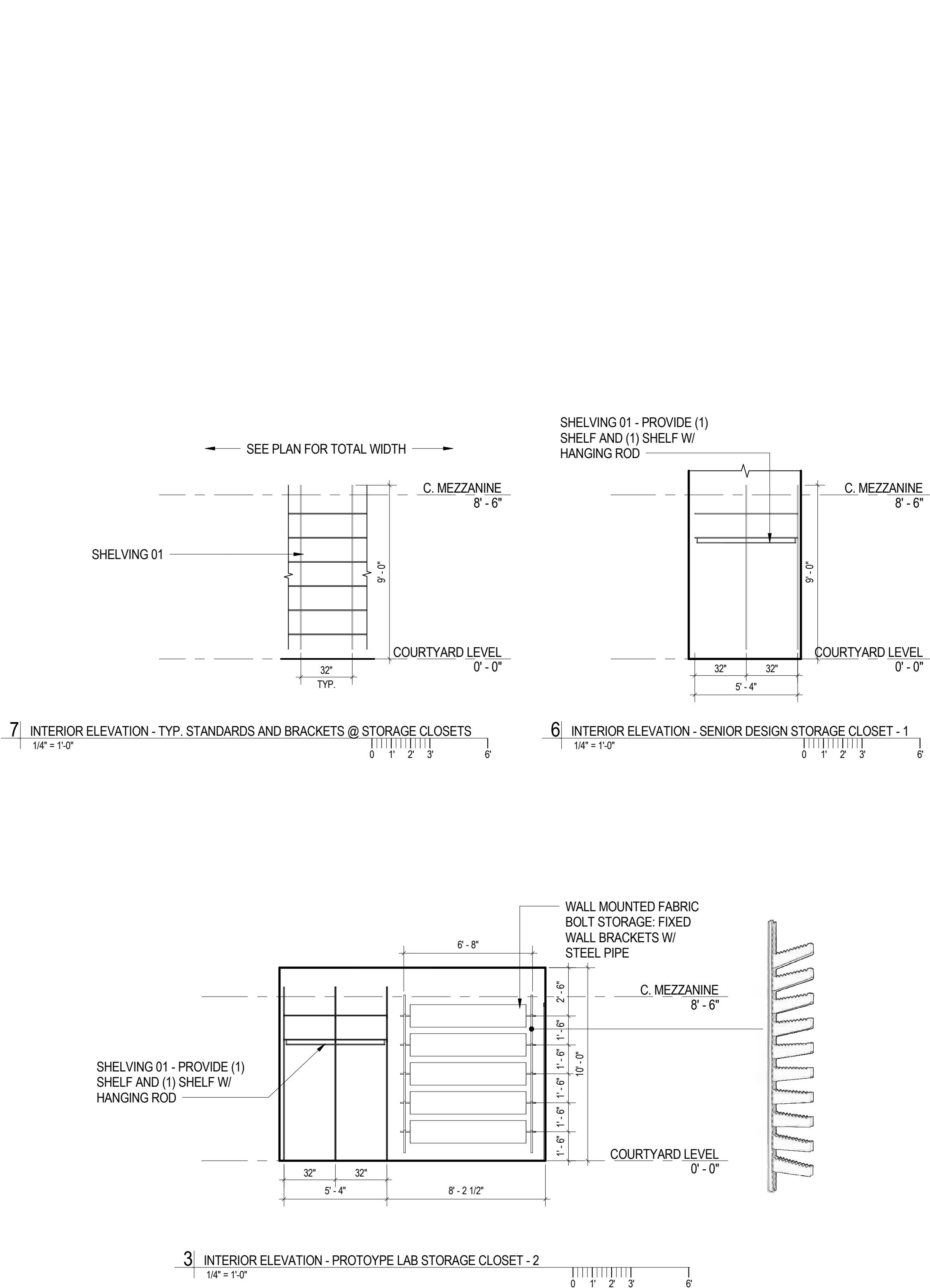
SHELVING 02: WALL MOUNTED SHELVING - BY OWNER
18"D HD EXTRUDED ALUMINUM SHELVES, STANDARDS, AND BRACKETS - PROVIDE
(7) SHELVES TYP.

SHELVING 03: WALL MOUNTED SHELVING ABOVE PULL OUT BASKETS - BY OWNER
12"D HD EXTRUDED ALUMINUM SHELVES, STANDARDS, AND BRACKETS W/ WIRE
MESH SLIDE OUT BASKETS - PROVIDE (6) SHELVES TYP.

GC TO VERIFY LOCATIONS OF WALL STUDS AND BLOCKING IN FIELD AND CONFIRM
SPACING OF STANDARDS COMPLY WITH MANUFACTURER'S RECOMMENDATIONS



REVISIONS		
No.	Description	Date



CONSULTANTS

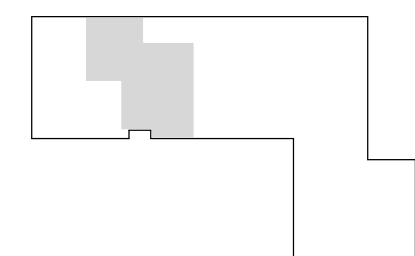
Structural

Lysaght & Associates
lysaghtassociates.com
120 St. Mary's St.
Raleigh, NC
919.833.0495
chuck@lysaghtassociates.com

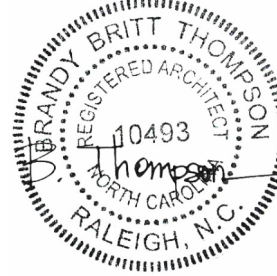
MEP Engineer

Sigma Engineered Solutions
sigmaes.com
5909 Falls of Neuse Rd, Ste #101
Raleigh, NC
919.840.5300
radams@sigmaes.com

KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

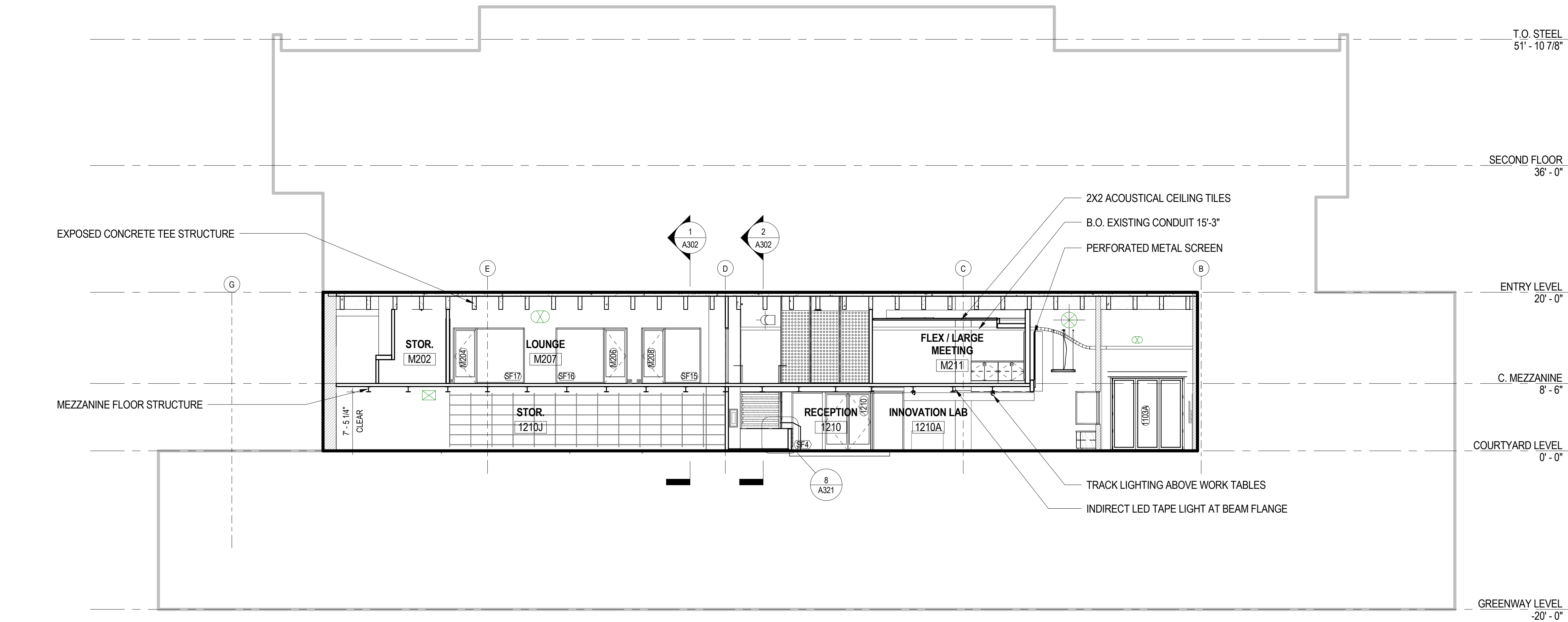
REVISIONS		
No.	Description	Date

PROJECT DATA
DATE: 04.25.2025
DRAWN: TLW
CHECKED: MC
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

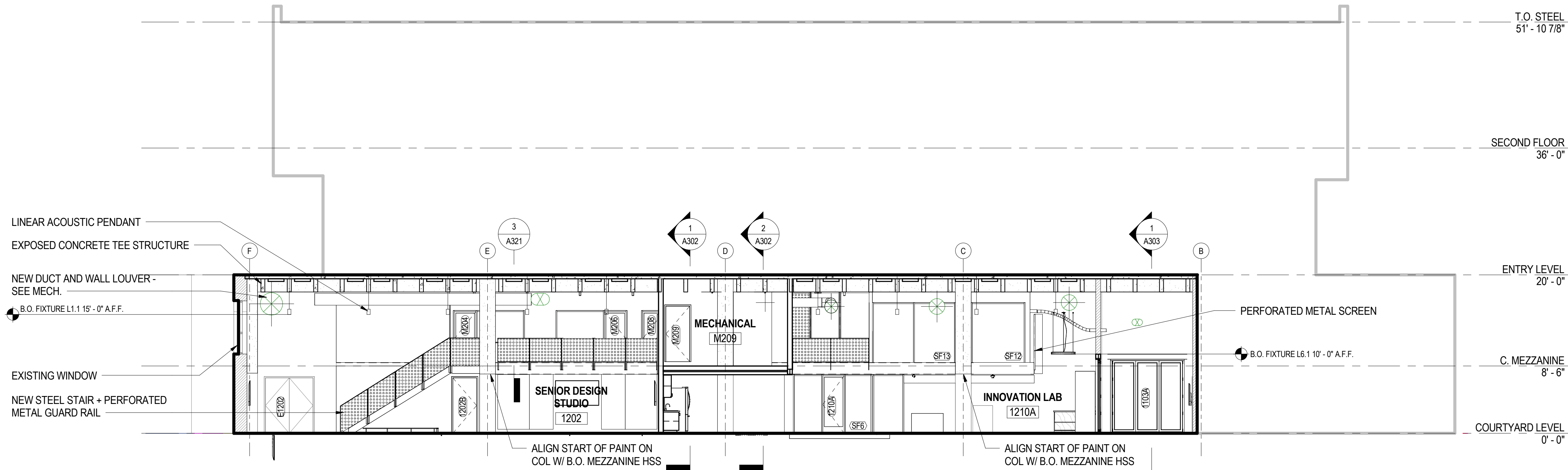
SHEET DATA
**BUILDING
SECTIONS**

SHEET NO.

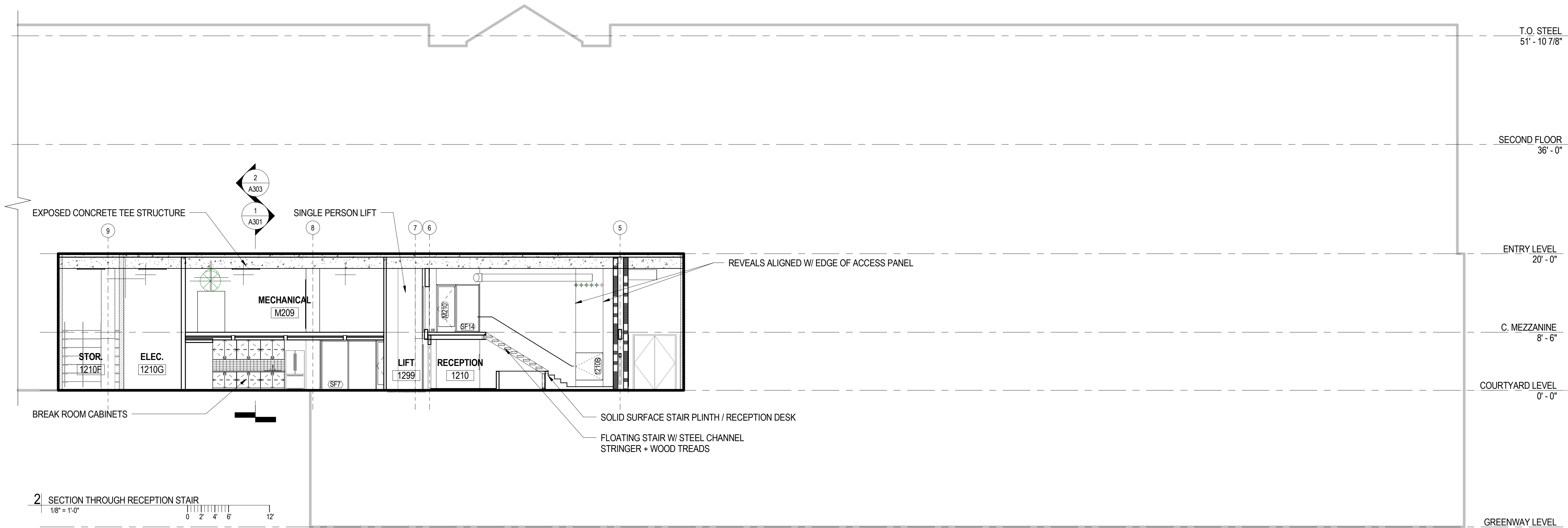
A301



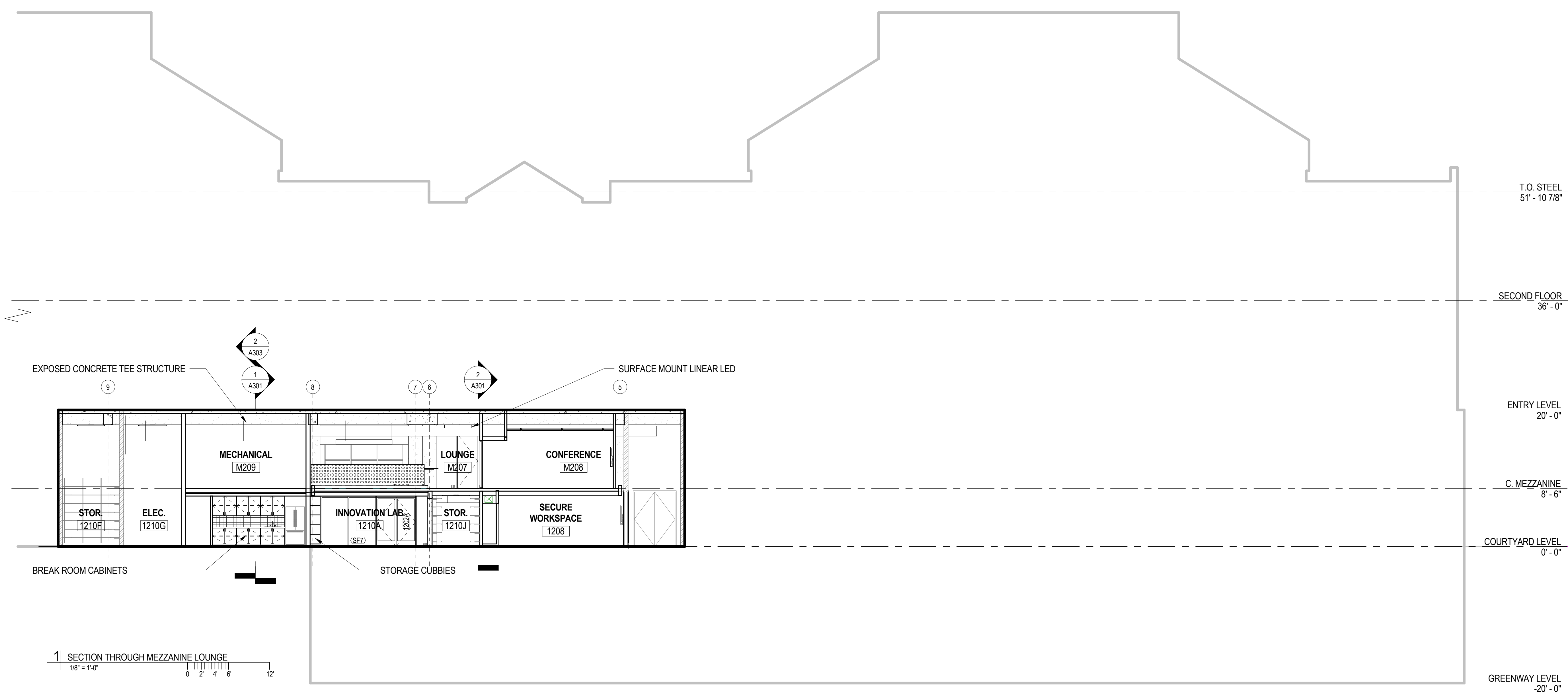
2 BUILDING SECTION THROUGH MEZZANINE
1/8" = 1'-0"
0 2 4 6 12



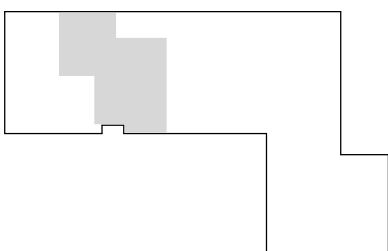
1 BUILDING SECTION THROUGH FLEX FACTORY
1/8" = 1'-0"
0 2 4 6 12



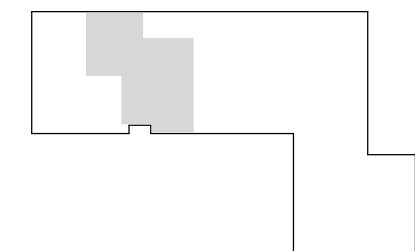
2 | SECTION THROUGH RECEPTION STAIR
1/8" = 1'-0"
0 2 4 6 12



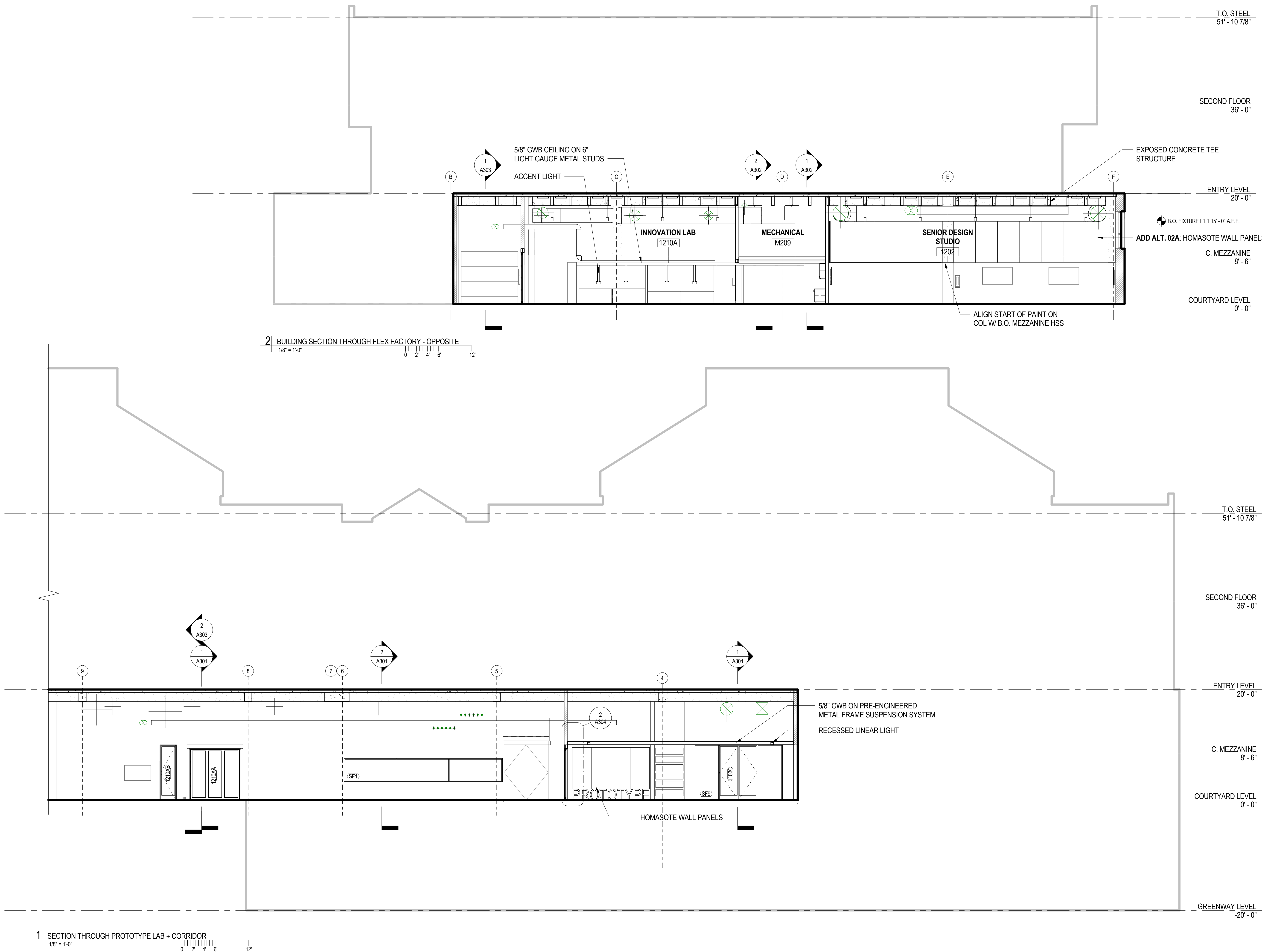
1 | SECTION THROUGH MEZZANINE LOUNGE
1/8" = 1'-0"
0 2 4 6 12

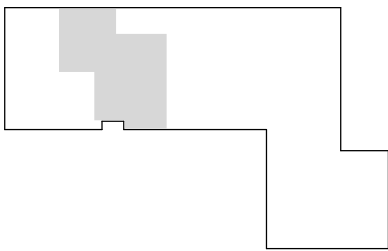


REVISIONS		
No.	Description	Date

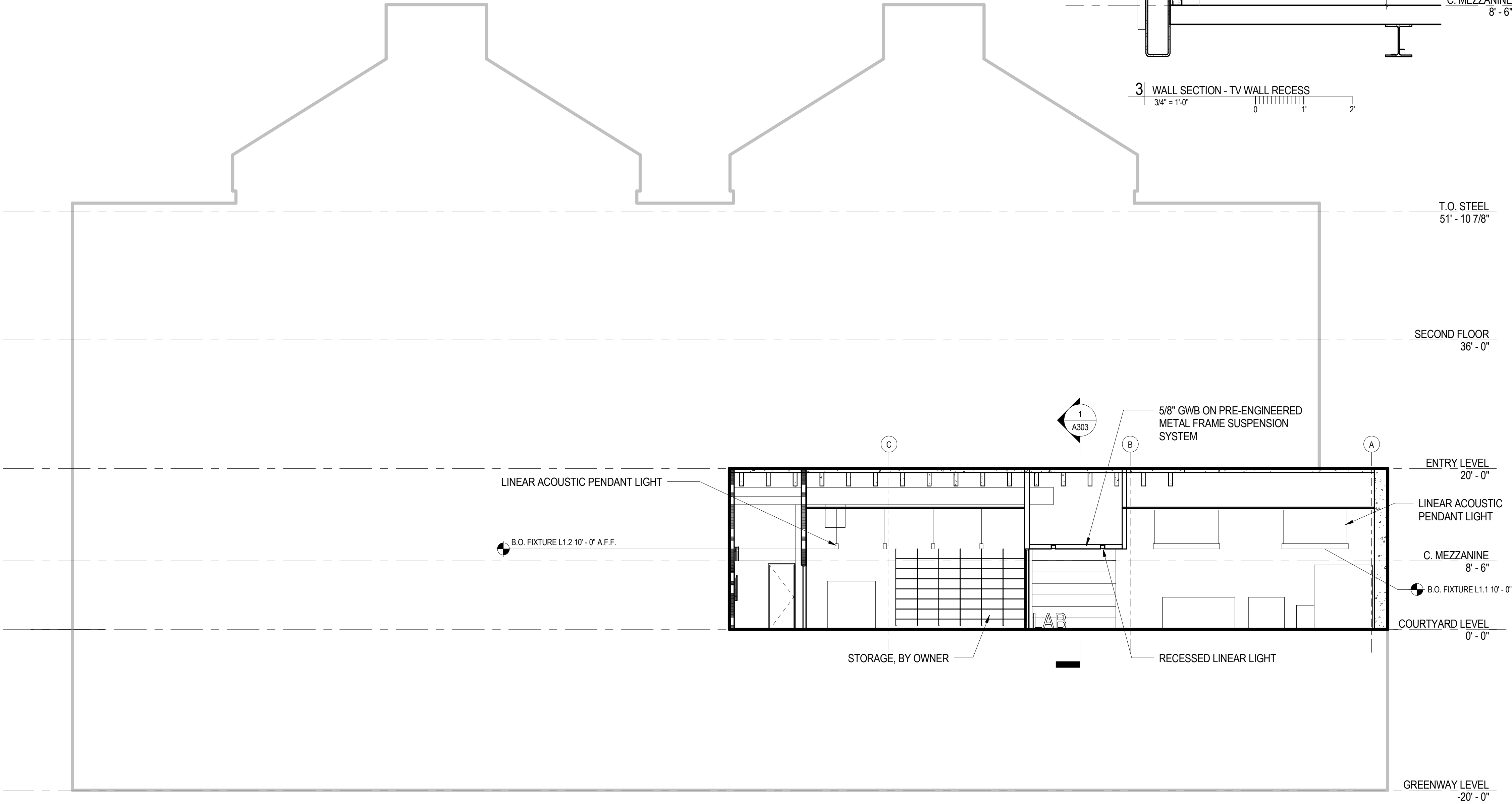
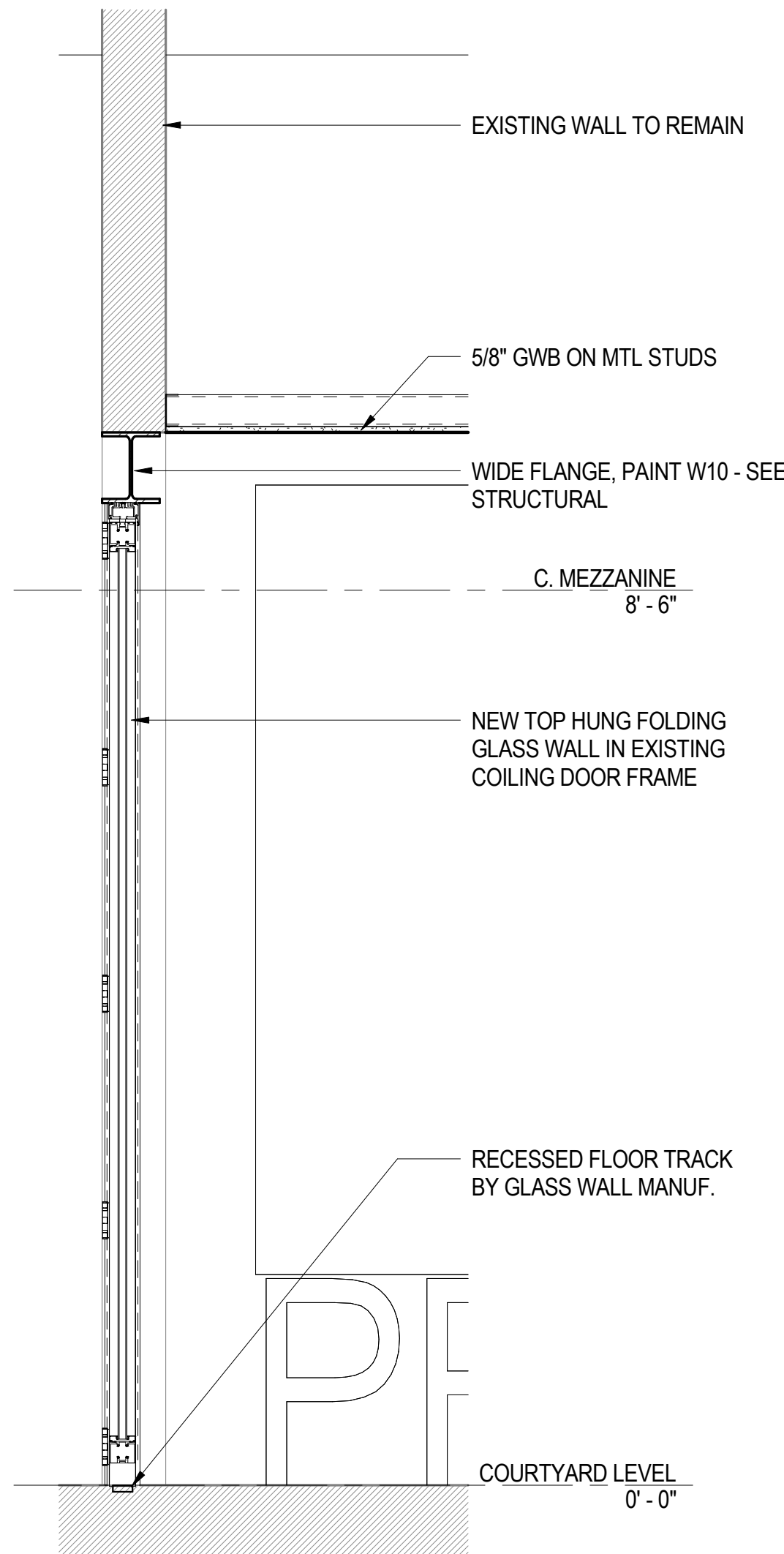
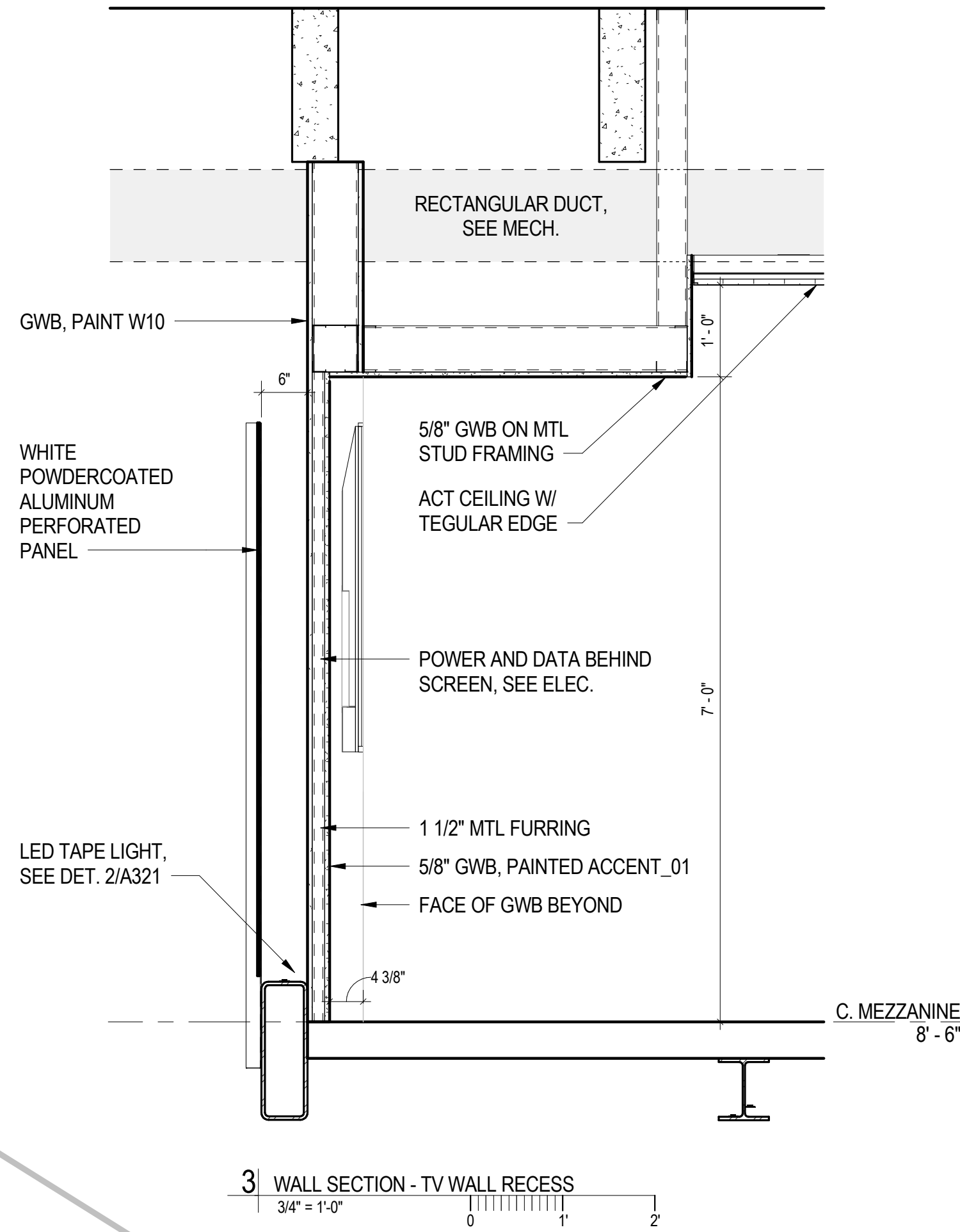


REVISIONS		
No.	Description	Date



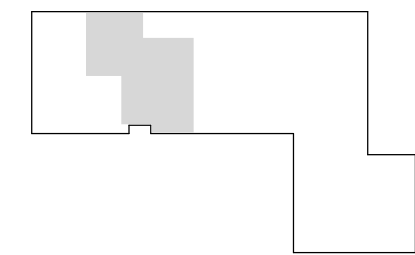


REVISIONS		
No.	Description	Date

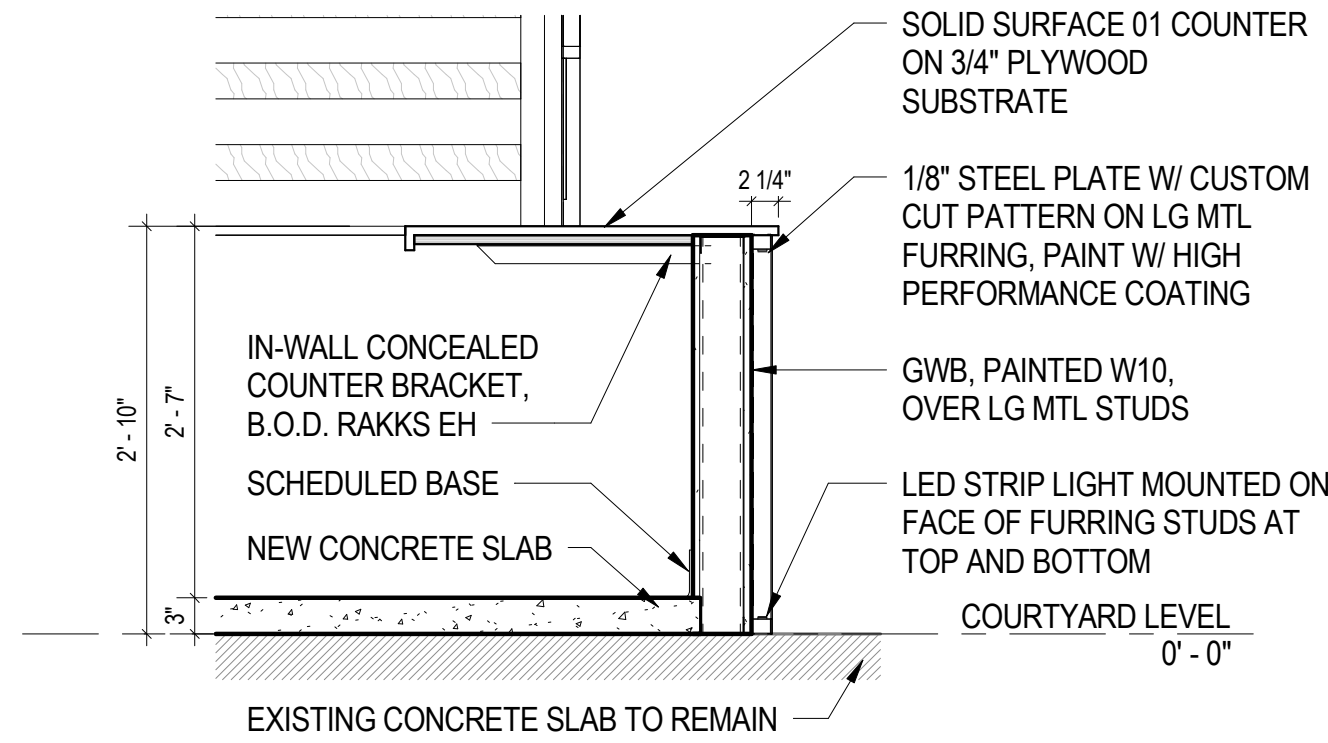


2 WALL SECTION - COILING DOOR
3/4" = 1'-0" REF: 1/A303

1 SECTION THRU PROTOTYPE + PRODUCTION LAB
1/8" = 1'-0"

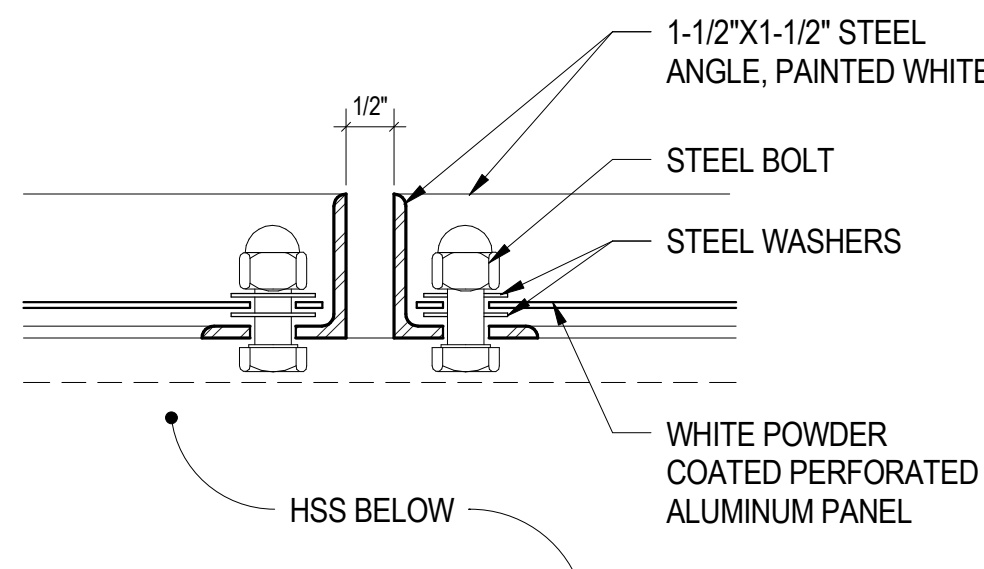


REVISIONS		
No.	Description	Date



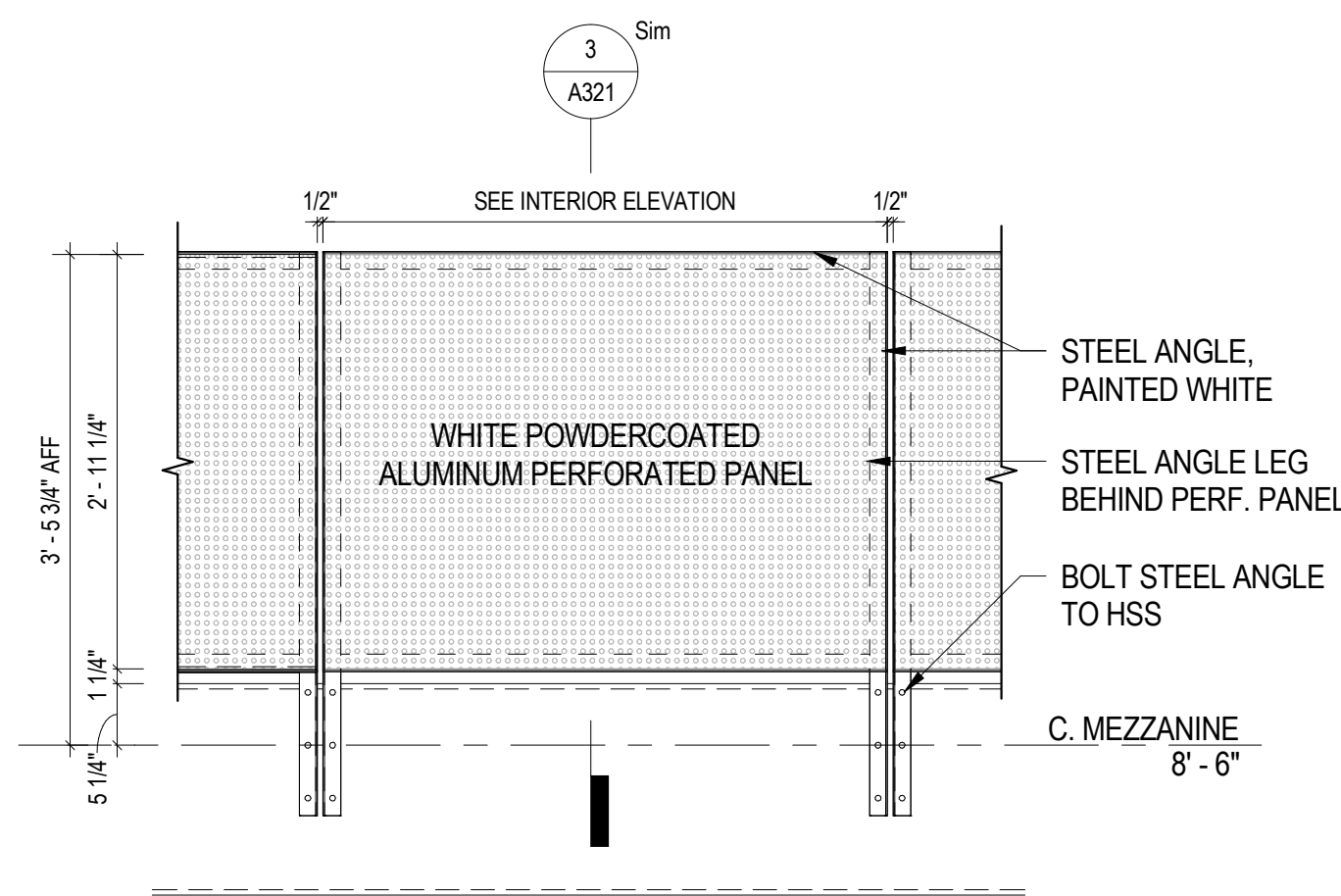
8 SECTION DETAIL - RECEPTION DESK

3/4" = 1'-0"



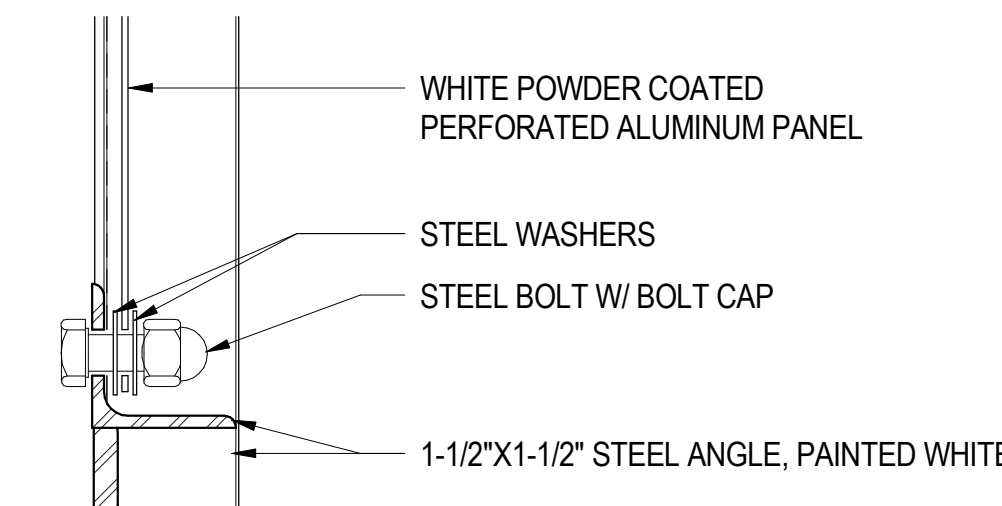
5 PLAN DETAIL - TYP. ALUM. SCREEN CONNECTION

6" = 1'-0"



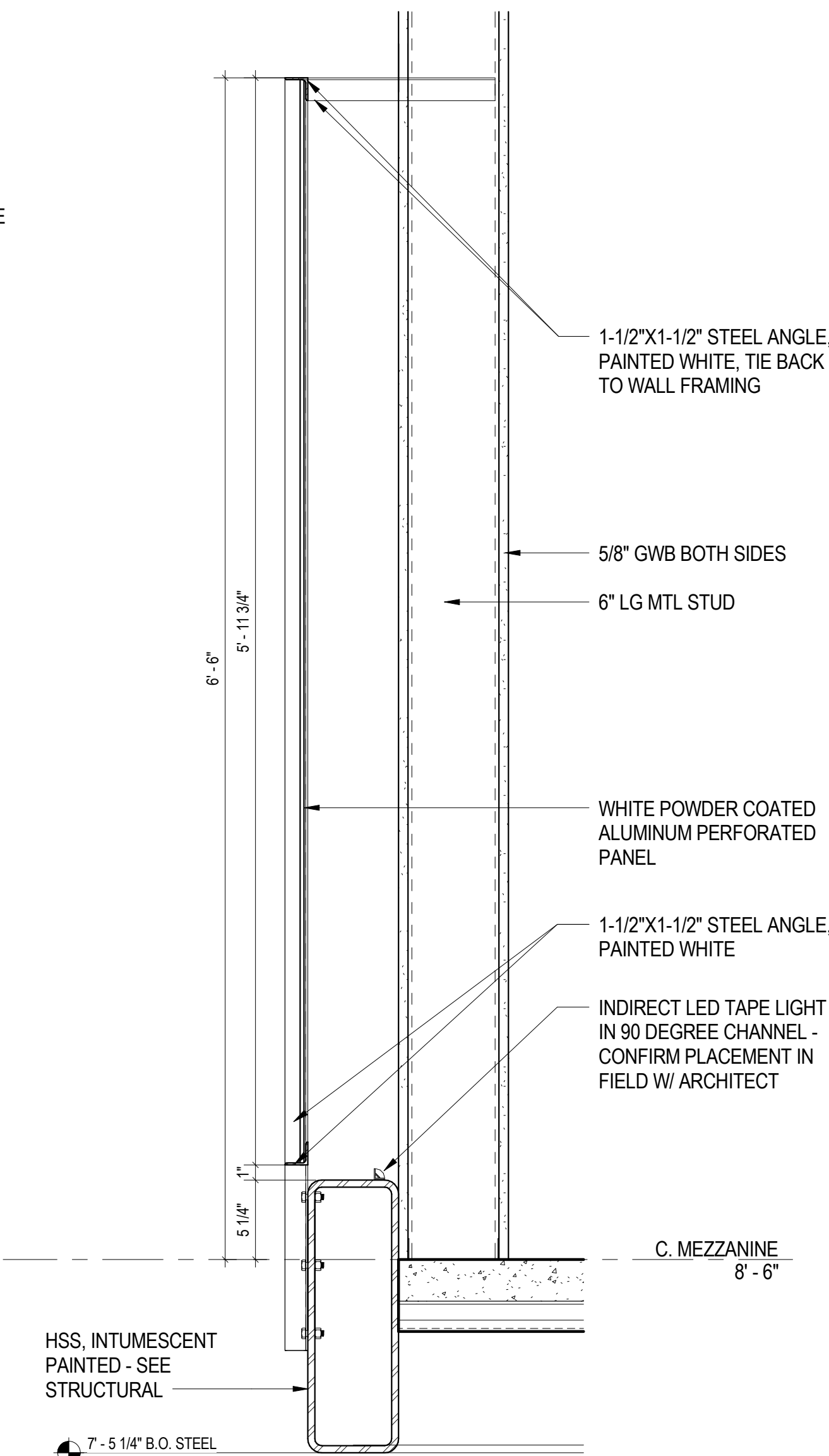
7 TYP. GUARDRAIL ELEVATION

3/4" = 1'-0"



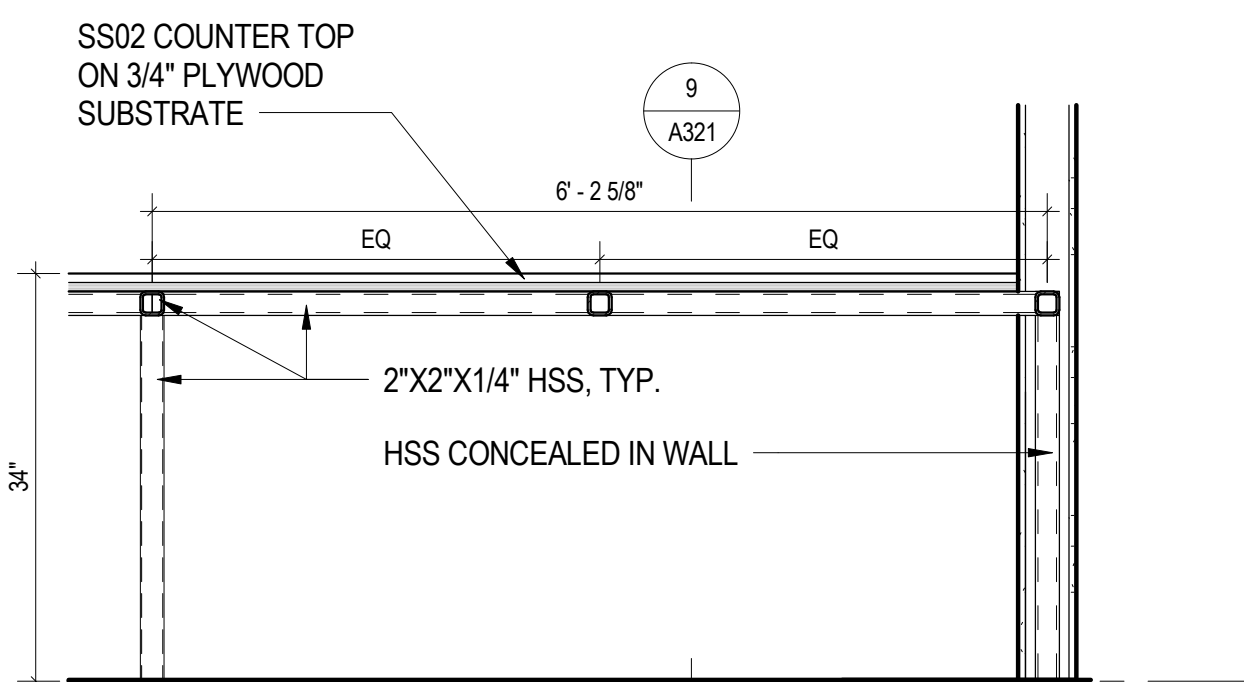
4 SECTION DETAIL - TYP. ALUM. SCREEN CONNECTION

6" = 1'-0"



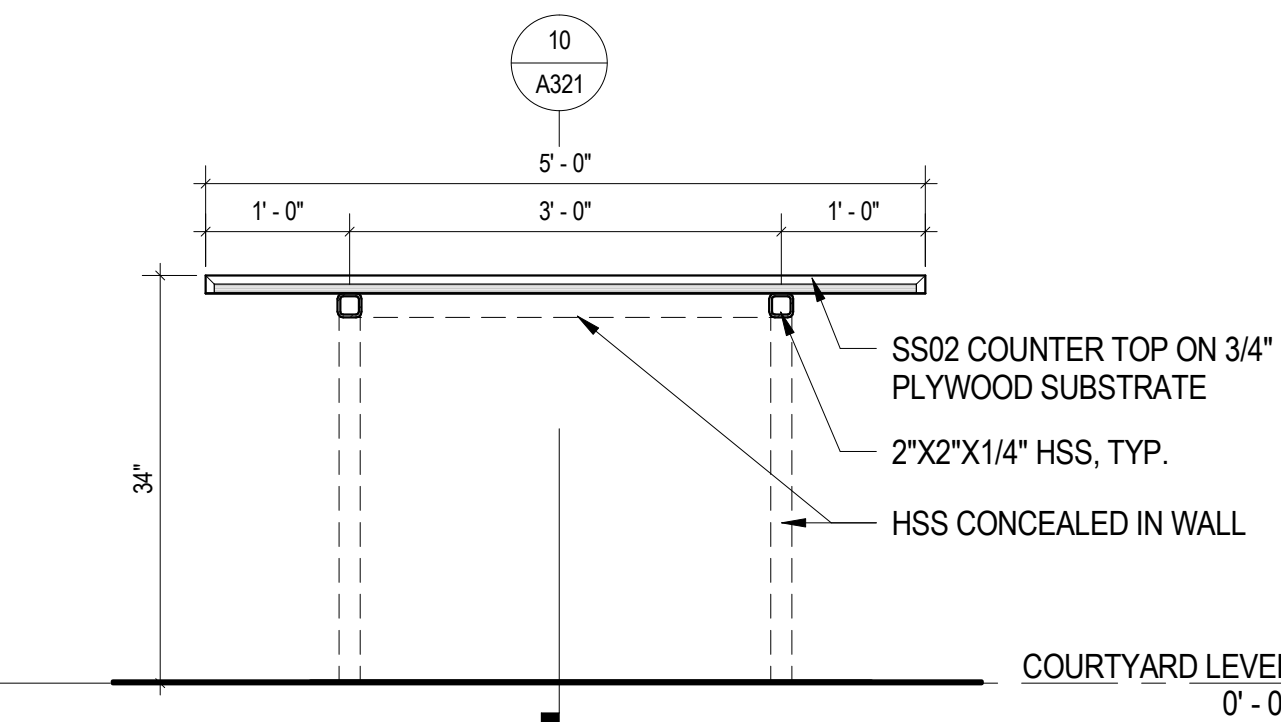
2 SECTION DETAIL - END OF MEZZANINE SIGNAGE

1 1/2" = 1'-0"



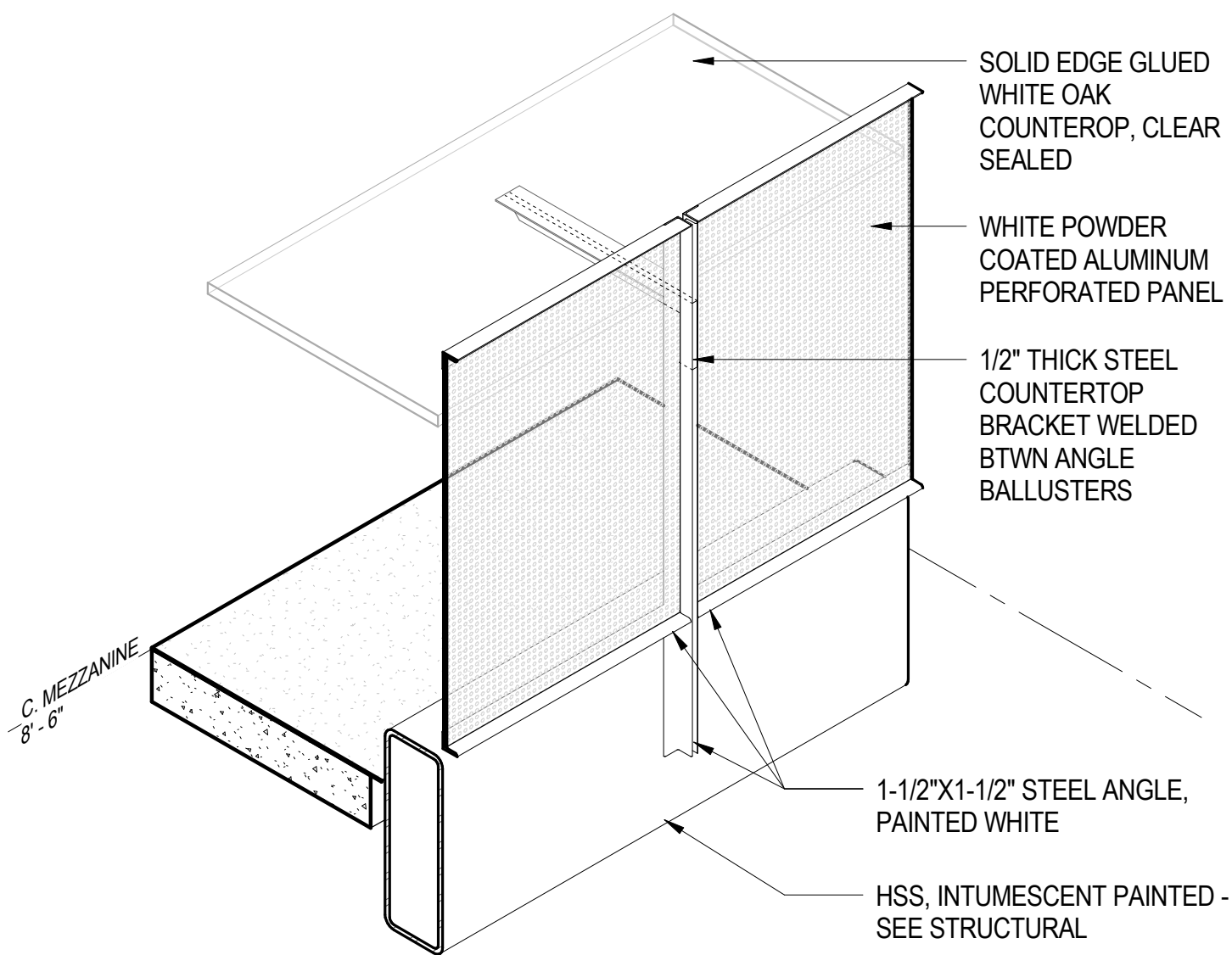
10 SECTION DETAIL - BUILT-IN WORKSTATION - 2

3/4" = 1'-0"



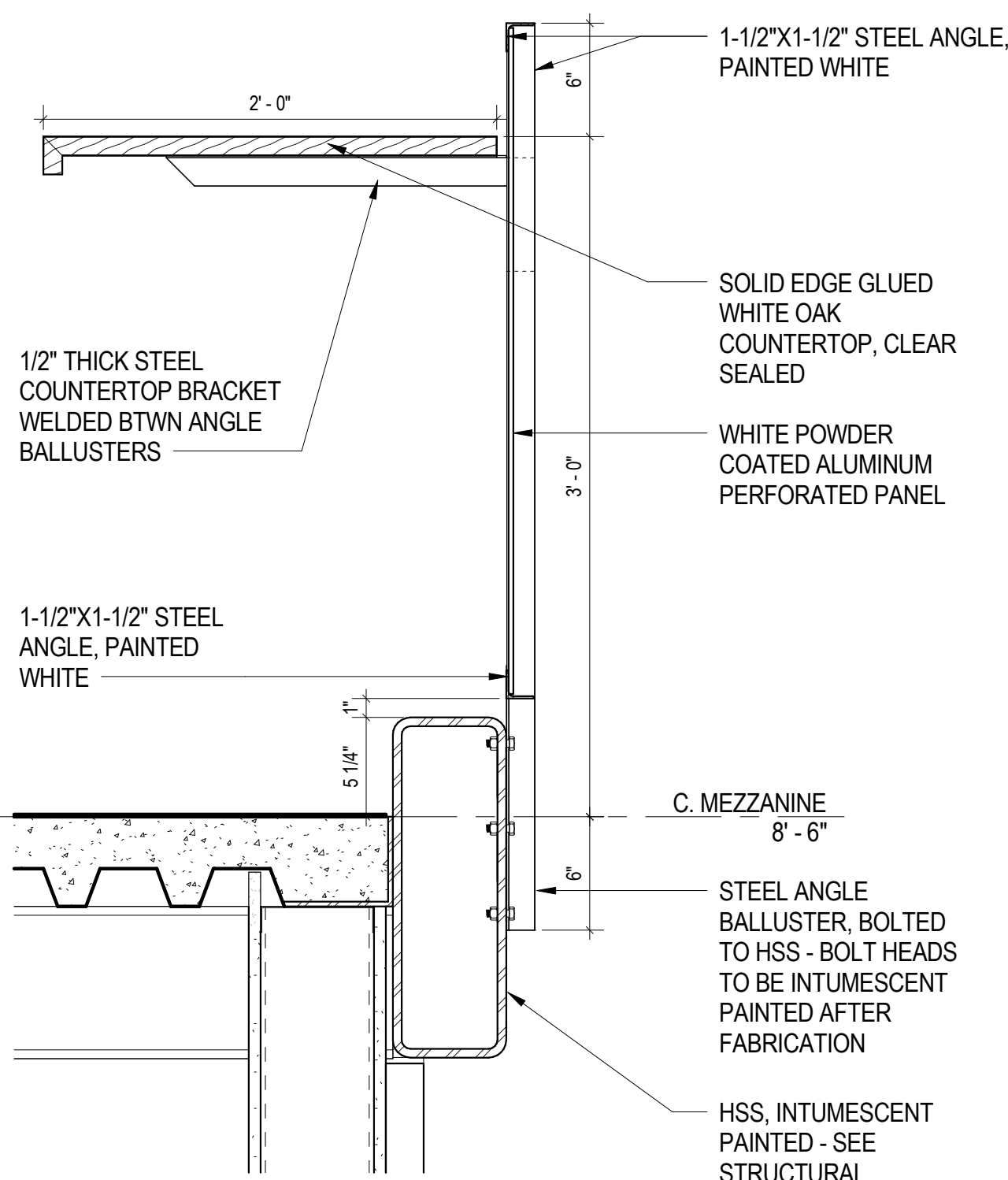
9 SECTION DETAIL - BUILT-IN WORKSTATION - 1

3/4" = 1'-0"



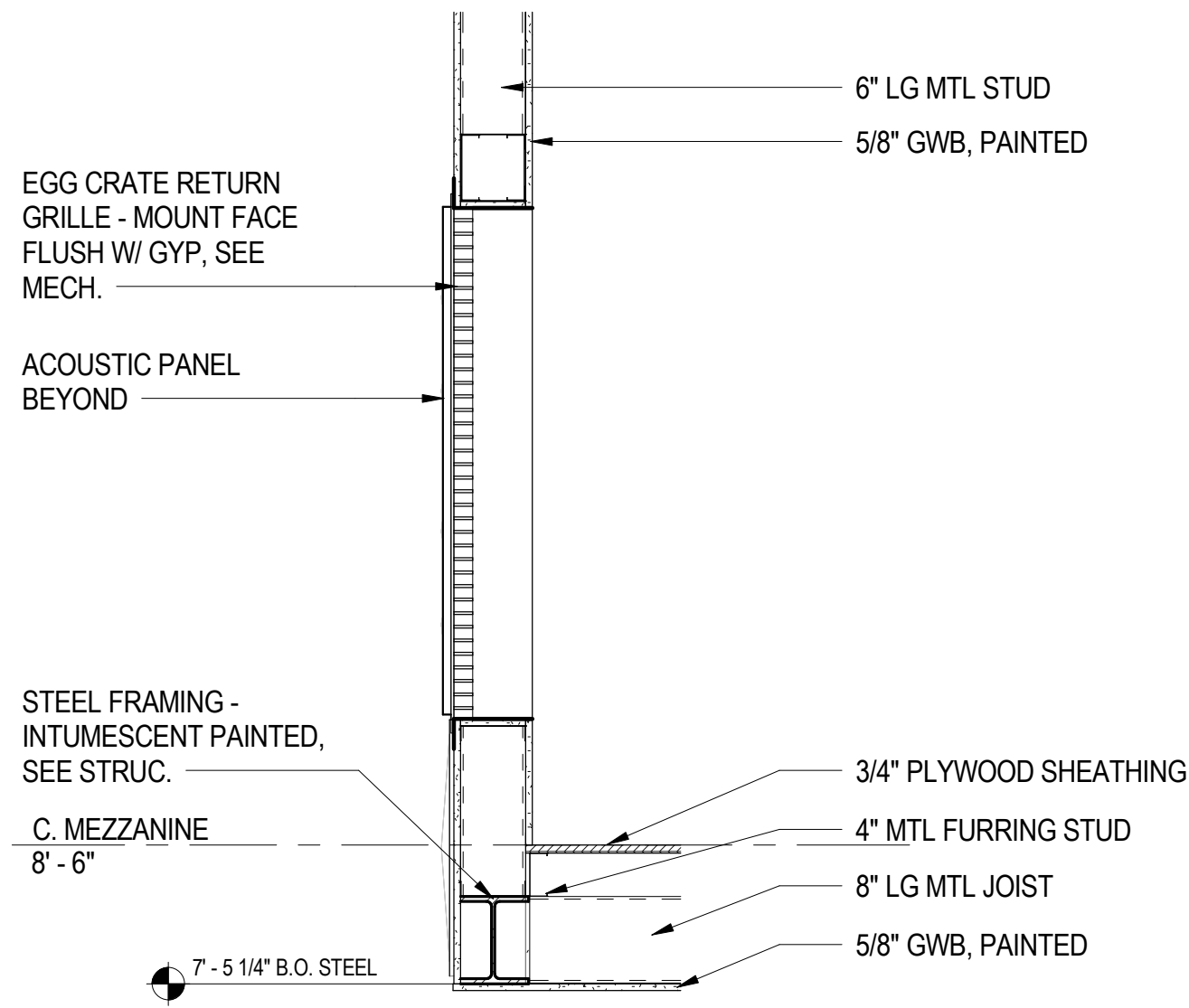
6 AXONOMETRIC - GUARDRAIL W/ WORK COUNTER

(N.T.S.)



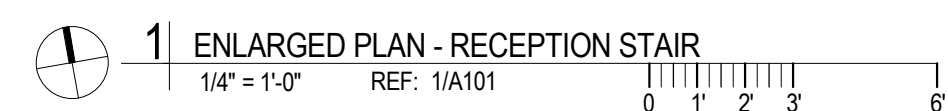
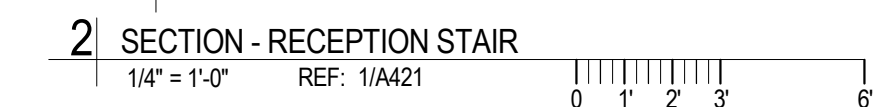
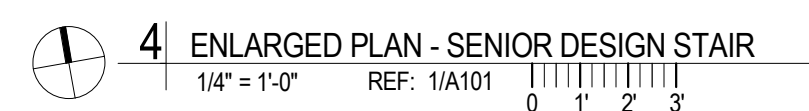
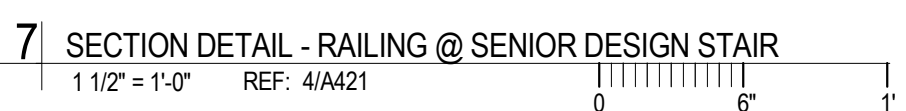
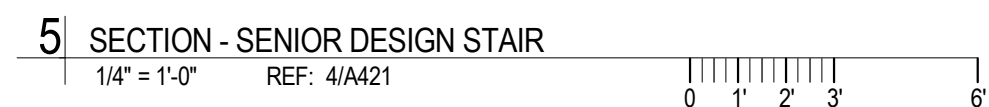
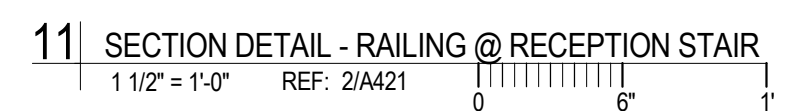
3 SECTION DETAIL - GUARDRAIL W/ WORK COUNTER

1 1/2" = 1'-0"

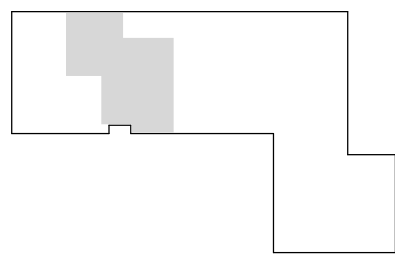


1 SECTION DETAIL - SIGNAGE + RETURN AIR GRILLE

3/4" = 1'-0"



STAIR PLANS + DETAILS



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**

1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS

No.	Description	Date

PROJECT DATA

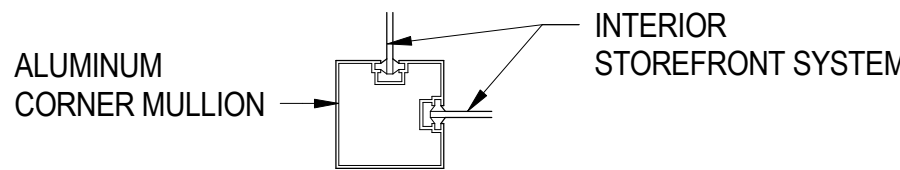
DATE: 04.25.2025
DRAWN: TLW
CHECKED: MC
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

HEAD, JAMB +
SILL DETAILS

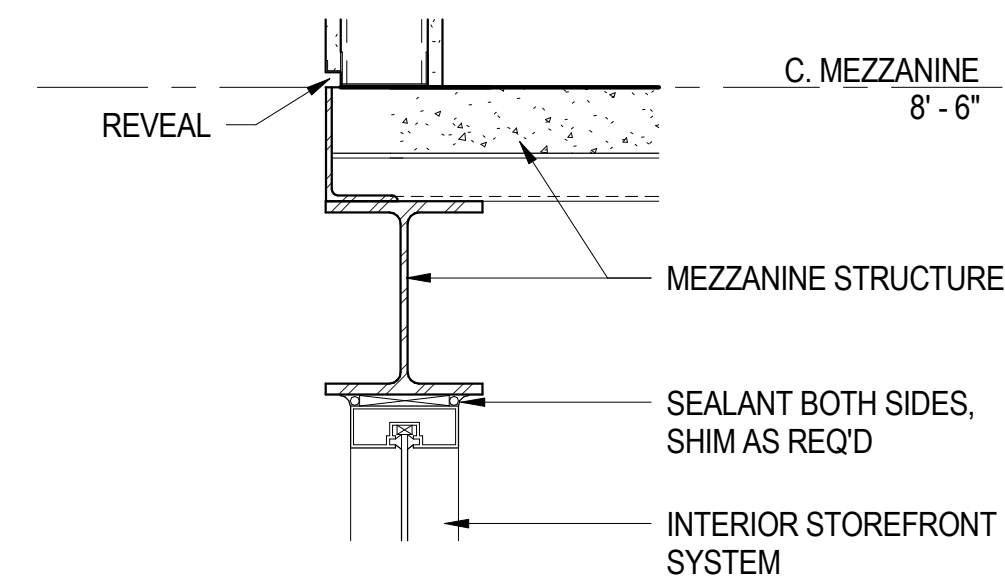
SHEET NO.

A441



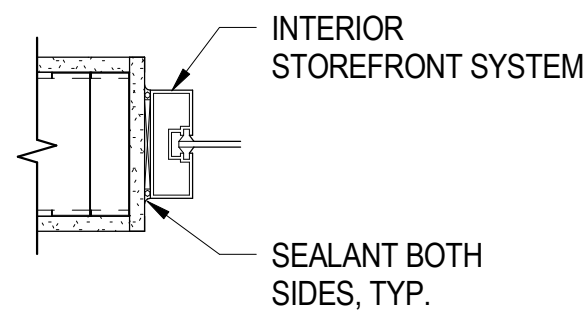
6 JAMB DETAIL @ RECEPTION STOREFRONT

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



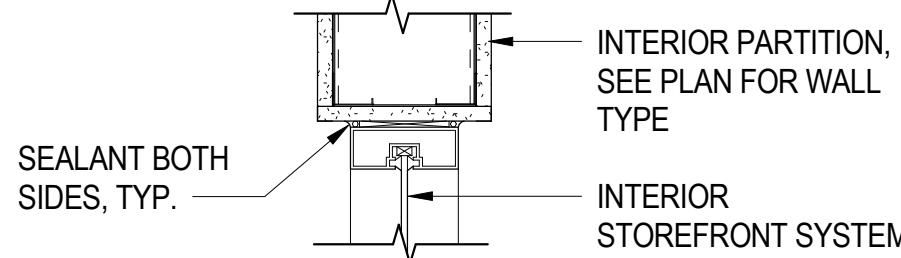
5 INTERIOR STOREFRONT HEAD @ WF

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



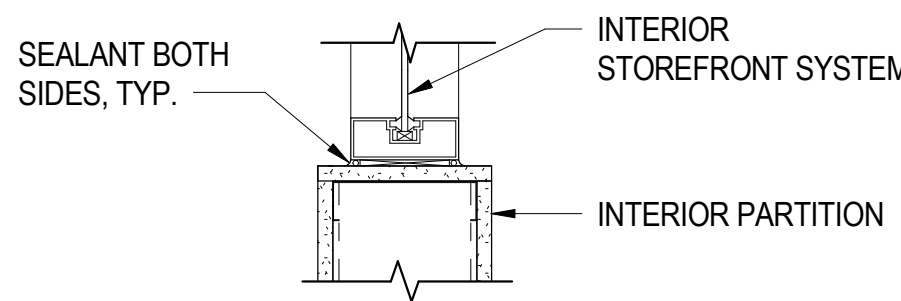
4 TYP. JAMB DETAIL @ INTERIOR STOREFRONT

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



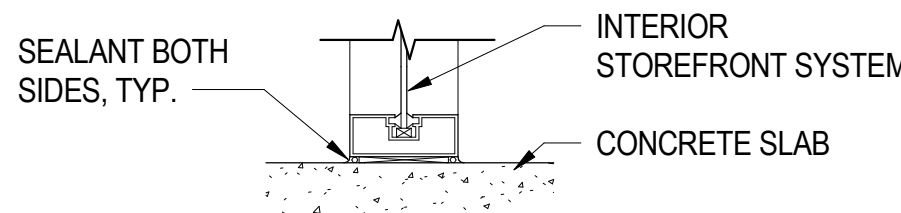
3 TYP. HEAD DETAIL @ INTERIOR STOREFRONT

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



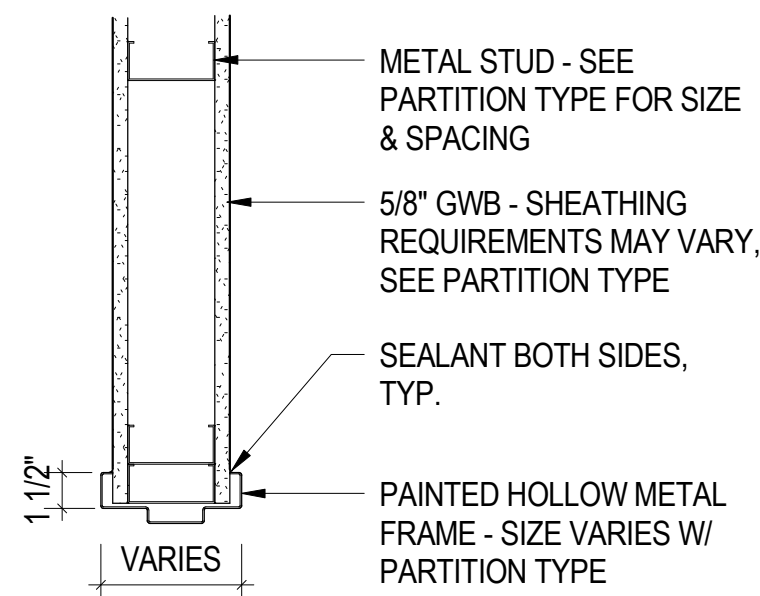
2 TYP. SILL DETAIL @ INTERIOR STOREFRONT (IN-WALL)

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



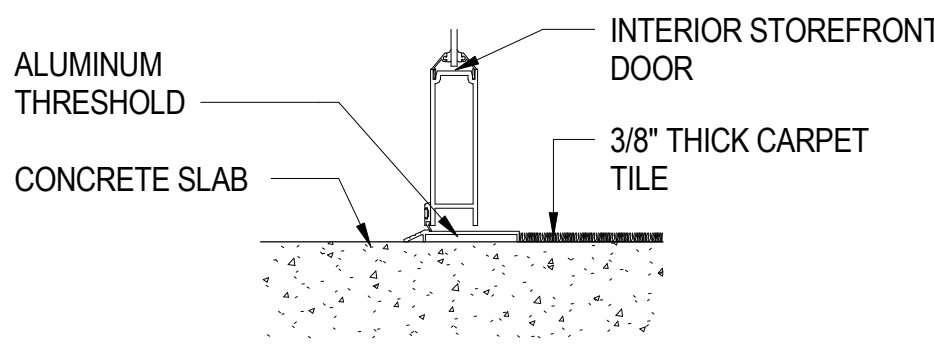
1 TYP. SILL DETAIL @ INTERIOR STOREFRONT (TO FLOOR)

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



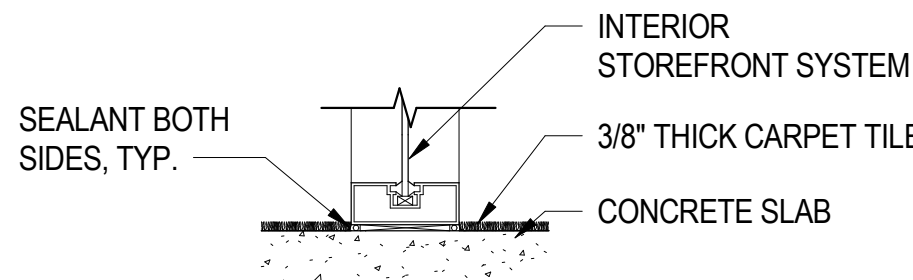
9 TYP. JAMB DETAIL - HM DOOR

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



8 TYP. SILL DETAIL - THRESHOLD @ CARPET TO CONCRETE

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



7 TYP. SILL DETAIL @ INTERIOR STOREFRONT (CARPET)

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

1. SEE G001 FOR ADDITIONAL NOTES
SYMBOLS AND ABBREVIATIONS.
2. FIELD VERIFY ALL DIMENSIONS
PRIOR TO ORDERING.
3. PROVIDE POWER AND DATA AS
REQUIRED AT REMOTE LOCKABLE
ELECTRIC LOCK SETS.
4. HARDWARE SUPPLIER TO
COORDINATE KEYING W/ OWNER
AND ARCHITECT.
5. PROVIDE POWER AND DATA AS
REQUIRED FOR KEYCARD OR
KEYPAD ACCESS.
6. PROVIDE WEATHERSTRIPPING AT
ALL EXTERIOR DOOR LOCATIONS.



BY NC STATE



SIGNAGE NOTES

1. SEE G001 FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS.
2. PROVIDE SIGN AT ALL FIRE EXTINGUISHER LOCATIONS PER NCSU STANDARD.
3. WHERE SIGNS ARE MOUNTED TO GLASS, PROVIDE BACK PLATE OF SAME MATERIAL/SIZE AS SIGN TO CONCEAL ADHESIVE FROM VIEW.
4. ALL RATED WALLS SHALL BE STENCILED ABOVE SUSPENDED CEILINGS AT 10'-0" INTERVALS WITH THE FOLLOWING: "X-R, RATED WALL, PROTECT ALL OPENINGS" (X REFERS TO THE HOURLY RATING OF THE WALL).
5. REFER TO NC STATE GUIDELINES FOR TYPICAL MOUNTING HEIGHTS AND LOCATIONS FOR EACH SIGN TYPE.

DOOR NUMBER	TO ROOM: NAME	DOOR				FRAME		FINISH DESCRIPTION	FIRE RATING IN MINUTES	ACOUSTIC SEAL	HARDWARE SET	NOTES
		TYPE	WIDTH	HEIGHT	MATERIAL	TYPE	MATERIAL					
1103A	PROTOTYPE LAB	G	9'- 4"	9'- 4"	ALUM. & GLASS	-	-	ANODIZED ALUM.	-	NO	01	
1103B	PROTOTYPE LAB	D	2'- 8 1/2"	9'- 10 1/4"	ALUM. & GLASS	2	ALUM.	ANODIZED ALUM.	-	NO	02	DOOR WIDTH AND HEIGHT IS EXCLUSIVE OF MULLIONS
1103C	PRODUCTION LAB	A	6'- 10 1/4"	9'- 10 1/4"	ALUM. & GLASS	SF9	ALUM.	ANODIZED ALUM.	-	YES	03	DOOR WIDTH AND HEIGHT IS EXCLUSIVE OF MULLIONS
1103D	PRODUCTION LAB	F	3'- 0"	8'- 0"	STEEL	1	HM	PAINT TO MATCH WALL	-	YES	04	NEW ACOUSTIC DOOR IN EXISTING FRAME
1104	PROTOTYPE LAB	D	2'- 8 1/2"	7'- 10 1/4"	ALUM. & GLASS	SF10	ALUM.	ANODIZED ALUM.	-	NO	05	DOOR WIDTH AND HEIGHT IS EXCLUSIVE OF MULLIONS
1202A	SENIOR DESIGN STUDIO	A	5'- 8 1/2"	7'- 2 1/4"	ALUM. & GLASS	SF7	ALUM.	ANODIZED ALUM.	-	NO	06	
1202AA	SENIOR DESIGN STUDIO	F	3'- 0"	8'- 0"	STEEL	1	HM	PAINT TO MATCH WALL	-	NO	14	
1202B	STOR. -	F	3'- 0"	7'- 0"	STEEL	1	HM	PAINT TO MATCH WALL	-	NO	12	
1204	SECURE WORKSPACE	F	3'- 0"	8'- 0"	STEEL	1	HM	PAINT TO MATCH WALL	-	YES	09	PAINT PER DET. 2/A121
1206	SECURE WORKSPACE	F	3'- 0"	8'- 0"	STEEL	1	HM	PAINT TO MATCH WALL	-	YES	09	PAINT PER DET. 2/A121
1208	SECURE WORKSPACE	F	3'- 0"	8'- 0"	STEEL	1	HM	PAINT TO MATCH WALL	-	YES	09	PAINT PER DET. 2/A121
1210	RECEPTION	A	5'- 8 1/2"	7'- 3 1/4"	ALUM. & GLASS	SF4	ALUM.	ANODIZED ALUM.	-	NO	06	DOOR WIDTH AND HEIGHT IS EXCLUSIVE OF MULLIONS
1210A	RECEPTION	D	2'- 8 1/2"	7'- 3 1/4"	ALUM. & GLASS	SF6	ALUM.	ANODIZED ALUM.	-	NO	07	DOOR WIDTH AND HEIGHT IS EXCLUSIVE OF MULLIONS
1210AA	INNOVATION LAB	G	9'- 4"	9'- 4"	ALUM. & GLASS	-	-	ANODIZED ALUM.	-	NO	01	
1210AB	INNOVATION LAB	D	2'- 8 1/2"	9'- 10 1/4"	ALUM. & GLASS	2	ALUM.	ANODIZED ALUM.	-	NO	10	DOOR WIDTH AND HEIGHT IS EXCLUSIVE OF MULLIONS
1210B		H	4'- 0"	4'- 0"	DRYWALL	-	-	PAINT TO MATCH WALL	-	NO	08	ACCESS DOOR W/ MUD IN FLANGE
1210F	STOR.	F	3'- 0"	7'- 0"	STEEL	1	HM	PAINT TO MATCH WALL	-	NO	15	EXISTING DOOR TO REMAIN
1210G	ELEC.	F	3'- 0"	7'- 0"	STEEL	1	HM	PAINT TO MATCH WALL	-	NO	16	PANIC HARDWARE
1210J	STOR.	C	6'- 0"	7'- 0"	STEEL	1	HM	PAINT TO MATCH WALL	-	NO	11	
E1202	SENIOR DESIGN STUDIO	C	6'- 0"	7'- 0"	STEEL	1	HM	PAINT TO MATCH WALL	-	NO	13	NEW DOOR IN EXISTING FRAME - VERIFY DIMS., REPAINT
M202	STOR.	F	3'- 0"	8'- 0"	STEEL	1	HM	PAINT TO MATCH WALL	-	NO	19	
M204	SHARED OFF.	D	2'- 8 1/2"	6'- 10 1/4"	ALUM. & GLASS	SF17	ALUM.	ANODIZED ALUM.	-	NO	14	DOOR WIDTH AND HEIGHT IS EXCLUSIVE OF MULLIONS
M206	CONFERENCE	D	2'- 8 1/2"	6'- 10 1/4"	ALUM. & GLASS	SF16	ALUM.	ANODIZED ALUM.	-	NO	14	DOOR WIDTH AND HEIGHT IS EXCLUSIVE OF MULLIONS
M208	CONFERENCE	D	2'- 8 1/2"	6'- 10 1/4"	ALUM. & GLASS	SF15	ALUM.	ANODIZED ALUM.	-	NO	14	DOOR WIDTH AND HEIGHT IS EXCLUSIVE OF MULLIONS
M209	MECHANICAL	F	3'- 0"	7'- 0"	STEEL	1	HM	PAINT TO MATCH WALL	-	NO	20	
M210	LOUNGE	D	2'- 8 1/2"	6'- 10 1/4"	ALUM. & GLASS	SF14	ALUM.	ANODIZED ALUM.	-	NO	18	DOOR WIDTH AND HEIGHT IS EXCLUSIVE OF MULLIONS
M211	FLEX / LARGE MEETING	D	2'- 8 1/2"	7'- 10 1/4"	ALUM. & GLASS	2	ALUM.	ANODIZED ALUM.	-	NO	17	DOOR WIDTH AND HEIGHT IS EXCLUSIVE OF MULLIONS



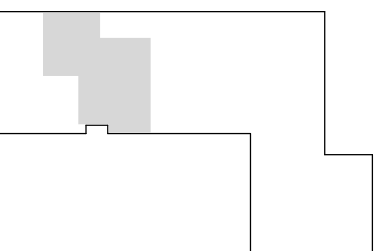
Structural

Lysaght & Associates
lysaghtassociates.com
120 St. Mary's St.
Raleigh, NC
919.833.0495
chuck@lysaghtassociates.com

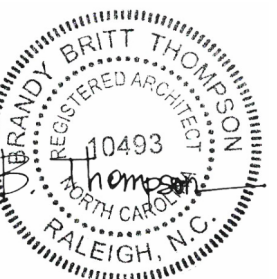
MEP Engineer

Sigma Engineered Solutions
sigmaes.com
5909 Falls of Neuse Rd, Ste #101
Raleigh, NC
919.840.9300
radams@sigmaes.com

KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT
NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

[illegible]

PROJECT DATA

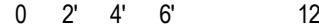
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DRAWN: TLW
CHECKED: MC
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

SCHEDULES

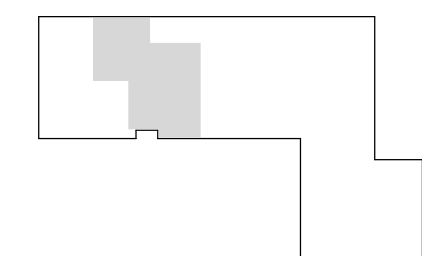
SHEET NO.

A501

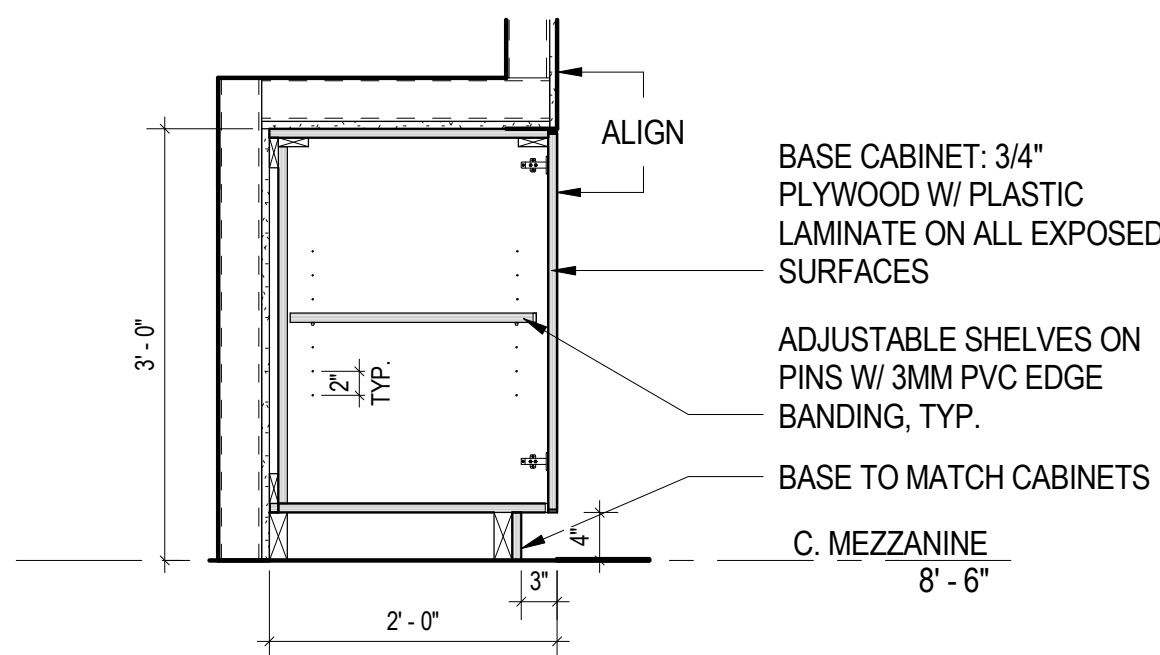


STOREFRONT GLAZING KEY:

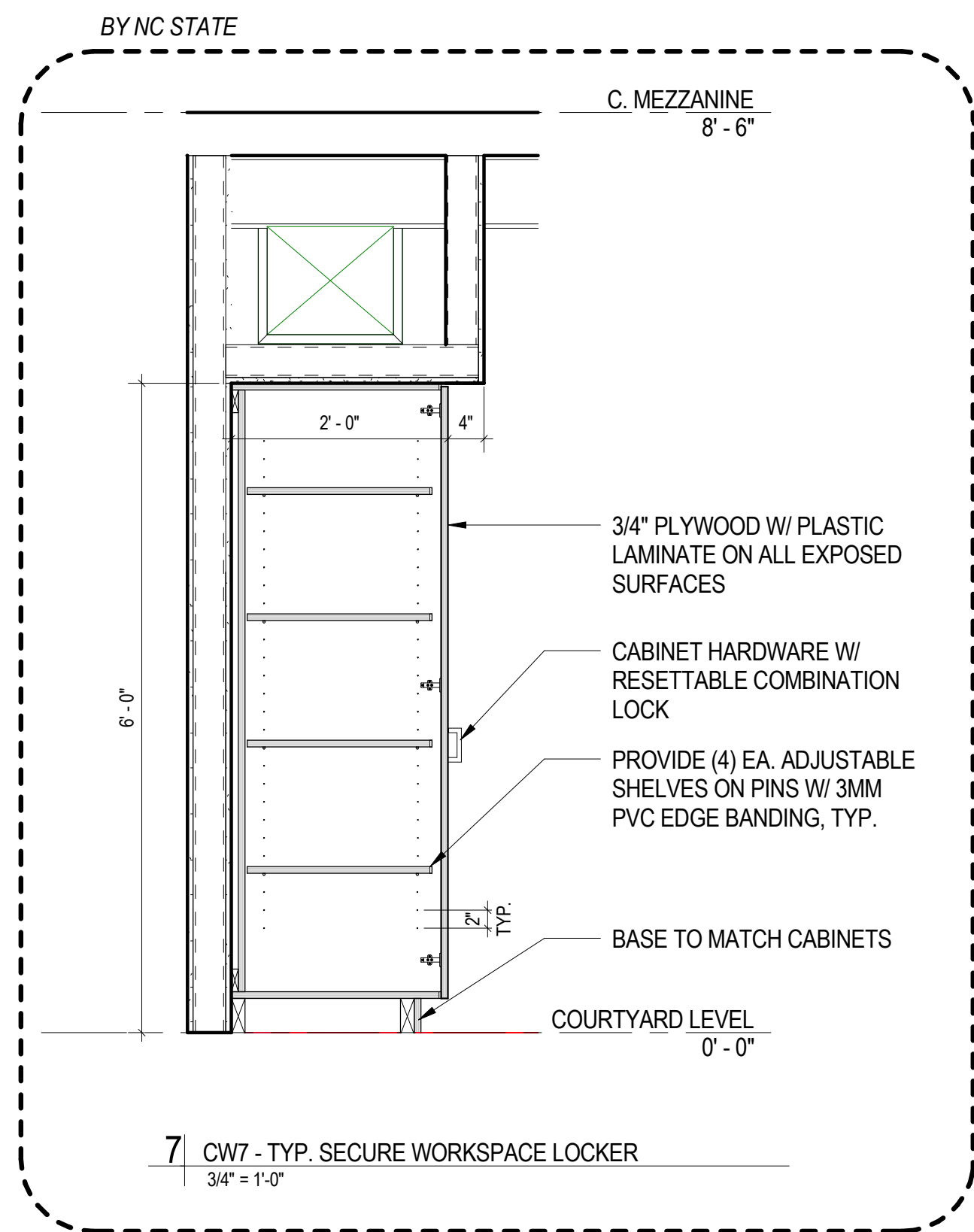
GL-1: 1/4" GLASS
GL-2: ACOUSTIC GLASS UNIT - 1/4" SINGLE
PANE LAMINATED GLASS OR INSULATED
DOUBLE GLAZED UNIT TO PROVIDE MIN. STC 40



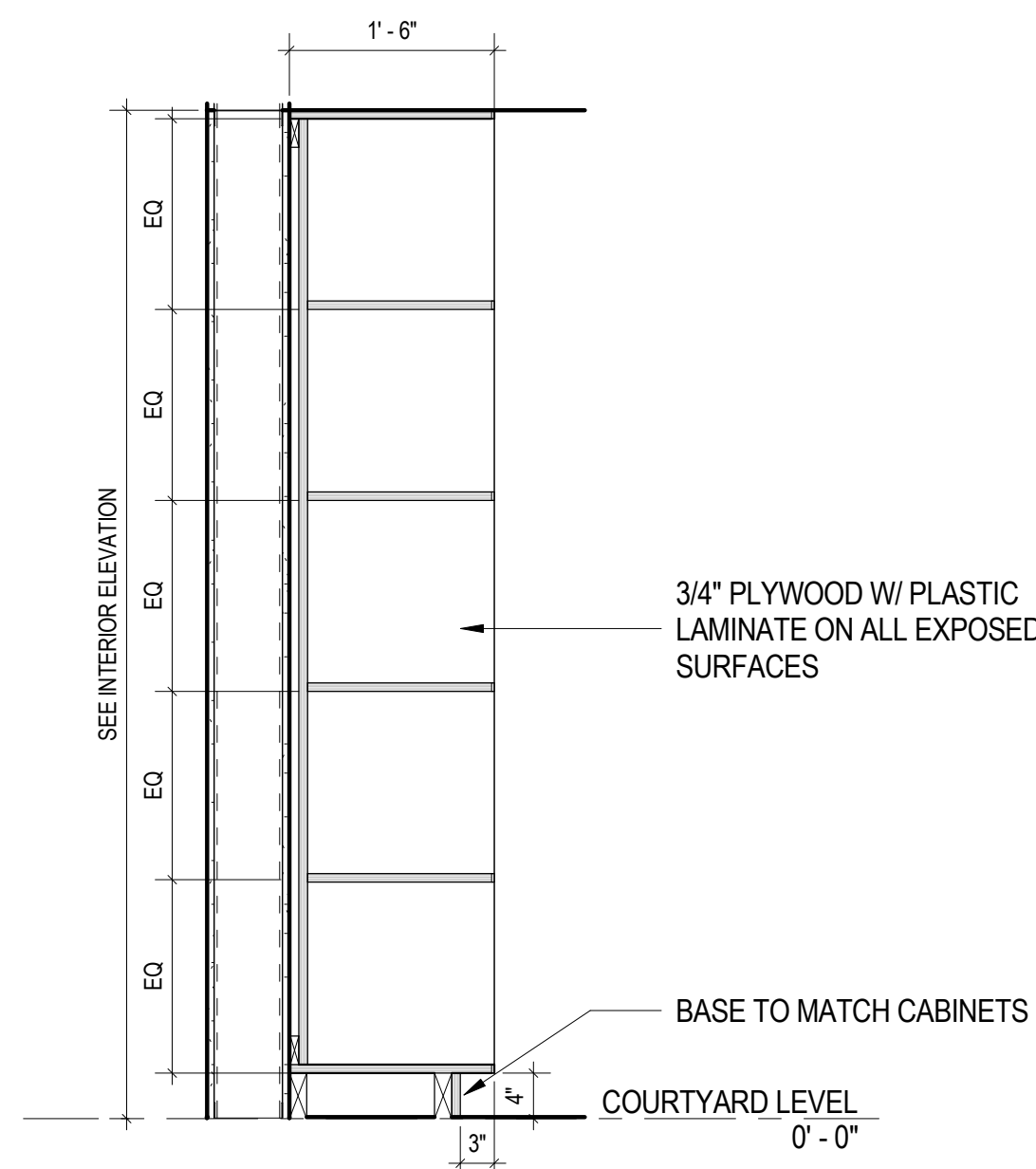
REVISIONS		
No.	Description	Date



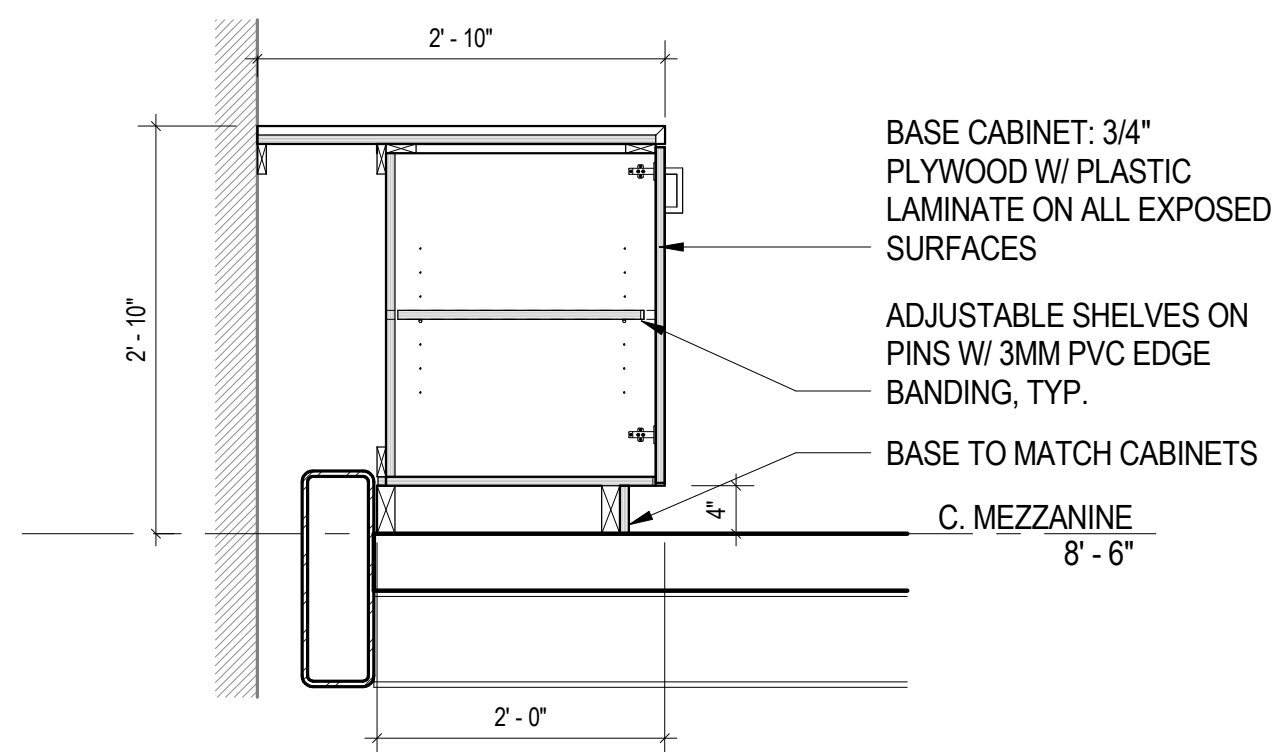
8 CW8 - SHARED OFFICE CABINETS
3/4" = 1'-0"



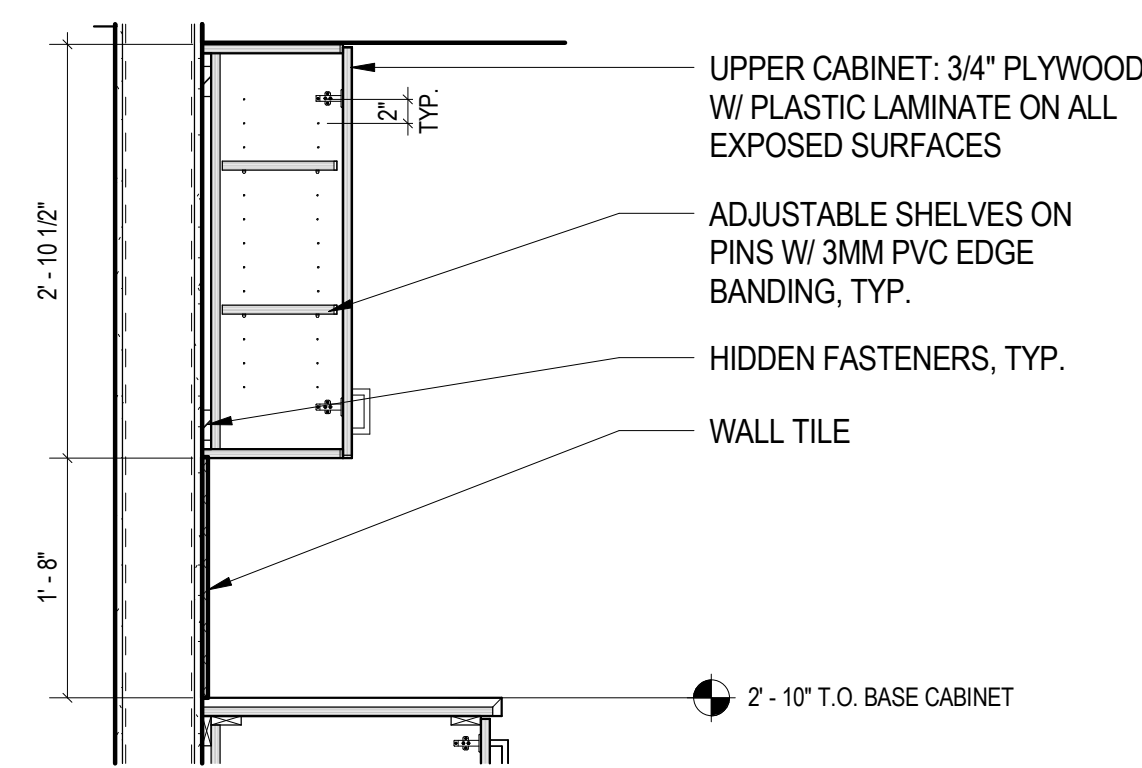
7 CW7 - TYP. SECURE WORKSPACE LOCKER
3/4" = 1'-0"



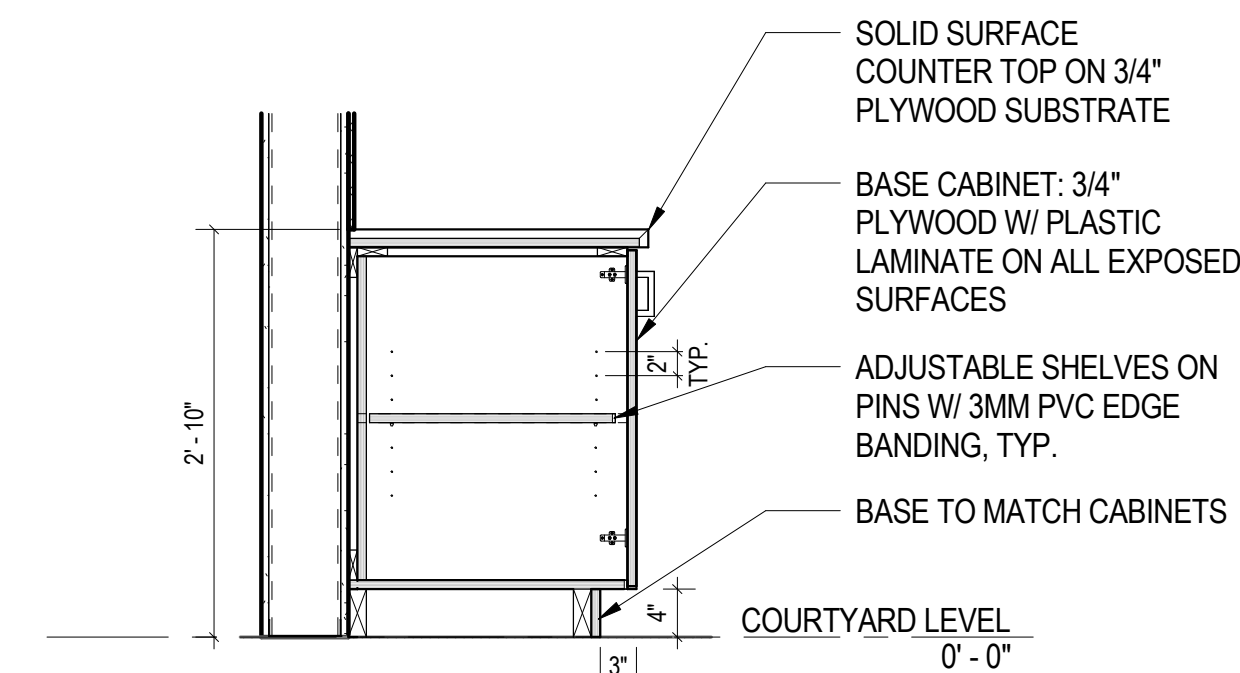
10 CW10 - CUBBIES
3/4" = 1'-0"



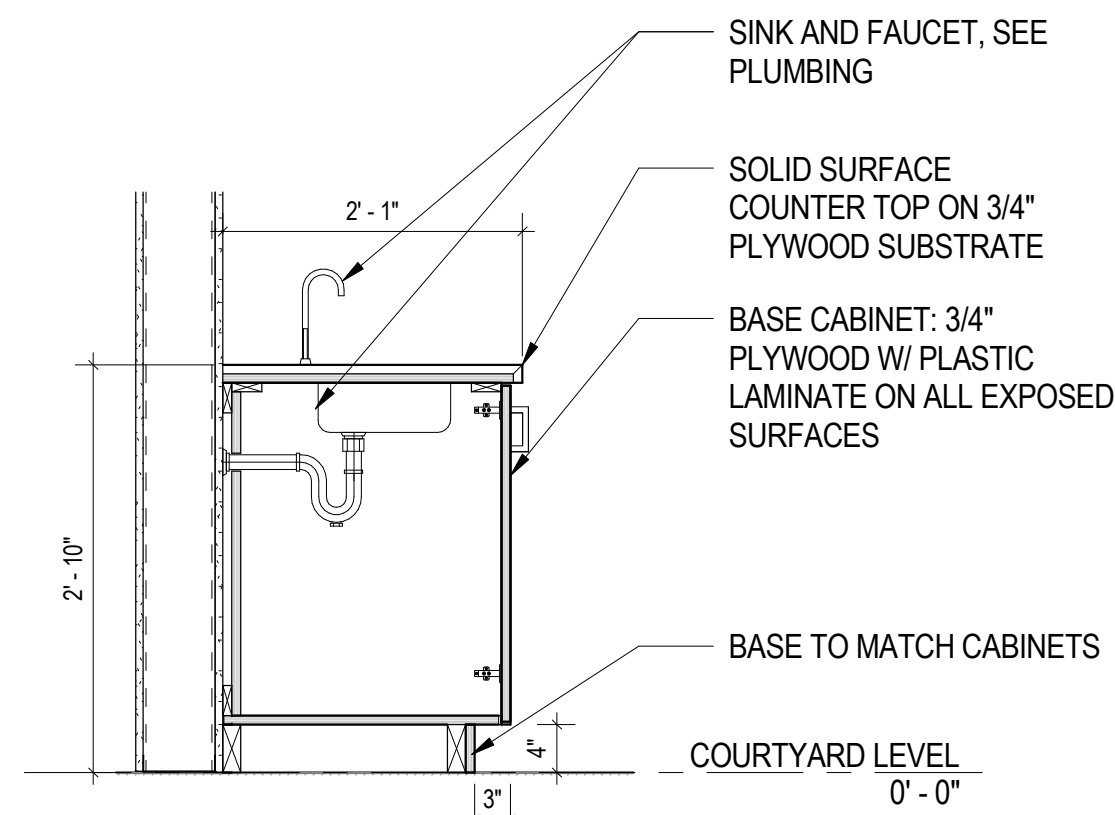
9 CW9 - FLEX MEETING CABINETS
3/4" = 1'-0"



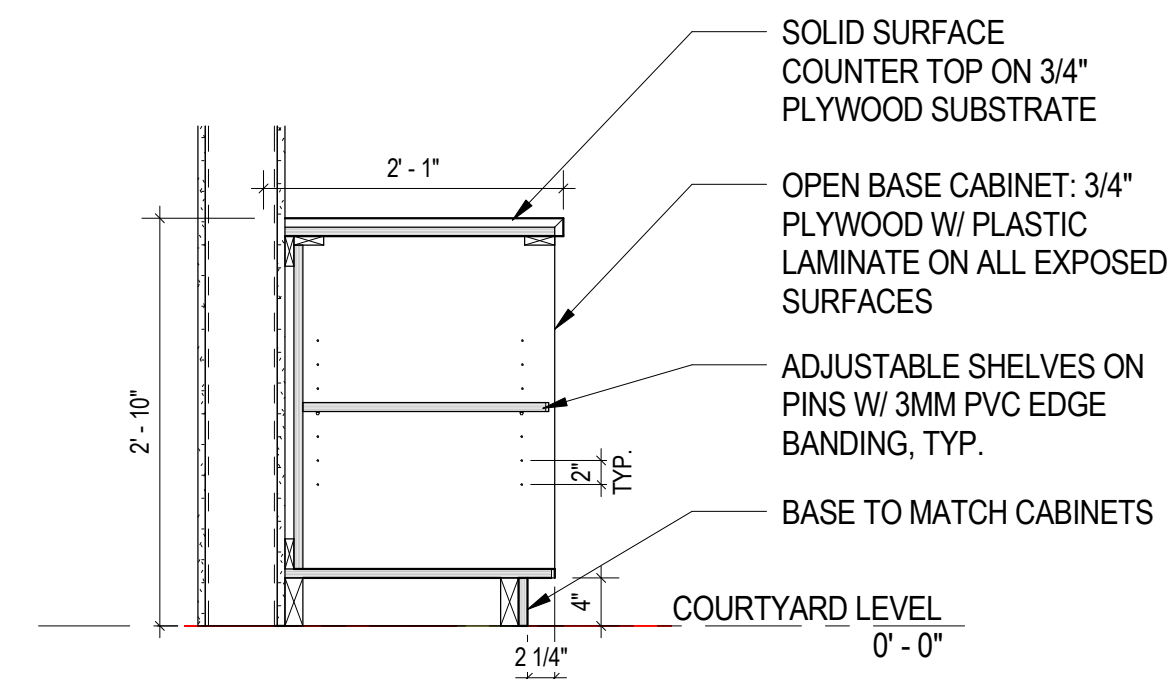
5 CW5 - TYP. UPPER CABINETS
3/4" = 1'-0"



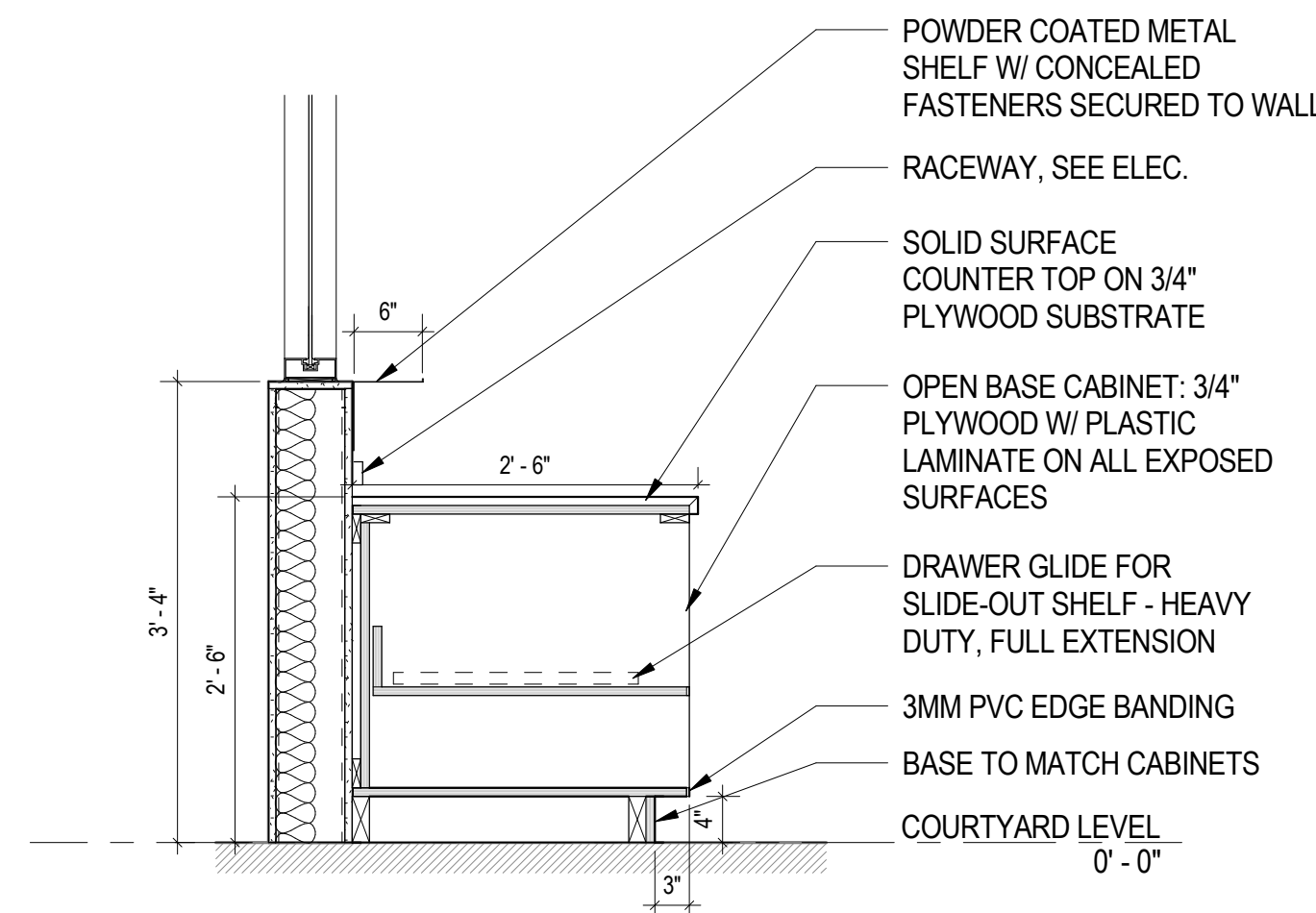
4 CW4 - TYP. BASE CABINET
3/4" = 1'-0"



3 CW3 - TYP. BASE CABINET W/ SINK
3/4" = 1'-0"



2 CW2 - TYP. OPEN BASE CABINET
3/4" = 1'-0"



1 CW1 - SEWING + CONSTRUCTION WORK COUNTER
3/4" = 1'-0"



MEZZANINE LOUNGE



RECEPTION



SENIOR DESIGN



CORRIDOR - PROTOTYPE LAB



INNOVATION LAB



CORRIDOR - SEWING + CONSTRUCTION

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(919) 821-2775
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CONSULTANTS

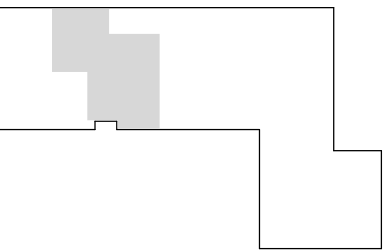
Structural

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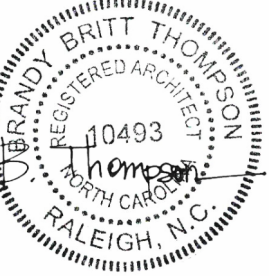
MEP Engineer

Sigma Engineered Solutions
sigmaes.com
5909 Falls of Neuse Rd, Ste #101
Raleigh, NC
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radams@sigmaes.com

KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

PROJECT DATA

DATE: 04.25.2025
DRAWN: TLW
CHECKED: MIC
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

3D IMAGERY

SHEET NO.

A900

GENERAL STRUCTURAL NOTES

GENERAL

THESE DRAWINGS, AS INSTRUMENTS OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF LYSAGHT & ASSOCIATES, P.A., FOR USE SOLELY WITH THIS PROJECT AND SHALL NOT BE REPRODUCED FOR OTHER PURPOSES.

THE PROFESSIONAL ENGINEER WHOSE SEAL APPEARS ON THESE DRAWINGS IS THE PROJECT STRUCTURAL ENGINEER-OF-RECORD (SER) WHO BEARS LEGAL RESPONSIBILITY FOR THE PERFORMANCE OF THE STRUCTURAL FRAMING RELATING TO PUBLIC HEALTH, SAFETY AND WELFARE. NO OTHER PARTY, WHETHER OR NOT A PROFESSIONAL ENGINEER, MAY COMPLETE, CORRECT, REVISE, DELETE OR ADD TO THESE CONSTRUCTION DOCUMENTS OR PERFORM INSPECTIONS OF THE WORK WITHOUT THE WRITTEN PERMISSION OF THE SER.

USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH JOB SPECIFICATIONS, AND OTHER DRAWINGS.

SECTIONS AND DETAILS SHOWN SHALL BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.

WHENEVER EXISTING CONSTRUCTION IS RENOVATED THERE WILL ALWAYS BE SOME COSMETIC DEFECTS DUE TO THE AGE OF THE STRUCTURE THAT WON'T BE CORRECTED DURING THE RENOVATION. THESE DEFECTS INCLUDE SAGGING FLOORS, MINOR CRACKS IN MASONRY WALLS, CRACKS IN SHEETROCK OR PLASTER THAT IS LEFT IN PLACE, ETC. THIS IS TO BE EXPECTED BY THE OWNER UNLESS OTHERWISE NOTED ON THE DRAWINGS.

ALL NON-STRUCTURAL ELEMENTS INDICATED ON THE DRAWINGS HAVE BEEN SHOWN IN GENERAL RELATIONSHIP TO THE STRUCTURAL ELEMENTS. THEY SHALL NOT BE ASSUMED TO BE ACCURATE AND REFERENCE MUST BE MADE TO THE APPROPRIATE CONSULTANT(S) PLANS AND SPECIFICATIONS.

CONTRACTOR SHALL VERIFY ALL CONDITIONS IN THE FIELD AND TAKE ALL NECESSARY FIELD MEASUREMENTS.

THE STRUCTURE SHOWN ON THESE DRAWINGS IS STRUCTURALLY SOUND ONLY IN ITS COMPLETED FORM. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BRACING TO STABILIZE THE BUILDING DURING CONSTRUCTION.

SHOP DRAWINGS

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR EACH STRUCTURAL COMPONENT. THESE SHOP DRAWINGS SHALL HAVE BEEN CHECKED BY, AND STAMPED WITH THE APPROVAL OF, THE CONTRACTOR. DETAILS SHOWN ON THE SHOP DRAWINGS SHALL BE COMPLETE WITH RESPECT TO DIMENSIONS, DESIGN CRITERIA AND SIGNED AND SEALED BY A PROFESSIONAL ENGINEER (WHERE APPLICABLE) REGISTERED IN THE STATE THAT THE PROJECT IS LOCATED.

REVIEW OF SHOP DRAWINGS BY THE ENGINEER IS LIMITED TO COMPLIANCE OF THE COMPLETED STRUCTURE WITH THE DESIGN CONCEPT AND INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, QUANTITIES, PERFORMANCE, SAFETY, COORDINATION WITH OTHER WORKS, AND ALL OTHER REQUIREMENTS OF THE CONTRACT DOCUMENTS. REVIEW DOES NOT AUTHORIZE CHANGES TO THE CONTRACT.

DIMENSIONS

THE CONTRACTOR, BEFORE STARTING ANY WORK, SHALL CHECK ALL DIMENSIONS GIVEN ON THE STRUCTURAL DRAWINGS, RELATING TO GRID LINES, COLUMN AND WALL LOCATIONS, STRUCTURAL AND FINISHED FLOOR ELEVATIONS, MEMBER SIZES, ETC., WITH THE ARCHITECTURAL DRAWINGS. IF ANY DISCREPANCY IS NOTICED, IT SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER AND WORK SHALL NOT COMMENCE UNTIL INSTRUCTIONS ARE RECEIVED FROM THE ENGINEER.

THE CONTRACTOR SHALL SEEK INSTRUCTION FROM THE ENGINEER FOR ANY DIMENSION NOT GIVEN OR OBTAINABLE FROM THE DRAWINGS. THE CONTRACTOR SHALL NOT USE SCALE TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THESE DRAWINGS.

SCOPE OF STRUCTURAL ENGINEERING SERVICES

THE STRUCTURAL ENGINEER HAS PERFORMED THE STRUCTURAL DESIGN AND REVIEWED THE ARCHITECTURAL PLANS FOR THIS PROJECT. SITE VISITS ARE NOT INCLUDED IN OUR CONTRACT BUT CAN BE PERFORMED AS AN ADDITIONAL SERVICE UPON REQUEST. THE ARCHITECT, CONTRACTOR OR OWNER SHALL CONTACT THE STRUCTURAL ENGINEER FOR A FIELD REVIEW OF WORK AT ANY STAGE OF CONSTRUCTION WHEN DESIGN OR CONSTRUCTION PROBLEMS ARE ENCOUNTERED.

A "CONSTRUCTION REVIEW REPORT" WILL BE SENT TO THE CONTRACTOR AND THE ARCHITECT FOLLOWING EACH FIELD TRIP.

PORTIONS OF THE STRUCTURAL DESIGN (AS NOTED ON THE DRAWINGS) ARE THE RESPONSIBILITY OF THE MATERIAL SUPPLIERS.

THE STRUCTURAL ENGINEER IS RESPONSIBLE FOR THE DESIGN OF THE PRIMARY STRUCTURAL SYSTEM, EXCEPT FOR THE COMPONENTS NOTED ABOVE. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR ANY SECONDARY STRUCTURAL AND NON-STRUCTURAL SYSTEMS NOT SHOWN ON THE STRUCTURAL PLANS

THE STRUCTURAL ENGINEER HAS NOT DONE A SUBSURFACE INVESTIGATION (HE IS NOT A SOILS SPECIALIST). THE FOUNDATION DESIGN IS BASED UPON AN ASSUMED ALLOWABLE BEARING PRESSURE AS SHOWN IN THE "FOUNDATION" STRUCTURAL NOTES.

THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK; NOR WILL HE BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

FIELD MEASUREMENTS AND THE VERIFICATION OF FIELD DIMENSIONS ARE NOT PART OF LYSAGHT & ASSOCIATES' RESPONSIBILITY. THE CONTRACTOR SHALL CHECK ALL (ASSUMED) EXISTING CONDITIONS SHOWN ON THESE DRAWINGS FOR ACCURACY AND NOTIFY THE STRUCTURAL ENGINEER OF ANY DISCREPANCIES.

ABBREVIATIONS

@	AT	LLV	LONG LEG VERTICAL
AB	ANCHOR BOLT	NTS	NOT TO SCALE
AFF	ABOVE FINISH FLOOR	OC	ON CENTER
ASD	ALLOWABLE STRESS DESIGN	RyL	LARGER OF TWO REACTIONS, KIPS
BOD	BOTTOM OF DECK	RyS	SMALLER OF TWO REACTIONS, KIPS
C/C	CENTER TO CENTER	SER	STRUCTURAL ENGINEER-OF-RECORD
CLNG	CEILING	STD	STANDARD
COL	COLUMN	STL	STEEL
DJ	DOUBLE JOIST	TOF	TOP OF FOOTING
DR	DOUBLE RAFTER	TOS	TOP OF STEEL
EJ	EXPANSION JOINT	TYP	TYPICAL
EW	EACH WAY	UNO	UNLESS NOTED OTHERWISE
FF	FINISH FLOOR	VIF	ERIFY IN FIELD
FFE	FINISH FLOOR ELEVATION	W.P.	WORK POINT
JBE	JOIST BEARING ELEVATION	WWF	WELDED WIRE FABRIC
LBW	LOAD BEARING WALL		

CODE

NORTH CAROLINA STATE BUILDING CODE, 2018 EDITION

DESIGN DATA

ALLOWABLE STRESS DESIGN RISK CATEGORY	III
FLOOR LIVE LOAD (MEZZANINE - OFFICE/MTG/LT STORAGE)	100 PSF

BUILDING CODE REQUIREMENTS FOR EXISTING BUILDINGS

SECTION 402 – ADDITIONS

402.3 EXISTING STRUCTURAL ELEMENTS CARRYING GRAVITY LOAD.
ANY EXISTING GRAVITY LOAD CARRYING STRUCTURAL ELEMENT FOR WHICH AN ADDITION AND ITS RELATED ALTERATIONS CAUSE AN INCREASE IN DESIGN GRAVITY LOAD OF MORE THAN 10% SHALL BE STRENGTHENED, SUPPLEMENTED, REPLACED OR OTHERWISE ALTERED AS NEEDED TO CARRY THE INCREASED GRAVITY LOAD REQUIRED BY THE INTERNATIONAL BUILDING CODE FOR NEW STRUCTURES.

402.4 EXISTING STRUCTURAL ELEMENTS CARRYING LATERAL LOAD.
WHERE THE ADDITION IS STRUCTURALLY INDEPENDENT OF THE EXISTING STRUCTURE, EXISTING LATERAL LOAD CARRYING STRUCTURAL ELEMENTS SHALL BE PERMITTED TO REMAIN UNALTERED...
ANY EXISTING LATERAL LOAD CARRYING STRUCTURAL ELEMENT WHOSE DEMAND CAPACITY RATIO WITH THE ADDITION CONSIDERED IS NO MORE THAN 10% GREATER THAN ITS DEMAND CAPACITY RATIO WITH THE ADDITION IGNORED SHALL BE PERMITTED TO REMAIN UNALTERED.

SECTION 403 ALTERATIONS

403.3 EXISTING STRUCTURAL ELEMENTS CARRYING GRAVITY LOAD.
ANY EXISTING GRAVITY LOAD CARRYING STRUCTURAL ELEMENT FOR WHICH AN ALTERATION CAUSES AN INCREASE IN DESIGN GRAVITY LOAD OF MORE THAN 10% SHALL BE STRENGTHENED, SUPPLEMENTED, REPLACED OR OTHERWISE ALTERED AS NEEDED TO CARRY THE INCREASED GRAVITY LOAD REQUIRED BY THE INTERNATIONAL BUILDING CODE FOR NEW STRUCTURES....
WHERE THE ALTERATION DOES NOT RESULT IN INCREASED DESIGN LIVE LOAD, EXISTING GRAVITY LOAD CARRYING STRUCTURAL ELEMENTS SHALL BE PERMITTED TO BE EVALUATED AND DESIGNED FOR LIVE LOADS APPROVED PRIOR TO THE OPERATION.

403.4 EXISTING STRUCTURAL ELEMENTS CARRYING LATERAL LOAD.
WHERE THE ALTERATION INCREASES DESIGN LATERAL LOADS IN ACCORDANCE WITH SECTION 1609 OR 1613 OF THE INTERNATIONAL BUILDING CODE, OR WHERE THE ALTERATION RESULTS IN A PROHIBITED STRUCTURAL IRREGULARITY AS DEFINED IN ASCE7, OR WHERE THE ALTERATION DECREASES THE CAPACITY OF ANY EXISTING LATERAL LOAD CARRYING STRUCTURAL ELEMENT, THE STRUCTURE OF THE ALTERED BUILDING OR STRUCTURE SHALL BE SHOWN TO MEET THE REQUIREMENTS OF SECTIONS 1609 AND 1613 OF THE INTERNATIONAL BUILDING CODE....
ANY EXISTING LATERAL LOAD BEARING STRUCTURAL ELEMENT WHOSE DEMAND CAPACITY RATIO WITH THE OPERATION CONSIDERED IS NO MORE THAN 10% GREATER THAN ITS DEMAND CAPACITY RATIO WITH THE ALTERATION IGNORED SHALL BE PERMITTED TO REMAIN UNALTERED.

THESE CODE PROVISIONS HAVE BEEN INTERPRETED AS FOLLOWS:

1. THE EXISTING BUILDING IS EXEMPT FROM A WIND OR SEISMIC ANALYSIS BECAUSE THE MAIN WIND (SEISMIC) FORCE RESISTING SYSTEM WILL NOT BE ALTERED DURING THIS RENOVATION.
2. ALL EXISTING GRAVITY ELEMENTS THAT ARE AFFECTED BY RENOVATION MUST BE CHECKED FOR DESIGN LOADS SHOWN ABOVE AND REINFORCED AS NECESSARY.
3. ALL DEFECTIVE STRUCTURAL ELEMENTS MUST BE REPAIRED OR REPLACED. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER IF ANY DEFECTIVE FRAMING IS UNCOVERED DURING THE RENOVATION AND ADDITION.

FOUNDATIONS

ALL FOOTINGS SHALL REST ON SOIL CAPABLE OF SAFELY SUPPORTING 2000 PSF. CONTACT STRUCTURAL ENGINEER IF UNSATISFACTORY SUBSURFACE CONDITIONS ARE ENCOUNTERED.

FOOTINGS SHALL BE CARRIED TO A LOWER ELEVATION THAN THOSE INDICATED ON THESE DRAWINGS IF NECESSARY TO REACH FIRM UNDISTURBED SOIL.

THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 1'-4" BELOW FINISHED GRADE.

CONCRETE

CONCRETE SHALL BE PROPORTIONED, MIXED AND PLACED IN ACCORDANCE WITH ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," AND ACI 301, " SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS." ANY ADMIXTURES SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.

CONCRETE DENOTED AS LIGHTWEIGHT CONCRETE SHALL HAVE AN EQUILIBRIUM WEIGHT OF 115 PCF (+/- 3 PCF). CONCRETE NOT SPECIFICALLY NOTED AS LIGHTWEIGHT CONCRETE SHALL BE NORMAL WEIGHT CONCRETE.

MINIMUM 28 DAY COMPRESSIVE STRENGTH OF CONCRETE SHALL BE AS FOLLOWS:

FOOTINGS	3000 PSI
ELEVATED SLABS	4000 PSI

REINFORCING STEEL

ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE LATEST "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," ACI 315.

REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615, GRADE 60. CLEAR CONCRETE COVER OVER BARS SHALL BE 3" FOR FOOTINGS.

LAP ALL SPLICES IN CONCRETE AS SPECIFICALLY CALLED FOR, BUT AT LEAST 48 BAR DIAMETERS (24" MINIMUM) FOR TENSION OR COMPRESSION, UNLESS NOTED OTHERWISE. LAP SPLICES IN GROUTED MASONRY 72 BAR DIAMETERS U.N.O.

PROVIDE DOWELS IN WALL FOOTINGS EQUIVALENT IN SIZE AND NUMBER TO VERTICAL STEEL EXTENDING 24 BAR DIAMETERS INTO FOOTING AND 48 BAR DIAMETERS INTO WALL, UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL

FABRICATE AND ERECT ALL STRUCTURAL STEEL IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL OF BUILDINGS," WHERE THE MATERIAL USED CONSISTS OF PLATES, SHAPES OR BARS.

STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH THE ARCHITECTURAL SPECIFICATIONS. STEEL COLUMNS BELOW GRADE THAT ARE NOT ENCASED IN CONCRETE SHALL BE FIELD PAINTED WITH A COAL/TAR EPOXY COMPOUND TO PREVENT CORROSION. DO NOT PAINT THE TOP FLANGE OF BEAMS THAT WILL RECEIVE SHEAR STUDS. DO NOT PAINT BEAMS OR COLUMNS THAT WILL RECEIVE SPRAY-ON FIREPROOFING.

THE STEEL USED SHALL HAVE THE FOLLOWING MINIMUM YIELD STRESS:
50 KSI - STRUCTURAL STEEL WIDE FLANGE
46 KSI - STRUCTURAL TUBE COLUMNS
36 KSI - MISCELLANEOUS SHAPES, BARS AND PLATES

USE 3/4" DIAMETER A-325 BOLTS FOR ALL STEEL TO STEEL CONNECTIONS U.N.O. BOLTS SHALL BE TIGHTENED TO A SNUG TIGHT CONDITION U.N.O. THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES OF A CONNECTION ARE IN FIRM CONTACT.

USE A36 STEEL FOR ALL ANCHOR BOLTS U.N.O.

USE E-70 ELECTRODES FOR ALL SHOP AND FIELD WELDING.

THE STEEL FABRICATOR SHALL DESIGN ALL STEEL TO STEEL CONNECTIONS FOR THE REACTIONS SHOWN ON THE DRAWINGS USING STANDARD CONNECTION DETAILS AS ILLUSTRATED.

ALL FLOOR OR ROOF BEAMS THAT DO NOT MEET THE MINIMUM W/D RATIO FOR THE UL# SPECIFIED ON THE ARCHITECTURAL PLANS SHALL HAVE ADDITIONAL THICKNESS OF SPRAY-ON FIREPROOFING. THE THICKNESS IS TO BE DETERMINED BY THE FIREPROOFING SUBCONTRACTOR AND SHALL BE IN ACCORDANCE WITH THE BUILDING CODE.

STEEL STAIRS SHALL BE DESIGNED BY THE SUPPLIER IN ACCORDANCE WITH THE BUILDING CODE. SUBMIT SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.

FOR MISCELLANEOUS STEEL NOT SHOWN ON THESE DRAWINGS, SEE ARCHITECTURAL AND OTHER ENGINEERING DRAWINGS.

SHEAR STUDS

SHEAR STUDS SHALL BE 3/4" DIAMETER, PROJECT A MINIMUM OF 1/2" ABOVE THE METAL DECK AND SHALL BE FIELD APPLIED TO BEAMS THROUGH THE DECK. SPACE STUDS UNIFORMLY ON EACH SIDE OF BEAM MIDSPAN U.N.O. THE SUGGESTED FIELD PROCEDURE FOR WELDING STUDS THROUGH DECK IS AS FOLLOWS.

DECK TO BE FREE OF ALL FOREIGN MATERIALS AND MOISTURE. TOP OF STEEL BEAM TO BE UNPAINTED.

SET UP WELDING GUN PRIOR TO EACH WORKDAY AND AFTER ANY LENGTHY WORK STOPPAGE. GUN OPERATOR IS TO WELD TWO TEST STUDS. INSPECT AND BEND STUDS 45 DEGREES. REPEAT THIS PROCEDURE AS REQUIRED UNTIL PROPER WELD RESULTS ARE OBTAINED.

PROCEED WITH STUD WELDING AFTER SATISFYING ABOVE REQUIREMENTS.

VISUALLY INSPECT EACH STUD FOR PROPER WELD. REDO ALL WELDS AT THOSE STUDS NOT HAVING PROPER GUN WELD.

STUDS SHALL BE FIELD TESTED BY INDEPENDENT TEST LAB, PAID BY THE OWNER IN ACCORDANCE WITH SPECIFICATIONS. FERRULES SHALL BE REMOVED AND DECK CLEANED. STUD CAPACITIES TO BE REVIEWED BY THE STRUCTURAL ENGINEER BEFORE POURING CONCRETE.

METAL DECK

DESIGN , FABRICATION AND ERECTION OF METAL DECK SHALL CONFORM TO THE STEEL DECK INSTITUTE "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS AND ROOF DECKS."

METAL FLOOR DECK SHALL BE 22 GAGE, COMPOSITE DECKING BY VULCRAFT, WIDE RIB STEEL WITH 1-1/2" NOMINAL CORRUGATION DEPTH, OR APPROVED EQUAL. THE MINIMUM YIELD STRESS SHALL BE 33 KSI.

WELD METAL DECK IN A 3/4" WELD PATTERN WITH 5/8" PUDDLE WELDS, AS SPECIFIED BY VULCRAFT. USE (2) #10 TEK SCREW SIDELAP FASTENERS AT EACH SPAN AND 5/8" PUDDLE WELDS AT 1'-4" MAXIMUM SPACING AT THE DIAPHRAGM PERIMETER.

STEEL ROOF/FLOOR DECK SHALL BE ATTACHED TO SUPPORTING STEEL MEMBERS USING HILTI MECHANICAL FASTENERS. USE HILTI MECHANICAL DECK FASTENER X-EDN19 WHERE THE STEEL BASE MATERIAL THICKNESS IS 3/16"< TF< 3/8", X-EDNK22 WHERE THE STEEL BASE MATERIAL THICKNESS IS 1/8"< TF< 1/4", ORX-ENP-19L15 WHERE THE STEEL BASE MATERIAL THICKNESS IS TF >1/4". THE ACTUAL BASE MATERIAL THICKNESS SHALL BE VERIFIED ON-SITE PRIOR TO INSTALLING THE FASTENER.

ALL DECK SHALL RECEIVE A SHOP-COAT OF HIGH QUALITY RUST INHIBITIVE PRIMER, OR GALVANIZED, IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

METAL DECK SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND ERECTION LAYOUT.

DO NOT HANG EQUIPMENT FROM METAL DECK. RESPECTIVE CONTRACTORS TO PROVIDE SUPPORT AS REQUIRED. CEILINGS, LIGHTS AND DUCT MAY BE HUNG FROM DECK WITH CONCRETE SLAB.

LIGHT GAGE STRUCTURAL STEEL FRAMING

THIS IS A DELEGATED DESIGN. SUBMIT SEALED SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.

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ARCHITECTURE + ART

http://www.clearscapes.com/

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Raleigh, NC 27601
(919) 821-2775
(919) 821-0804 Fax
artarc@clearscapes.com

CONSULTANTS

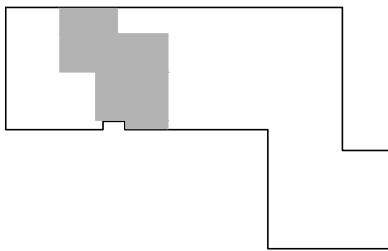
Structural

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chuck@lysaghtassociates.com

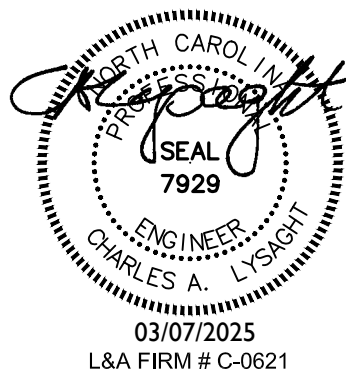
MEP Engineer

Sigma Engineered Solutions
sigmaes.com
5909 Falls of Neuse Rd, Ste #101
Raleigh, NC
919.840.9300
radams@sigmaes.com

KEY PLAN



SEALS



BID DOCUMENTS
03.07.2025

PROJECT
NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

PROJECT DATA

DATE: 09/06/2024
DRAWN: CTH
CHECKED: CAL
PROJECT NO: L&A 14219
PRINTING: CD

SHEET DATA

GENERAL
STRUCTURAL
NOTES

SHEET NO.

S100

Statement of Special Inspections for Structural Work

Project: NCSU – Textiles Complex – Flex Factory Renovations
Location: 1020 Main Capus Drive, Raleigh, NC 27606
Owner's Representative: Stephanie McArthur
Owner's Address: North Carolina State University, 2601 Wolf Village Way, Suite 300, Raleigh, NC 27695

This Statement of Special Inspections is submitted as a condition for permit issuance in accordance with the Special Inspection requirements of the 2012 North Carolina State Building Code. It includes a Schedule of Special Inspection Services applicable to this project as well as the name of the Special Inspector and the identity of other approved agencies intended to be retained for conducting these inspections. This Statement of Special Inspections was prepared by the following Designers of Record:

Structural	Charles A. Lysaght		09/13/24
	(Type or print name)	(Signature)	(Date)
Architectural	N/A		
	(Type or print name)	(Signature)	(Date)
Mechanical	N/A		
	(Type or print name)	(Signature)	(Date)
Other	N/A		
	(Type or print name)	(Signature)	(Date)

The Special Inspector shall keep records of all inspections and shall furnish inspection reports to the State Construction Office and the Designers of Record. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the State Construction Office and the Designers of Record. The Special Inspections program does not relieve the Contractor of his or her responsibilities.

Interim reports shall be submitted to the State Construction Office, Owner, and the Designers of Record.

Interim Report Frequency: Monthly

A Final Report of Special Inspections documenting completion of all required Special Inspections and correction of any discrepancies should be submitted prior to issuance of a Certificate of Use and Occupancy.

Job Site safety and means and methods of construction are solely the responsibility of the Contractor.

Owner's Authorization		Accepted for the SCO by:	
Signature	Date	Signature	Date

Schedule of Special Inspection Services
Concrete Construction

Item	Qualifications	Scope
1. Mix Design/Material Certifications	SER / SI	Collect mix designs and verify appropriate mix use during specific installation
2. Reinforcement Installation	SER / SI SI SI	- Periodic inspection of reinforcing steel, including prestressing tendons and welded wire fabric - Collection of certified mill test reports - Continuous inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5b
3. Concrete Placement/Monitoring Fresh Concrete, Sampling & prep of test samples	SI SI / ITL SER / SI SI / ITL SI SI	- Continuous inspection of cast-in-place concrete placement - Continuous monitoring of sampling of fresh concrete, slump test, air content test, temperature of concrete and creation of strength test specimens - Periodic inspection of formwork - Periodic verification of concrete strength prior to removal of shores and forms from beams and structural slabs - Continuous inspection of bolts to be installed in concrete prior to and during placement - Periodic inspection of anchors installed in hardened concrete
4. Curing & Protection	SI	Periodic inspections of curing techniques
5. Structural Precast Concrete Members	SER / SI	Periodic inspection of attachment of precast members
6. Post-Tensioned Concrete Members	SI / ITL SI SI	- Periodic verification of posttensioned concrete strength (fci) prior to force transfer - Continuous inspection of force application to prestressing tendons - Continuous inspection of grouting procedures at bonded prestressing tendons included in the lateral force resisting system

Schedule of Special Inspection Services

The following sheets comprise the required schedule of special inspections for this project. The construction divisions which require special inspections for this project are as follows.

☒ Structural Steel	☐ Sprayed Fire Resistant Material
☒ Cold-Formed Steel Framing	☒ Intumescent Fire-Resistant Coatings
☒ Concrete Construction	☐ Exterior Insulation & Finish System
☐ Masonry – Level 1+	☐ Smoke Control
☐ Wood Construction	☐ Retaining Walls Exceeding 5 Feet
☐ Soils	☐ Wind-Resisting Components (1705.4) ^a
☐ Driven Deep Foundations	☐ Wind Requirements (1706) ^a
☐ Cast-in-Place Deep Foundations	☐ Seismic Resistance ^d
☐ Helical Pile Foundations	

a. Occupancy Category IV structures, as defined by 1604.5 of the North Carolina Building Code, may require Level 2 inspection of masonry construction. The SER shall review Code sections 1704.5.1 and 1704.5.3 and adjust the Schedule of Special Inspection Services as needed.
b. Special Inspections for Wind Resistance are applicable to those areas defined by 1705.4 of the North Carolina Building Code. Wind Resistance Special Inspections are only effective if the 1704.1.2 base triggers apply.
c. Special Inspections for Wind Requirements are applicable to those areas defined by 1706.1 of the North Carolina Building Code. Wind Requirements are effective even if the 1704.1.2 base triggers do not apply.
d. Special Inspections for Seismic Resistance are applicable to those structures defined by 1707.1 of the North Carolina Building Code. Seismic Requirements are only effective if the 1704.1.2 base triggers apply.

Inspection Agents	Qualifications	Address
1. Special Inspector	SI	TBD
2. Structural Engineer of Record	SER	Charles A. Lysaght Lysaght & Associates, P.A. 120 St. Mary's St., Raleigh
3. Testing Laboratory	ITL	TBD
4. Other		TBD

Note: The inspection and testing agent shall be engaged by the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the State Construction Office, prior to commencing work.

Wind and seismic data are not provided because this is an existing building and wind and seismic analyses are not required.

Schedule of Special Inspection Services
Mastic and Intumescent Fire-Resistant Coatings

Item	Qualification	Scope
1. Preparation	SI / ITL	Periodically inspect preparation of substrate prior to installation in accordance with approved fire resistance design, approved manufacturer's written instructions, and the requirements of AWCI 12-B
1. Application	SI / ITL	Periodically observe application of fire-resistant coatings ensuring compliance with approved fire resistance design, approved manufacturer's written instructions, and the requirements of AWCI 12-B

Schedule of Special Inspection Services
Structural Steel

Item	Qualifications	Scope
1. Fabricator Certification/Quality Control Procedures	SI SER / SI	- Ensure fabricator meets the requirements of NCSBC 1704.2.2 - Collect certificate of compliance from fabricator at completion of fabrication
2. Welding	SI	- Continuous inspection of complete and partial joint penetration welds, multipass fillet welds, plug and slot welds, and single-pass fillet welds > 5/16" in accordance with NCSBC Table 1704.3 - Periodic inspection of single-pass fillet welds ≤ 5/16" - Collect certificate of compliance for weld filler material - Identify use of approved filler material and in accordance with AWS D1.1
3. Metal Deck	SI SER / SI	- Collect material data sheets for decking and connectors or fasteners - Periodic inspection of welds and / or mechanical fasteners
4. Structural Details	SER / SI	Periodic inspection of steel framing and joint details
5. Bolting	SI SI SER / SI	- Collect material data sheets for bolts, nuts, and washers - Collect certificate of compliance from bolt supplier - Periodic inspection of snug-tight, pretensioned, and slip critical joints in accordance with NCSBC Table 1704.3 - Continuous inspection of pretensioned and slip-critical joints using turn-of-nut without matchmarking or calibrated wrench methods of installation
6. Material Certification	SI	Collect certified mill test reports

Schedule of Special Inspection Services
Cold-Formed Steel Framing

Item	Qualifications	Scope
1. Plant Certification/Quality Control Procedures for Pre-Engineered Wall Panels Assembled Off-Job Site	SI SER / SI	- Ensure wall panel fabricator meets the requirements of NCSBC 1704.2.2 - Collect certificate of compliance from wall panel fabricator at completion of fabrication
2. Mechanical Connections	SER / SI	Periodic inspection of all field connections including anchorage to the structural frame
3. Welding	SER / SI	Periodic inspection of all field connections including anchorage to the structural frame
4. Framing Details	SER / SI	Periodic inspection framing and details
5. Cold-formed Steel Trusses	SER / SI	For trusses clear spanning 60 feet or more, verify that both temporary and permanent restraints and braces are installed in accordance with the approved truss submittal package.

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http://www.clearscapes.com/

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(919) 821-2775
(919) 821-0804 Fax
artarc@clearscapes.com

CONSULTANTS

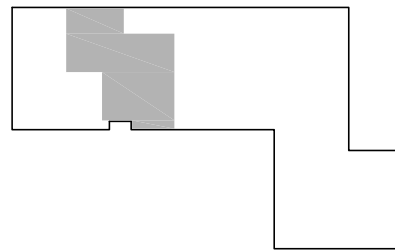
Structural

Lysaght & Associates
lysaghtassociates.com
120 St. Mary's St.
Raleigh, NC
919.833.0495
chuck@lysaghtassociates.com

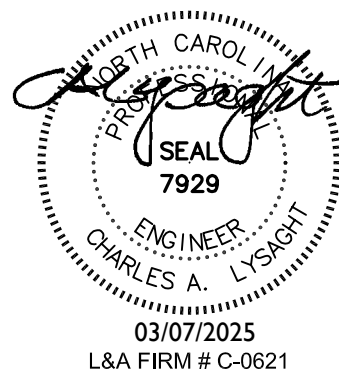
MEP Engineer

Sigma Engineered Solutions
sigmaes.com
5909 Falls of Neuse Rd, Ste #101
Raleigh, NC
919.840.9300
radams@sigmaes.com

KEY PLAN



SEALS



BID DOCUMENTS
03.07.2025

PROJECT
NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

PROJECT DATA

DATE: 09/06/2024
DRAWN: GTH
CHECKED: CAL
PROJECT NO: L&A 14219
PRINTING: CD

SHEET DATA

SPECIAL
INSPECTIONS

SHEET NO.

S100.1

STRUCTURAL NOTES

- MEZZANINE DESIGN LIVE LOAD = 100 PSF.
- CONTRACTOR SHALL FIELD CONFIRM THAT NEW TITEN SCREWS AT ALL BEAM TO COLUMN CONNECTIONS WILL CLEAR EXISTING COLUMN REBAR PRIOR TO FINALIZING STEEL SHOP DRAWINGS.
- FLOOR STRUCTURE, INCLUDING DECK, BEAMS AND COLUMNS SHALL HAVE A TWO HOUR FIRE RATING.

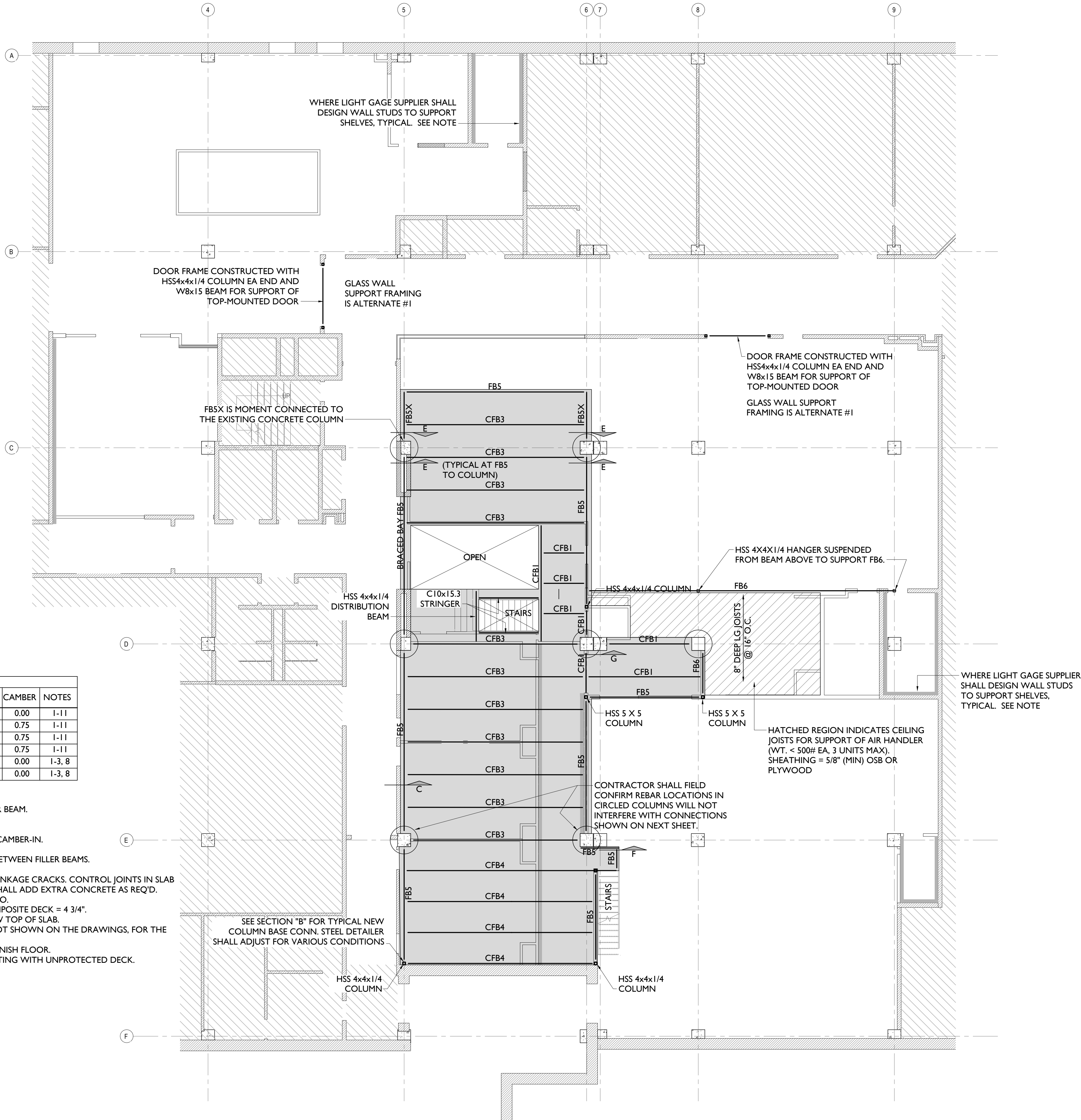
DENOTES LOCATIONS WHERE LIGHT GAGE SUPPLIER SHALL DESIGN WALL STUDS TO SUPPORT SHELVES FOR A DESIGN LOAD OF 450# PER SHELF (TWO BRACKETS) WITH A CENTER OF GRAVITY AT 12" FROM FACE OF STUD.

MEZZANINE FLOOR BEAM SCHEDULE

MK#	Ry	DESIGN SPAN	DESIGN SPACING	SIZE	# STUDS	PATTERN	CAMBER	NOTES
CFB1	5.7	17.5	4.1	W8x15	12	UNIFORM	0.00	I-11
CFB2	6.8	28.5	3.0	W8x21	16	UNIFORM	0.75	I-11
CFB3	13.5	28.5	6.0	W8x31	22	UNIFORM	0.75	I-11
CFB4	12.0	30.0	5.0	W8x35	26	UNIFORM	0.75	I-11
FB5	27.9	28.0	14.3	HSS 18x6x0.5	NONE	N/A	0.00	I-3, 8
FB6	6.8	28.5	N/A	W8x21	NONE	N/A	0.00	I-3, 8

NOTES

- CFB = COMPOSITE FLOOR BEAM. FB = NON-COMPOSITE FLOOR BEAM.
- USE 50 KSI FOR ALL BEAMS, EXCEPT 46 KSI FOR HSS BEAMS.
- THE UNITS IN THE SCHEDULE ARE: SPAN-FT, SPAC-FT, Ry-KIPS, CAMBER-IN.
- USE 3/4" DIAMETER X 3" STUDS AT ALL COMPOSITE BEAMS.
- STUD "PATTERN" IS EITHER UNIFORM OR SPACED AS SHOWN BETWEEN FILLER BEAMS.
- THE CAMBER TOLERANCE IS (+/-) 1/4".
- USE 4000 PSI LIGHTWEIGHT CONCRETE MIX TO CONTROL SHRINKAGE CRACKS. CONTROL JOINTS IN SLAB ARE NOT PERMITTED. POUR THE SLAB FLAT. CONTRACTOR SHALL ADD EXTRA CONCRETE AS REQ'D.
- TOP OF BEAM SHALL BE SET AT 4 3/4" BELOW TOP OF SLAB U.N.O.
- SLAB SHALL BE 3 1/4" CONCRETE ON 1 1/2" VLR X 22 GAGE COMPOSITE DECK = 4 3/4".
- REINFORCE SLAB WITH #3' AT 16" O.C. EACH WAY AT 1" BELOW TOP OF SLAB.
- STEEL DETAILER SHALL DESIGN STEEL/STEEL CONNECTIONS, NOT SHOWN ON THE DRAWINGS, FOR THE FORCES SHOWN IN THE SCHEDULE.
- BEAM IS FLUSH BOTTOM SO IT STICKS UP ABOVE MEZZANINE FINISH FLOOR.
- SLAB AND DECK ASSEMBLY SHALL HAVE A TWO HOUR FIRE RATING WITH UNPROTECTED DECK.

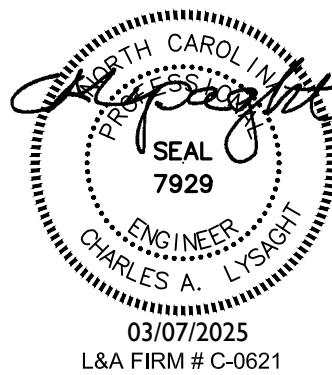
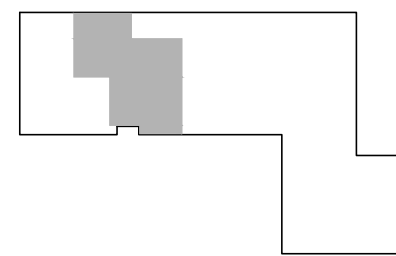


Structural

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chuck@lysaghtassociates.com

MEP Engineer

Sigma Engineered Solutions
sigmaes.com
5909 Falls of Neuse Rd, Ste #101
Raleigh, NC
919.840.9300
radams@sigmaes.com



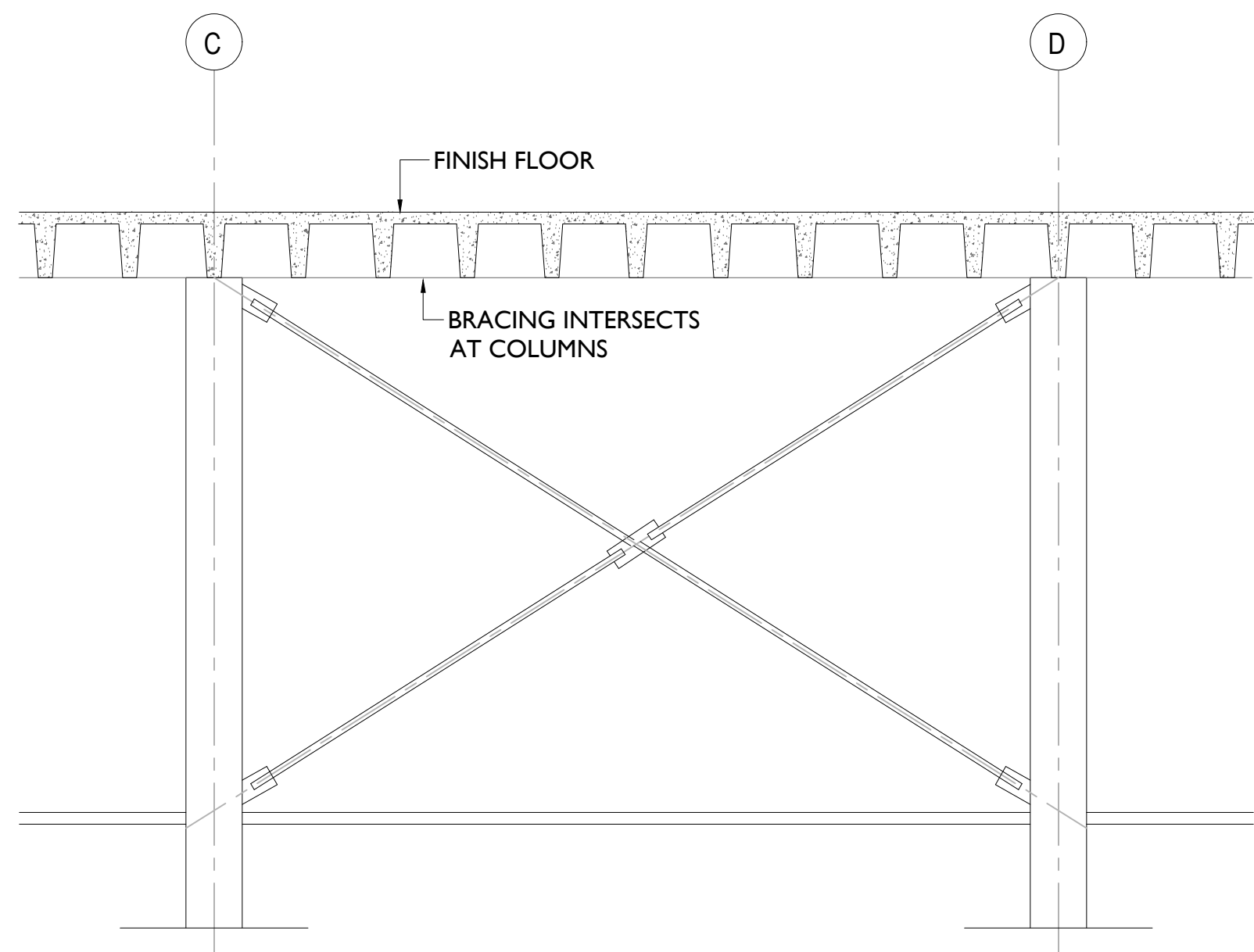
PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

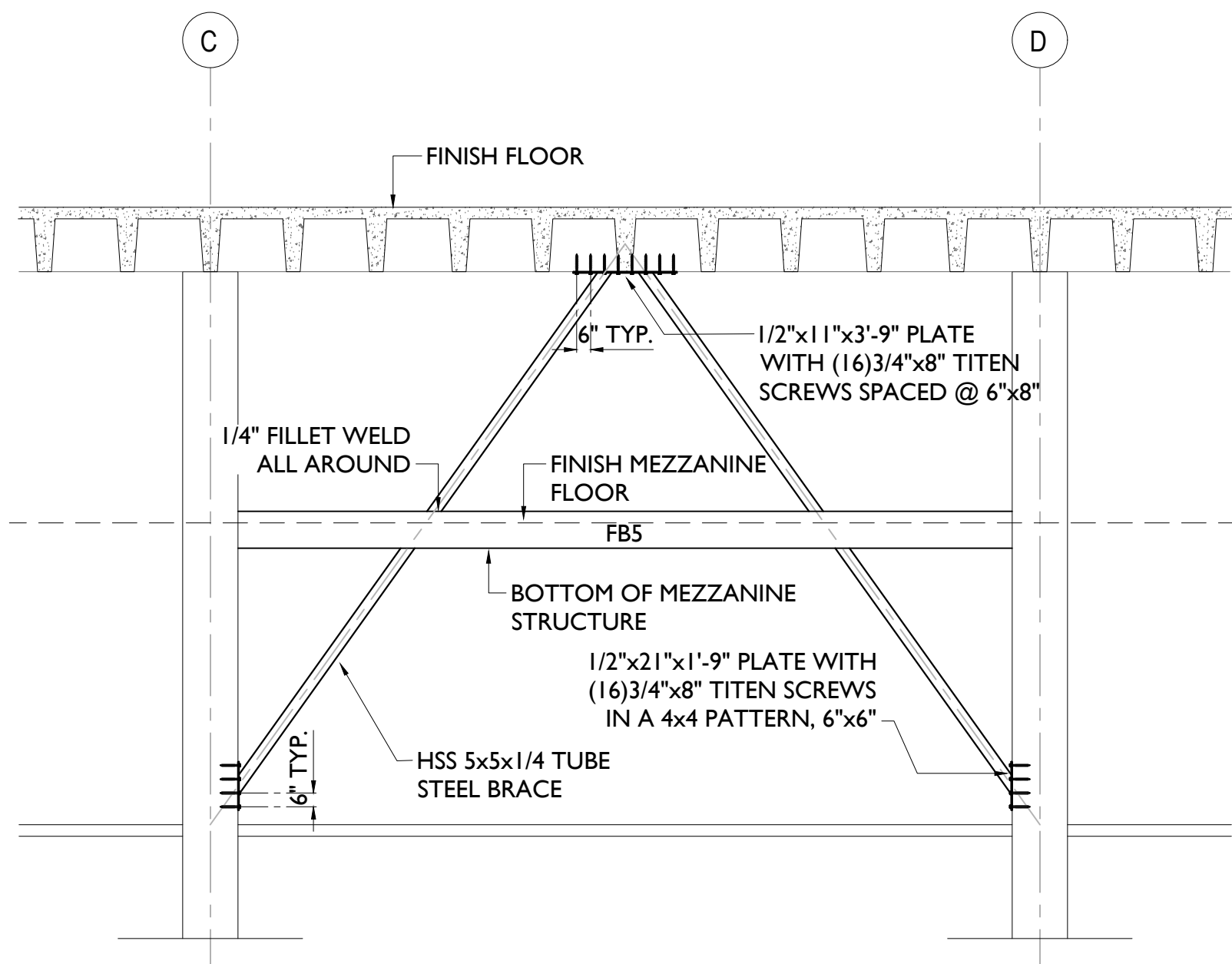
REVISIONS		
No.	Description	Date

DATE: 09/06/2024
DRAWN: CTH
CHECKED: CAL
PROJECT NO: L&A 14219
PRINTING: CD

**MEZZANINE
FRAMING PLAN**

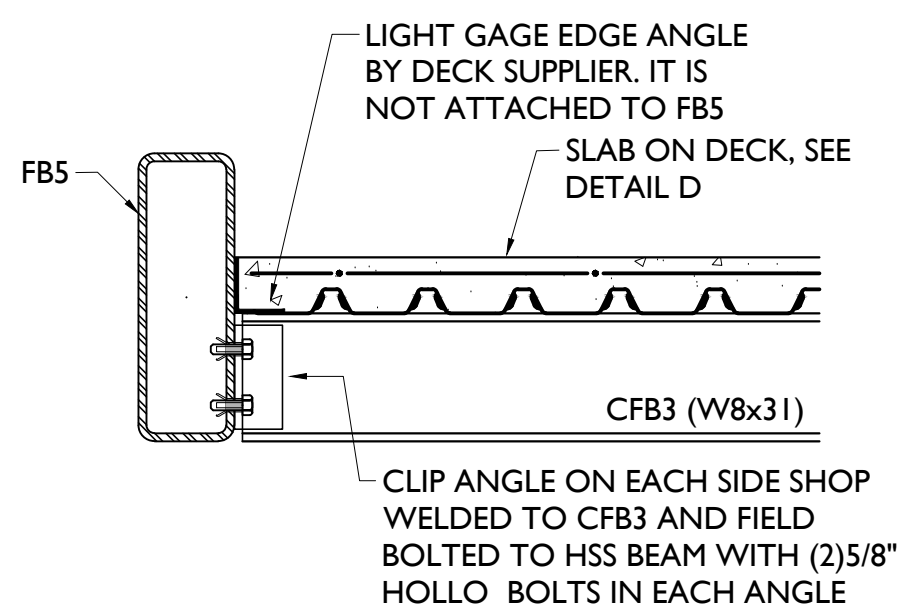


EXISTING BRACED BAY ALONG GRID 5
NOT TO SCALE

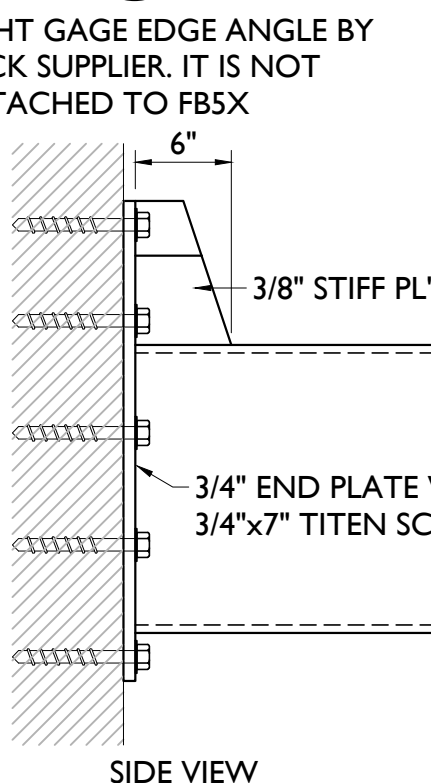
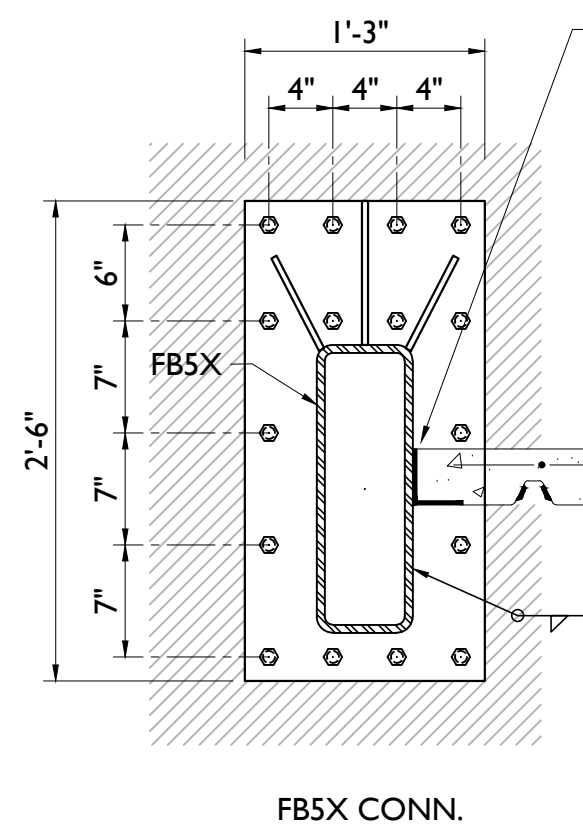


MODIFIED BRACED BAY ALONG GRID 5
NOT TO SCALE

A SECTION THROUGH STAIRS
NOT TO SCALE



C SECTION THROUGH FB5 AND CFB3
NOT TO SCALE

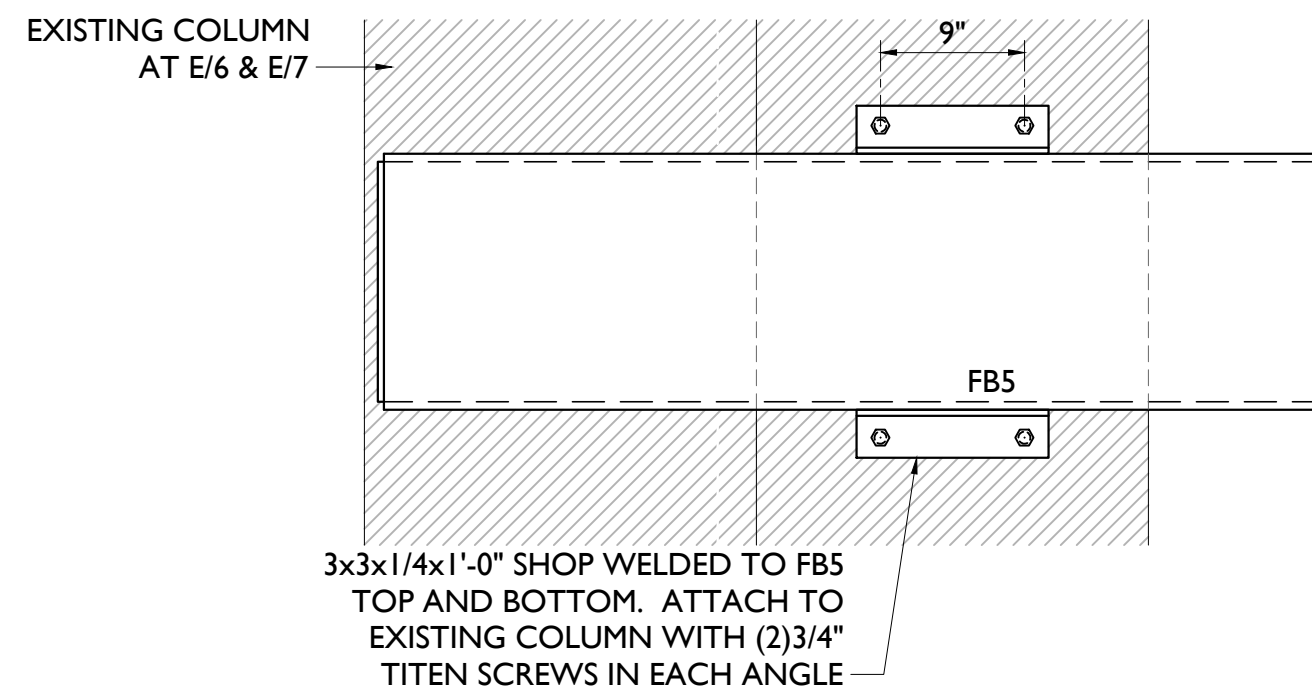


CONTRACTOR SHALL FIELD CONFIRM REBAR LOCATIONS IN CONCRETE COLUMNS WILL NOT INTERFERE WITH ANCHORS SHOWN AT CIRCLED LOCATIONS.

IF INTERFERENCE OCCURS, CONNECTION WILL BE MODIFIED TO ACCOMMODATE REBAR.

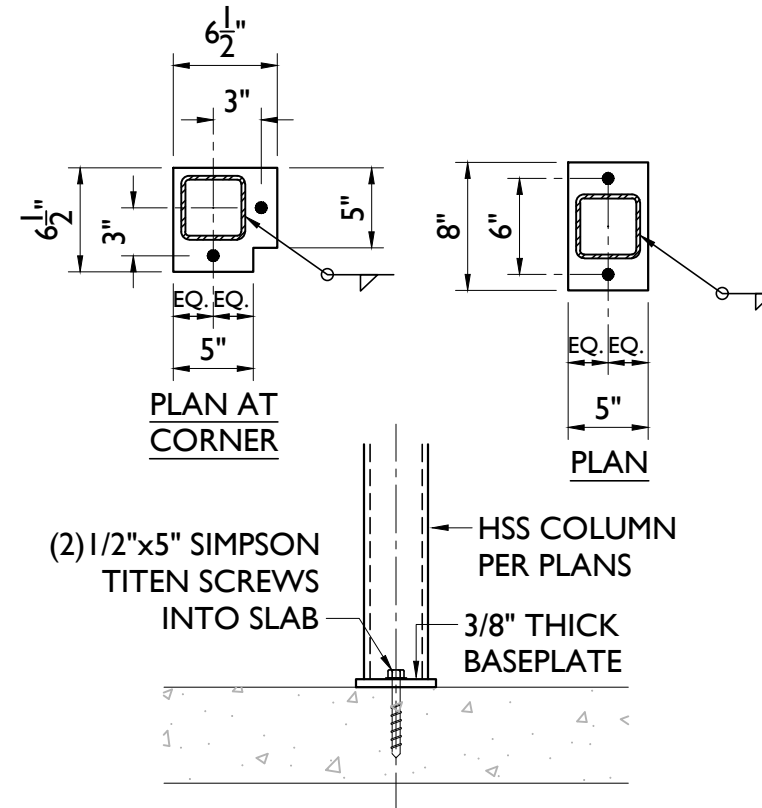
ONE OPTION IS TO USE HORIZONTALLY SLOTTED HOLES AT ALL LOCATIONS SO BOLT LOCATION CAN SHIFT TO ACCOMMODATE REBAR.

E FB5 TO EXISTING COLUMN CONNECTION
NOT TO SCALE

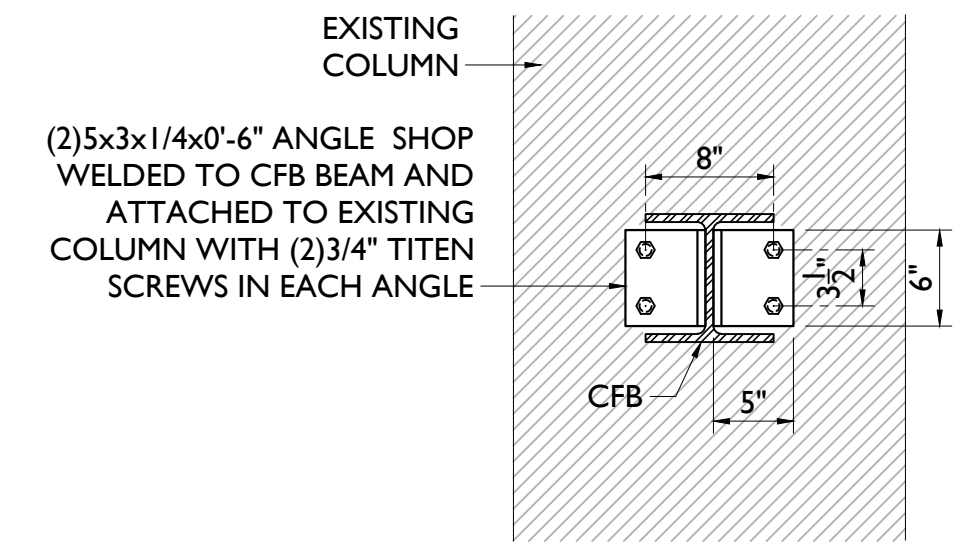


F FB5 TO EXISTING COLUMN AT E/7
NOT TO SCALE

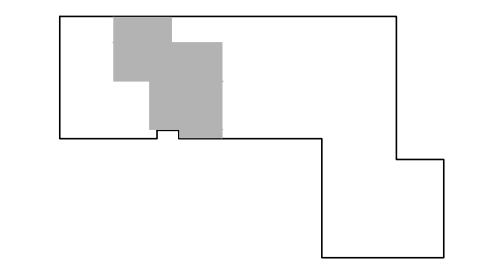
B TYPICAL NEW COLUMN BASE CONNECTION
NOT TO SCALE



D SECTION AT CFB3
NOT TO SCALE



G CFB3 TO EXISTING COLUMN CONNECTION
NOT TO SCALE



No.	Description	Date

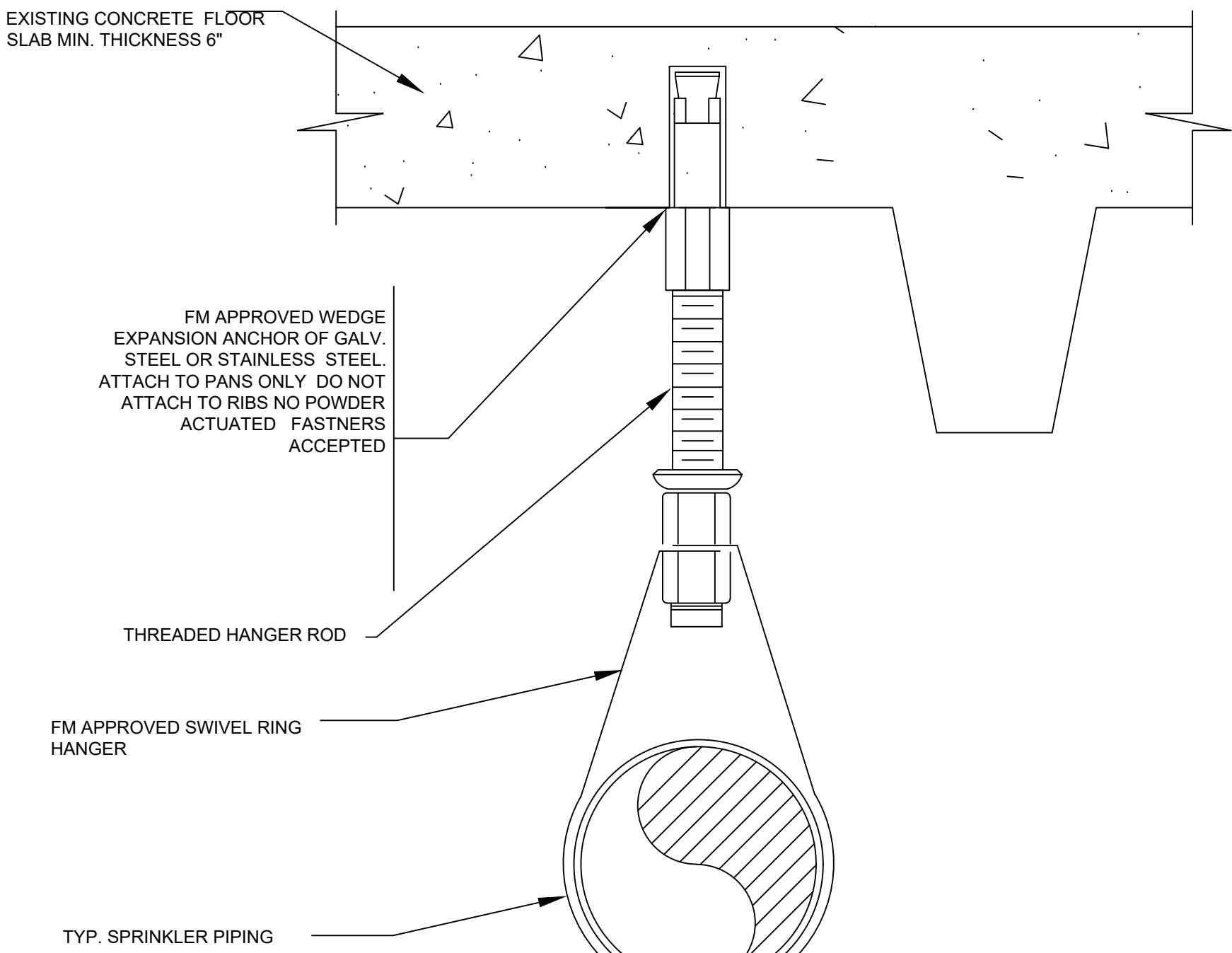
GENERAL PLUMBING NOTES

1. NOT ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS DRAWING MAY BE USED ON THIS PROJECT.
2. ALL PLUMBING WORK SHALL BE FURNISHED AND INSTALLED PER THE STATE OF NORTH CAROLINA BUILDING CODE: PLUMBING CODE 2018.
3. UNLESS OTHERWISE NOTED ON DRAWINGS, ALL 1/2"-2 1/2" SANITARY WASTE AND VENT PIPING SHALL BE RUN AT 1/4" PER FT SLOPE. ALL 3"-6" SANITARY WASTE AND VENT PIPING SHALL BE RUN AT 1/8" PER FT SLOPE. ALL WASTE AND VENT PIPING 8" OR LARGER SHALL BE RUN AT 1/16" PER FT SLOPE. ALL STORM DRAINAGE PIPING SHALL BE RUN AT 1/4" PER FT SLOPE.
4. THE DESIGN/DETAIL/SCHEDULE SHOWN IS BASED ON (MANUFACTURER, MODEL) EQUIPMENT AND IS INTENDED ONLY TO SHOW THE GENERAL SIZE, CONFIGURATION, LOCATION, CONNECTIONS, AND/OR SUPPORT FOR EQUIPMENT OR SYSTEMS SPECIFIED WITH RELATION TO THE OTHER BUILDING SYSTEMS.
5. INSTALL ALL PIPING AT THE MAXIMUM ELEVATION POSSIBLE. PROVIDE ALL FITTINGS, TRANSITIONS AND MATERIALS REQUIRED TO ACHIEVE MAXIMUM ELEVATION. COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO THE START OF WORK TO AVOID CONFLICTS.
6. CONTRACTOR SHALL FURNISH ALL DISCONNECTS REQUIRED FOR PLUMBING EQUIPMENT.
7. CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL MANUFACTURER SUBSTITUTIONS OF PLUMBING EQUIPMENT. SUBMIT A DESCRIPTION OF ANY/ALL CHANGES REQUIRED BY THE SUBSTITUTION, INCLUDING ELECTRICAL AND MECHANICAL CONNECTIONS, SIZES, WEIGHTS, AND CLEARANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL COST ASSOCIATED WITH THE SUBSTITUTION.
8. THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS. THE CONTRACTOR SHALL INFORM THE ARCHITECT AND/OR ENGINEER OF ANY CONFLICTS AS SOON AS THEY ARE DETECTED.
9. INVERTS LISTED ARE MINIMUM REQUIREMENTS. IF DEEPER INVERTS ARE REQUIRED DUE TO ACTUAL FIELD INSTALLATION, CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH SITE UTILITIES.
12. THESE DRAWINGS ARE NECESSARILY DIAGRAMMATIC IN NATURE. NOT ALL FITTINGS, OFFSETS, VENTS, OR DRAINS ARE SHOWN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING AND INCLUDE ALL FITTINGS, OFFSETS, VENTS, AND DRAINS AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.
13. ALL WORK SHALL BE NEW AND PROVIDED UNDER THIS CONTRACT UNLESS SPECIFICALLY MARKED "EX", "EXISTING", OR "EXIST".
14. VERIFY LOCATIONS AND DIMENSIONS OF ALL EXISTING EQUIPMENT AND COORDINATE ALL WORK PRIOR TO THE START OF CONSTRUCTION.
15. ALL SCRAP METAL AND WIRE DEMOLISHED ON THIS PROJECT SHALL BE RECYCLED. THE CONTRACTOR SHALL COORDINATE THIS EFFORT WITH NCSU WASTE REDUCTION AND RECYCLING.

FIXTURE PLUMBING SCHEDULE

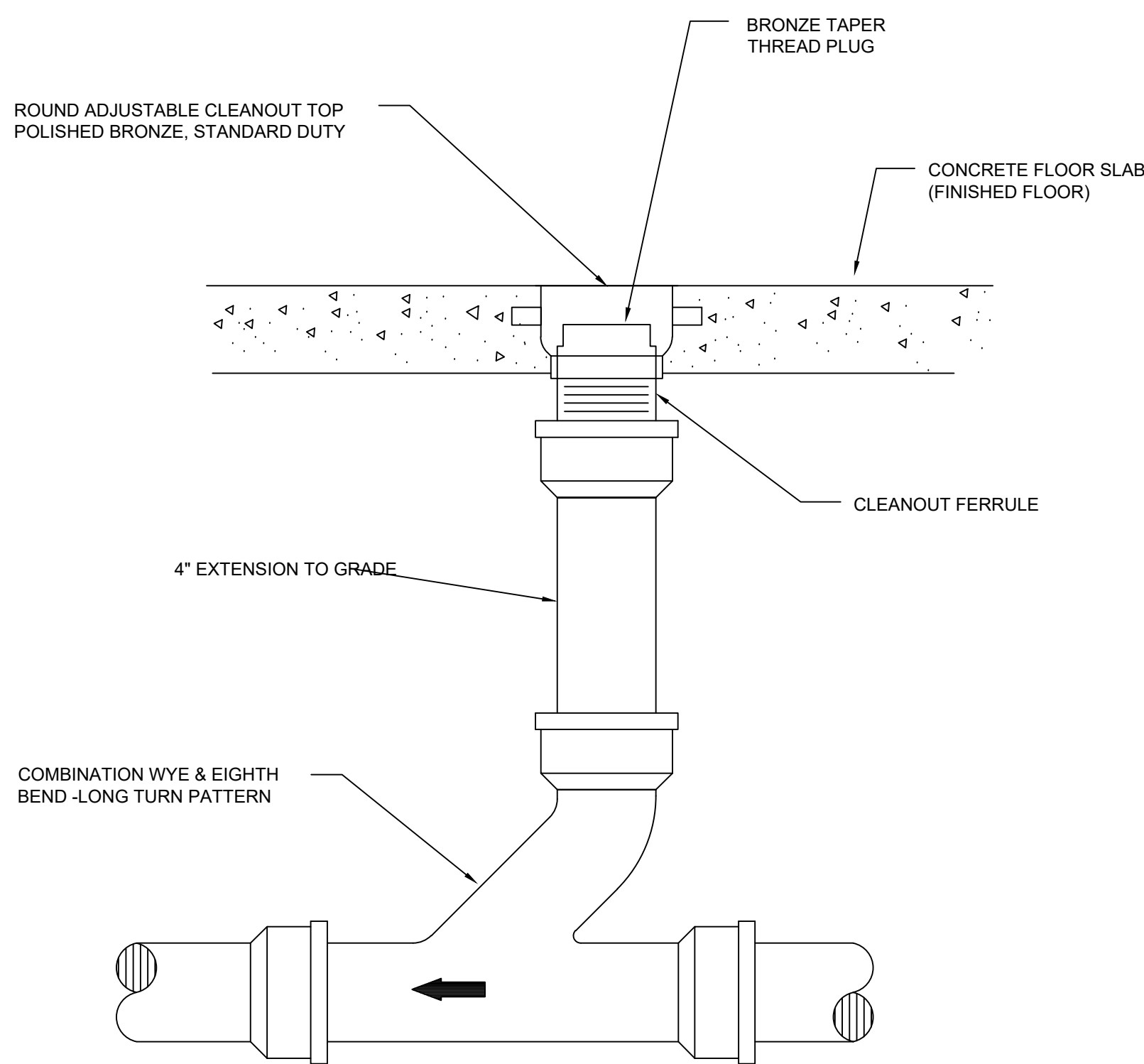
MARK	FIXTURE	FIXTURE			FAUCET				
		SPECIFICATION/DESCRIPTION	SAN	VENT	PICTURE	DESCRIPTION	COLD WATER	HOT WATER	REMARKS
P-1	SINK	ELKAY CROSSTOWN MODEL ECTRU30169RTWC, 31.5"x18.5"x9", SINGLE BOWL, 18 GA STAINLESS STEEL CONSTRUCTION, UNDERCOUNTER MOUNT, PROVIDE WITH REMOVABLE STRAINER.	2"	1 1/2"		ELKAY LKD232SBH5C FAUCET. PROVIDE 0.5 GPM AERATOR, MATCHING STRAINER, AND BELOW DECK THERMOSTATIC MIXING VALVE.	1/2"	1/2"	PROVIDE WITH 1/2 TURN BALL VALVES, AND CHROME-PLATED P-TRAP w/CLEANOUT. PROVIDE ALL PRODUCTS INCLUDED IN THE SINK KIT INCLUDING BOTTOM GRID, COLANDER, CUTTING BOARD AND TWO DRYING RACKS
P-2	SINK	ELKAY WCL19230SDC, 19"x23"x4", SINGLE BOWL, 3-HOLE SINK, 18 GA STAINLESS STEEL CONSTRUCTION, WALL MOUNT. PROVIDE WITH REMOVABLE STRAINER.		1 1/2"		ELKAY LKD232SBH5C FAUCET. PROVIDE 0.5 GPM AERATOR, MATCHING STRAINER, AND BELOW DECK THERMOSTATIC MIXING VALVE.	1/2"	1/2"	PROVIDE WITH 1/2 TURN BALL VALVES, AND CHROME-PLATED P-TRAP w/CLEANOUT.
P-3	ICE MAKER BOX	APOLLO / TECTITE RECESSED IC E MAKER BOX WITH WHITE PVC TRIM	-	-		BRASS FITTINGS AND BUILT IN HAMMER ARRESTOR	1/4"	-	
P-4	HOSE BIB	WOODFORD 24 FINISH: POLISHED CHROME. INTERIOR DUTY, POLYCARBONATE WHEEL HANDLE AND LOOSE TEE KEY	-	-			3/4"		
FD-1	FLOOR DRAIN	WATTS FD-200-B, FLOOR DRAIN WITH ADJUSTABLE STRAINER, 6" ROUND NICKEL BRONZE STRAINER	3"	2"					PROVIDE WITH P-TRAP

PLUMBING LEGEND			
SYMBOL SCHEDULE		ABBREVIATIONS	
	DOMESTIC COLD WATER	AFC	ABOVE FINISH CEILING
	DOMESTIC HOT WATER SUPPLY	AFF	ABOVE FINISH FLOOR
	DOMESTIC HOT WATER RETURN	AFG	ABOVE FINISH GRADE
	GAS	AFH	ANTI-FREEZE HYDRANT
	WASTE	AAV	AIR ADMITTANCE VALVE
	VENT	BFF	BELOW FINISHED FLOOR
	PIPE ELBOW TURNS DOWN: UP	CI	CAST IRON
	PIPE TEES DOWN: UP	CO	CLEANOUT
	PIPE CAP	CW	COLD WATER
	BALL VALVE	DNT	DO NOT TAP
	CHECK VALVE	EWC	ELECTRIC WATER COOLER
	CIRCUIT SETTER	(EX)	EXISTING
	FLOOR CLEANOUT	FCO	FLOOR CLEANOUT
	END-OF-LINE CLEANOUT	FD	FLOOR DRAIN
	CLEANOUT AT FINISH WALL (WCO)	FDP	FLOOR DRAIN PARKING
		FPHB	FREEZE-PROOF HOSE BIBB
		GPH	GALLONS PER HOUR
		HB	HOSE BIBB
			CONNECT TO EXISTING
			POINT OF DEMOLITION
		HD	HUB DRAIN
		GCO	GRADE CLEANOUT
		HWS	HOT WATER SUPPLY
		HWR	HOT WATER RETURN
		IW	INDIRECT WASTE
		LAV	LAVATORY
		TYP	TYPICAL
		UR	URINAL
		V	VENT
		VTR	VENT THRU ROOF
		W	WASTE
		WC	WATER CLOSET
		WCO	WALL CLEANOUT
		WHA	WATER HAMMER ARRESTOR
		YCO	YARD CLEANOUT



NOTES:
1. THESE METHODS SHALL BE USED WHEN PRESSURE EXCEEDS 100 PSI & SHALL BE INSTALLED WITHIN 12" OF THE LAST SPRINKLER DROP ON EACH SPRINKLER BRANCH LINE. ALL INSTALLATION SHALL COMPLY WITH NFPA 13.

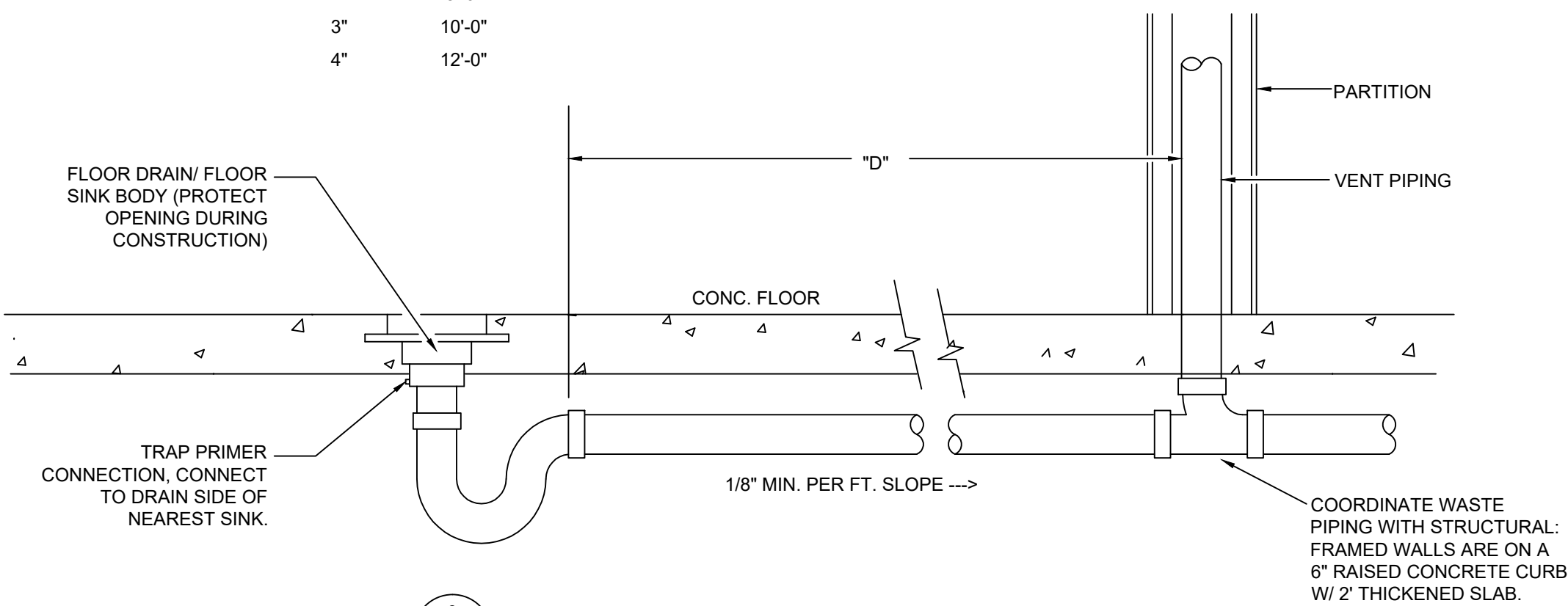
1
P001
TYPICAL CONCENTRIC ANCHOR SUPPORT AND HANGER
Scale: NONE



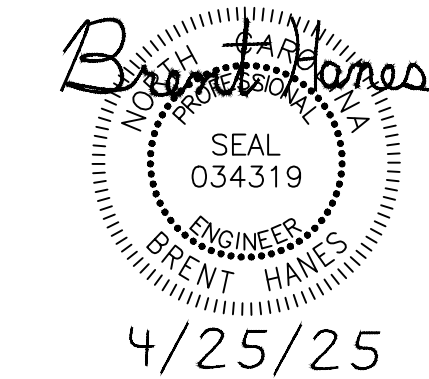
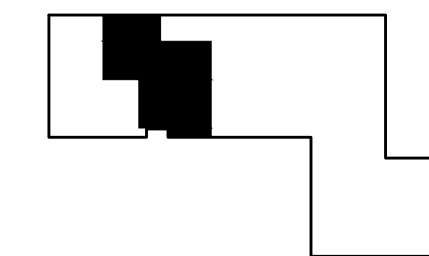
2
P001
TYPICAL FLOOR CLEANOUT DETAIL
Scale: NONE

MAXIMUM TRAP TO VENT DISTANCES

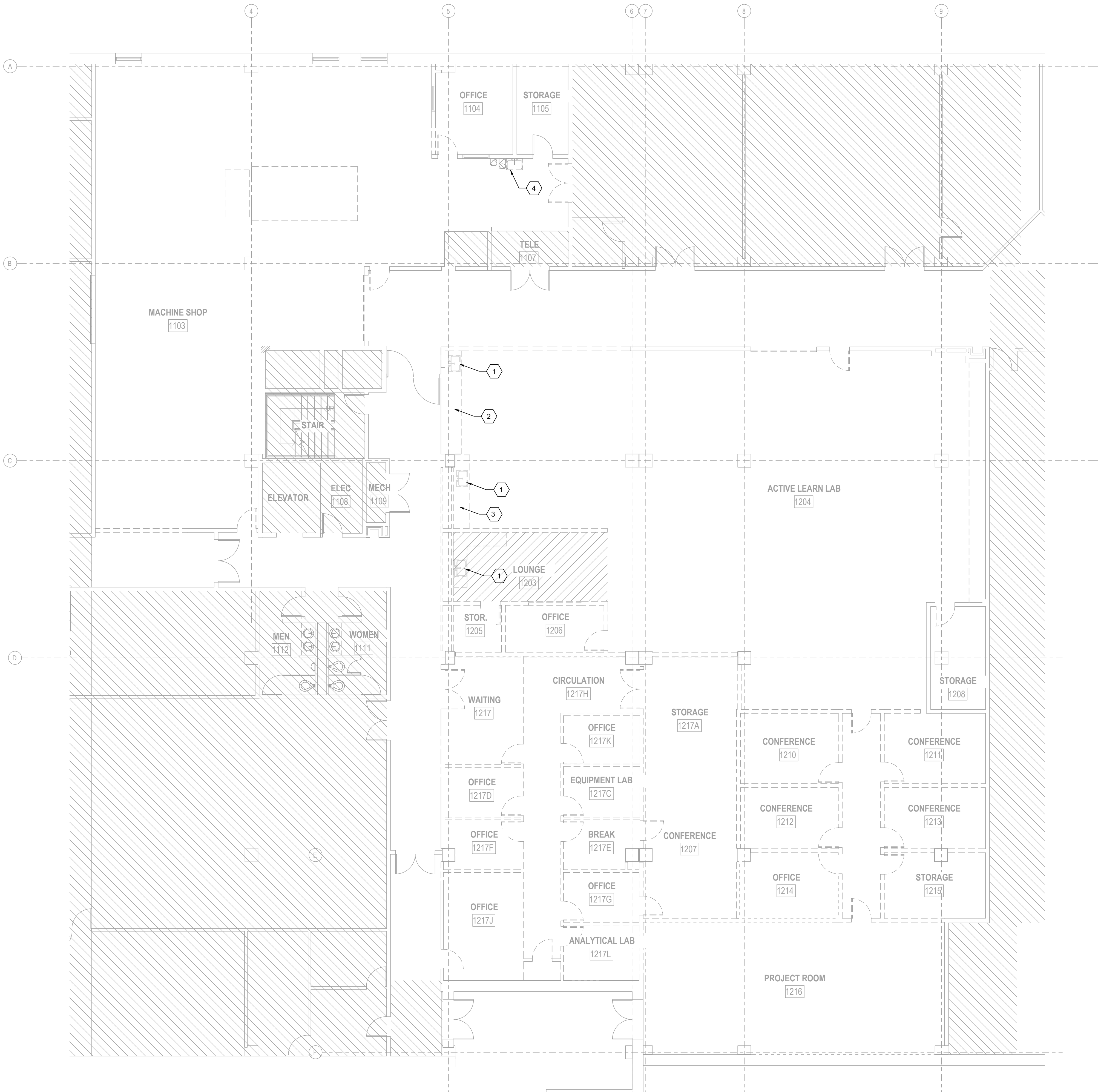
PIPE SIZE	DISTANCE(D)
2"	8'-0"
3"	10'-0"
4"	12'-0"



3
P001
TYPICAL VENTING FLOOR DRAIN DETAIL
Scale: NONE

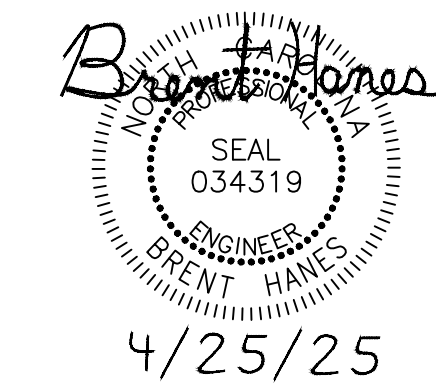
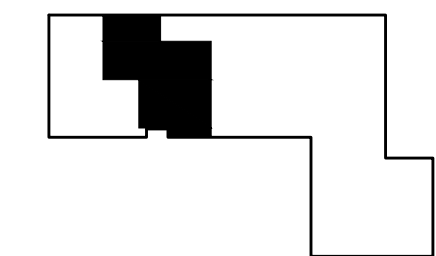


REVISIONS		
No.	Description	Date



1 PLUMBING - DEMOLITION PLAN
1/8" = 1'-0"

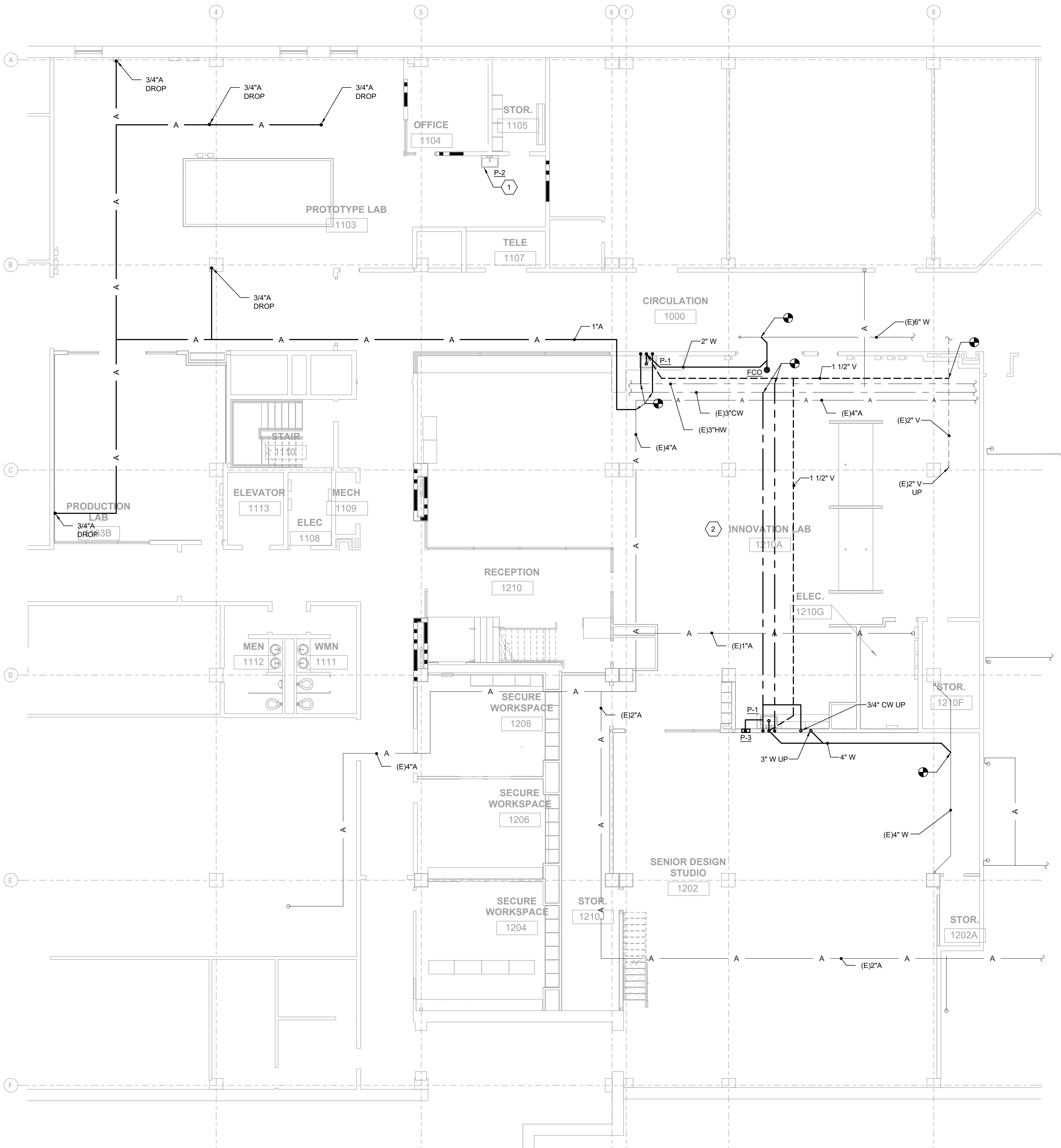
- KEYED NOTES:**
- 1 REMOVE EXISTING SINK IN ITS ENTIRETY. CAP WASTE BELOW SLAB, VALVE AND CAP WATER ABOVE CEILING.
 - 2 COMPLETELY REMOVE 3 EXISTING AIR, GAS AND VACUUM COUNTERTOP OULETS IN THEIR ENTIRETY. CAP AIR, GAS AND VACUUM ABOVE CEILING.
 - 3 COMPLETELY REMOVE 2 EXISTING AIR, GAS AND VACUUM COUNTERTOP OULETS IN THEIR ENTIRETY. CAP AIR, GAS AND VACUUM ABOVE CEILING.
 - 4 REMOVE EXISTING SINK IN ITS ENTIRETY. PREPARE CW, HW, W AND V FOR RECONNECTION TO NEW SINK



REVISIONS		
No.	Description	Date

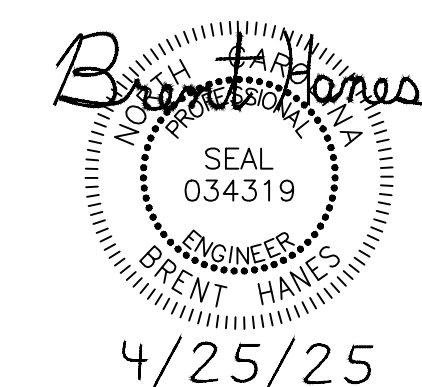
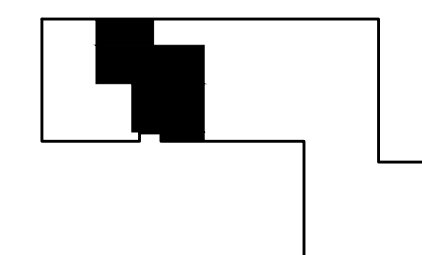
PARTITION LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- UNRATED WALL
- PARTITION TYPE
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER



KEYED NOTES:

- 1 NEW SINK TO BE RECONNECTED TO EXISTING CW, HW, W AND V PREPARED DURING DEMOLITION.
- 2 ALL EXISTING COMPRESSED AIR OUTLETS IN THE INNOVATION LAB 1210A FEED FROM THE FLOOR BELOW SHALL REMAIN.



REVISIONS		
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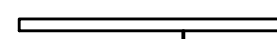
PARTITION LEGEND



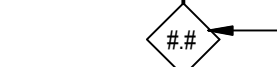
EXISTING CONSTRUCTION TO REMAIN



EXISTING WALL TO BE DEMOLISHED



UNRATED WALL



PARTITION TYPE

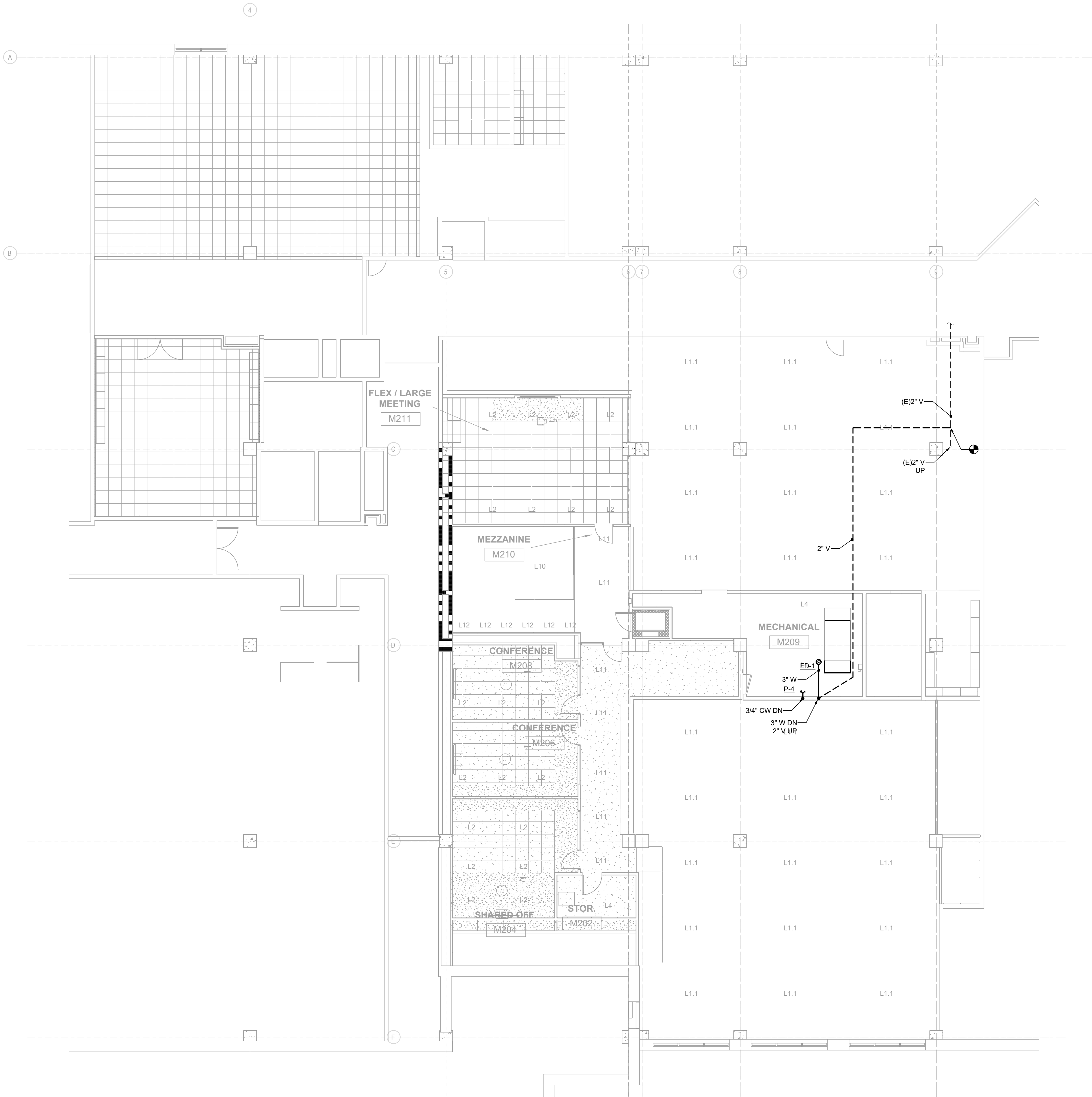


1-HOUR FIRE BARRIER



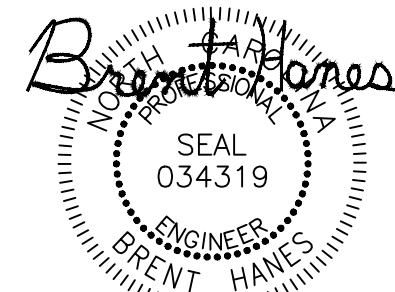
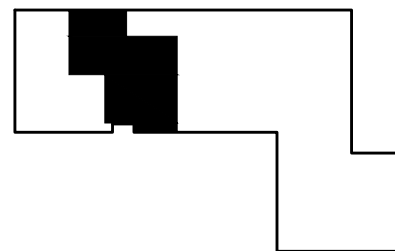
2-HOUR FIRE BARRIER





1 PLUMBING - NEW WORK - MEZZANINE
1/8" = 1'-0"

- PARTITION LEGEND**
- EXISTING CONSTRUCTION TO REMAIN
 - EXISTING WALL TO BE DEMOLISHED
 - UNRATED WALL
 - PARTITION TYPE
 - 1-HOUR FIRE BARRIER
 - 2-HOUR FIRE BARRIER



4/25/25

BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

DATE: 04.25.2025
DRAWN:
CHECKED:
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

**MEZZANINE
PLUMBING PLAN**

P300

MECHANICAL SYSTEMS
ENERGY CODE COMPLIANCE

PRESCRIPTIVE: ☒

ENERGY COST BUDGET: ☐

THERMAL ZONE: 4A

EXTERIOR DESIGN CONDITIONS:
WINTER DRY BULB: 14°F
SUMMER DRY BULB: 94°F
SUMMER WET BULB: 76°F

INTERIOR DESIGN CONDITIONS:
WINTER DRY BULB: 70°F
SUMMER DRY BULB: 75°F

AREA HEAT LOAD: 400 MBH

AREA COOLING LOAD: 220 MBH

MECHANICAL CONDITIONING SYSTEM:

DESCRIPTION OF UNIT: EXISTING CHILIER /BOILER PLANT
NEW AHU-1 WITH STEAM AND CHILLED

HEATING EFFICIENCY: EXISTING
COOLING EFFICIENCY: EXISTING
HEATING OUTPUT: 493 MBH
COOLING OUTPUT: 248 MBH

BOILER OUTPUT: EXISTING BUILDING SYSTEM
CHILLER TOTAL CAPACITY: EXISTING BUILDING SYSTEM

DESIGNER STATEMENT:
TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT REQUIREMENTS OF THE NORTH CAROLINA STATE BUILDING CODE, 2018 ENERGY CONSERVATION CODE.

SIGNED: *Brent Hanes*

NAME: BRENT HANES, PE
TITLE: MECHANICAL ENGINEER

MECHANICAL LEGEND

PIPING SYMBOLS

REMOVE EXISTING PIPE

EXISTING PIPE TO REMAIN

PIPE ELBOW TURNS DOWN; UP

PIPE TEES DOWN; UP

PIPE CAP

BALL VALVE

CHECK VALVE

CONDENSATE WATER SUPPLY

CONDENSATE WATER RETURN

HIGH PRESSURE STEAM SUPPLY

MEDIUM PRESSURE STEAM SUPPLY

GYCOL RETURN

GYCOL SUPPLY

LOW PRESSURE STEAM SUPPLY

CONDENSATE RETURN

HOT WATER RETURN

HOT WATER SUPPLY

CHILL WATER SUPPLY

CHILL WATER RETURN

CONDENSATE

GAS

REFRIGERANT

MAKE-UP WATER

DUAL-TEMP WATER SUPPLY

DUAL-TEMP WATER RETURN

DIFFERENTIAL PRESSURE SENSOR

NOTES:
ALL DUCT DIMENSIONS SHOWN ARE IN INCHES
AND ARE SHEET METAL SIZES UNLESS OTHERWISE SHOWN.

21X12
12"Ø
21X12 Ø

RECTANGULAR DUCT
ROUND DUCT
FLAT OVAL DUCT

AMS

AIR MONITORING STATION

DUCT MOUNTED SMOKE DETECTOR

DUCT MOUNTED CO2 SENSOR

VERTICAL FIRE DAMPER W/ACCESS DOOR

HORIZONTAL FIRE DAMPER W/ACCESS DOOR

COMBINATION VERTICAL FIRE DAMPER/SMOKE DAMPER WITH ACCESS DOOR

COMBINATION HORIZ. FIRE DAMPER/SMOKE DAMPER WITH ACCESS DOOR

DUCT MOUNTED HUMIDISTAT

MANUAL VOLUME DAMPER

STEAM HUMIDIFIER

SIDEWALL DIFFUSER, GRILLE OR REGISTER

EXHAUST GRILLE OR REGISTER

SUPPLY GRILLE OR DIFFUSER

RETURN GRILLE OR REGISTER

DIFFUSER TYPE

GRILLE, REGISTER OR DIFFUSER DESIGNATION

AIRFLOW DIRECTION

MISCELLANEOUS SYMBOLS AND ABBREVIATIONS

THERMOSTAT OR TEMPERATURE INDICATOR

HUMIDITY SENSOR

CARBON DIOXIDE SENSOR

REVISION NOTES

SPECIFIC OR NEW WORK NOTES

CONNECT TO EXISTING

POINT OF DEMOLITION

SUBJECT OF DEMOLITION

MECHANICAL ABBREVIATIONS

AC

Air Conditioning

ACH

Air Changes per Hour

AEE

Association of Energy Engineers

AFD

Adjustable Frequency Drive

AFUE

Annual Fuel Efficiency Ratio

AHU

Air Handling Unit

BI

Backward Incline

BTU

British Thermal Unit

BTUH

Brish Thermal Units / Hour

CAV

Constant Air Volume

CFC

ChloroFluoroCarbon

CC

Cooling Coil

CFM

Cubic Feet per Minute

COP

Coefficient Of Performance

CRAC

Computer Room Air Conditioner

CV

Constant Volume

DA

Discharge Air

DB

Dry Bulb

DH

Duct Heater

DN

Down

DP

Dew Point

DX

Direct Expansion

EAT

Entering Air Temperature

EC

Electrical Contrator (Div 26, 27 or 28)

ECM

Electronically Commutated Motor

EDH

Electric Duct Heater

EER

Energy Efficiency Ratio

EF

Exhaust Fan

EH

Electric Heater

EHC

Electric Heating Coil

ESP

External Static Pressure

ETR

Existing to Remove

EUH

Electric Unit Heater

EX

Existing

FC

Forward Curve

FCU

Fan Coil Unit

FLA

Full Load Amps

FPM

Feet Per Minute

FW

Feed Water

GC

General Contractor

GPM

Gallons Per Minute

GUI

Graphical User Interface

HCFC

Hydrochlorodfluorocarbon

HEPA

High Efficiency Particulate Arresting

HFC

HydroFluoroCarbon

HL

High Limit

HP

Horsepower

HR

Heat Recovery

HRU

Heat Recovery Unit

HRV

Heat Recovery Ventilator

HSPF

Heating Seasonal Performance Factor

HVAC

Heating Ventilation and Air Conditioning

HX

Heat Exchanger

I/O

Input Output

IAQ

Indoor Air Quality

IR

Infra-Red

LAT

Leaving Air Temperature

LL

Low Limit

LON

Local Operating Network

LP

Low Pressure

LRA

Locked Rotor Amps

LWB

Leaving Wet Bulb Temperature

LWT

Leaving Water Temperature

M&V

Measurement and Verification

MA

Mixed Air

MAT

Mixed Air Temperature

MC

Mechanical Contrator (Div 23)

MCC

Motor Control Center

MUA

Make-up Air Unit

MVD

Manual Volume Damper

MZ

Multi-Zone

N/A

Not Applicable

NEMA

National Electrical Manufacturers Association

OA

Outside Air

OAT

Outside Air Temperature

OC

On Center

ODP

Open Drip Proof

PC

Plumbing Contrator (Div 22)

PH

Pre-Heat

PHC

Pre-heat Coil

PTAC

Packaged Terminal Air Conditioner

QTY

Quantity

RA

Return Air

REF

Refrigerant

RF

Return Fan

RH

Reheat

RH

Relative Humidity

RHC

Re-heat Coil

RPM

Revolutions Per Minute

RTD

Resistance Temperature Detector

RTU

Roof Top Unit

SA

Supply Air

SAT

Supply Air Temperature

SC

Shading Coefficient

SEER

Seasonal Energy Efficiency Ratio

SF

Supply Fan

SHFG

Solar Heat Gain Factor

TEV

Thermostatic Expansion Valve

TSP

Total Static Pressure

TXV

Thermostatic Expansion Valve

UC

Undercut

UH

Unit Heater

UV

UltraViolet

UV

Unit Ventilator

VAV

Variable Air Volume

VFD

Variable Frequency Drive

VSD

Variable Speed Drive

WB

Wet Bulb

WC

Water Column

XFER

Transfer

CONTROLS ABBREVIATIONS

AI

Analog Input

AO

Analog Output

BACnet

Building Automation and Control Network Protocol

BAS

Building Automation System

DCV

Demand Controlled Ventilation

DDC

Direct Digital Control

DI

Digital Input

DO

Digital Output

DP

Differential Pressure

dP

Pressure Differential

dT

Temperature Differential

EMS

Energy Management System

NC

Normally Closed

NO

Normally Open

OVS

Operator Work Station

PID

Proportional Integral Derivative

SP

Set Point

SP

Static Pressure

T

Thermostat

HYDRONIC SYSTEM ABBREVIATIONS

B

Boiler

CH

Chiller

CHW

Chilled Water

CHWP

Chilled Water Pump

CHWR

Chilled Water Return

CHWS

Chilled Water Supply

CT

Cooling Tower

CWP

Condenser Water Pump

CWR

Condenser Water Return

CWS

Condenser Water Supply

EWT

Entering Water Temperature

HPS

High Pressure Steam

HPS

High Pressure Steam

HWP

Hot Water Pump

HWR

Hot Water Return

HWS

Hot Water Supply

LPS

Low Pressure Steam

LPS

Low Pressure Steam

MPS

Medium Pressure Steam

NPSH

Net Positive Suction Head

PRV

Pressure Relief Valve

PRV

Pressure Reducing Valve

GENERAL NOTES:

1. THE DRAWINGS SHOW THE GENERAL ARRANGEMENT AND LOCATION OF EQUIPMENT, DUCTWORK, PIPING, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL INSTALLATION WITH THE STRUCTURE AND OTHER TRADES AND SHALL PROVIDE ADDITIONAL OFFSETS AND FITTINGS AS NECESSARY.

2. PRIOR TO BIDDING, THE CONTRACTOR AND HIS SUBCONTRACTORS SHALL VISIT THE JOB SITE AND SHALL FAMILIARIZE THEMSELVES WITH ALL CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED AND SHALL INCLUDE IN THE BID ALL WORK REQUIRED FOR A COMPLETE JOB. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN THE DRAWINGS AND EXISTING FIELD CONDITIONS A MINIMUM OF FIVE DAYS PRIOR TO BID.

3. THE HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS SHALL COMPLY WITH THE 2018 NORTH CAROLINA MECHANICAL CODE AND NFPA 90A.

4. DUCT DIMENSIONS ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS.

5. THE CONTRACTOR SHALL CHECK AND VERIFY ALL CLEARANCES PRIOR TO FABRICATION OR INSTALLATION OF EQUIPMENT, DUCTWORK, AND PIPING SYSTEMS. WHERE CONDITIONS REQUIRE A CHANGE IN DUCT OR PIPE ROUTING, NOTIFY THE ENGINEER FOR AN ACCEPTABLE ALTERNATIVE METHOD. AVOID ROUTING DUCTWORK DIRECTLY OVER LIGHT FIXTURES, DIFFUSERS, AND OTHER CEILING MTD. DEVICES. LOCATE ALL MECHANICAL EQUIPMENT SO THAT FILTERS AND COMPONENTS REQUIRING ACCESS (SERVICE AND MAINTENANCE) ARE FULLY ACCESSIBLE.

6. PROVIDE CURVED RADIUS ELBOW AT FIRST SUPPLY & RETURN FITTING FOR ALL HVAC UNITS. PROVIDE TURNING VANES IN ALL 90 DEGREE ELBOWS IN ALL RECTANGULAR SUPPLY/RETURN/EXHAUST DUCT SYSTEMS. ANY OFFSETS REQUIRED IN DUCT SYSTEMS SHALL BE INSTALLED PER SMACNA STANDARDS. SHARP ANGLED TRANSITIONS OR OFFSETS WILL NOT BE ALLOWED. PROVIDE DUCT ACCESS DOORS AT LOCATIONS SPECIFIED.

7. INSTALL ALL DUCT MOUNTED DEVICES (DAMPERS, ACCESS DOORS, ETC.) AND PIPING SPECIALTIES IN EASILY ACCESSIBLE LOCATIONS. ADVISE THE ENGINEER IN ADVANCE OF INSTALLATION IF ACCESS WILL BE HINDERED SO AN ALTERNATE LOCATION CAN BE SELECTED.

8. ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS WITH PRESCRIBED CLEARANCES FOR SERVICE AND MAINTENANCE. THE CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER IF RECOMMENDED CLEARANCES ARE NOT POSSIBLE BEFORE INSTALLING EQUIPMENT.

9. ALL ROTATING MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH VIBRATION ISOLATION. PROVIDE FLEXIBLE NEOPRENE DUCT CONNECTORS BETWEEN DUCTWORK AND ISOLATED MECHANICAL EQUIPMENT.
10. THE CONTRACTOR SHALL FIRESTOP ALL PENETRATIONS OF FIRE RATED WALLS/FLOORS/CEILINGS BY DUCTWORK PIPING, ETC., WITH U.L. LISTED FIRE STOPPING MATERIAL TO MAINTAIN FIRE RATING OF THE BARRIER.

11. BALANCE ALL AIR DISTRIBUTION DEVICES, EXHAUST FANS, AND OUTSIDE AIR QUANTITIES AS SCHEDULED OR SHOWN ON THE DRAWINGS. PROVIDE MARKERS AT ALL DAMPER LOCATIONS SHOWING FULL OPEN/CLOSED POSITIONS AND DAMPER SETTING FOR REQUIRED AIRFLOW. PROVIDE FINAL TEST AND BALANCE REPORT ALONG W/ SCHEMATIC DRAWINGS SHOWING DIFFUSER LOCATION W/ DESIGN AND ACTUAL CFM. THE DIFFUSER TAGS ON THE DRAWINGS SHALL CORRESPOND TO THE DIFFUSER TAGS ON THE REPORT. THIS REPORT SHALL BE SUBMITTED BEFORE THE FINAL INSPECTION IS PERFORMED. SEE SPECIFICATION SECTIONS FOR FURTHER INFORMATION. DO NOT BALANCE FOR DIVERSITY.

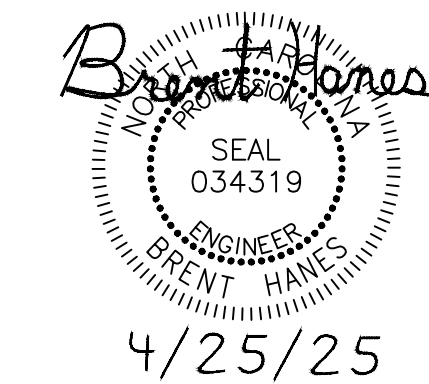
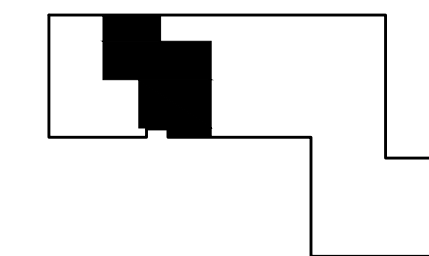
12. WHERE PIPING CONTAINING FLAMMABLE AND COMBUSTIBLE GAS IS TO BE REMOVED, PROCEDURE OF NCGC 406.7.1.1 ALONG WITH NFPA 54 7.2.7 AND 8.3.1 SHALL BE OBSERVED. THE LINE SHALL BE FIRST DISCONNECTED FROM ALL SOURCES OF GAS PRESSURE, VENTED TO THE OUTDOORS, AND THEN THOROUGHLY PURGED WITH AIR, WATER, OR INERT GAS BEFORE ANY CUTTING OR WELDING IS DONE.

13. THERMOSTATS AND SENSORS CONTAINING MERCURY SHALL BE DISPOSED IN ACCORDANCE WITH EPA RESOURCE CONSERVATION AND RECOVERY ACT (RCRA). CONTRACTOR SHALL REFER TO EPA WEBSITE FOR HANDLING PROCEDURES FOR DISPOSAL AND SPILL MANAGEMENT OF PRODUCTS CONTAINING MERCURY.

14. IN THE AREA OF WORK, ANY "OPEN" DUCTWORK INCLUDING INLET AND OUTLET REGISTERS AND DIFFUSERS SHALL BE COVERED WITH FILTRATING MATERIAL OR VISQUINE TO PROTECT INSIDE OF THE SYSTEM AGAINST DUST AND DEBRIS.

15. ANY DAMAGE OF EXTERIOR PIPE AND DUCT INSULATION CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED AND RESTORED AT NO EXTRA COST TO THE OWNER.

16. ALL SCRAP METAL AND WIRE DEMOLISHED ON THIS PROJECT SHALL BE RECYCLED, THE CONTRACTOR SHALL COORDINATE THIS EFFORT WITH NCSU WASTE REDUCTION AND RECYCLING.



REVISIONS		
No.	Description	Date

AIR HANDLER SCHEDULE

GENERAL INFORMATION					SUPPLY FAN				COOLING COIL										HEATING COIL										ELECTRICAL DATA				NOTES
TAG	SERVICE	MANUFACTURER	MODEL	SIZE	SUPPLY AIRFLOW	OUTSIDE AIRFLOW	ESP	MOTOR SIZE	ENTERING AIR		LEAVING AIR		COIL CAPACITIES (MBH)		FACE VELOCITY MAXIMUM	CHILLED WATER			PRESSURE DROP - FT/H2O	MINIMUM FACE (SQFT)	STEAM PRESS (PSIG.)	PREHEAT			REHEAT								
									DB	WB	DB	WB	SENSIBLE			TOTAL	GPM	EWT				LWT	MBH	EAT	#/HR	MBH	EAT	#/HR	V/PH	FLA	MCA	MOCF	
AHU-1	FLEX SPACE	TRANE	CSAA	14	7300	3000	3.0	10 HP	75.1	65.5	55.0	54.5	161.8	247.5	550	41	42	54	3.86	12.5	10	256	36	269	237	65	250	480/3	14.65	18.15	30	ALL	

- NOTES:
- PROVIDE TRANE, DAIKIN, OR CARRIER
 - PROVIDE WITH MERV 13 FILTER AND EXTRA SET OF FILTERS.
 - CONTRACTOR IS TO VERIFY IN SHOP DRAWING PROCESS THE SIZE OF UNIT, NEEDS TO FIT IN SPACE.

VAV BOX SCHEDULE - ELECTRIC REHEAT

GENERAL INFORMATION							ELECTRIC HEATING		NOTES
TAG	SERVICE	SYSTEM	MANUFACTURER/ MODEL	SIZE	MAX AIRFLOW	MINIMUM AIRFLOW	POWER		
							VOLTS	KW	
VVE-1	FLEX MEETING	AHU-1	TRANE/VCEF	8	800	175	480/3ø	2	ALL

- NOTES:
- PROVIDE TRANE, PRICE, OR TITUS.
 - DIV. 23 CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CONTROL POWER TO BOX FROM NEAREST CONTROL CIRCUIT. REFER TO E-SHEETS.

DUAL DUCT TERMINAL UNITS

GENERAL INFORMATION			COOLING SECTION			HEATING SECTION			NOTES
TAG	SERVICE	MANUFACTURER/ MODEL	CFM RANGE	INLET DIA.	STATIC PRESS.	CFM RANGE	INLET DIA.	STATIC PRESS.	
DDB-1	MEZZ UPPER OFFICES	TRANE / VVD08	600-900	8	0.24	350-900	8	0.24	
DDB-2	BELOW MEZZ WORK SPACE	TRANE / VVD08	600-900	8	0.24	350-900	8	024	

- NOTES:
- PROVIDE TRANE, PRICE, OR TITUS.
 - DIV. 23 CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CONTROL POWER TO BOX FROM NEAREST CONTROL CIRCUIT. REFER TO E-SHEETS.

AIR DISTRIBUTION SCHEDULE

TAG	*MANUFACTURER/MODEL		FACE SIZE	MOUNT	MATERIAL	FINISH	DAMPER	TYPE	NC	NOTES
S1	PRICE	RCD	10	DUCT	STEEL	WHITE	NONE	CONE	< 20	ALL
S2	PRICE	540	16X6	SIDEWALL	STEEL	WHITE	FACE	LOUVERED	< 20	ALL
S3	PRICE	HCD	18X6	DUCT	STEEL	WHITE	FACE	DRUM	<20	ALL
S4	PRICE	SPD	24X24	ACT	STEEL	WHITE	FACE	PLAQUE	< 20	ALL
										ALL
R1	PRICE	510	42X20	SIDEWALL	STEEL	WHITE	NONE	LOUVERED	< 20	ALL
R2	PRICE	510	18X14	SIDEWALL	STEEL	WHITE	NONE	LOUVERED	< 20	ALL
R3	PRICE	80	24x24	LAY-IN	STEEL	WHITE	NONE	EGG CRATE	< 20	ALL
R4	PRICE	80	48X48	SIDEWALL	STEEL	WHITE	NONE	LOUVERED	<20	ALL

- NOTES:
- PROVIDE PRICE, TITUS, OR NAILOR.
 - REFER TO PLANS FOR NECK SIZE.

LOUVER SCHEDULE

TAG	SERVICE	*MANUFACTURER/MODEL		CFM	DIMENSION S (W X H)	MIN. FREE AREA (FT²)	MAX STATIC PRESSURE	NOTES
L-1	AHU- OA	GREENHECK	ESD-435	7300	4'-0" X 3'-0"	6.0	0.15"	ALL

- NOTES:
- PROVIDE GREENHECK, JEDCO OR ZORO.
 - INTAKE LOUVER MUST COMPLY WITH TABLE 401.5 IN THE 2018 NORTH CAROLINA MECHANICAL CODE.



Environmental Health & Public Safety
Radiation Safety
www.ncsu.edu/ehs

Campus Box 9007
2620 Wolf Village Way
Raleigh, NC 27695-9007
P: 919.515.7915

March 28, 2025

Mr. Victor Bird, PE
Sigma Engineered Solutions PC
5909 Falls of Neuse Road, Suite 101
Raleigh, NC 27609

RE: State Construction Office Request for Additional Information; 23-26253-01A NCSU FD

Dear Sir -

We are replying to a question received from your office via email on 3/10/2025 regarding potentially hazardous exhaust from a proposed project under review (REF: 23-26253-01A NCSU FD). The question/comment states, "The project should verify with a professional knowledgeable about the process (preferably the NCSU EH&S Office) that with the snorkel exhaust not functioning, the limits of 510.2 of the NCMC are not exceeded."

Under NCMC 510.2 'Where required' it states "Exception: Laboratories, as defined in Section 510.1, except where the concentrations listed in Item 1 are exceeded -or- a vapor, gas, fume, mist, or dust with a health hazard rating of 1,2,3 or 4 is present in concentrations exceeding 1 percent of the median lethal concentration of the substance for acute inhalation toxicity."

The answer to this question is in three parts:

- Processes with minimal airborne hazards** - The proposed initial processes to be undertaken in this space are in the area of textile processing (sewing, embroidery, fabric printing, seam sealing, yarn spinning), 3-D printing, heat pressing fabrics and heat transfer of sublimation inks, and laser cutting. The available SDS for the various inks and 3-D filament materials to be used all have an NFPA health hazard rating of 1 or less. The only higher inhalation hazard stems from the proposed use of solder, with an NFPA health hazard rating of 2, but the risk from this use will be managed as discussed below.
- Engineered Controls** - Both a fume home and snorkel exhaust will be available in this space to control any hazardous airborne point emissions. These controls will have required periodic surveillance and QA testing. If either ventilation exhaust mode becomes inoperable or otherwise unavailable, then any potentially hazardous processes that require the use of these controls would be suspended.

- Safety Plan Review** - All proposed and future R&D activities to be performed in this space are required to be reviewed via the NCSU EHS laboratory Safety Plan process. This process reviews all laboratory hazards and requires that appropriate controls and SOP's be available to manage them. If an inhalation hazard is to be present (e.g. during soldering processes), then fume hoods or exhaust snorkels would be required to be available, operable, and used.

Based on this, we have determined that the ventilation controls as proposed for this project are consistent with the NCSU Laboratory Ventilation Management Program and are adequate to manage and mitigate the envisioned airborne hazards.

Please let me know if you require any additional information.

Sincerely,

Scott Lassell
Interim Research Safety Manager
Radiation Safety Officer



http://www.clearscapes.com/

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CONSULTANTS

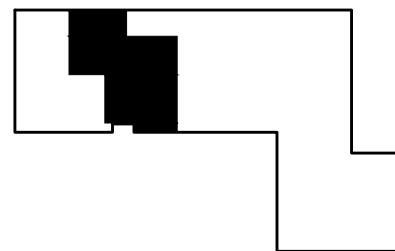
Structural

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MEP Engineer

Sigma Engineered Solutions
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Raleigh, NC
919.840.9300
radams@sigmaes.com

KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

PROJECT DATA

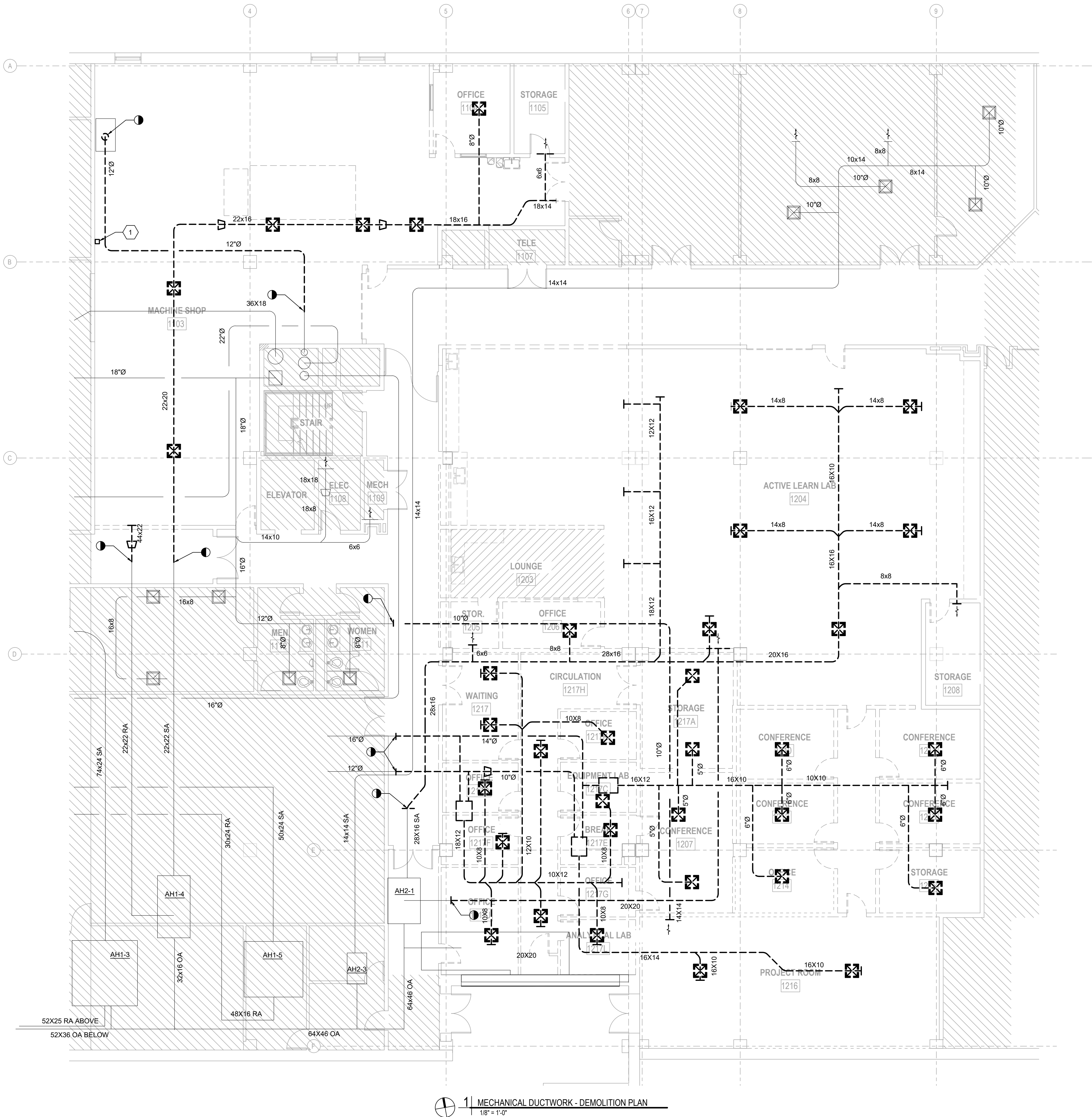
DATE: 04.25.2025
DRAWN:
CHECKED:
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

MECHANICAL
SCHEDULES

SHEET NO.

M002



KEYED NOTES:
1 COMPLETELY REMOVE EXISTING MANUAL CONTROL SWITCH AND WIRING ASSOCIATED WITH (E) F1C-B.



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Raleigh, NC 27601
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(919) 821-0804 Fax
artarc@clearscapes.com

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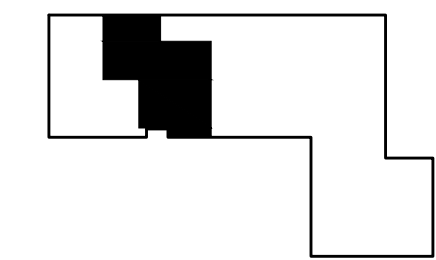
Structural

Lysaght & Associates
lysaghtassociates.com
120 St. Mary's St.
Raleigh, NC
919.833.0495
chuck@lysaghtassociates.com

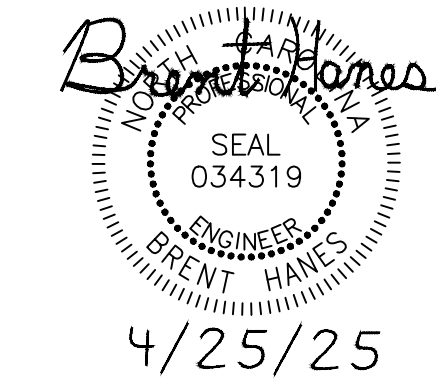
MEP Engineer

Sigma Engineered Solutions
sigmaes.com
5909 Falls of Neuse Rd, Ste #101
Raleigh, NC
919.840.9300
radams@sigmaes.com

KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

PROJECT DATA

DATE: 04.25.2025
DRAWN:
CHECKED:
PROJECT NO: 2021_0140
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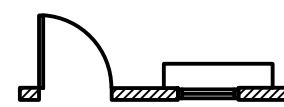
SHEET DATA

**MECHANICAL
DEMOLITION PLAN
DUCTWORK**

SHEET NO.

M100

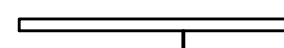
PARTITION LEGEND



EXISTING CONSTRUCTION TO REMAIN



EXISTING WALL TO BE DEMOLISHED



UNRATED WALL



PARTITION TYPE

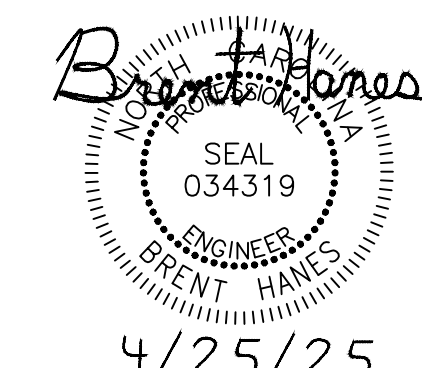
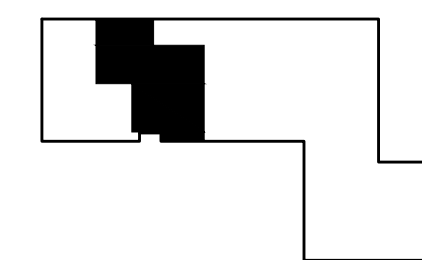


1-HOUR FIRE BARRIER



2-HOUR FIRE BARRIER

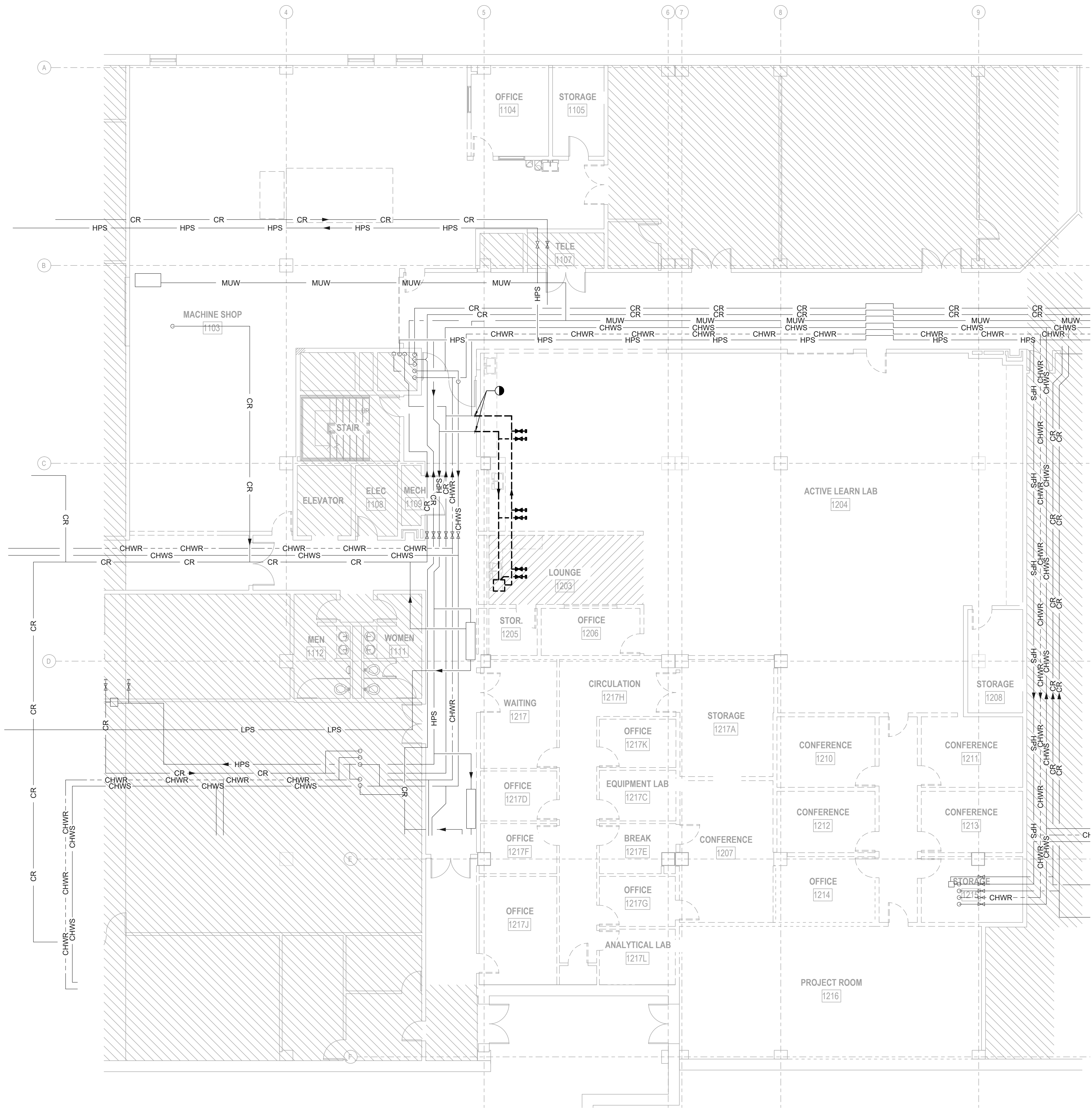
1 MECHANICAL DUCTWORK - DEMOLITION PLAN
1/8" = 1'-0"



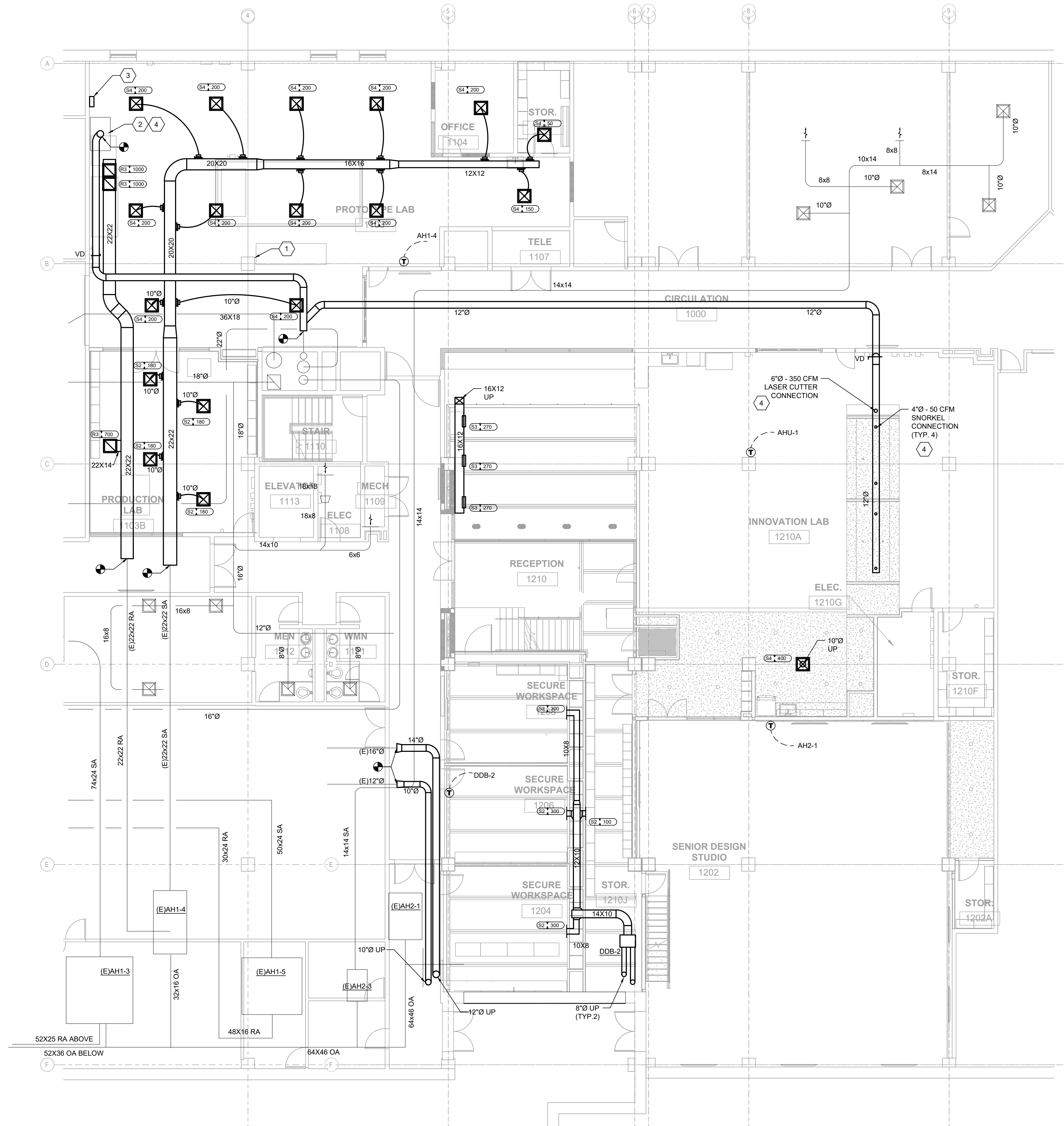
REVISIONS		
No.	Description	Date

MECHANICAL DEMOLITION PLAN PIPING

M110



1 MECHANICAL PIPING - DEMOLITION PLAN
1/8" = 1'-0"



1 MECHANICAL DUCTWORK - NEW WORK
1/8" = 1'-0"

KEYED NOTES:

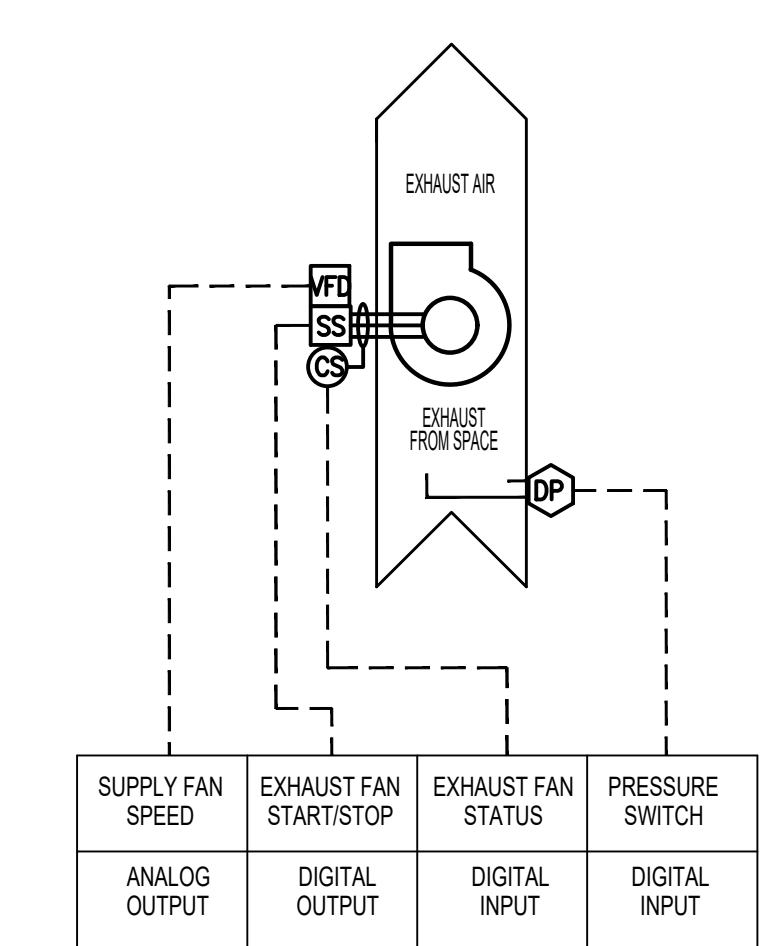
- 1 MOUNT THE EXISTING BLOWER ASSOCIATED WITH THE CUTTER MACHINE PROVIDED BY THE OWNER ON THIS COLUMN AT 10' TO BOTTOM OF PLATFORM. REFER TO DETAIL 4/M400 FOR MORE INFORMATION.
- 2 BALANCE EXISTING EXHAUST HOOD TO 400 CFM.
- 3 PROVIDE NEW VFD TO CONTROL EXISTING EXHAUST FAN F1C-B. LOCATED IN THE EXHAUST PENTHOUSE.
- 4 PROVIDE BLAST DAMPER IN EXHAUST DROP.

AIR BALANCE SUMMARY

PROTOTYPE LAB 1103:
2400 CFM SUPPLY AIR FROM (E) AH1-4
2000 CFM RETURN FROM SPACE TO (E) AH1-4
400 CFM EXHAUST HEAT PRESS HOOD FROM (E) F1C-B

FLEX FACTORY 1204:
6210 CFM SUPPLY AIR FROM NEW AHU-1
5650 CFM RETURN FROM SPACE TO NEW AHU-1
350 CFM EXHAUST LASER CUTTER FROM (E) F1C-B
200 CFM EXHAUST (4) - 50 CFM SNORKEL PORTS FROM (E) F1C-B

FUTURE ALLOWANCES:
590 CFM SUPPLY AIR FROM NEW AHU-1
550 CFM EXHAUST FROM (E) F1C-B



NOTES:

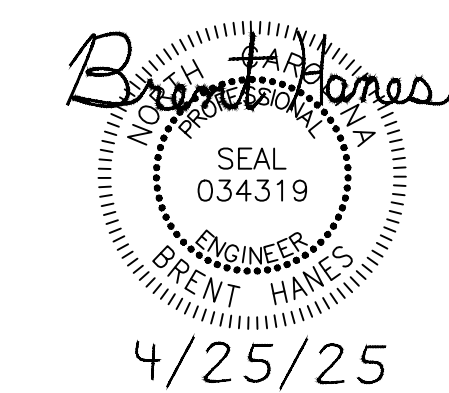
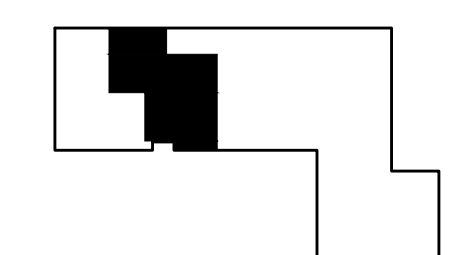
1. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE TEST AND BALANCE CONTRACTOR THE MAXIMUM SET POINT OF THE DIFFERENTIAL PRESSURE SWITCH. THE MAXIMUM FLOW SHALL HAVE ALL ASSOCIATED BLAST DAMPERS IN ROOMS 1103 AND 1204 SET TO WIDE OPEN WITH A MAX CFM AS INDICATED ON PLANS (TOTAL CURRENT MAX CFM IS 950 CFM, WITH 550 CFM FUTURE)

2 EXHAUST FAN F1C-B CONTROL

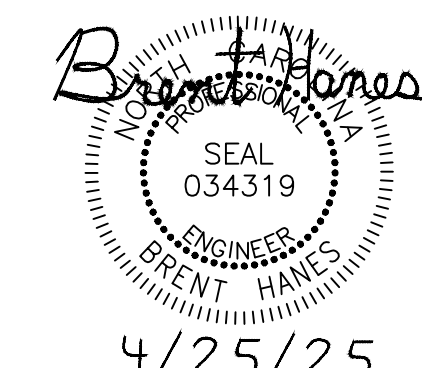
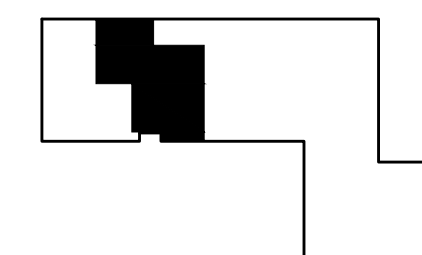
M200 NTS:

PARTITION LEGEND

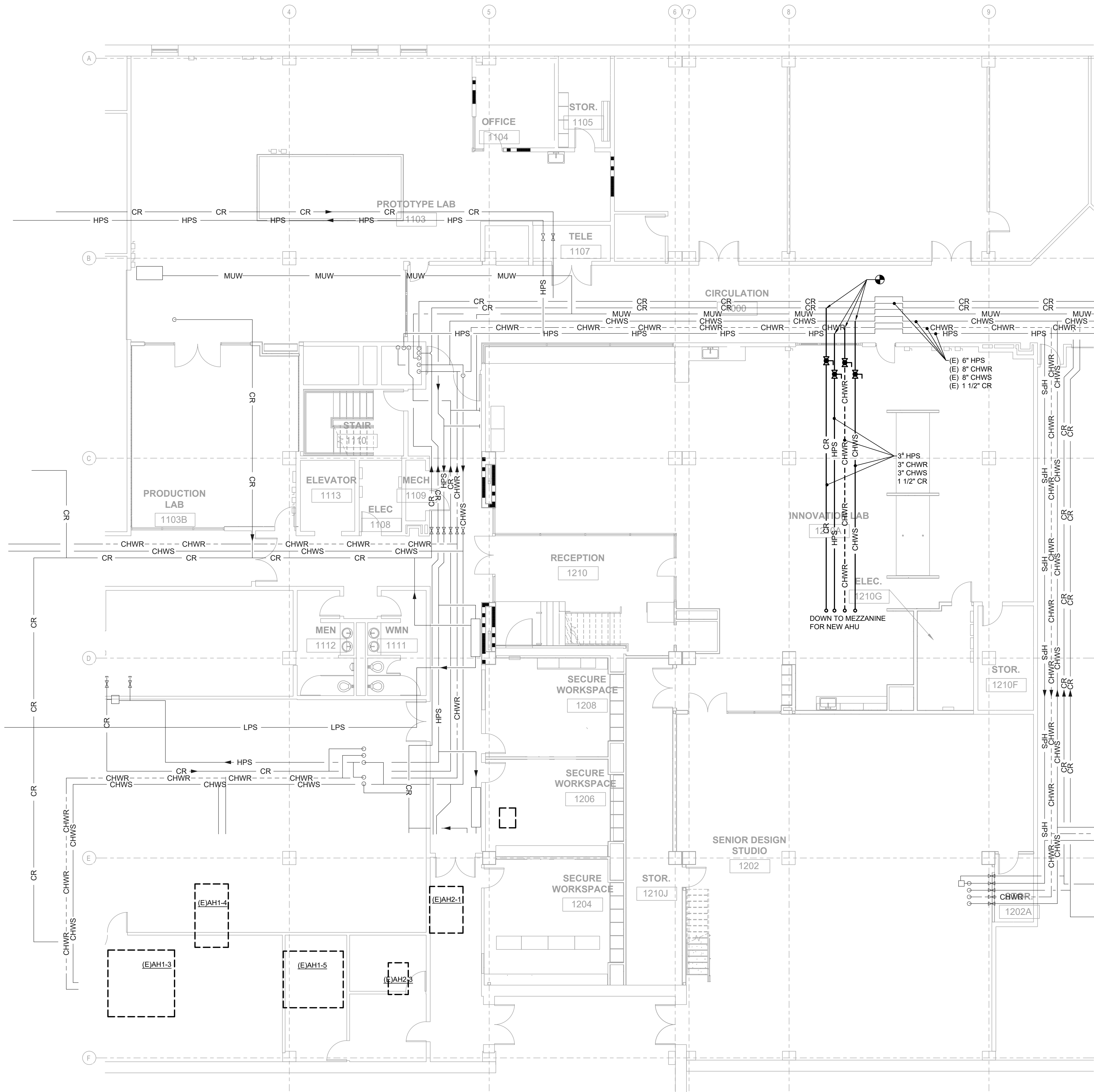
- EXISTING CONSTRUCTION TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- UNRATED WALL
- PARTITION TYPE
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER

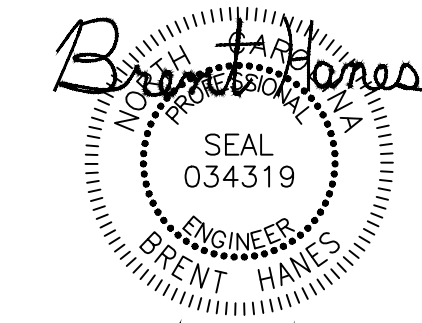
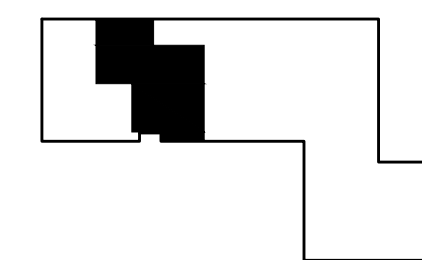


No.	Description	Date



No.	Description	Date





4/25/25

BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

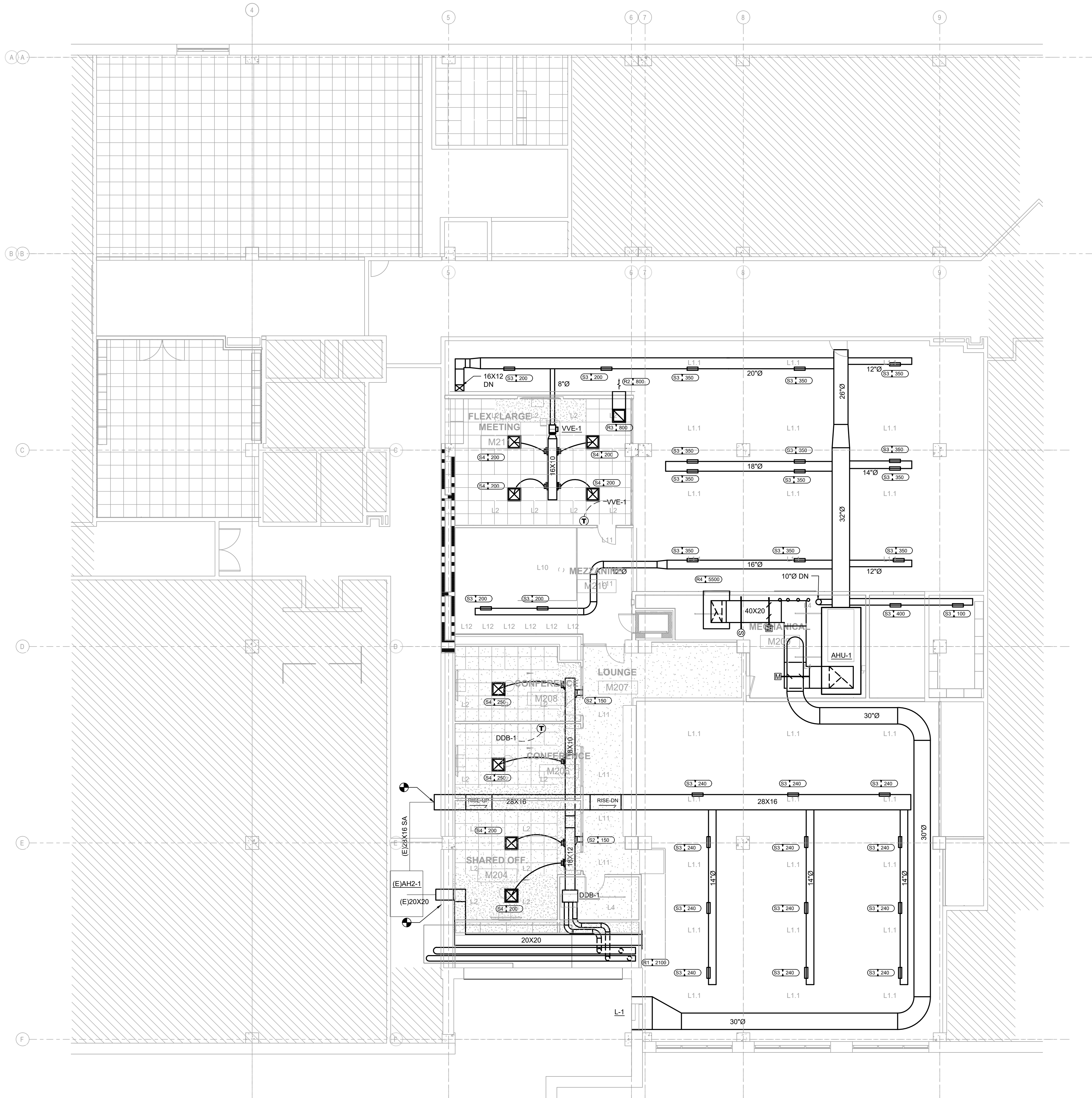
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NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

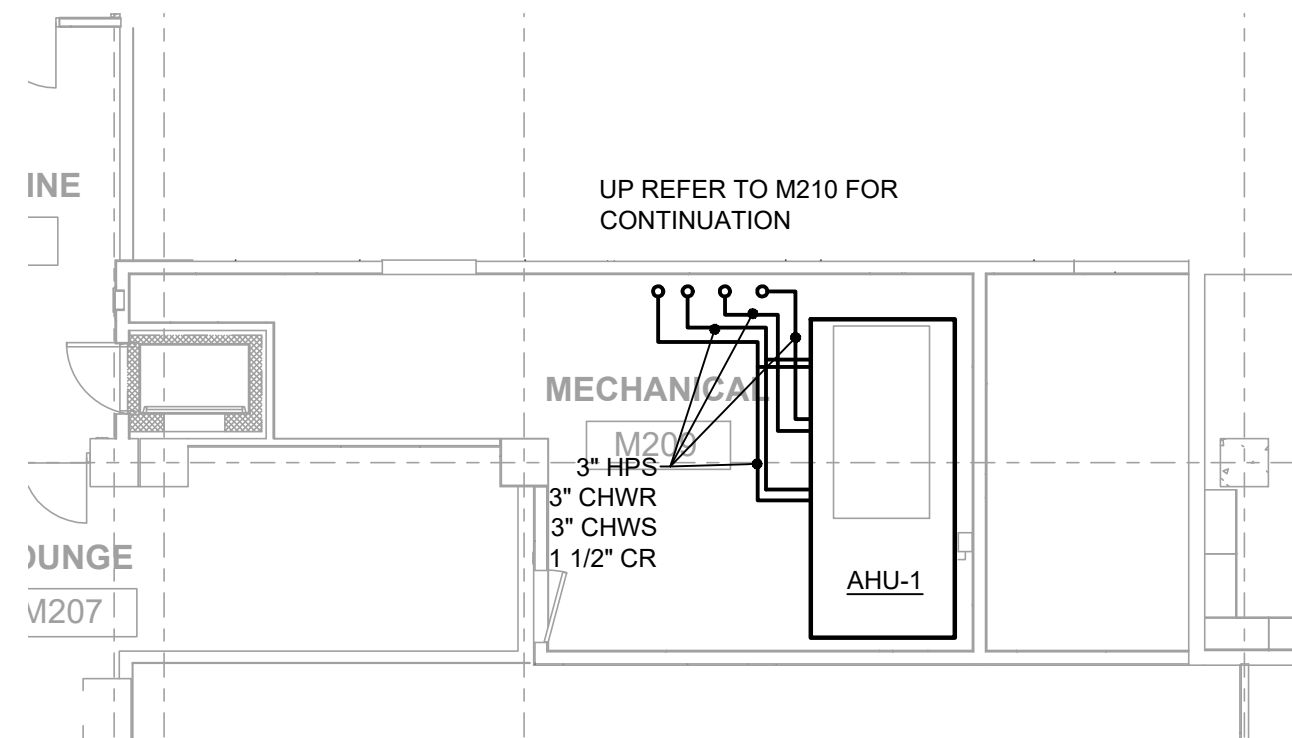
DATE: 04.25.2025
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PROJECT NO: 2021_0140
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**MEZZANINE
MECHANICAL
DUCTWORK**

M300



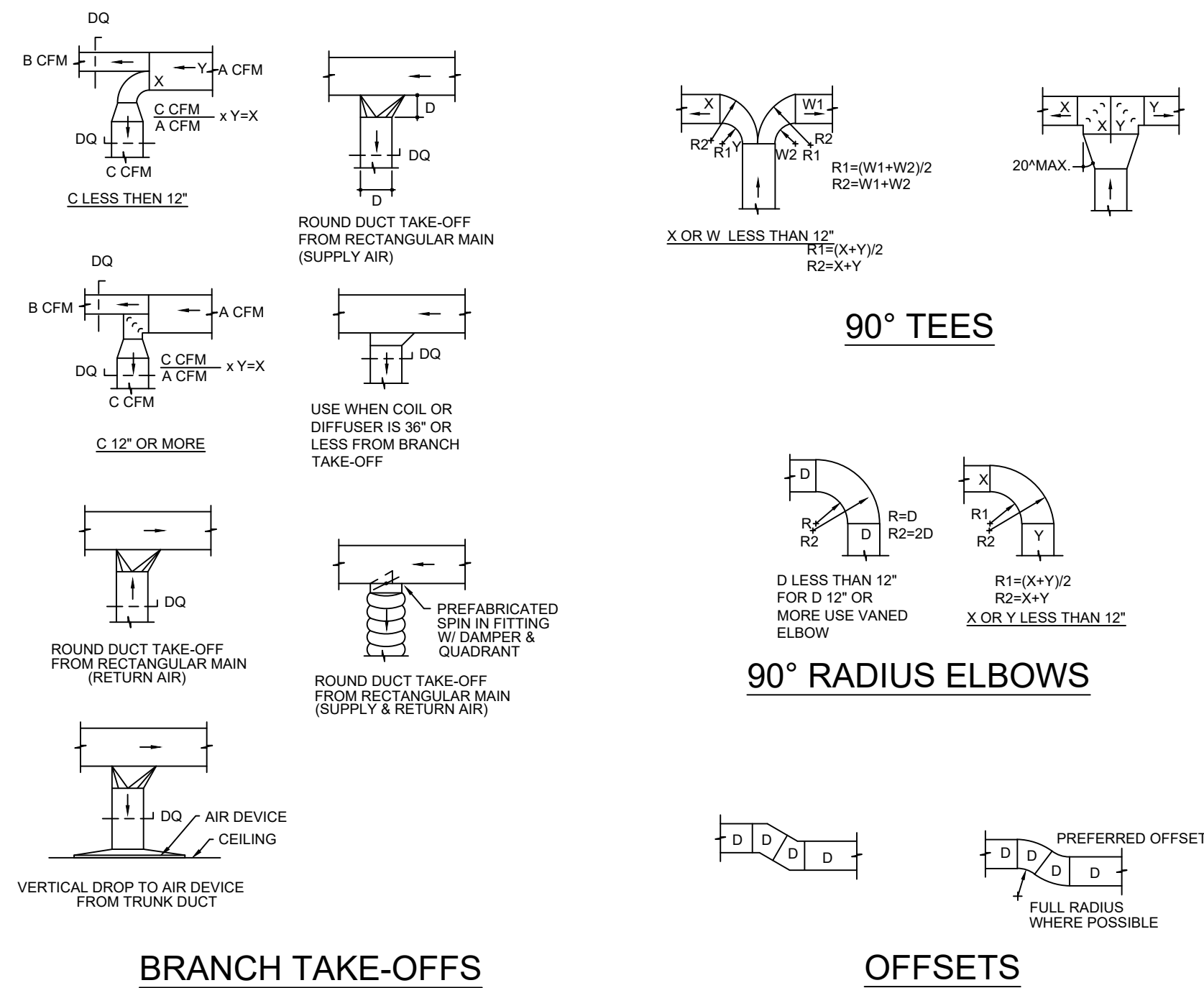
1 MECHANICAL DUCTWORK - NEW WORK - MEZZANINE
1/8" = 1'-0"



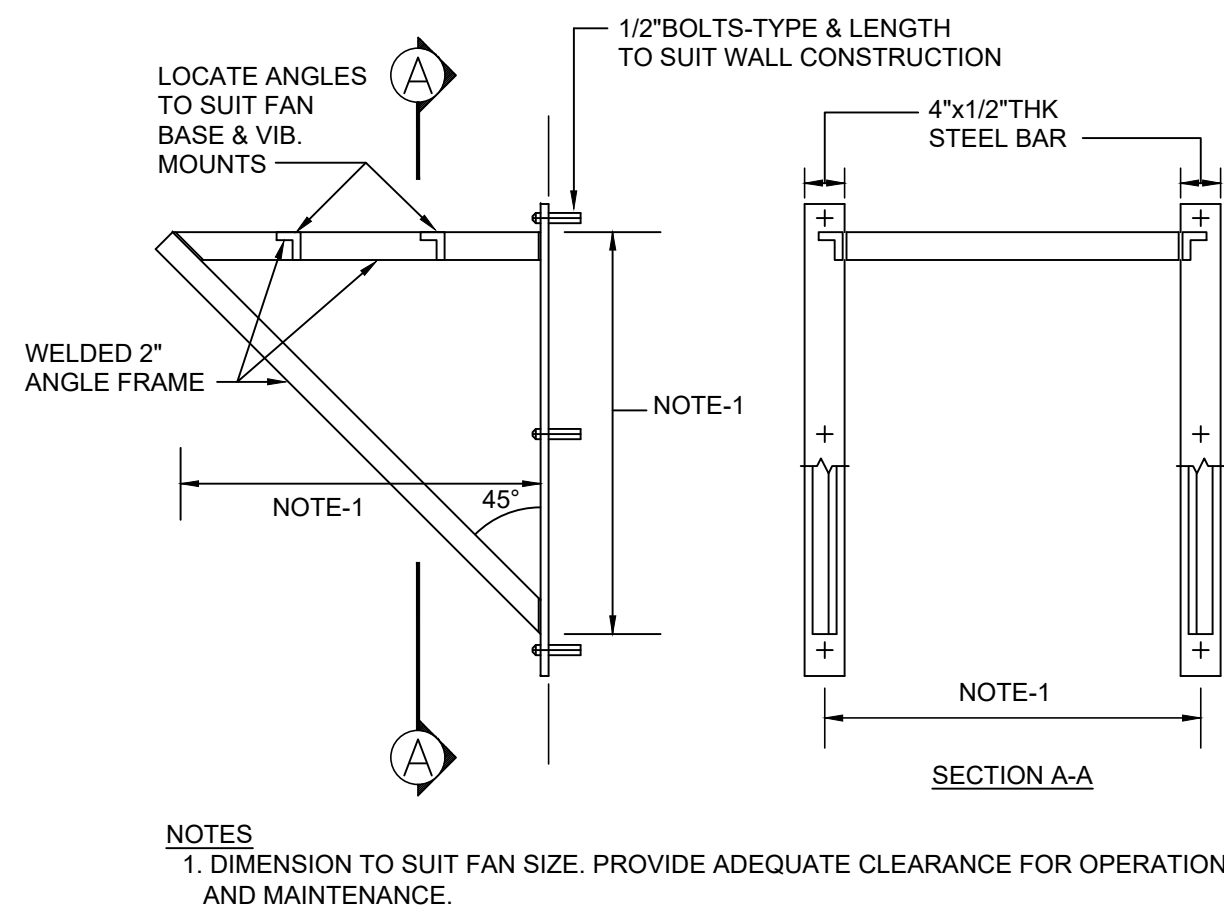
2 MECHANICAL PIPING - NEW WORK - MEZZANINE
1/8" = 1'-0"

PARTITION LEGEND

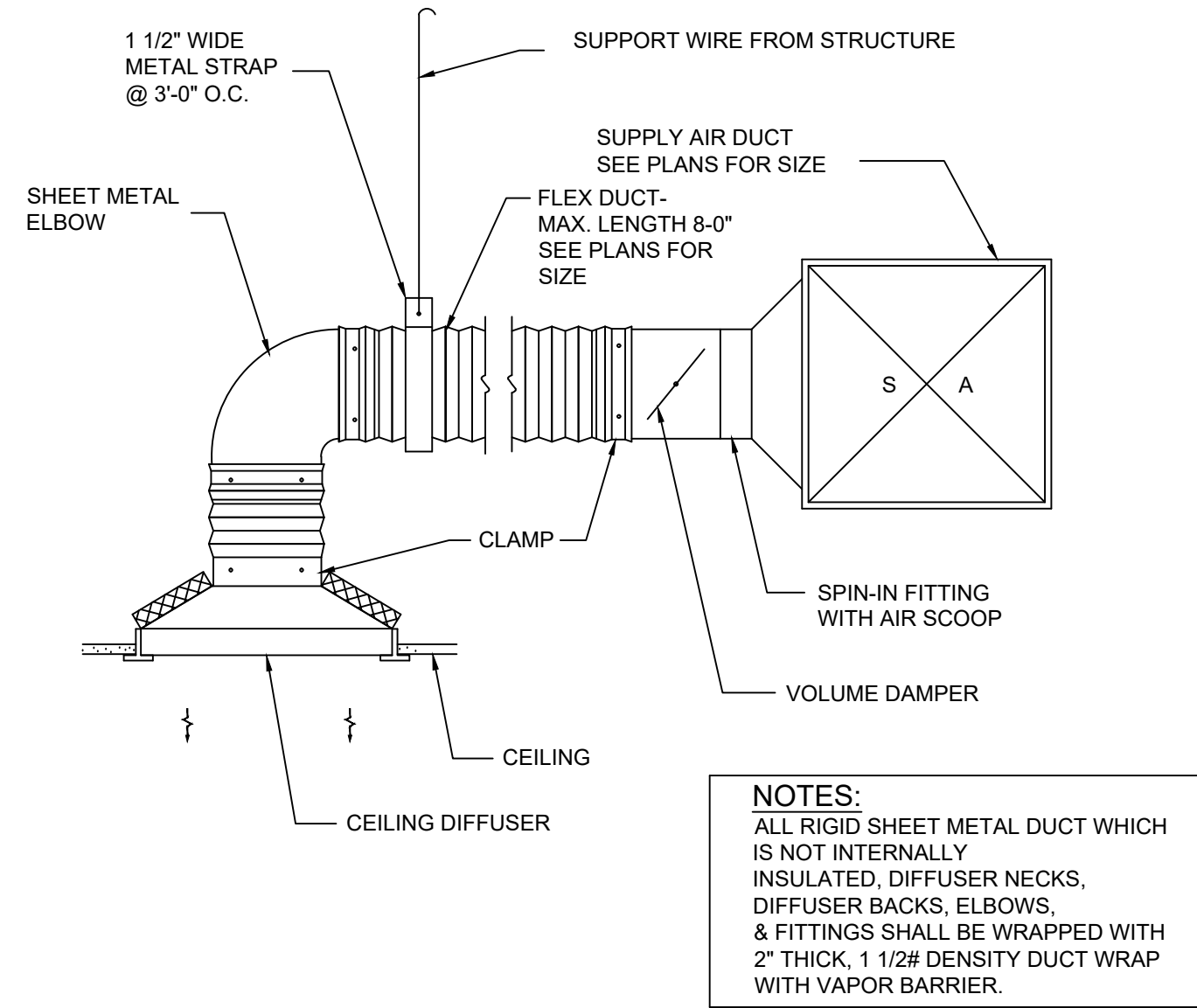
- EXISTING CONSTRUCTION TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- UNRATED WALL
- PARTITION TYPE
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER



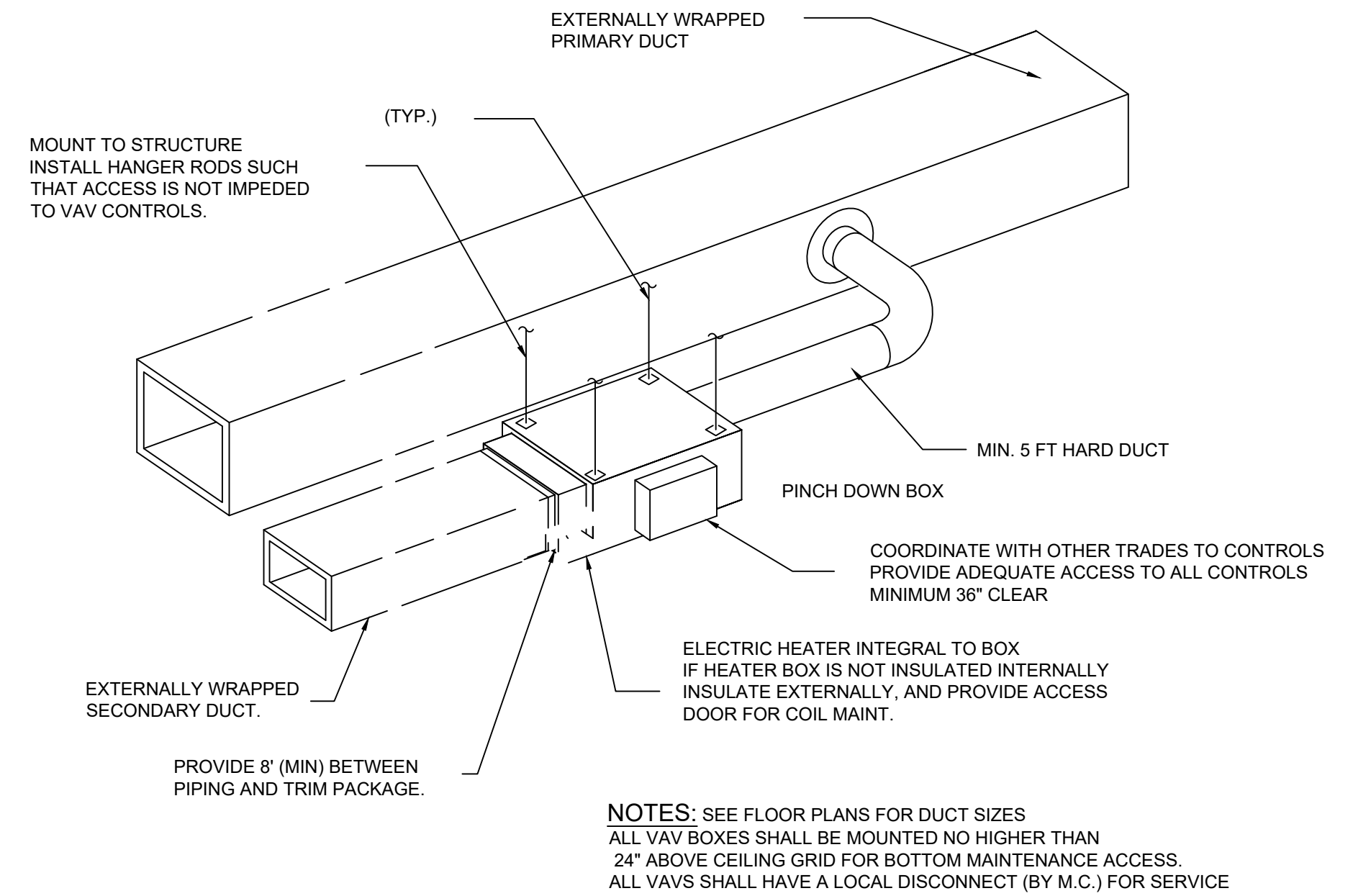
1 LOW PRESSURE DUCTWORK
Scale: NONE



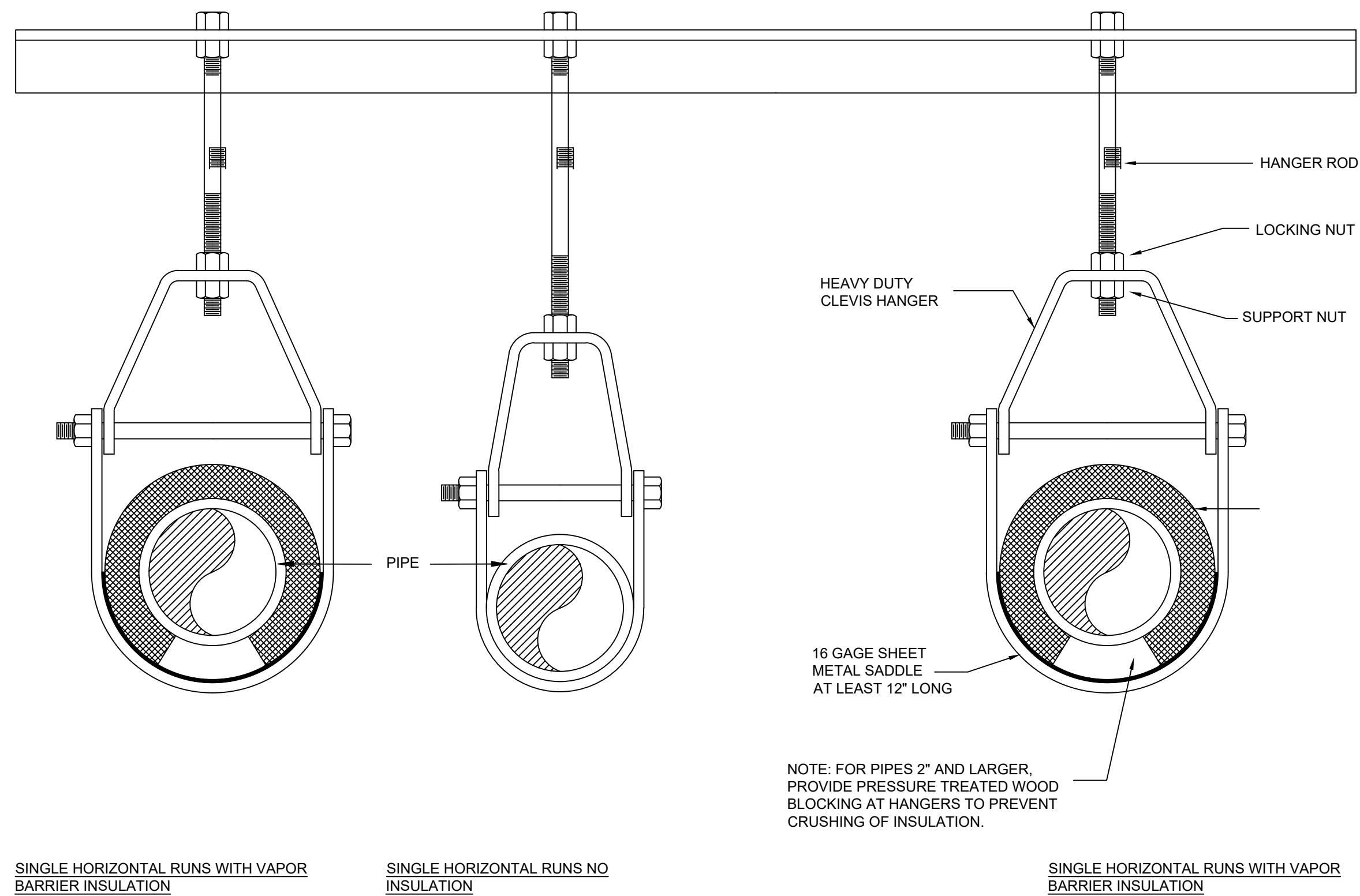
4 BLOWER SUPPORT FRAME DETAIL
Scale: NONE



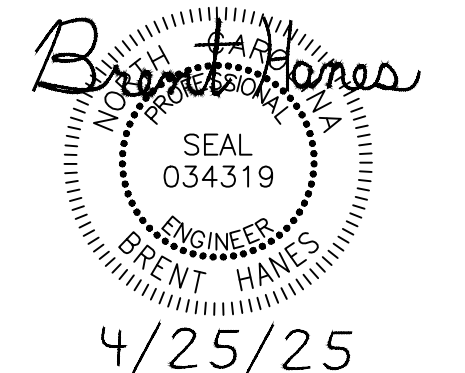
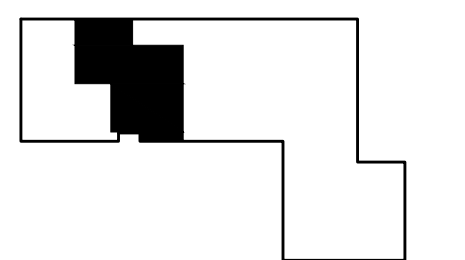
2 SUPPLY DIFFUSER RUNOUT DETAIL
Scale: NONE



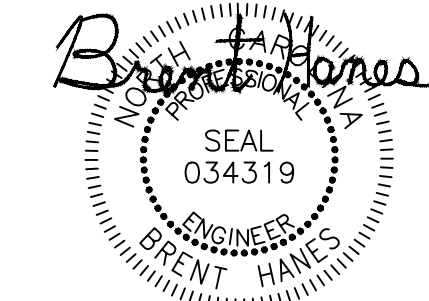
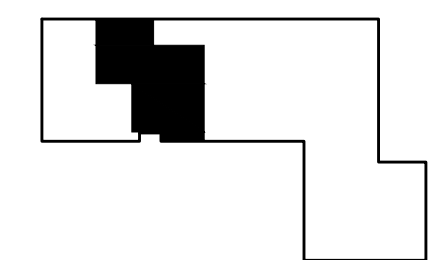
3 VAV BOX INSTALLATION
Scale: NONE



5 CLEVIS HANGER DETAIL
Scale: NONE



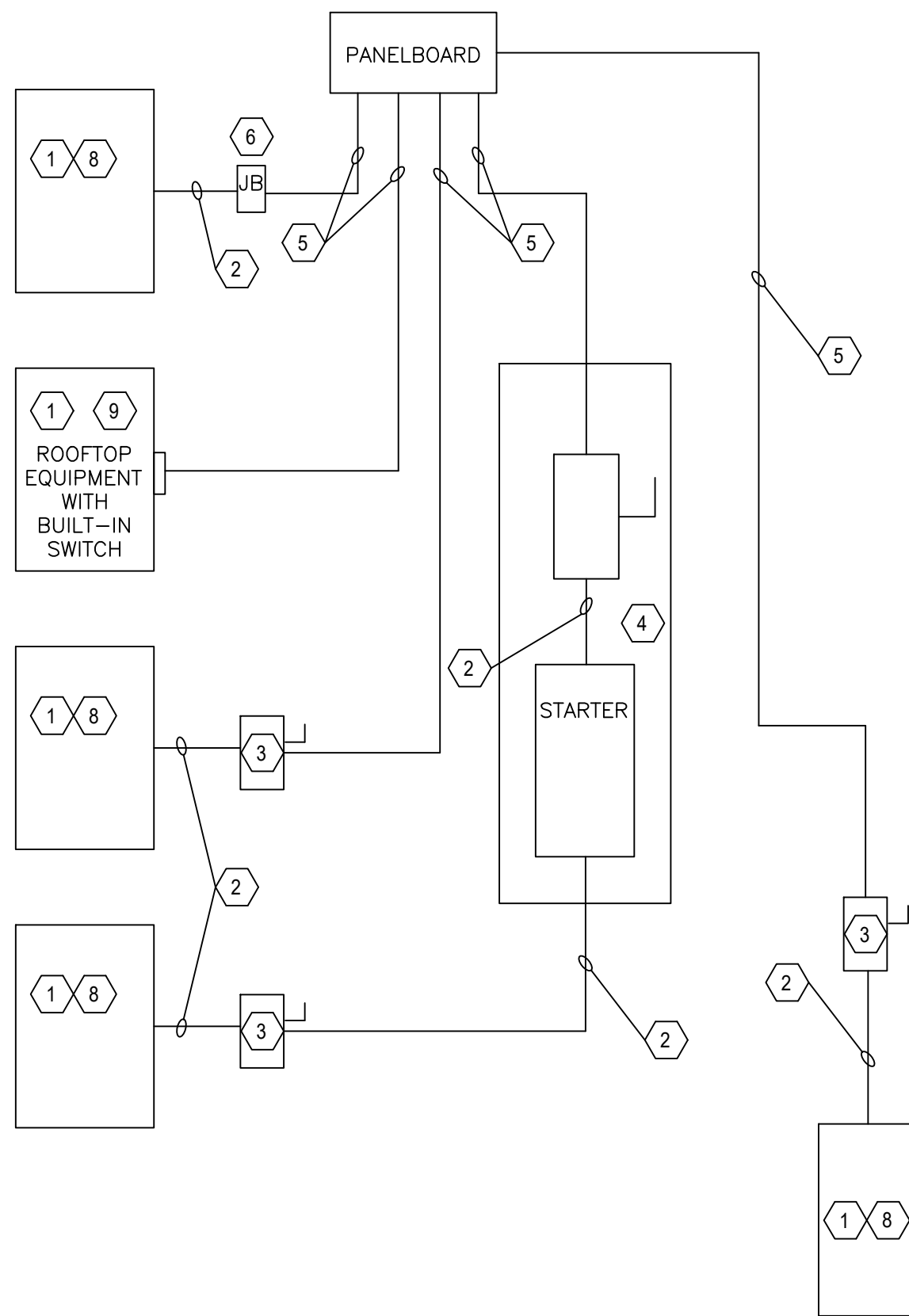
REVISIONS		
No.	Description	Date



4/25/25

KEYED NOTES:

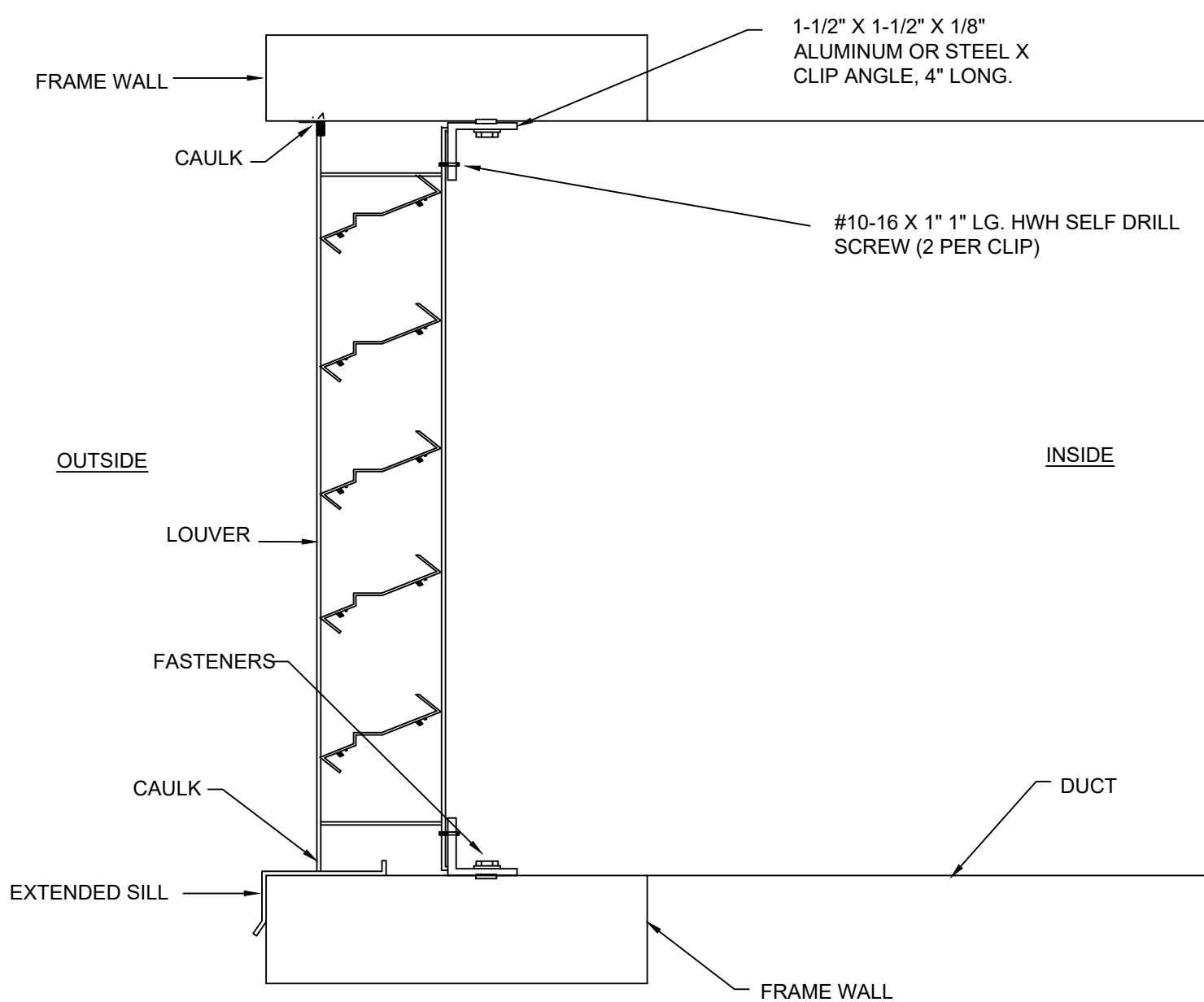
- 1 EQUIPMENT OF TRADES OTHER THAN ELECTRICAL.
- 2 CONDUIT & WIRING BY HVAC, PLUMBING CONTRACTOR OR OTHER TRADES.
- 3 IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC, IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
- 4 A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER, LOCATED ADJACENT TO EQUIPMENT.
- 5 FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULES FOR WIRE AND BREAKER SIZES.
- 6 JUNCTION BOX MAY BE SHOWN ON ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS SUPPLIED, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING WILL BE PROVIDED BY MECHANICAL CONTRACTOR OR OTHER TRADES.
- 7 NOT USED.
- 8 IN ALL CASES THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS, START UP, AND TEST EQUIPMENT.
- 9 IF THE ROOF TOP EQUIPMENT IS NOT PROVIDED WITH BUILT IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.



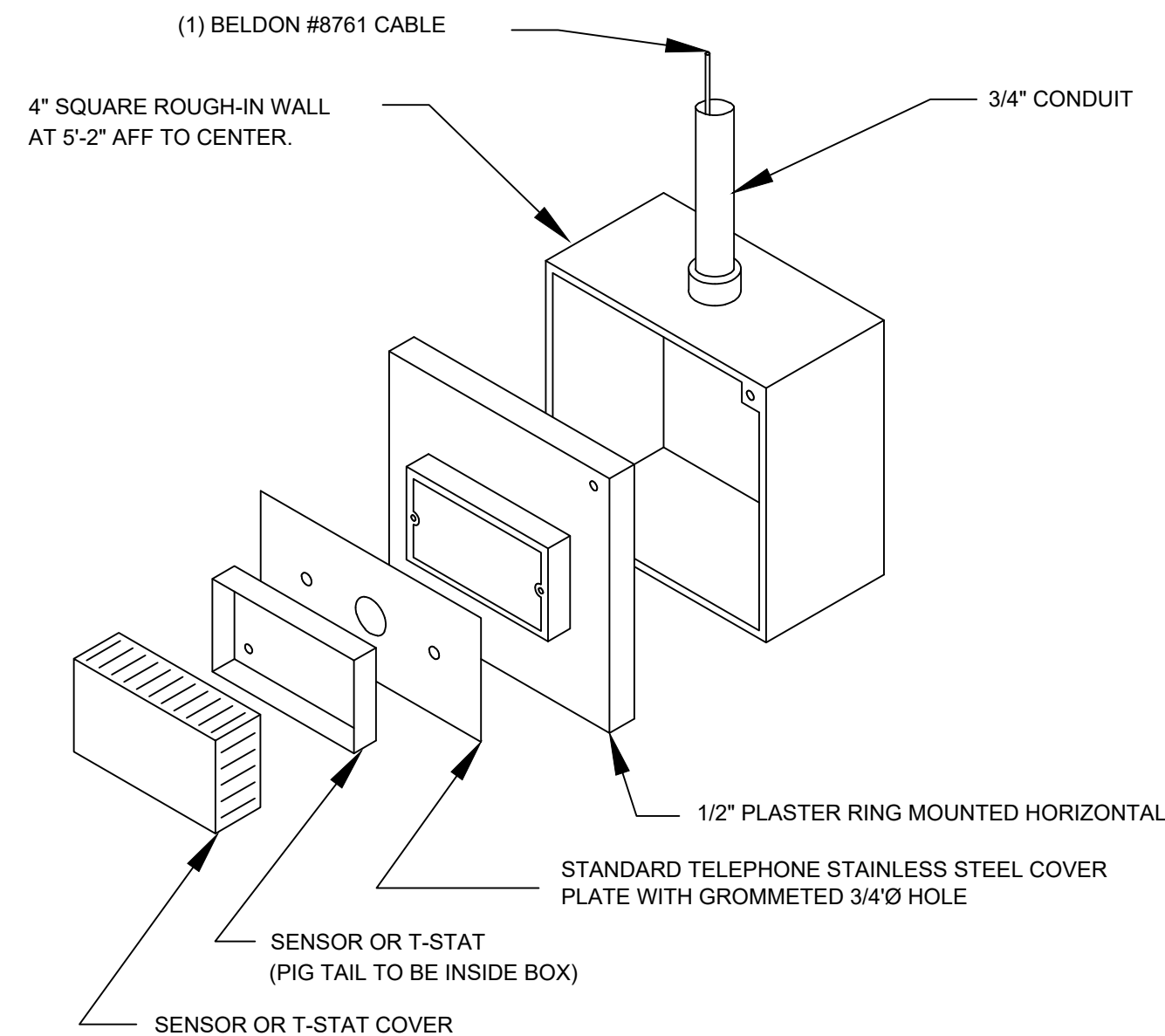
NOTES:

DIVISION 23 CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DIRECTION OF ROTATION FOR ALL THREE PHASE EQUIPMENT.

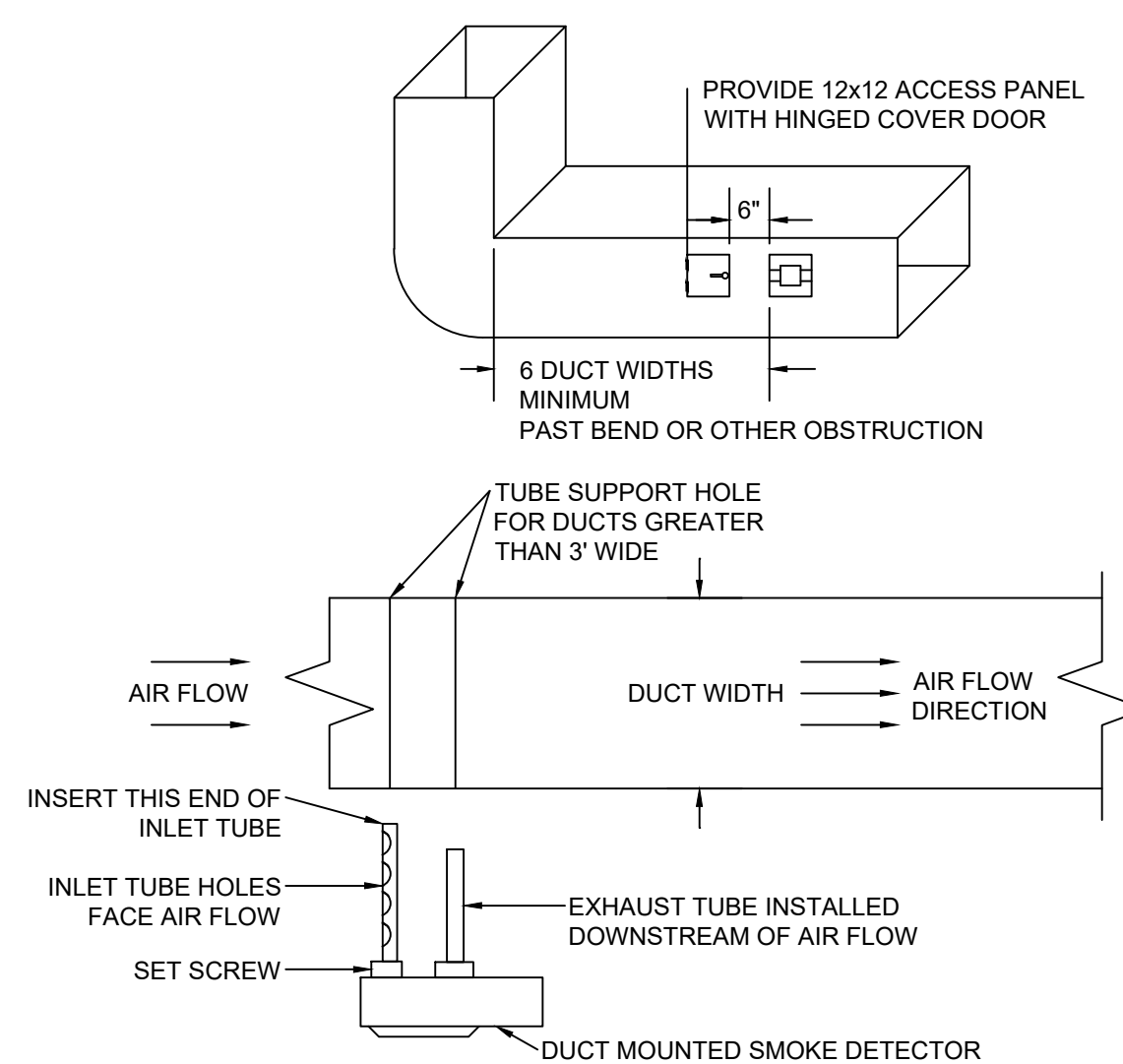
1 ELECTRICAL CONNECTIONS TO MECHANICAL EQUIPMENT DETAIL
M401 Scale: NONE



3 LOUVER DETAIL
M401 Scale: NONE



2 THERMOSTAT MOUNTING DETAIL
M401 Scale: NONE



4 DUCT MOUNTED SMOKE DETECTOR DETAIL
M401 Scale: NONE

BID DOCUMENTS
04.25.2025

PROJECT
NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

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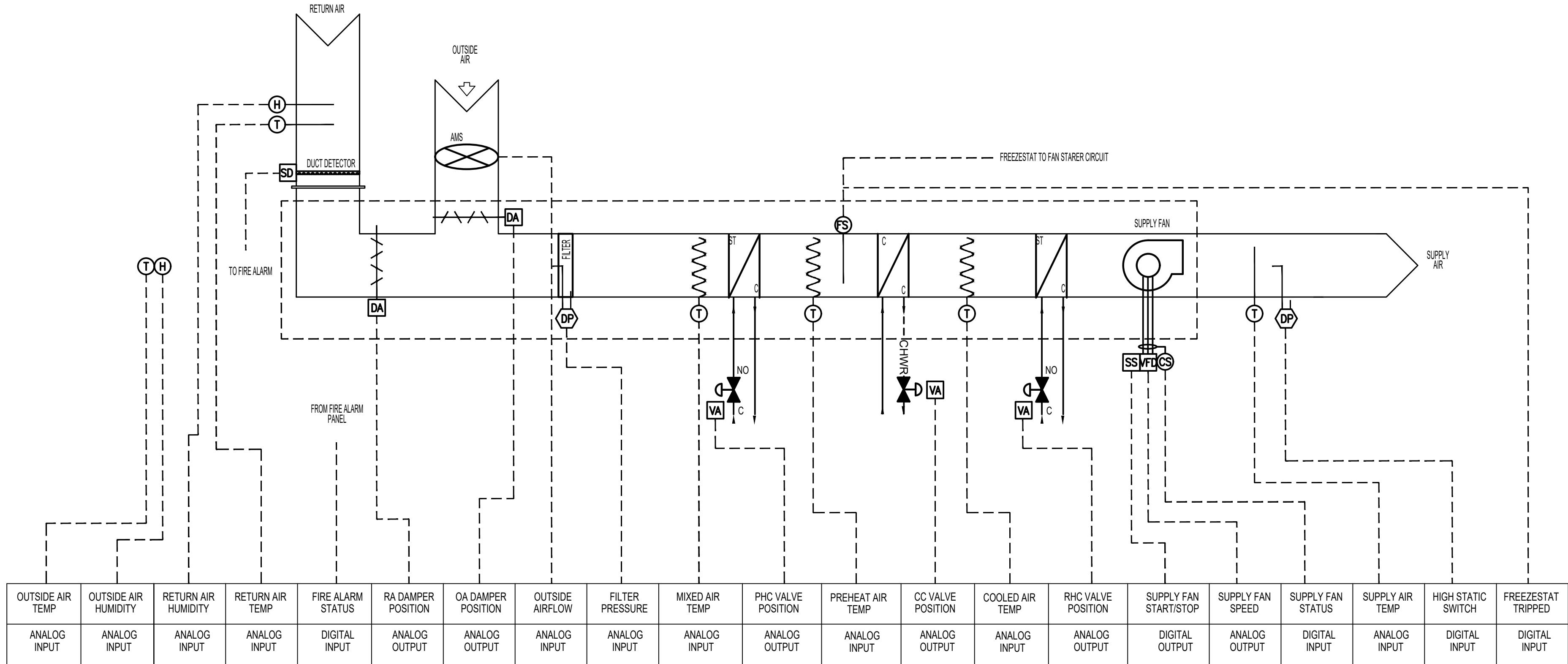
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DATE: 04.25.2025
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PROJECT NO: 2021_0140
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SHEET DATA

MECHANICAL
DETAILS

SHEET NO.

M401

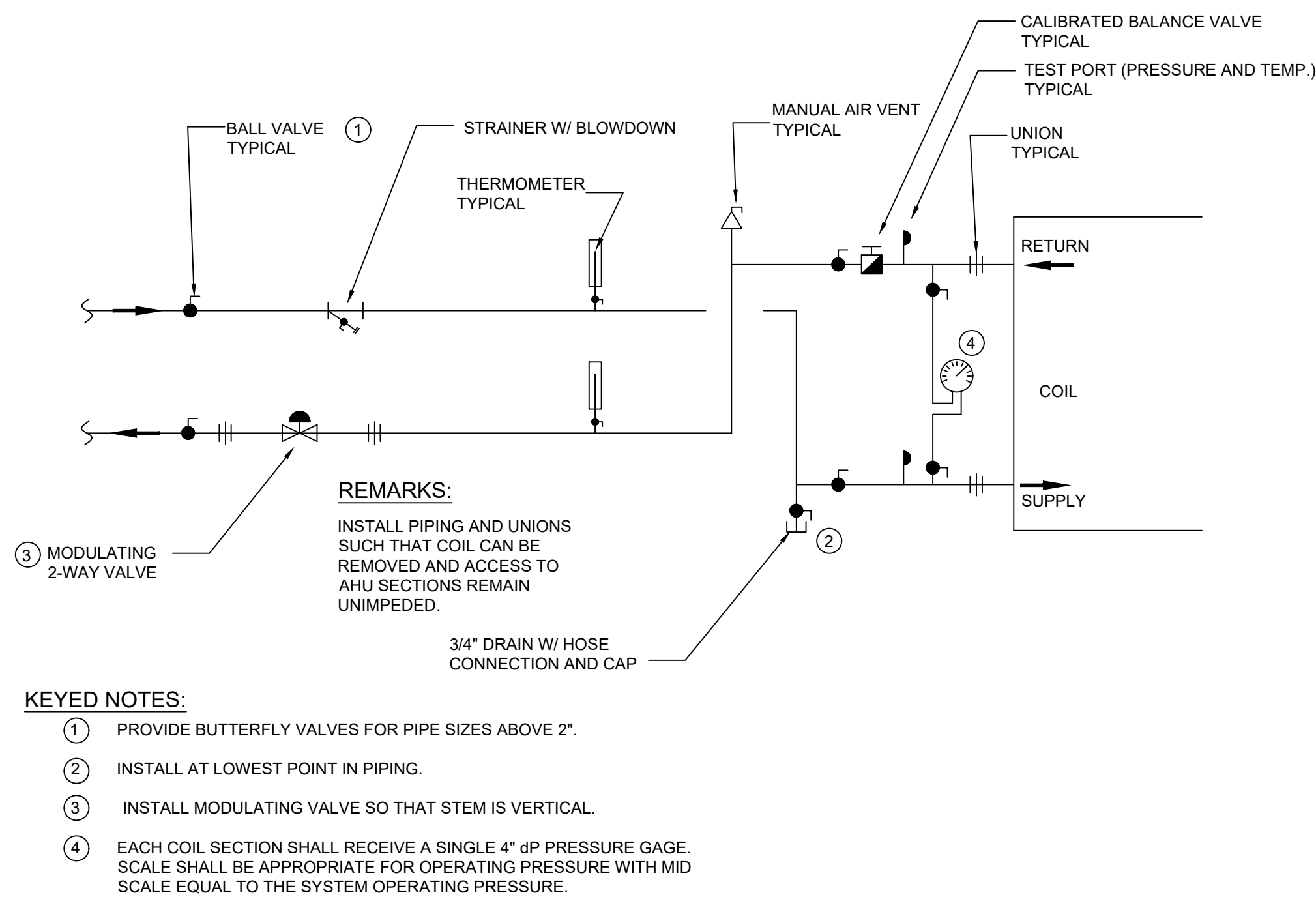


SEQUENCE OF OPERATIONS

- UNIT REQUEST** – Unit shall be requested to run upon a call for occupied or unoccupied heating or cooling from any zone served by its supply ductwork. See floor plans for associated zones. See VAV Box and Fan powered box sequence of operations in this section.
- SUPPLY FAN CONTROL** – Supply fan shall be commanded to run when unit is requested. Variable frequency drive shall modulate to maintain an end-of-line static pressure of 1.5" w.c. or as determined by TAB contractor. (adjustable) as sensed by a differential pressure sensor located two-thirds down the longest duct run. Fan shall run continuously while unit is requested.
- PRE-HEAT COIL CONTROL** – When a call for heating is requested, steam preheat coil control valve shall modulate to maintain a preheat air temperature set by supply air temperature setpoint.. Upon a fall in mixed air temperature below 40 ° F, preheat coil valve shall be forced fully open until pre-heat air temperature setpoint has been reached.
- CHILLED WATER COIL CONTROL** – When a call for cooling is requested, chilled water pump shall be requested to run, chilled water control valve shall modulate to maintain a supply air temperature of 55° F (adjustable). Supply air temperature shall reset linearly based upon outside air conditions where. When outside air is 50° F or below supply air shall be set at 65° F. When outside air is 70° F or above supply air shall be set at 55° F. The limits on this scale shall be fully adjustable.
- RE-HEAT COIL CONTROL** – When a call for heating is requested, steam reheat coil control valve shall modulate to maintain the air temperature set by supply air temperature setpoint.. Upon a fall in mixed air temperature below 40 ° F, reheat coil valve shall be forced fully open until re-heat air temperature setpoint has been reached.
- DAMPER CONTROL** – The minimum outside air position shall be set by the minimum outdoor air damper modulating to meet the setpoint required, an air monitoring station in the minimum outdoor air ductwork shall provide the outdoor air flowrate. BAS shall calculate a linear relationship through these data point to set minimum outside air damper position at any across all increments. Outside air and return damper array shall be commanded to minimum outside air position at any
- ECONOMIZER CONTROL** – BAS shall compare OA enthalpy to return air enthalpy. Economize shall be enable when BAS determines that it is advantageous to use the outside air instead of return. Economizer shall be disabled when OA is below 40 ° F (adjustable) or when OA is above 80 ° F. (adjustable). Economizer shall modulate OA, RA, and Relief air dampers to maintain unit supply air temperature setpoint. Chilled water pump shall be locked out during economizer cycle unless economizer has opened to 100% OA and unit supply air temperature has not been achieved within 5 minutes. Economizer shall stay de energized for at least 60 minutes (adjustable) before being requested again.
- HUMIDITY CONTROL** – A humidity sensor located in the return air duct shall monitor space return humidity. When this sensor reports a humidity level above 60%RH. (adjustable) chilled supply air temperature shall be reset to 50° F for dehumidification. Unit shall remain in dehumidification mode until return air humidity falls below 55%RH. (adjustable)
- SAFETIES**
 - A high static pressure switch shall be located in the supply duct and shall disable unit supply fan upon sensing a discharge air static pressure above 4" w.c. This hi-static condition shall generate an alarm in the BAS. Unit shall not be commanded to run until alarm has been manually reset at the unit.
 - A freeze stat located in after the pre-heat coil shall be hard wired to the fan starters. Supply and return fans shall be disabled at any time the freeze stat senses air below 34° F and shall be manually reset at the unit.
 - A smoke detector located in the return air duct shall be connected to the building fire alarm system.
 - Unit controller shall monitor the fire alarm system and supply fan shall be shut off on any building supervisory alarm.
- TRENDING** – AS shall monitor and trend the following points at 15 min intervals and shall store the data for a minimum of 30 days.
 - Return Air Temperature
 - Return Air Humidity
 - Mixed Air Temperature
 - Preheat Air Temperature
 - Supply Air Temperature
 - Supply Air Temperature setpoint
 - Fan speed
 - End-of-line static pressure
- ALARMS** – Unit shall generate alarms in the BAS upon the following conditions: Additional alarm points may be requested by owner.
 - Return Air Temperature above 90 ° F or below 50 ° F
 - Return Air Humidity above 70% R.H.
 - Mixed Air Temperature below 40° F
 - Preheat Air Temperature below 40° F
 - Fan failure to run (as sensed by a current switch) after 20 seconds of request signal.
 - Supply Static Pressure above 4" w.c.
 - End-of-line static pressure 0.5" w.c. below setpoint or lower for more than 5 minutes and unit is requested to run.
 - Building fire alarm activated.
 - Freeze/Static tripped

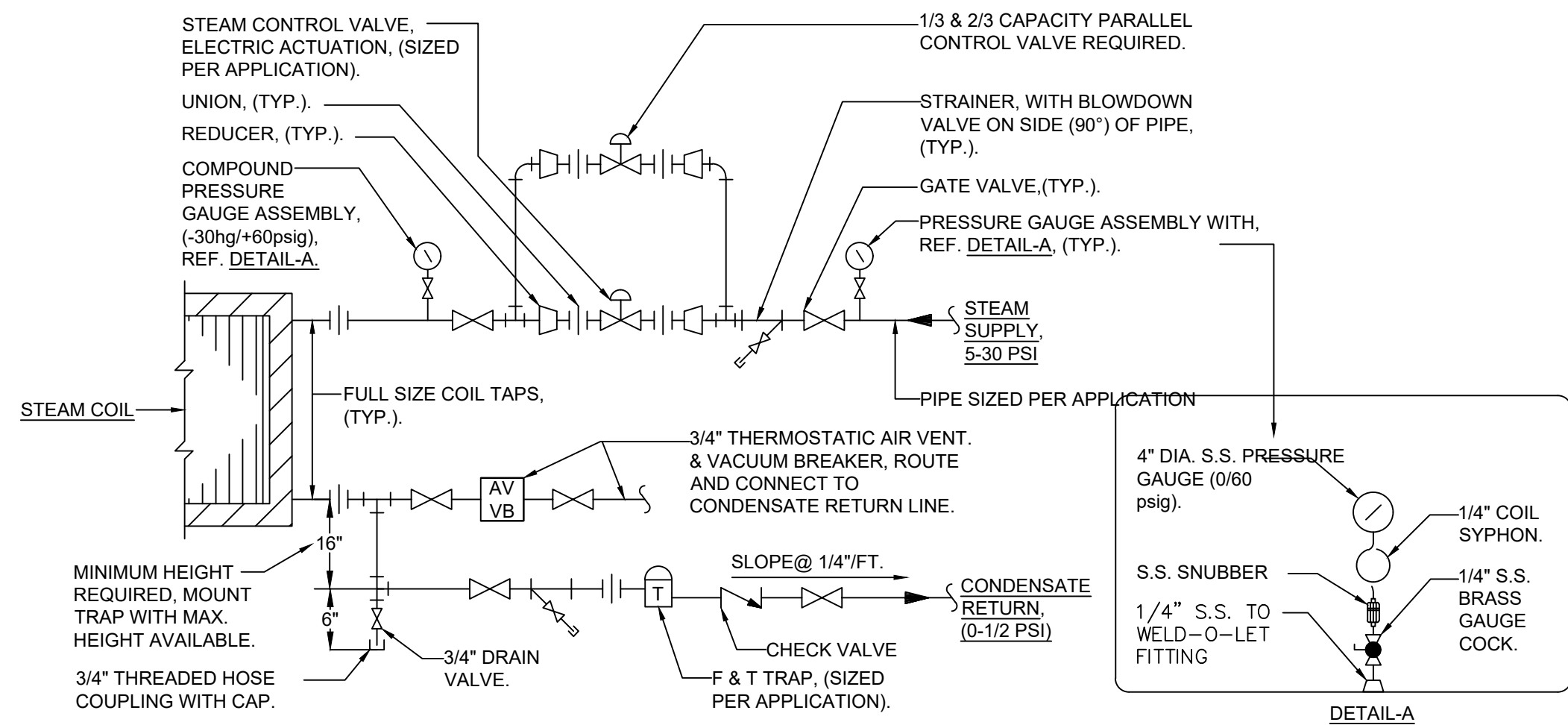
1 VARIABLE SPEED SINGLE ZONE AHU-1 CONTROL SCHEMATIC

Scale: NONE



4 CHILLED WATER COIL CONNECTION DETAIL

Scale: NONE



	EXISTING LIGHT FIXTURE, CONDUIT AND WIRE TO BE REMOVED.
	EXISTING EXIT LIGHT FIXTURE, CONDUIT AND WIRE TO REMAIN AND BE REUSED.
	EXISTING EXIT LIGHT FIXTURE, CONDUIT AND WIRE TO BE REMOVED.
	EXISTING EMERGENCY LIGHT FIXTURE, CONDUIT AND WIRE TOT BE REMOVED
	EXISTING EMERGENCY LIGHT FIXTURE, CONDUIT AND WIRE TOT BE REMOVED.
	EXISTING DUPLEX RECEPTACLE, CONDUIT AND WIRE TOT BE REMOVED.
	EXISTING QUAD RECEPTACLE, CONDUIT AND WIRE TOT BE REMOVED.
	EXISTING SWITCH, CONDUIT AND WIRE TOT BE REMOVED.
	WALL OR CEILING MOUNTED EXIT SIGN, SINGLE FACE. ARROW WHEN USED INDICATES DIRECTION (ARROWS PER FLOOR PLAN) .
	WALL OR CEILING MOUNTED EXIT SIGN, DOUBLE FACE. ARROW WHEN USED INDICATES DIRECTION (ARROWS PER FLOOR PLAN).
	CEILING/PENDENT MOUNTED RECESSED LED LIGHTING FIXTURE PER LIGHT FIXTURE SCHEDULE
	SUSPENDED OR SURFACEMOUNTED LED LIGHT FIXTURE PER LIGHT FIXTURE SCHEDULE
	CEILING MOUNTED OR LAY-IN TYPE LED LIGHT PER LIGHT FIXTURE SCHEDULE
	CEILING MOUNTED OR LAY-IN TYPE LED LIGHT PER LIGHT FIXTURE SCHEDULE
	LED WALL MOUNTED RECESSED LIGHTING FIXTURE PER LIGHT FIXTURE SCHEDULE
	LED WALL SCONCE, LIGHTING FIXTURE PER LIGHT FIXTURE SCHEDULE
	CEILING/PENDENT MTD/RECESSED LIGHTING FIXTURE PER LIGHT FIXTURE SCHEDULE
	OUTLET BOX WITH BLANK COVER - LOCATE AS REQUIRED TO FOR EQUIPMENT SERVED.
	DUPLEX RECEPTACLE AND OUTLET, 20A, 125V, 3W
	QUADRUPLEX RECEPTACLE AND OUTLET, 20A, 125V, 3W
	DUPLEX RECEPTACLE AND OUTLET 20A, 125V, 3W, INSTALLED HORIZONTALLY 4" ABOVE BACKSPLASH OR COUNTER IF NO BACKSPLASH EXISTS.
	QUADRUPLEX RECEPTACLE AND OUTLET 20A, 125V, 3W, INSTALLED 4" ABOVE BACKSPLASH OR COUNTER IF NO BACKSPLASH EXISTS.
	FLUSH MOUNTED DUPLEX RECEPTACLE AND TELEVISION OUTLET.
	SPECIAL EQUIPMENT CONNECTION. REFER TO DRAWINGS
	8" DIA POKE THRU WITH 120 V, 20 AMPERE QUAD RECEPTACLE AND TELECOM OUTLET. PROVIDE 1-1" WITH CABLEING FROM DATA OUTLET TO WIREWAY. TYPE 6A DATA OUTLET.
	FLOOR BOX WITH 20A, 125V, 3W DUPLEX RECEPTACLE
	2-CEILING HUNG RECEPTACLES REFER TO DETAIL 4/E501 FOR INSTALLATION INFORMATION.
	SPECIAL EQUIPMENT CONNECTION. REFER TO DETAIL 4/E501 FOR INSTALLATION INFORMATION.
<u>NOTE TO ALL RECEPTACLES:</u>	
1. SUBSCRIPT SP INDICATES SURGE SUPPRESSION PROTECTED DUPLEX RECEPTACLE.	
2. SUBSCRIPT WP INDICATES GROUND FAULT TYPE RECEPTACLE WITH STAINLESS STEEL, IN-USE WEATHERPROOF COVER.	
3. SUBSCRIPT ISG INDICATES ISOLATED GROUND TYPE RECEPTACLE.	
4. SUBSCRIPT GFI INDICATES GROUND FAULT TYPE RECEPTACLE.	
5. SUBSCRIPT TV INDICATES RECEPTACLE FOR TV MOUNTED IN BRACKET.	
6. SUBSCRIPT S INDICATES SURFACE MOUNTED DEVICE	
7. SUBSCRIPT EM INDICATES EMERGENCY DEVICE	
8. SUBSCRIPT C INDICATES CEILING HUNG RECEPTACLE. REFER TO DETAIL 4/E501 OR 5/E501.	
9. SUBSCRIPT EWC INDICATES GROUND FAULT PROTECTED RECEPTACLE FOR ELECTRIC WATER COOLER.	
10. SUBSCRIPT USB INDICATES COMBINATION 20A OUTLET AND WITH USB AND ESB-C PORTS .	
S _x	FLUSH MTD TOGGLE SWITCH, S.P.S.T., 20A, 120/277V
S ₃	FLUSH MTD 3-WAY TOGGLE SWITCH, 20A, 120/277V
S ₄	FLUSH MTD 4-WAY TOGGLE SWITCH, 20A, 120/277V
S _D	FLUSH MTD DIMMER SWITCH, SIZE AS NOTED
S _M	MANUAL MOTOR STARTER SWITCH WITHOUT OVERLOAD HEATERS
S _{OS}	SWITCH TYPE DUAL TECHNOLOGY OCCUPANCY SENSOR AND BUILT-IN OVERRIDE SWITCH
S _{OSD}	SWITCH TYPE DUAL TECHNOLOGY OCCUPANCY SENSOR WITH DIMMING AND BUILT-IN OVERRIDE SWITCH
S _P	SURGE PROTECTED OUTLET (IF SHOWN AS A QUADRUPLEX, FIRST OUTLET PROTECTS SECOND).
S, S _x	TWO SINGLE-POLE SWITCHES WIRED FOR MULTI-LEVEL LIGHTING. ONE SCONTROL. INNER LAMP(S) IN EACH FIXTURE WHILE OTHER SWITCH SHALL CONTROL SWITCH SHALL OUTER LAMPS.
	CEILING MOUNTED OCCUPANCY SENSOR
	TELE/COMM OUTLET 4" SQ. BOX, 2-1/8" DEEP WITH 1" K.O. WITH DOUBLE GANG PLASTER RING, WITH 1"TC, AND PULLWIRE TO FLOORS DATA WIREWAY. ALL TELE/COM FACE PLATES ARE 2-GANG. NCSU COMTECH WILL PROVIDE CABLEING.
	RECESSED MOUNTED PANELBOARD. REFER TO PANELBOARD SCHEDULE FOR PANELBOARD INFORMATION. DASHED SQUARE IS REQUIRED WORKING CLEARANCE.
	SURFACE MOUNTED PANELBOARD. REFER TO PANELBOARD SCHEDULE FOR PANELBOARD INFORMATION. DASHED SQUARE IS REQUIRED WORKING CLEARANCE.

	PENDANT MTD, PLUG-IN BUS DUCT WITH PLUG-IN CIRCUIT BREAKER OR FUSIBLE SWITCH AND TAP BOX. DUCT AND SWITCH SHALL BE RATED AS NOTED.
	30 AMP NON-FUSED DISCONNECT SWITCH. NUMBER OF POLES AND VOLTAGE PER CIRCUIT FED.
	30 AMP FUSED DISCONNECT SWITCH, FUSED AT 20 AMP. NUMBER OF POLES AND VOLTAGE PER CIRCUIT FED.
	30 AMP NON-FUSED, WEATHERPROOF DISCONNECT SWITCH. NUMBER OF POLES AND VOLTAGE PER CIRCUIT FED.
	VARIABLE FREQUENCY DRIVE BY DIVISION 23.
	COMBINATION DISCONNECT SWITCH AND MAGNETIC MOTOR STARTER
	MAGNETIC MOTOR STARTER WITH OVERLOAD HEATERS
	A.C. MOTOR, NUMERAL INDICATES HP "F" INDICATES FRACTIONAL HP
	WALL MTD FIRE ALARM CONTROL PANEL
	WALL MTD FIRE ALARM COMMUNICATOR
	WALL MTD FIRE ALARM REMOTE ANNUNCIATOR
	WALL MTD FIRE ALARM TERMINAL CABINET
	WALL MTD FIRE ALARM NAC PANEL
	TAMPER SWITCH
	FLOW SWITCH
	PRESSURE SWITCH
	REMOTE INDICATOR LAMP
	MAGNETIC DOOR HOLDER
	WALL MTD FIRE ALARM PULL STATION
	SMOKE DETECTOR, CEILING OR WALL MTD
	HEAT DETECTOR, CEILING OR WALL MTD
	SMOKE DETECTOR CEILING MTD WITH SOUNDER BASE
	SMOKE DETECTOR CEILING MTD WITH SOUNDER BASE
	HEAT DETECTOR CEILING MTD WITH SOUNDER BASE
	SMOKE DETECTOR DUCT MTD FURNISHED BY EC AND MOUNTED BY MC
	SMOKE DETECTOR DUCT MTD FURNISHED BY EC AND MOUNTED BY MC
	MONITOR MODULE
	CONTROL MODULE
	ISOLATION MODULE
	FIRE ALARM SYSTEM VISUAL DEVICE, CEILING MOUNTED. PROVIDE CANELARA RATING AS INDICATED ON PLANS.
	FIRE ALARM SYSTEM COMBINATION AUDIO/VISUAL DEVICE, WALL MOUNTED. PROVIDE CANELARA RATING AS INDICATED ON PLANS.
	FIRE ALARM SYSTEM COMBINATION AUDIO/VISUAL DEVICE, CEILING MOUNTED. PROVIDE CANELARA RATING AS INDICATED ON PLANS.
	PRINTER
	FIRE ALARM CONTROL RELAY
	WALL MOUNTED SPEAKER
	CEILING MOUNTED SPEAKER
	WALL MOUNTED CALL SWITCH
	SECURITY SOUNDER
	SECURITY WIRELESS CARD READER
	SECURITY 6-PORT DATA OUTLET SSI-A
	SECURITY 3-PORT DATA OUTLET SSI-B
	SECURITY CAMERA
	PHOTOCELL
	SINGLE POLE CONTACTOR WITH RELAY
	SPEAKER
	PA VOLUME CONTROLLER
	SECURITY CAMERA

ELECTRICAL SYMBOL NOTES

1. SYMBOLS AND ABBREVIATIONS MAY NOT ALL BE UTILIZED FOR THIS PROJECT.
2. SYMBOLS NOT LISTED IN THIS ELECTRICAL SYMBOL LEGEND ARE IDENTIFIED ON THE DRAWINGS WHERE THEY OCCUR.
3. MOUNTING HEIGHT GIVEN IN THE ELECTRICAL SPECIFICATIONS IS TO THE CENTERLINE OF THE DEVICE AND SHALL BE FOLLOWED UNLESS OTHERWISE INDICATED AT THE SYMBOL, ON ARCHITECTURAL ELEVATIONS OR CASEWORK DRAWINGS.

A	AMPERE, AMPMETER	KW	KILOWATTS
AFCI	ARC FAULT CIRCUIT INTERRUPTER	LC	LIGHTING CONTACTOR
AFF	ABOVE FINISHED FLOOR	LTG	LIGHTING
AIC	AMPERES INTERRUPTING CAPACITY	LV	LOW VOLTAGE
AHU	AIR HANDLING UNIT	MB	MAIN BREAKER
ATS	AUTOMATIC TRANSFER SWITCH	MC	MECHANICAL CONTRACTOR
BFG	BELOW FINISHED GRADE	MCB	MAIN CIRCUIT BREAKER
C	CONDUIT	MCC	MOTOR CONTROL CENTER
CATV	CABLE (COMMUNITY) ANTENNA TELEVISION	MH	MANHOLE
CU	COPPER	MLO	MAIN LUGS ONLY
DISC	DISCONNECT	NF	NON FUSED
EC	ELECTRICAL CONTRACTOR	NIC	NOT IN CONTRACT
EGC	EQUIPMENT GROUNDING CONDUCTOR	NL	NIGHT LIGHT
ETR	EXISTING TO REMAIN	P	POLE, PHASE
EWC	ELECTRIC WATER COOLER	PB	PULL BOX
E	EXISTING	PC	PLUMBING CONTRACTOR
FA, F/A	FIRE ALARM	P/BD, PNL	PANELBOARD
FAAP	FIRE ALARM ANNUNCIATOR PANEL	PR	PAIR
FACP	FIRE ALARM CONTROL PANEL	SN	SOLID NEUTRAL
GEC	GROUNDING ELECTRODE CONDUCTOR	SW	SWITCH
G.GND	GENERAL CONTRACTOR	SWBD	SWITCHBOARD
GC	GROUND	UG	UNDERGROUND
GF, GFI	GROUND FAULT INTERRUPTER	UNO	UNLESS NOTED OTHERWISE
HH	HANDHOLE	V	VOLT
HP	HORSEPOWER	WP	WEATHERPROOF
IG, ISG	ISOLATED GROUND	XFMR	TRANSFORMER
JB	JUNCTION BOX		
KVA	KILOVOLT-AMPERES		

2018 APPENDIX B

BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

ELECTRICAL DESIGN

(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

CTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE: ENERGY CODE

☐ PERFORMANCE

☒ PRESCRIPTIVE

ASHRAE 90.1

☐ PERFORMANCE

☐ PRESCRIPTIVE

LIGHTING SCHEDULE

LAMP TYPE REQUIRED IN FIXTURE

NUMBER OF LAMPS IN FIXTURE

BALLAST TYPE USED IN THE FIXTURE

NUMBER OF BALLASTS IN FIXTURE

TOTAL WATTAGE PER FIXTURE

TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED

TOTAL EXTERIOR WATTAGE SPECIFIED VS ALLOWED

PER LIGHT FIXTURE SCHEDULE

PER LIGHT FIXTURE SCHEDULE

PER LIGHT FIXTURE SCHEDULE

PER LIGHT FIXTURE SCHEDULE

PER LIGHT FIXTURE SCHEDULE

7396.9 WATTS VS 13052.1WATTS

NOT APPLICABLE

ADDITIONAL EFFICIENCY PACKAGE OPTIONS

WHEN USING THE 2018 NCECC; NOT REQUIRED FOR ASHRAE 90.1)

☐ 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

OWNER STATEMENT:

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENT OF THE NORTH CAROLINA STATE BUILDING

SIGNED:

NAME: REGISIE ADAMS P.E.

TITLE: ELECTRICAL ENGINEER

ALL WORK ON THIS PROJECT SHALL CONFORM TO THE 2023 NEC, ALL LOCAL AND STATE CODES, STATE BUILDING CODES AND REQUIREMENTS, THE ARCHITECT HAVING JURISDICTION.

2. SYMBOLS AND ABBREVIATIONS MAY NOT ALL BE UTILIZED FOR THIS PROJECT.

3. UNLESS OTHERWISE INDICATED THE CONTRACTOR, IS RESPONSIBLE FOR ALL CUTTING, CORE- DRILLING AND PATCHING REQUIRED TO INSTALL ELECTRICAL RELATED WORK.

4. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ELECTRICAL RELATED WORK WITH OTHER TRADES. THE CONTRACTOR IS CAUTIONED THAT IT IS TOTALLY HIS RESPONSIBILITY TO COORDINATE HANGERS AND SUPPORTS WITH OTHER TRADES. ADDITIONAL REQUIRED HANGERS & SUPPORTS MUST BE IN PLACE PRIOR TO APPLICATION OF FIRE PROOFING MATERIAL. ANY DAMAGE INCURRED ON FIRE PROOFING MATERIAL DUE TO INSTALLATION OF ELECTRICAL HANGERS WILL BE REPAIRED BY FIRE PROOFING SUB-CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

5. UTILITIES SERVING AREAS OF THIS PROJECT STILL OCCUPIED BY THE OWNER DURING DEMOLITION AND NEW CONSTRUCTION SHALL BE MAINTAINED UNTIL THE OWNER VACATES THE AREA. UNLESS OTHERWISE NOTED.

6. ALL SHUTDOWNS WILL BE COORDINATED AND APPROVED THROUGH THE OWNER'S PROJECT MANAGER AND THE BUILDING MANAGER AND WILL REQUIRE ADVANCE NOTICE OF 10 WORKING DAYS EXCLUDING WEEKEND. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AT THE OWNER'S DISCRETION. THE SCHEDULING OF SUCH SHUTDOWNS MAY TAKE TWO WEEKS OR MORE AND THE CONTRACTOR MUST BE PREPARED TO WORK SECOND OR THIRD SHIFT, SATURDAY OR SUNDAY AS NECESSARY TO PERFORM THE WORK. FURTHERMORE, IN SOME CASES AN ALTERNATE POWER SOURCE MAY BE REQUIRED, ALL SHUTDOWNS WILL BE INITIATED AND CONTROLLED BY OWNER.

7. VISIT THE SITE PRIOR TO BID DATE AND EXAMINE ALL AREAS TO BE DEMOLISHED AND RENOVATED. THOROUGHLY FAMILIARIZE YOURSELF WITH EXISTING CONDITIONS. NO EXTRA COMPENSATION WILL BE GIVEN FOR FAILURE TO THOROUGHLY EXAMINE EXISTING CONDITIONS TO DETERMINE THE EXACT SCOPE OF DEMOLITION WORK. "KEYED" NOTES ON THE DEMOLITION DRAWINGS ARE PROVIDED TO ASSIST BIDDERS TO DETERMINE THE SCOPE OF DEMOLITION WORK.

8. EXISTING AREAS WHETHER WITHIN OR WITHOUT THE "GENERAL LIMITS OF CONSTRUCTION", SHALL BE REPAIRED WHERE ANY DAMAGE HAS OCCURRED DUE TO CONSTRUCTION BY THE CONTRACTOR.

9. ALL AREAS OUTSIDE THE PROJECT LIMITS IN WHICH WORK MUST TAKE PLACE WILL BE CLEANED AND RETURNED TO NORMAL (INCLUSIVE OF CEILING TILE REPLACEMENT) AT THE END OF EACH DAY. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE EACH DAY BEFORE LEAVING THE CONTRACT PROJECT LIMITS REGARDING THE CLEANLINESS OF THE AREA IN WHICH WORK TOOK PLACE OUT SIDE OF THE PROJECT LIMITS.

10. WHERE WORK IS TAKING PLACE OUTSIDE THE PROJECT LIMITS CANNOT ALLOW A RETURN TO NORMAL APPEARANCE OF WALLS, CEILING, ETC., AT THE END OF EACH DAY DUE TO ITS EXTENSIVE NATURE, THE CONTRACTOR SHALL ERECT A BLACK PLASTIC CURTAIN AROUND HIS WORK. SUCH A CURTAIN SHALL REMAIN IN PLACE UNTIL THE WORK IS COMPLETE. SUCH CURTAINS WILL HAVE CAUTIONARY SIGNS AFFIXED INDICATING CONSTRUCTION ACTIVITY WITHIN.

11. PROVIDE 4" HIGH CONCRETE HOUSEKEEPING PADS WITH CHAMFERED EDGES UNDER ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT.

12. DO NOT MOUNT ANY WALL RECEPTACLES OR TELEPHONE/COMPUTER OUTLETS BACK TO BACK.

13. USE 3/4" DEEP MUD RINGS ON BOXES IN 5/8" DRYWALL SO FACE OF RING IS FLUSH WITH FACE OF DRYWALL. PROVIDE CADDY R/LC ADAPTER ON ALL OUTLETS WHERE DRYWALL IS CUT IN EXCESS OF 1/8" LARGER THAN MUD RING OR WHERE THE DEVICE "EARS" ARE NOT SUPPORTED BY THE DRYWALL.

14. 20A BRANCH CIRCUIT WIRE SIZING SHALL BE IN ACCORD WITH THE FOLLOWING TABLE:

VOLTS	DISTANCE	FIRST DEVICE)	REMAINDER OF CIRCUIT
120/208	0' - 50'	#12	#12
	50' - 100'	#10, #10 GND	#12
	100' - 150'	# 8, #8 GND	#10, #10 GND
277/480	0' - 125'	#12	#12
	125' - 220'	#10, #10 GND	#12
	220' - 330'	# 8, #8 GND	#10, #10 GND

IF THE SIZE OF THE BRANCH CIRCUIT CONDUCTORS ARE INCREASED, THE GROUND CONDUCTOR MUST BE INCREASED PROPORTIONATELY PER NEC 250.122(B).

15. THE ELECTRICAL CONTRACTOR SHALL VERIFY LOCATION OF LIGHTS, ETC. IN MECHANICAL ROOMS WITH MECHANICAL CONTRACTOR BEFORE ROUGH-IN TO AVOID CONFLICT WITH DUCT WORK.

16. ALL CONDUCTORS SHALL BE COPPER WITH A MINIMUM SIZE OF #12 AWG EXCEPT FOR FIRE ALARM.

17. ALL BRANCH CIRCUIT BREAKERS SHALL BE 20A, 1P, WITH 2 #12 AWG #12 GND IN 1/2" MINIMUM CONDUIT, UNLESS OTHERWISE NOTED.

18. ALL WIRING LUGS THROUGHOUT THE PROJECT, INCLUDING BUT NOT LIMITED TO BREAKERS, PANELBOARD/SWITCHBOARD LUGS, SAFETY SWITCH LUGS, AND TRANSFORMER LUGS, SHALL BE RATED FOR USE WITH 75 DEGREE CONDUCTORS SIZED IN ACCORDANCE WITH NEC TABLES 310-15 (B)(1)(1), 310-15(B)(1)(2), 310-15(C)(1) AND TABLE 310.16.

19. ALL RACEWAYS SHALL BE METAL UNLESS SPECIFICALLY NOTED OR APPROVED OTHERWISE. ANY RACEWAY IN POURED CONCRETE SHALL BE RIGID METAL (HEAVY WALL). REFER TO SPECIFICATIONS FOR ALL OTHERS.

20. CONTRACTOR SHALL MINIMIZE NUMBER OF HOME RUN CONDUITS. CONTRACTOR MAY COMBINE UP TO THREE CIRCUITS PER HOME RUN IN A SINGLE CONDUIT. IF CIRCUITS ARE COMBINED, THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR APPLYING THE AMPACITY REDUCTION PERCENTS ON ALL CONDUCTORS PER NEC TABLE 310.15(C)(1). INCREASE CONDUCTOR SIZE AS REQUIRED. A SEPARATE NEUTRAL SHALL BE USED FOR EACH CIRCUIT (NO NEUTRAL SHARING).

21. IN GENERAL ALL ELECTRICAL CONDUIT WILL BE RUN AT THE ELEVATION JUST BELOW THE BOTTOM OF THE STRUCTURAL BEAMS. THE CONTRACTOR SHALL OFFSET THE ELECTRICAL CONDUIT TO AVOID INTERFERENCE WITH ANY DUCTWORK, SPRINKLER OR MECHANICAL PIPING. THE CONTRACTOR SHALL COORDINATE HIS CONDUIT AND RACEWAY LOCATIONS WITH ALL OTHER TRADES BEFORE INSTALLATION.

22. THE ROUTING FOR THE RACEWAY SHOWN ON THE DWGS. IS DIAGRAMMATIC ONLY. BASED ON CURSORY FIELD SURVEY BY DESIGNER. CONTRACTOR IS CAUTIONED THAT SPACE ABOVE CLG IS VERY CONGESTED WITH EXISTING MECHANICAL, ELECTRICAL & PLUMBING ITEMS, AND WORK SPACE IS LIMITED. CONTRACTOR IS REQUIRED TO VISIT THE SITE PRIOR TO BID DATE AND LOOK ABOVE THE CLG. OF THE PROPOSED ROUTING TO FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS. PROVIDE ANY AND ALL ADDITIONAL JB'S, OFFSETS, CONDUITS AND FITTINGS AS REQUIRED TO AVOID ANY EXIST. OBSTRUCTIONS ALONG THE PROPOSED ROUTING. ANY SHUTDOWNS CAUSED BY RELOCATING EXISTING EQUIPMENT SHALL BE COORDINATED WITH OWNER. FAILURE TO EXAMINE EXISTING CONDITIONS AND COORDINATE THE EXACT CONDUIT ROUTING WILL NOT EXCUSE CONTRACTOR FROM PERFORMING ALL DUTIES NECESSARY TO COMPLETE THE WORK. DO NOT ROUTE CONDUIT IN A MANNER THAT WILL BLOCK ACCESS TO EXISTING ITEMS AS JUNCTION BOXES, VALVES, FILTERS OR SERVICE ACCESS TO EQUIPMENT.

23. ELECTRICAL PLANS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL ALIGN FIXTURES, FIRE ALARM DETECTORS, CEILING DIFFUSERS, ETC. AS REQUIRED TO PROVIDE A PATTERN OF UNIFORMITY. AT NO TIME SHALL A SMOKE DETECTOR BE LOCATED WITHIN 3'-0" OF A SUPPLY OR RETURN GRILLE.

24. WIRE AND CIRCUIT BREAKERS ARE SIZED FOR SPECIFIC EQUIPMENT. BEFORE ORDERING WIRE, BREAKERS AND CONDUIT FOR THIS PROJECT, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OTHER CONTRACTORS ON THE JOB AND SHALL VERIFY THE ELECTRICAL DATA FOR EQUIPMENT WHICH WILL ACTUALLY BE INSTALLED BY THE OTHER CONTRACTORS AND RECOMPUTE WIRE AND BREAKER SIZES IF REQUIRED TO COMPLY WITH THE N.E.C.

25. REFER TO MECHANICAL DRAWINGS AND COORDINATE VERTICAL RUNS OF WIRE AND CONDUIT WITH MECHANICAL PIPING. COORDINATE WITH MECHANICAL CONTRACTORS. (NOTE: STACK RUNS OF CONDUIT AND PROVIDE OFFSETS AS NECESSARY.)

26. LABEL ALL CONDUITS TERMINATING IN THE CEILING CAVITIES.

27. LIGHTING & POWER PANELS ARE DESIGNED AROUND SQUARE "O" "NOOD" WITH A MAXIMUM DEPTH OF 5 3/4" AND WIDTH OF 20".

28. THE MOUNTING HEIGHTS AND LOCATIONS OF ALL WALL MOUNTED OUTLETS, JUNCTION BOXES AND DISCONNECT SWITCHES SHALL BE REVIEWED AND COORDINATED WITH CASEWORK DRAWINGS AND ACTUAL EQUIPMENT LOCATION, PRIOR TO INSTALLATION. ANY DIFFERENCES SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

29. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL CEILING TYPES AND FINISHES BEFORE PURCHASE OF ANY LIGHT FIXTURES SO THAT THE PROPER TRIM WILL BE PROVIDED FOR THE CEILING TO BE INSTALLED. ANY DIFFERENCES SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

30. EACH CONTRACTOR SHALL PROVIDE HIS OWN SUPPORT OF ALL DEVICES AND EQUIPMENT PROVIDED BY HIM AND SHALL SUPPORT SUCH EQUIPMENT PER APPROVED GOVERNING CODES OR PER APPROVAL OF THE ENGINEER. UNACCEPTABLE WORKMANSHIP OR MATERIALS SHALL BE REPLACED AT THE REQUEST OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

31. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS. DO NOT SCALE THESE DRAWINGS.

32. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES INVOLVED IN THE PROJECT, PRIOR TO THE INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND TO ALLOW FOR OPTIMUM MAINTENANCE AND WORKING SPACE. PROVIDE COORDINATION DRAWINGS TO THE ENGINEER FOR APPROVAL. ANY REWORK THAT NEEDS TO BE DONE DUE TO CONFLICTS BETWEEN TRADES SHALL BE DONE AT THIS CONTRACTORS EXPENSE.

33. ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE SUSPENDED CEILING SYSTEM. REFER TO THE SPECIFICATIONS FOR MORE DETAILED INFORMATION.

34. WHERE ELECTRICAL EQUIPMENT PENETRATES EXTERIOR WALLS OR THE ROOF, THEY SHALL BE PROPERLY SEALED WITH METHODS APPROVED BY THE ENGINEER. SUBMIT DETAIL OF PROPOSED WORK.

35. IN ALL AREAS WHERE THE FIRE RATED WALLS, FLOORS AND CEILINGS ARE INSTALLED OR ARE EXISTING, ALL PENETRATIONS OF ELECTRICAL CONDUITS OR OTHER RELATED ELECTRICAL MATERIALS SHALL BE PROPERLY SEALED WITH APPROVED FIRE RATED MATERIALS TO MAINTAIN THE RATINGS OF THE BUILDING CONSTRUCTION.

36. 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 MECHANICAL CONTRACTOR.

37. UPON COMPLETION OF WORK ALL KEYS TO ELECTRICAL POWER PANELS SHALL BE TURNED OVER TO THE OWNER AND A SIGNED RECEIPT SHALL BE OBTAINED.

38. ALL MULTIWIRE BRANCH CIRCUITS NEED TO HAVE SEPARATE NEUTRAL CONDUCTORS TO COMPLY WITH NEC 2020 ARTICLE 210.4. NO SHARED NEUTRAL CONDUCTORS PERMITTED ON THIS PROJECT.

39. ANY RECEPTACLE WITH-IN 6'-0" OF A SINK SHALL BE A GROUND FAULT TYPE (GFI) RECEPTACLE.

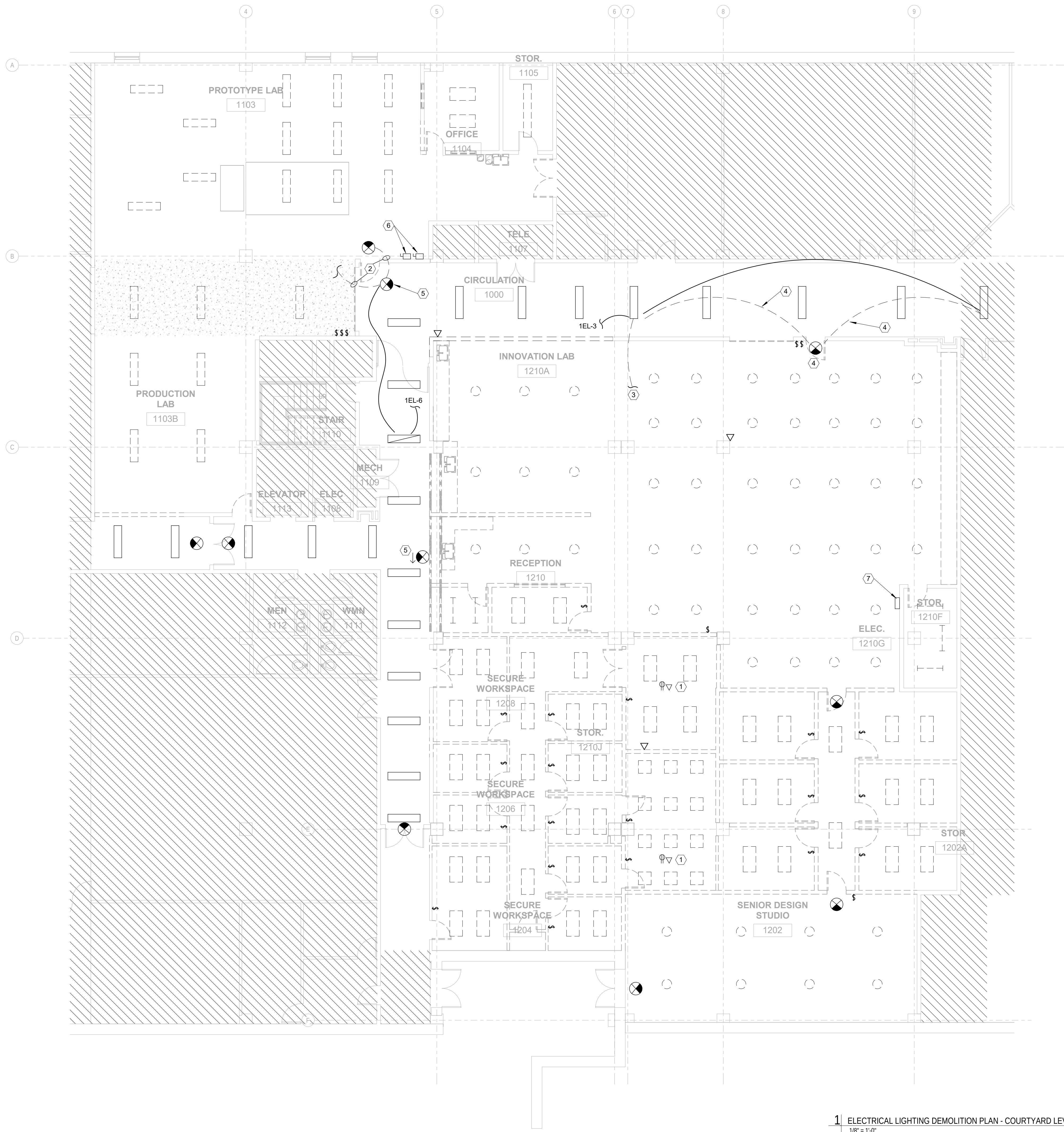
40. ALL WORK ON THIS PROJECT SHALL BE INSTALLED IN COMPLIANCE WITH ANSI A117.1, ADA STANDARDS FOR ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES.

41. ALL ELECTRICAL WORK IS TO BE DONE DEENERGIZED. SPECIFICALLY, WHERE ELECTRICAL EQUIPMENT IS OPENED EXPOSING LIVE PARTS, BREAKERS ARE REMOVED OR INSTALLED OR WHERE ELECTRICAL CONNECTIONS ARE MODIFIED, ALL POWER AT THE PANEL OR ENCLOSURE SHALL BE DEENERGIZED AT ITS SOURCE, PRIOR TO WORK BEING DONE.

42. ALL TESTING, TROUBLESHOOTING, AND VERIFICATION OF DEENERGIZATION IS TO BE DONE IN ACCORDANCE WITH NFPA 70E, INCLUDING ESTABLISHING, AND ISOLATING IF NEEDED, SHOCK PROTECTIVE AND ARC FLASH PROTECTIVE APPROACH BOUNDARIES AND DONNING PERSONAL PROTECTIVE EQUIPMENT APPROPRIATE FOR THE HAZARD.

43. ALL SCHEDULING OF ELECTRICAL INSPECTIONS WITH THE SCO ELECTRICAL INSPECTOR SHALL BE MONDAY THRU FRIDAY 8:00AM TO 5:00PM UNLESS SPECIFICALLY EXEMPTED AND APPROVED BY SCO.

44. ALL SCRAP METAL AND WIRE DEMOLISHED ON THIS PROJECT SHALL BE RECYCLED, THE CONTRACTOR SHALL COORDINATE THIS EFFORT WITH NCSU WASTE REDUCTION AND RECYCLING.



GENERAL NOTES:

1. REFERENCE SHEET E001 FOR LEGEND, SCHEDULES, ABBREVIATIONS AND ADDITIONAL GENERAL NOTES.
- 1 EXISTING PROJECTOR POWER AND PROJECTOR DATA TO BE REMOVED BACK TO SOURCE.
- 2 EXISTING EMERGENCY CIRCUIT INTO SUITE TO BE MOVED BACK TO EMERGENCY LIGHT OR EXIT SIGN IN HALLWAY.
- 3 EXISTING EMERGENCY LIGHT IN HALLWAY TO REMAIN. EXISTING EMERGENCY CIRCUIT IN ROOM 1208 TO BE REMOVED.
- 4 EXISTING EXIT SIGN TO BE REMOVED. EXISTING EMERGENCY CIRCUIT TO BE REWORKED TO KEEP EMERGENCY LIGHT NOT IN RENOVATED AREA OPERATIONAL.
- 5 EXISTING WALL MOUNTED EXIT SIGN TO BE REMOVED. EXISTING CIRCUIT FROM 1X4 FIXTURE TO BE REWORKED TO NEW FIXTURE REFER TO DRAWING E200 FOR FIXTURE LOCATION.
- 6 DISCONNECT SWITCH FOR OVERHEAD DOOR AND HOIST MOTOR TO REMAIN BE REUSED.
- 7 EXISTING HPS AND MH LIGHTING CONTROLS AND MONITOR TO BE REMOVED. EXISTING CONDUIT AND CONDUCTORS TO BE REMOVED BACK TO PANELBOARD.

KEYED NOTES:

PARTITION LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- UNRATED WALL
- PARTITION TYPE
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER

1 ELECTRICAL LIGHTING DEMOLITION PLAN - COURTYARD LEVEL
1/8" = 1'-0"

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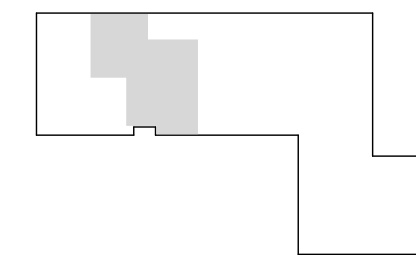
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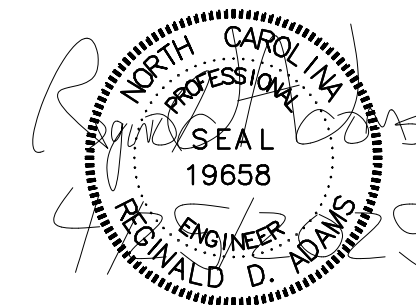
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KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

PROJECT DATA

DATE: 04.25.2025
DRAWN: MP
CHECKED: RDA
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

**ELECTRICAL
LIGHTING
DEMOLITION
PLAN**
SHEET NO.

E100



GENERAL NOTES:

- REFERENCE SHEET E001 FOR LEGEND, SCHEDULES, ABBREVIATIONS AND ADDITIONAL GENERAL NOTES.
- ANY TELECOM WORK IS TO BE COORDINATED WITH NCSU COMTECH.

KEYED NOTES:

- EXISTING PANELBOARD AND DISCONNECT SWITCH TO REMAIN AND BE MODIFIED.
- EXISTING TELECOM ROOM TO REMAIN AND BE MODIFIED. CONTRACTOR TO COORDINATE THE DISCONNECTION AND NEW CONNECTION TO PATCH PANEL WITH NCSU COMTECH DEPARTMENT.
- EXISTING RECEPTACLES TO REMAIN.
- EXISTING BOSS DUCT AND BOSS DUCT DISCONNECT SWITCH CONDUIT AND WIRE TO BE REMOVED BACK TO PANELBOARD.
- EXISTING WIRE MOLD, CONDUIT AND WIRE TO BE REMOVED BACK TO PANELBOARD.
- EXISTING RECEPTACLES, CONDUIT AND WIRE TO BE REMOVED BACK TO PANELBOARD.
- EXISTING OWNER EQUIPMENT TO REMAIN, NO CHANGES. PROTECT DURING PROJECT.
- EXISTING FAN TO BE RAISED. COORDINATE LOCATION WITH DIVISION 23. EXISTING CIRCUIT TO BE REWORKED TO NEW LOCATION.
- EXISTING PANELBOARD TO REMAIN AND BE MODIFIED.
- EXISTING BUSDUCT AND DISCONNECT SWITCH TO REMAIN AND BE REUSED.
- EXISTING BUSDUCT AND DISCONNECT SWITCH TO BE RELOCATED TO ROOM 1130.
- EXISTING BUSDUCT TO BE DISCONNECTED AT THIS POINT. THE BUSDUCT TO THE RIGHT IS TO REMAIN. THE BUSDUCT TO THE LEFT IS TO BE RELOCATED TO PRODUCTION LAB 1103-2.
- EXISTING CORD AND REEL TO BE TAKEN DOWN AND STORED FOR RE-USE. REFER TO NEW WORK PLAN FOR NEW LOCATION.
- EXISTING CORD AND REEL POWER RECEPTACLE, CONDUIT AND CONDUCTORS TO REMAIN AND BE RE-USED.
- EXISTING CORD AND REEL POWER RECEPTACLE, CONDUIT AND CONDUCTORS TO BE REMOVED BACK TO PANELBOARD.
- EXISTING FLOOR RECEPTACLE CONDUIT AND CABLE TO BE REMOVED BACK TO PANELBOARD. PATCH ALL HOLES IN FLOOR.
- EXISTING 4" CONDUITS TO REMAIN AND BE RE-USED.
- EXISTING SCREEN TO BE TAKEN DOWN AND TURNED OVER TO OWNER. EXISTING CIRCUIT TO BE REMOVED BACK TO PANELBOARD.
- EXISTING WIREWAY AND CONDUIT OUTSIDE TO REMAIN AND BE PROTECTED.
- EXISTING TV'S TO BE TURNED OVER TO OWNER. EXISTING POWER AND DATA TO BE REMOVED BACK TO SOURCE.
- EXISTING OVERHEAD DOOR DISCONNECT SWITCH AND CONTROLLER TO REMAIN AND BE RE-USED.
- EXISTING DATA WIREWAY TO REMAIN AND BE RE-USED.
- EXISTING CONDUITS UP THROUGH FLOOR TO REMAIN AND BE PROTECTED.
- EXISTING DATA CONDUIT AND CABLE TO BE REMOVED BACK TO SOURCE. COORDINATE THE REMOVAL OF EXISTING CABLE WITH NCSU COMTECH.
- EXISTING RECEPTACLE CONDUIT AND CONDUCTOR TO REMAIN AND BE PROTECTED DURING DEMOLITION.
- EXISTING CAMERA TO BE RELOCATED. REFER TO DRAWING E201 FOR NEW LOCATION. COORDINATE RELOCATION WITH SECURITY CONTRACTOR.
- EXISTING RECEPTACLE AND CONNECTED TO POWER BUS TO REMAIN.
- EXISTING RECEPTACLE AND DATA IN THESE ROOMS ARE EXISTING TO REMAIN.
- COORDINATE THE REMOVAL OF WIRELESS ACCESS POINTS WITH NCSU COMTECH. TYPICAL.
- EXISTING WIRELESS ACCESS POINT TO DOWN DURING CONSTRUCTION. COORDINATE THE DISCONNECTION WITH NCSU COMTECH DEPARTMENT.

PARTITION LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- UNRATED WALL
- PARTITION TYPE
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER

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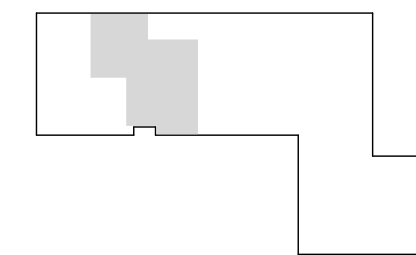
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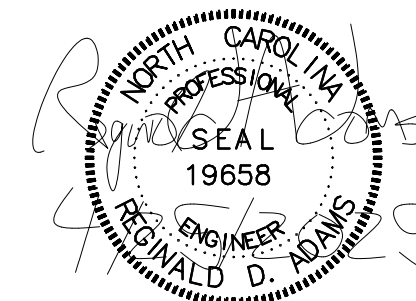
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KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS

No.	Description	Date

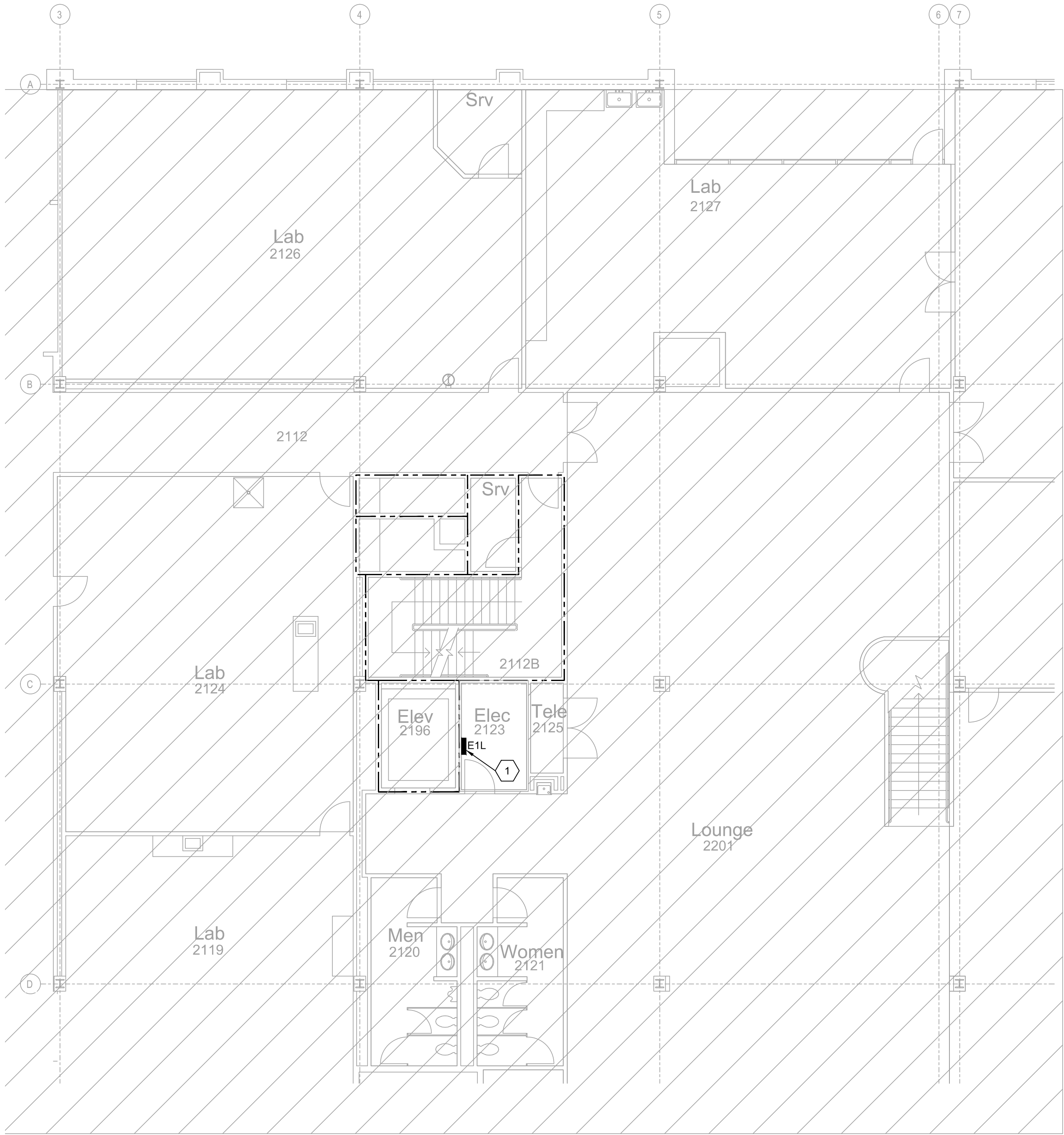
PROJECT DATA

DATE: 04.25.2025
DRAWN: MP
CHECKED: RDA
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

**ELECTRICAL
POWER
DEMOLITION
PLAN**
SHEET NO.

E101



1 FLOOR PLAN - ENTRY LEVEL AREA 1
1/8" = 1'-0"

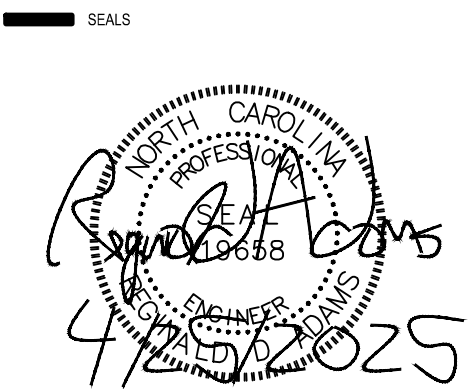
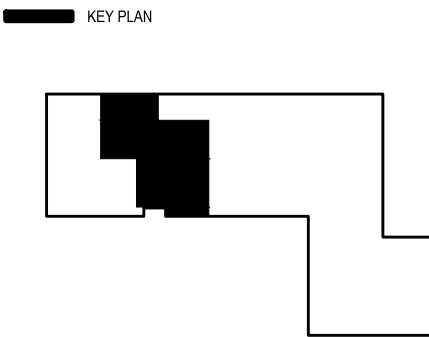
- GENERAL NOTES:**
- REFER TO DRAWING E001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES.
 - HATCH AREAS NOT IN SCOPE OF WORK.
- KEYED NOTES:**
- 1 EXISTING EMERGENCY PANELBOARD TO REMAIN AND BE MODIFIED, REFER TO PANELBOARD SCHEDULE FOR MODIFICATION INFORMATION.

RATED WALL LEGEND	
	2 HOUR RATED WALL

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BID DOCUMENTS
04.25.2025

PROJECT
NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

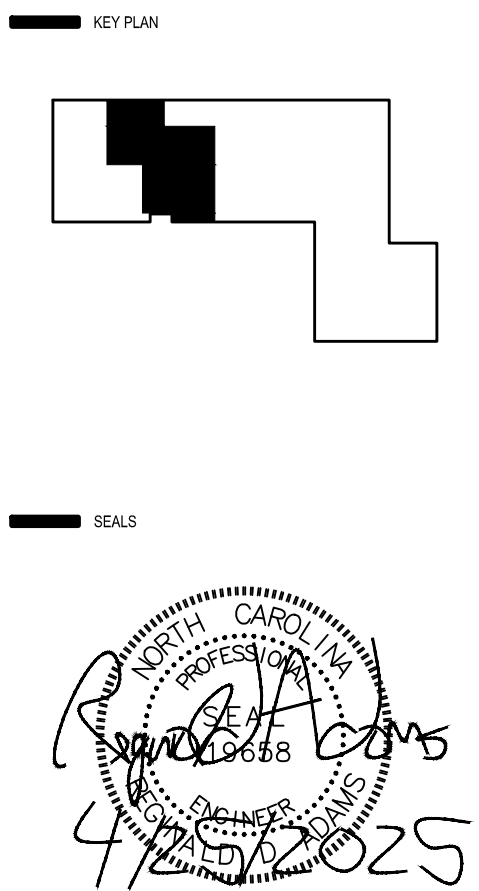
PROJECT DATA
DATE: 04.25.2025
DRAWN: MP
CHECKED: RDA
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA
ELECTRICAL
FLOOR PLAN -
ENTRY LEVEL
AREA 1

SHEET NO.
E105

- GENERAL NOTES:**
- REFER TO DRAWING E001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES.
 - HATCH AREAS NOT IN SCOPE OF WORK.

- KEYED NOTES:**
- 1 EXISTING 600 VOLT PANELBOARD TO REMAIN AND BE MODIFIED. REFER TO PANELBOARD SCHEDULE FOR MONIFICATION INFORMATION.
- 2 EXISTING FIRE ALARM PANEL TO REMAIN AND BE REUSED, THE EXISTING INTATION LOOP FOR THE FLOOR ABOVE CAMES FROM THIS PANEL



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

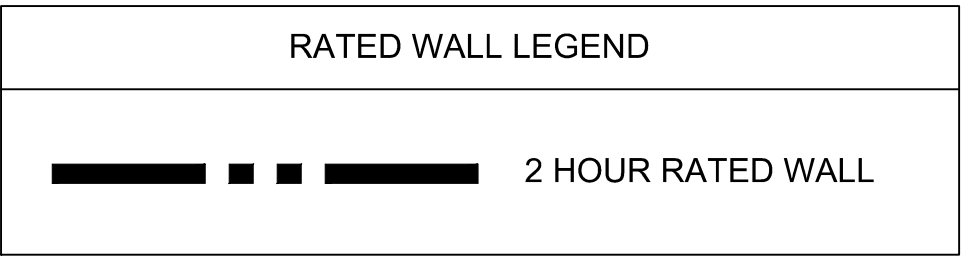
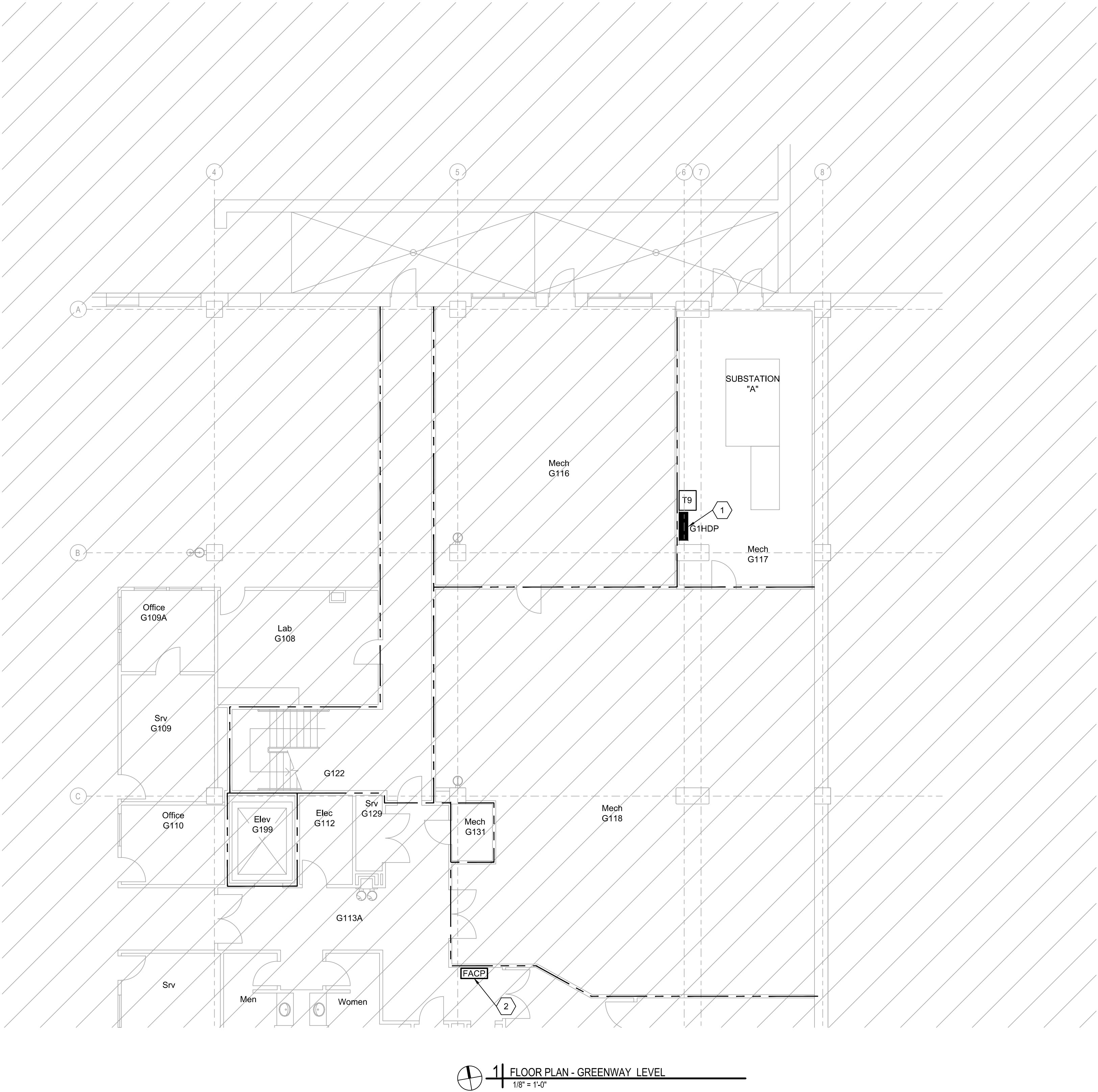
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NCSU PROJECT ID: 202220031
FACILITY ID: 700

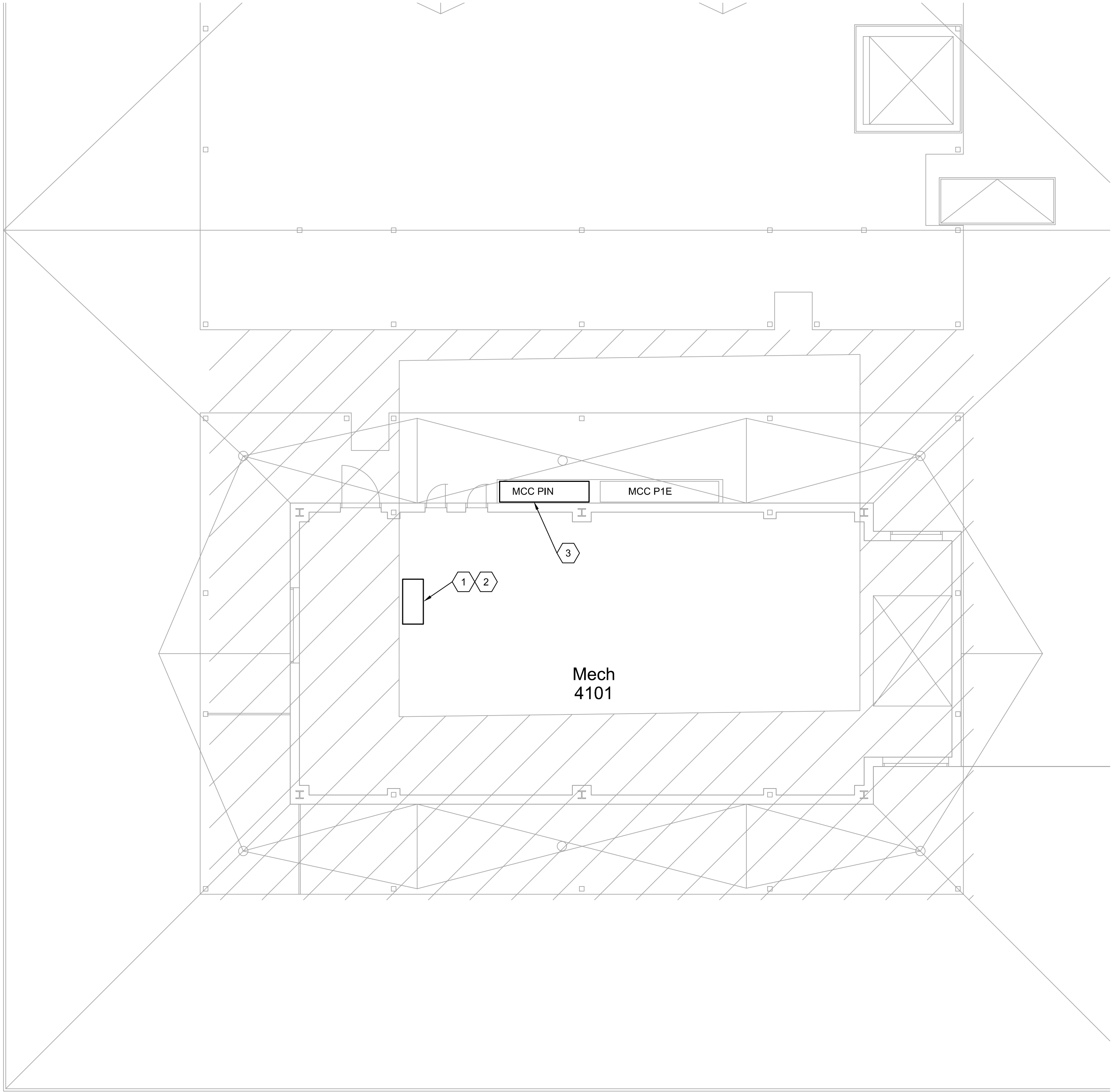
REVISIONS		
No.	Description	Date

PROJECT DATA
DATE: 04.25.2025
DRAWN: MP
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PROJECT NO: 2021_0140
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SHEET DATA
**ELECTRICAL
FLOOR PLAN -
GREEN LEVEL**

SHEET NO.
E106





1 ELECTRICAL FLOOR PLAN - PENTHOUSE LEVEL
1/8" = 1'-0"

- GENERAL NOTES:**
- REFER TO DRAWING E001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES.
 - HATCH AREAS NOT IN SCOPE OF WORK.

- KEYED NOTES:**
- EXISTNG FAN FIC-B TO REMAIN. EXISTING CIRCUIT TO BE REMOVED BACK TO MCC PIN. RELABEL BUCKET "SPARE".
 - EXISTNG FAN F1C-B TO REMAIN. PROVIDE 3-#10 AWG, 1-#10 GND IN 3/4" C FROM NEW VFD NEXT TO HOOD EXHAUST . REFER TO DRAWING E201 FOR ADDITIONAL INFORMATION.
 - EXISTNG MOTOR CONTROL CENTER "MCC PIN" TO REMAIN HAVE BUCKET C2 LABELED SPARE ONCE EXISTING CIRCUIT TO FAN FIC-B HAS BEEN REMOVED .

RATED WALL LEGEND	
	2 HOUR RATED WALL

CONSULTANTS

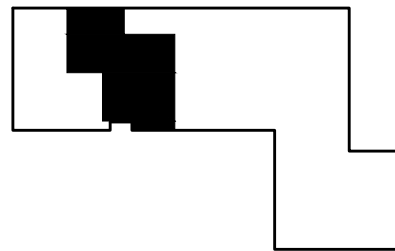
Structural

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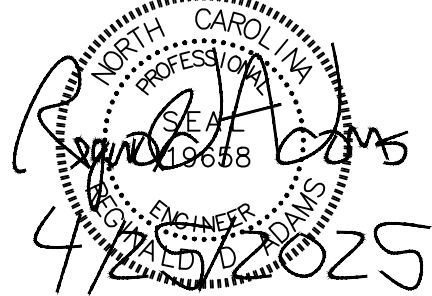
MEP Engineer

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KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

PROJECT DATA

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SHEET DATA

**ELECTRICAL
FLOOR PLAN -
PENTHOUSE
LEVEL**

SHEET NO.

E107



1 FLOOR PLAN - ENTRY LEVEL AREA 1
1/8" = 1'-0"

GENERAL NOTES:

- REFER TO DRAWING E001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES.
- HATCH AREAS NOT IN SCOPE OF WORK.

KEYED NOTES:

- EXISTING FIRE ALARM SPEAKER AND AMPERIFER CABINETS TO REMAIN AND BE REUSED.
- NEW FIRE ALARM AMPLIFIER CABINET AND AUDIO TRANSFORMER CABINET.
- REFER TO DRAWING E109 FOR LOCATION OF PANEL 2EP.

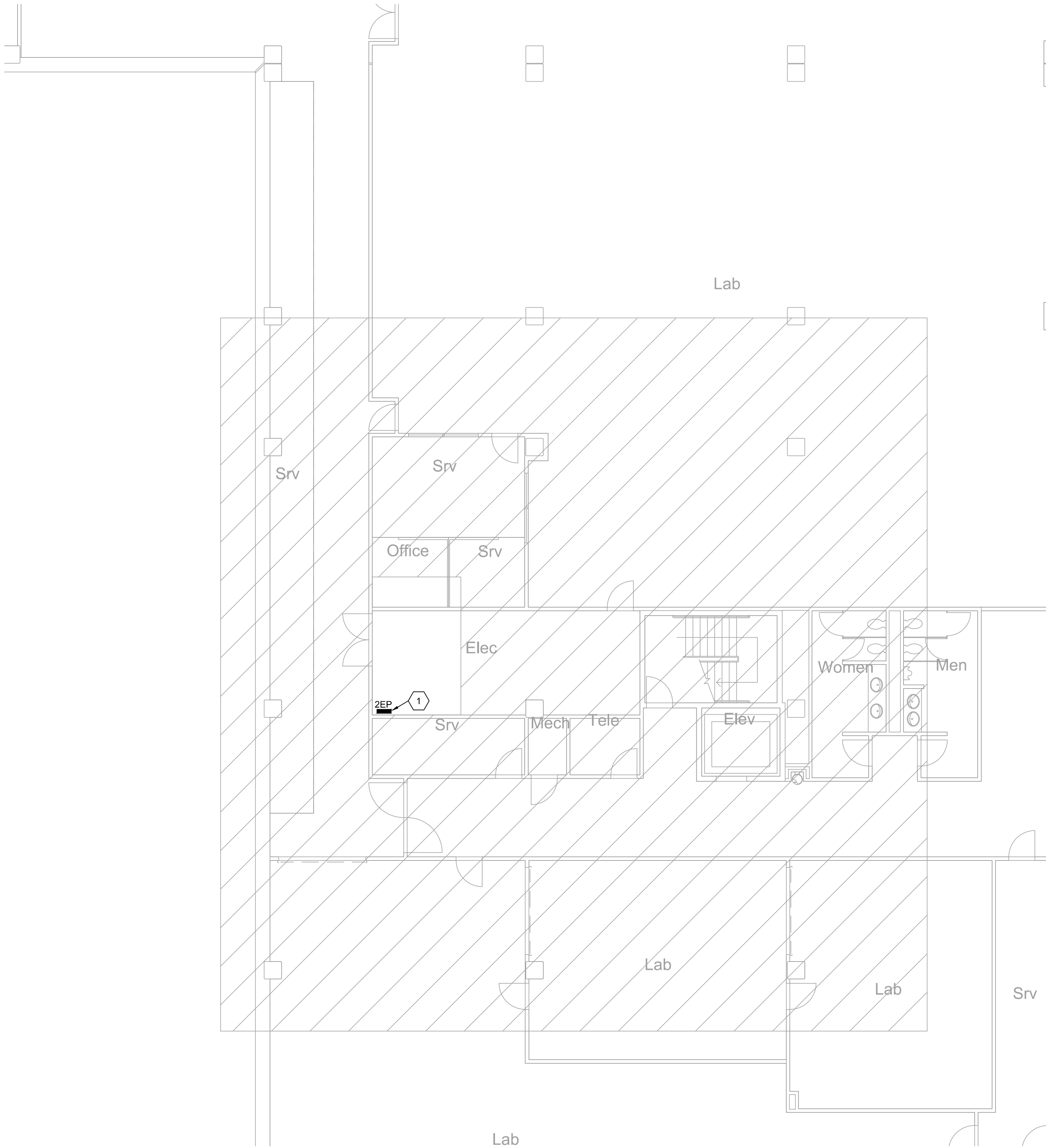
MODIFIED PANEL "2EL"							PANEL TYPE: NEHB BUS SIZE: 225A VOLTAGE: 480Y/277V				MCB or MLO: MOUNTING: SURFACE MINIMUM AIC: 10,000				MLO SURFACE 10,000			
CKT	LOAD SERVED	TRIP	POLE	WIRE	GND	CONDUIT	kVA	kVA PER PHASE			kVA	CONDUIT	GND	WIRE	POLE	TRIP	LOAD SERVED	CKT
								A	B	C								
1	LIGHTS	20	1				4.20	7.50			3.30				1	20	LIGHTS	2
3	LIGHTS	20	1				3.72		7.44		3.72				1	20	LIGHTS	4
5	LIGHTS	20	1				3.48			6.48	3.00				1	20	LIGHTS	6
7	LIGHTS	20	1				3.48	3.48							1	20	SPACE	8
9	LIGHTS	20	1				3.24		3.24						1	20	SPACE	10
11	SPACE	20	1							0.00							SPACE	12
13	SPACE						0.00										SPACE	14
15	SPACE							0.00									SPACE	16
17	SPACE									0.00							SPACE	18
19	SPACE						0.00										SPACE	20
21	SPACE								0.00								SPACE	22
23	SPACE									0.00							SPACE	24
25	SPACE						0.00										SPACE	26
27	SPACE									0.00							SPACE	28
29	SPACE									0.00							SPACE	30
31	SPACE							0.00									SPACE	32
33	SPACE								0.00								SPACE	34
35	SPACE									0.00							SPACE	36
37	SPACE							2.88			2.88						SPACE	38
39	SPACE								1.08		1.08				3	15	PANEL DEP	40
41	SPACE									2.88	2.88							42

TOTALS:										13.92	11.76	9.36	
							CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES			
LIGHTS							28.20	125%	35.25	L-PROVIDE WITH LOCK OUT CLIP			
FIRST 10K RECEIPTS								100%		PL-PROVIDE WITH PADLOCKABLE BREAKER			
REMAINDER RECEIPT								50%		G-GFCI PROTECTED			
LARGEST MOTOR								125%		A-AFCI PROTECTED			
MOTOR								100%		GF-GFPE PROTECTED			
ELEVATOR								100%		S-SHUNT TRIP			
KITCHEN								65%					
EVCS								125%					
MISC							6.84	100%	6.84	-PHASE/NEUTRAL			
TOTAL (KVA)							35.04		42.00				
TOTAL AMPS							42		51				

EXISTING PANEL "2EP"						PANEL TYPE: NQOD BUS SIZE: 100A VOLTAGE: 208/120V					MCB or MLO: MOUNTING: SURFACE MINIMUM AIC: 40A 10,000						
CKT	LOAD SERVED	TRIP	POLE	WIRE	GND	CONDUIT	KVA PER PHASE			KVA	CONDUIT	GND	WIRE	POLE	TRIP	LOAD SERVED	CKT
							A	B	C								
1	TELE RACK 4TH FLOOR	20	1				0.54	1.08		0.54				1	20	TELE RACK 32	2
3	TELE RACK 2TH FLOOR	20	1				0.54		1.08	0.54				1	20	TELE RACK 3E	4
5	TELE RACK 3TH FLOOR	20	1				0.54			1.08	0.54			1	20	TELE RACK 3C	6
7	SPACE	20	1				0.60			0.60				1	20	FIRE ALARM TEST ROOM	8
9	SPACE	20	1					0.00								SPACE	10
11	FAN/AC PSB	20	1				0.90			1.80	0.90			1	20	FAN/AC PS 4.5/6.7	12
13	SPACE						0.60			0.60				1	20	FAN/AMPLIFIER/SPK/POWER	14
15	SPACE							0.00		0.00						SPACE	16
17	SPACE									0.00						SPACE	18
19	SPACE							0.00								SPACE	20
21	SPACE								0.00							SPACE	22
23	SPACE									0.00						SPACE	24
25	SPACE							0.00								SPACE	26
27	SPACE								0.00							SPACE	28
29	SPACE									0.00						SPACE	30

TOTALS:										2.28	1.08	2.88
				CONNECTED LOAD (KVA)		DF	DEMAND LOAD (KVA)		NOTES			
EXISTING LOAD									L-PROVIDE WITH LOCK OUT CLIP			
FIRST 10K RECEIPTS									PL-PROVIDE WITH PADLOCKABLE BREAKER			
REMAINDER RECEIPT									G-GFCI PROTECTED			
LARGEST MOTOR									A-AFCI PROTECTED			
MOTOR									GF-GFPE PROTECTED			
ELEVATOR									S-SHUNT TRIP			
KITCHEN												
EVCS												
MISC									-PHASE NEUTRAL			
TOTAL (KVA)				0.00			0.00					
TOTAL AMPS				0			0					

MODIFIED PANEL "2EP"						PANEL TYPE: NQOD BUS SIZE: 100A VOLTAGE: 208/120V KVA PER PHASE					MCB or MLO: MOUNTING: SURFACE MINIMUM AIC: 40A 10,000							
CKT	LOAD SERVED	TRIP	POLE	WIRE	GND	CONDUIT	KVA	A	B	C	KVA	CONDUIT	GND	WIRE	POLE	TRIP	LOAD SERVED	CKT
1	TELE RACK 4TH FLOOR	20	1				0.54	1.08			0.54				1	20	TELE RACK 32	2
3	TELE RACK 2TH FLOOR	20	1				0.54		1.08		0.54				1	20	TELE RACK 3E	4
5	TELE RACK 3TH FLOOR	20	1				0.54			1.08	0.54				1	20	TELE RACK 3C	6
7	SPACE	20	1				0.60				0.60				1	20	FIRE ALARM TEST ROOM	8
9	SPACE	20	1					0.00									SPACE	10
11	FAN/AC PSB	20	1				0.90			1.80	0.90				1	20	FAN/AC PS 4.5/6.7	12
13	AMPLIFIER AND AUDIO TRANSFORMER	20	1	#10	#10	3/4"	0.60	1.20			0.60				1	20	FAN/AMPLIFIER/SPREADER	14
15	SPACE								0.00		0.00						SPACE	16
17	SPACE									0.00							SPACE	18
19	SPACE							0.00									SPACE	20
21	SPACE								0.00								SPACE	22
23	SPACE									0.00							SPACE	24
25	SPACE							0.00									SPACE	26
27	SPACE								0.00								SPACE	28
29	SPACE									0.00							SPACE	30



1 FLOOR PLAN - ENTRY LEVEL AREA 1
1/8" = 1'-0"

- GENERAL NOTES:**
- REFER TO DRAWING E001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND ADDITIONAL GENERAL NOTES.
 - HATCH AREAS NOT IN SCOPE OF WORK.

KEYED NOTES:

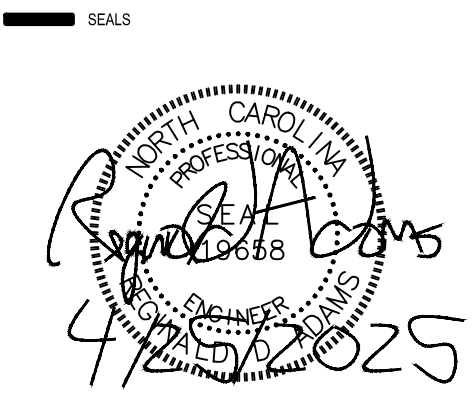
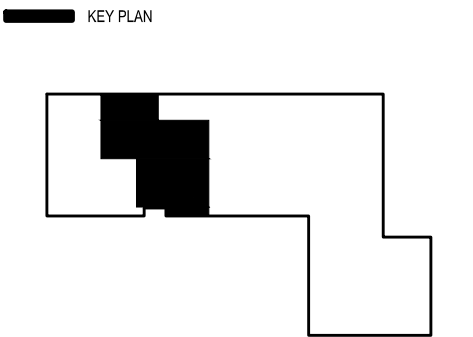
1 EXISTING EMERGENCY PANELBOARD TO REMAIN AND BE MODIFIED. REFER TO PANELBOARD SCHEDULE FOR ADDITIONAL INFORMATION.

RATED WALL LEGEND	
	2 HOUR RATED WALL

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BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

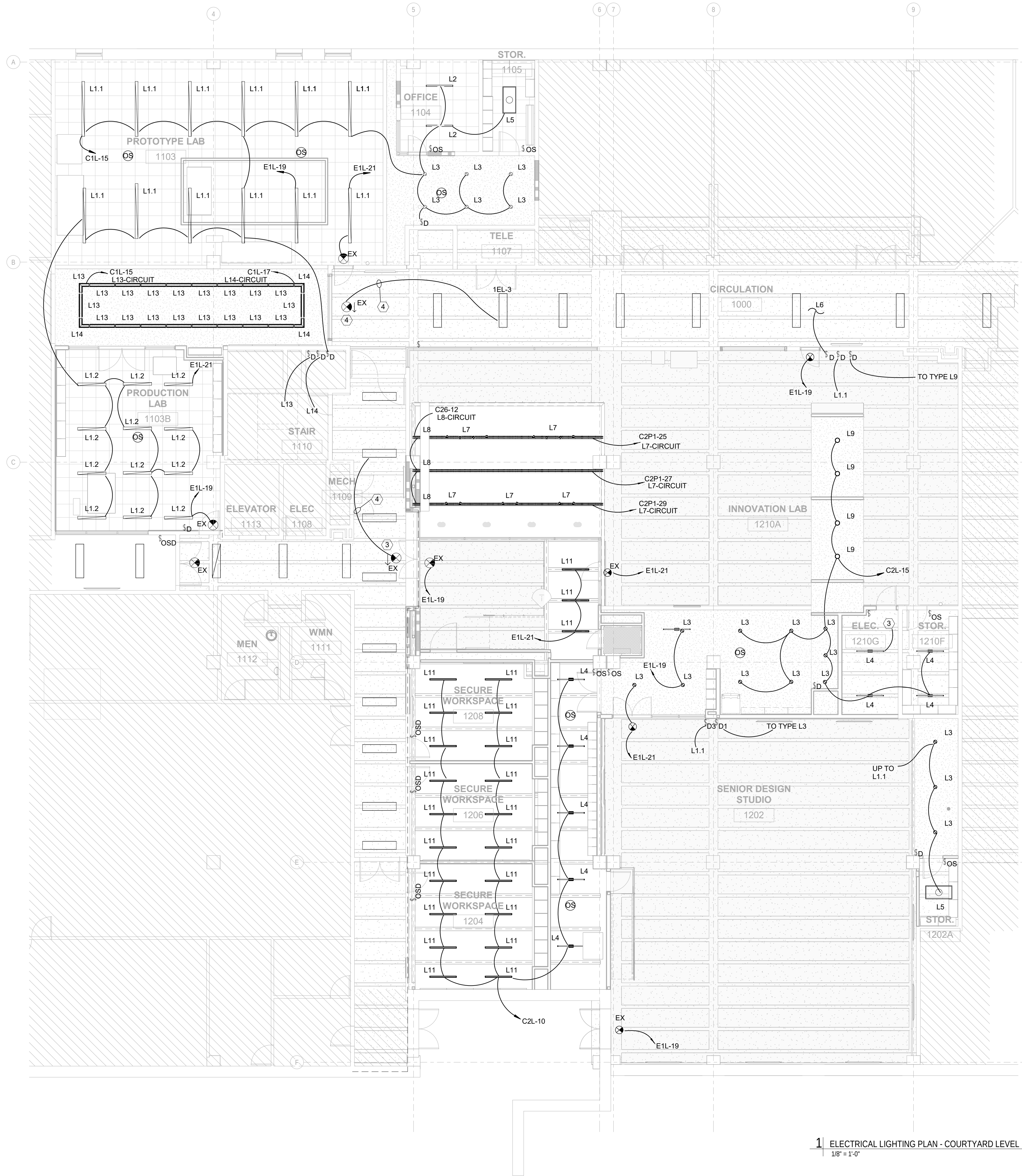
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NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

PROJECT DATA
DATE: 04.25.2025
DRAWN: MP
CHECKED: RDA
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA
**ELECTRICAL
FLOOR PLAN -
COURTYARD LEVEL
SEGMENT 4**

E109



1 ELECTRICAL LIGHTING PLAN - COURTYARD LEVEL
1/8" = 1'-0"

GENERAL NOTES:

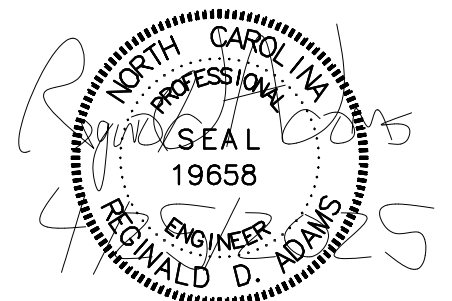
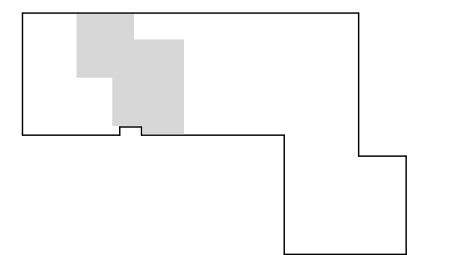
1. REFERENCE SHEET E001 FOR LEGEND, SCHEDULES, ABBREVIATIONS AND ADDITIONAL GENERAL NOTES.

KEYED NOTES:

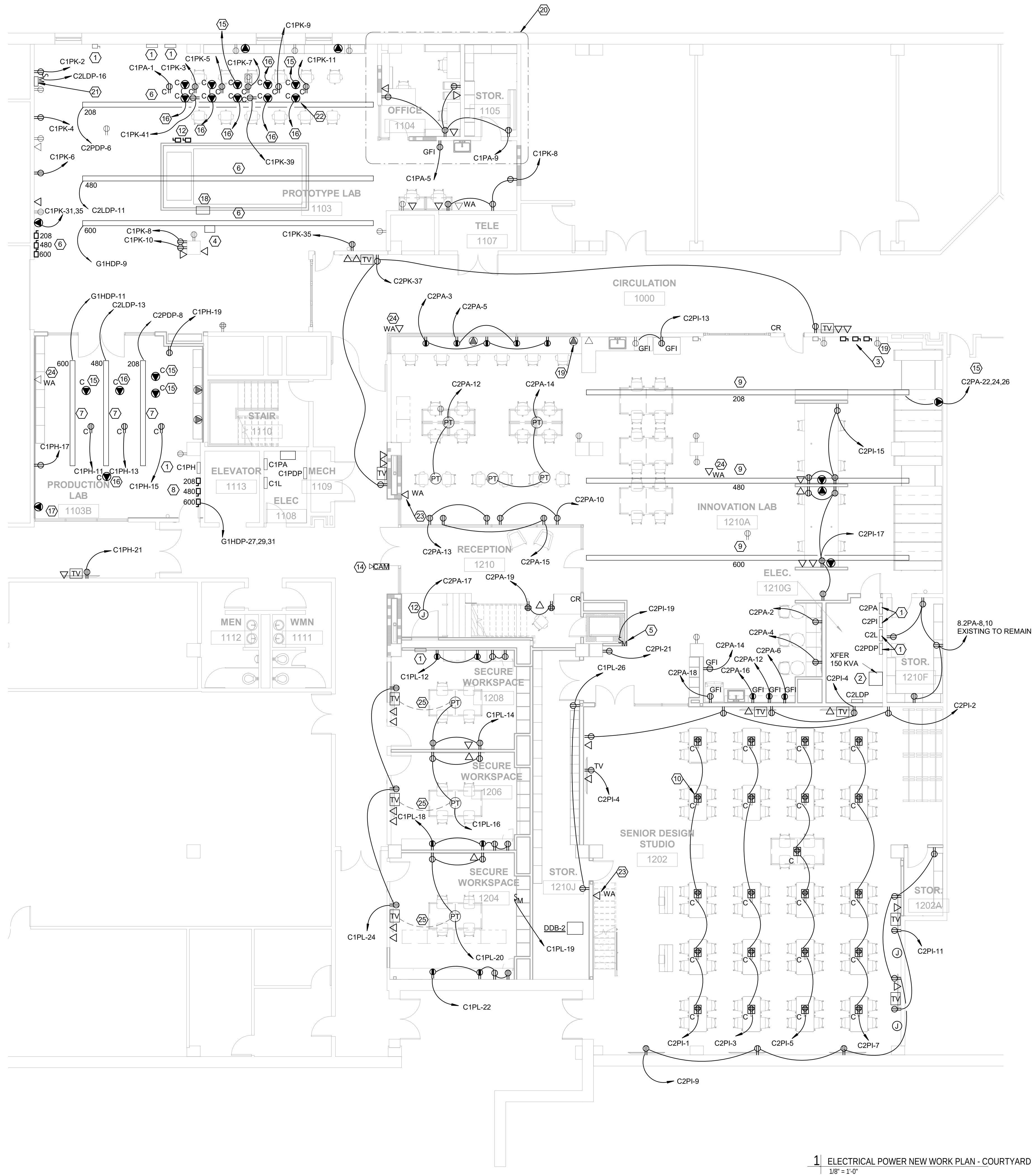
- 1 NEW EXIT SIGN RECONNECT / REWORK CIRCUIT FROM DEMOLITION NOTES TO NEW FIXTURE.
- 2 PROVIDE EMERGENCY LIGHT CIRCUIT TO FIXTURE SHOWN IN DRAWING E202.
- 3 NEW EXIT LIGHT LOCATION FROM DEMOLITION. EXTEND EXISTING CIRCUIT FROM DEMOLITION TO NEW EXIT LIGHT.
- 4 PROVIDE 2#12 AWG, 1#12 GND, IN 3/4" CONDUIT FORM EXISTING EMERGENCY LIGHT TO NEW EXIT SIGN LOCATION.

PARTITION LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- UNRATED WALL
- PARTITION TYPE
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER



REVISIONS		
No.	Description	Date



1 ELECTRICAL POWER NEW WORK PLAN - COURTYARD LEVEL
1/8" = 1'-0"

GENERAL NOTES:

- REFERENCE SHEET E001 FOR LEGEND, SCHEDULES, ABBREVIATIONS AND ADDITIONAL GENERAL NOTES.
- ANY TELECOM WORK IS TO BE COORDINATED WITH NCSU COMTECH.

KEYED NOTES:

- EXISTING PANELBOARD TO REMAIN AND BE MODIFIED. REFER TO PANELBOARD SCHEDULE FOR MODIFICATION INFORMATION.
- EXISTING TRANSFORMER TO REMAIN.
- EXISTING BUSDUCT DISCONNECT SWITCHES TO REMAIN.
- EXISTING EQUIPMENT EXHAUST FAN TO BE RELOCATED.
- MOTOR RATED SWITCH FOR WHEELCHAIR LIFT.
- RELOCATED BUSDUCT AND DISCONNECT SWITCHES FROM DEMOLITION KEYED NOTE 11.
- RELOCATED BUSDUCT FROM DEMOLITION KEYED NOTE 12.
- NEW 208, 480 AND 600 VOLT DISCONNECT SWITCH FOR RELOCATED BUSDUCT.
- EXISTING BUSDUCT REMAINING FROM DEMOLITION KEYED NOTE 10.
- CEILING HUNG 120V DUPLEX RECEPTACLE. REFER TO DETAIL 4/E501 FOR ADDITIONAL MOUNTING INFORMATION. TYPICAL ALL 120V CEILING MOUNTED RECEPTACLES.
- LOCATION AND TYPE OF WIRELESS BY NCSU COMTECH. CONTRACTOR TO PROVIDE STANDARD DATA OUTLET. ALL WIRELESS LOCATIONS ARE TO BE COORDINATED WITH NCSU COMTECH BEFORE STARTING ANY ROUGH-IN WORK.
- EXISTING EQUIPMENT DISCONNECT SWITCH AND CIRCUIT TO REMAIN. DISCONNECT AND CIRCUIT TO BE PROTECTED DURING CONSTRUCTION.
- JUNCTION BOX FOR DESK LIGHT. COORDINATE CONNECTION POINT WITH DESK INSTALLATION BEFORE STARTING ANY ROUGH-IN WORK.
- LOCATION OF CAMERA FROM DEMOLITION NOTE 26 SHEET E201. COORDINATE RELOCATION AND RECONNECTION TO SECURITY SYSTEM WITH SECURITY CONTRACTOR.
- PROVIDE 208V 20 AMP 3 POLE BUSDUCT DISCONNECT SWITCH AND CONDUIT TO 208V BUSDUCT. PROVIDE 3#10 AWG, 1#10 GND IN 3/4" CONDUIT TO 20AMP TWIST LOCK PLUG. COORDINATE PLUG CONFIGURATION WITH EQUIPMENT SHOP DRAWING.
- PROVIDE 208V 20 AMP 1 PHASE BUSDUCT DISCONNECT SWITCH AND CONDUIT TO 208V BUSDUCT. PROVIDE 2#10 AWG, 1#10 GND IN 3/4" CONDUIT TO 20AMP TWIST LOCK PLUG. COORDINATE PLUG CONFIGURATION WITH EQUIPMENT SHOP DRAWING.
- PROVIDE 480V 40 AMP 3 PHASE BUSDUCT DISCONNECT SWITCH AND CONDUIT TO 480V BUSDUCT. PROVIDE 3#6 AWG, 1#10 GND IN 3/4" CONDUIT TO 20AMP TWIST LOCK PLUG. COORDINATE PLUG CONFIGURATION WITH EQUIPMENT SHOP DRAWING.
- EXISTING POWER FAN DISCONNECT AND CIRCUIT TO BE REWORKED TO ABOVE. COORDINATE RELOCATION WITH DIVISION 23.
- EXISTING RECEPTACLE FEED FROM BUSS DUCT TO REMAIN.
- EXISTING RECEPTACLE AND DATA IN THESE ROOMS ARE EXISTING TO REMAIN.
- NEW VFD FOR FAN F1C-B. COORDINATE LOCATION AND CONNECTION WITH DIVISION 23. REFER TO DRAWING E107 FOR FAN LOCATION.
- CEILING HUNG SPECIAL TYPE RECEPTACLE. REFER TO DETAIL 4/E501 FOR ADDITIONAL INFORMATION. TYPICAL ALL SPECIAL CEILING HUNG RECEPTACLES.
- NEW WIRELESS DATA LOCATION. COORDINATE CONNECTION WITH NCSU COMTECH DEPARTMENT.
- EXISTING WIRELESS LOCATION TO BE RECONNECTED. COORDINATE RECONNECTION WITH NCSU COMTECH DEPARTMENT.
- PROVIDE 1" CONDUIT FROM POKE THRU TO TV OUTLET IN WALL.

PARTITION LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- UNRATED WALL
- PARTITION TYPE
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER

CONSULTANTS

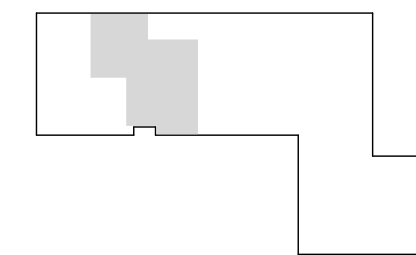
Structural

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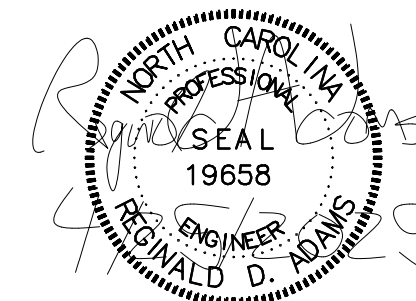
MEP Engineer

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KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT
NCSU-TEXTILES
COMPLEX-FLEX
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RENOVATIONS
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
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REVISIONS

No.	Description	Date

PROJECT DATA

DATE: 04.25.2025
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PRINTING: BID DOCUMENTS

SHEET DATA

ELECTRICAL
POWER NEW
WORK PLAN

SHEET NO.

E201



1 ELECTRICAL LIGHTING NEW WORK PLAN - MEZZANINE
1/8" = 1'-0"

GENERAL NOTES:

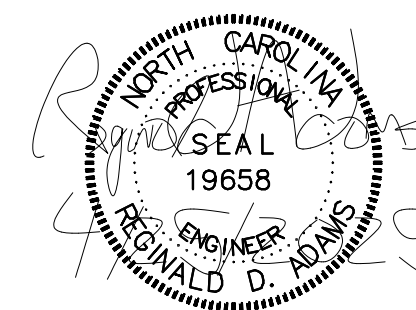
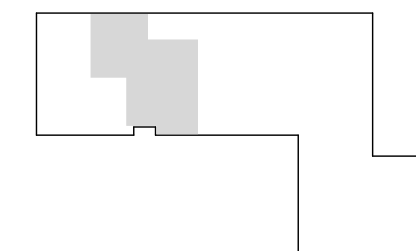
1. REFERENCE SHEET E001 FOR LEGEND, SCHEDULES, ABBREVIATIONS AND ADDITIONAL GENERAL NOTES.

KEYED NOTES:

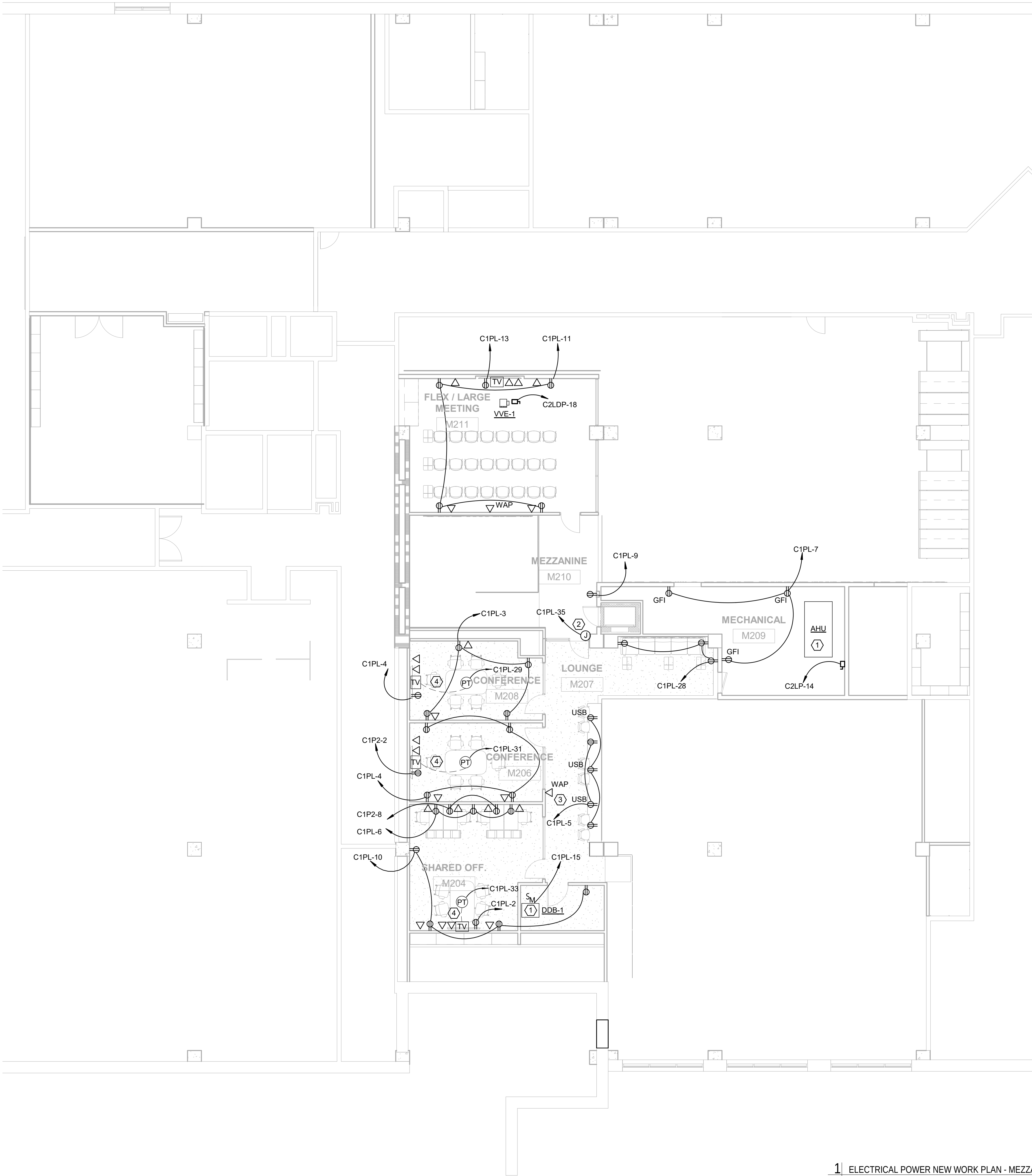
- ① SWITCH FOR TYPE L12 TO BE MOUNTED BEHIND RECEPTION DESK.
② REFER TO DRAWING E200 FOR DIMMER LOCATION.

PARTITION LEGEND

- EXISTING CONSTRUCTION TO REMAIN
EXISTING WALL TO BE DEMOLISHED
UNRATED WALL
PARTITION TYPE
1-HOUR FIRE BARRIER
2-HOUR FIRE BARRIER



REVISIONS		
No.	Description	Date

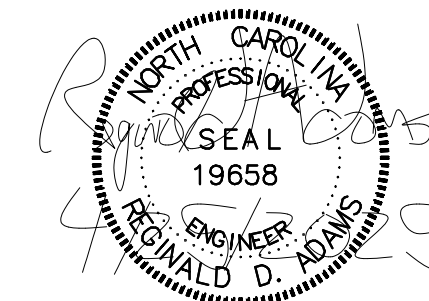
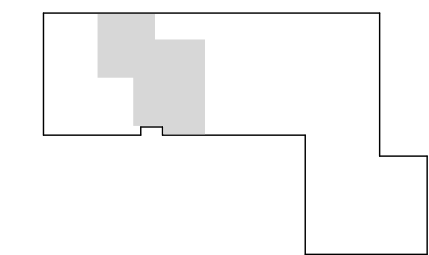


GENERAL NOTES:

1. REFERENCE SHEET E001 FOR LEGEND, SCHEDULES, ABBREVIATIONS AND ADDITIONAL GENERAL NOTES.
2. REFER TO DRAWING E201 FOR LOCATION OF PANELBOARDS.

KEYED NOTES:

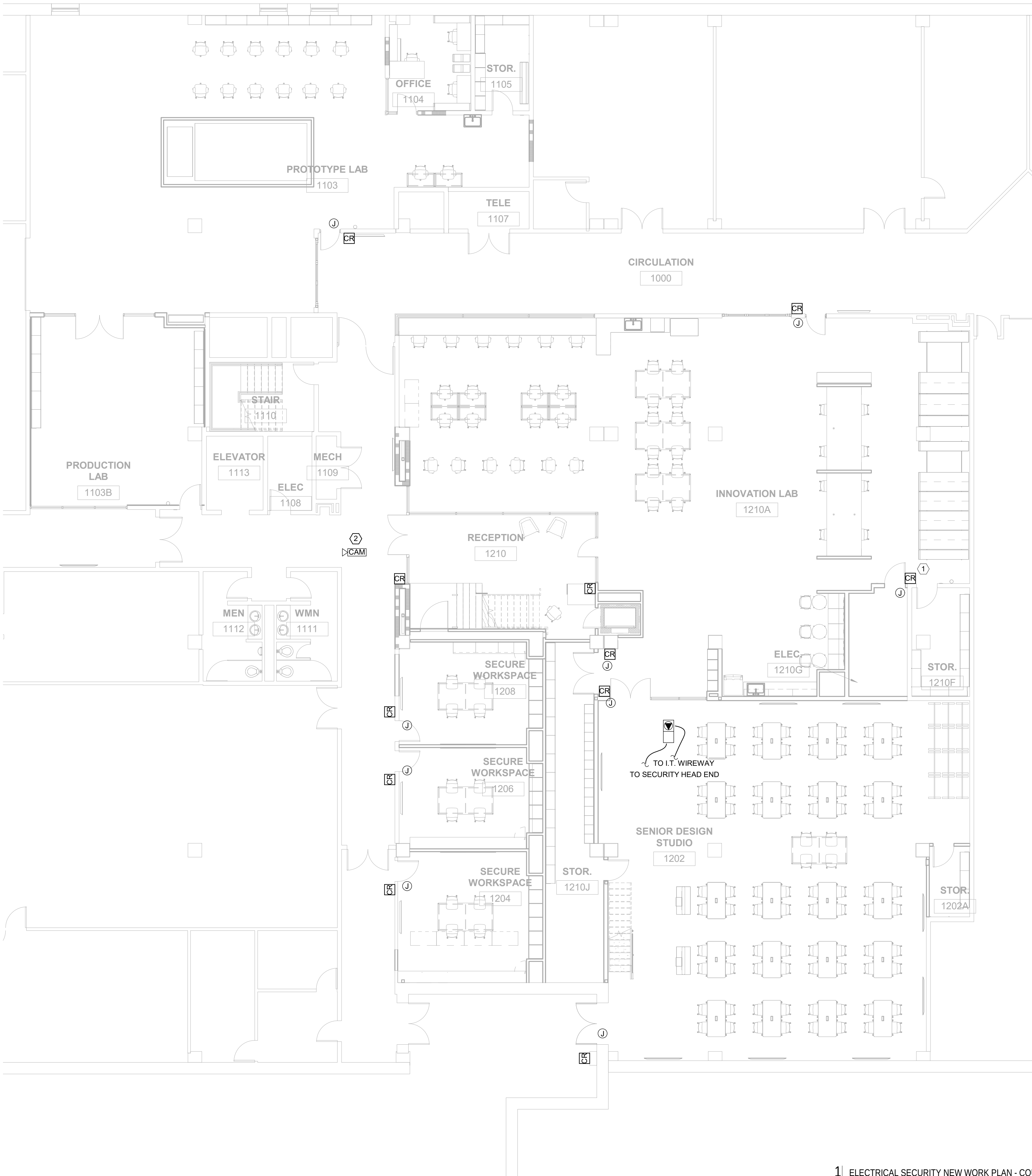
- ① HVAC EQUIPMENT. COORDINATE CONNECTION POINT WITH DIVISION 23 BEFORE STARTING ANY ROUGH-IN WORK.
- ② JUNCTION BOX FOR CUSTOM SIGN. COORDINATE SIGN LOCATION G.C. BEFORE STARTING ANY ROUGH-IN WORK.
- ③ NEW WIRELESS ACCESS POINT LOCATION. COORDINATE CONNECTION WITH CMTECH DEPARTMENT.
- ④ PROVIDE 1" CONDUIT FROM POKE THRU TO TV OUTLET IN WALL.



REVISIONS		
No.	Description	Date

PARTITION LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- UNRATED WALL
- PARTITION TYPE
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER



- GENERAL NOTES:**
- REFERENCE SHEET E001 FOR LEGEND, SCHEDULES, ABBREVIATIONS AND ADDITIONAL GENERAL NOTES.
 - ANY TELECOM WORK IS TO BE COORDINATED WITH NCSU COMTECH.
- KEYED NOTES:**
- CARD READER. REFER TO SECURITY DETAIL 1/E503 FOR ADDITIONAL INSTALLATION INFORMATION.
 - NEW LOCATION OF EXISTING CAMERA. CAMERA TO BE MOUNTED BELOW ALL EXISTING PIPING IN CORRIDOR. COORDINATE NEW LOCATION WITH NCSU SECURITY BEFORE STARTING ANY ROUGH-IN.

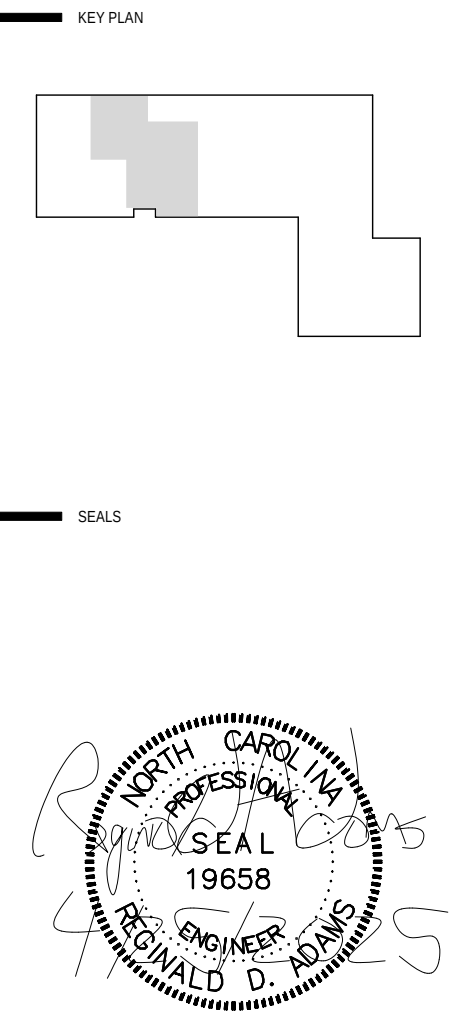
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BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

PROJECT DATA

DATE: 04.25.2025
DRAWN: MP
CHECKED: RDA
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

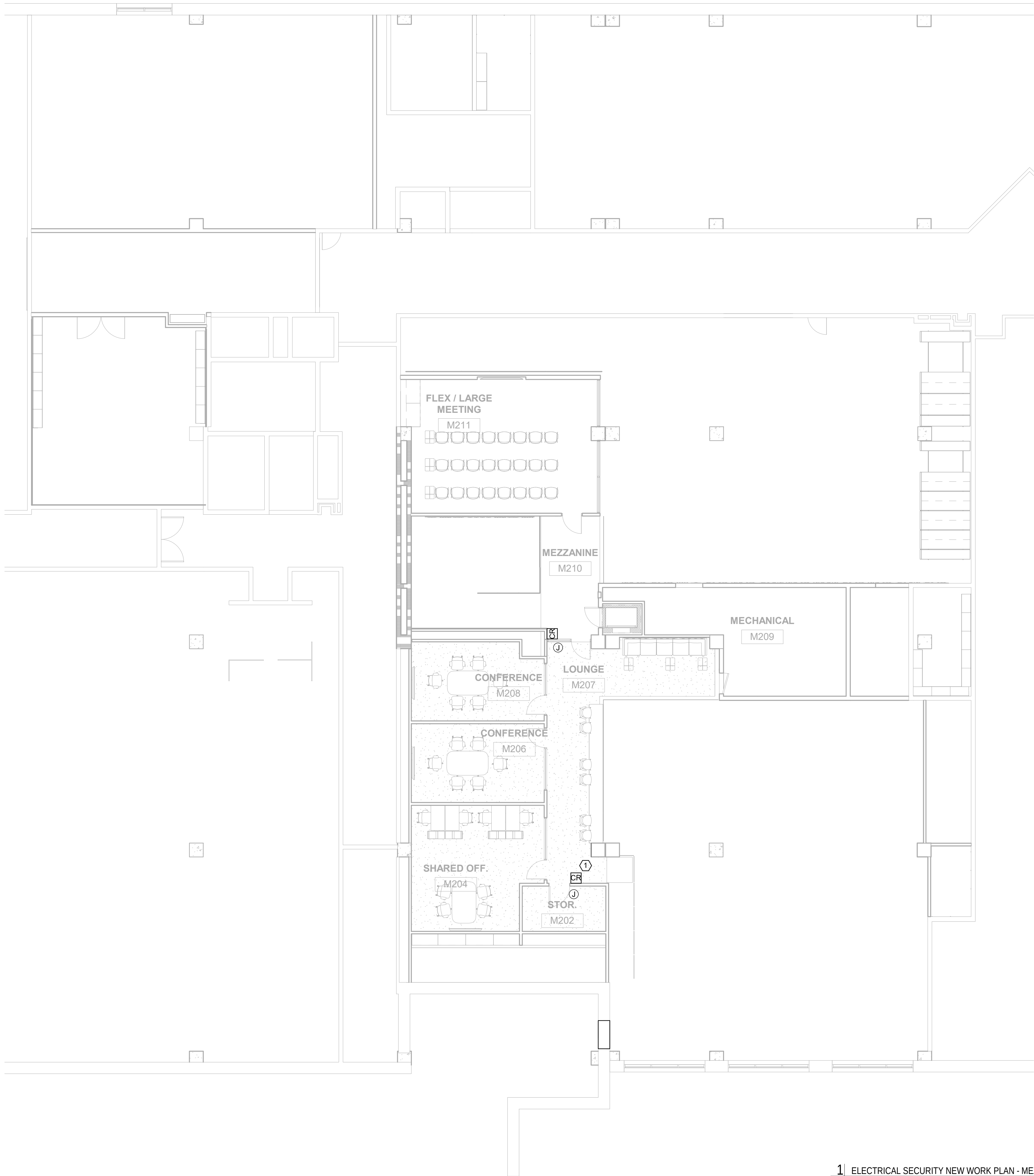
SHEET DATA

**ELECTRICAL
SECURITY NEW
WORK PLAN**

SHEET NO.

E204

PARTITION LEGEND	
	EXISTING CONSTRUCTION TO REMAIN
	EXISTING WALL TO BE DEMOLISHED
	UNRATED WALL
	PARTITION TYPE
	1-HOUR FIRE BARRIER
	2-HOUR FIRE BARRIER



GENERAL NOTES:

1. REFERENCE SHEET E001 FOR LEGEND, SCHEDULES, ABBREVIATIONS AND ADDITIONAL GENERAL NOTES.
2. ANY TELECOM WORK IS TO BE COORDINATED WITH NCSU COMTECH.

KEYED NOTES:

- ① CARD READER. REFER TO SECURITY DETAIL 1/E503 FOR ADDITIONAL INSTALLATION INFORMATION.

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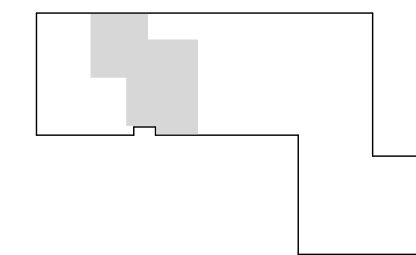
Structural

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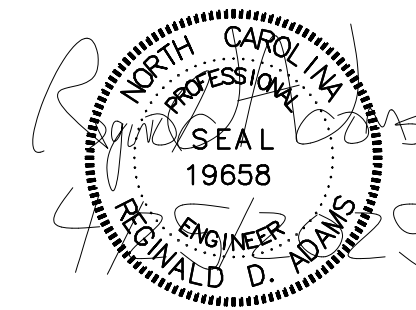
MEP Engineer

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radams@sigmaes.com

KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

PROJECT DATA

DATE: 04.25.2025
DRAWN: MP
CHECKED: RDA
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

**ELECTRICAL
SECURITY NEW
WORK PLAN**

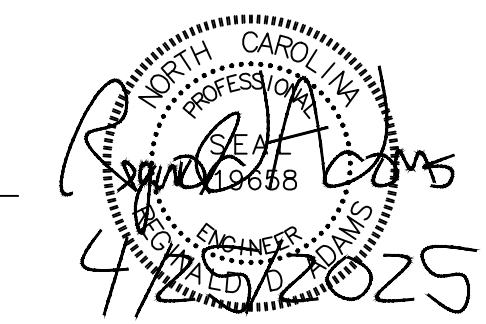
SHEET NO.

E205

PARTITION LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- UNRATED WALL
- PARTITION TYPE
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER

1 ELECTRICAL SECURITY NEW WORK PLAN - MEZZANINE
1/8" = 1'-0"



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

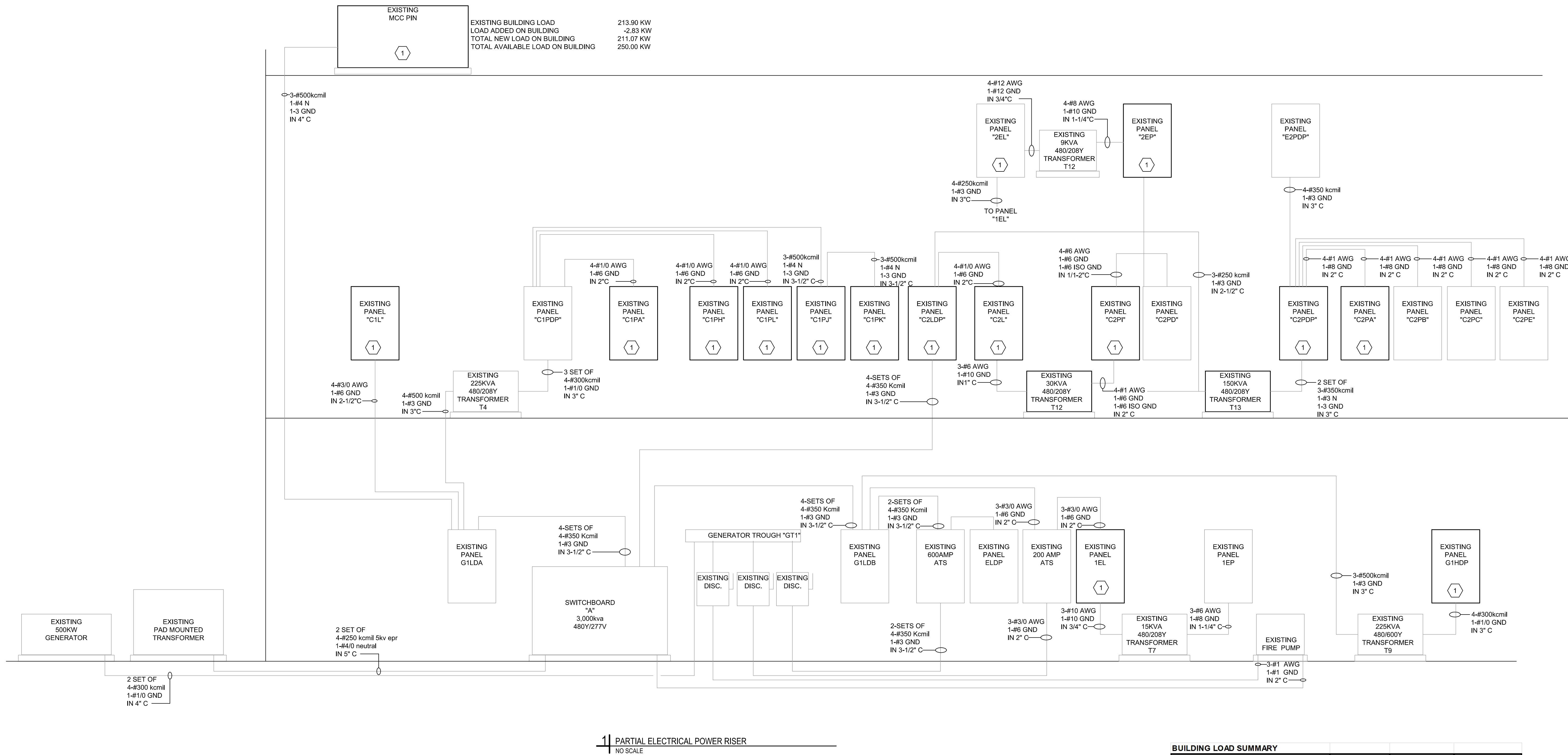
PROJECT DATA
DATE: 04.25.2025
DRAWN: MP
CHECKED: RDA
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

PARTIAL
ELECTRICAL
POWER RISER

SHEET NO.

E300



- KEYED NOTES:
- 1 EXISTING PANELBOARD TO REMAIN AND BE MODIFIED.
 - 2 EXISTING MOTOR CONTROL CENTER TO REMAIN AND BE MODIFIED.

- GENERAL NOTES:
1. GENERATOR, SWITCHBOARD, PANELBOARD, DISCONNECT SWITCHES, CONDUITS AND CONDUCTORS ARE EXISTING.

BUILDING LOAD SUMMARY			
	TOTAL KVA	FACTOR	DEMAND KVA
HVAC LOAD OTHER THAN HEATING LOAD	114.00	1.25	142.50
HVAC EQUIPMENT	1030.00	1.00	1030.00
LIGHTS	508.00	1.25	635.00
FIRST 10000 RECCEPTACLES	10.00	1.00	10.00
REMAINDER OF RECEPTACLES 50%	628.00	0.50	314.00
MISCELLANEOUS	429.00	1.00	429.00
ELEVATOR LOAD	120.00	1.00	120.00
KITCHEN		0.65	
SUB TOTAL	2839.00		2680.50
DEMAND LOAD KVA			2680.50
DEMAND AMPERES 480/277/3			3224
CONNECTED LOAD KVA			2839.00
CONNECTED AMPERES 480/277/3			3415
MAIN SWITCHBOARD AVAILABLE LOAD KVA			3000.00
EXISTING SWITCHBOARD AVAILABLE AMPERES 480/277/3			3609

Structural

MEP Engineer

PROJECT

1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

No.	Dec.
-----	------

[illegible]

DATE: 04.25.2025
DRAWN: MP
CHECKED: RDA
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

ELECTRICAL PANELBOARD SCHEDULES G1HHDP, E1L, C

E400

MODIFIED
PANEL "G1HDP"

PANEL TYPE: HCVW
BUS SIZE: 300A
VOLTAGE: 600Y/346

MCB: COUNTING: SURFACE
MINIMUM AIC: 22,000

CKT	LOAD SERVED	TRIP	POLE	WIRE	GND	CONDUIT	KVA	KVA PER PHASE			KVA	CONDUIT	GND	WIRE	POLE	TRIP	LOAD SERVED			CKT
								A	B	C										
1	BUSWAY OG101	300	3					0.00	0.00	0.00								SPACE	2	
3	SPACE							29.00		29.00						3	250	BUSWAY OC239	4	
5	BUSWAY 1100	200	3					27.00	59.00							3	250	BUSWAY 1204	6	
								27.00		59.00										
								27.00												
7	BUSWAY OC226	200	3					0.00		0.00						3	250	BUSWAY OC232	8	
										0.00										
9	BUSWAY 1103 *	200N	3	#3/0		#6	2-1/2"		25.00							3	250	BUSWAY OG101	10	
				#3/0						25.00										
				#3/0							25.00									
11	BUSWAY 1103B *	200N	3	#3/0		#6	2-1/2"		0.00									SPACE	12	
				#3/0						0.00								SPACE		
				#3/0							0.00							SPACE		
13	SPACE							0.00										SPACE	14	
	SPACE									0.00								SPACE		
	SPACE																	SPACE		
	SPACE																	SPACE		
TOTALS:								113.00	113.00	113.00										

* NO LOAD HAS BEEN ADDED OR DELETED FROM THIS PANEL. BUSDUCT WAS JUST RELOCATED.

LIGHTING	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES L- PROVIDE WITH LOCK OUT CLIP PL- PROVIDE WITH PADLOCKABLE BREAKER G-GFCI PROTECTED A-AFCI PROTECTED G-GPFE PROTECTED S- SHUNT TRIP H-HACK BREAKER N-NEW CIRCUIT BREAKER * PHASE NEUTRAL
FIRST 10K RECEPTS	125%		0.00	
REMAINER RECEPT	100%			
LARGEST MOTOR	50%			
MOTOR	125%			
ELEVATOR	100%			
KITCHEN	100%			
KITCHEN	65%			
EVCS	125%			
MISC	113.00	100%	113.00	
TOTAL (KVA)	113.00		113.00	
TOTAL AMPS	109		109	

MODIFIED
PANEL "E1L"

PANEL TYPE: NEHB
BUS SIZE: 225A
VOLTAGE: 480Y/277

MCB or MLO: 225A
MOUNTING: SURFACE

MINIMUM AC: 14,000

CKT	LOAD SERVED	TRIP	POLE	WIRE	GND	CONDUIT	KVA	KVA PER PHASE			KVA	CONDUIT	GND	WIRE	POLE	TRIP	LOAD SERVED	CKT
								A	B	C								
1	LIGHTS 2114	20	1				2.30	4.90			2.60				1	20	LIGHTS	2
3	LIGHTS CORRIDOR	20	1				1.25	3.79			2.54				1	20	LIGHTS	4
5	VBC	20	1				3.20			6.74	3.54				1	20	LIGHTS	6
7	LIGHTS 1232	20	1				2.30	4.66			2.36				1	20	LIGHTS 2115	8
9	LIGHTS	20	1				3.20		3.54		0.34				1	20	LIGHTS	10
11	LIGHTS	20	1				1.25			4.58	3.33				1	20	LIGHTS HALL AREA 2121,2120	12
13	LIGHTS	20	1				2.34	2.34									SPACE	14
15	LIGHTS 2101	20	1				3.21		3.21								SPACE	16
17	LIGHTS	20	1				2.40			2.40							SPACE	18
19	LIGHTS 1103, 1103B AND 1216A	20N	1				1.25	1.25									SPACE	20
21	LIGHTS 1103, 1103B AND 1216A	20N	1				1.35		1.35								SPACE	22
23	SPACE									0.00							SPACE	24
25	SPACE						0.00										SPACE	26
27	SPACE							0.00									SPACE	28
29	SPACE								0.00								SPACE	30
31	SPACE						0.00										SPACE	32
33	SPACE								0.00								SPACE	34
35	SPACE									0.00							SPACE	36
37	SPACE						3.60				3.60						SPACE	38
39	SPACE								3.54		3.54				3	50	E1P1	40
41	SPACE									3.60	3.60							42

TOTALS:

16.7515.4317.32

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES
LIGHTING	49.50	125%	61.88	L-PROVIDE WITH LOCK OUT CLIP
FIRST 10K RECEPTS		100%	10.00	PL-PROVIDE WITH PADLOCKABLE BREAKER
REMAINDER RECEPT		50%	0.00	UG-GFCI PROTECTED
LARGEST MOTOR		125%	0.00	A-AFCI PROTECTED
MOTOR		100%	0.00	GE-GFCI PROTECTED
ELEVATOR		85%	0.00	3-SHAUNT TRIP
KITCHEN		125%	0.00	
EXISTING LOAD		100%	0.00	
MISC		100%	0.00	
TOTAL (KVA)	49.50		71.88	1-PHASE NEUTRAL
TOTAL AMPS	60		86	

CONSULTANTS

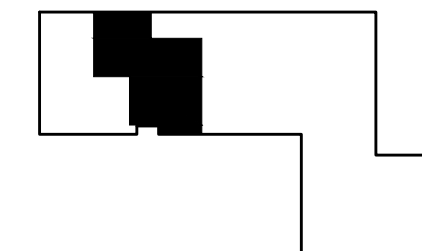
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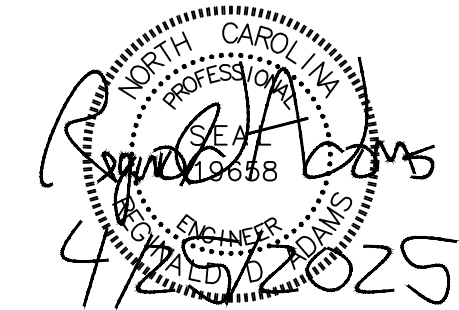
MEP Engineer

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KEY PLAN



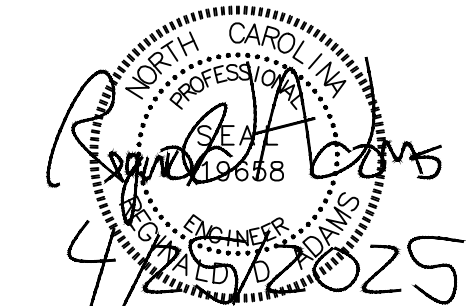
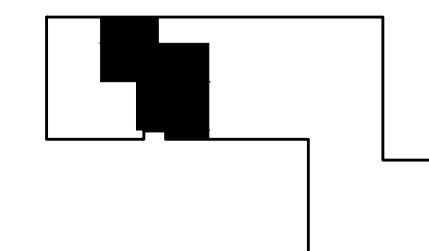
SEALS



EXISTING PANEL "C2LDP"										PANEL TYPE: HCW BUS SIZE: 1200A VOLTAGE: 480Y/277			MLO MOUNTING: MINIMUM A/C:			MLO SURFACE 25,000		
CKT	LOAD SERVED	TRIP	POLE	WIRE	GND	CONDUIT	kVA	A	B	C	kVA	CONDUIT	GND	WIRE	POLE	TRIP	LOAD SERVED	CKT
1	PANEL S2L	250	3				0.00		0.00						3	150	PANEL E2L	2
3	PANEL C2L	150	3				0.00		0.00						3	400	BUSWAY OC232	
5	BUSWAY OC239	200	3				3.50		3.50	3.50					3	200	BUSWAY OC204	6
7	PANEL C2PDP	250	3				0.00		0.00						3	200	BUSWAY OC226	8
9	PANEL S2PDP	175	3				0.00		0.00						3	100	BUSWAY OC216	10
11	SPACE						0.00		0.00						3	300	MCC P2N	12
13	SPACE						2.30		2.30	2.30					3	200	BUSWAY 1103B	14
15	SPACE						0.00		0.00								SPACE	
17	SPACE						0.00		0.00								SPACE	
19	SPACE						0.00		0.00								SPACE	
21	SPACE						0.00		0.00								SPACE	
TOTALS:							5.80	5.80	5.80									
							CONNECTED LOAD (KVA)		DF	DEMAND LOAD (KVA)	NOTES							
EXISTING LOAD							125%		0.00	0.00	L-PROVIDE WITH LOCK OUT CLIP							
							100%				PL-PROVIDE WITH PADLOCKABLE BREAKER							
							50%				G-GFCI PROTECTED							
							125%				A-AFCI PROTECTED							
							100%				G-GFPE PROTECTED							
							100%				S-SHUNT TRIP							
							65%				H-HACR BREAKER							
							125%											
							100%				-PHA SE/NEUTRAL							
TOTAL (KVA)							0.00			0.00								
TOTAL AMPS							0			0								

MODIFIED PANEL "C2LDP"							PANEL TYPE: HCW BUS SIZE: 1200A VOLTAGE: 480Y/277				MLO MOUNTING: MINIMUM A/C:				MLO SURFACE 25,000				
CKT	LOAD SERVED	TRIP	POLE	WIRE	GND	CONDUIT	KVA	A	B	C	KVA	CONDUIT	GND	WIRE	POLE	TRIP	LOAD SERVED	CKT	
1	PANEL S2L	250	3				36.00	59.93			23.93					3	150	PANEL E2L	2
3	PANEL C2L	150	3				35.24	59.59		59.87	25.64					3	400	BUSWAY OC232	4
5	BUSWAY OC239	200	3				29.80	44.80			15.00								
7	PANEL C2PDP	250	3				30.18		45.18		15.00								
9	PANEL S2PDP	175	3				27.90			42.90	15.00								
11	BUSWAY 1103	200N	3	#3/0	#6	2-1/2"	8.00	16.00			8.00					3	200	BUSWAY OC294	6
13	BUSWAY 1103B	200N	3	#3/0	#6	2-1/2"	8.00				8.00								
15	SPACE						52.98	58.98			6.00								
17	SPACE						55.64		61.64		6.00					3	200	BUSWAY OC226	8
19	SPACE						53.66			59.66	6.00								
21	SPACE						25.00												
23	SPACE						23.45		23.45							3	100	SPARE	10
25	SPACE						24.54			24.54									
27	SPACE						22.50				22.50					3	300	MCC P2N	12
29	SPACE						22.50				22.50								
31	SPACE						4.16				4.16								
33	SPACE						4.16				4.16					3	30N	AHU-1	14
35	SPACE						0.94				0.94								
37	SPACE						0.94				0.94					3	15N	F1C-B	16
39	SPACE						0.67				0.67								
41	SPACE						0.67				0.67					4	15N	VVE-1	18
43	SPACE						0.87				0.87								
45	SPACE						0.00				0.00								
47	SPACE						0.00				0.00								
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165	SPACE						0.00				0.00								
167	SPACE						0.00				0.00								
169	SPACE						0.00				0.00								
171	SPACE						0.00				0.00								
173	SPACE						0.00				0.00								
175	SPACE						0.00				0.00								
177	SPACE						0.00				0.00								
179	SPACE						0.00				0.00								
181	SPACE						0.00				0.00								
183	SPACE						0.00				0.00								
185	SPACE						0.00				0.00								
187	SPACE						0.00				0.00								
189	SPACE						0.00				0.00								
191	SPACE						0.00				0.00								
193	SPACE						0.00				0.00								
195	SPACE						0.00				0.00								
197	SPACE						0.00				0.00								
199	SPACE						0.00				0.00								
201	SPACE						0.00				0.00								
203	SPACE						0.00				0.00								
205	SPACE						0.00				0.00								
207	SPACE						0.00				0.00								
209	SPACE						0.00				0.00								
211	SPACE						0.00				0.00								
213	SPACE						0.00				0.00								
215	SPACE						0.00				0.00								
217	SPACE						0.00				0.00								
219	SPACE						0.00				0.00								
221	SPACE						0.00				0.00								
223	SPACE						0.00				0.00								
225	SPACE						0.00				0.00								
227	SPACE						0.00				0.00								
229	SPACE						0.00				0.00								
231	SPACE						0.00				0.00								
233	SPACE						0.00				0.00								
235	SPACE						0.00				0.00								
237	SPACE						0.00				0.00								

EXISTING PANEL "C2L"							PANEL TYPE: NEHB BUS SIZE: 225A VOLTAGE: 480Y/277				MCB or MLO: MOUNTING: MINIMUM A/C:				225A SURFACE 14,000			
CKT	LOAD SERVED	TRIP	POLE	WIRE	GND	CONDUIT	kVA	kVA PER PHASE			kVA	CONDUIT	GND	WIRE	POLE	TRIP	LOAD SERVED	CKT
								A	B	C								
1	LIGHTS 1121-1121A	20	1				1.20	4.15			2.50	2.50			1	20	LIGHTS	2
3	LIGHTS 1217	20	1				1.65		3.99		2.34	2.34			1	20	LIGHTS 1119	4
5	LIGHTS	20	1				2.35			5.56	3.21	3.21			1	20	LIGHTS 1101	6
7	LIGHTS	20	1				2.41	3.58			0.98	0.98			1	20	LIGHTS	8
9	LIGHTS	20	1				2.60		2.60						1	20	SPARE	10
11	LIGHTS 1102C	20	1				1.54			1.54					1	20	SPARE	12
13	LIGHTS	20	1				0.00	0.00							1	20	SPARE	14
15	LIGHTS	20	1						0.00						1	20	SPARE	16
17	LIGHTS	20	1							0.00	0.00				1	20	SPARE	18
19											1.20							20
21	SPARE	15	3							1.20					3	15	ROLL UP DOOR	22
23											1.20	1.20						24
25							1.20	1.20										26
27	LOADING DOCK	15	3				1.20		1.20						3	15	SPARE	28
29							1.20			1.20								30
31							1.20	1.20										32
33	HOIST MOTOR	15	3				1.20		1.20						3	15	SPARE	34
35							1.20			1.20								36
37							0.00											38
39	TRANSFORMER C2P1	50	3						0.00									40
41										0.00								42
43							12.00				12.00							44
45									12.00		12.00				3	100	ROOM OC218	46
47										12.00	12.00							48
49							0.00											50
51										0.00								52
53										0.00								54
TOTALS:							23.33	10.19	22.70	22.70								
							CONNECTED LOAD (KVA)		DF	DEMAND LOAD (KVA)		NOTES						
EXISTING LOAD							125%		0.00	0.00		L-PROVIDE WITH LOCK OUT CLIP						
												PL-PROVIDE WITH PADLOCKABLE BREAKER						
												G-GFCI PROTECTED						
												A-AFCI PROTECTED						
												GF-GFPE PROTECTED						
												S-SHUNT TRIP						
												-PHASE/NEUTRAL						
TOTAL (KVA)							0.00			0.00								
TOTAL AMPS							0			0								

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TOTALS:				0.00	0.00	0.00
	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES		
LIGHTING		125%	0.00	L- PROVIDE WITH LOCK OUT CLIP		
FIRST 10K RECEPIS				PL- PROVIDE WITH PADLOCKABLE BREAKER		
REMAINDER RECEPT				G-GFCI PROTECTED		
LARGEST MOTOR				A-AFCI PROTECTED		
MOTOR				GF-GFEE PROTECTED		
ELEVATOR				S- SHUNT TRIP		
KITCHEN						
EXISTING LOAD						
MISC				- PHASE NEUTRAL		
TOTAL (KVA)	0.00		0.00			
TOTAL AMPS	0		0			

TOTALS:				52.98	55.64	53.66	
	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES			
LIGHTING	0.00	125%	0.00	L- PROVIDE WITH LOCK OUT CLIP			
FIRST 10K RECEPIS	10.00	100%	10.00	A- PROVIDE WITH PADLOCKABLE BREAKER			
REMAINDER RECEIPT	148.02	50%	74.51	G-GFCI PROTECTED			
LARGEST MOTOR		125%	0.00	A-AFCI PROTECTED			
MOTOR		100%	0.00	GF-GFI-E PROTECTED			
ELEVATOR		100%	0.00	B- SHUNT TRIP			
KITCHEN		65%	0.00				
EXISTING LOAD		125%	0.00				
MISC	3.28	100%	3.28	* PHASE NEUTRAL			
TOTAL (KVA)	163.28		87.77				
TOTAL AMPS	450		244				

TOTALS:-				0.00	0.00	0.00
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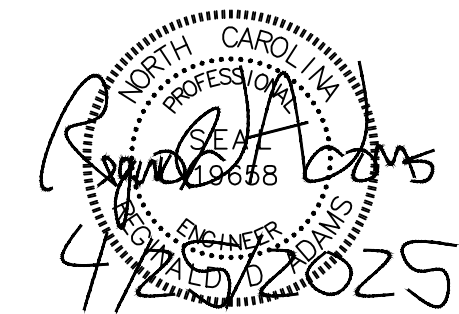
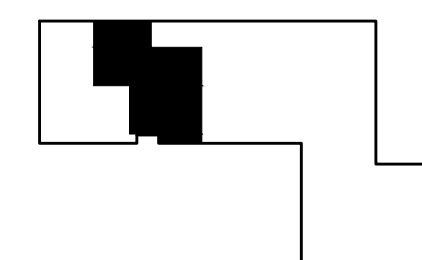
	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES
LIGHTING		125%	0.00	L- PROVIDE WITH LOCK OUT CLIP
FIRST 10K RECEPIS				PL- PROVIDE WITH PADLOCKABLE BREAKER
REMAINDER RECEPT				G-GFCI PROTECTED
LARGEST MOTOR				A-AFCI PROTECTED
MOTOR				GF-GFPE PROTECTED
ELEVATOR				S- SHUNT TRIP
KITCHEN				SUB BRK - SUB-BREAKER IN PANEL
EXISTING LOAD				
MISC				- PHASE/NEUTRAL
TOTAL (KVA)	0.00		0.00	
TOTAL AMPS	0		0	

TOTALS:				2.76	3.30	2.10
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	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES
LIGHTING	0.00	125%	0.00	PL-PROVIDE WITH LOCK OUT CLIP
FIRST 10K RECEIPTS	5.04	100%	10.00	PL-PROVIDE WITH PADLOCKABLE BREAKER
REMAINDER RECEIPT		50%	0.00	GFI'S PROTECTED
LARGEST MOTOR		125%	0.00	A-AF'S PROTECTED
MOTOR	2.16	100%	2.16	GF-GFI'S PROTECTED
ELEVATOR		100%	0.00	S-SHUNT TRIP
KITCHEN		60%	0.00	SUB BRK - SUB-BREAKER IN PANEL.
EXISTING LOAD		125%	0.00	
MISC	0.96	100%	0.96	
TOTAL (KVA)	8.16		13.12	*-PHASE NEUTRAL
TOTAL MISC	2.3		3	

TOTALS:					0.00	0.00	0.00	
	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES				
LIGHTING		125%	0.00	PL-PROVIDE WITH LOCK-OUT CLIP				
FIRST 10K RECEPIS				G-GFCI PROTECTED				
REMANDER RECEPT				A-AFCI PROTECTED				
LARGEST MOTOR				GF-GPFE PROTECTED				
MOTOR				S- SHUNT TRIP				
ELEVATOR				SUB BRK - SUB-BREAKER IN PANEL.				
KITCHEN								
EXISTING LOAD								
MISC				-PHASE/NEUTRAL				
TOTAL (KVA)	0.00		0.00					
TOTAL AMPS	0		0					

TOTALS:				6.00	4.86	6.09
	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES		
LIGHTING	0.00	125%	0.00	L-PROVIDE WITH LOCK OUT CLIP		
FIRST 10K RECEPIS	10.00	100%	10.00	PL-PROVIDE WITH PADLOCKABLE BREAKER		
REMAINDER RECEIPT	4.16	50%	2.08	G-GFCI PROTECTED		
LARGEST MOTOR		125%	0.00	A-AFCI PROTECTED		
MOTOR	1.20	100%	1.20	GF GFCI PROTECTED		
ELEVATOR		100%	0.00	S- SHUNT TRIP		
KITCHEN		65%	0.00	SUB BRK - SUB-BREAKER IN PANEL		
EXISTING LOAD		125%	0.00			
MISC	1.59	100%	1.59			
TOTAL (KVA)	16.56		14.57	*PHASE/NEUTRAL		
TOTAL AMPS	47		41			



EXISTING PANEL "C1PH"							PANEL TYPE: NQOD BUS SIZE: 225A VOLTAGE: 208Y/120							MCB or MLO: 225A MOUNTING: SURFACE MINIMUM AC: 10,000						
CKT	LOAD SERVED	TRIP	POLE	WIRE	GND	CONDUIT	kVA	kVA PER PHASE			kVA	CONDUIT	GND	WIRE	POLE	TRIP	LOAD SERVED	CKT		
								A	B	C										
1	WALL RECEPT AT BENCH ROLL-UP	20	1				0.54	2.54			2.00							2		
3	SPARE	20	1							2.00					3	20	208 RECEPT	4		
5	WORK BENCH RECEPTACLE	20	1				0.54			2.54	2.00							6		
7	208 RECEPTACLE	20	2				1.20	2.40			1.20				2	20	208 RECEPT	8		
9							1.20		2.40		1.20					10				
11										0.00								12		
13							1.20				1.20				2	20	208 RECEPT	14		
15								1.20			1.20							16		
17										0.00								18		
19							0.00											20		
21									0.00									22		
23										0.00								24		
25							0.00											26		
27										0.00								28		
29										0.00								30		
31							0.00											32		
33									0.00									34		
35										0.00								36		
37							0.00											38		
39									0.00									40		
41										0.00								42		

TOTALS: 6.145.602.54

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)
LIGHTING		125%	0.00
FIRST 10K RECEPTS			
REMAINDER RECEPT			
LARGEST MOTOR			
MOTOR			
ELEVATOR			
KITCHEN			
EXISTING LOAD			
MISC			
TOTAL (KVA)	0.00		0.00
TOTAL AMPS	0		0

NOTES
L- PROVIDE WITH LOCK OUT CLIP
PL- PROVIDE WITH PADLOCKABLE BREAKER
G-GFCI PROTECTED
A-AFCI PROTECTED
GF-GFPE PROTECTED
S- SHUNT TRIP

*-PHASE NEUTRAL

EXISTING PANEL "C1PK"								PANEL TYPE: NQOD BUS SIZE: 400 VOLTAGE: 208Y/120								MCB or MLO: MOUNTING: SURFACE MINIMUM AIC: 10,000							
CKT	LOAD SERVED	TRIP	POLE	WIRE	GND	CONDUIT	kVA	kVA PER PHASE			kVA	CONDUIT	GND	WIRE	POLE	TRIP	LOAD SERVED	CKT					
								A	B	C													
1	SPARE	30	3				0.00		0.00						3	20	BAND SAW OFF	2					
3														4									
5																		6					
7									0.00		0.00								8				
9	SPARE	30	3						0.00						1	20	SPARE	10					
11																		12					
13									0.00		0.00								14				
15											0.00									16			
17	ON	60	3											3	20	TRAK MILL	18						
19									0.00										20				
21											0.00									22			
23												0.00								24			
25	SPARE	20	3				0.00								3	30	BRIDGE MILL	26					
27										0.00										28			
29											0.00										30		
31																					32		
33												0.00										34	
35																						36	
37												0.00											38
39													0.00										40
41																		42					
TOTALS:								0.00	0.00	0.00													
								CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES												
LIGHTINGS									125%	0.00	L-PROVIDE WITH LOCK OUT CLIP												
FIRST 10K RECEPTS											PL-PROVIDE WITH PADLOCKABLE BREAKER												
REMAINDER RECEPT											G-GFCI PROTECTED												
LARGEST MOTOR											A-AFCI PROTECTED												
MOTOR											GF-GFPE PROTECTED												
ELEVATOR											S-SHUNT TRIP												
KITCHEN																							
EXISTING LOAD																							
MISC																							
TOTAL (KVA)								0.00		0.00	*-PHASE NEUTRAL												
TOTAL AMPS								0		0													

MODIFIED PANEL "C1PH"							PANEL TYPE: NQOD BUS SIZE: 225A VOLTAGE: 208Y/120										MCB or MLO: 225A MOUNTING: SURFACE MINIMUM AIC: 10,000				
CKT	LOAD SERVED	TRIP	POLE	WIRE	GND	CONDUIT	kVA	kVA PER PHASE			kVA	CONDUIT	GND	WIRE	POLE	TRIP	LOAD SERVED	CKT			
								A	B	C											
1	WALL RECEPT AT BENCH ROLL-UP	20	1				0.54	2.54			2.00							2			
3	SPARE	20	1						2.00		2.00				3	20	208 RECEPT	4			
5	WORK BENCH RECEPTACLE	20	1				0.54			2.54	2.00							6			
7	208 RECEPTACLE	20	2				1.20	2.40			1.20				2	20	208 RECEPT	8			
9									2.40		1.20							10			
11	CEILING RECEPTACLE	20N	1	#12"	#12	3/4"	0.36			0.36								12			
13	CEILING RECEPTACLE	20N	1	#12"	#12	3/4"	0.36	1.56			1.20				2	20	208 RECEPT	14			
15	CEILING RECEPTACLE	20N	1	#12"	#12	3/4"	0.36		1.56		1.20							16			
17	WALL RECEPTACLE	20N	1	#12"	#12	3/4"	0.36			0.36								18			
19	WALL RECEPTACLE	20N	1	#12"	#12	3/4"	0.36	0.36										20			
21	HALLWAY TV	20N	1	#12"	#12	3/4"	0.36		0.36									22			
23										0.00								24			
25							0.00											26			
27									0.00									28			
29										0.00								30			
31							0.00											32			
33									0.00									34			
35										0.00								36			
37							0.00											38			
39									0.00									40			
41										0.00								42			

TOTALS: 6.866.323.26

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES
LIGHTING		125%	0.00	L-PROVIDE WITH LOCK OUT CLIP
FIRST 10K RECEPTS	10.00	100%	10.00	PL-PROVIDE WITH PADLOCKABLE BREAKER
REMAINDER RECEPT	6.44	50%	3.22	G-GFCI PROTECTED
LARGEST MOTOR		125%	0.00	A-AFCI PROTECTED
MOTOR		100%	0.00	GF-GFPE PROTECTED
ELEVATOR		100%	0.00	S-SHUNT TRIP
KITCHEN		65%	0.00	
EXISTING LOAD		125%	0.00	
MISC	0.00	100%	0.00	-PHASE NEUTRAL
TOTAL (KVA)	16.44		13.22	
TOTAL AMPS	46		37	

MODIFIED PANEL "C1PK"				PANEL TYPE: NQOD BUS SIZE: 400A VOLTAGE: 208Y/120								MCB or MLO: MOUNTING: SURFACE MINIMUM AC: 10,000							
CKT	LOAD SERVED	TRIP	POLE	WIRE	GND	CONDUIT	KVA	KVA PER PHASE			CONDUIT	GND	WIRE	POLE	TRIP	LOAD SERVED	CKT		
								A	B	C									
1	CEILING RECEPTACLE	20N	1	#12"	#12	3/4"	0.64	0.72			0.18	3/4"	#12	#12"	1	20N	WALL RECEPT	2	
3	CEILING RECEPTACLE	20N	1	#12"	#12	3/4"	0.64		0.72		0.18	3/4"	#12	#12"	1	20N	WALL RECEPT	4	
5	CEILING RECEPTACLE	20N	1	#12"	#12	3/4"	0.64			0.72	0.18	3/4"	#12	#12"	1	20N	WALL RECEPT	6	
7	CEILING RECEPTACLE	20N	1	#12"	#12	3/4"	0.64	0.72			0.18	3/4"	#12	#12"	1	20N	COLUMN RECEPT	8	
9	CEILING RECEPTACLE	20N	1	#12"	#12	3/4"	0.64		0.72		0.18	3/4"	#12	#12"	1	20N	COLUMN RECEPT	10	
11	CEILING RECEPTACLE	20N	1	#12"	#12	3/4"	0.64			0.54					1	20N	SPARE	12	
13	existing	60	3				5.70	5.70										14	
15							5.70		5.70							3	20	spare	16
17										5.70									
19	existing	30	3				3.10	3.10										20	
21							3.10		3.10							3	20	spare	22
23							3.10			3.10									
25	SPARE	20	3					0.00										26	
27								0.00								3	20	spare	28
29										0.00									
31	208 RECEPTALCE FOR E17	20N	2	#12	#12	3/4"	1.80	1.80										32	
33							1.80		1.80										34
35							0.90			0.90							3	20	spare
37	HALLWAY TV	20N	1	#12"	#12	3/4"	0.90	0.90										38	
39	CEILING RECEPTACLE	20N	1	#12"	#12	3/4"	0.64		0.54									40	
41	CEILING RECEPTACLE	20N	1	#12"	#12	3/4"	0.64			0.54								42	
TOTALS: 12.94 12.58 11.50																			
										CONNECTED LOAD (KVA)		DF	DEMAND LOAD (KVA)		NOTES				
LIGHTING										0.00		125%	0.00		L-PROVIDE WITH LOCK OUT CLIP				
FIRST 10K RECEPTS										10.00		100%	10.00		PL-PROVIDE WITH PADLOCKABLE BREAKER				
REMAINDER RECEPT										0.62		50%	0.31		G-GFI PROTECTED				
LARGEST MOTOR												125%	0.00		A-AFCI PROTECTED				
MOTOR												100%	0.00		G-GFI PROTECTED				
ELEVATOR												100%	0.00		S- SHUNT TRIP				
KITCHEN												66%	0.00						
EXISTING LOAD												125%	0.00						
IMBC										28.40		100%	28.40		-PHASE NEUTRAL				
TOTAL (KVA)										37.02			36.71						
TOTAL AMPS										103			102						

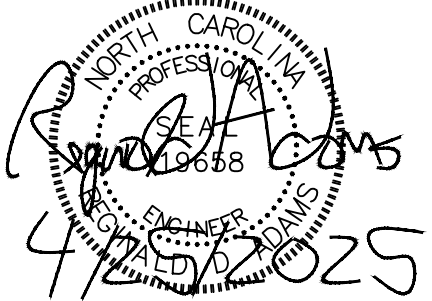
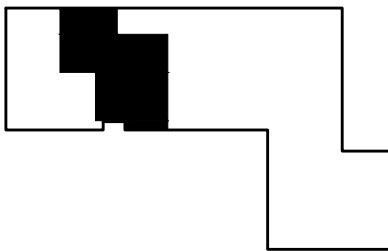
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MODIFIED PANEL "C2P1"			PANEL TYPE: NQDD BUS SIZE: 125A VOLTAGE: 208Y/120 KVA PER PHASE							MCB MOUNTING: 120mm SURFACE MINIMUM AIC: 10,000								
OKT	LOAD SERVED	TRIP	POLE	WIRE	GND	CONDUIT	KVA	A	B	C	KVA	CONDUIT	GND	WIRE	POLE	TRIP	LOAD SERVED	OKT
1	CEILING RECEPTACLE 1206	20	1	#10	#10	3/4"	0.36	0.90			0.64	3/4"	#12	#12	1	20	WALL RECEPTACLE 1206	2
3	CEILING RECEPTACLE 1206	20	1	#10	#10	3/4"	0.36	0.90			0.64	3/4"	#12	#12	1	20	TV OUTLETS 1206	4
5	CEILING RECEPTACLE 1206	20	1	#10	#10	3/4"	0.36		0.72	0.36	3/4"	#10	#10	1	20	RECEPTACLES 1204	8	
7	CEILING RECEPTACLE 1206	20	1	#10	#10	3/4"	0.36	0.72			0.64	3/4"	#10	#10	1	20	RECEPTACLES 1204	8
9	WALL RECEPTACLE 1206	20	1	#10	#10	3/4"	0.36	0.90			0.64	3/4"	#10	#10	1	20	RECEPTACLES 1204	10
11	TV OUTLETS 1206	20	1	#10	#10	3/4"	0.45			2.13	1.68	3/4"	#10	#10	1	20	TRACK 1204	12
13	CEILING RECEPTACLE 1204	20N	1	#10	#10	3/4"	0.36	2.04			1.68	3/4"	#10	#10	1	20	TRACK 1204	14
15	CEILING RECEPTACLE 1204	20N	1	#10	#10	3/4"	0.36		2.04		1.68	3/4"	#10	#10	1	20	TRACK 1204	16
17	CEILING RECEPTACLE 1204	20N	2	#10	#11	3/4"	0.36			0.36					1	20	SPARE	18
19	WHEEL CHAIR	30N	1	#10	#10	3/4"	1.90	1.90							1	20	SPARE	20
21	WHEEL CHAIR RECEPTACLE	20N	1	#10	#10	3/4"	0.36		0.36						1	20	SPARE	22
23	SPACE						5.62			5.62					1	20	SPARE	24
25	SPACE						5.34			5.34					2	70	PANEL C2P0 NOT IN RENOVATION	26
27	SPACE									5.55	5.55							28
29																		30

TOTALS: 11.18 9.54 8.76

	CONNECTED LOAD (KVA)	DF	DEMAND LOAD (KVA)	NOTES
LIGHTING	5.04	125%	6.30	L-PROVIDE WITH LOCK OUT CLIP
FIRST 100 RECEPTS	10.00	100%	10.00	P-PROVIDE WITH PADLOCKABLE BREAKER
REMAINDER RECEIPTS	12.54	50%	6.27	G-GFCI PROTECTED
LARGEST MOTOR		125%	0.00	A-AJCD PROTECTED
MOTOR		100%	0.00	G-GFCI PROTECTED
ELEVATOR		100%	0.00	S-SHUNT TRIP
KITCHEN		65%	0.00	N-NEW CIRCUIT BREAKER
EXISTING LOAD		125%	0.00	
MISC	1.90	100%	1.90	
TOTAL (KVA)	29.48		24.47	*-PHASE NEUTRAL
TOTAL AMPS	82		66	

MODIFIED PANEL "C2PA"				PANEL TYPE: QQQQ BUS SIZE: 100A VOLTAGE: 208Y/120				MLO: MOUNTING: SLO MINIMUM AIC: 10,000				SURFACE LOAD SERVED							
DKT	LOAD SERVED	TRIP	POLE	WIRE	GND	CONDUIT	A	KVA PER PHASE			A	CONDUIT	GND	WIRE	POLE	TRIP	LOAD SERVED	DKT	
								A	B	C									
1	WATER COOLER	20	1				0.36				0.18	3/4"	#12	#12"	1	20	BREAK AREA RECEPTACLE	2	
3	RECEP-TABLE 1204	20	1	#10"	#10	3/4"	0.54		0.72		0.18	3/4"	#12	#12"	1	20	BREAK AREA RECEPTACLE	4	
7	FLOOR RECEPTACLE 1204	20	1	#10"	#10	3/4"	0.36	0.00		0.54		0.18	3/4"	#12	#12"	1	20	BREAK AREA RECEPTACLE	6
9	FLOOR RECEPTACLE 1204	20	1	#10"	#10	3/4"	0.54		1.08		0.54				1	20	EXISTING STORAGE	8	
11	RECEP-TABLE 1204	20	1	#10"	#10	3/4"	0.36		0.54	0.54	0.18	3/4"	#12	#12"	1	20	BREAK AREA RECEPTACLE	12	
13	RECEP-TABLE 1204	20	1	#10"	#10	3/4"	0.36	0.54		0.54	0.18	3/4"	#12	#12"	1	20	BREAK AREA RECEPTACLE	14	
15	RECEP-TABLE 1204	20	1	#10"	#10	3/4"	0.36		0.54		0.18	3/4"	#12	#12"	1	20	BREAK AREA RECEPTACLE	16	
17	SEA 1200	20	1	#10"	#10	3/4"	0.00		0.78		0.18	3/4"	#12	#12"	1	20	BREAK AREA RECEPTACLE	18	
19	RECEP-TABLE 1200	20	1	#10"	#10	3/4"	0.36	0.36							1	20	RECEPTACLE	20	
21	UNIT HEATER	20	1				1.25		1.25								SPACE	22	
23	SPRKE	20	1						0.00								SPACE	24	
25	SPRKE	20	1				0.00										SPACE	26	
27	SPRKE	20	1						1.00		1.00				1	20	EXISTING	28	
29	IRRIGATION	20	1				0.65			0.65							SPACE	30	
TOTALS:							2.34	4.59	2.51										
							CONNECTED LOAD (KVA)		DF	DEMAND LOAD (KVA)		NOTES							
LIGHTING										125%		L-PROVIDE WITH LOCK OUT CLIP							
FIRST FLOOR RECEPT							6.18			100%		PL-PROVIDE WITH PADLOCKABLE BREAKER							
REMAINDER RECEPT							50%			0.00		G-GFCI PROTECTED							
LARGEST MOTOR							0.00			125%		A-APCI PROTECTED							
MOTOR							100%			0.00		G-GFCI PROTECTED							
ELEVATOR							100%			0.00		S-SHUNT TRIP							
KITCHEN							65%			0.00									
EXISTING LOAD							0.00			125%									
MISC							3.26			100%		3.26		-PHASE/NEUTRAL					
TOTAL (KVA)							9.44					13.26							
TOTAL AMPS							26					37							



BID DOCUMENTS
04.25.2025

PROJECT
NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

DATE: 04.25.2025
DRAWN: MP
CHECKED: RDA
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

ELECTRICAL
LIGHT FIXTURE
SCHEDULES

E405

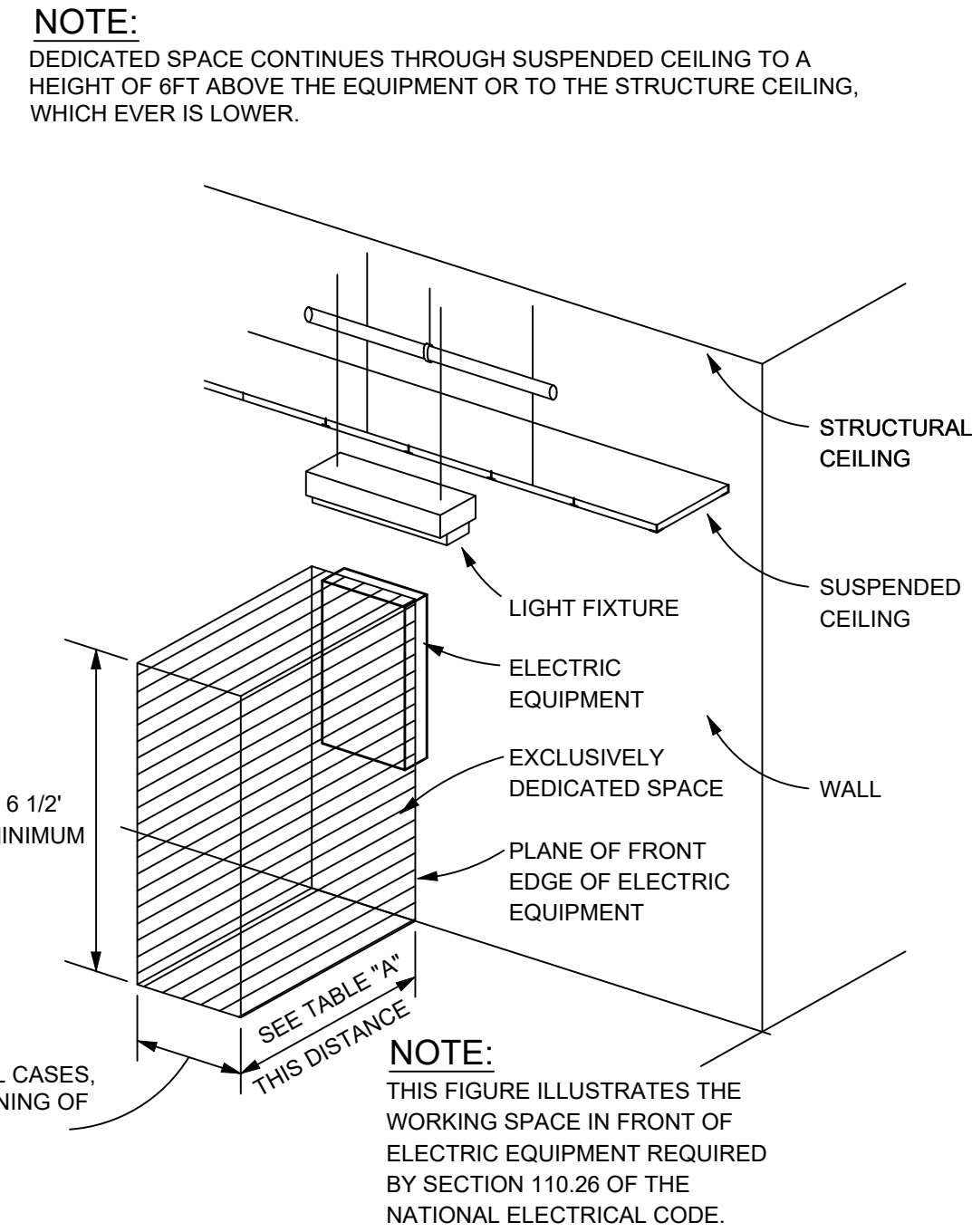
LIGHT FIXTURE SCHEDULE							
Type	Description	Manufacturer	Part Number	Watts	Dimming	Min Lumen Output	Notes
L1.1	8' Linear Acoustical Pendant	Neo-Ray Define 2 I1.1 Focal Point	SA208-DP-C-865D-8-40-C4-XX-8F0-1-U-DD-F-W-FELT-HIGHPERF AP1-8H-D-FF-08-L-40-UNV-D-1-1-FELT-MOUNT-W-048-8 ASM25-RL-8-900LF-40K-1C-UNV-L11-J48-FELT-8FT	71WATTS	1% driver	800 lumens per foot	L70 > 60,000 hours Min 105 LPW
L1.2	4' Linear Acoustical Pendant	Neo-Ray Define 2 Nulite Focal Point	SA208-DP-C-865D-8-40-C4-XX-4F0-1-U-DD-F-W-FELT-HIGHPERF AP1-8H-D-FF-08-L-40-UNV-D-1-1-FELT-MOUNT-W-048-4 ASM25-RL-8-900LF-40K-1C-UNV-L11-J48-FELT-4FT	35.2WATTS	1% driver	800 lumens per foot	L70 > 60,000 hours Min 105 LPW
L2	Linear Recessed Slot - ACT	Neo-Ray Define 2 Nulite Focal Point	S122DR-H-865D-8-40-XXX-4F0-1-UNV-DD-F-W-HIGHPERF RG2-D-FRF-09-L-40-UNV-D-1-1-WH-4 FSM2L-FL-875LF-40K-1C-UNV-L11-GX-WH-4	8.9w/ft	1% driver	875 lumens per foot	L70 > 60,000 hours Min 106 LPW
L3	Spec Grade Downlight	Alphabet Portfolio Lucifer	NUE4-RD-SW-15LMN-40K-90-60D-CL-WH-WH-NC-UNV-DIM10 LD4C-154-90-40-D010-B26-M-2-MW F4R-FFS-1-WH-WH-90S15A-40-60-IC-X-LN2-04	16 watts	1% driver		2 Step MacAdam L70 > 66,000 hours
L4	Surface Mount Utility Light	Lithonia CSS Metalux SNX Daybrite	CSS L48 4000LM MVOLT 40K 80CRI 4SNX-48SL-LW-UNV-L840-CD-1-U SDS-4-2448L-8CST-UNV	34.8 watts			L70 > 125,000 hours Min 122 LPW
L5	2x4 Flat Panel	Lithonia CPX Metalux FPS Daybrite	CPX 2x4 ALO8 80CRI SWW7 SWL MVOLT 24FPSL2SCT3 2-FPZ-60L-840-4-DS-UNV-DIM	27watts		Set to 6000 lumens	L80 > 60,000 hours Min 111 LPW
L6	Medium Accent Pendant fixture has 3-mounting cables and power cable	Eureka Hex Area Prudential Bolt Hex ALW Lightshapes Hexa	4820D-36-LED-40-90-VOLTAGE-DV-AC-96-RCA-FINISH-WH BHEX-22-LED40-MO-SAL-YPREMIUM-UNV CA96 LS2HD-4-HI-90-4000K-0/10V/1%-EXT/R-RAL-UNV	86.4 watts			Min 7392 lumens Min 99 LPW L70 > 60,000 hours
L7	Track Lighting 120v circuit, provide with 14amp current limiter	Juno Halo Elite	R60GL-35K-90CRI-PDIM-FL-BL 81SMED-20-FL-940-MB ET-LED-385-1800L-DIMTR-120-FL-35K-90-ABL	12.7watts			90 CRI
L8	LED Tape Light Deep surface extrusion.	LLI Arch Lumini Acolyte	LLI-L8.8W-20-40K-24V-90-LENGTH LL60X2-HO-40K-X-X-LENGTH RB-90-SWDR20-6.035	8.8w/ft			Min 611 lumens per foot 90 CRI Low voltage dimming driver
L9	Small Accent Pendant	Eureka Hinkley Lighting ALW -INC	4281-PO2-LED-HO-40-277-DV-REC2-12 Cedric 30071 Crowne RPD16				
L10	Large Accent Pendant	Eureka Switch Sonneman TikTak Stack 5 ALW INC	74700D-4-LED-40-80-VOLTAGE-DV-S7-LENGTH-FINISH tik tak 5 Go Ffuture RPD07	65 watts		6986 lumens Min 6250 lumens	L70 > 60,000 hours Min 108 LPW
L11	4' Surface Mount Linear	Neo-Ray Define 2 Nulite Focal Point	S122DS-H-100SD-8-40-XX-4F0-1-U-DD-F-W RR2-D-FRF-10-L-40-UNV-D-1-1-WH-4 FSM2LS-FL-1000LF-40K-1C-UNV-L11-SM-WH-4	42.4WATTS			L70 > 60,000 hours Min 105 LPW
L12	Wall Mount Wall Washer Wall Grazer with 6" wall bracket Arm Mounted Linear Wallwash	Nulite Prudential Prudential Micro	RW24-D-FRF-10-L-40-UNV-D-1-1-WH-24FTRUN BPRO2-LIN-FLSH-LED40-HO-24FT-TMW-MGZ-SC-UNV-WB6-DM01 MWPRO-LED40-HO-24FT-TWM-SC-UNV-WRM24-DM01	8.43w/ft			
L13	Linear Recessed Slot PATTERN with lit corners- GWB	Neo-Ray Define 2 Nulite Regolo 2 Focal Point	S122DR-H-675D-8-40-GYP-32FTx8FTPATTERN-1-UNV-DD-F-W RF2-D-STF-06-L-40-UNV-D-1-1-WH-32FTx8FT-PATTERN FSM2L-FL-625LF-40K-1C-UNV-L11-TF-WH-32FTx8FT-R	6.1w/ft			Lit Corners L70 > 60,000 hours Min 106 LPW
L14	Linear Recessed Slot PATTERN - GWB	Neo-Ray Define 2 Nulite Regolo 2 Focal Point	S122DR-H-675D-8-40-GYP-32FTx8FTPATTERN-1-UNV-DD-F-W RF2-D-STF-06-L-40-UNV-D-1-1-WH-32FTx8FT-PATTERN FSM2L-FL-625LF-K-1C-UNV-L11-TF-WH-32FTx8FT-R	6.1w/ft			Lit Corners L70 > 60,000 hours Min 106 LPW
L15.1	60" DIA Direct/indirect Pendant- Standard mounting	Eureka atoll OCL rev BETA calco	4850D1-60-LED-HO-LED-40-90-277-RMP-AC-60-WHE-WH-WHE-3981GC RV4-P1DA-60-MW-MWP-LED2/40K-UNV CERP1P03-LPF070-CR80-CTA40-V1-S52-FA01-FB01-	99.6 WATTS			
L15.2	36" DIA Direct/indirect Pendant- Standard mounting	Eureka atoll OCL rev BETA calco	4850D1-36-LED-HO-LED-40-90-277-RMP-AC-60-WHE-WH-WHE-3981GC RV4-P1DA-36-MW-MWP-LED2/40K-UNV CERP1P05-LPF070-CR80-CTA40-V1-S52-FA01-FB01-	60 WATTS			
L15.3	48" DIA Direct/indirect Pendant- Standard mounting	Eureka atoll OCL rev BETA calco	4850D1-48-LED-HO-LED-40-90-277-RMP-AC-60-WHE-WH-WHE-3981GC RV4-P1DA-48-MW-MWP-LED2/40K-UNV CERP1P04-LPF070-CR80-CTA40-V1-S52-FA01-FB01-	79.2 WATTS			

TABLE "A" WORKING CLEARANCES			
NOMINAL VOLTAGE TO GROUND	CONDITION: 1	2	3
		MINIMUM CLEAR DISTANCE (FEET)	
0-150 151-600 601-1000		3	3
		3	3.5
		3	4

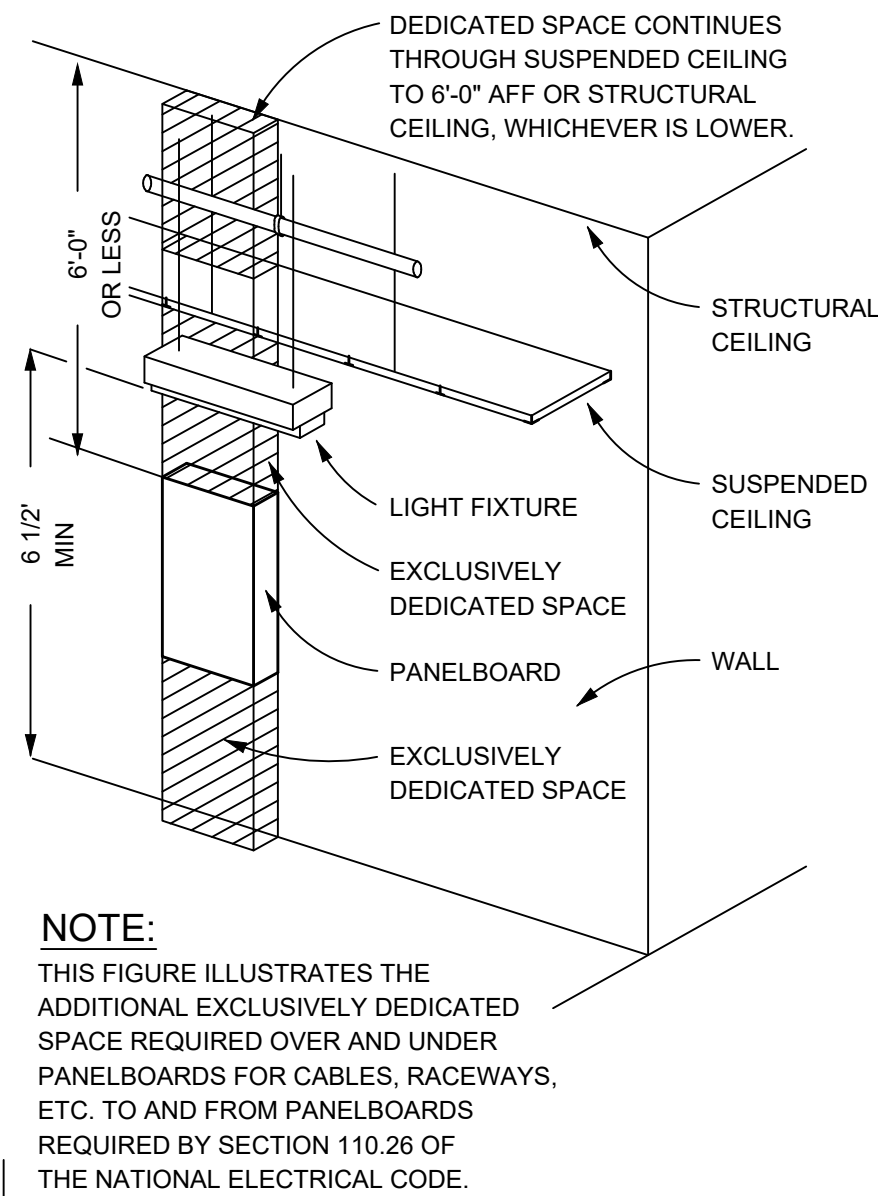
WHERE THE "CONDITIONS" ARE AS FOLLOWS:

1. EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE THAT ARE EFFECTIVELY GRAUDED BY INSULATING MATERIALS.
2. EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE. CONCRETE, BRICK, OR TILE WALLS SHALL BE CONSIDERED AS GROUNDED.
3. EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE.

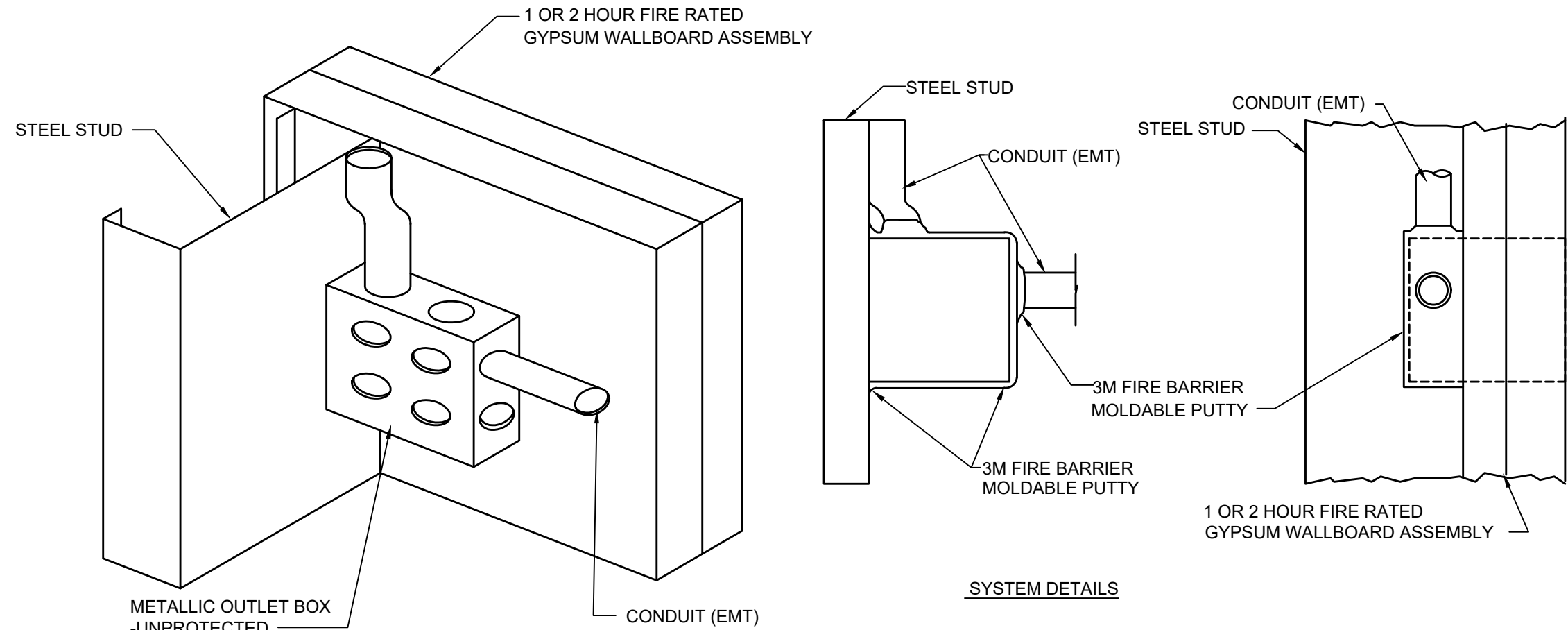
WIDTH OF EQUIPMENT OR 30", WHICHEVER IS GREATER. IN ALL CASES, THE WORK SPACE SHALL PERMIT AT LEAST A 90 DEGREE OPENING OF EQUIPMENT DOORS OR HINGED PANELS.



ALL ELECTRIC EQUIPMENT



PANELBOARDS



DRAWING NO.: 5300-ICG85.01

1. SYSTEM JUSTIFICATION: UL TEST REPORT R9700, 89NK19575 (11/9/89) AND R9700, 91NK21798 (10/10/91). TESTS CONDUCTED IN ACCORDANCE WITH THE STANDARD, FIRE TESTS OF BUILDING CONSTRUCTION
2. AND MATERIALS, ANSI/UL 263 (ASTM E 119, NFPA 251).
- ASSEMBLY: 1 OR 2 HR. FIRE RATED GYPSUM WALLBOARD/STUD WALL. WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS - 1 HR. RATING OR STEEL CHANNEL STUDS - 2 HR. RATING.
4. ITEM TO BE PROTECTED: METALLIC OUTLET BOX - UP TO 4S. NOTE: THIS APPLICATION IS INTENDED TO PREVENT FLAME THROUGH AND SMOKE PROPAGATION BY SEALING "KNOCK-OUTS" AND OPENINGS IN THE BOX/ ASSEMBLY. IT ALSO INHIBITS HEAT TRANSFER TO THE NON-FIRESIDE SURFACE OF THE WALL.

APPLICATION DETAILS

1. APPLY A LAYER OF 3M FIRE BARRIER MOLDABLE PUTTY PAD TO THE METALLIC OUTLET BOX, COVERING ALL EXPOSED SURFACES. NOMINAL PUTTY THICKNESS IS 1/8 IN. (MPP1 = 4"x8"x1/8", MPP - 4S = 6"x7"x1/8")
2. PRESS THE PUTTY INTO THE INTERFACE PERIMETER OF THE OUTLET BOX AND THE STUD AND ALSO THE INTERFACE OF THE OUTLET BOX AND THE GYPSUM WALLBOARD.
3. SEAL ANY "KNOCK-OUT" HOLE CONTAINING WIRE OR CONDUIT WITH A GENEROUS AMOUNT OF MOLDABLE PUTTY.

2" "PUTTY-PAD" DETAIL

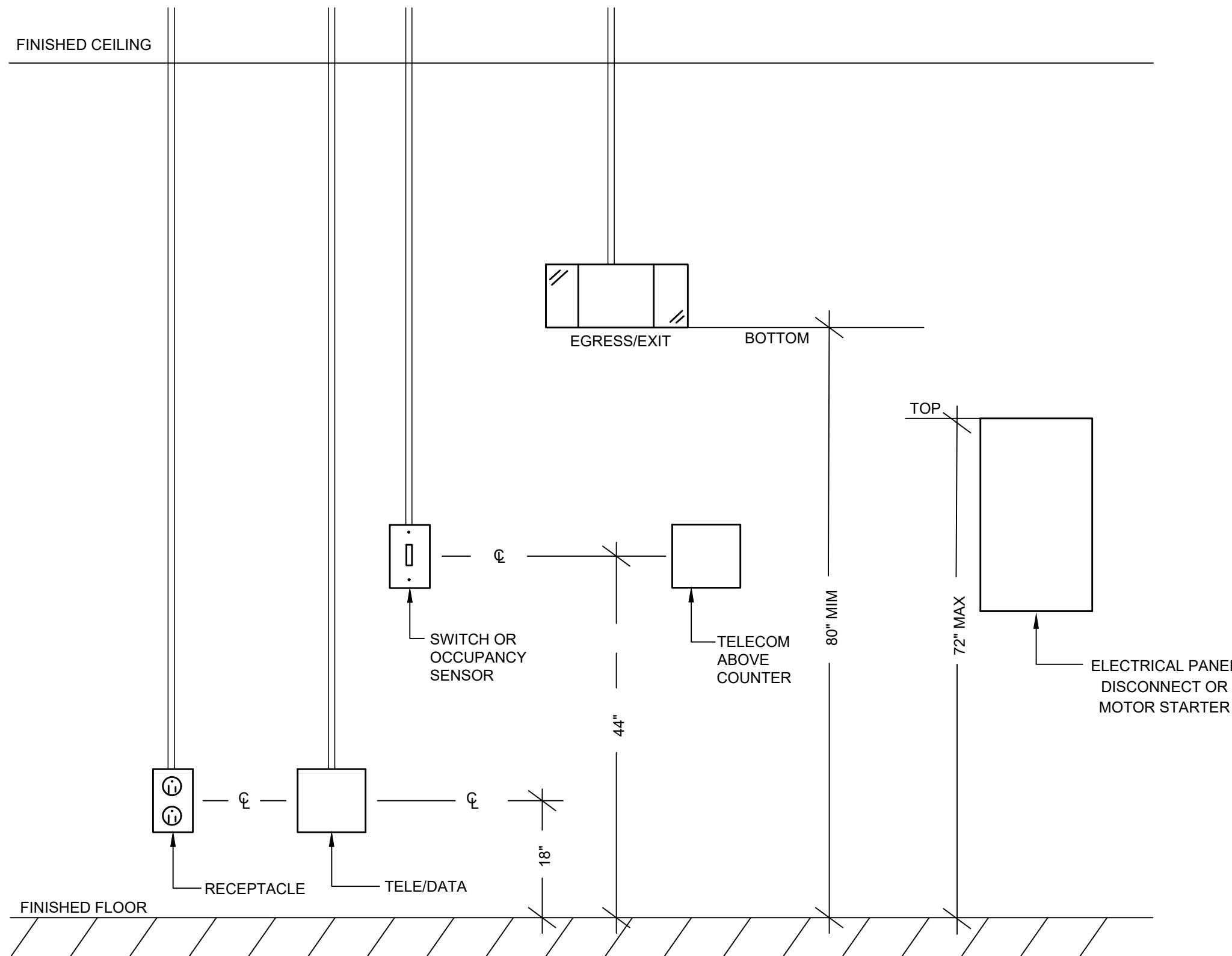
NO SCALE

NOTE:

1. THIS INCLUDES BUT IS NOT LIMITED TO PANELBOARDS, SAFETY SWITCHES, MOTOR STARTERS, JUNCTION BOXES AND OTHER ELECTRIC EQUIPMENT.
2. NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL APPURTENANCES SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH THE DEDICATED SPACES SHOWN ABOVE.

4" REQUIRED WORKING SPACE ABOUT ELECTRICAL EQUIPMENT

NO SCALE



3" MOUNTING HEIGHT DETAIL

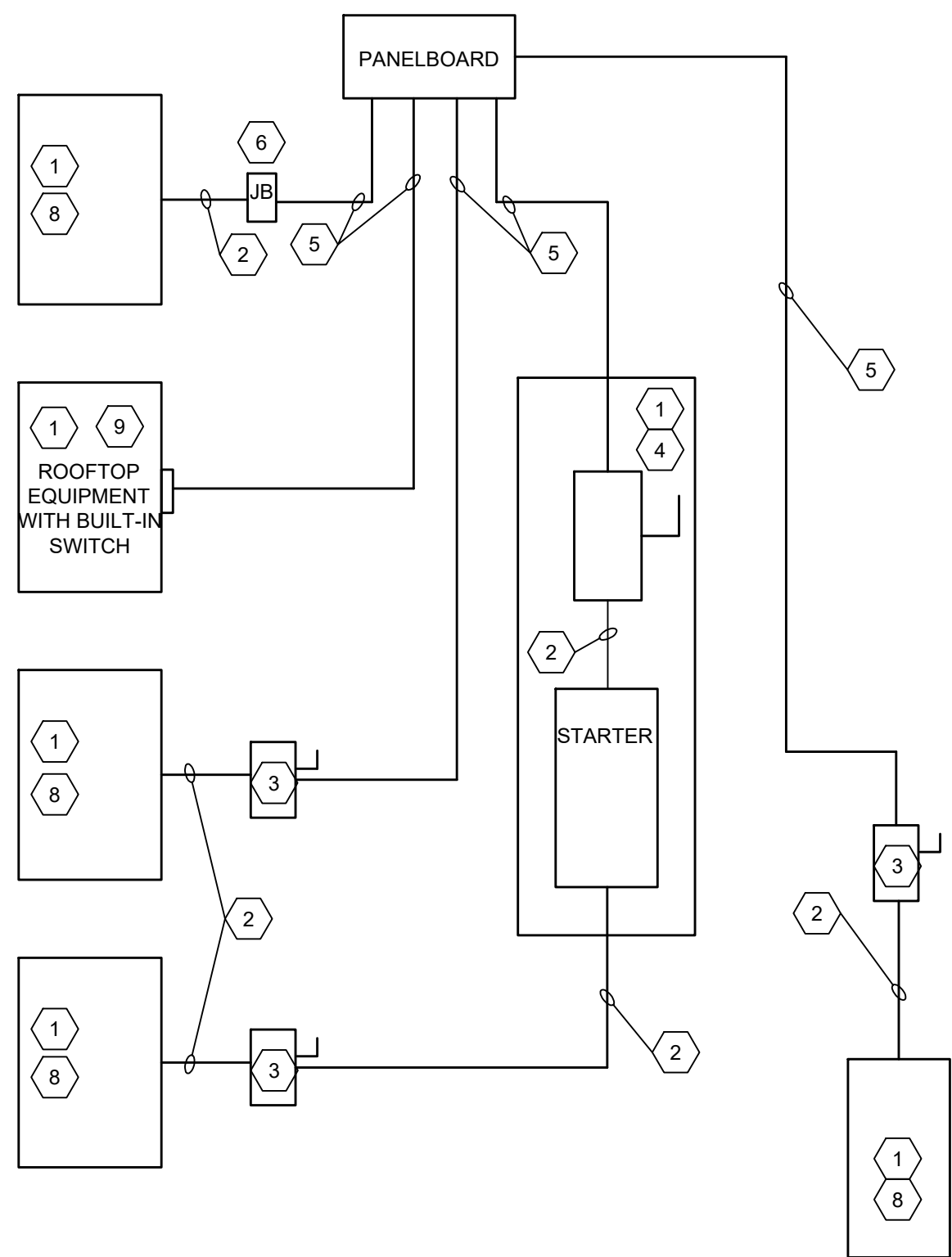
NO SCALE

NOTE:

NOT ALL DEVICES MAY BE USED IN CONSTRUCTION.

KEYED NOTES:

- 1 EQUIPMENT OF TRADES OTHER THAN ELECTRICAL.
- 2 CONDUIT & WIRING BY HVAC, PLUMBING CONTRACTOR OR OTHER TRADES.
- 3 IF AN ADDITIONAL DISCONNECT IS REQUIRED BY NEC, IT SHALL BE PROVIDED AND INSTALLED BY THE EQUIPMENT CONTRACTOR.
- 4 A COMBINATION STARTER OR VFD MAY BE USED IN LIEU OF A SEPARATE DISCONNECT SWITCH AND STARTER. LOCATED ADJACENT TO EQUIPMENT.
- 5 FEEDER CIRCUIT WIRING AND CONDUIT IN ELECTRICAL WORK. SEE PANELBOARD SCHEDULES FOR WIRE AND BREAKER SIZES.
- 6 JUNCTION BOX MAY BE SHOWN ON ELECTRICAL PLANS FOR SOME EQUIPMENT. IF NO STARTER OR DISCONNECT IS SUPPLIED, A JUNCTION BOX SHALL BE INSTALLED ADJACENT TO EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE SIDE WIRING TO THE JUNCTION BOX. LOAD SIDE WIRING WILL BE PROVIDED BY MECHANICAL CONTRACTOR OR OTHER TRADES.
- 7 NOT USED.
- 8 IN ALL CASES THE EQUIPMENT CONTRACTOR SHALL MAKE FINAL CONNECTIONS, START UP, AND TEST EQUIPMENT.
- 9 IF THE ROOF TOP EQUIPMENT IS NOT PROVIDED WITH BUILT IN SWITCH, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A DISCONNECT SWITCH.



1" ELECTRICAL CONNECTION TO DIVISION 21 AND 23 EQUIPMENT

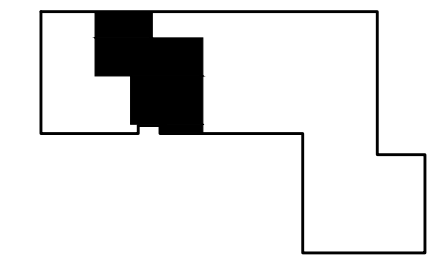
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NOTES:

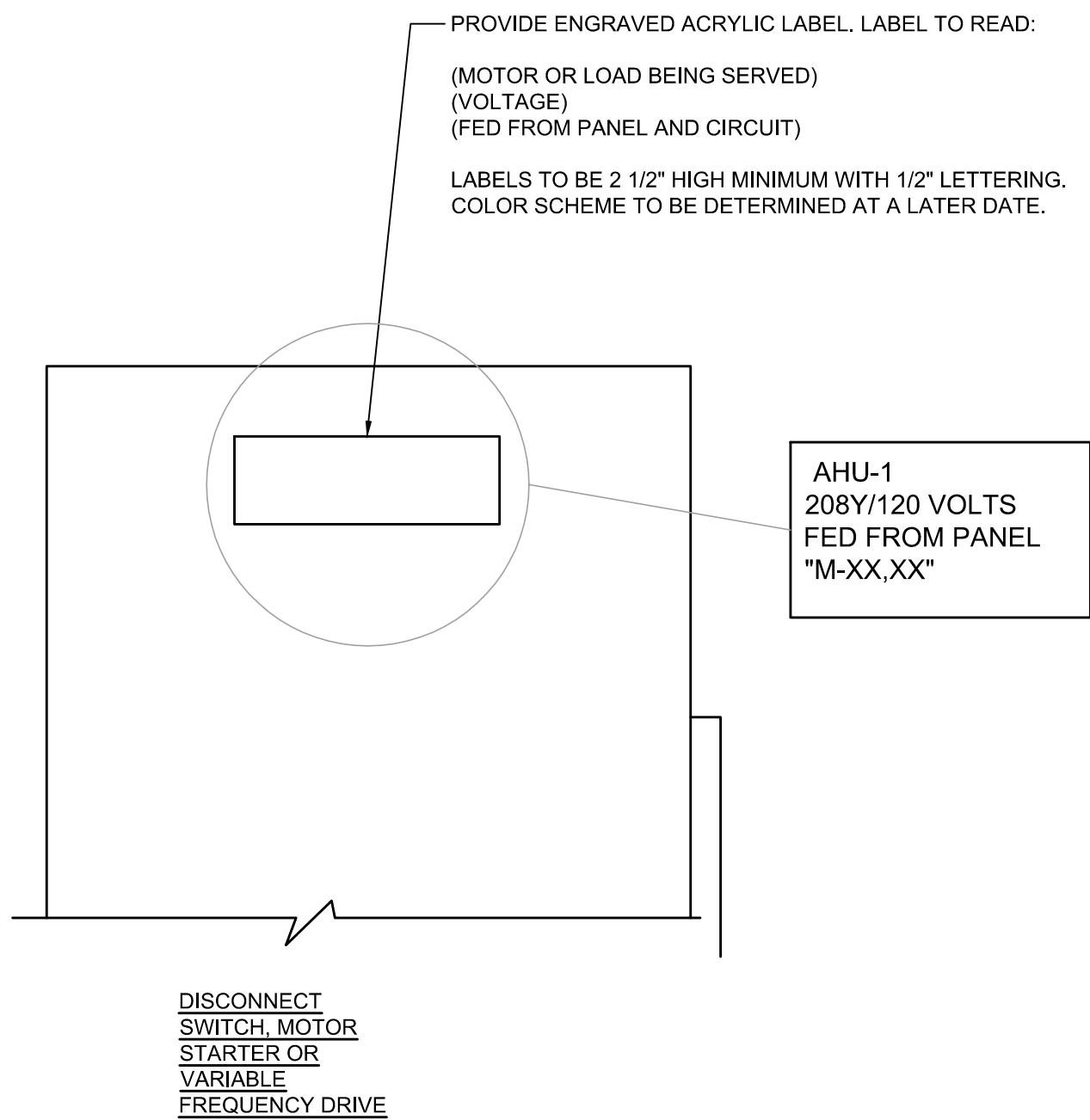
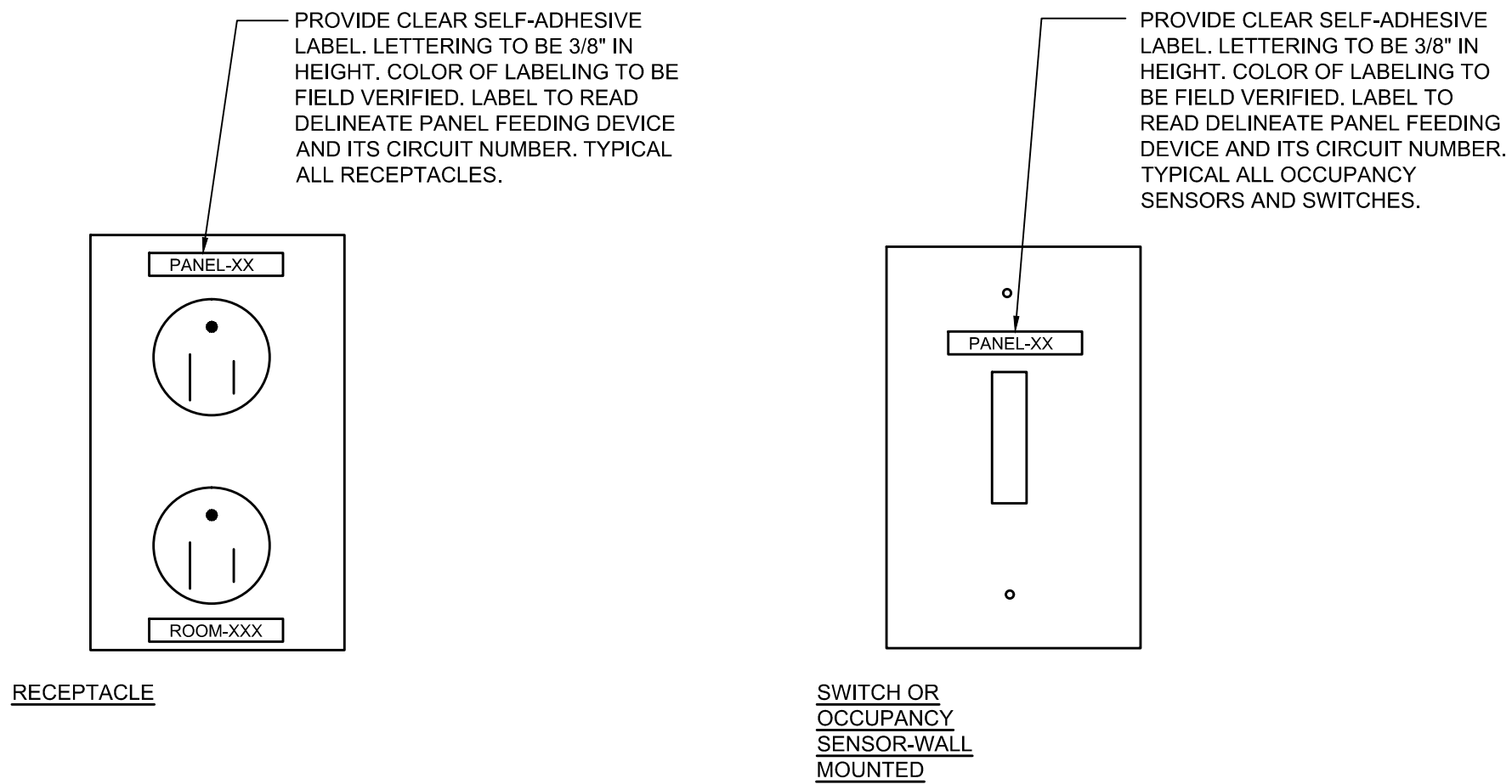
1. DIVISION 21 AND 23 CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DIRECTION OF ROTATION FOR ALL THREE PHASE EQUIPMENT.
2. DIVISION 26 CONTRACTOR SHALL BE RESPONSIBLE FOR LABELING OF ALL DISCONNECTS.

Structural

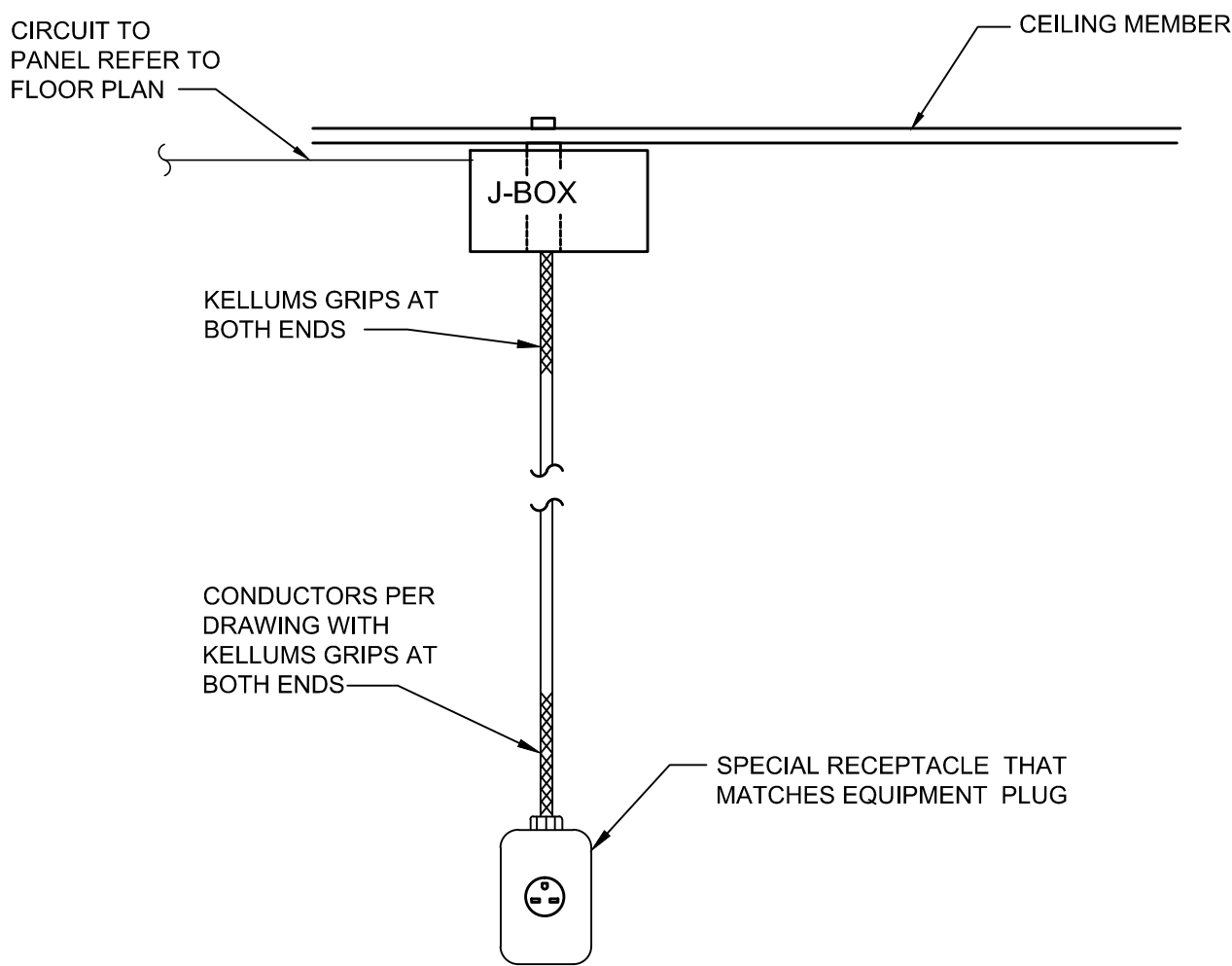
MEP Engineer



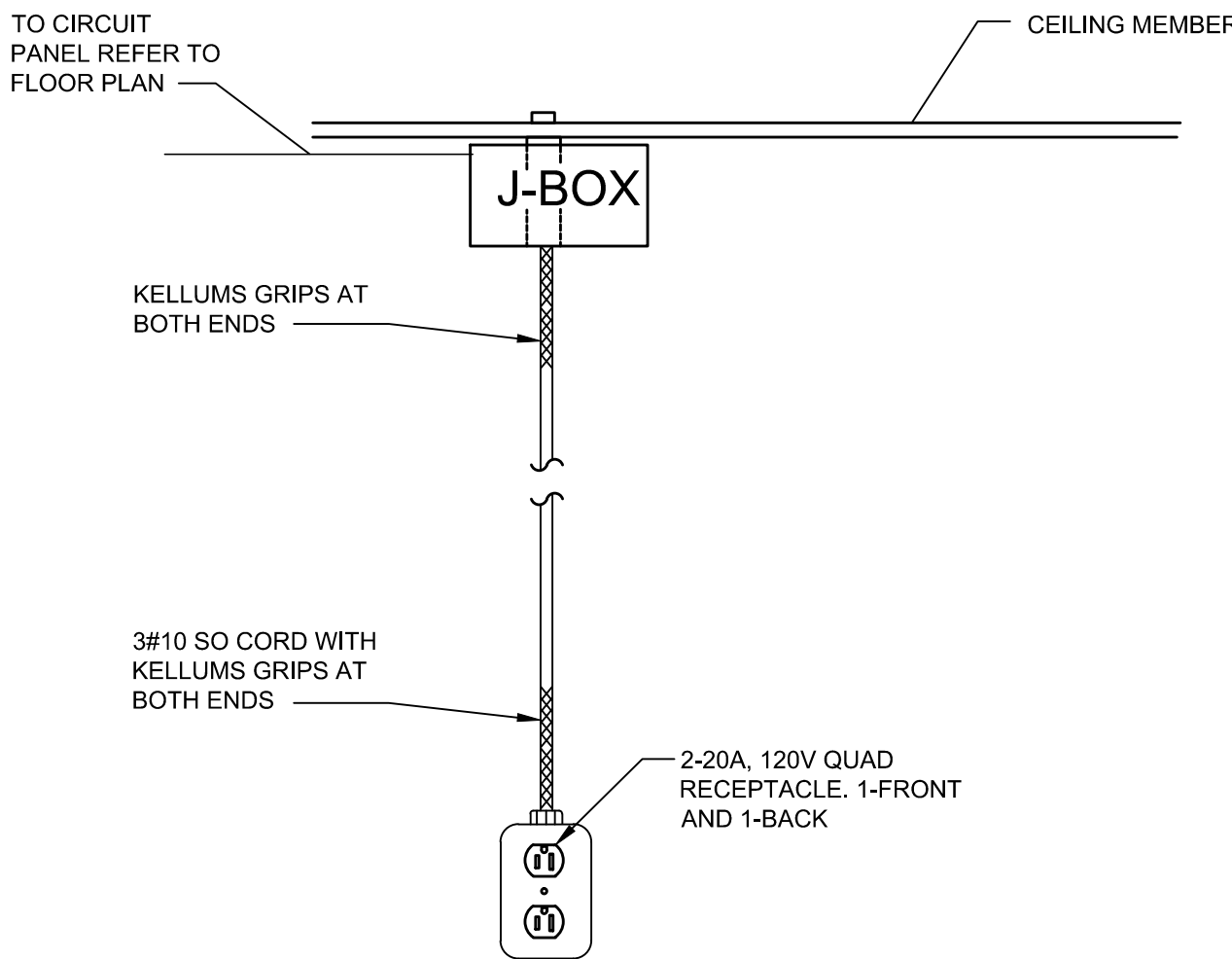
REVISIONS		
No.	Description	Date



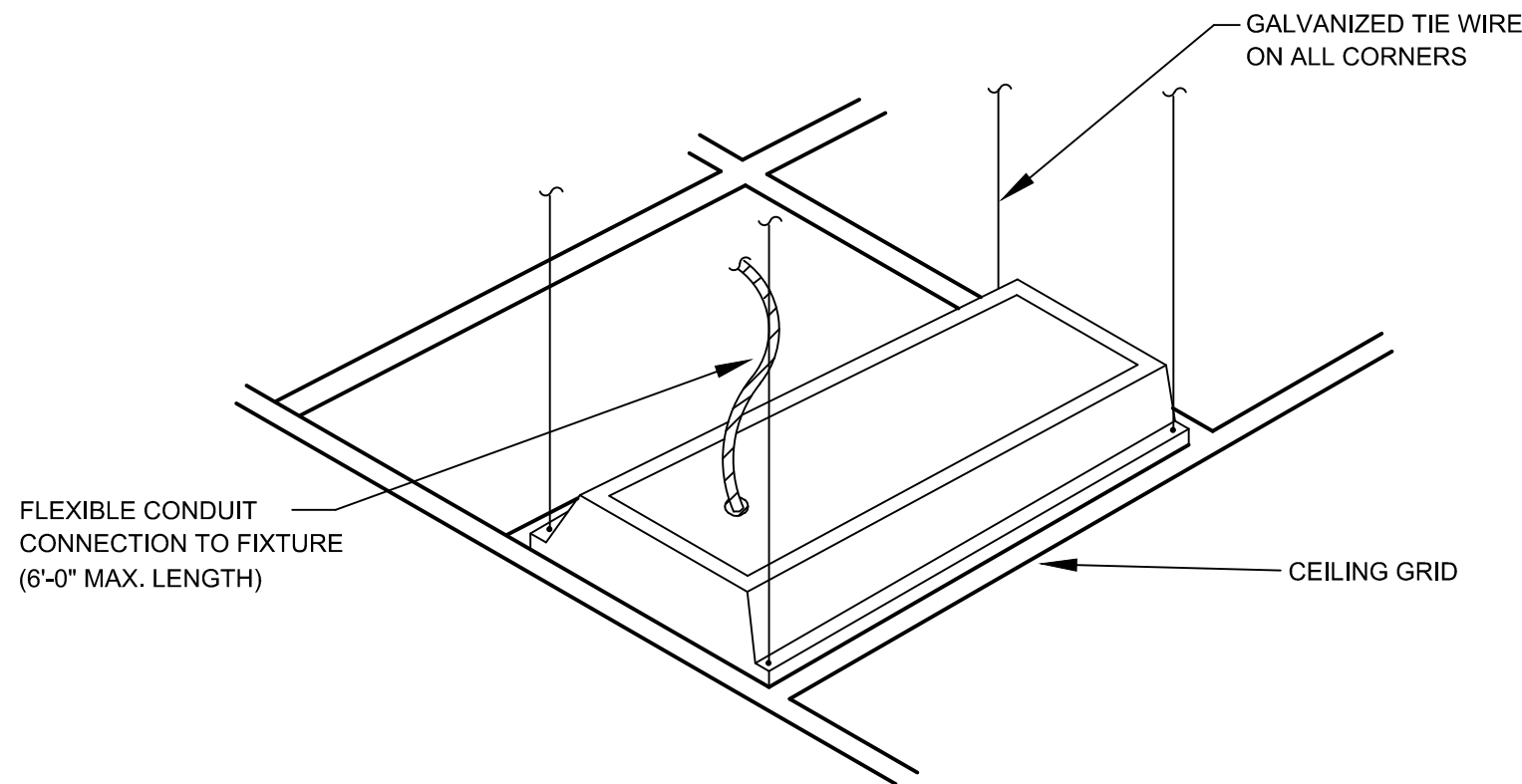
6 | DEVICE LABELING DETAIL
NO SCALE



5 | CEILING HUNG RECEPTACLE FOR EQUIPMENT DETAIL
NO SCALE

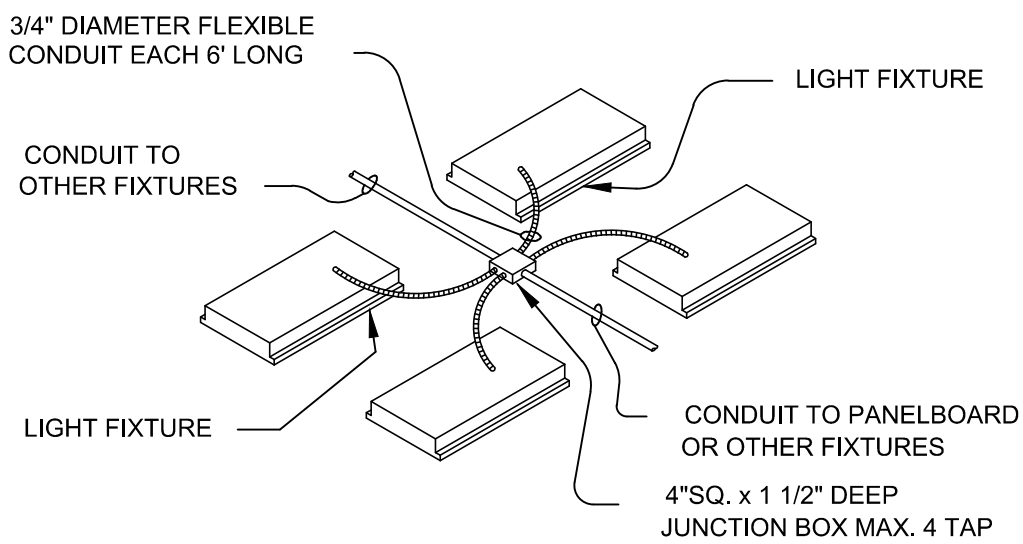


4 | 2- CEILING HUNG 120V RECEPTACLE DETAIL
NO SCALE

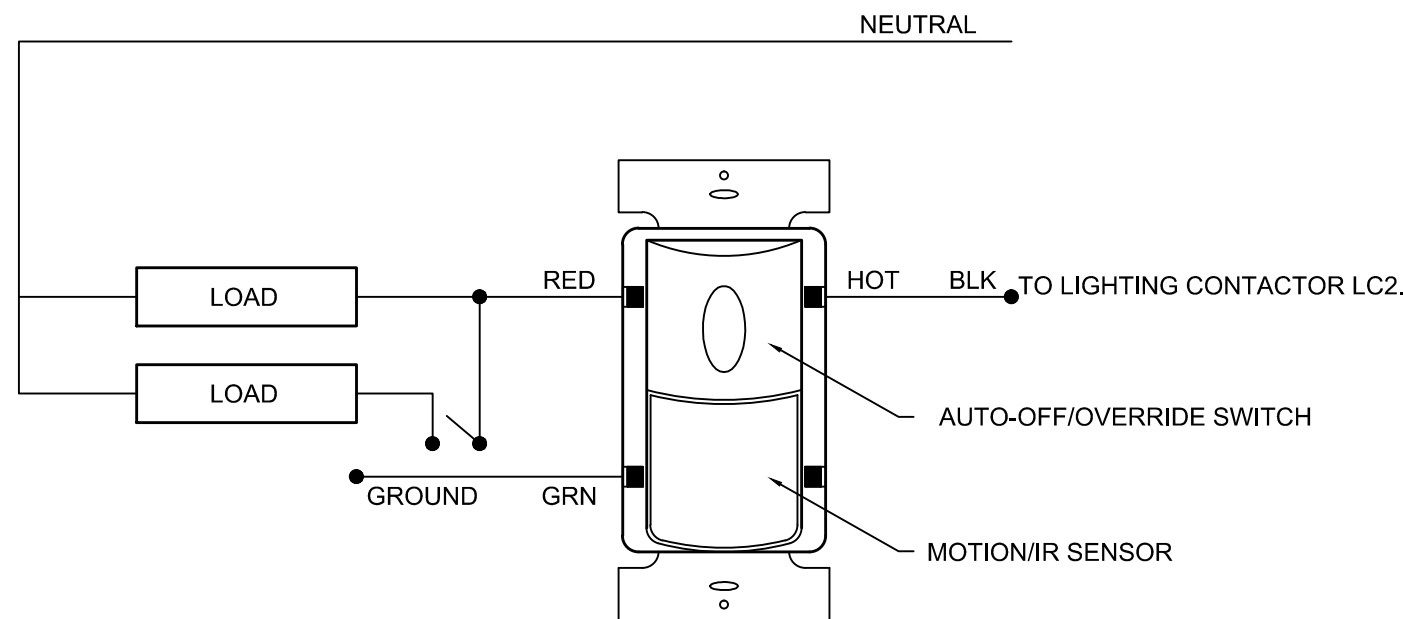


4 | TYPICAL RECESSED LIGHT FIXTURE SUPPORT
NO SCALE

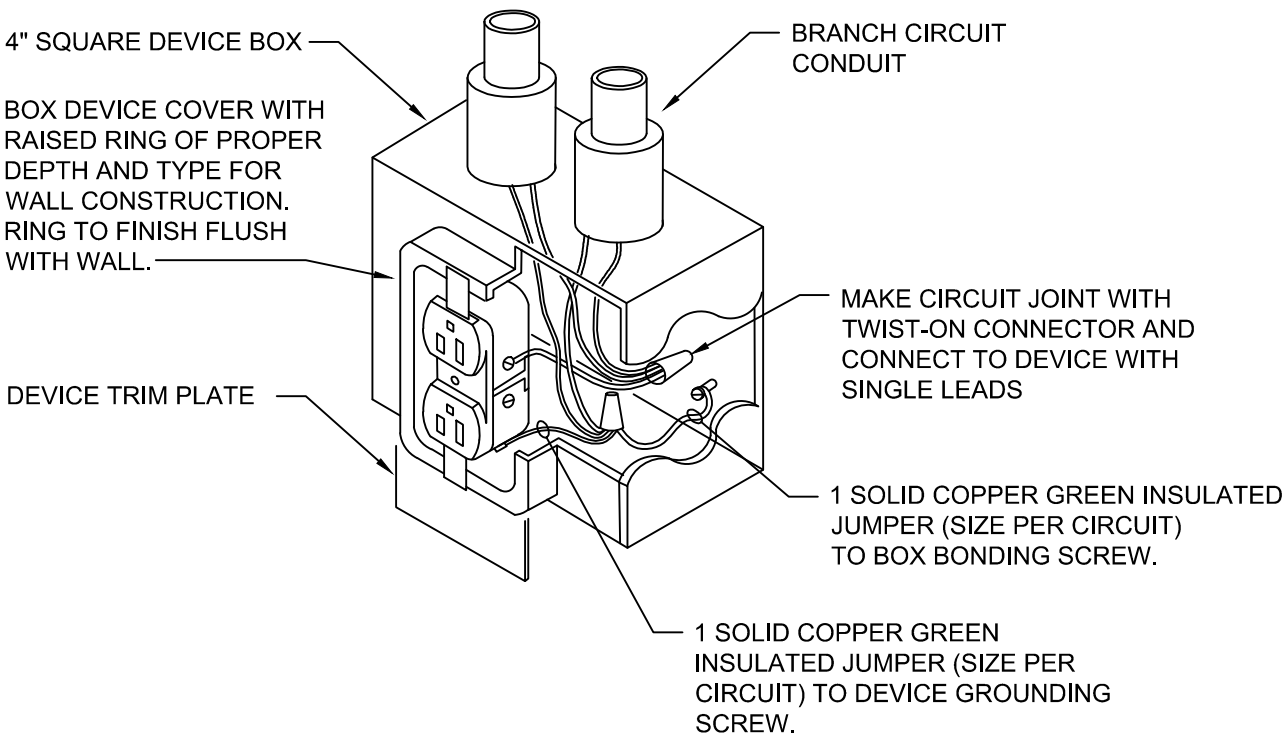
NOTE:
1. SCREW FIXTURE TO GRID ON ALL 4 CORNERS FOR ADDITIONAL SUPPORT. HANG FIXTURES LEVEL.



3 | RECESSED LIGHT FIXTURE WIRING TAP DETAIL
NO SCALE



2 | WALL MOUNTED OCCUPANCY SENSOR - NO POWER PACK
NO SCALE



1 | RECEPTACLE INSTALLATION DETAIL
NO SCALE

NOTES:

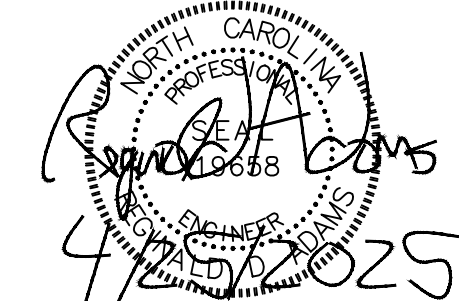
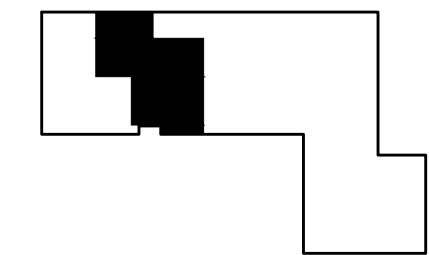
- RECEPTACLES MOUNTED VERTICALLY ARE TO BE MOUNTED WITH THE GROUND TERMINAL ON THE TOP.
- RECEPTACLES MOUNTED HORIZONTALLY ARE TO BE MOUNTED WITH THE NEUTRAL TERMINAL ON THE TOP.

Structural

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Raleigh, NC
919.833.0465
chuck@lysaghtassociates.com

MEP Engineer

Sigma Engineered Solutions
sigmaes.com
5909 Falls of Neuse Rd, Ste #101
Raleigh, NC
919.840.5300
radams@sigmaes.com



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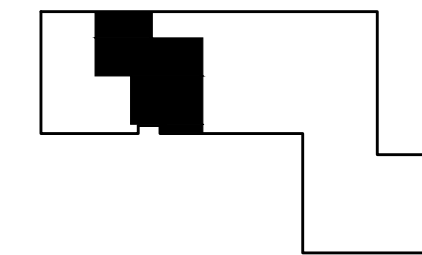
PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

DATE: 04.25.2025
DRAWN: MP
CHECKED: RDA
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

**ELECTRICAL
DETAILS**



BID DOCUMENTS
04.25.2025

PROJECT
NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

PROJECT DATA
DATE: 04.25.2025
DRAWN: MP
CHECKED: RDA
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

ELECTRICAL
DETAILS

SHEET NO.

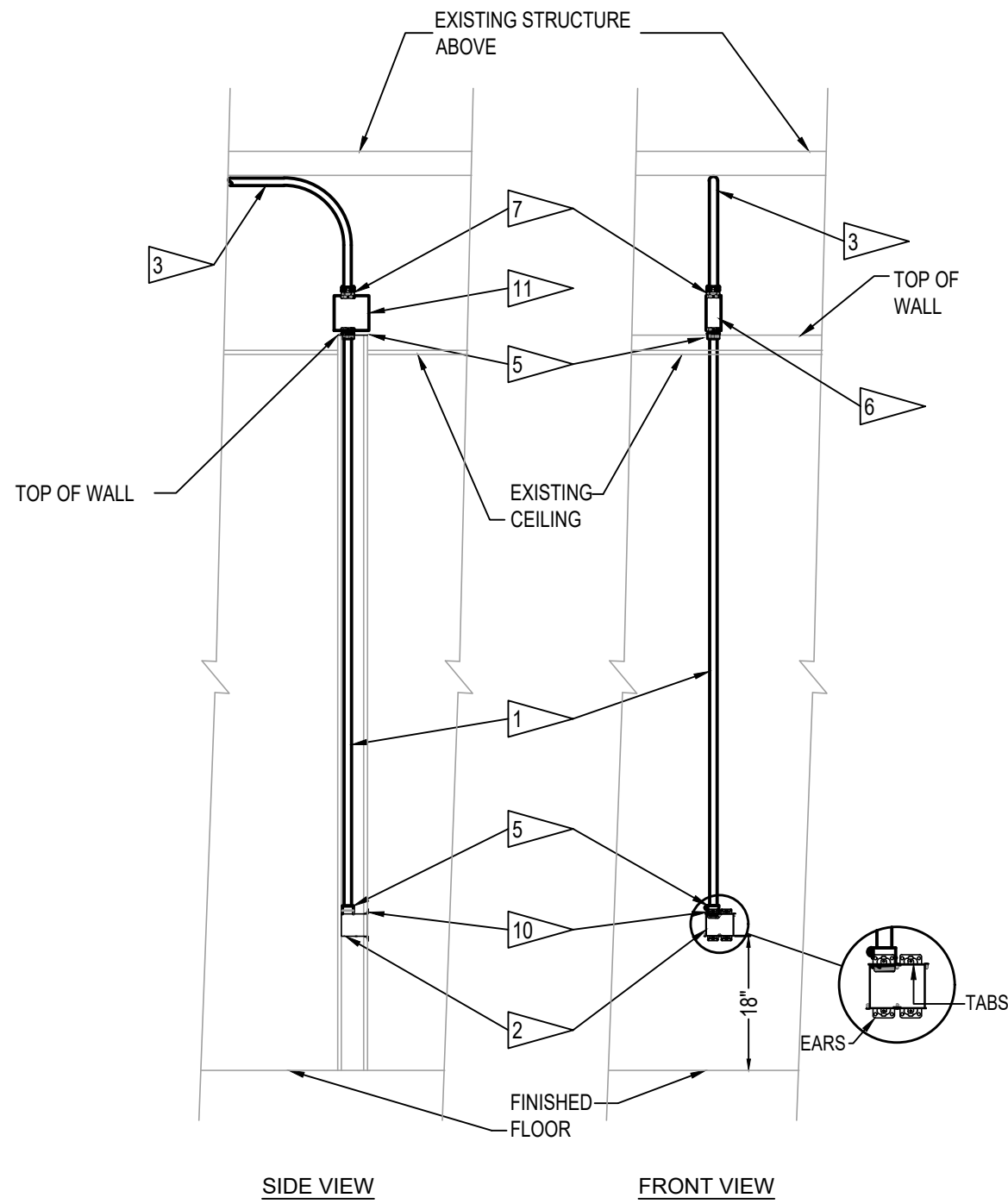
E502

KEYED NOTES:

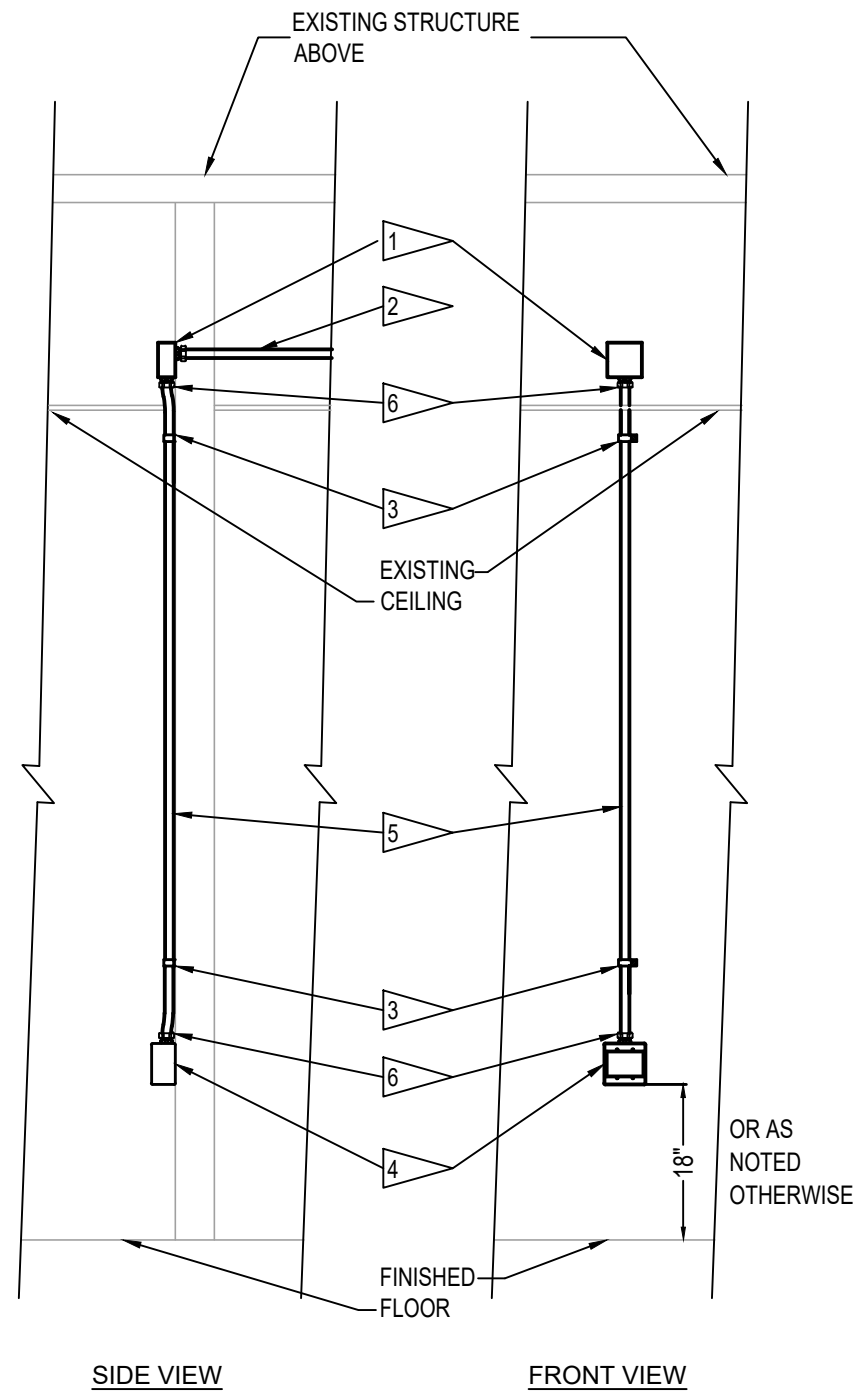
- 1" FLEX CONDUIT INSIDE GYPSUM BOARD AND METAL STUD WALLS.
- STEEL CITY #CY-3/4", 2ea. 3-1/2" DEEP OUTLET BOX W/ 3/4" K.O. (TWO BOXES TO BE GANGED TOGETHER, AND 3/4" K.O. TO BE DRILLED OUT TO A 1" K.O. IN BACK HOLE ON TOP OF BOX). BOX MUST BE MOUNTED LEVEL, AS THE FACEPLATE MOUNTING CANNOT BE ADJUSTED TO COMPENSATE. PROVIDE PULL STRING FROM OUTLET TO WIREWAY. SECURE AT BOTH ENDS.
- ALLIED 1" EMT CONDUIT TO NEW WIREWAY LOCATED IN HALLWAY CEILING SPACE. ROUTE ABOVE EXISTING ACOUSTIC CEILING TILE OR TIGHT TO FIXED TILE CEILING AND SUPPORT AS REQUIRED.
- RACO #2084 ONE HOLE EMT STRAP AS REQUIRED (TYPICAL).
- MADISON ML-42-3 1" STRAIGHT SQUEEZE TYPE BOX CONNECTOR FOR 1" FLEX CONDUIT.
- 1" RIGID CONDUIT COUPLING (2" LONG).
- RACO #2904 1" EMT COMPRESSION TYPE CONNECTOR.
- CUT HOLE IN GYPSUM BOARD ABOVE CEILING AS REQUIRED FOR CONDUIT/FLEX INSTALLATION. FIRESTOP FIRE-RATED CONSTRUCTION IN ACCORDANCE WITH THE UL-LISTED THROUGH PENETRATION FIRESTOP DETAILS SHOWN ON THE DRAWINGS. FIRESTOP NON-FIRE-RATED CONSTRUCTION IN ACCORDANCE WITH THE N.C. STATE BUILDING CODE. SEE UL PENETRATION DETAILS, FIRESTOPPING DETAIL SHEET.
- FLEX CONDUIT MUST BE ATTACHED TO WALL WITH CONDUIT STRAP BEFORE FLEX ENTERS THE WALL.
- THE FRONT SURFACE OF THE BOX IS TO SET BACK NO MORE THAN 1/8" FROM THE SURFACE OF THE WALL. THE GAP IN THE WALL AROUND THE BOX IS NOT TO EXCEED 1/8".
- RACO #258 J-BOX W/ RACO #832 BLANK COVER PLATE. ANCHOR J-BOX SECURELY TO TOP OF WALL.

GENERAL NOTES:

1. CEILING HEIGHT MAY VARY FROM ROOM TO ROOM.
2. USE COMPRESSION COUPLINGS AND CONNECTORS FOR EMT CONDUIT.
3. ALL BOXES TO BE MOUNTED SUCH THAT SCREW HOLES FOR INSTALL KITS ARE AT TOP AND BOTTOM OF BOX IN ORDER FOR INSTALL KITS TO BE MOUNTED VERTICALLY. THIS MAY REQUIRE DRILLING A NEW HOLE IN OUTLET BOX FOR CONDUIT PENETRATION.
4. NO MORE THAN TWO (2) 90 DEGREE TURNS SHALL EXIST BETWEEN BOXES OR BETWEEN JUNCTION BOXES AND END OF CONDUIT. NO "LB" TYPE JOINTS WILL BE ALLOWED.
5. FOR FLUSH MOUNTED OUTLETS - ADJUST "EARS" OF BOTH BOXES SO THAT BOX WILL SET BACK FROM SURFACE OF WALL. WHEN CUTTING GYP. BOARD FOR BOX, CUT OUT FOR BOX AND NOTCH FOR TABS SO THAT BOX WILL SET BACK FROM SURFACE OF WALL. MAINTAIN NEC 370-21 EQUIPMENT.
6. PROVIDE PULL STRINGS BETWEEN PULLING POINTS. SECURE AT BOTH ENDS.



4 | FLUSH MOUNTED DATA OUTLET
NO SCALE



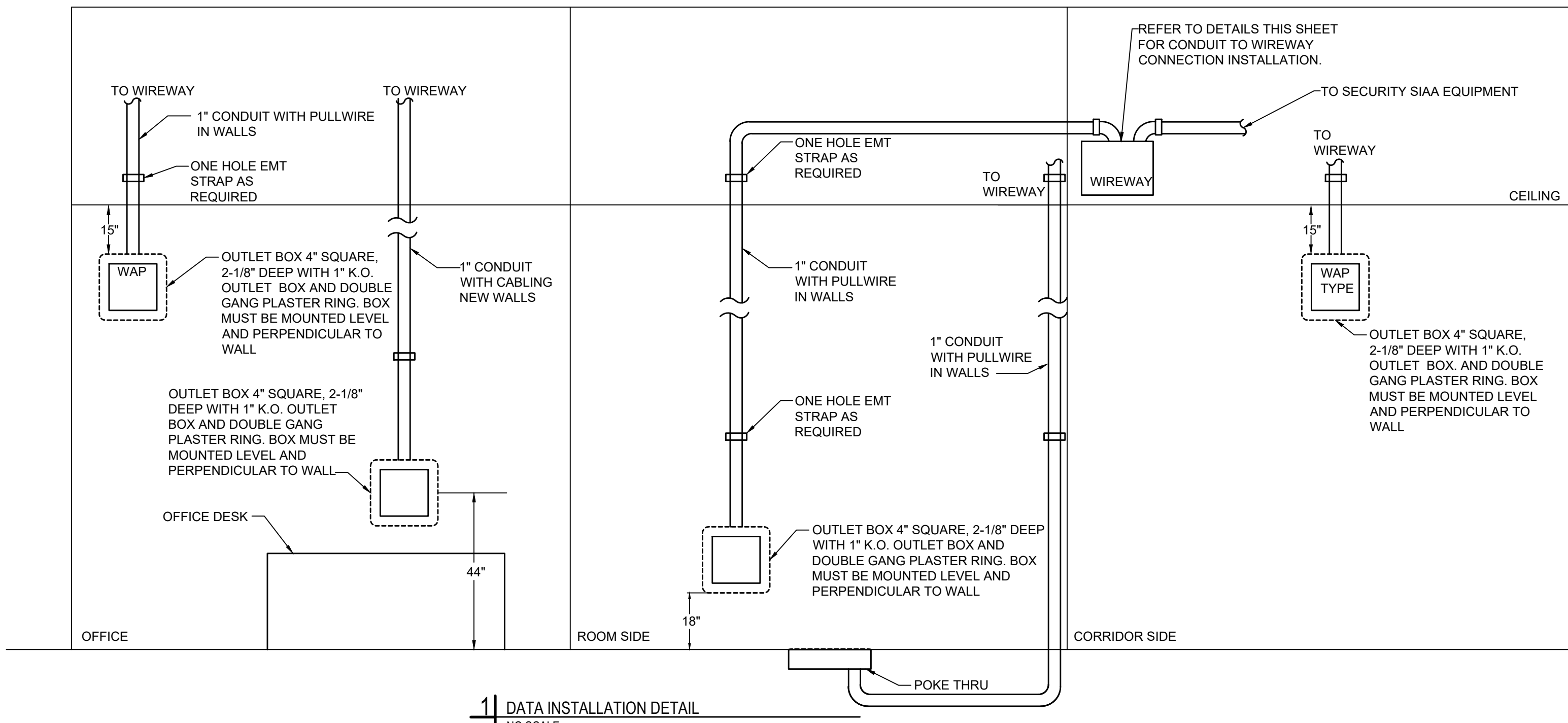
3 | SURFACE MOUNTED DATA OUTLET
NO SCALE

KEYNOTES:

- 1 RACO #258 J-BOX W/ RACO #832 BLANK COVER PLATE.
- 1" EMT CONDUIT TO NEW WIREWAY LOCATED IN HALLWAY CEILING SPACE. ROUTE ABOVE EXISTING ACOUSTIC CEILING TILE OR TIGHT TO FIXED TILE CEILING AND SUPPORT AS REQUIRED.
- RACO #2084 ONE HOLE EMT STRAP AS REQUIRED (TYPICAL).
- WIREMOLD V-2444-2 TWO GANG SURFACE MOUNTED OUTLET BOX. PROVIDE PULL STRING FROM OUTLET TO WIREWAY. SECURE AT BOTH ENDS.
- 1" EMT CONDUIT SURFACE MOUNTED. RUN CONDUIT TIGHT TO WALL WITH BOX OFFSETS AT JUNCTION BOXES AND OUTLET BOX.
- RACO #2904 1" EMT COMPRESSION TYPE CONNECTOR.

GENERAL NOTES:

1. CEILING HEIGHT MAY VARY FROM ROOM TO ROOM.
2. USE COMPRESSION COUPLINGS AND CONNECTORS FOR EMT CONDUIT.
3. ALL BOXES TO BE MOUNTED SUCH THAT SCREW HOLES FOR INSTALL KITS ARE AT TOP AND BOTTOM OF BOX IN ORDER FOR INSTALL KITS TO BE MOUNTED VERTICALLY. THIS MAY REQUIRE DRILLING A NEW HOLE IN OUTLET BOX FOR CONDUIT PENETRATION.
4. NO MORE THAN TWO (2) 90 DEGREE TURNS SHALL EXIST BETWEEN BOXES OR BETWEEN JUNCTION BOXES AND END OF CONDUIT. NO "LB" TYPE JOINTS WILL BE ALLOWED.
5. FIRESTOP FIRE-RATED CONSTRUCTION IN ACCORDANCE WITH THE UL-LISTED THROUGH PENETRATION FIRESTOP DETAILS SHOWN ON THE DRAWINGS. FIRESTOP NON-FIRE-RATED CONSTRUCTION IN ACCORDANCE WITH THE N.C. STATE BUILDING CODE. SEE UL PENETRATION DETAILS, FIRESTOPPING DETAIL SHEET.
6. PROVIDE PULL STRINGS BETWEEN PULLING POINTS. SECURE AT BOTH ENDS.

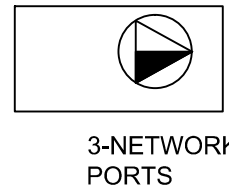


1 | DATA INSTALLATION DETAIL
NO SCALE

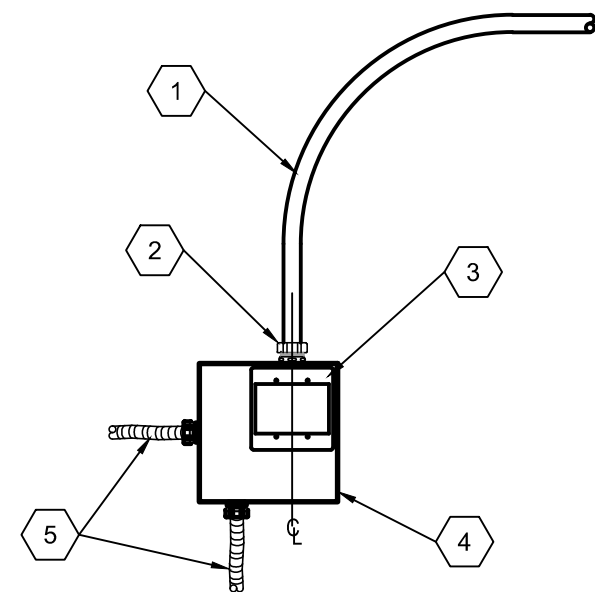
GENERAL NOTES:

1. CEILING HEIGHTS VARY FROM ROOM TO ROOM
2. USE COMPRESSION COUPLING AND CONNECTORS FOR EMT CONDUIT
3. ALL BOXES AND PLASTER RINGS TO BE MOUNTED SUCH THAT SCREW HOLES ARE AT TOP AND BOTTOM OF BOX IN ORDER FOR FACEPLATES TO BE MOUNTED VERTICALLY
4. MO MORE THAN TWO (2) 90° DEGREE TRUNS SHALL EXIST BETWEEN BOXES OR BETWEEN JUNCTION BOXES AND END OF CONDUIT. NO "LB" TYPE JOINTS WILL BE ALLOWED.

SYMBOL (SSI-B)



3-NETWORK
PORTS



3-NETWORK PORT

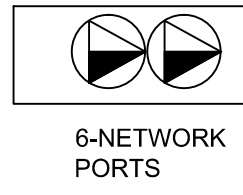
KEYED NOTES:

1. 1" EMT CONDUIT TO TELECOM WIREWAY.
2. 1" EMT COMPRESSION TYPE CONNECTOR. ATTACH IN CENTER OF WIREMOLD BOX AS SHOWN.
3. WIREMOLD V-2444-2 TWO-GANG SURFACE MOUNTED OUTLET BOX. PROVIDE PULLSTRING FROM OUTLET TO WIREWAY. SECURE AT BOTH ENDS.
4. 8" X 8" X 6" JUNCTION BOX WITH SCREW COVER.
5. FLEX CONDUIT TO SECURITY SYSTEM ENDPOINT DEVICES.

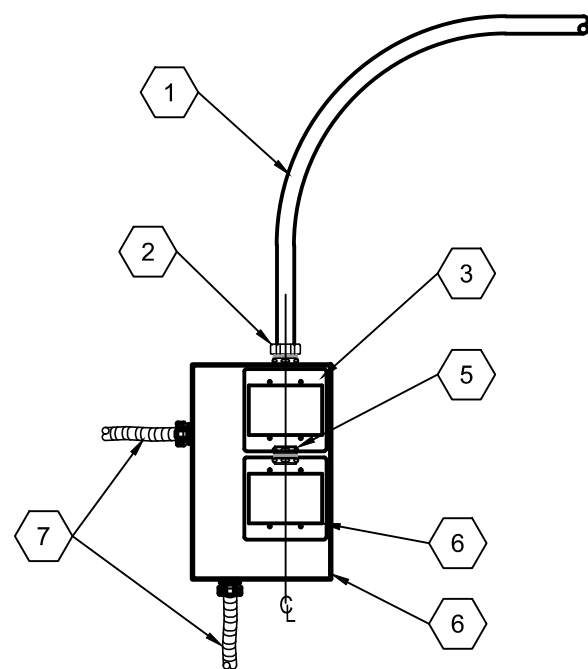
NOTES:

1. INSTALL BOX BETWEEN 9FT AND 14FT ABOVE FINISHED FLOOR (AFF) UNLESS APPROVED BY NCSU COMTECH OR NCSU SAT OFFICE.

SYMBOL (SSI-A)



6-NETWORK
PORTS



6-NETWORK PORT

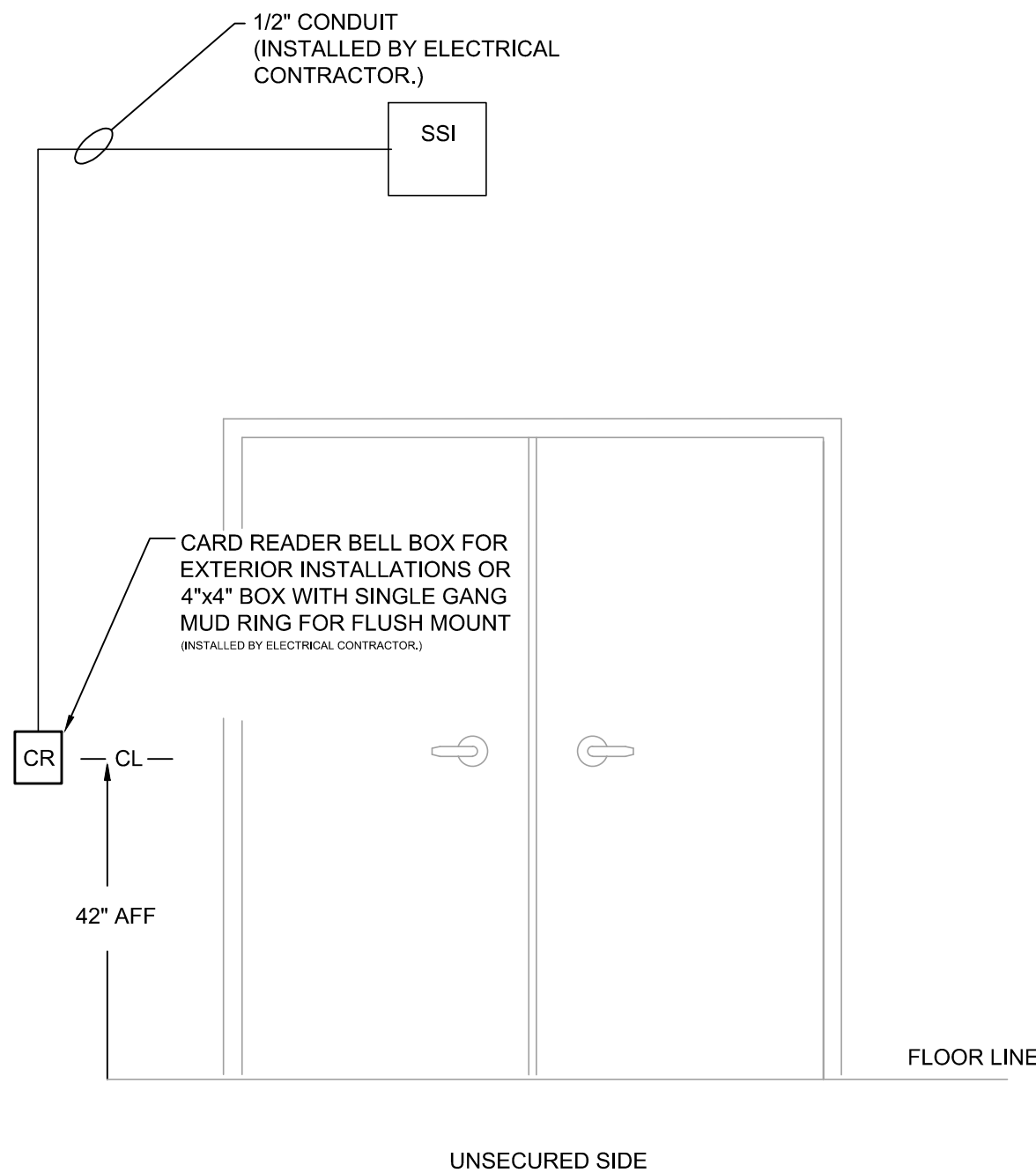
KEYED NOTES:

1. 1-1/2" EMT CONDUIT TO TELECOM WIREWAY.
2. 1-1/2" EMT COMPRESSION TYPE CONNECTOR. ATTACH IN CENTER OF WIREMOLD BOX AS SHOWN.
3. WIREMOLD V-2444-2 TWO-GANG SURFACE MOUNTED OUTLET BOX. PROVIDE PULLSTRING FROM OUTLET TO WIREWAY. SECURE AT BOTH ENDS.
4. WIREMOLD V-2442-2 TWO GANG SURFACE MOUNTED OUTLET BOX.
5. 1" CONDUIT CHASE NIPPLE AND LOCKNUT
6. 10" X 10" X 6" JUNCTION BOX WITH SCREW COVER.
7. FLEX CONDUIT TO SECURITY SYSTEM ENDPOINT DEVICES.

NOTES:

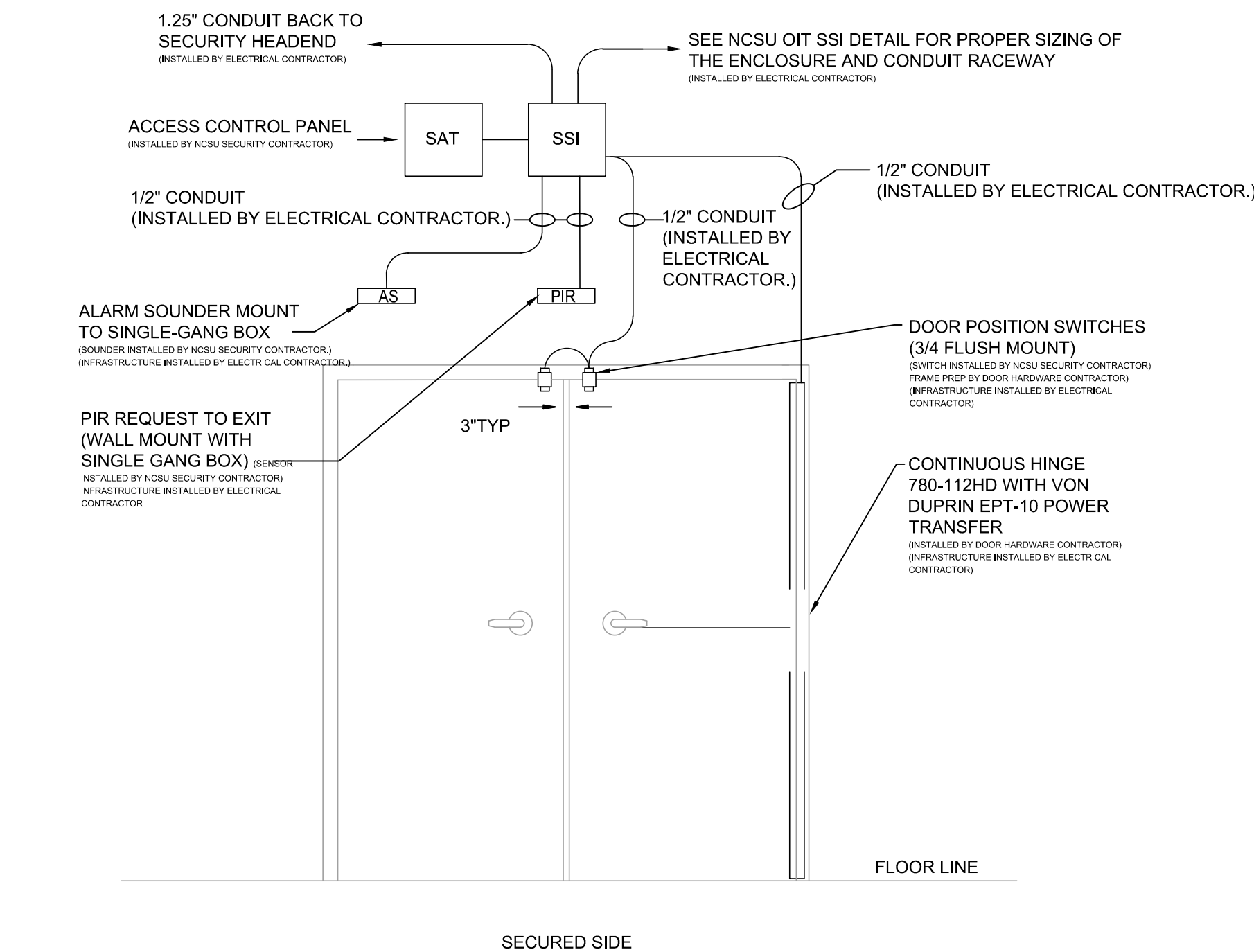
1. INSTALL BOX BETWEEN 9FT AND 14FT ABOVE FINISHED FLOOR (AFF) UNLESS APPROVED BY NCSU COMTECH OR NCSU SAT OFFICE.

3 SECURITY INTERFACE TWO OUTLET (SSI)
NO SCALE

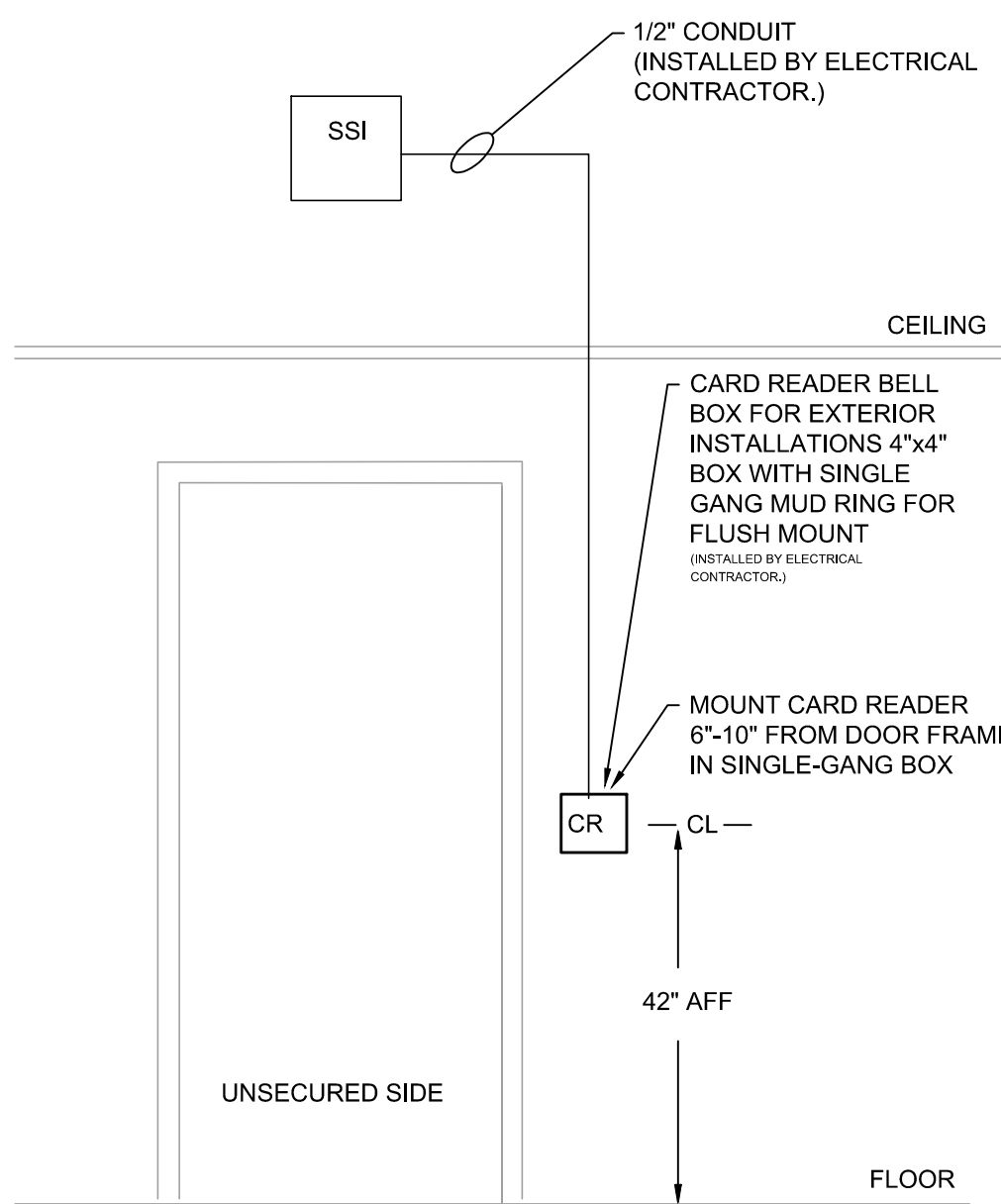


UNSECURED SIDE

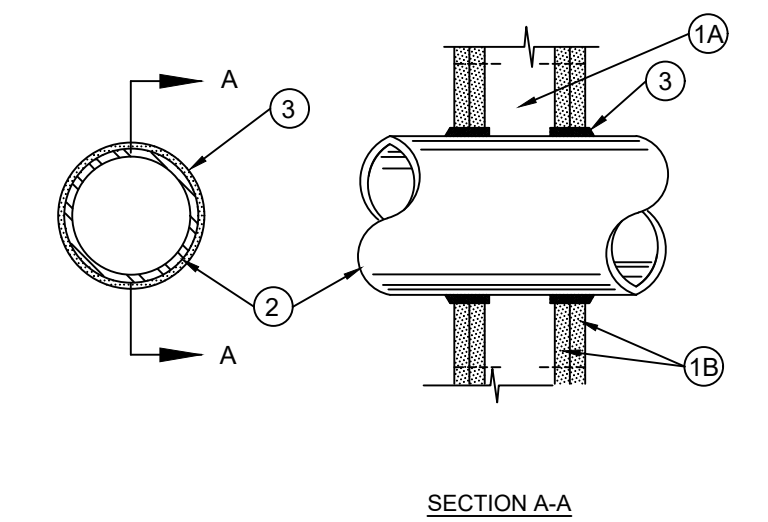
2 DOUBLE DOOR SECURITY ROUGH IN DETAIL
NO SCALE



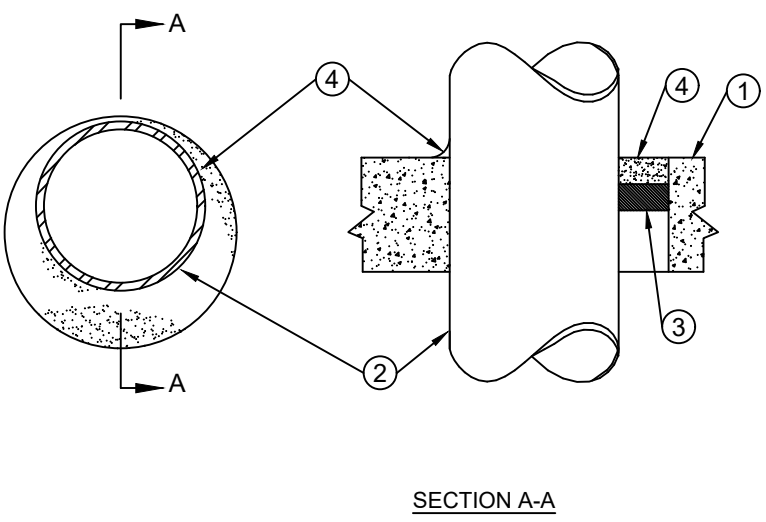
SECURED SIDE



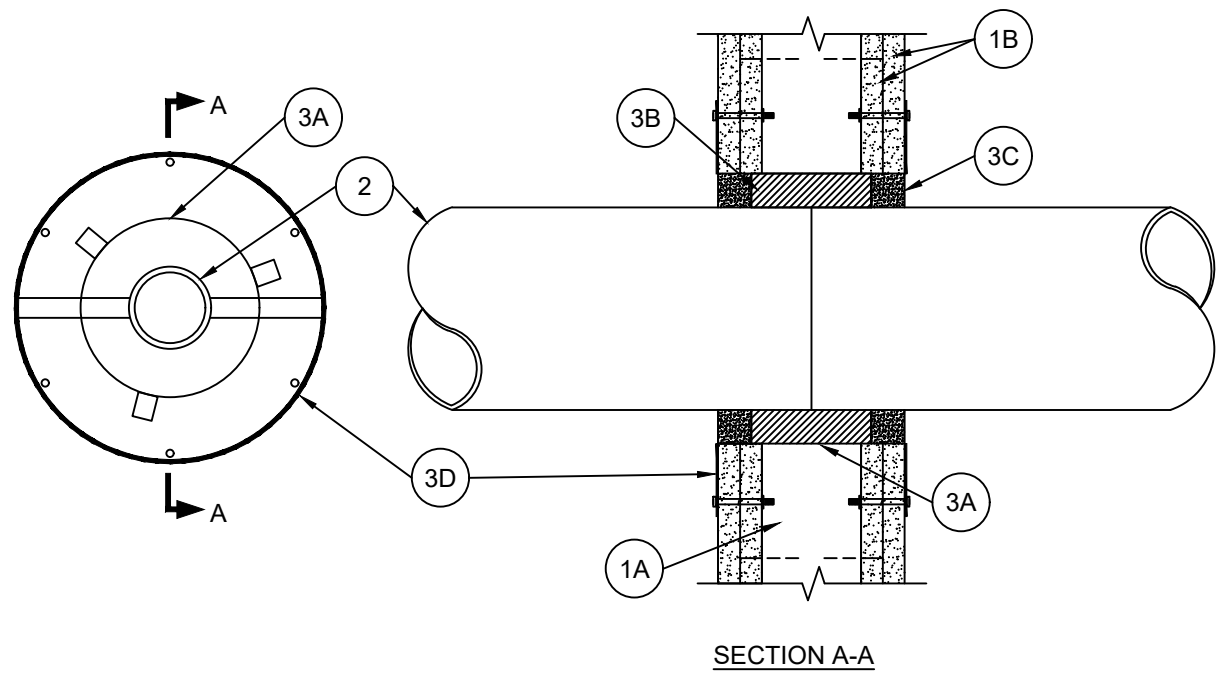
SYSTEM NO. W-L-1001
JUNE 15 2005
F RATINGS-1, 2, 3 AND 4 HR (SEE ITEM 2 AND 3)
T RATING-0, 1, 2, 3, AND 4 HR. (SEE ITEM 3)
L RATING AT AMBIENT - LESS THAN 1 CFM PER SQ. FT.
L RATING AT 400°F - LESS THAN 1 CFM PER SQ. FT.



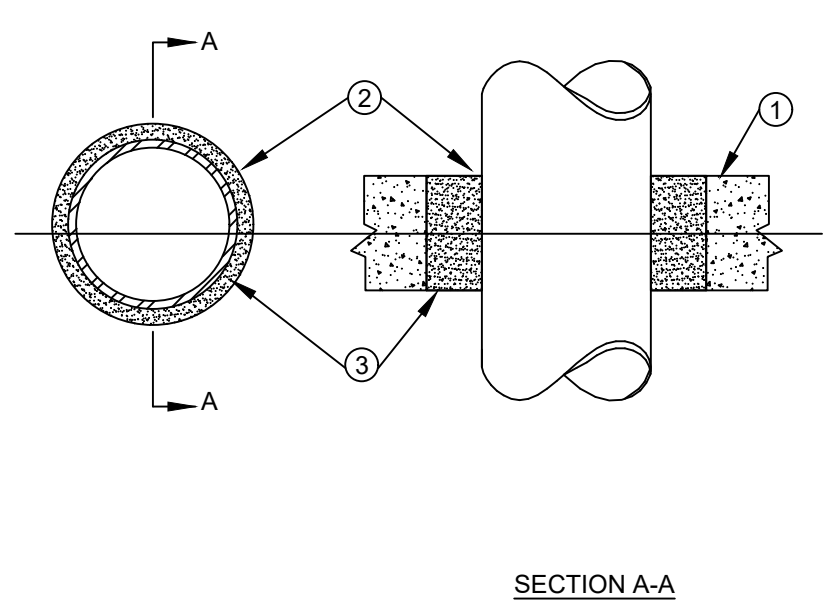
SYSTEM NO. C-AJ-1001
MARCH 05 2007
F RATINGS-3 4 HR
T RATING-0 HR
W RATING - CLASS 1 (SEE ITEM 4)



SYSTEM NO. W-L-1005
F Ratings - 1 T
Rating - 0



SYSTEM NO. C-AJ-1041
NOVEMBER 05, 2010
F RATINGS-2 HR
T RATING-0 HR.



- THE 1, 2, 3 OR 4 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE WALL ASSEMBLY-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:
 - 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.
 - GYPSUM BOARD* - NOM 1/2 OR 5/8 IN. THICK, 4 FT. 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.

- 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. (POINT CONTACT) TO MAX MAX 2 IN. 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.

- STEEL PIPE - NOM 24 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
- IRON PIPE - NOM 24 IN. DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12 IN DIAM (OR SMALLER) OR CLASS 50 (OR HEAVIER) DUCTILE LINE PRESSURE PIPE.
- CONDUIT - NOM 6 IN. DIAM. (OR SMALLER) STEEL CONDUIT OR NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.
- COPPER TUBING - NOM 6 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
- COPPER PIPE - NOM 6 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
- THROUGH PENETRATING PRODUCT* - FLEXIBLE METAL PIPING THE FOLLOWING TYPES OF STEEL FLEXIBLE METAL GAS PIPING MAY BE USED:

- NOM 2 IN. 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

- NOM 1 IN. 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.

GASTILE, DIV OF TILEFLEX

- NOM 1 IN. 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

- FILL, VOID OR CAVITY MATERIAL* - CAULK OR SEALANT - MIN 5/8, 1-1/4, 1-7/8 AND 2-1/2 IN THICKNESS OF CAULK FOR 1, 2, 3, 4 HR RATED ASSEMBLIES, RESPECTIVELY, APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OR WALL. MIN 1/4 IN DIAM BEAD OF CAULK APPLIED TO GYPSUM BOARD/PENETRANT INTERFACE AT POINT CONTACT LOCATION ON BOTH SIZE OF WALL. THE HOURLY F RATING OF THE FIRESTOP 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	F RATING HR	T RATING HR
1	1 or 2	0+, 1 or 2
1	3 or 4	3 or 4
4	1 or 2	0
6	3 or 4	0
12	1 or 2	0

*WHEN COPPER PIPE IS USED, T RATING IS 0 H.
3M COMPANY - CP 25WB+ or FB-3000 WT.
*BEARING THE UL CLASSIFICATION MARKING.

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- FLOOR OR WALL ASSEMBLY - MIN 4-1/2 IN. THICK LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAM OF CIRCULAR THROUGH OPENING IS 32-1/2 IN.

SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

- STEEL SLEEVE - (OPTIONAL, NOT SHOWN) - NOM 12 IN. DIAM (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL PIPE SLEEVE CAST INTO CONCRETE FLOOR OR WALL. SLEEVE TO BE FLUSH WITH OR PROJECT MAX 2 IN. FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL. AS AN ALTERNATE, NOM 12 IN DIAM (OR SMALLER) SLEEVE FABRICATED FROM NOM 0.019 IN THICK GALV STEEL CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY FLUSH WITH FLOOR OR WALL SURFACE.

- 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. (POINT CONTACT) TO MAX 1-3/8" IN. 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:

- STEEL PIPE-NOM 30 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
- IRON PIPE-NOM 30 IN. DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.
- CONDUIT-NOM 6 IN. DIAM (OR SMALLER) RIGID STEEL CONDUIT.
- CONDUIT- NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.

- PACKING MATERIAL - POLYETHYLENE BACKER ROD OR NOM 1 IN. THICKNESS OF TIGHTLY-PACKED CERAMIC (ALUMINA SILICA) FIBER BLANKET, MINERAL WOOL BATT OR GLASS FIBER INSULATION MATERIAL USED AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF SOLID CONCRETE OR CONCRETE BLOCK WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF CAULK FILL MATERIAL (ITEM 4). AS AN ALTERNATE WHEN MAX PIPE SIZE IS 10 IN. DIAM AND WHEN MAX ANNULAR SPACE IS 1 IN. OR, A MIN 1 IN. THICKNESS OF TIGHTLY-PACKED CERAMIC FIBER BLANKET OF MINERAL WOOL BATT PACKING MATERIAL MAY BE RECESSED MIN 1/2 IN. FROM BOTTOM SURFACE OF FLOOR OR FROM EITHER SIDE OF SOLID CONCRETE WALL.

- FILL, VOID OR CAVITY MATERIALS* - CAULK - APPLIED TO FILL THE ANNULAR SPACE TO THE MIN THICKNESS SHOWN IN THE FOLLOWING TABLE:

MAX PIPE DIAM IN	MAX ANNULAR SPACE IN.	PACKING MATERIAL TYPE (A)	MIN. CAULK THKNS IN
10	1	BR, CF, GF OR MW	1/2 (B)
10	1	CF OR MW	1/2 (C)
30	2-1/2	BR, CF, GF OR MW	1 (B)

(A) BR= POLYETHYLENE BACKER ROD.

CF= CERAMIC FIBER BLANKET.

GF= GLASS FIBER INSULATION.

MW= MINERAL WOOL BATT

(B) CAULK INSTALLED FLUSH WITH TOP SURFACE OF FLOOR OR BOTH SURFACES OF WALL

(C) CAULK INSTALLED FLUSH WITH BOTTOM SURFACE OF FLOOR OR ONE SURFACE OF SOLID (NON-CONCRETE BLOCK) WALL.

3M COMPANY- TYPE CP 25WB+ OR FB-3000 WT

(NOTE - W RATING APPLIES ONLY WHEN FB-3000 WT IS USED ON TOP SURFACE OF FLOOR AND WHEN IT LAPS ONTO CONCRETE FOR SLEEVED OPENING.)

* BEARING THE UL CLASSIFICATION MARKING.

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- WALL ASSEMBLY - THE FIRE-RATED GYPSUM/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400 SERIES WALL OR PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

- STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC. STEEL STUDS TO BE MIN 2-1/2 IN. WIDE AND SPACED MAX 24 IN. OC.
- GYPSUM BOARD* - TWO LAYERS OF NOM 5/8 IN. THICK GYPSUM WALLBOARD, AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAX DIAM OF OPENING IS 6 IN.

- THROUGH PENETRATES - ONE METALLIC PIPE OR TUBING TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. PIPE OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR TUBING MAY BE USED:

- STEEL PIPE - NOM 4 IN. DIAM (OR SMALLER) SCHEDULE 5 (OR HEAVIER) STEEL PIPE. A NOM ANNULAR SPACE OF 3/4 IN. IS REQUIRED WITHIN THE FIRESTOP SYSTEM.
- CONDUIT - NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR STEEL CONDUIT. A NOM ANNULAR SPACE OF 3/4 IN IS REQUIRED WITHIN THE FIRESTOP.

- FIRESTOP SYSTEM - THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:

- METALLIC SLEEVE - NOM 6" IN DIAM (OR SMALLER) STEEL SLEEVE WITH NOM 3/4 IN BY 3/4 IN LONG TABS TO RETAIN PUTTY (ITEM C) IN POSITION. SLEEVE FABRICATED FROM 0.016 IN THICK GALV SHEET STEEL AVAILABLE FROM PUTTY MANUFACTURER. LENGTH OF STEEL SLEEVE TO BE EQUAL TO THICKNESS OF WALL. SLEEVE INSTALLED BY COILING THE SHEET STEEL TO A DIAM SMALLER THAN THE THROUGH OPENING, INSERTING THE COIL THROUGH THE OPENING AND RELEASING THE COIL TO LET IT UNCOIL AGAINST THE CIRCULAR CUTOUTS IN THE WALL ASSEMBLY. AS AN ALTERNATE, THE STEEL SLEEVE MAYBE FIELD FABRICATED FROM 0.016 IN THICK GALV SHEET STEEL IN ACCORDANCE WITH INSTRUCTION SHEET SUPPLIED BY PUTTY MANUFACTURER.

- PACKING MATERIAL - MIN 3 IN. THICKNESS OF MIN 6 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FROM. PACKING MATERIAL TO BE RECESSED FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

- FILL, VOID OR CAVITY MATERIAL* - PUTTY-MIN 1 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, ON BOTH SURFACES OF WALL. ADDITIONAL MATERIAL TO BE INSTALLED SUCH THAT A MIN 1/8 IN. CROWN IS FORMED AROUND PENETRATING ITEM.

EGS NELSON FIRESTOP - TYPE FSP PUTTY

- TRIM RING - NOM 8 IN. DIAM BY 0.016 IN (NO 30 GAUGE) THICK GALV SHEET RING AVAILABLE FROM PUTTY MANUFACTURER. RING SUPPLIED IN TWO SECTIONS AND POSITIONED TOGETHER WITH A 1/2 IN OVERLAP. RING SECURED TO SURFACE OF WALL ASSEMBLY BY SIX 5/16 IN DIAM BY 2 IN .ONG STEEL WALL ANCHORS, EQUALLY SPACED.

* BEARING THE U L CLASSIFICATION MARK

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- FLOOR OR WALL ASSEMBLY - Min 3-1/4 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any ul classified concrete blocks*. Max diam of opening is 6 in.

SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

- THROUGH-PENETRANTS- One metallic pipe, conduit or tubing to be centered within the firestop system. A nom annular space of 3/4 in. is required within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduit or tubing may be used:

A. STEEL PIPE - Nom 4 in. diam (or smaller) schedule 5 (or heavier) steel pipe.

B. CONDUIT-Nom 4 in. diam (or smaller) steel electrical tubing or steel conduit.

- FILL, VOID OR CAVITY MATERIALS* - Putty - Min 3-1/4 in. thickness of fill material applied within the annulus, flush with both surfaces of floor or wall.

EGS NELSON FIRESTOP - TYPE FSP PUTTY

* BEARING THE UL CLASSIFICATION MARK

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artarc@clearscapes.com

CONSULTANTS

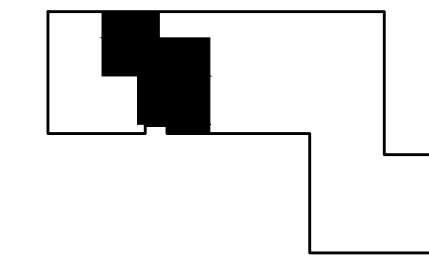
Structural

Lysaght & Associates
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Raleigh, NC
919.833.0465
chuck@lysaghtassociates.com

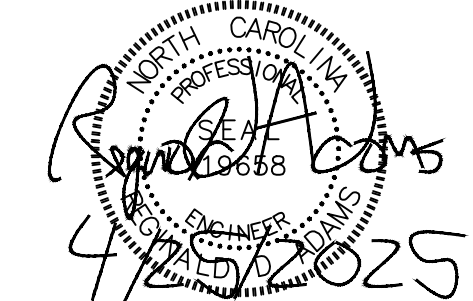
MEP Engineer

Sigma Engineered Solutions
sigmaes.com
5909 Falls of Neuse Rd, Ste #101
Raleigh, NC
919.840.5300
radams@sigmaes.com

KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT
NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

No.	Description	Date

PROJECT DATA

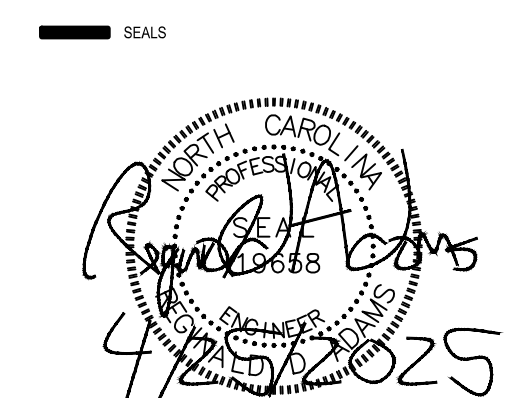
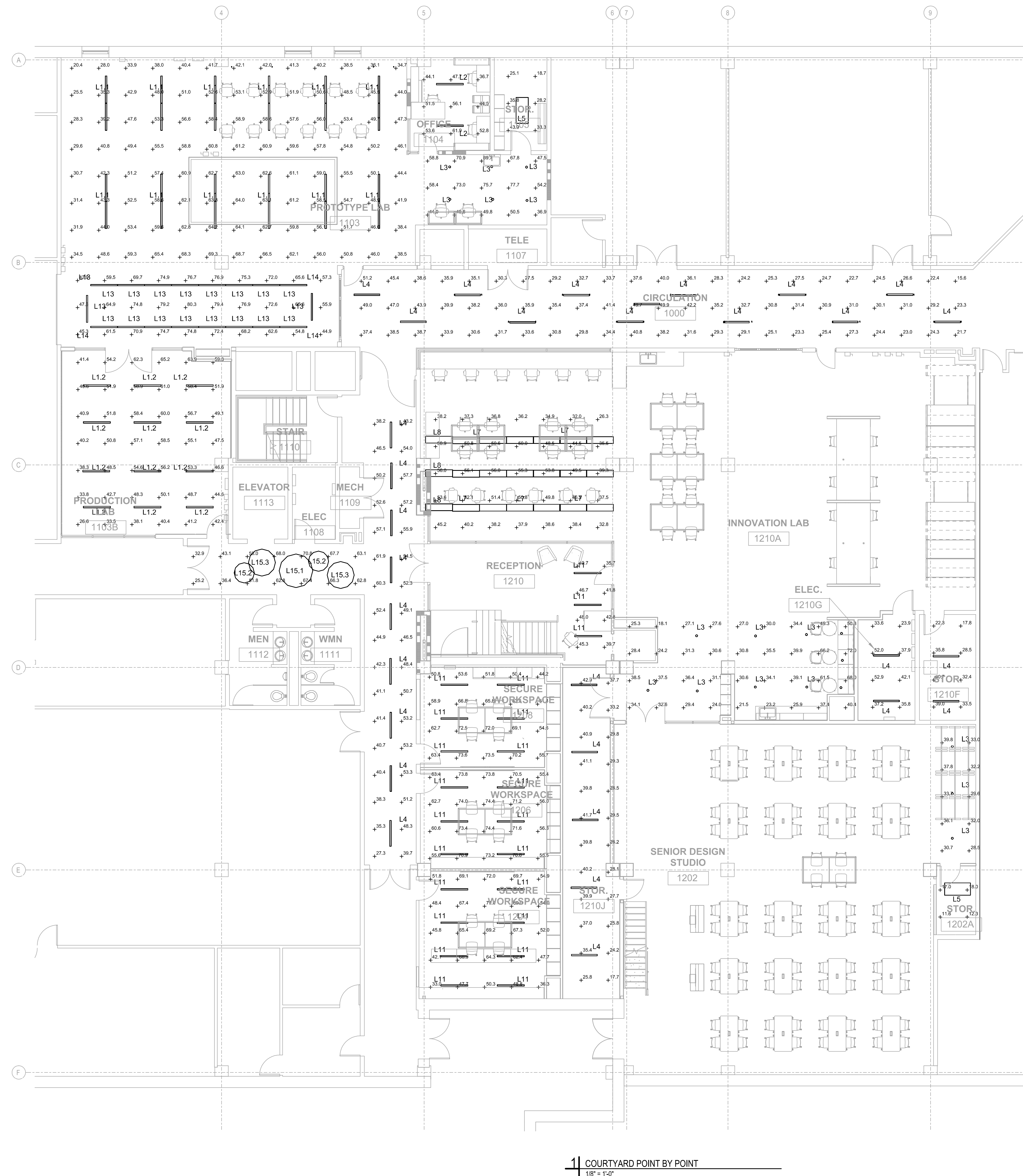
DATE: 04.25.2025
DRAWN: MP
CHECKED: RDA
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA

ELECTRICAL
DETAILS

SHEET NO.

E504

[illegible]

1 | COURTYARD POINT BY POINT
1/8" = 1'-0"

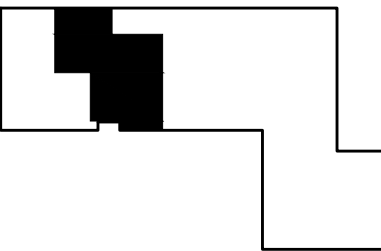
Structural

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919.833.0495
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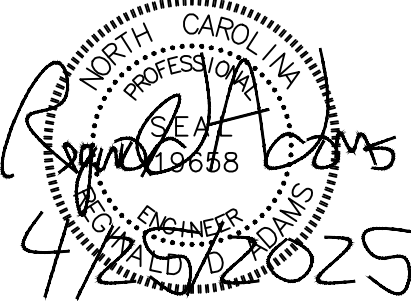
MEP Engineer

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5909 Falls of Neuse Rd, Ste #101
Raleigh, NC
919.840.8300
radams@sigmaes.com

KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

PROJECT DATA

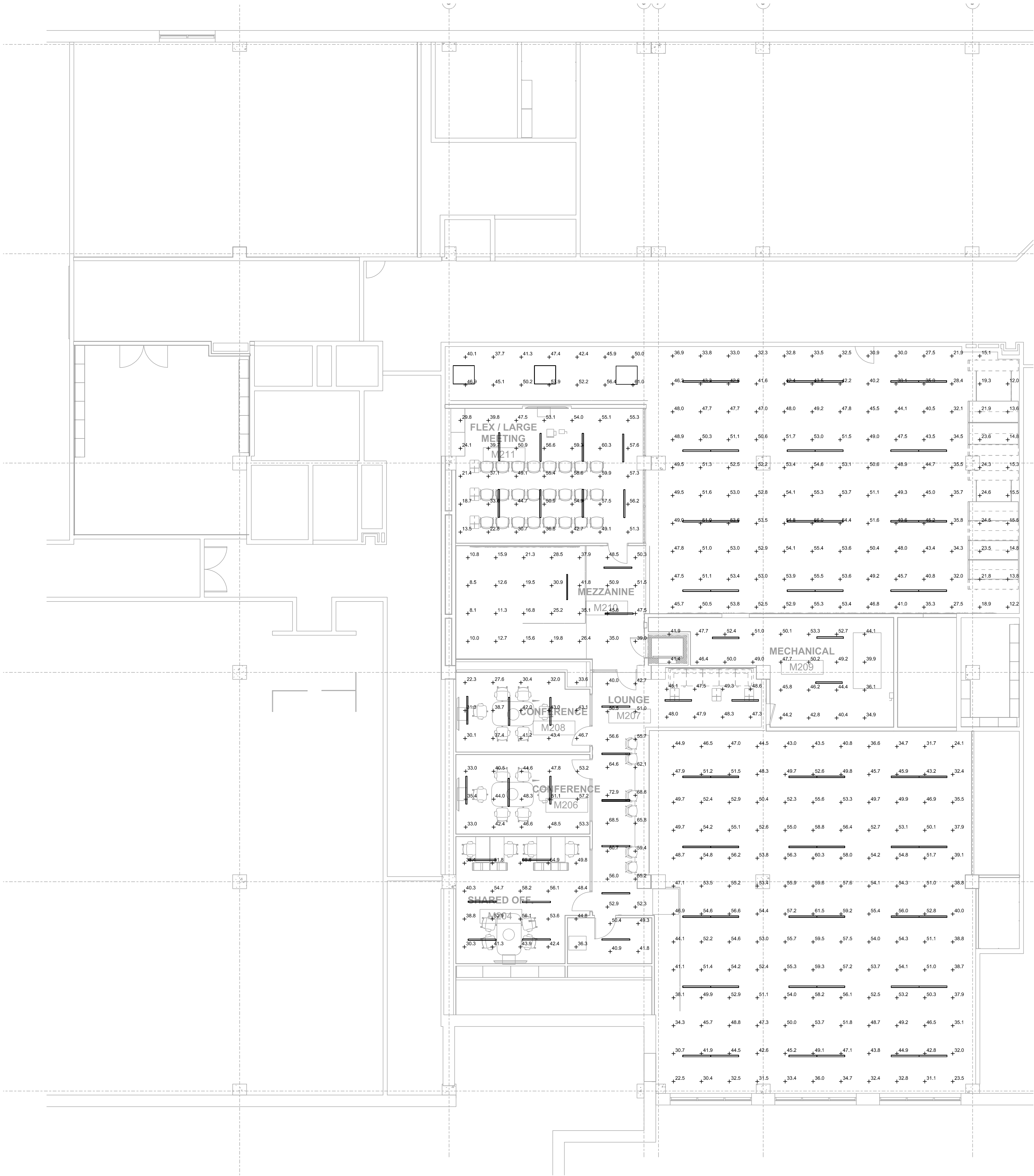
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PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

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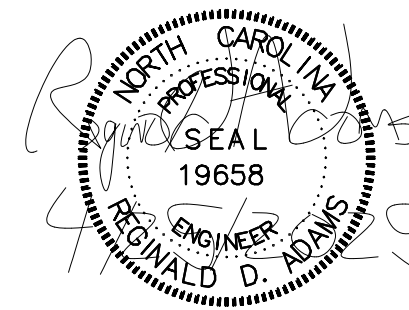
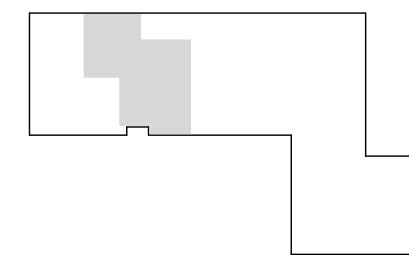
MEZZANINE
POINT BY POINT

SHEET NO.

E601



1 MEZZANINE POINT BY POINT
1/8" = 1'-0"



No.	Description	Date

GENERAL NOTES:

- REFERENCE SHEET E001 FOR LEGEND, SCHEDULES, ABBREVIATIONS AND ADDITIONAL GENERAL NOTES.
- ALL INITIATION DEVICES IN THE RENOVATED AREA AND CORRIDOR TO BE REPLACE WITH NEW ADDRESSABLE DEVICES.
- SPEAKER NOTIFICATION CIRCUITS IN THE RENOVATED AREA AND CORRIDOR TO BE REPLACE WITH NEW SPEAKER CIRCUIT.

KEYED NOTES:

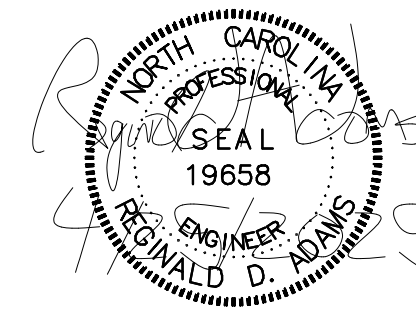
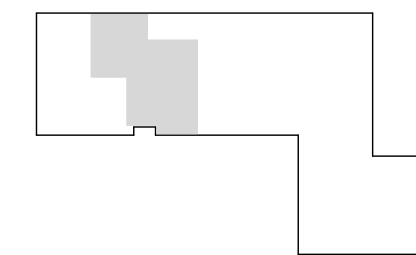
- AREA NOT PART OF RENOVATION. CONTRACTOR TO DISCONNECT ALL DEVICES IN RENOVATED AREA FROM EXISTING CIRCUIT. THEN REWORK ALL INITIATION AND NOTIFICATION CIRCUITS IN NON-RENOVATED AREAS. THEN TEST DEVICE FOR PROPER OPERATION.
- ALL EXISTING INITIATION DEVICES IN RENOVATED AREA TO BE REMOVED. EXISTING CONDUIT AND CABLING TO BE REMOVED UNLESS OTHERWISE NOTED.
- EXISTING DEVICE TO BE REPLACED. EXISTING CABLE TO BE REMOVED. EXISTING CONDUIT IN WALL MAY BE REUSED. ALL EXPOSED CONDUIT TO BE REMOVED.

FIRE ALARM SYMBOLS

- FACP WALL MTD FIRE ALARM CONTROL PANEL
- NAC WALL MTD FIRE ALARM NOTIFICATION APPLIANCE CONTROL PANEL
- RFAA FIRE ALARM ANNUNCIATOR
- COM FIRE ALARM COMMUNICATOR
- F K WALL MOUNTED KEYED PULLSTATION
- S SMOKE DETECTOR, CEILING MTD
- Sr SMOKE DETECTOR, ELEVATOR CEILING MTD
- H HEAT DETECTOR, CEILING MTD
- S CON CONVENTIONAL DUCT MOUNTED SMOKE DETECTOR
- RA REMOTE INDICATOR LAMP WITH TEST SWITCH
- MM MONITOR MODULE
- CM CONTROL MODULE
- IM ISOLATION MODULE
- M MAGNETIC DOOR HOLDER
- SP SURGE PROTECTOR
- F FLOW SWITCH
- T TAMPER SWITCH
- xxcd CEILING MOUNTED FIRE ALARM AUDIO/VISUAL DEVICE
XXcd -CANDELA LEVEL PER DRAWING
- CEILING MOUNTED FIRE ALARM AUDIO DEVICE
- xxcd CEILING MOUNTED FIRE ALARM VISUAL DEVICE
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XXcd -CANDELA LEVEL PER DRAWING
- xxcd WALL MOUNTED FIRE ALARM AUDIO DEVICE
XXcd -CANDELA LEVEL PER DRAWING
- B 24VOLT SPRINKLER BELL.

PARTITION LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- UNRATED WALL
- PARTITION TYPE
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER



BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
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SHEET DATA

**FIRE ALARM
NEW WORK
PLAN**

SHEET NO.

FA201

GENERAL NOTES:

- REFERENCE SHEET E001 FOR LEGEND, SCHEDULES, ABBREVIATIONS AND ADDITIONAL GENERAL NOTES.
- ALL INITIATION DEVICES IN THE RENOVATED AREA AND CORRIDOR TO BE REPLACE WITH NEW ADDRESSABLE DEVICES.
- SPEAKER NOTIFICATION CIRCUITS IN THE RENOVATED AREA AND CORRIDOR TO BE REPLACE WITH NEW SPEAKER CIRCUIT.

KEYED NOTES:

- AREA NOT PART OF RENOVATION. CONTRACTOR TO DISCONNECT ALL DEVICES IN RENOVATED AREA FROM EXISTING CIRCUIT. THEN REWORK ALL INITIATION AND NOTIFICATION CIRCUITS IN NON-RENOVATED AREAS. THEN TEST DEVICE FOR PROPER OPERATION.
- NEW TERMINAL CABINET FOR OUTGOING LOOP CABLING. MOUNT ABOVE DOOR.
- NEW TERMINAL CABINET FOR RETURN LOOP CABLING. MOUNT ABOVE DOOR.
- NEW SPEAKER / STROBE DEVICE. SPEAKER CIRCUITS TO BE ROUTED FROM NEW AMPLIFIER CIRCUIT LOCATED ON ENTRY LEVEL ROOM OFFICE 2433. REFER TO DRAWING E108 FOR ADDITIONAL INFORMATION. TYPICAL ALL SPEAKER / STROBE DEVICES IN RENOVATED AREAS AND CORRIDOR.
- NEW ADDRESSABLE DEVICE TO BE WIRED INTO EXISTING INITIATION LOOP. TYPICAL ALL DEVICES IN RENOVATED AREAS AND CORRIDOR.

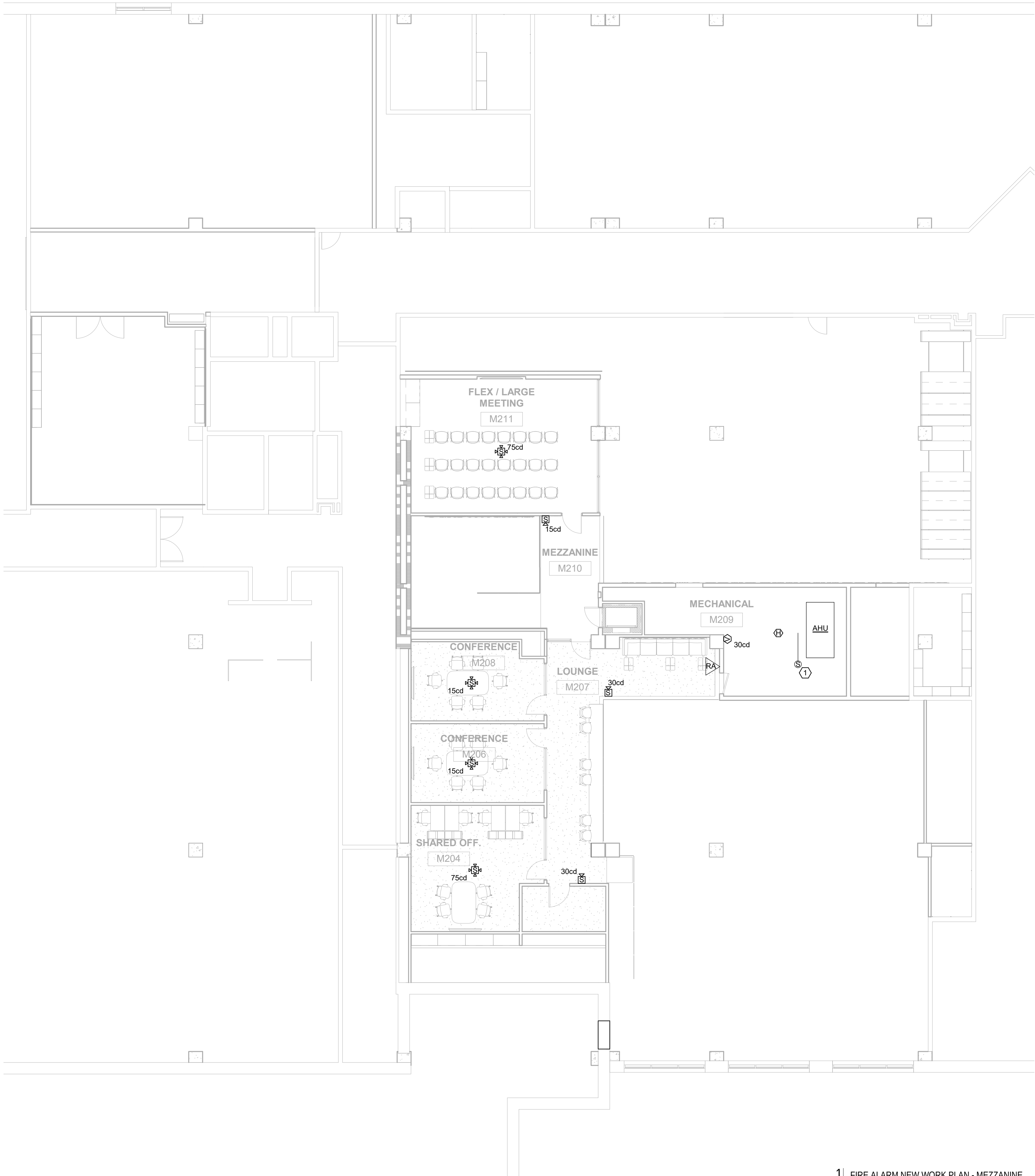
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IM	ISOLATION MODULE
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SP	SURGE PROTECTOR
F	FLOW SWITCH
T	TAMPER SWITCH
xxcd H	CEILING MOUNTED FIRE ALARM AUDIO/VISUAL DEVICE XXcd -CANDELA LEVEL PER DRAWING
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xxcd V	WALL MOUNTED FIRE ALARM AUDIO DEVICE XXcd -CANDELA LEVEL PER DRAWING
B	24VOLT SPRINKLER BELL

PARTITION LEGEND

	EXISTING CONSTRUCTION TO REMAIN
	EXISTING WALL TO BE DEMOLISHED
	UNRATED WALL
	PARTITION TYPE
	1-HOUR FIRE BARRIER
	2-HOUR FIRE BARRIER

1 FIRE ALARM NEW WORK PLAN - COURTYARD LEVEL
1/8" = 1'-0"



1 FIRE ALARM NEW WORK PLAN - MEZZANINE
1/8" = 1'-0"

GENERAL NOTES:

1. REFERENCE SHEET E001 FOR LEGEND, SCHEDULES, ABBREVIATIONS AND ADDITIONAL GENERAL NOTES.

KEYED NOTES:

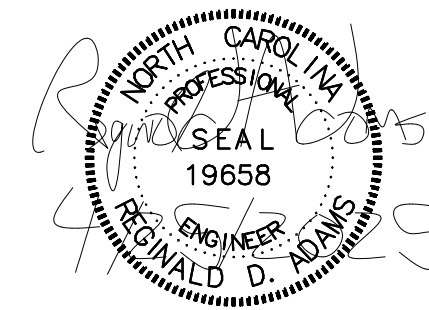
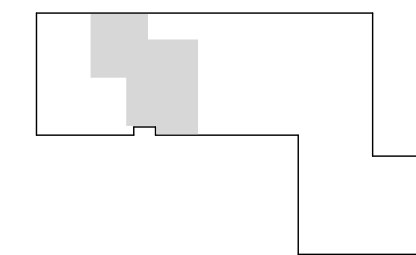
- ① COORDINATE INSTALLATION OF DUCT DETECTOR WITH DIVISION 23.

FIRE ALARM SYMBOLS

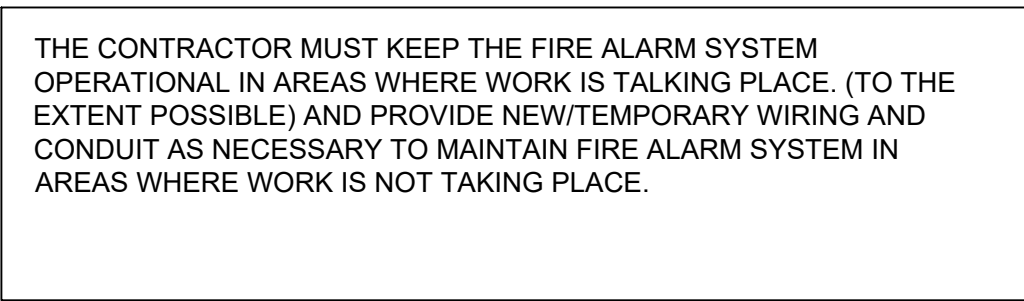
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B	24VOLT SPRINKLER BELL.

PARTITION LEGEND

	EXISTING CONSTRUCTION TO REMAIN
	EXISTING WALL TO BE DEMOLISHED
	UNRATED WALL
	PARTITION TYPE
	1-HOUR FIRE BARRIER
	2-HOUR FIRE BARRIER



REVISIONS		
No.	Description	Date



NOTES:

- KEYED NOTES:

- | | |
|---|---|
| 1 | PARTIAL MODIFIED FIRE ALARM RISER DIAGRAM |
| | NO SCALE |

KEYED NOTES:

- 1 EXISTING SIMPLEX 4100 ES PANEL TO REMAIN AND BE MODIFIED.
- 2 NEW TERMINAL CABINETS TO BE ADDED TO EXISTING OUTGOING IN RETURN ADDRESSABLE LOOPS.
- 3 NEW AMPLIFIER AND AUDIO TRANSFORMER CABINET.
- 4 NEW NOTIFICATION DEVICE TO BE CONNECTED TO NEW AMPLIFIER CIRCUIT AND STROBE CIRCUIT .
- 5 NEW ADDRESSABLE INITIATING DEVICE TO BE ADDED TO EXISTING ADDRESSABLE LOOP.
- 6 ONCE ALL DEVICE HAVE BEEN ADDED TEST 100% OF ALL DEVICES ON LOOPS THAT HAVE BEEN MODIFIED AND 10% OF EXISTING SYSTEM DEVICES.

FIRE ALARM RISER GENERAL NOTES:

1. THIS DRAWING IS INTENDED TO SHOW ONLY WHICH DEVICES ARE CONNECTED TO WHICH CIRCUIT. THIS DRAWING DOES NOT SHOW THE OPTIMUM PATH FOR THE CIRCUITS. REFER TO FLOOR PLAN FOR SPECIFIC QUANTITIES AND LOCATIONS OF FIRE ALARM DEVICES. REFER TO FIRE PROTECTION FLOOR PLANS FOR EXACT QUANTITIES OF TAMPER, FLOW, AND SUPERVISORY VALVES. REFER TO MECHANICAL FLOOR PLANS FOR EXACT QUANTITIES AND LOCATIONS OF DUCT DETECTORS.
2. ALL NEW FIRE ALARM CABLE SHALL BE IN MINIMUM 3/4" CONDUIT. RACEWAYS CONTAINING FIRE ALARM CONDUCTORS SHALL BE MARKED IN RED FOR READY IDENTIFICATION. UNLESS OTHERWISE NOTED ON THIS RISER.
3. ALL STROBES SHALL BE SYNCHRONIZED.
4. ALL SMOKE DETECTORS SHALL BE PHOTOELECTRIC.
5. PROVIDE ISOLATION MODULES AT THE BEGINNING AND END OF EACH LOOP (IN/AT THE FIRE ALARM PANEL) AND AFTER EVERY TWENTY (20) DEVICES.
6. UNLESS OTHERWISE SHOWN ON THE RISER, ALL ADDRESSABLE LOOP CONTROLLER (INITIATING) CIRCUITS SHALL BE WIRED IN A CLASS 'A' CONFIGURATION WITH NO 'T' TAPS MADE, UNLESS OTHERWISE NOTED. PROVIDE 20% SPARE ADDRESSES PER LOOP.
7. NOTIFICATION APPLIANCE CIRCUITS (NACS) SHALL BE WIRED CLASS 'B', AND ZONED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS, NOT TO EXCEED 80% OF ZONE MODULE RATED OUTPUT. ALL NACS SHALL BE EQUIPPED WITH E.O.L. SUPERVISORY RELAYS.
8. MAINTAIN CONDUIT AND WIRING SEPARATION ON ALL CLASS 'A' LOOPS PER 2013 NFPA 72.
9. ADDITIONAL POWER AMPLIFICATION DEVICES THAT MAY BE NEEDED TO DRIVE NOTIFICATION DEVICES ARE COMPLETELY THE DUTY OF THE E.C./FIRE ALARM VENDOR TO PROVIDE. ANY POWER CIRCUITRY OR ADDITIONAL WIRING NEEDED FOR THIS SYSTEM SHALL BE PROVIDED AS PART OF THE BASE BID ON BID DAY.
10. FIRE ALARM NOTIFICATION DEVICES SHALL HAVE NOMINAL MOUNTING HEIGHT OF 80" AFF TO BOTTOM OF DEVICE. COORDINATE WITH REFLECTED CEILING PLAN AND ARCHITECT PRIOR TO ROUGH-IN. UNLESS NOTED OTHERWISE ON THE FLOOR PLANS, LIGHT LEVEL AND SOUND OUTPUT LEVELS FOR NEW DEVICES SHALL BE AS FOLLOWS:

-STROBES 75 cc
-HORNS 85 dB

1. ALL DEVICES SHALL BE ADA COMPLIANT.
12. INSTALLATION SHALL MEET REQUIREMENTS OF THE LATEST REVISION OF THE NFPA 72 2013 EDITION , NFPA 70 (NEC) 2020 EDITION, AND THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
13. CONTRACTOR SHALL PROVIDE A FRAMED, PROTECTED ZONE MAP INDICATING LOCATION AND ADDRESS OF ALL INSTALLED DEVICES OR LAMINATED SHEETS IN A LOCKABLE CABINET MOUNTED NEXT TO THE ANNUNCIATOR AND FACP.
14. UPON COMPLETION, CONTRACTOR SHALL TEST AND INSPECT THE SYSTEM IN ACCORDANCE WITH NFPA 72, 2013 EDITION SURVEILLANCE BATTERY CALCULATIONS AND THE ENGINEER FOR REVIEW. A COMPLETED "RECORD OF COMPLETION" FOR (CHP. 1-7, NFPA 72, 2013), A COPY OF BATTERY CALCULATIONS, AND DEVICE INFORMATION SHEETS SHALL BE SUBMITTED TO THE APPROVING AGENCY PRIOR TO FINAL INSPECTION OR ENTIRE SYSTEM MUST BE RE-CERTIFIED.
15. REFER TO FIRE SUPPRESSION SHOP DRAWING BY SPRINKLER SUBCONTRACTOR FOR EXACT NUMBER AND LOCATION OF ALL TAMPER, FLOW, AND ALARM DEVICES.
16. REFER TO CONTRACT DOCUMENT FOR ADDITIONAL INFORMATION REQUIRED FOR SUBMITTALS.
17. THE FIRE ALARM CONTRACTOR SHALL SUBMIT A COPY OF THE FIRE ALARM SHOP DRAWING FOR REVIEW AND APPROVAL TO THE ENGINEER PRIOR TO SYSTEM INSTALLATION. SHOP DRAWINGS SHALL INCLUDE , BUT NOT BE LIMITED TO, ALL OF THE FOLLOWING.
 - A. A FLOOR PLAN
 - B. LOCATION OF ALARM-INITIATING AND NOTIFICATION APPLIANCES
 - C. ALARM CONTROL AND TROUBLE SIGNALING EQUIPMENT
 - D. ANNUNCIATION
 - E. POWER CONNECTION
 - F. BATTERY CONNECTIONS
 - G. CONDUCTOR TYPE AND SIZES
 - H. VOLTAGE DROP CALCULATIONS
 - I. MANUFACTURERS, MODEL NUMBERS AND LISTING INFORMATION FOR EQUIPMENT, DEVICES AND MATERIALS
 - J. DETAILS OF CEILING HEIGHT AND CONSTRUCTION
 - K. THE INTERFACE OF FIRE SAFETY CONTROL FUNCTIONS.
18. AUDIBLE DB LEVELS THROUGHOUT THE BUILDING TO COMPLY WITH 907.6.2.1 AND NFPA 72: A.18.4.1.2 - A18.4.10.3.

		FIRE ALARM SYSTEM RESPONSE MATRIX																									
		Control Unit Annunciation						Notification				Dialer				Fire Safety Control											
		Common Alarm Indicator	Audible Alarm Signal	Common Supervisory Signal	Audible Common Sup. Signal	Common Trouble Signal	Audible Common Trouble Signal	Floor Alarm Indicators	Activate Floor Evacuation Signal	Transmit Alarm Signal	Transmit Supervisory Signal	Transmit Trouble Signal	Transmit Supervisory Signal	Transmit Trouble Signal	Transmit Water Flow	Recall Elev. To app. Floor	Activate Elev. Shunt Trip	Close Magnetic Doors	Send Signal to BAS Control Panels (each HVAC Room)	Smoke Dampers	Smoke Doors	AHU Shutdown	Activate Elev. Shunt Trip	UNLOCK ELECTRICALLY LOCKED DOORS			
SYSTEM INPUTS		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X		
1	Manual Pull Stations	X	X					X	X	X			X	X					X	X					X		
2	Smoke Detectors-Floor	X	X					X	X	X			X	X					X	X	X	X			X		
3	Activation Manual Pull Stations module	X	X					X	X	X			X	X					X	X					X		
4	Activation Smoke Detectors-Floor module	X	X					X	X	X			X	X					X	X	X	X			X		
5	Activation Heat Detectors-Floor module	X	X					X	X	X			X	X					X	X					X		
6	Activation Smoke Detectors-Elevator module	X	X					X	X	X			X	X				X	X	X	X	X			X		
7	Activation Heat Detectors-Elevator module	X	X					X	X	X			X	X				X	X	X	X	X			X		
8	Activation Duct detectors module			X	X															X	X						
9	Activation Heat Detectors module	X	X					X	X	X			X	X				X	X	X	X	X			X		
10	Sprinkler Waterflow	X	X					X	X	X			X	X		X			X	X	X	X	X		X		
11	Sprinkler Control Valves (Yard)			X	X						X			X										X	X		
12	Sprinkler Control Valves			X	X						X			X													
13	Fire Pump Running			X	X																						
14	Fire Pump Phase Reversal		X	X		X	X					X	X														
15	Fire Pump on Emergency Power			X	X									X													
16	Fire Pump-Loss of Power					X	X					X	X		X												
17	Fire Pump Trouble					X	X					X	X		X												
18	Fire Pump Controller Trouble					X	X					X	X		X												
19	Smoke Fans-Loss of Power			X	X							X		X													
20	Fire Alarm Loss of AC Power					X	X					X		X													
21	Fire Alarm Low Battery					X	X					X		X													
22	AHU Override Test Switch					X	X					X		X													
23	Open Circuit					X	X					X		X													
24	Ground Fault					X	X					X		X													
25	Notification Appliance circuit short					X	X					X		X													
NOTES																											
ALL SPRINKLER AND FIRE PUMP POINTS ARE ARE OF ALTERNATE 1																											

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██████████ CONSULTANT

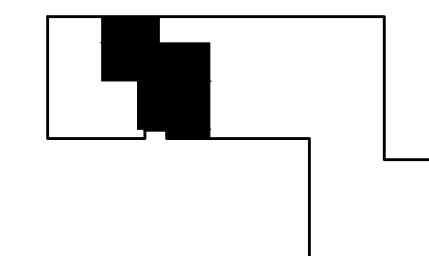
Structura

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chuck@lysaghtassociates.com

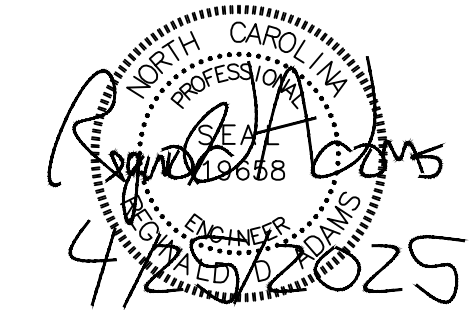
MEP Engineer

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KEY PLAN



SEALS



BID DOCUMENTS
04.25.2025

PROJECT

NCSU-TEXTILES COMPLEX-FLEX FACTORY RENOVATIONS

1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
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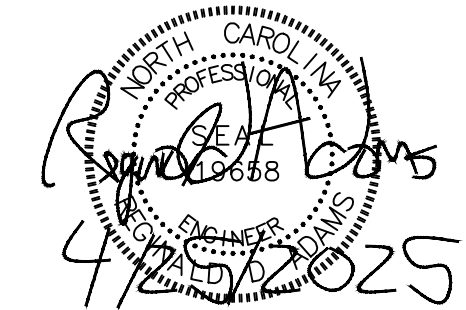
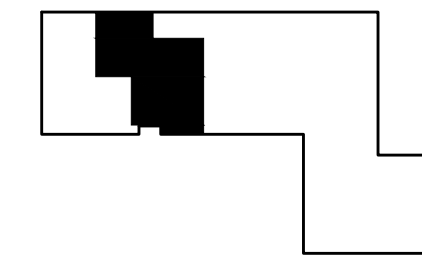
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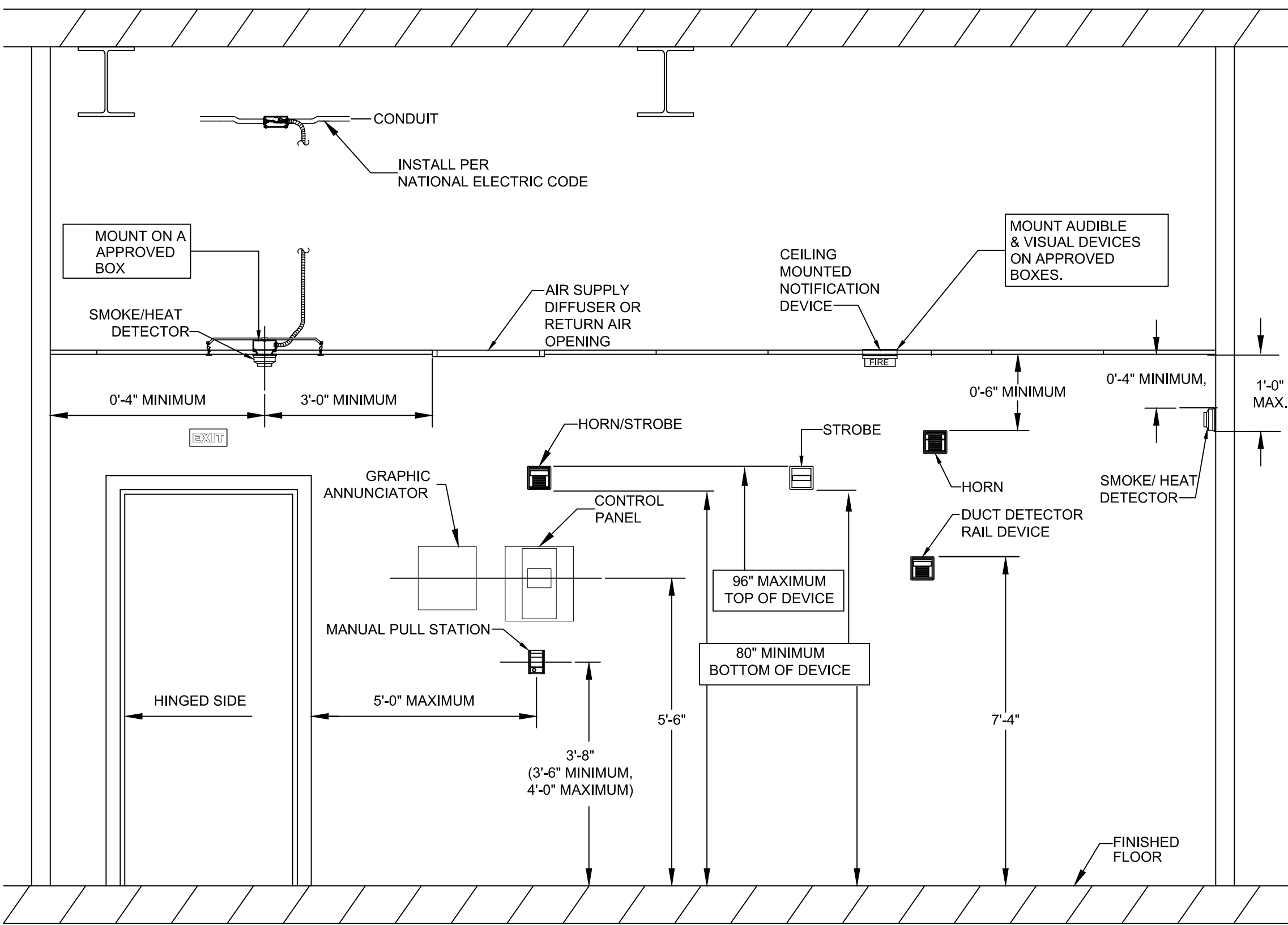
PARTIAL
FIRE ALARM
RISER

SHEET NO.

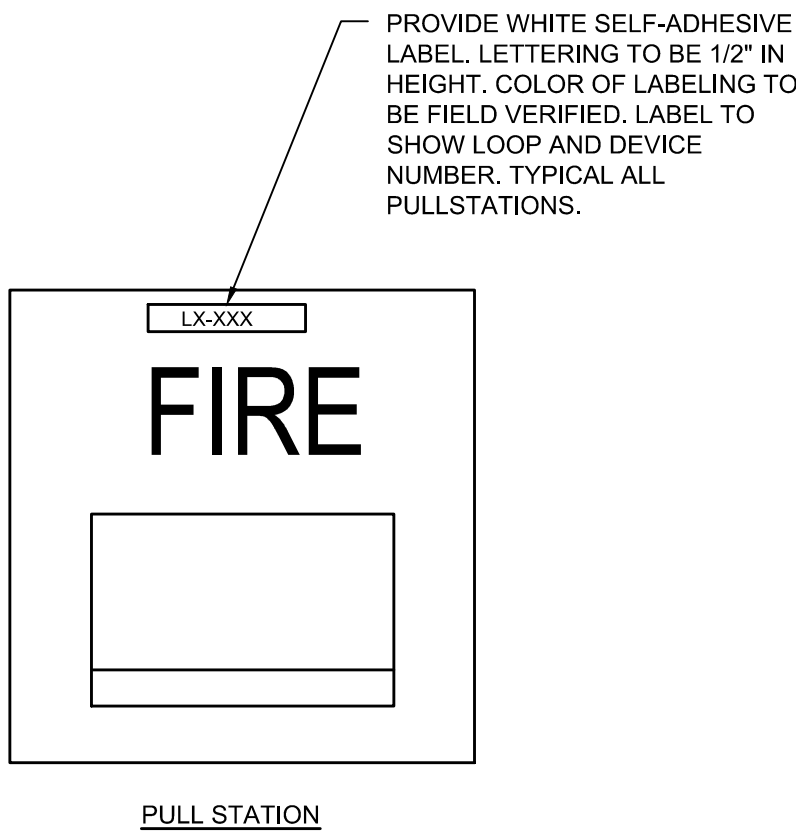
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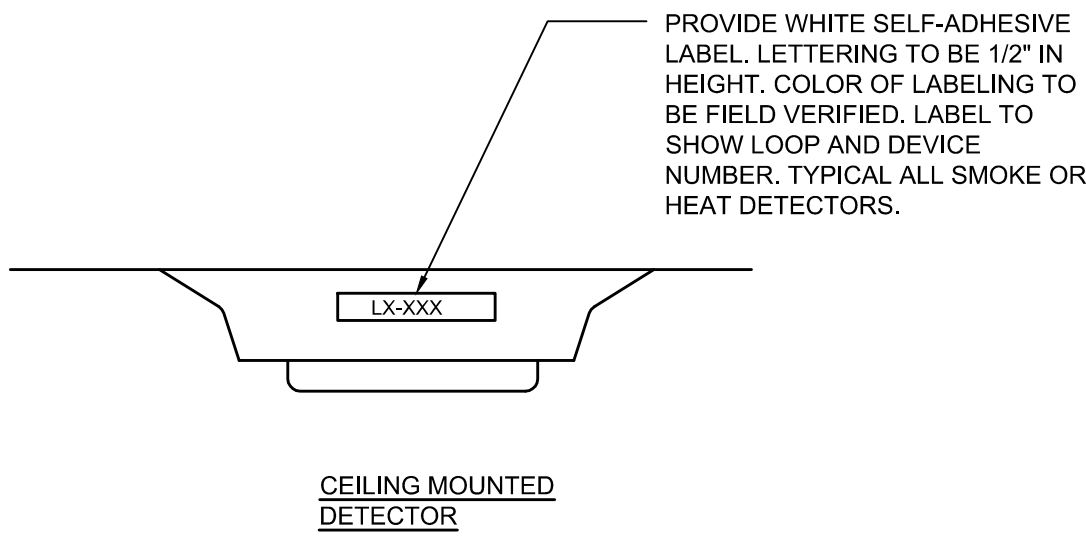
NFPA 72 AND ADA DEVICE INSTALLATION REQUIREMENTS



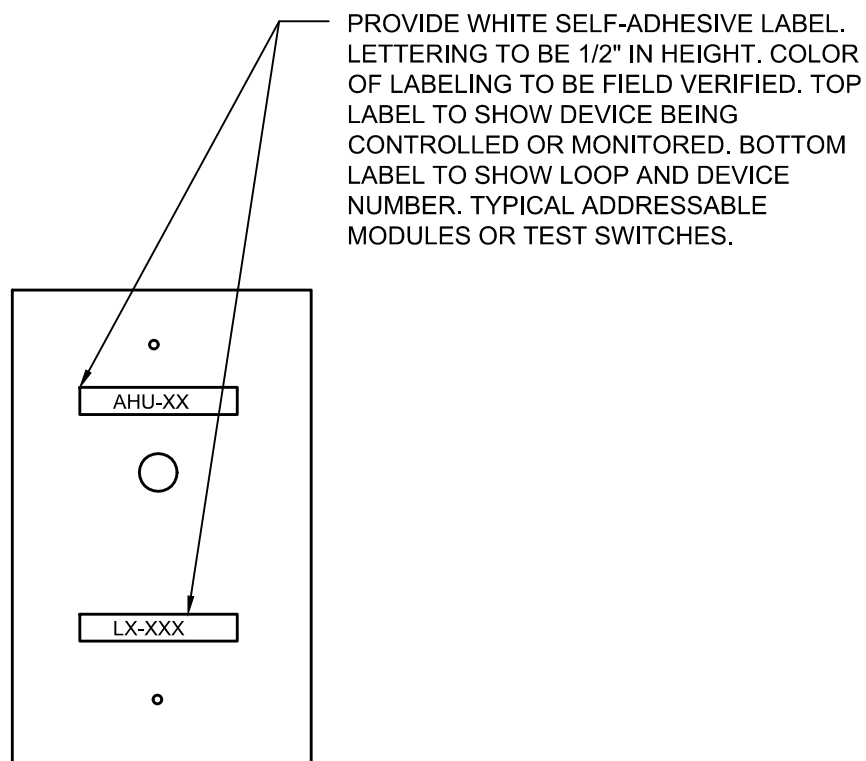
2 | FIRE ALARM MOUNTING HEIGHTS
NO SCALE



PULL STATION



CEILING MOUNTED
DETECTOR



1 | FIRE ALARM DEVICE LABELING DETAIL
NO SCALE

BID DOCUMENTS
04.25.2025

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**NCSU-TEXTILES
COMPLEX-FLEX
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**FIRE ALARM
DETAILS**

	PIPE TURNING UP	∠	CENTER LINE	HP	HIGH PRESSURE OR HORSEPOWER
	PIPE TURNING DOWN	<	ANGLE	HR	HOUR
	TEE DOWN	Ø	ROUND, DIAMETER OR PHASE	HTG.	HEATING
	TEE UP	#	POUNDS OR NUMBER	HVAC	HEATING, VENTILATING AND AIR CONDITIONING
	45° OFFSET	A	COMPRESSED AIR	HYD.	HYDRANT
	DIRECTION OF FLOW IN PIPE	ABV CLG.	ABOVE CEILING	IN.	INCH
	PIPE SLOPED IN DIRECTION OF ARROW	ACFM	ACTUAL CUBIC FEET PER MINUTE	KW	KILOWATT
	PIPE CAP	ACU	AIR CONDITIONING UNIT	MAX.	MAXIMUM
	CONCENTRIC REDUCER	AFF	ABOVE FINISHED FLOOR	MECH.	MECHANICAL
	ECCENTRIC REDUCER	AFG	ABOVE FINISHED GRADE	MEZZ	MEZZANINE
	PIPE UNION	AHU	AIR HANDLING UNIT	MFG.	MANUFACTURING
	GATE VALVE	ALUM.	ALUMINUM	MFR.	MANUFACTURER
	CHECK VALVE	ANSI	AMERICAN NATIONAL STANDARD ASSOCIATION	MIN.	MINIMUM
	BUTTERFLY VALVE	AP	ACCESS PANEL	MJ	MECHANICAL JOINT
	BALL VALVE	APPROX.	APPROXIMATE	MTD	MOUNTED
	SOLENOID VALVE	ARCH.	ARCHITECTURAL	NC	NORMALLY CLOSED
	PRESSURE REDUCING VALVE	ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	NEC	NATIONAL ELECTRIC CODE
	SAFETY RELIEF VALVE	ASV	AUTOMATIC SPRINKLER VALVE	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
	BASKET STRAINER	AUTO	AUTOMATIC	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
	PRESSURE GAUGE (W/ BALL VALVE)	AWWA	AMERICAN WATER WORKS ASSOCIATION	N.I.C.	NOT IN CONTRACT
	PIPE ANCHOR	BFF	BELOW FINISHED FLOOR	NO	NORMALLY OPEN
	FLEXIBLE PIPE CONNECTION	BFP	BACKFLOW PREVENTER	NO.	NUMBER
	PUMP	BHP	BRAKE HORSEPOWER	NFSPH	NET POSITIVE SUCTION HEAD
	FIRE HOSE CABINET	BOP	BOTTOM OF PIPE	N.R.S.	NON RISING STEM
	HYDRAULIC CALCULATION NODE (SPRINKLER SYSTEM)	C	CELSIUS	N.T.S.	NOT TO SCALE
	HYDRAULIC CALCULATION NODE (STEADY PIPE SYSTEM)	C/C	CENTER TO CENTER	O.C.	ON CENTER
	ALARM CHECK VALVE	CI	CAST IRON	O.D.	OUTSIDE DIAMETER
	DRY PIPE VALVE WITH EXHAUSTOR OR ACCELERATOR	CLG.	CEILING	OPNG	OPENING
	DELUGE VALVE	CONC.	CONCRETE	OP.R.	OPERATING ROOM
	PREACTION VALVE	CONFIG.	CONFIGURATION	OSD	OPEN SIGHT DRAIN
	HOSE END VALVE	CONN.	CONNECTION	O.S.&Y.	OUTSIDE SCREW AND YOKE
	TAMPER SWITCH (SHOWN ON VALVE)	CONNT.	CONTINUATION	P.C.	PLUMBING CONTRACTOR
	PRESSURE SWITCH	CONST.	CONSTRUCTION	PICU	PEDIATRIC INTENSIVE CARE UNIT
	FLOW SWITCH	CONTR.	CONTRACTOR	PLBG.	PLUMBING
	ANGLE VALVE (ELEVATION VIEW)	COORD.	COORDINATE	PRS	PRESSURE REDUCING STATION
	ANGLE VALVE (PLAN VIEW)	COP	COEFFICIENT OF PERFORMANCE	PRV	PRESSURE REDUCING VALVE
	FIRE HYDRANT WITH OS&Y VALVE IN ROADWAY BOX	CTR	CENTER	PS	PRESSURE SWITCH
	SIAMESE CONN., FIRE DEPT. CONN.	CU	COPPER	PSI	POUNDS PER SQUARE INCH
	FIRE PUMP TEST HEADER	CU.FT.	CUBIC FOOT	PSIA	POUNDS PER SQUARE INCH ABSOLUTE
	FLOOR CONTROL ASSEMBLY	CW	COLD WATER OR CITY WATER	PSIG	POUNDS PER SQUARE INCH GAUGE
		CU.YD.	CUBIC YARD	PVC	POLYVINYL CHLORIDE
		D.I.	DUCTILE IRON	QR	QUICK RESPONSE
		DIA.	DIAMETER	QTY.	QUANTITY
		DN.	DOWN	REF.	REINFORCING
		DWG.	DRAWING	REQD.	REQUIRED
		E.C.	ELECTRICAL CONTRACTOR	REV.	REVISION
		EL.	ELEVATION	RPOA	REDUCED PRESSURE DETECTOR ASSEMBLY
		ELEC.	ELECTRICAL	RPM	REVOLUTIONS PER MINUTE
		EQUIP.	EQUIPMENT	RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
		EQ.	EQUAL	R.S.	RISING STEM
		EXIST.	EXISTING	S.C.	SITE CONTRACTOR
		FCA	FLOOR CONTROL ASSEMBLY	SCH.	SCHEDULE
		FDC	FIRE DEPARTMENT CONNECTION	SPEC.	SPECIFICATION
		FIN.	FINISHED	SPR	SPRINKLER
		FL	FLOOR	SSU	STANDARD SPRAY UPRIGHT
		FLEX	FLEXIBLE	SSS	STANDARD SPRAY SIDEWALL
		FLG	FLANGE	STA.	STEEL
		FP	FIRE PROTECTION	STRUCT.	STRUCTURAL
		F.P.C.	FIRE PROTECTION CONTRACTOR	SYM	SYMBOL OR SYMMETRICAL
		FPM	FEET PER MINUTE	SYS.	SYSTEM
		FPS	FEET PER SECOND	T.O.P.	TOP OF PIPE
		FS	FLOW SWITCH	T.O	

1. DIVISION 21 SHALL PROVIDE ALL LABOR AND MATERIALS REQUIRED FOR A COMPLETE WORKING SYSTEM WHICH SHALL COMPLY FULLY WITH NFPA #13, 2013 EDITION, STANDARD FOR INSTALLATION OF AUTOMATIC SPRINKLER SYSTEMS. THE NORTH CAROLINA STATE BUILDING CODE, 2018 EDITION, REQUIREMENTS OF ALL LOCAL FIRE MARSHALL AUTHORITIES. FINAL ACCEPTANCE IS CONTINGENT UPON APPROVAL OF ALL WORK AND COMPLETION OF THE CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FORM 85A.

2. DIVISION 21 SHALL PROVIDE ENGINEERED SHOP DRAWINGS FOR THE PROPOSED BUILDING. THE DRAWINGS SHALL INCLUDE THE FULLY AUTOMATIC WET PIPE SPRINKLER SYSTEM WITH ALL PIPING, SPRAY HEADS OF EVERY TYPE REQUIRED, FITTINGS, VALVES, DEVICES, ACCESSORIES, HANGERS AND SUPPORTS, ALARM CHECK VALVES, WATER MOTOR COGS AND CONNECTIONS. THE WORK SHALL INCLUDE HYDRAULIC CALCULATIONS FOR THE AUTOMATIC WET PIPE SPRINKLER SYSTEMS MOST REMOTE AREAS (APPLY 10PSI REDUCTION ON STATIC AND RESIDUAL PRESSURES AND A 10% REDUCTION ON FLOW) SEE SPRINKLER DESIGN DATA ON THIS SHEET, SUBMIT TO ENGINEER FOR APPROVAL.

3. ALL MATERIALS AND EQUIPMENT SHALL BE NEW, UL LISTED AND FM APPROVED FOR THE INTENDED USE AND SHALL BE INSTALLED IN FULL COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.

4. THE FIRE SPRINKLER SYSTEM FOR THE OCCUPIED AND HEATED AREAS SHALL BE AN AUTOMATIC WET PIPE SYSTEM.

5. SPRINKLER HEADS SHALL BE SPACED AS PER NFPA 13, 2013 EDITION.

6. ALL SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED FOR THIS PROJECT.

7. ALL PIPING AND/OR CONDUIT PENETRATIONS THRU FIRE RATED FLOORS AND/OR WALLS SHALL BE MADE/SEALED IN ACCORDANCE WITH UL LISTED SYSTEMS.

8. UNLESS OTHERWISE INDICATED DIVISION 21 IS RESPONSIBLE FOR ALL CUTTING, CORE DRILLING AND PATCHING REQUIRED TO INSTALL FIRE PROTECTION WORK.

9. ALL SPRINKLER HEADS SHALL BE LOCATED IN CENTER OF CEILING TILES WHERE LAY-IN CEILINGS OCCUR UNLESS SHOWN OR NOTED OTHERWISE.

10. REFER TO ALL ARCHITECTURAL/GENERAL CONSTRUCTION CONTRACT SPECIFICATIONS AND DRAWING DOCUMENTS FOR PROJECT REQUIREMENTS.

11. IT IS TOTALLY DIVISION 21'S RESPONSIBILITY TO COORDINATE HANGERS & SUPPORTS WITH OTHER TRADES. ANY DAMAGE INCURRED ON EXISTING FIREPROOFING MATERIAL DUE TO INSTALLATION OF HANGERS BY THIS CONTRACTOR, SHALL BE REPAIRED BY THE FIREPROOFING SUBCONTRACTOR AT THE FIRE PROTECTION CONTRACTOR'S EXPENSE.

12. ALL PIPE LARGER THAN 2" SHALL BE BLACK STEEL SCH. 10 WITH GROOVED ENDS JOINED BY GROOVE FITTINGS. USE RIGID COUPLINGS WITH ALL 2" BRANCH LINES TO PREVENT PIPE ROTATION.

13. ALL PIPE 2" AND SMALLER SHALL BE BLACK STEEL SCH. 40 WITH WELDED JOINTS AND FITTINGS.

14. FINAL PIPE SIZING SHALL BE BASED ON HYDRAULIC CALCULATIONS FOR APPROPRIATE HAZARD AND A WATER FLOW TEST OF FIRE HYDRANT FLOW NEAREST TO THE SITE. THE TEST SHALL BE PROVIDED BY DIVISION 21.

15. ALL ARMORERS SHALL BE 1", ARMORERS EXCEEDING 1"x2'-0" SHALL BE SUPPORTED WITH A HANGER PER NFPA #13.

16. ALL INTERIOR SPRINKLER PIPING SHALL BE PRESSURE TESTED FOR 2 HOURS AT 200 PSI OR 50 PSI ABOVE THE MAXIMUM SYSTEM WORKING PRESSURE, WHICHEVER IS GREATER.

17. AUTOMATIC SPRINKLERS SHALL BE PROVIDED UNDER DUCTS OF 48" AND GREATER WIDTH AND UNDER LESSER WIDTH DUCTS WHERE SPRAY HEADS CANNOT BE LOCATED TO COMPLY WITH THE CLEARANCE GUIDELINES OF NFPA # 13.

18. ALL WELDING SHALL BE PERFORMED BY WELDERS CERTIFIED FOR THE PROCEDURES USED. ALL SLAG CAUSED BY WELDING OR CUTTING PROCEDURES SHALL BE REMOVED FROM PIPING BEFORE INSTALLATION OF PIPING.

19. FLUSHING CONNECTIONS SHALL BE PROVIDED AT THE ENDS OF EACH CROSS MAIN.

20. A PERMANENT METAL PLACARD SHALL BE PROVIDED AT THE BASE OF THE RISER INDICATING THE DESIGN CRITERIA AND SYSTEM DEMANDS.

21. PROVIDE FLOW SWITCHES FOR SYSTEM MAIN AND ZONES AND TAMPER SWITCHES FOR ALL ABOVE GROUND GATE, WAFFER, AND BALL VALVES ABOVE GROUND AND INSIDE THE BUILDING.

22. WIRING FROM TAMPER SWITCHES AND FLOW SWITCHES TO FIRE ALARM PANEL SHALL BE BY ELECTRICAL CONTRACTOR.

23. ALL PENETRATIONS OF RATED WALLS AND FLOORS SHALL BE FIRE STOPPED IN ACCORDANCE WITH THE SCHEDULE AND DETAILS ON THIS SHEET.

24. ALL SPRINKLER PIPING, AS SHOWN, IS DIAGRAMMATIC WITH APPROXIMATE PIPE LOCATIONS, ELEVATIONS, ROUTING, ETC. AND IS PROVIDED FOR INFORMATIONAL PURPOSES. EVERY FITTING, ELL, TEE AND LENGTH OF PIPE MAY NOT BE SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO REVIEW THE CONTRACT DRAWINGS AND COORDINATE THE FIRE PROTECTION SYSTEM INSTALLATION WITH THE BUILDING STRUCTURAL, MECHANICAL AND ELECTRICAL SYSTEMS. THE FIRE PROTECTION CONTRACTOR SHALL CREATE A FABRICATION DRAWING SHOWING ALL PIPE SIZES, LOCATION, ROUTING, HANGERS & ELEVATIONS THAT IS A RESULT OF THIS COORDINATION EFFORT. NECESSARY OFFSETS IN PIPING REQUIRED TO PROPERLY INSTALL THE FIRE PROTECTION SYSTEM AS TO TAKE UP MINIMUM SPACE SHALL BE FURNISHED AND INSTALL BY THE CONTRACTOR WITH NO ADDITIONAL EXPENSE TO THE OWNER.

Project Location: 1020 MAIN CAMPUS DR, RALEIGH, NC 27606		Sys. Sq. Ft.: FLEX FACTORY: +/-	
Suite: _____	Floor#: _____	Ceiling Hgt.: VARIES	
Designed By: SIGMA ENGINEERED SOLUTIONS	Phone#: (919) 840-9300	Total Bldg. Hgt.: VARIES	
Occupancy: VARIES	Hazard: SEE BELOW		

FIRE PROTECTION DESIGN SUMMARY							
Design Method	System #1						
Design Area #	CALCULATED						
Location	R/A-1						
Type of System	UNDER MEZZANINE						
Hazard Class	WET						
Criteria From	LIGHT						
Design Area	NFPA 13						
Sprinkler Spacing	982 SQ FT						
Density	N/A						
K-Factor	0.1						
Hose Allowance	5.6						
# Design Sprk'l's	100 GPM						
Special App Sprklr	20						
Req. @ BOR	N/A						
G.P.M. Req'd							
P.S.I. Req'd							
Req. @ PUMP							
G.P.M. Req'd							
P.S.I. Req'd	633.24						
Safety Factor	114						
Dry Sys. Vol. (gal)	61 PSI (35%)						
	N/A						

FIRE PROTECTION FIRE PUMP DATA					
RATED GPM	1500	RATED PRESSURE	65 PSI	HORSEPOWER	75
DIESEL/ELECTRIC	ELECTRIC	CHURN PRESSURE	184 PSI	STYLE OF PUMP	HORIZONTAL
COMBINED STATIC	184	COMBINED RESIDUAL	139 PSI	132% FLOW (GPM)	1985

PUMP TESTED 10/28/2024					
------------------------	--	--	--	--	--

 	PENDENT SPRINKLER HEAD, QR, CHROME BODY, WHITE COVER PLATE, 1/2", 155°, K=5.6. UPRIGHT SPRINKLER HEAD, QR, SSU BRASS BODY, 1/2", 155°, K=5.6. EXTENDED COVERAGE SIDEWALL SPRINKLER HEAD, QR, SW BRASS BODY, 3/4", 155°, K=8.0.
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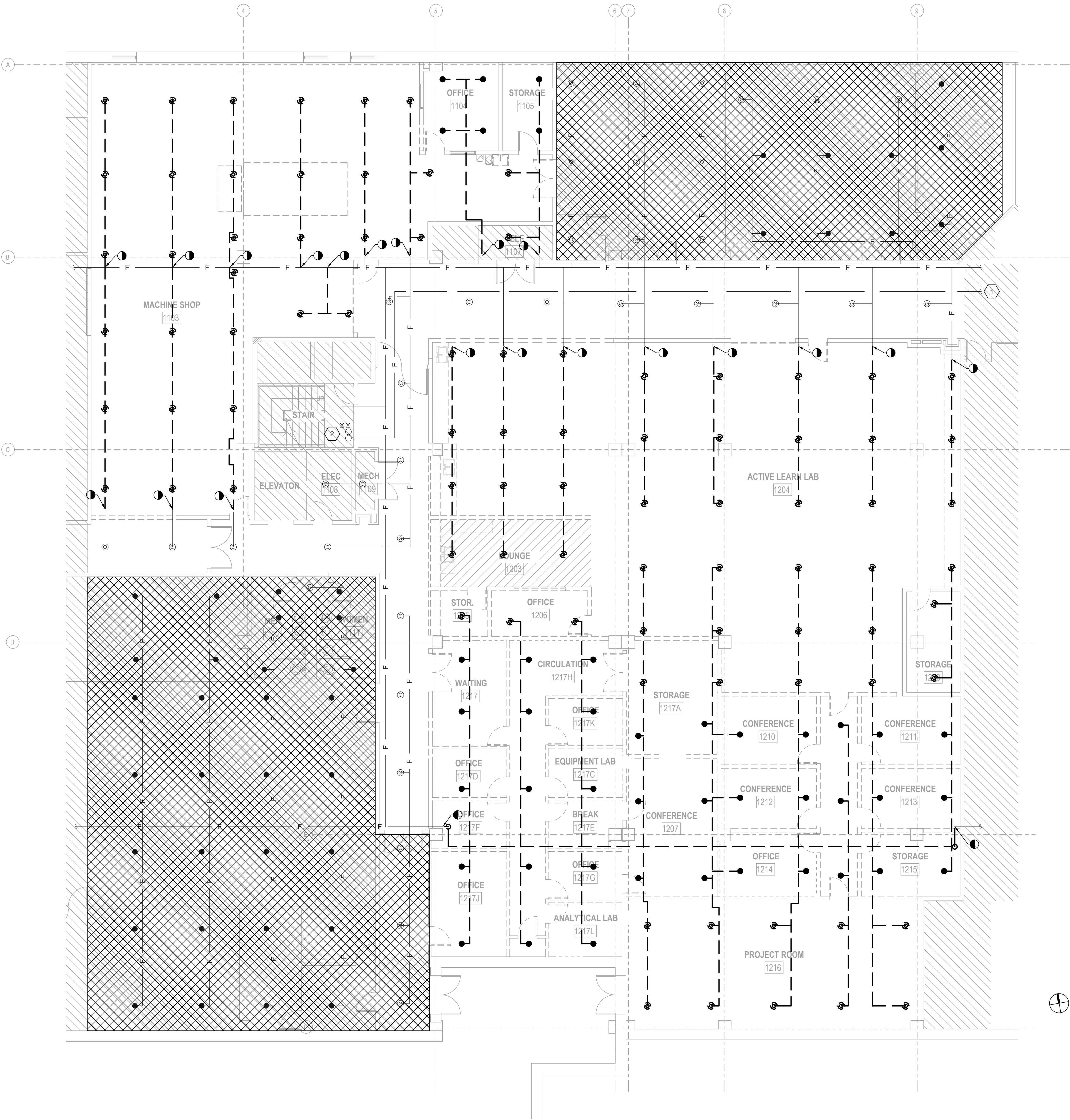
NOTE:

ALL SPRINKLER HEAD SPECIFICATION INFORMATION LISTED ABOVE IS TYPICAL UNLESS OTHERWISE INDICATED ON THE DRAWINGS AND/OR AS OTHERWISE REQ'D. BY CODE (ORIFICE SIZES, TEMP. RATINGS, ETC.).

	SHEET LETTER
	SHOWN ON SHEET NUMBER ELEVATION LETTER
	SHOWN ON SHEET NUMBER SECTION LETTER
	DIMENSION LINE
	COLUMN NUMBER OR LETTER
	KEYED NOTE NUMBER
	CONNECT TO EXISTING
	REMOVE TO THIS POINT

FP EXISTING MAINS	_____	F	_____
STANDPIPE	_____	S	_____
FP NEW MAINS	_____	F	_____
FP DEMOLITION PIPE	_____		_____
FP NEW BRANCHES	_____		_____





HATCH LEGEND:

NOT IN SCOPE OF WORK

GENERAL NOTES:

- REFER TO SHEET FP001 FOR ADDITIONAL GENERAL NOTES, LEGEND AND ABBREVIATIONS.
- ALL EXISTING PIPE SIZED PER PIPE SCHEDULE METHOD.

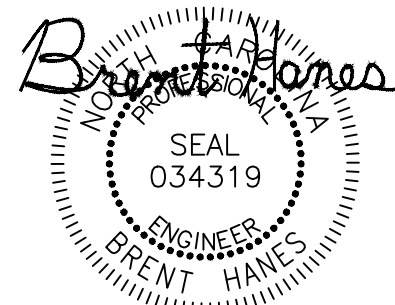
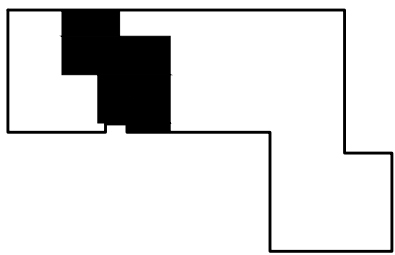
KEYED NOTES:

- EXISTING FIRE MAIN.
- EXISTING STANDPIPE WITH FLOOR CONTROL ASSEMBLY AND HOSE VALVE CONNECTION.

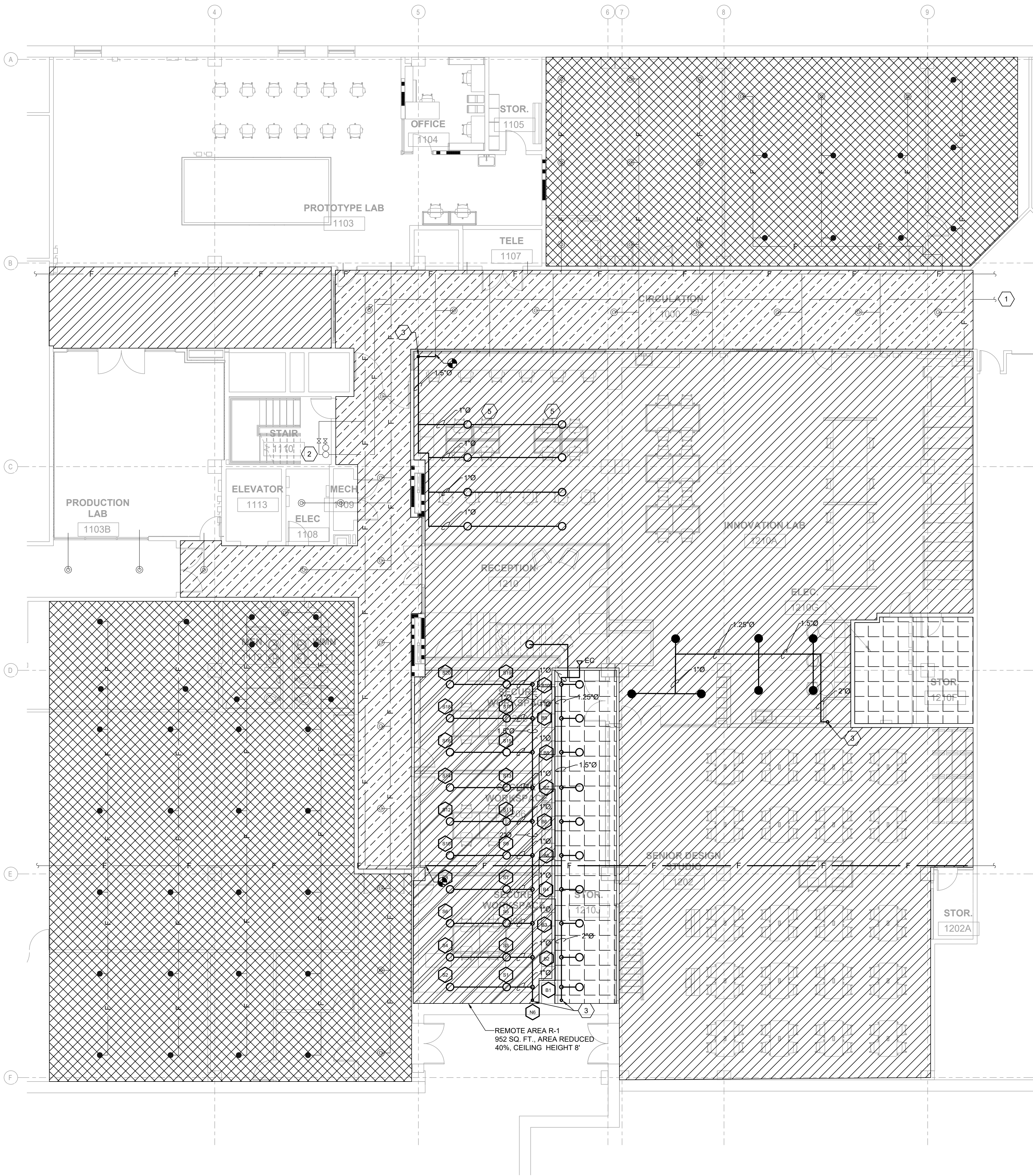
1 FLOOR PLAN - COURTYARD LEVEL
1/8" = 1'-0"

PARTITION LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING WALL TO BE DEMOLISHED
- UNRATED WALL
- PARTITION TYPE
- 1-HOUR FIRE BARRIER
- 2-HOUR FIRE BARRIER



REVISIONS		
No.	Description	Date

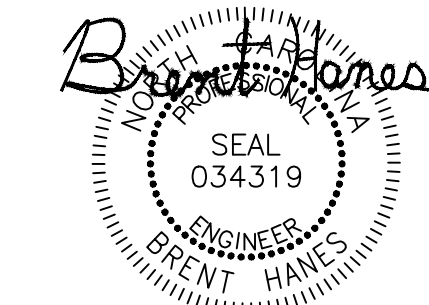
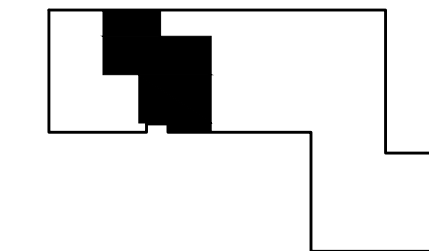


- HATCH LEGEND:**
- NOT IN SCOPE OF WORK
 - LIGHT HAZARD
 - LIGHT HAZARD WITH HEADS ABOVE AND BELOW FLOATING CEILING
 - ORDINARY GROUP 1

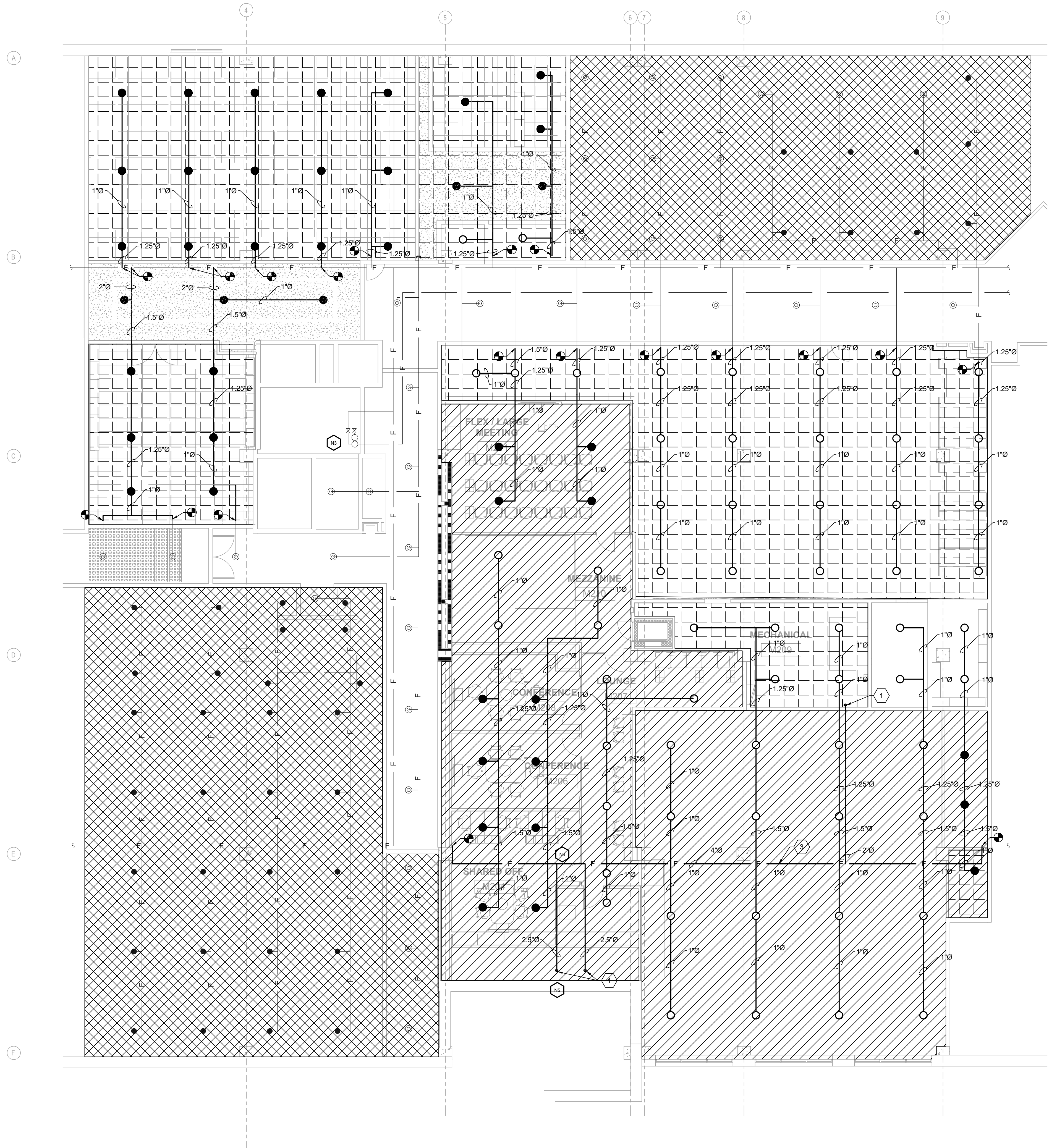
- GENERAL NOTES:**
- REFER TO SHEET FP001 FOR ADDITIONAL GENERAL NOTES, LEGEND AND ABBREVIATIONS.
 - THIS PLAN IS PROVIDED FOR REFERENCE ONLY TO SHOW FIRE PUMP LOCATION AND HYDRAULIC NODE NOTATIONS.

- KEYED NOTES FP200:**
- EXISTING FIRE MAIN.
 - EXISTING STANDPIPE WITH FLOOR CONTROL ASSEMBLY AND HOSE VALVE CONNECTION.
 - BRANCH LINE UP TO OVERHEAD PIPING, REFER TO SHEET FP201 FOR CONTINUATION.
 - PROVIDE HEAD UNDER STAIR, SLOPE PIPE DOWN WITH STAIR.
 - REFER TO FP201 FOR CONTINUATION.

11 FLOOR PLAN - COURTYARD LEVEL
1/8" = 1'-0"



REVISIONS		
No.	Description	Date

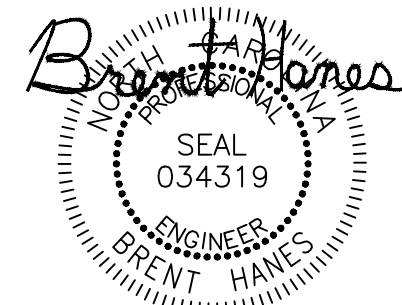
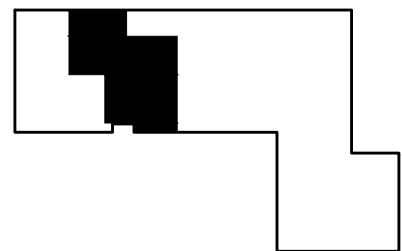


- HATCH LEGEND:**
- NOT IN SCOPE OF WORK
 - LIGHT HAZARD
 - LIGHT HAZARD WITH HEADS ABOVE AND BELOW FLOATING CEILING
 - ORDINARY GROUP 1

- GENERAL NOTES:**
- REFER TO SHEET FP001 FOR ADDITIONAL GENERAL NOTES, LEGEND AND ABBREVIATIONS.
 - THIS PLAN IS PROVIDED FOR REFERENCE ONLY TO SHOW FIRE PUMP LOCATION AND HYDRAULIC NODE NOTATIONS.

- KEYED NOTES FP201:**
- BRANCH LINE DOWN TO UNDER THE FLOOR OF THE MEZZANINE LEVEL.
 - REFER TO FP200 FOR CONTINUATION.
 - MAIN SPRINKLER LINE IS THE SAME LINE AS THAT SHOWN ON SHEET FP200.

11 FLOOR PLAN - MEZZANINE LEVEL
1/8" = 1'-0"



4/25/25

BID DOCUMENTS
04.25.2025

PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

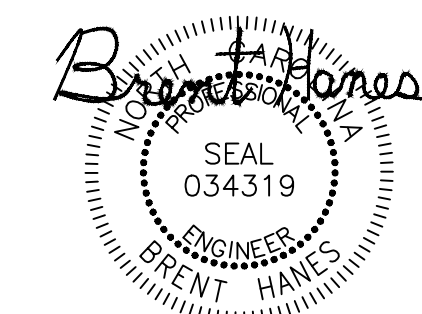
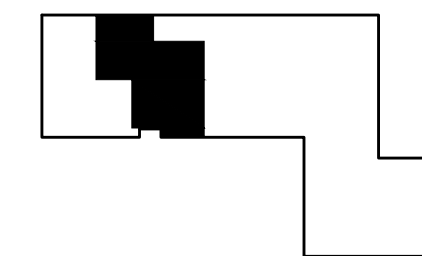
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NCSU PROJECT ID: 202220031
FACILITY ID: 700

REVISIONS		
No.	Description	Date

DATE: 04.25.2025
DRAWN: MAA
CHECKED: RBH
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

**FIRE PROTECTION
NEW WORK PLAN**

FP201



4/25/25

BID DOCUMENTS
04.25.2025

PROJECT
NCSU-TEXTILES
COMPLEX-FLEX
FACILITY
RENOVATIONS
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

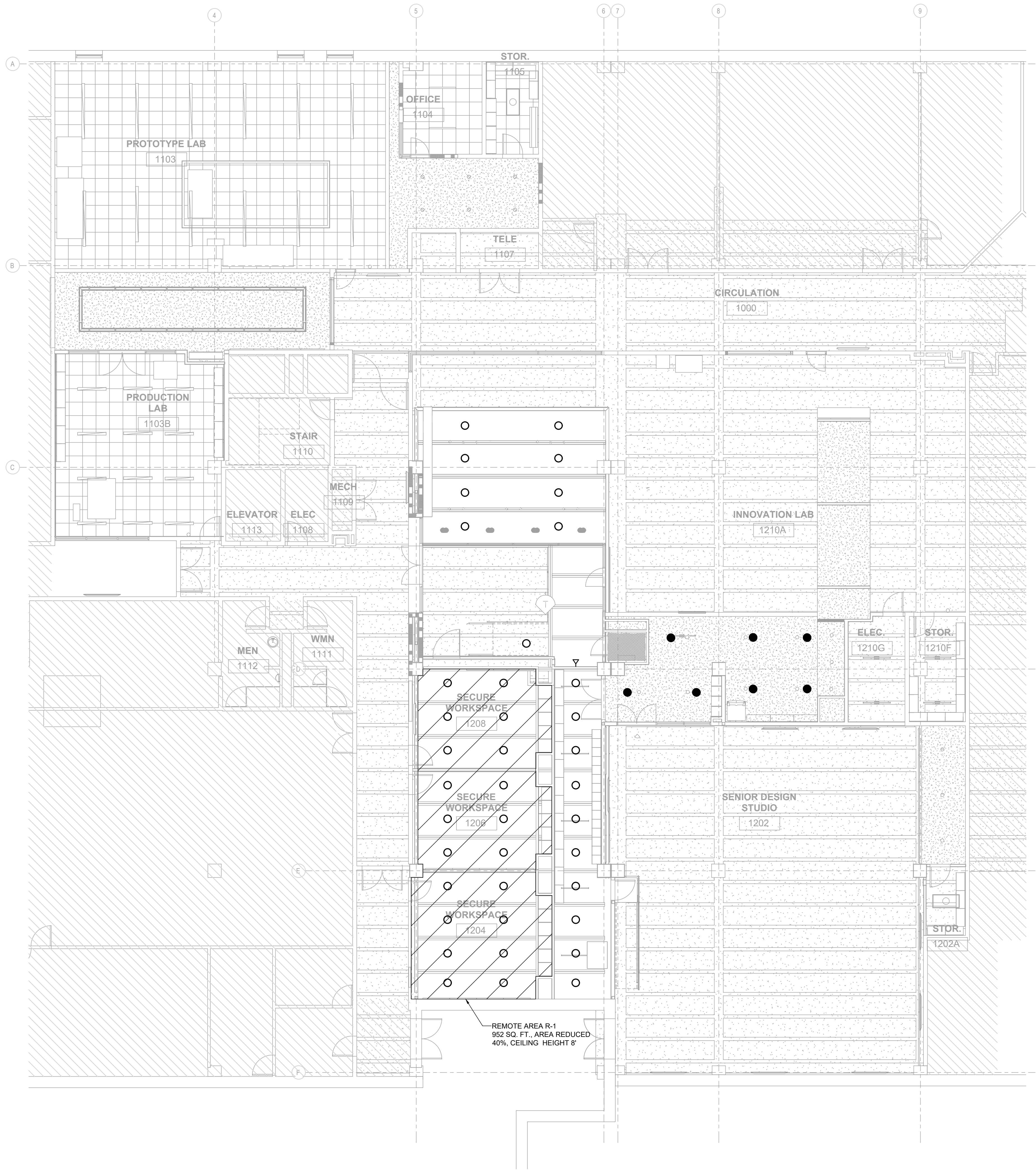
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REVISIONS		
No.	Description	Date

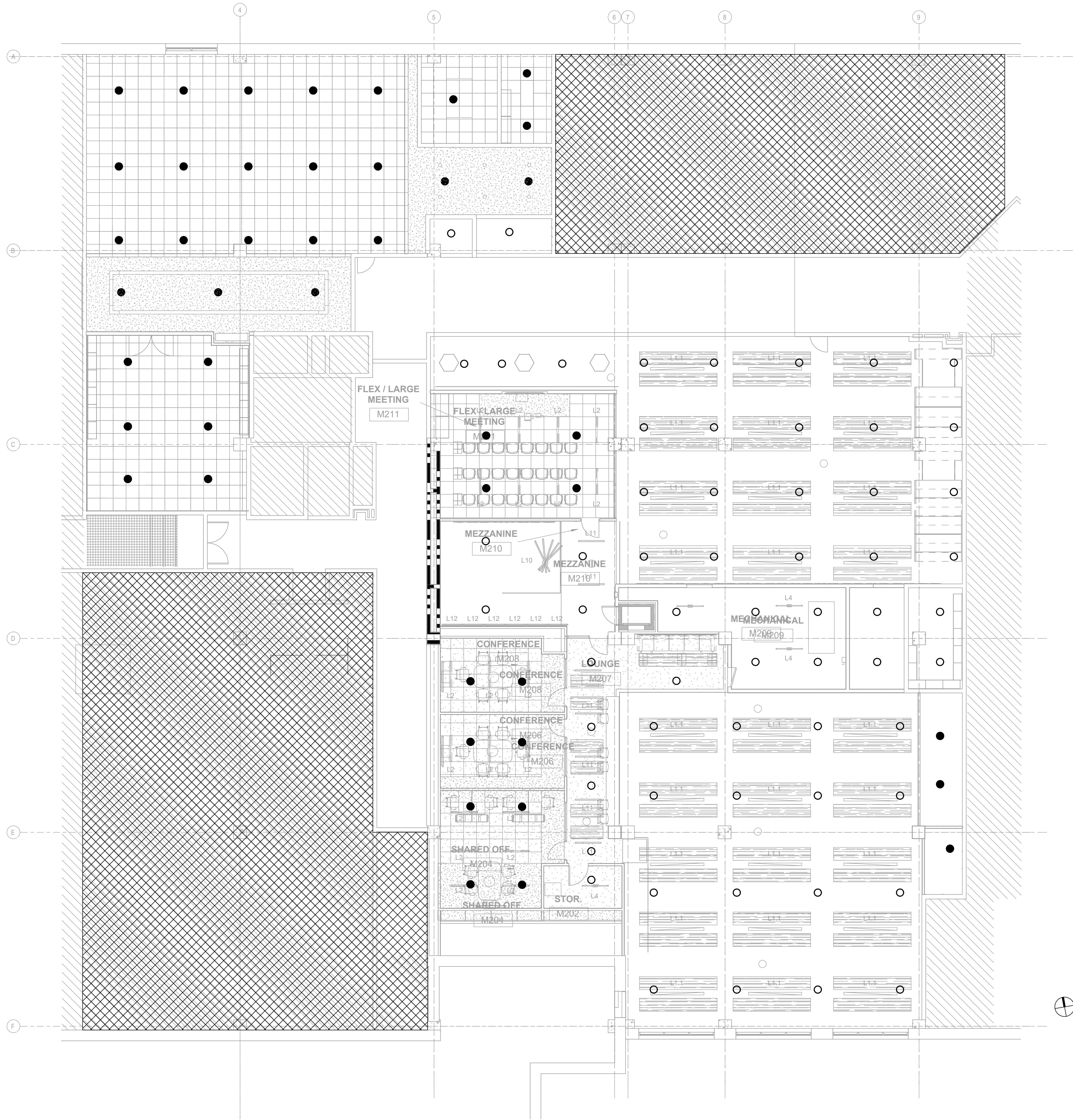
DATE: 04.25.2025
DRAWN: MAA
CHECKED: RBH
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

FIRE PROTECTION
NEW WORK RCP

FP210

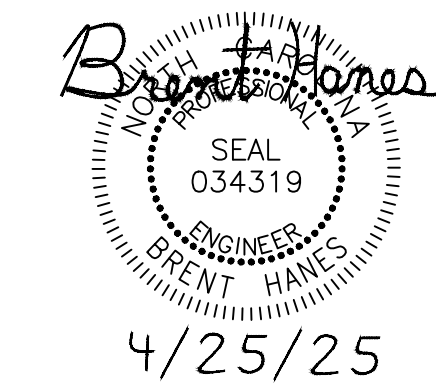
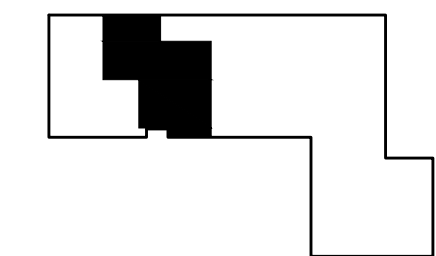


1 RCP - COURTYARD LEVEL
1/8" = 1'-0"

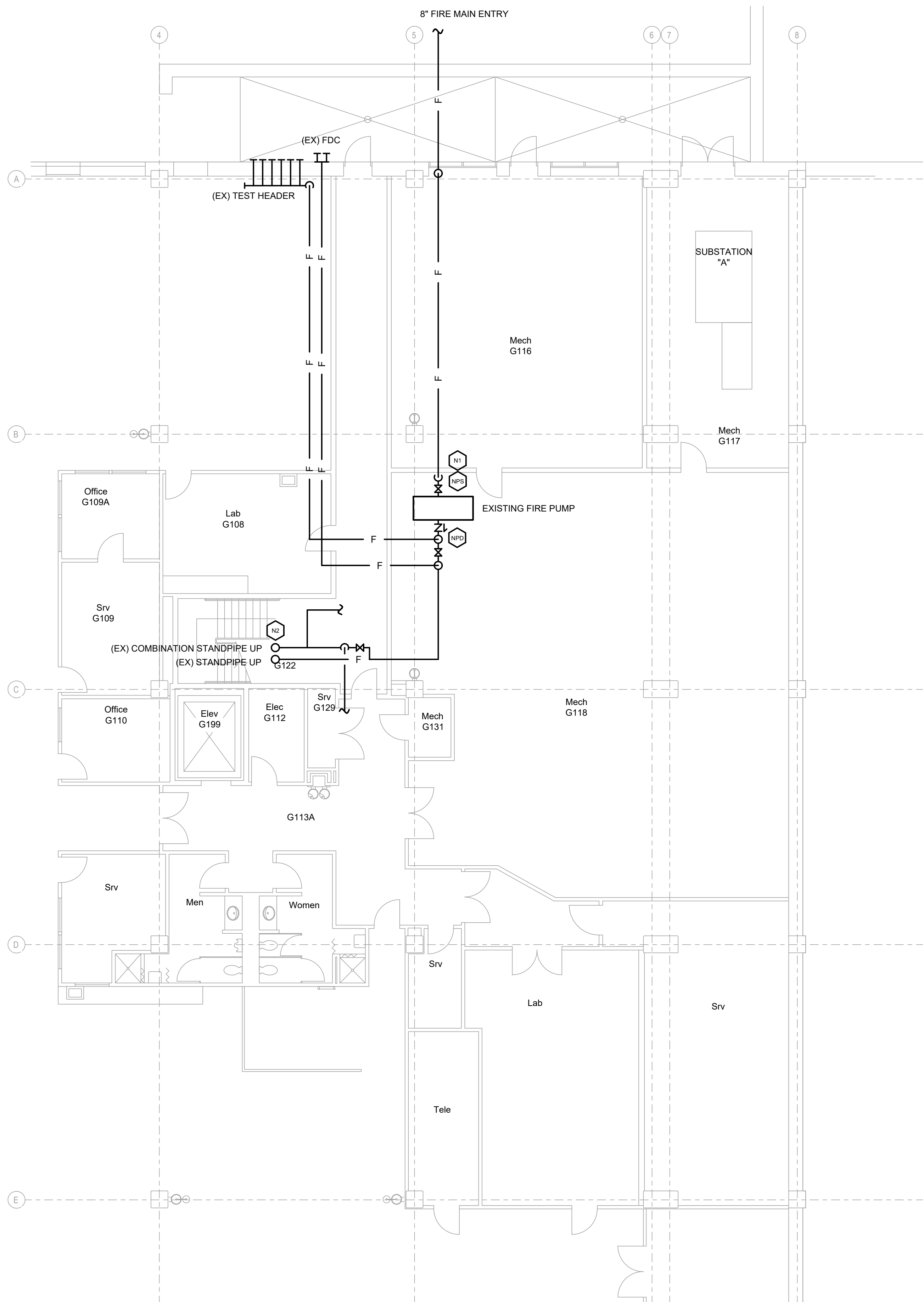


GENERAL NOTES:

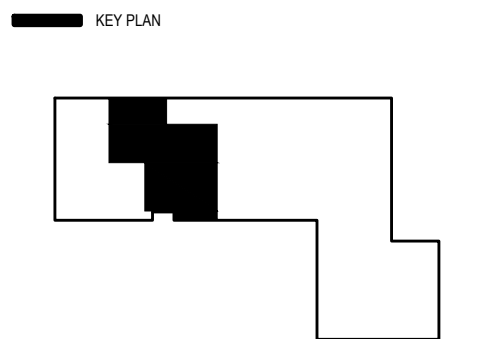
1. REFER TO SHEET FP001 FOR ADDITIONAL GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. THIS PLAN IS PROVIDED FOR REFERENCE ONLY TO SHOW FIRE PUMP LOCATION AND HYDRAULIC NODE NOTATIONS.



REVISIONS		
No.	Description	Date



1 FOR REFERENCE ONLY - GREEN LEVEL
NTS



BID DOCUMENTS
04.25.2025

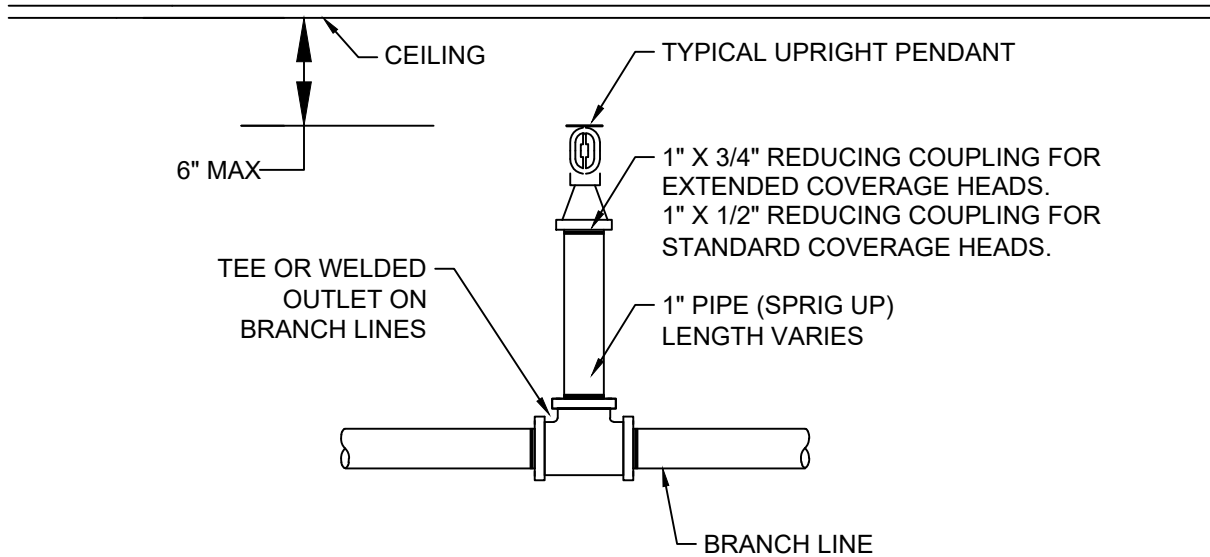
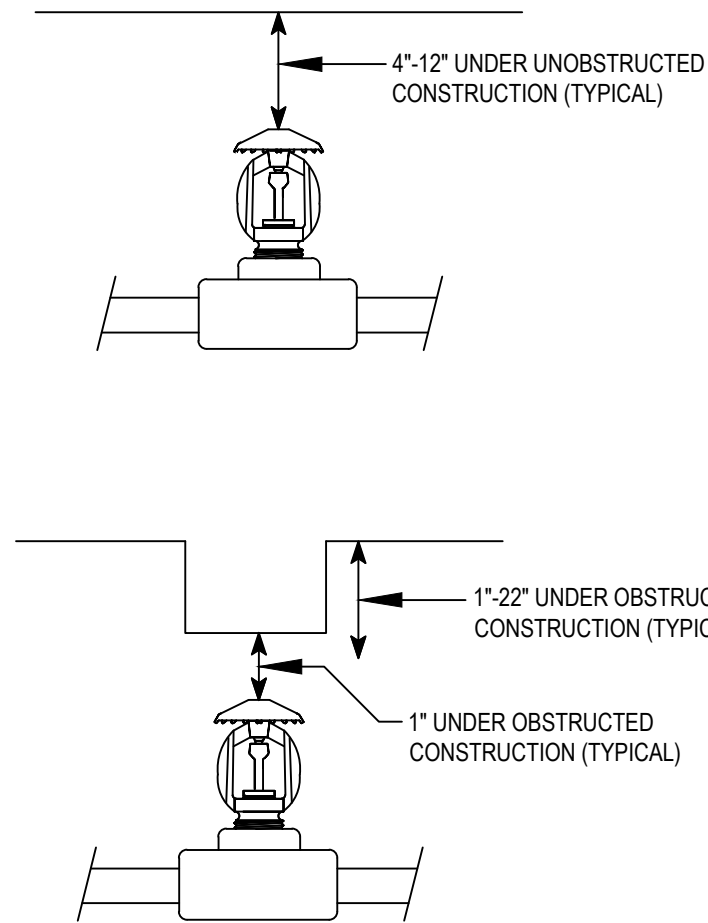
PROJECT
**NCSU-TEXTILES
COMPLEX-FLEX
FACTORY
RENOVATIONS**
1020 MAIN CAMPUS DRIVE
RALEIGH, NC 27606

SCO ID# 23-26253-01A
NCSU PROJECT ID: 202220031
FACILITY ID: 700

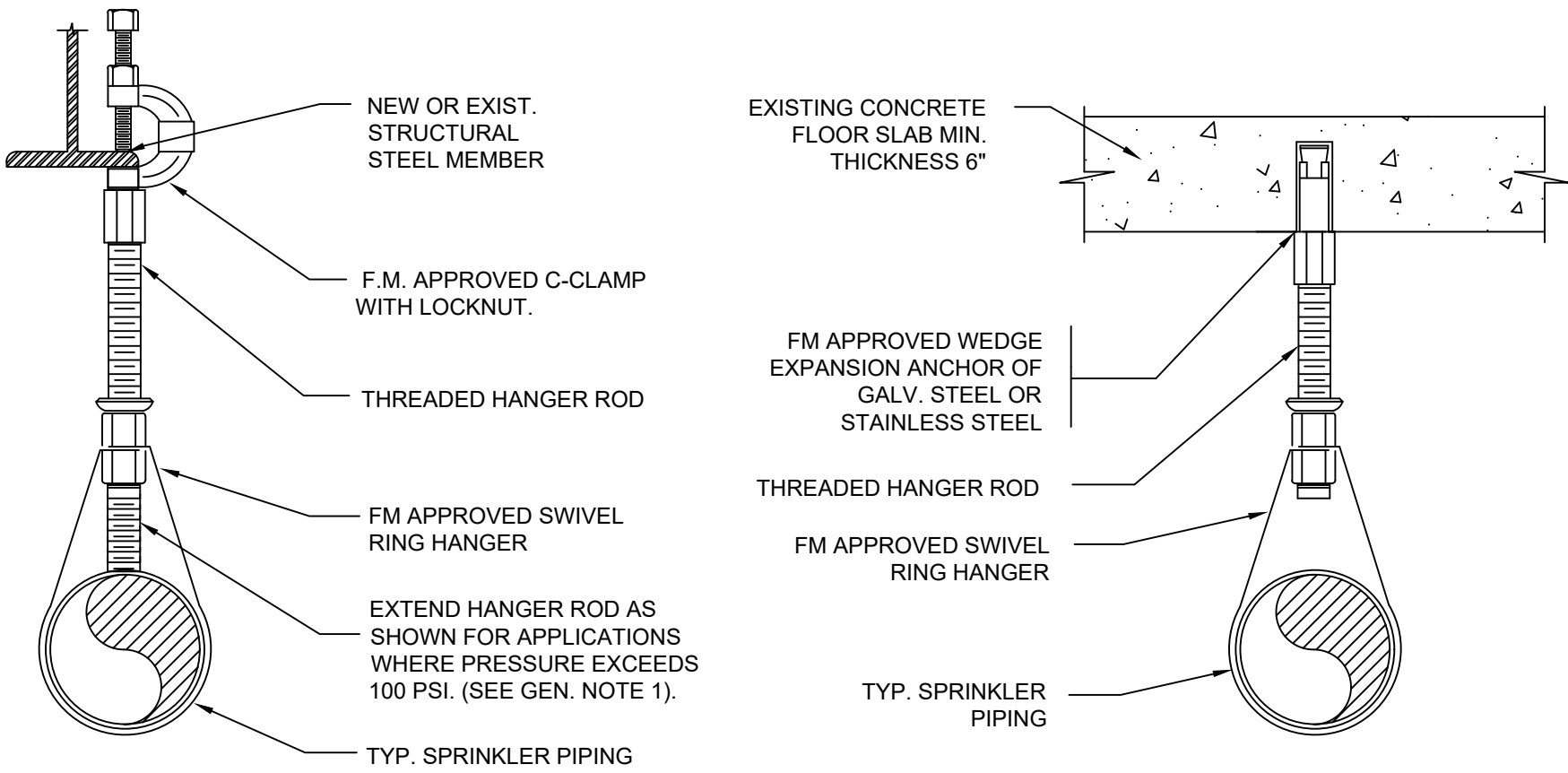
REVISIONS		
No.	Description	Date

PROJECT DATA
DATE: 04.25.2025
DRAWN: MAA
CHECKED: RBH
PROJECT NO: 2021_0140
PRINTING: BID DOCUMENTS

SHEET DATA
**FIRE PROTECTION
GREEN LEVEL
(FOR REFERENCE)**

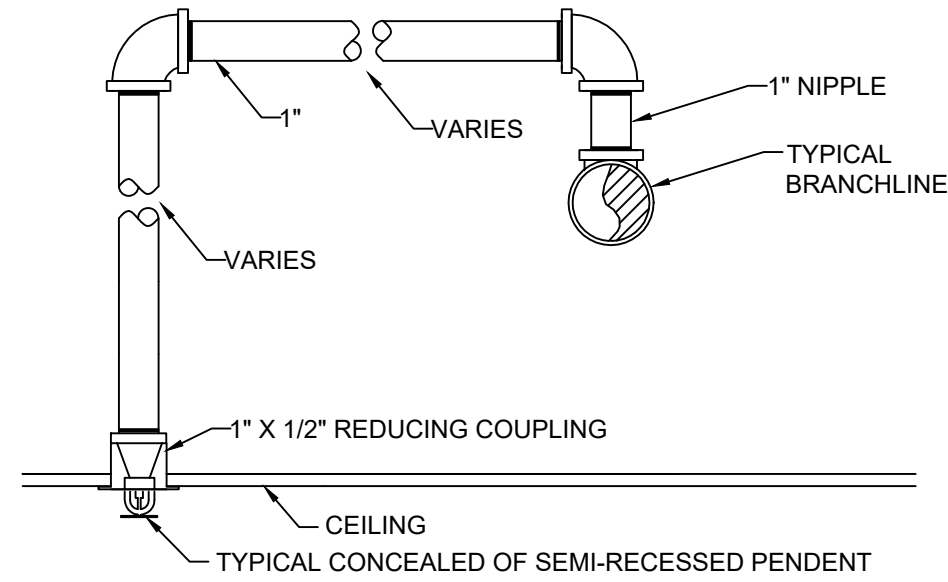


1 SPRIG-UP OPEN CEILING DETAILS
NO SCALE

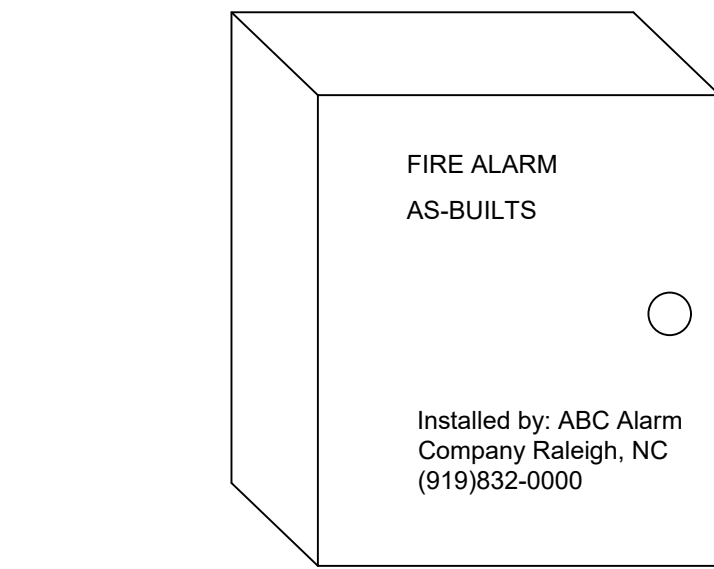
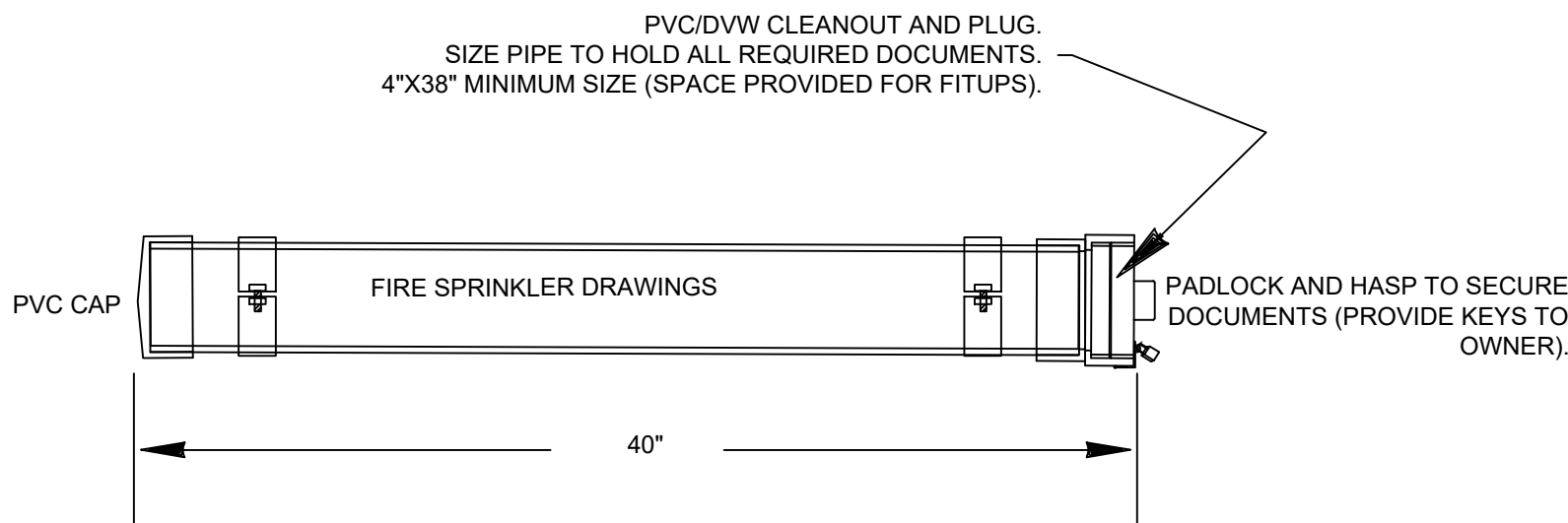


NOTE: 1. THESE METHODS SHALL BE USED WHEN PRESSURE EXCEEDS 100 PSI & SHALL BE INSTALLED WITHIN 12" OF THE LAST SPRINKLER DROP ON EACH SPRINKLER BRANCH LINE; ALL INSTALLATION SHALL COMPLY WITH NFPA 13.

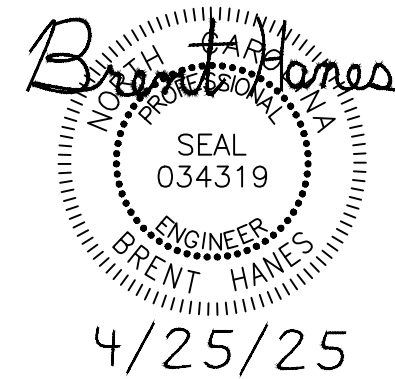
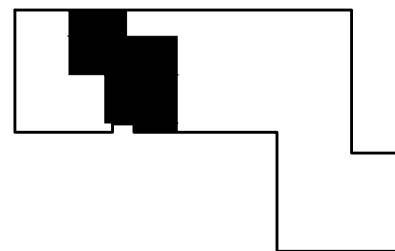
2 HANGER DETAILS
NO SCALE



3 RETURN BEND DETAIL
NO SCALE



4 SCO RECORD DOCUMENT DETAIL
NO SCALE



REVISIONS		
No.	Description	Date