



Clemons, Rutherford
& Associates Inc.

2027 Thomasville Road Tallahassee, Florida 32308

Architects

Planners

Interior Designers

Construction Managers

BUILDING 13 - WELDING LAB BOOTH EXPANSION FOR NORTH FLORIDA COLLEGE MADISON, FLORIDA

CONSULTANTS

MECHANICAL, PLUMBING & ELECTRICAL ENGINEERS

H2 ENGINEERING, INC.
114 EAST 5TH AVENUE
TALLAHASSEE, FLORIDA 32303
(850) 224-7922



BUILDING 13 - WELDING LAB BOOTH EXPANSION

TURNER DAVIS DRIVE
MADISON, FLORIDA



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William Doyle Rutherford
AR102525

BID DOCUMENTS

SUBMITTAL

PHASE	DATE ISSUED
CONSTRUCTION DOCUMENTS	JUNE 11, 2026
BID SET	OCTOBER 12, 2026
-	-
-	-
-	-
-	-
-	-

PROJECT NUMBER
25061

SET NO.

PROJECT INFORMATION

APPLICABLE CODES:

- FLORIDA BUILDING CODE, EXISTING BUILDING (FBC, EB) - LEVEL II ALTERATION - EIGHTH (2023) EDITION
- FLORIDA BUILDING CODE, BUILDING (FBC, B) - EIGHTH (2023) EDITION
- FLORIDA BUILDING CODE, MECHANICAL (FBC, M) - EIGHTH (2023) EDITION
- FLORIDA BUILDING CODE, FUEL GAS (FBC, FG) - EIGHTH (2023) EDITION
- FLORIDA BUILDING CODE, PLUMBING (FBC, P) - EIGHTH (2023) EDITION
- FLORIDA BUILDING CODE, ACCESSIBILITY - EIGHTH (2023) EDITION
- FLORIDA FIRE PREVENTION CODE (FFPC) - EIGHTH (2023) EDITION
- NFPA 70, NATIONAL ELECTRICAL CODE (NEC) - 2020 EDITION
- NFPA 101, LIFE SAFETY CODE - 2021 EDITION

CONSTRUCTION TYPE:

PROJECT AREA:	FBC: TYPE IIB, NON-SPRINKLERED	NFPA 220: TYPE II (000)
OVERALL BUILDING:	FBC: TYPE IIB, NON-SPRINKLERED	NFPA 220: TYPE II (000)

PRINCIPAL OCCUPANCY:
BUSINESS: YES

ACCESSORY OCCUPANCIES:
OTHER: N/A

BUILDING HEIGHT AND AREA:

NUMBER OF STORIES:	ONE (1) W/ BASEMENT
OVERALL BUILDING HEIGHT:	48'-0"
OVERALL EXISTING BUILDING AREA:	43,798 SF
PERCENT OF ARE INCREASE TAKEN:	NONE

PROJECT AREA:

FLOOR LEVEL:	BASEMENT
SQUARE FOOTAGE:	1,617 GSF
OCCUPANT LOAD:	1,617 / 90 = 17.97 18 PEOPLE

**METHOD OF STRUCTURAL FIRE-PROOFING
OF PROJECT AREA**

SELF-PROTECTING	N/A
RATED MEMBRANE ASSEMBLY	N/A
SPRAYED ON	N/A
OTHER	N/A

RATING:

EXTERIOR WALLS	N/A
COLUMNS	N/A
BEAMS	N/A
FLOOR	N/A
ROOF	N/A

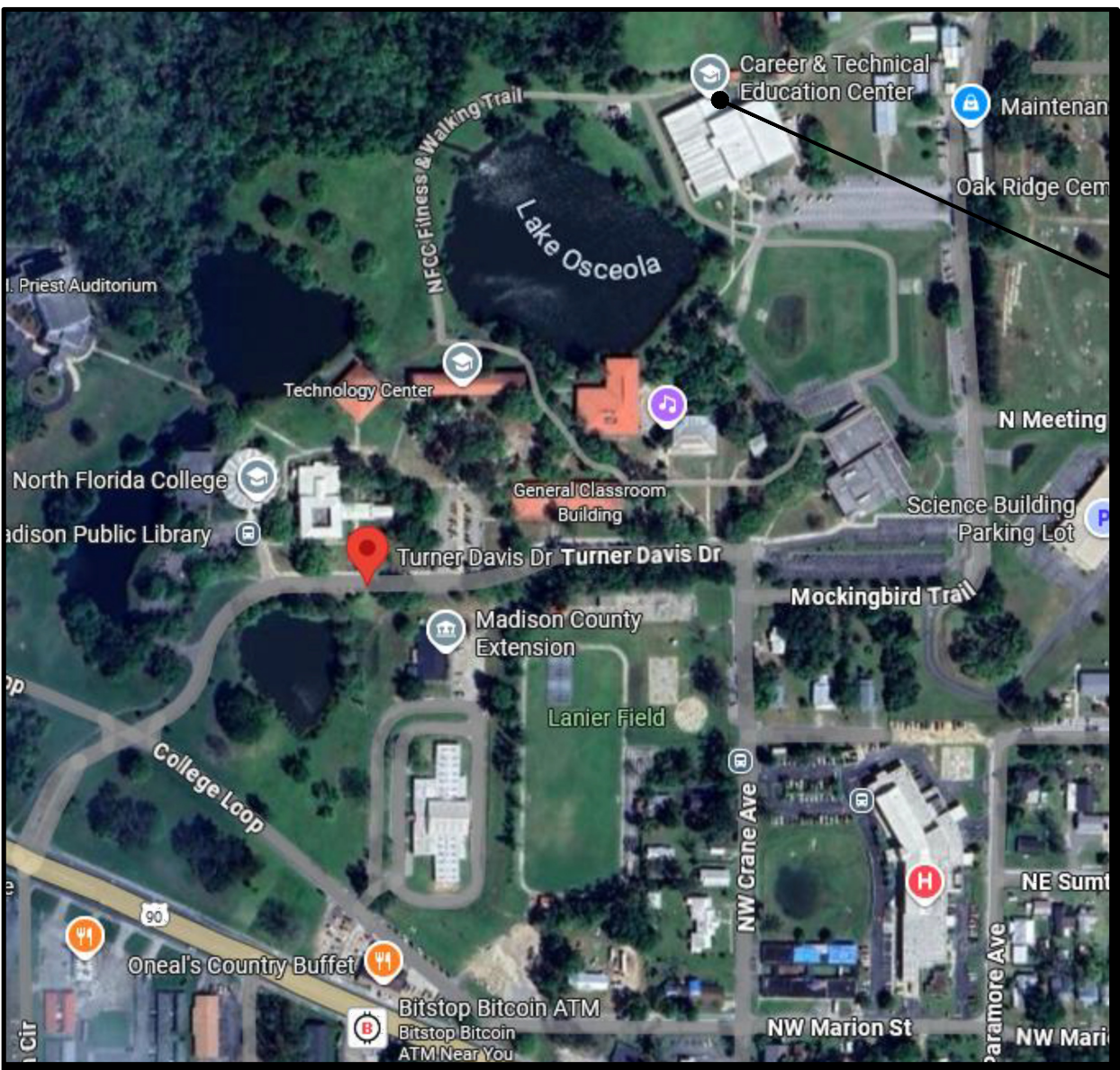
CONSTRUCTION MATERIALS (EXISTING)

FLOOR	SLAB ON GRADE, CONCRETE FOOTINGS
PARTITIONS	CMU
EXTERIOR WALLS	CMU
STRUCTURE	BAR JOISTS / CONCRETE

NOTE:
1. FIRE ALARM CONTRACTOR SHALL SUBMIT SEPARATE PERMIT APPLICATION FOR PLANS REVIEW.

VICINITY MAP

TURNER DAVIS DRIVE MADISON, FLORIDA



PROJECT AREA

INDEX OF DRAWINGS

COVER SHEET

COVER SHEET AND INDEX OF DRAWINGS

ARCHITECTURAL

LS1.1	BASEMENT - LIFE SAFETY PLAN
A1.1	BASEMENT - EXISTING / DEMOLITION AND RENOVATION PLANS
A2.1	EXTERIOR ELEVATIONS AND CANOPY DETAILS

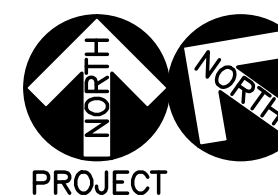
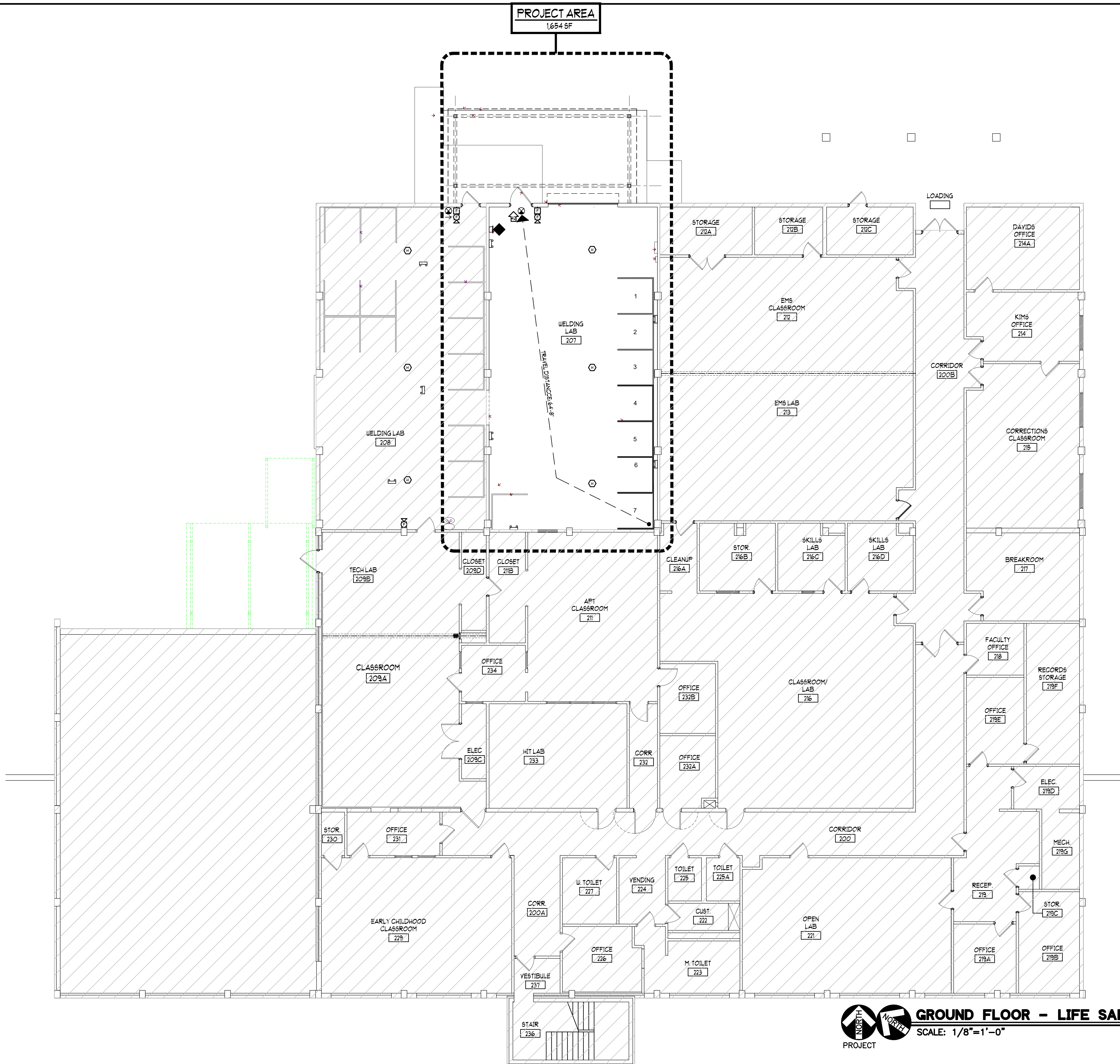
MECHANICAL

MP0.1	GENERAL NOTES & LEGENDS
MP1.1	BASEMENT - EXISTING/DEMOLITION AND RENOVATION PLANS
MP4.1	SCHEDULES
MP5.1	DETAILS

ELECTRICAL

E0.1	GENERAL NOTES & LEGENDS
E1.1	BASEMENT - EXISTING/DEMOLITION AND RENOVATION PLANS
E2.1	BASEMENT - EXISTING/DEMOLITION AND RENOVATION PLANS
E4.1	SCHEDULES
E5.1	DETAILS

BID-NFC-05-2026



GROUND FLOOR - LIFE SAFETY PLAN
SCALE: 1/8"=1'-0"

LIFE SAFETY LEGEND

	EXISTING PARTITION
	EXIT LIGHT AND DIRECTION
	EXIT WIDTH (IN INCHES)- EXIT LIGHT LOCATION
	FIRE EXTINGUISHER CABINET
	EMERGENCY LIGHT
	FIRE ALARM PULL STATION
	FIRE ALARM AUDIBLE/VISUAL DEVICE
	SMOKE DETECTOR
	PROJECT AREA
	NOT IN SCOPE - SHOWN FOR REFERENCE ONLY



BUILDING 13 - WELDING LAB BOOTH EXPANSION

**TURNER DAVIS DRIVE
MADISON, FLORIDA**



**Clemons, Rutherford
& Associates Inc.**

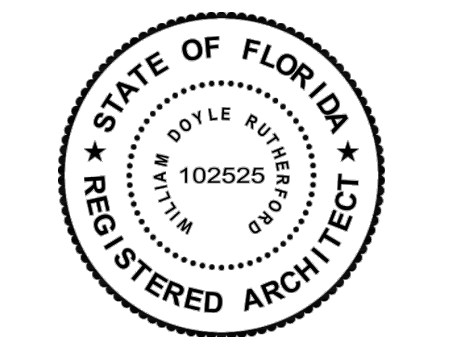
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**William Doyle Rutherford
AR102525**



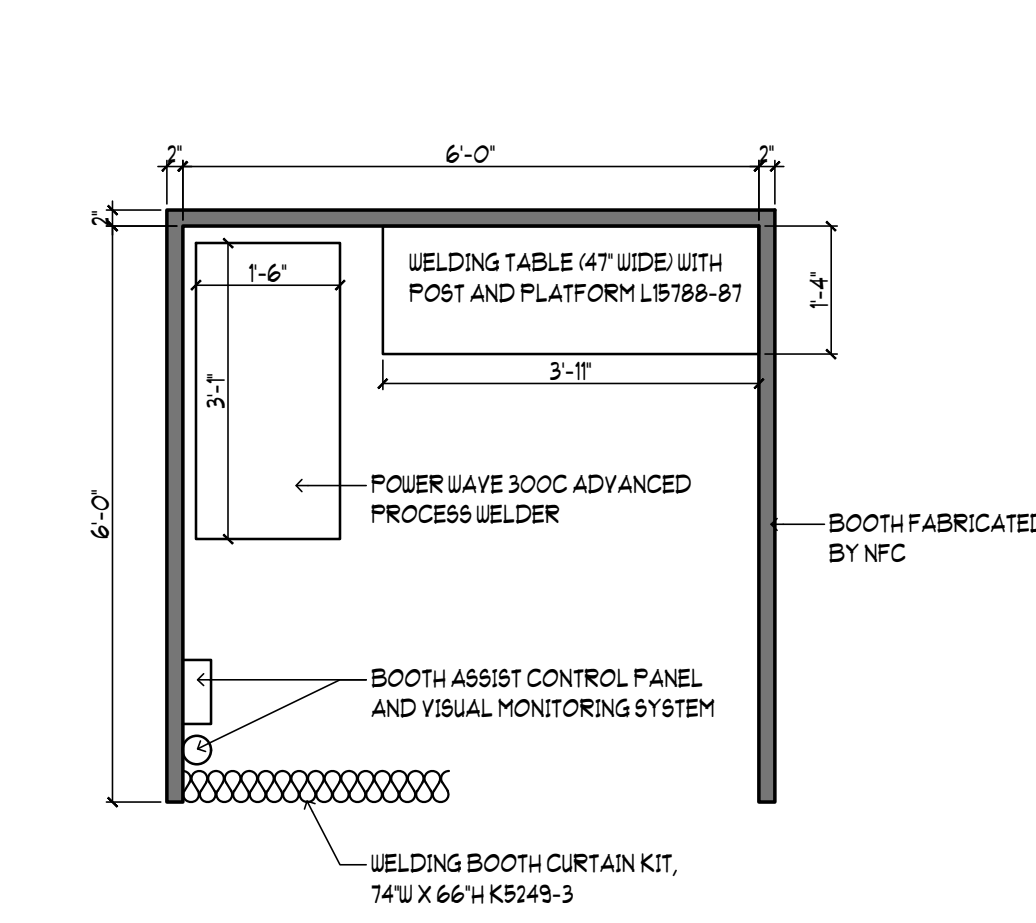
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PHASE	DATE	DRAWN	CHECK	
30% C.D.S.	4/6/26	T. RANSOM	W. RUTHERFORD	
100% C.D.S.	6/11/26	T. RANSOM	W. RUTHERFORD	
BID SET	10/12/26	T. RANSOM	W. RUTHERFORD	
-				
-				
-				

REVISIONS		
#	DATE	COMMENTS
1		
2		
3		
4		
5		

PROJ. NO. 25061
PHASE: BID SET

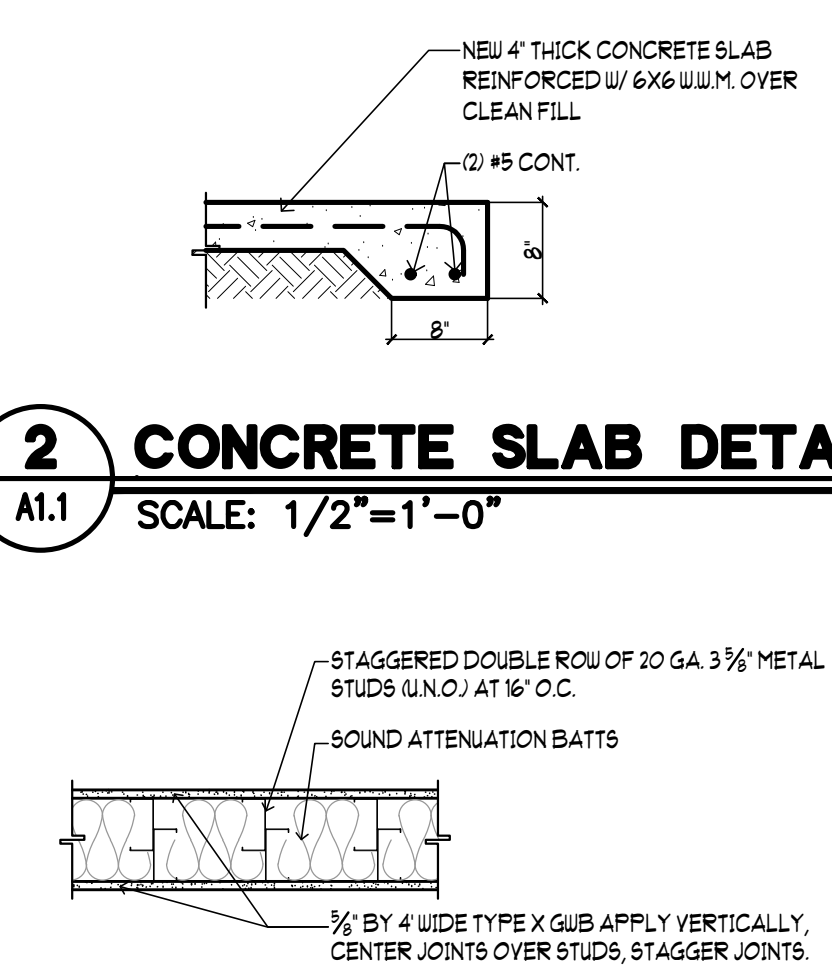
SHEET TITLE
BASEMENT - LIFE SAFETY PLAN

LS1.1 of

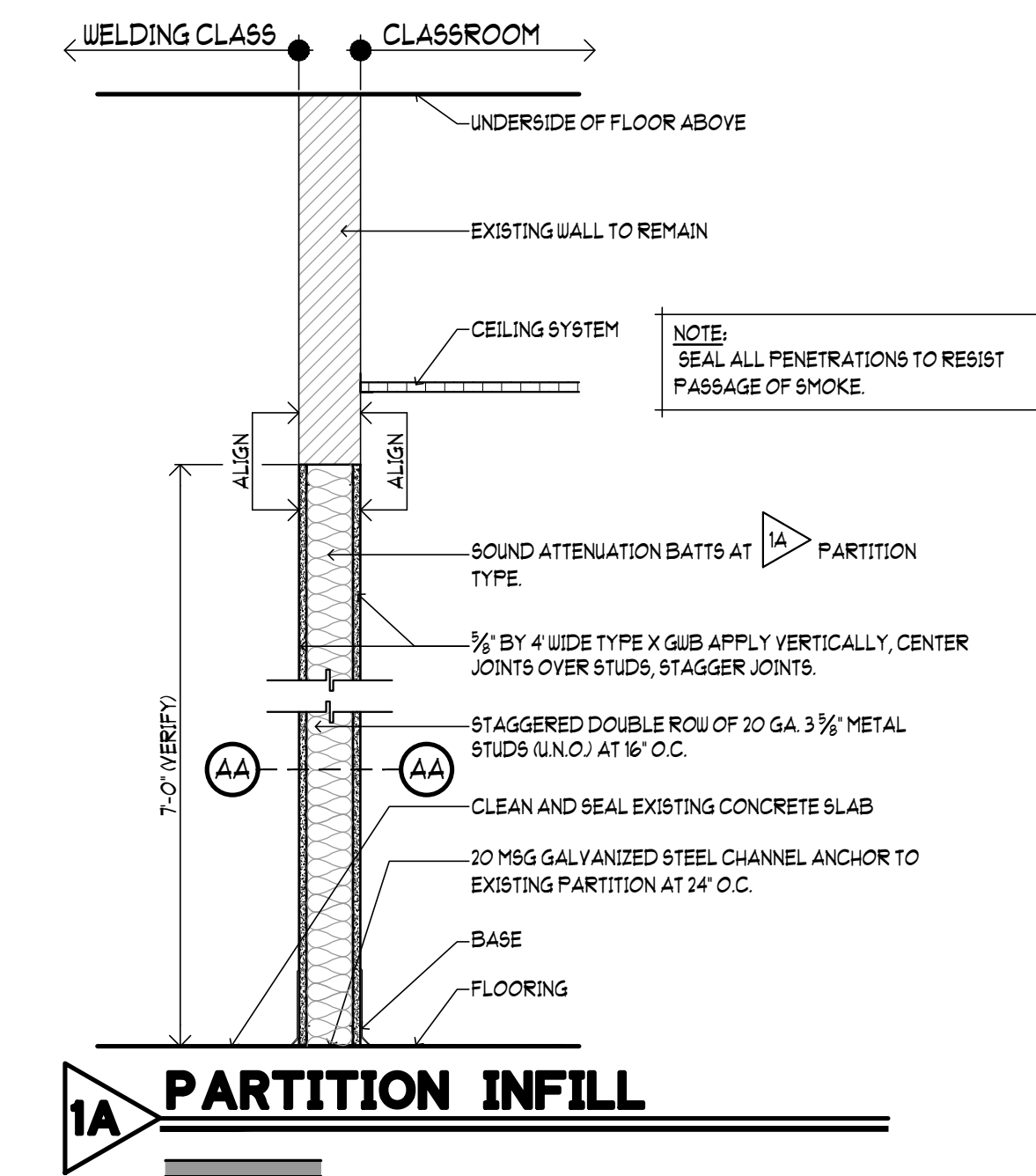


1 ENLARGED LAB BOOTH
A1.1 SCALE: 1/2"=1'-0"

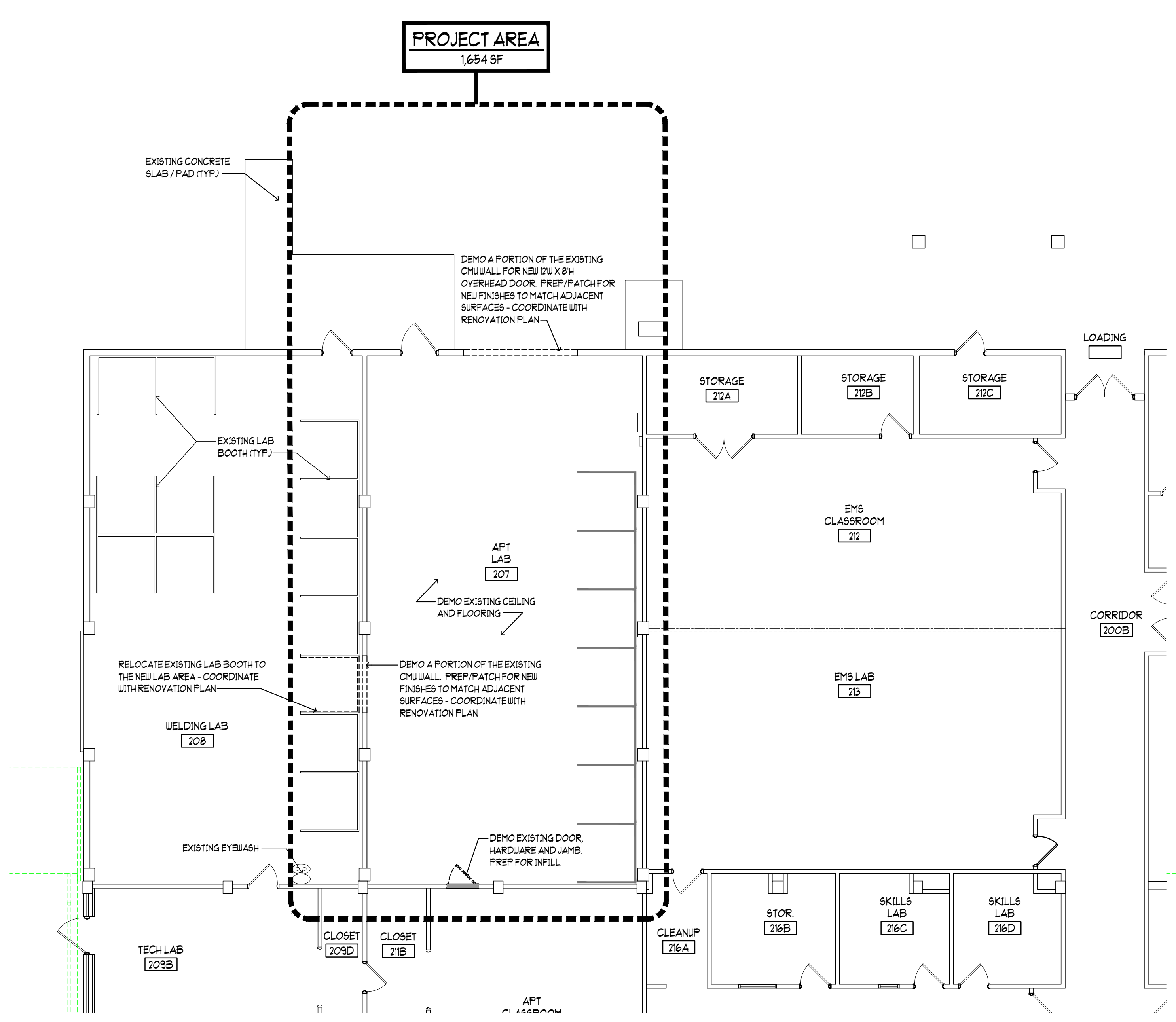
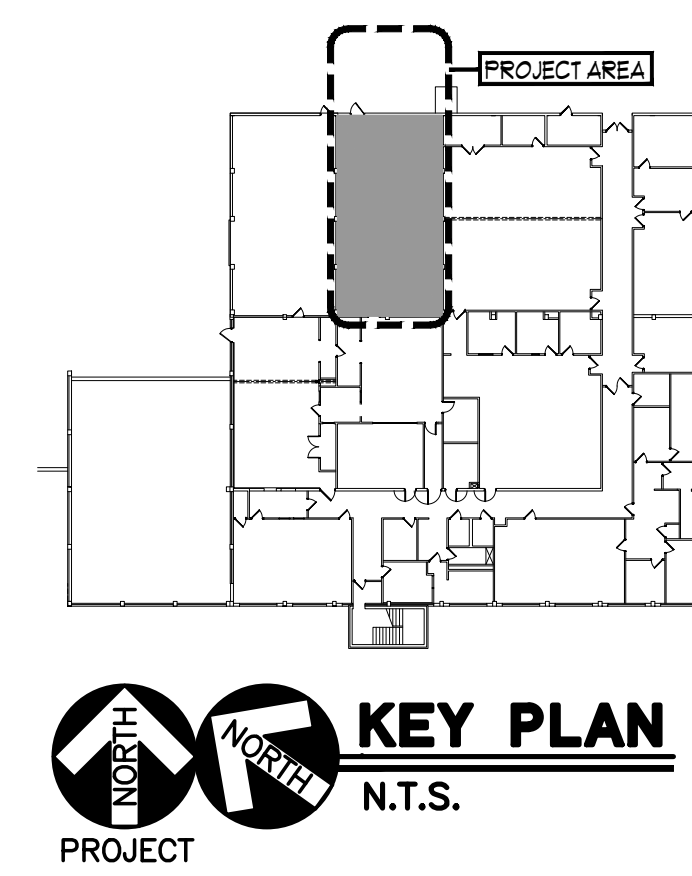
2 CONCRETE SLAB DETAIL
A1.1 SCALE: 1/2"=1'-0"



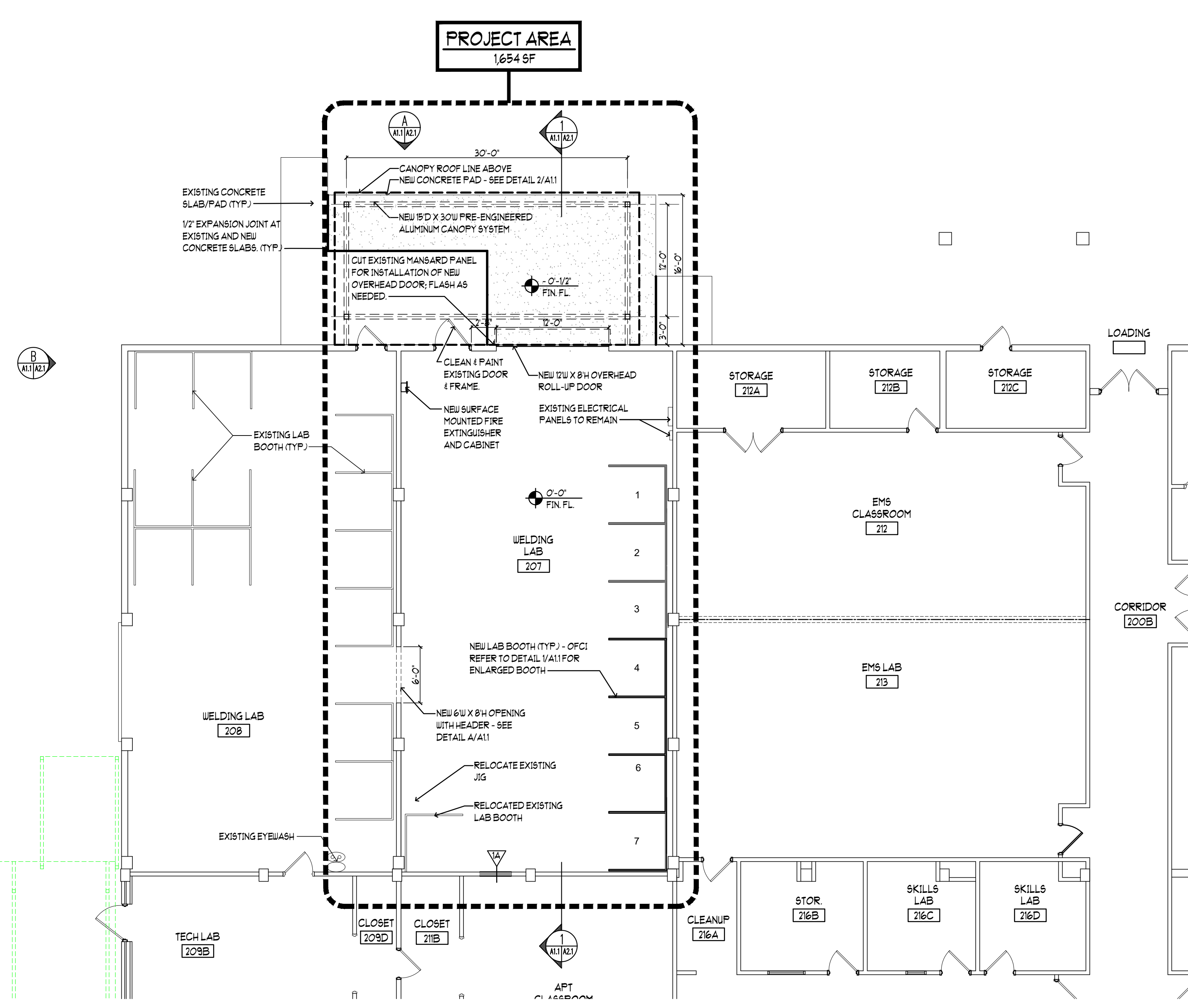
AA BUILDING SECTION
A1.1 N.T.S.



- GENERAL NOTES**
- CONTRACTOR TO MAINTAIN EXISTING FIRE PROTECTION AT EXISTING COLUMNS, ROOF SYSTEM ABOVE, AND PARTITIONS.
 - FIELD VERIFY EXISTING PROJECT AREA DIMENSIONS PRIOR TO WORK.
 - ALL NEW INTERIOR WALL AND CEILING FINISHES ARE CLASS A.
 - ALL NEW FLOOR FINISHES ARE CLASS 1.
 - CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS, SPACE AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ARCHITECT.
 - REPAIR SURFACE OF INTERIOR WALLS AS REQUIRED TO RECEIVE NEW FINISHES.
 - INTERIOR FINISHES:
 - CLEAN/PRESSURE WASH EXISTING SLAB ON GRADE. PAINT WITH SHOP GRADE FLOOR PAINT (2 COATS).
 - CLEAN AND PREP INTERIOR CMU/STUD WALLS AND PAINT (3 COATS).
 - CEILING EXPOSED. CLEAN AND PAINT STRUCTURE AND EXISTING DECK (2 COATS).
 - NO BASEBOARD.
 - PAINT ALL DOORS, INCLUDING OVERHEAD DOOR AND FRAMES UNLESS PREFINISHED.
 - PROVIDE 18" MINIMUM MANEUVERING CLEARANCE (34" PREFERRED) ON THE LATCH/PULL SIDE OF DOORS.
 - PATCH/REPAIR EXISTING WALLS ADJACENT TO DEMOLISHED AREAS TO MATCH REMAINING EXISTING WALLS.
 - COORDINATE ALL DEMOLITION/RENOVATION WORK.
 - ALL CONCRETE TO BE 3,000 PSI, FIBER MESH AND FINISHED WITH BROOM FINISH ON EXTERIOR. INTERIOR PATCH/TROUFEU FINISH.



GROUND FLOOR - EXISTING/DEMOLITION PLAN
SCALE: 1/8"=1'-0"



GROUND FLOOR - RENOVATION PLAN
SCALE: 1/8"=1'-0"

LEGEND

	EXISTING WALL TO REMAIN
	WALL TO BE REMOVED
	EXISTING DOOR TO REMAIN
	ROOM NAME AND NUMBER

NFC
NORTH FLORIDA COLLEGE

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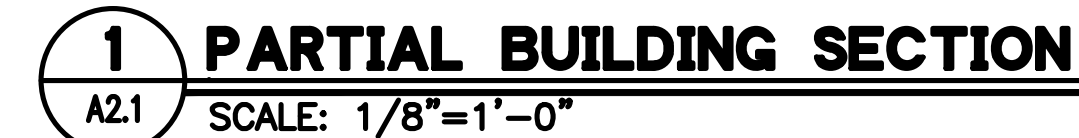
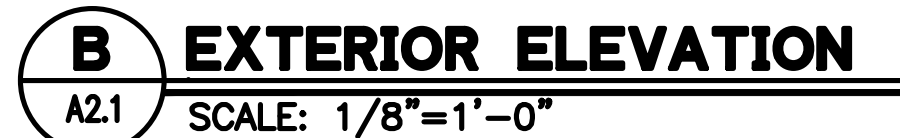
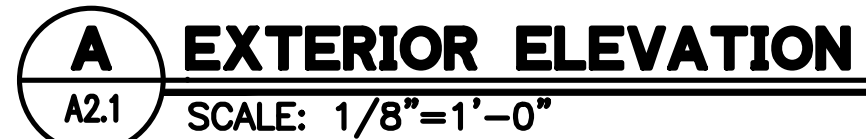
STATE OF FLORIDA
REGISTERED ARCHITECT
102525

SUBMITTAL			
PHASE	DATE	DRAWN	CHECK
30% C.D.S.	4/6/26	T. RANSOM	W. RUTHERFORD
100% C.D.S.	6/1/26	T. RANSOM	W. RUTHERFORD
BID SET	10/12/26	T. RANSOM	W. RUTHERFORD

REVISIONS	
#	DATE COMMENTS

PROJ. NO. 25061
PHASE: BID SET

SHEET TITLE
BASEMENT - EXISTING/DEMOLITION AND RENOVATION PLANS
A1.1 of



\\mskdc\Draws\25-149 NFC\BIDD\13 Welding Lab Expansion\25-149 NFC\BIDD\13 Welding Lab Expansion - MEP\General\MP0.1.dwg

FIRESTOP SCHEDULE OF THROUGH PENETRATION SYSTEMS. BASIS OF DESIGN: HILTI, INC.						
TYPE OF PENETRANT	F-RATING (HR)	CONCRETE FLOORS		CONCRETE OR BLOCK WALLS	GYPSUM WALLS	HILTI PRODUCTS
		BASIS OF DESIGN UL SYSTEM				
CIRCULAR BLANK OPENINGS (0000-0999)	1	F-A-0006, C-AJ-0055, C-AJ-0090		C-AJ-0055, C-AJ-0090	--	CP 680, CP 618, FS-ONE MAX, CFS-BL
	2	F-A-0006, C-AJ-0055, C-AJ-0090		C-AJ-0055, C-AJ-0090	--	
METAL PIPES OR CONDUIT (1000-1999)	1	C-AJ-1226, F-A-1028, F-A-1017		C-AJ-1226, W-J-1067, W-J-1020	W-L-1054, W-L-1058, W-L-1164, W-L-1506	CP 680, FS-ONE MAX, CP 606, CFS-S SIL GG, CFS-D, MINERAL WOOL
	2	C-AJ-1226, F-A-1028, F-A-1017		C-AJ-1226, W-J-1067, W-L-1020, W-J-1248	W-L-1054, W-L-1058, W-L-1164, W-L-1506	
NON-METALLIC PIPE OR CONDUIT (I.E. PVC, CPVC, ABS, FRP, ENT) (2000-2999)	1	F-A-2053, F-A-2025, C-AJ-2109, C-AJ-2098, C-AJ-2271, C-AJ-2167, C-BJ-2021, C-AJ-2342		C-AJ-2109, C-AJ-2098, C-AJ-2167, C-AJ-2371, C-AJ-2342	W-L-2078, W-L-2075, W-L-2128	CP 680, CP 643N, MINERAL WOOL, CP 644, FS-ONE MAX, CFS-S SIL SL, CFS-S SIL CG, CP 648
	2	F-A-2053, F-A-2025, C-AJ-2109, C-AJ-2098, C-AJ-2271, C-AJ-2167, C-BJ-2021, C-AJ-2371, C-AJ-2342		C-AJ-2109, C-AJ-2098, C-AJ-2167, C-AJ-2371, C-AJ-2342	W-L-2078, W-L-2075, W-L-2128	
SINGLE OR BUNDLED CABLES (3000-3999)	1	F-A-3007, C-AJ-3095, C-AJ-3180, C-AJ-3283		W-J-3036, C-AJ-3095, C-AJ-3180, W-J-3060, W-J-3167	W-L-3065, W-L-3111, W-L-3112, W-L-3334, W-L-3414, W-L-3396	CP 680, CP 653, FS-ONE MAX, CP 618, CP 606, CFS-D, CFS-CC
	2	F-A-3007, C-AJ-3095, C-AJ-3334, F-A-3060		W-J-3036, C-AJ-3095, C-AJ-3180, W-J-3060, W-J-3167, W-J-3189	W-L-3065, W-L-3111, W-L-3112, W-L-3334, W-L-3414, W-L-3396	
INSULATED PIPES (5000-5999)	1	F-A-5015, F-A-5017, C-AJ-5090, C-AJ-5091, C-AJ-5090, C-AJ-5048		C-AJ-5090, C-AJ-5091, C-AJ-5061, W-J-5042	W-L-5028, W-L-5029, W-L-5047	CP 680, FS-ONE MAX, MINERAL WOOL
	2	F-A-5015, F-A-5017, C-AJ-5090, C-AJ-5091, C-AJ-5090		C-AJ-5090, C-AJ-5091, C-AJ-5061, W-J-5042	W-L-5028, W-L-5029, W-L-5047	
MECHANICAL DUCTWORK WITHOUT DAMPERS (NON-INSULATED) (7000-7999)	1	C-AJ-7046, C-AJ-7051, C-AJ-7084		C-AJ-7046, C-AJ-7051, W-J-7021, W-J-7022	W-L-7017, W-L-7040, W-L-7042, W-L-7155	CFS-S SIL GG, CP 606, FS-ONE MAX
	2	C-AJ-7046, C-AJ-7051, C-AJ-7085		C-AJ-7046, C-AJ-7051, W-J-7021, W-J-7022	W-L-7040, W-L-7042, W-L-7155	
MECHANICAL DUCTWORK WITHOUT DAMPERS (INSULATED) (7000-7999)	1	N/A**		W-J-7029, W-J-7124	W-L-7059, W-L-7153, W-L-7156, W-L-7151	FS-ONE MAX, MINERAL WOOL
	2	N/A**		W-J-7091, W-J-7112, W-J-7124	W-L-7059, W-L-7153, W-L-7156, W-L-7151	
MIXED PENETRANTS (8000-8999)	1	C-AJ-8099, C-AJ-8056, C-AJ-8143		C-AJ-8099, C-AJ-8056, W-J-8007, C-AJ-8143	W-L-1095, W-L-8013	FS-ONE MAX, CFS-BL, CP 620, CP 618
	2	C-AJ-8099, C-AJ-8056, C-AJ-8143, C-AJ-8252		C-AJ-8099, C-AJ-8056, W-J-8007, C-AJ-8143, C-AJ-8252	W-L-1095, W-L-8013	
NOTES:						
1. JOBSITE CONDITIONS OF EACH THROUGH-PENETRATION FIRESTOP SYSTEM MUST MEET ALL DETAILS OF THE UL-CLASSIFIED SYSTEM SELECTED.						
2. IF JOBSITE CONDITIONS DO NOT MATCH ANY UL-CLASSIFIED SYSTEMS IN THE SCHEDULES ABOVE, CONTACT FIRESTOP MANUFACTURER FOR ALTERNATIVE SYSTEMS OR ENGINEER JUDGMENT DRAWINGS.						
3. WHERE MORE THAN ONE APPLICABLE UL-CLASSIFIED SYSTEM IS LISTED IN THE SCHEDULES, CHOOSE THE UL SYSTEM WHICH IS MOST ECONOMICAL FOR EACH THROUGH-PENETRATION FIRESTOP SYSTEM.						
4. COORDINATE WORK WITH OTHER TRADES TO ENSURE THAT PENETRATION OPENING SIZES ARE APPROPRIATE FOR PENETRANT LOCATIONS, AND VICE-VERSA.						
5. ALL THROUGH-PENETRATION FIRESTOPS SHALL BE PROVIDED BY ONE MANUFACTURER, APPROVED MANUFACTURES: HILTI, RECTORSAL, 3M, STL.						

WATER HAMMER ARRESTERS

GROUPED FIXTURES

TABLE 1 - FOR GROUPED FIXTURES

P.D.I. UNITS	AA	A	B	C	D	E	F
FIXTURE UNITS	1-3	1-11	12-32	33-60	61-113	114-154	155-330

RULE 1 - MULTIPLE FIXTURES NOT EXCEEDING 20 FT.

MAIN OR RISER

POINT OF RELIEF

SELECTION METHOD:
USING TABLE 1, SIZE UNIT "X" FOR THE TOTAL FIXTURE UNITS OF BRANCH LINE.

RULE 2 - MULTIPLE FIXTURES EXCEEDING 20 FT.

MAIN OR RISER

POINT OF RELIEF

SELECTION METHOD:
SIZE UNIT "X" AND UNIT "Y" SO THE SUM OF THE RATINGS IS EQUAL TO OR GREATER THAN TOTAL FIXTURE UNITS OF BRANCH LINE.

COMBINATION OF RULE 1 AND RULE 2

MAIN OR RISER

SELECTION METHOD:
USING TABLE 1, SIZE UNIT "X" FOR BRANCH 1 BASE ON RULE 1. SIZE UNITS "Y" AND "Z" BASED ON RULE 2.

LONG RUNS

TABLE 2 - WATER PRESSURES UP TO 65 P.S.I.G.

P.D.I. WATER HAMMER ARRESTERS	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
LENGTH OF PIPE (FT.)	25	50	75	100	125	150
A	A	B	C	D	E	F
B	B	C	D	E	F	CF
C	C	D	AB	F	CF	FF
D	D	E	F	CF	FF	EFF
E	E	F	AF	EF	EFF	BFFF
F	D	E	F	DF	FF	FFFF

NOTE:
LOCATE WHA AS CLOSE AS POSSIBLE TO POINT OF CLOSURE

LONG RUN OF PIPING

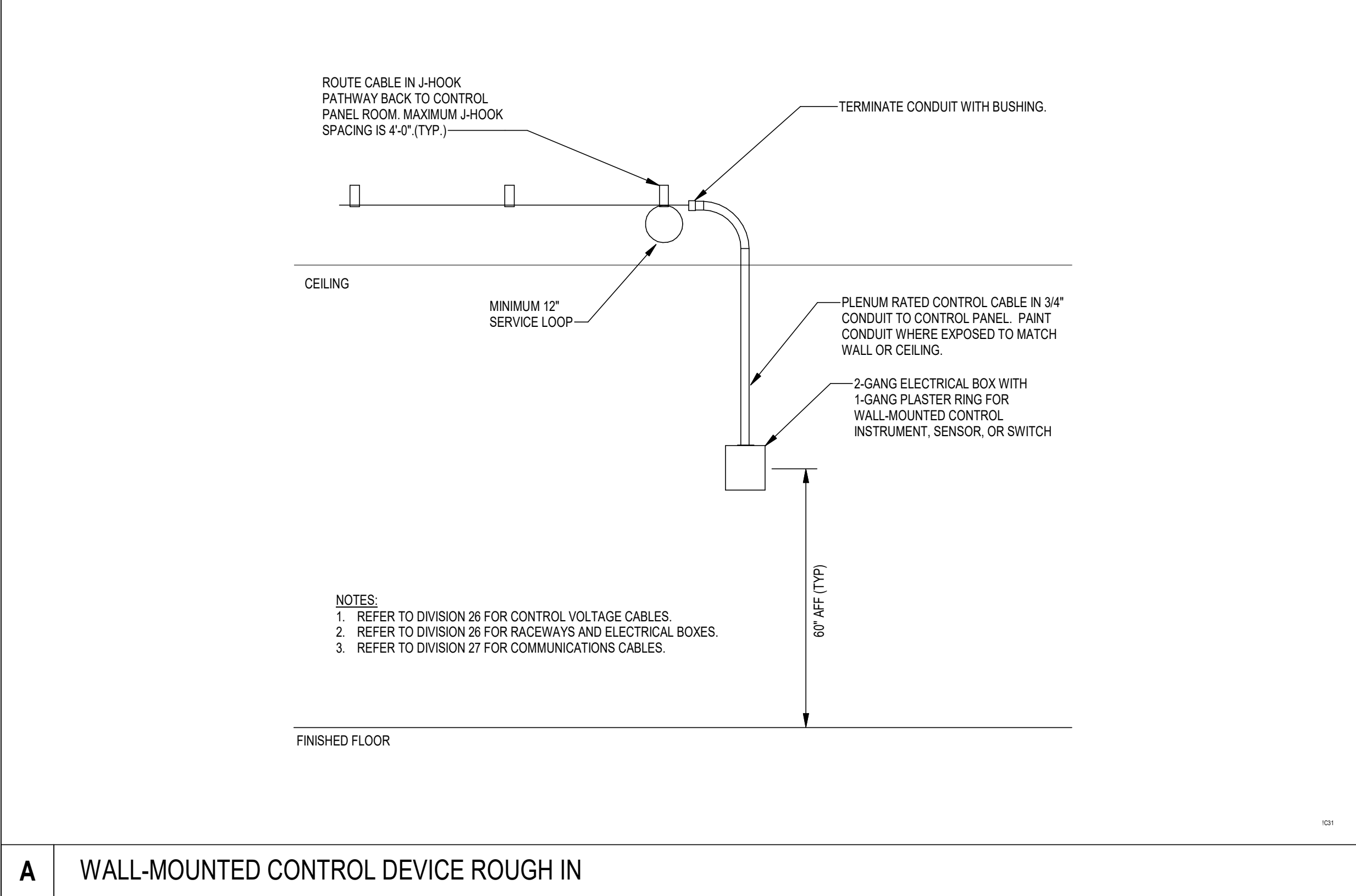
OUTLET

SELECTION METHOD:
USING EITHER TABLE 2 OR 2A (BASED ON SYSTEM PRESSURE), SIZE UNIT "X" BASED ON SIZE OF PIPE AND LENGTH OF RUN.

GENERAL NOTE:
PROVIDE WATER HAMMER ARRESTERS IN ACCORDANCE WITH STANDARD PDJ-WH201

AIR DISTRIBUTION	
	ROUND SHEET METAL DUCT
	EXHAUST AIR DUCTWORK SECTION
	AIR BALANCING DAMPER (MANUAL)
	NEW DUCT
	EXISTING MATERIALS TO BE REMOVED
VALVES	
	BALL VALVE (WITH QUARTER TURN HANDLE)
	QUARTER TURN LEVER
MEASUREMENTS AND CONTROLS	
	THERMOSTAT/TEMPERATURE SENSOR (SEE DETAIL AMP0.1)
	WEF WALL SWITCH PER SPECIFICATIONS (SEE DETAIL AMP0.1)

PIPING AND FITTINGS	
	HEATING HOT WATER SUPPLY PIPING
	HEATING HOT WATER RETURN PIPING
	CAP
	ELBOW TURNED UP
	ELBOW TURNED DOWN
	TEE, OUTLET UP
	TEE, OUTLET DOWN
	NEW PIPE
	EXISTING PIPE TO REMAIN
	EXISTING PIPE TO BE REMOVED
	COLD WATER SUPPLY PIPING
	COMPRESSED AIR PIPING
	HOSE BIBB
	WATER HAMMER ARRESTER - SEE DETAIL THIS SHEET
MISCELLANEOUS	
	POINT OF CONNECTION, NEW TO EXISTING
RESOLVE, IN WRITING, ANY CODE VIOLATION DISCOVERED IN CONTRACT DOCUMENTS WITH THE ENGINEER PRIOR TO BIDDING. AFTER AWARD OF THE CONTRACT, MAKE ANY CORRECTION OR ADDITION NECESSARY FOR COMPLIANCE WITH APPLICABLE CODES AT NO ADDITIONAL COST TO OWNER.	
THE CONTRACTOR SHALL INCLUDE IN THE WORK, WITHOUT EXTRA COST TO THE OWNER, ANY LABOR, MATERIALS, SERVICES, APPARATUS, AND DRAWINGS REQUIRED TO COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, AND REGULATIONS.	
WHERE THERE IS CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND THE APPLICABLE CODES, THE CODES SHALL GOVERN, EXCEPT WHERE THE REQUIREMENTS OF THE CONTRACT DOCUMENTS ARE MORE STRINGENT.	



HVAC NOTES	
1. INSTALL DUCTWORK, PIPING, ETC. AS HIGH AS POSSIBLE ABOVE CEILING WHILE MAINTAINING ACCESSIBILITY FOR EQUIPMENT AND DEVICES AS APPROPRIATE.	1. INSTALL ALL WORK IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 2023, THE FLORIDA FIRE PREVENTION CODE, THE NATIONAL ELECTRICAL CODE 2020 EDITION, AND ALL CODES, ORDINANCES, RULES AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION AT THIS SITE, WHERE CONFLICTS OCCUR BETWEEN CODES AND THE CONSTRUCTION DOCUMENTS. THE MOST RESTRICTIVE REQUIREMENTS SHALL GOVERN. 2. DRAWINGS ARE DIAGRAMMATIC, INDICATIVE OF WORK TO BE FURNISHED AND INSTALLED UNDER THIS CONTRACT. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ALL DIMENSIONS. 3. FIELD VERIFY DIMENSIONS AND CONDITIONS. IF THE CONTRACTOR IS UNABLE TO INTERPRET THE CONTRACT DOCUMENTS, CONTRACTOR IS RESPONSIBLE TO REQUEST CLARIFICATION IN WRITING TO THE ARCHITECT. IF CONTRACTOR PROCEEDS WITH ANY WORK BEFORE OBTAINING CLARIFICATION, CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL DEFICIENCIES ASSOCIATED THEREWITH. 4. BEFORE SUBMITTING FOR THE WORK, EACH BIDDER WILL BE RESPONSIBLE TO EXAMINE THE PREMISES AND SATISFY HIMSELF AS TO THE EXISTING CONDITIONS UNDER WHICH CONTRACTOR WILL BE OBLIGED TO OPERATE AND COMPLETE THE WORK UNDER THIS CONTRACT. NO ALLOWANCE WILL SUBSEQUENTLY BE MADE IN THIS CONNECTION OR ERROR OR OMISSION ON CONTRACTOR'S PART. 5. THE CONTRACTOR SHALL PAY FOR ALL INSPECTION PERMITS, CERTIFICATES, CONNECTION FEES, SYSTEM DEMAND CHARGES AND LICENSE FEES IN CONNECTION WITH CONTRACTOR'S WORK. 6. CONSTRUCTION MANAGER OR GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SEQUENCING AND COORDINATING WORK OF SUBCONTRACTORS TO AVOID INTERFERENCES. 7. WORK SHALL COMPLY WITH APPLICABLE O.S.H.A. AND E.P.A. REGULATIONS AND GUIDELINES. 8. 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PRIOR TO INSTALLATION, COORDINATE AND ADJUST THE FINAL LOCATION OF ALL WALL MOUNTED DEVICES AND EQUIPMENT WITH ALL CASEWORK, SHELVING, MARKER BOARDS, BULLETIN BOARDS OR OTHER WALL MOUNTED FURNISHINGS. 17. SUPPORTS AND HANGERS SHALL PRESENT A NEAT, ORDERLY APPEARANCE. 18. CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF ALL FIRE AND SMOKE WALL ASSEMBLIES AND ACOUSTICAL WALLS. 19. BEAM AND FLOOR PENETRATIONS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. BEAM SLEEVES AND BEAM REINFORCING APPROVED BY STRUCTURAL ENGINEER SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR. 20. CONTRACTOR SHALL FURNISH U.L. APPROVED DRAWINGS FOR EACH TYPE OF FIRE RATED ASSEMBLY PENETRATION BY DUCTS, PIPES OR CONDUITS. THESE DRAWINGS SHALL BE DISPLAYED ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION. SEE SPECIFICATIONS. 21. THE BUILDING WILL REMAIN OCCUPIED DURING CONSTRUCTION. THE OWNER WILL MAKE ALL REASONABLE EFFORTS TO ASSIST THE CONTRACTOR IN COMPLETING THE WORK. 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2. COORDINATE LOCATION OF ALL EQUIPMENT, DUCTWORK AND PIPING INSTALLATIONS WITH ELECTRICAL TO PROVIDE THE REQUIRED CLEARANCES AROUND ALL ELECTRICAL PANELS, SWITCHGEAR, ETC.	
3. INSTALLATION OF EQUIPMENT, DUCTWORK AND PIPING SHALL PROVIDE CONVENIENT ACCESS FOR REMOVAL OF FILTERS AND FOR MAINTENANCE.	
4. DUCT SIZES GIVEN ARE SHEET METAL SIZES.	
5. PROVIDE FLEXIBLE DUCT CONNECTIONS AT EACH EQUIPMENT CONNECTION.	
6. IT IS RECOMMENDED THAT DUCTWORK BE FABRICATED FROM FIELD MEASUREMENTS TAKEN AS THE BUILDING STRUCTURE AND SPACE COMPETING SYSTEMS ARE PROGRESSIVELY INSTALLED. THE DUCTWORK AS SHOWN ON THE CONSTRUCTION DOCUMENTS IS DIAGRAMMATIC AND DOES NOT NECESSARILY INCLUDE ALL MODIFICATIONS REQUIRED TO AVOID THESE INTERFERENCES. BEFORE FABRICATING ANY DUCTWORK, CHECK THE PHYSICAL CONDITIONS AT THE JOB SITE AND MAKE CHANGES IN CROSS SECTIONS, ROUTING, OFFSETS AND SIMILAR ITEMS WHETHER SPECIFICALLY INDICATED OR NOT. VERIFY THAT SUFFICIENT CLEARANCES ARE AVAILABLE FOR INSTALLING DUCTWORK, PIPING, LIGHT FIXTURES, CEILING SYSTEMS AND TO PROVIDE EQUIPMENT SERVICE. COSTS REQUIRED TO CHANGE DUCTWORK TO FIT THE SPACE AVAILABLE AND AVOID INTERFERENCES CAUSED BY SPACE COMPETING SYSTEMS SHALL BE BORNE BY THE CONTRACTOR. NO ADDITIONAL REMUNERATION WILL BE PAID BY THE OWNER.	
7. COORDINATE ALL DUCT TEST WITNESSING WITH LOCAL MECHANICAL INSPECTOR.	
8. PRIOR TO FINAL INSPECTION, PROVIDE CERTIFIED TEST & BALANCE REPORT AND OPERATIONS & MAINTENANCE MANUALS TO THE OWNER.	
9. DUCT CONSTRUCTION, INCLUDING SHEET METAL THICKNESSES, SEAM AND JOINT CONSTRUCTION, REINFORCEMENTS, AND HANGERS AND SUPPORTS, SHALL COMPLY WITH SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE DUCT.	
10. LOCATIONS OF EXISTING EQUIPMENT ARE BASED ON REFERENCE MATERIALS PROVIDED TO THE ENGINEER AND CONCEALED ELEMENTS HAVE NOT BEEN VERIFIED. CONTRACTOR SHALL LOCATE CONCEALED ELEMENTS AND NOTIFY ENGINEER IF VARIANCES BETWEEN THESE DOCUMENTS AND ACTUAL FIELD CONDITIONS EXIST AND MAY MATERIALLY AFFECT THE DESIGN INTENT.	

COMMISSIONING NOTES	
1. THE BUILDING MECHANICAL SYSTEMS ARE EXEMPT FROM COMMISSIONING REQUIREMENTS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE - ENERGY CONSERVATION, SECTION C408 "SYSTEMS COMMISSIONING". THE TOTAL MECHANICAL EQUIPMENT CAPACITY IS LESS THAN 480 MBH COOLING CAPACITY AND 600 MBH HEATING CAPACITY.	

APPLICABLE CODES	
PERFORM WORK IN ACCORDANCE WITH THE FOLLOWING CODES AND ANY APPLICABLE STATUTES, ORDINANCES, CODES, AND REGULATIONS OF GOVERNMENTAL AUTHORITIES HAVING JURISDICTION.	
1. OCCUPATIONAL SAFETY AND HEALTH REGULATIONS (OSHA).	
2. NATIONAL FIRE CODES	UNIFORM FIRE CODE - 2021 (FLORIDA EDITION) FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE - 2021 NATIONAL ELECTRICAL CODE - 2020 NATIONAL FIRE ALARM AND SIGNALING CODE - 2019 STANDARD FOR THE INSTALLATION OF WARM AIR HEATING AND AIR CONDITIONING SYSTEMS - 2024 STANDARD FOR THE INSTALLATION OF BLOWER AND EXHAUST SYSTEMS - 2020 LIFE SAFETY CODE - 2021 (FLORIDA EDITION)
3. FLORIDA BUILDING CODE, 2023 EDITION INTERNATIONAL BUILDING CODE, 2024 EDITION	
a. BUILDING CODE	
b. EXISTING BUILDING CODE	
c. ENERGY CONSERVATION CODE	
d. MECHANICAL CODE	
e. PLUMBING CODE	
4. FLORIDA STATUTES	ENGINEERING BUILDING CONSTRUCTION STANDARDS; FLORIDA BUILDING CODE - ENFORCEMENT
a. CHAPTER 471	
b. CHAPTER 533.80	
5. FLORIDA ADMINISTRATIVE CODE	EDUCATIONAL FACILITIES
a. CHAPTER 6A-2	FLORIDA BUILDING COMMISSION HANDICAPPED ACCESSIBILITY STANDARDS
b. CHAPTER 9B-7	RESPONSIBILITY RULES OF PROFESSIONAL ENGINEERS CONCERNING THE DESIGN OF MECHANICAL SYSTEMS
c. CHAPTER 61G15-34	FIRE PREVENTION - GENERAL PROVISIONS
d. CHAPTER 69A-3	FIRE SAFETY IN EDUCATIONAL FACILITIES
e. CHAPTER 69A-58	THE FLORIDA FIRE PREVENTION CODE
f. CHAPTER 69A-60	

GENERAL NOTES	
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25. REMOVE ELECTRICAL EQUIPMENT (CONDUIT, POWER & CONTROL WIRING, DISCONNECT SWITCHES, STARTERS, ETC.) RELATED TO EQUIPMENT BEING REMOVED OR REPLACED.	
ABBREVIATIONS	
AC	AIR COMPRESSOR/ABOVE CEILING
AFC	ABOVE FINISHED FLOOR
AHAP	AS HIGH AS POSSIBLE
BF	BELOW FLOOR
BHP	BRAKE HORSEPOWER
CA	COMPRESSED AIR
CFM	CUBIC FEET PER MINUTE
DC	DUCT COLLECTOR
DN	DOWN
EX	EXISTING
*Fdb	DEGREES FAHRENHEIT DRY BULB
*Fwb	DEGREES FAHRENHEIT WET BULB
FEA	FEET PER MINUTE
FPM	FEET PER MINUTE
MCA	MINIMUM CIRCUIT AMPACITY
MOCP	MAXIMUM OVERLOAD PROTECTION
N/A	NOT APPLICABLE
NIS	NOT IN SCOPE
SMS	SHEET METAL SIZE
SP	STATIC PRESSURE
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
VFD	VARIABLE FREQUENCY DRIVE
WEF	WELDING EXHAUST FAN

DELEGATED DESIGN CALCULATION REQUIREMENTS

1. THESE MECHANICAL SYSTEM ENGINEERING DOCUMENTS REPRESENT THE DESIGN INTENT FOR SUPPORTING AND SECURING THE EXTERNAL MECHANICAL DUCTWORK AND EQUIPMENT BASED ON DESIGN CRITERIA BELOW. THE DELEGATED ENGINEER IS RESPONSIBLE FOR PROVIDING A COMPLETE DESIGN, APPROVED BY THE AUTHORITY HAVING JURISDICTION, TO SUPPORT AND SECURE THE EXTERNAL MECHANICAL DUCTWORK WITHOUT OBSTRUCTING REQUIRED SERVICE CLEARANCES.
2. DESIGN CRITERIA:
 - A. WIND SPEED: 120 MPH.
 - B. RISK CATEGORY: III
 - C. IMPORTANCE FACTOR: 1.15.
 - D. EXPOSURE: B.
 - E. WIND DIRECTIONALITY FACTOR: 0.95.
 - F. VELOCITY PRESSURE: 26.8 PSF.
 - G. WEIGHT: PER APPROVED SUBMITTALS AND SHOP DRAWINGS.
 - H. DEFLECTION LIMITS: PER MANUFACTURER'S REQUIREMENTS IN APPROVED SUBMITTALS AND SHOP DRAWINGS.
3. DELEGATED ENGINEER SHALL PROVIDE SIGNED AND SEALED DATA TO THE ENGINEER OF RECORD AND AUTHORITY HAVING JURISDICTION INCLUDING THE FOLLOWING AS APPLICABLE, BUT NOT LIMITED TO:
 - A. DETAIL FABRICATION AND ASSEMBLY OF SUPPORT STRUCTURE.
 - B. DESIGN CALCULATIONS FOR STATIC AND DYNAMIC LOADING DUE TO EQUIPMENT WEIGHT AND OPERATION AND WIND FORCES REQUIRED TO SELECT WIND RESTRAINT.
 - C. SECUREMENT DETAILS WITH ANCHORAGES AND ATTACHMENTS TO STRUCTURE AND TO SUPPORTED EQUIPMENT.

DRAWING INDEX

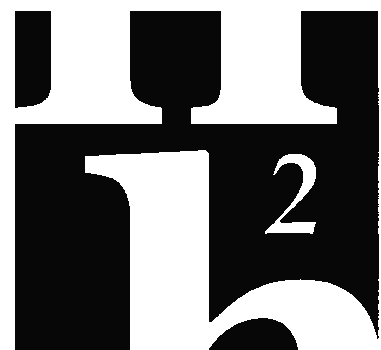
IP0.1	GENERAL NOTES & LEGENDS
IP1.1	BASEMENT - EXISTING/DEMOLITION AND RENOVATION PLANS
IP4.1	SCHEDULES
IP5.1	DETAILS

DEMOLITION KEYNOTES:

- 1 REMOVE AIR HANDLING UNIT, ASSOCIATED DUCTWORK, AIR DEVICES, PIPING, AND CONTROLS.
- 2 AIR COMPRESSOR, ASSOCIATED PIPING, AND CONTROLS TO REMAIN.

RENOVATION KEYNOTES:

- 1 ROUTE NEW EXHAUST DUCTWORK IN ATTIC SPACE ABOVE WELDING LAB. COORDINATE DUCT ROUTING AND SUPPORTS WITH ATTIC STRUCTURE. SEE DETAIL HMP5.1.
- 2 ROUTE DUCTWORK DOWN FROM ATTIC TO FEA WALL MOUNT. PROVIDE TRANSITIONS AND OFFSETS AS REQUIRED. SET WALL MOUNT AT 8' AFF.
- 3 EXTEND EXISTING CONCRETE PAD IN THIS VICINITY TO A MINIMUM OF 4' BEYOND THE EQUIPMENT FOOTPRINT. SECURE EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS IN THIS VICINITY.
- 4 ROUTE DISCHARGE STACK UP TO 4'-0" ABOVE ROOF. SEE DETAIL EMP5.1.
- 5 ROUTE EXHAUST DUCTWORK FROM ATTIC SPACE DOWN EXTERIOR WALL TO WEF TOP INLET AS INDICATED. PROVIDE TRANSITIONS AND OFFSETS AS REQUIRED. SECURE DUCTWORK TO EXTERIOR WALL. SEE DETAIL FIMP5.1.
- 6 CONNECT 3/4" CA PIPING TO AC-2. SEE DETAIL JMP5.1. ROUTE CA AHAP SUSPENDED FROM STRUCTURE IN WELDING LAB 207 TO DC-2 AS INDICATED.
- 7 ROUTE CA PIPING NEATLY ON EXTERIOR WALL AND CONNECT TO DC-2 PER MANUFACTURER'S RECOMMENDATIONS.
- 8 WALL-MOUNT WEF-2 FAN SWITCH HERE. INTERLOCK FAN OPERATION WITH ROLL-UP DOOR CONTACTOR SWITCH. REFER TO ELECTRICAL DRAWINGS.
- 9 WALL-MOUNT DC-2 REMOTE FILTER INDICATION PANEL HERE AT 60" AFF.
- 10 WALL-MOUNT OR SUSPEND UNIT HEATER FROM STRUCTURE ABOVE PER MANUFACTURER'S RECOMMENDATIONS. SET UNIT HEATER AT 8'-0" AFF.
- 11 HOT TAP NEW HWS/R PIPING TO EXISTING 1-1/4" HWS/R PIPING IN THIS VICINITY. ROUTE NEW PIPING ABOVE CEILING IN EXISTING AREA AND AHAP SUSPENDED FROM STRUCTURE IN WELDING LAB 207.
- 12 PROVIDE SPARK ARRESTOR EQUIVALENT TO MOVEX MODEL CFT-400.
- 13 PROVIDE LOW PROFILE DUCT SUPPORT EQUIVALENT TO PHP MODEL D WITH SADDLE SUPPORT.



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Florida Registry #2485
Robert D. Richards, P.E. #90648

NOT FOR REGULATORY
APPROVAL, PERMITTING,
OR CONSTRUCTION.



BUILDING 13 - WELDING
LAB BOOTH EXPANSION

TURNER DAVIS DRIVE
MADISON, FLORIDA



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& Associates, Inc.

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Submittal

Phase	Date	Drw	Chk
90% CONSTRUCTION DOCS	4/16/26	SPD	RDR
100% CONSTRUCTION DOCS	6/11/26	SPD	RDR
BID SET	10/12/26	SPD	RDR

Revision

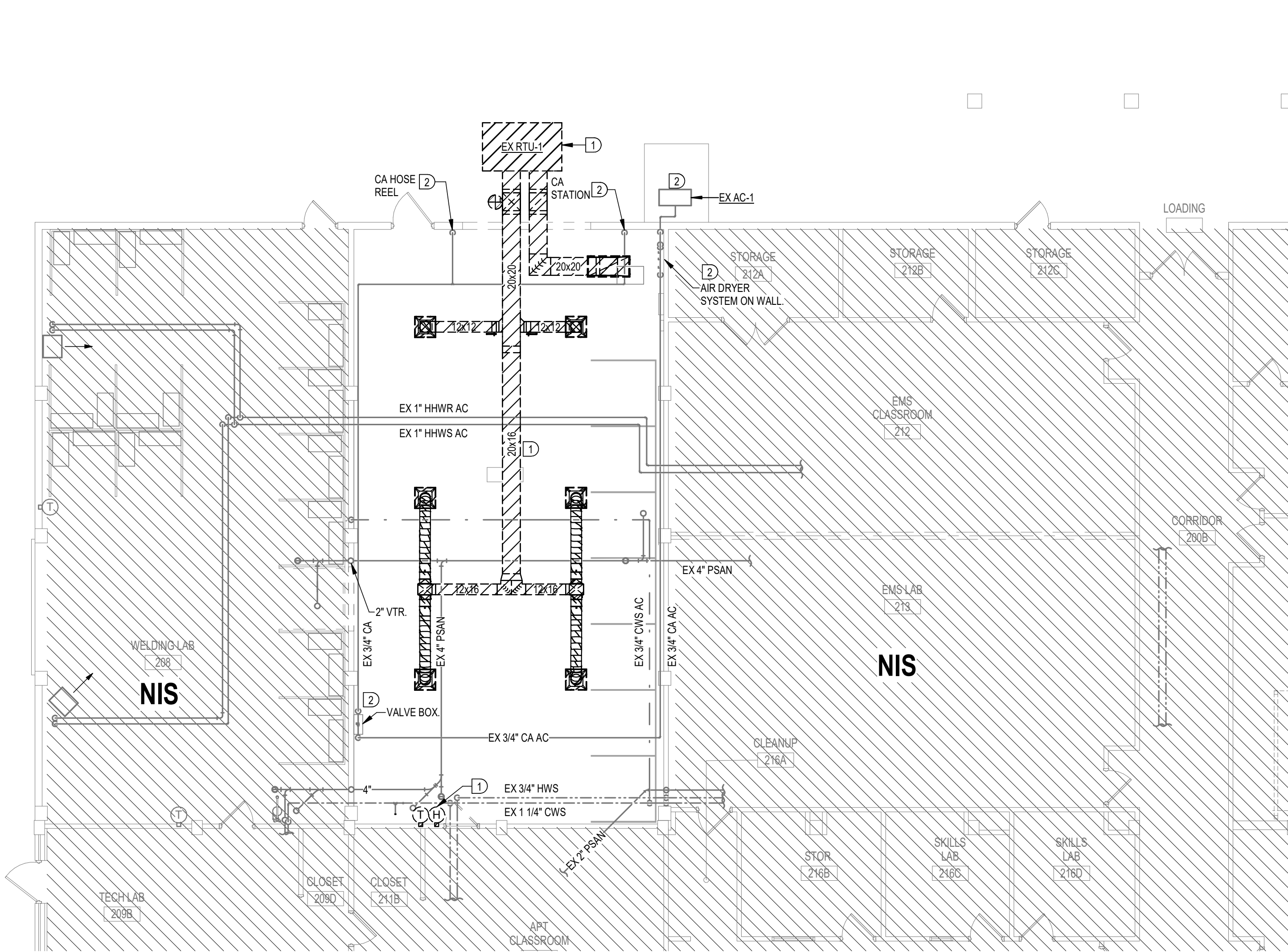
#	Description	Date

CRA Project # 25061

Phase:
BID SET

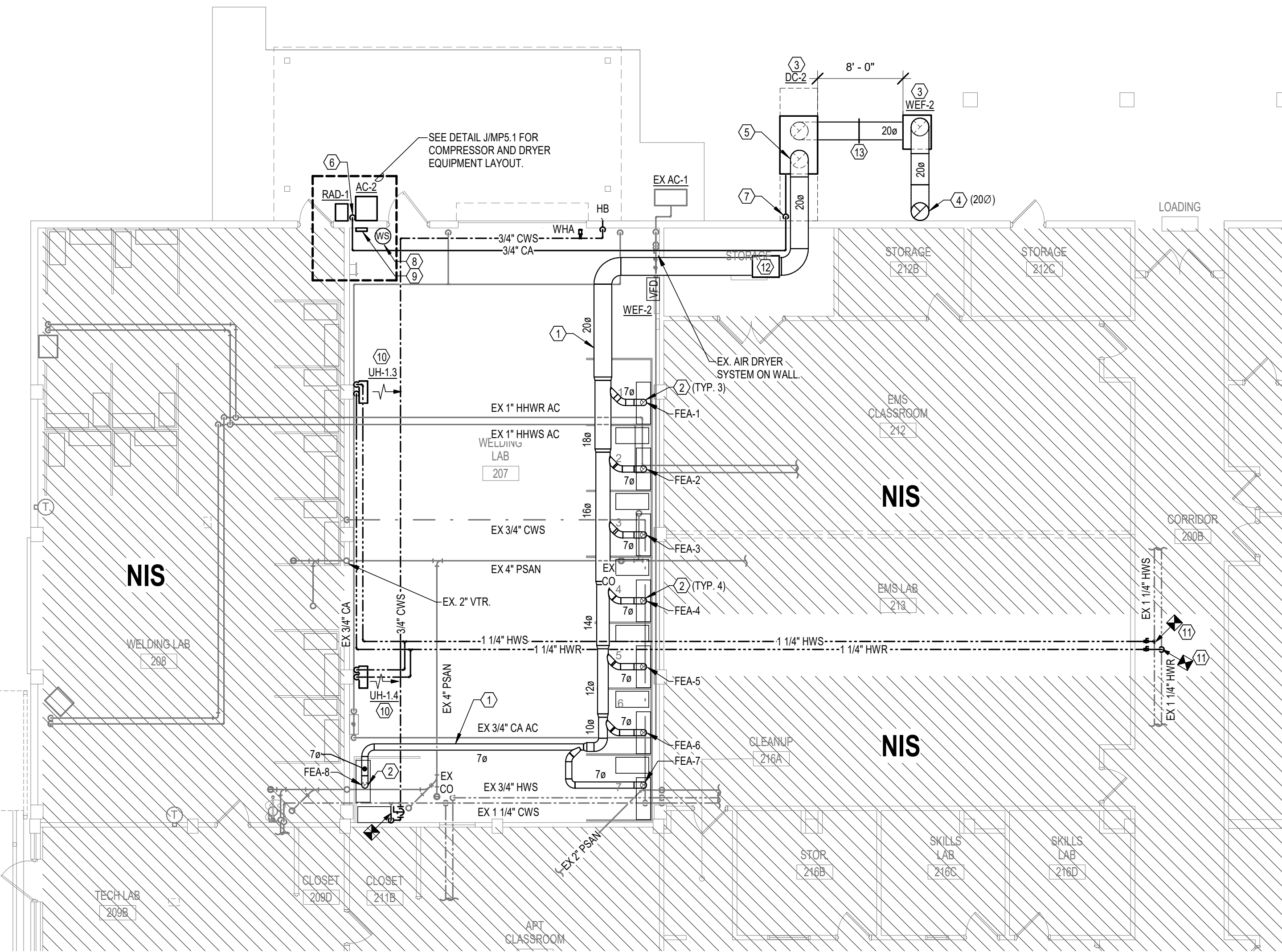
SHEET TITLE
BASEMENT -
EXISTING/DEMOLITION AND
RENOVATION PLANS

MP1.1



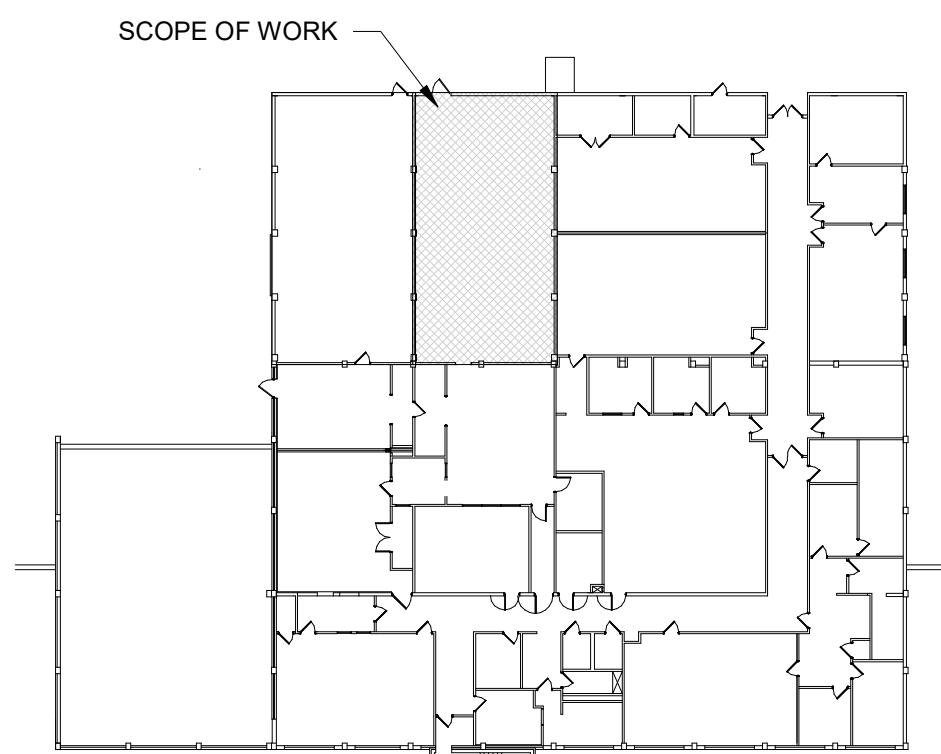
GROUND FLOOR - DEMOLITION PLAN

1/8" = 1'-0"



GROUND FLOOR - RENOVATION PLAN

1/8" = 1'-0"



KEY PLAN

1" = 40'-0"

CABINET UNIT HEATER SCHEDULE			
DESIGNATION			UH-1.3, 1.4
	TYPE OF UNIT		HOT WATER
	TOTAL SUPPLY AIR QUANTITY	CFM	620 / 793
	HEATING CAPACITY	MBTUH	32 / 45
	ENTERING WATER TEMPERATURE	*F	140
	WATER FLOW	GPM	3.2 / 4.5
	ENTERING AIR TEMPERATURE	*F	26
	FINAL AIR TEMPERATURE	*F	75 / 77
	FAN MOTOR	HP	0.05
	ELECTRICAL CHARACTERISTICS	V / PH	120 / 1
	HHW RUNOUT PIPE SIZE	IN.	1 1/4"
MANUFACTURER			REZNOR
MODEL			UWS-32/45
DETAIL			A/MP.5.1
NOTES:			
1. PROVIDE WITH MANUFACTURER'S SPECIFIED DOWNTURN NOZZLE AND VERTICAL LOUVERS (REZNOR #CD4).			
2. PROVIDE WITH MANUFACTURER'S SPECIFIED UNIT-MOUNTED SINGLE-STAGE LINE VOLTAGE THERMOSTAT (REZNOR #CL5C AND #CM3).			

DESIGNATION			WEF-2
	SERVICE		CLASS 4 EXHAUST
	MOUNTING METHOD		FLOOR
	FAN TYPE		UTILITY SET
	AIR FLOW	CFM	4,800
	STATIC PRESSURE	IN.	11.7
	AIRSTREAM TEMPERATURE	DEG F	100
	FAN SPEED	RPM	3,530
	FAN DRIVE		DIRECT
	MOTOR SPEED	RPM	3,530
	MOTOR POWER	HP or W	15 HP
	MOTOR BRAKE HORSEPOWER	BHP	12.0
	ELECTRONICALLY COMMUTATED MOTOR		NO
	ELECTRICAL CHARACTERISTICS	V / PH	460 / 3
	WEIGHT	LBS.	336
	NOISE LEVEL	SONES or LwA	101 LwA
	NOTES		1, 4, 13, 16, 17, 34, 37, 38
MANUFACTURER			MOVEX
MODEL NUMBER			FBE-1506
DETAIL REFERENCE			E/MP.5.1

NOTES:

- PROVIDE PRE-WIRED DISCONNECT SWITCH, FACTORY MOUNTED FOR SINGLE PHASE MOTORS (3/4 HP AND SMALLER), ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECT SWITCH FOR 1 HP MOTOR AND LARGER.
- PROVIDE BACKDRAFT DAMPER, GRAVITY OPERATED.
- PROVIDE VIBRATION ISOLATION RAILS WITH HOUSED SPRINGS.
- PROVIDE INLET COMPANION FLANGE (WHERE CONNECTED TO DUCTWORK).
- PROVIDE OUTLET COMPANION FLANGE (WHERE CONNECTED TO DUCTWORK).
- COORDINATE FAN ROTATION (MOVEX: LG 0), DISCHARGE, AND MOTOR ARRANGEMENT WITH PLANS.
- PROVIDE WITH MANUFACTURER'S SPECIFIED FUMEX SILENCER (20" DIAMETER EXHAUST DUCT) AND SILENCER BOX.
- PROVIDE WITH MANUFACTURER'S SPECIFIED REMOTE MOUNTED VFD (SEE VFD SCHEDULE).
- INTERLOCK FAN OPERATION WITH ROLL-UP DOOR CONTACTOR SWITCH. REFER TO ELECTRICAL DRAWINGS.

BUILDING AIR BALANCE - EQUIPMENT SUMMARY			
OUTSIDE AIR SOURCE	CFM	EXHAUST SOURCE	CFM
ROLL-UP DOOR	4,800	EF-DC-2	4,800
TOTAL	4,800	TOTAL	4,800
BUILDING PRESSURIZATION			(-) 0

VENTILATION RATE				
		EXHAUST AIR	OUTSIDE AIR	
TYPE OF SPACE		CFM / FT ²	CFM / PERSON	CFM / FT ²
	WOOD / METAL SHOP	0.5	10	0.18
NOTES:				
1	VENTILATION RATES FOR SPACES WITH INTERMITTENT OCCUPANCY (PEAK OCCUPANCY LESS THAN THREE HOURS) HAVE BEEN REDUCED ON AVERAGE OCCUPANCY DURING THE OCCUPIED PERIOD, BUT NOT LESS THAN HALF OF THAT REQUIRED DURING PEAK OCCUPANCY.			
2	VENTILATION RATES CALCULATED PER REQUIREMENTS OF FBC, MECHANICAL 2023.			

DESIGN CONDITIONS					
OUTDOOR CONDITIONS - DESIGN DAY (TALLAHASSEE, FLORIDA)					
	COOLING (0.4% ANNUAL)	*Fdb	-	*Fwb	96.2 - 76.2
	HEATING (99.6% ANNUAL)			*Fdb	26.5
	ENTHALPY (0.4% ANNUAL)	*Fdb	-	*Fwb	89.0 - 79.9
	DEHUMIDIFICATION (0.4% ANNUAL)	*Fdb	-	*Fwb	82.9 - 79.2
	EVAPORATION (0.4% ANNUAL)	*Fdb	-	*Fwb	88.8 - 80.0
	HUMIDIFICATION (99% ANNUAL)			GR / LB	13.0
INDOOR CONDITIONS - WINTER					
	WELDING CLASSROOMS	*Fdb	-	%RH	40 - 30

AIR COMPRESSOR SCHEDULE

DESIGNATION		AC-2
TYPE / ORIENTATION		OIL FREE / VERTICAL
TANK CAPACITY	GAL.	60.0
NUMBER OF COMPRESSORS	#	1
COMPRESSOR	HP	3
ELECTRICAL CHARACTERISTICS	V / PH	120 / 1
AIR VOLUME	CFM	10.5
MAX PRESSURE	PSI	125
NOISE AT 25'	DB	59
MANUFACTURER		EAGLE
MODEL NUMBER		EA-10000

NOTES:

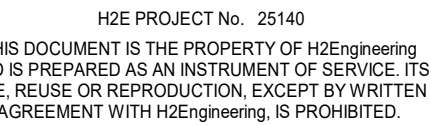
- 1 PROVIDE WITH MANUFACTURER'S SPECIFIED REGULATOR, PRESSURE GAUGE, AND DRAIN.
- 2 SET REGULATOR TO 100 PSI.
- 3 SECURE COMPRESSOR TO FLOOR WITH VIBRATION ISOLATION PADS PER MANUFACTURER'S RECOMMENDATIONS.

VARIABLE FREQUENCY DRIVES								
EQUIPMENT DESIGNATION	ELECTRICAL CHARACTERISTICS (V / PH)	TOTAL HORSEPOWER (HP)	PULSE WIDTH MODULATED INVERTER	ENCLOSURE NEMA RATING	HARMONIC MITIGATION	BYPASS DEVICE	MANUFACTURER	MODEL NUMBER
WFF-2	460 / 3	15	6-PULSE	TYPE 3R	3% LINE REACTOR	NONE	SCHNEIDER ELECTRIC	ATV320

FUME EXTRACTOR ARMS			
DESIGNATION			FEA-1 THROUGH 8
	AIR FLOW	CFM	600
	COMBINED ARM LENGTH	IN.	57
	MAXIMUM RADIUS	IN.	66
	DUCT DIAMETER	IN.	6
	COLOR		BLUE
	MANUFACTURER		MOVEX
	MODEL NUMBER		PRX-HD 2000
HOOD			
	HOOD MATERIAL		ALUMINUM
	HOOD INLET DIAMETER	IN.	6
	HOOD OUTLET SIZE	IN.	12
	MANUFACTURER		MOVEX
	MODEL NUMBER		PK-160
DETAIL REFERENCE			C/MP5.1
NOTES:			
1. PROVIDE WITH MANUFACTURER'S SPECIFIED WALL-MOUNTING KIT.			
2. PROVIDE WITH MANUFACTURER'S SPECIFIED CONICAL HOOD (MOVEX #PRX-HD-2000)			

DUST & FUME COLLECTOR SCHEDULE			
DESIGNATION			DC - 2
PERFORMANCE REQUIREMENTS			
	AIR QUANTITY	CFM	4800
	EXTERNAL STATIC PRESSURE (CLEAN FILTERS)	IN. WG	2
	EXTERNAL STATIC PRESSURE (DIRTY FILTERS)	IN. WG	6
AFTER-FILTER DATA			
	MINIMUM FILTER AREA	SQ. FT.	1240
	NUMBER OF FILTER BAGS		6
MANUFACTURER			MOVEX
MODEL NUMBER			CFEO 6W3
NOTES:			
1	PROVIDE WITH MANUFACTURER'S SPECIFIED REMOTE MOUNTED FILTER INDICATOR/RELAY BOX AND FILTER UNIT-MOUNTED FILTER GAUGE (MOVEX #CFE BW3, AND #CFE M).		
2	PROVIDE WITH MANUFACTURER'S SPECIFIED FILTER BAYONET RINGS, FILTER REPLACEMENT BAGS, AND DUST COLLECTOR REPLACEMENT BAGS (MOVEX #CFE BW3, #CFE PCW3, AND #CFE PSW3)		
3	PROVIDE FILTERS WITH MANUFACTURER'S RECOMMENDED FILTER COATING (MOVEX #CF PRECOAT/H)		
4	PROVIDE WITH MANUFACTURER'S EXTERNAL SPARK TRAP (MOVEX #CFT-400). SEE FLOOR PLANS FOR LOCATION.		

REFRIGERATED AIR DRYER - NON CYCLING			
DESIGNATION			RAD-1
	SUPPLY AIF FLOW @ 100 PSI	CFM	21
	MAXIMUM PRESSURE	PSI	230
	REFRIGERANT TYPE		RS13a
	ELECTRICAL CHARACTERISTICS	KW	0.2
	ELECTRICAL CHARACTERISTICS	V/PH	115/1
MANUFACTURER			QUINCY
MODEL NUMBER			QPNC 21
DETAIL REFERENCE			J/MP5.1



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Phase	Date	Drw	Chk
90% CONSTRUCTION DOCS	4/16/26	SPD	RDR
100% CONSTRUCTION DOCS	6/11/26	SPD	RDR
BID SET	10/12/26	SPD	RDR

[illegible]

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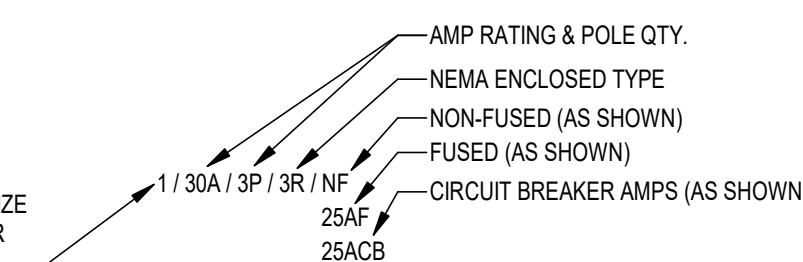
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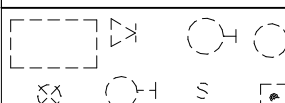
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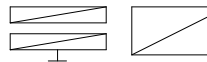
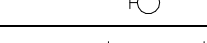
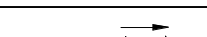
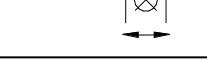
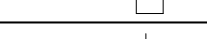
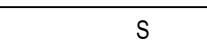
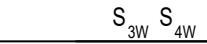
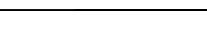
	DUPLEX RECEPTACLE - 120 VOLT, 20 AMP, 3 POLE GROUNDING TYPE, MOUNT 18" AFF WITH GROUND PRONG UP UNLESS NOTED OTHERWISE.
	DUPLEX RECEPTACLE - GFCI- 120 VOLT, 20 AMP, 3 POLE GROUNDING TYPE, MOUNT 18" AFF WITH GROUND PRONG UP UNLESS NOTED OTHERWISE.
	SPECIAL PURPOSE RECEPTACLE - 480 VOLT, 50 AMP, 3 POLE GROUNDING TYPE, MOUNT 18" AFF UNLESS NOTED OTHERWISE. COORDINATE RECEPTACLE TYPE WITH OWNER PROVIDED WELDING EQUIPMENT.
	20A RETRACTABLE CORD REEL. 25 FOOT 12/3 CORD WITH DUPLEX/OR QUADRAPLEX RECEPTACLES (120V, 20A, 3 POLE GROUNDING TYPE). LEGRAND CRC123N25R20.
	SPECIAL PURPOSE RETRACTABLE CORD REEL .25FT 8/3 CORD WITH 480 VOLT, 50 AMP, 3 POLE GROUNDING TYPE RECEPTACLE. UNO PROVIDE PRE-WIRED RECEPTACLE TO COORDINATE WITH OWNER PROVIDED WELDING EQUIPMENT. KH#RTDAL-WW-K9G
	30A TOGGLE DISCONNECT SWITCH. PROVIDE 1, 2 OR 3 POLE AS NECESSARY TO MATCH CONTROLLED CIRCUIT.
	WIRE IN CONDUIT - CONCEALED IN WALL OR CEILING.
	HOMERUN TO PANEL - ARROW INDICATE NUMBER OF CIRCUITS. SHORT SLASH MARK(S) INDICATE NUMBER OF PHASE CONDUCTORS. LONG SLASH MARK(S) INDICATE NEUTRAL CONDUCTOR(S). LONG SLASH MARK WITH HOOK INDICATES GREEN GROUND WIRE. WHERE NOT SHOWN GROUND WIRE IS STILL REQUIRED IN EACH FEEDER, LIGHTING, RECEPTACLE, AND POWER BRANCH CIRCUIT. NO SLASH MARKS INDICATE 2 CURRENT CARRYING CONDUCTORS AND GROUND WIRE. THERE SHALL BE NO SHARED NEUTRALS BETWEEN MULTIPLE CIRCUITS.
	ELECTRICAL PANEL - 120/208 VOLT
	ELECTRICAL PANEL - 277/480 VOLT
	JUNCTION BOX - 4" SQUARE (UNO)
	EMERGENCY "STOP" PUSH-BUTTON, MAINTAINED PUSH / KEY RELEASE. PROVIDE 2-GANG BACK BOX WITH SINGLE HOLE STAINLESS STEEL FACEPLATE. #DAYTON 30G258 OR APPROVED EQUIAL.
	DISCONNECT SWITCH - SEE DRAWING FOR SIZE *
	COMBINATION DISCONNECT SWITCH & MAGNETIC MOTOR STARTER - WHEN SERVING MOTOR 15HP OR LARGER, REDUCED VOLTAGE STARTER IS REQUIRED. (SEPARATE ITEMS ACCEPTABLE IN PLACE OF COMBINATION) - SEE DRAWING FOR SIZE * 120V CONTACTOR.
	RELOCATE EXISTING DEVICE TO POSITION SHOWN

* EQUIPMENT SIZES WILL BE INDICATED AS FOLLOWS:

STARTER NEMA SIZE
(NO # SHOWN FOR
DISC SWITCHES)



DEMOLITION	
	ELECTRICAL DEVICES TO BE REMOVED
	EXISTING SWITCH TO BE REMOVED

LIGHTING AND LIGHTING CONTROLS	
	LAY-IN, RECESSED OR SURFACE MOUNT TROFFER
	RECESSED DOWNLIGHT FIXTURE, ROUND OR SQUARE
	DENOTES WALL MOUNTED DEVICE
	SURFACE MOUNTED WALL PACK / SCONCE
	STRIP FIXTURE
	EXIT LIGHT FIXTURE - PROVIDE ARROWS WHERE SHOWN. SHADING INDICATES FACE(S) OF EXIT LIGHT (POWERED EXIT SIGNS SHALL BE WIRED "UNSWITCHED")
	EMERGENCY LIGHTING UNIT
	DENOTES WALL MOUNTED DEVICE
	SINGLE-POLE TOGGLE SWITCH - 120/277 VOLT, 20 AMP, MOUNT 48" AFF
	"3W" OR "4W" INDICATES 3-WAY OR 4-WAY CONFIGURED CONTROL DEVICE
	DIGITAL OCCUPANCY SENSOR - CEILING MOUNTED, DUAL TECHNOLOGY. # INDICATES CONTROLLED ZONES. WATTSTOPPER: LMDC-100 OR APPROVED EQUAL.
	DOUBLE COMPARTMENT, TWO PIECE NON-METALLIC SURFACE RACEWAY RUN HORIZONTALLY AS HIGH AS POSSIBLE.
	TWO - COMPARTMENT SURFACE RACEWAY, LENGTH AS SHOWN ON DRAWINGS WIREMOLD 4000 SERIES (UNO). PROVIDE DEVICES AS SHOWN ON DRAWINGS. VERTICAL WALL BOX CONNECTOR IS INDICATED BY SYMBOL ON THE RIGHT END. THE RACEWAY CONDUITS SHALL BE CONCEALED IN WALL.

FIRE ALARM	NOTE: FIRE ALARM SYSTEM CONTRACTOR SHALL SUBMIT A SEPARATE PERMIT APPLICATION AND PLANS FOR REVIEW.
	MANUAL FIRE ALARM PULL STATION - MOUNT 48" AFF UNLESS NOTED OTHERWISE
	FIRE ALARM SPEAKER/HORN STROBE - WALL MOUNT 80" AFF TO BOTTOM OF STROBE UNO. VISIBLE APPLIANCES WITHIN SAME ROOM OR WITHIN FIELD OF VIEW SHALL FLASH IN SYNCHRONIZATION PER NFPA 72. ("H" INDICATES CANDELA RATING. 95 CD IF OMITTED OR NOTED OTHERWISE). COLOR: WHITE
	SYSTEM SMOKE DETECTOR - CEILING MOUNT
	SYSTEM HEAT DETECTOR - CLG. MOUNT ("X" = TYPE, 135°F FIXED TEMPERATURE IF OMITTED) ## = FIXED TEMPERATURE RATING °F R = RATE OF RISE R/C = RATE COMPENSATION R/F = COMBINATION FIXED TEMPERATURE / RATE OF RISE

TELECOMMUNICATIONS	
	WIRELESS ACCESS POINT - # INDICATES SCHEDULE TYPE 4 11/16" SQUARE X 2 1/2" DEEP OUTLET BOX SUPPORTED BY 3/8" THREADED ROD TO STRUCTURE ABOVE. WHERE CEILING IS INACCESSIBLE, ROUTE "1" CONDUIT TO ACCESSIBLE CEILING AND PROVIDE BUSHING. PROVIDE J-HOOK PATHWAY FROM TERMINATION TO [CABLE TRAY] [TELECOM ROOM]. SEE TYPICAL INSTALLATION DETAIL ____ /TC501.

VIDEO SURVEILLANCE		NOTE: REFER TO CAMERA SCHEDULE FOR CAMERA TYPES.
	CCTV CAMERA	

ELECTRICAL DEMOLITION NOTES

1. UNLESS OTHERWISE NOTED, REMOVE ALL ELECTRICAL MATERIALS AND EQUIPMENT FROM AREAS INDICATED FOR DEMOLITION.
2. REMOVE ALL ELECTRICAL EQUIPMENT (CONDUIT, POWER & CONTROL WIRING, DISCONNECT SWITCHES, STARTERS, ETC.) RELATED TO EQUIPMENT BEING REMOVED OR REPLACED.
3. REMOVE UNUSED CONDUIT TO THE EXTENT NECESSARY TO ACCOMMODATE NEW WORK AND WHERE CONDUIT IS VISIBLE ABOVE THE FLOOR LINE. EXISTING UNUSED CONDUIT WHICH IS CONCEALED, AND WHICH DOES NOT INTERFERE WITH THE WORK, MAY REMAIN IN PLACE. SEAL ABANDONED LINES THAT REMAIN IN PLACE BEHIND WALLS OR FLOOR SURFACES. REMOVE EXISTING UNUSED WIRES.
4. WIRING AND CONDUIT TO ELECTRICAL DEVICES BEING REMOVED SHALL BE REMOVED BACK TO NEAREST JUNCTION BOX. ANY DEVICES DOWNSTREAM FROM THESE POINTS SHALL REMAIN OPERABLE.
5. CONTRACTOR SHALL REMOVE ALL ELECTRICAL WORK FROM PARTITIONS AND WALLS BEING REMOVED. CONTRACTOR SHALL REMOVE AND/OR RELOCATE ALL LIGHTING FIXTURES SHOWN REQUIRING WORK. WORK INCLUDES REMOVING TOOLS, SWITCHES AND RECEPTACLES. CONNECTION TO EXISTING CIRCUITS SHALL BE MADE EXCEPT WHERE OVERLOADING OCCURS. IN WHICH CASE, CONTRACTOR SHALL PROVIDE A NEW HOMERUN TO CLOSEST AVAILABLE PANEL AND PROVIDE A NEW CIRCUIT BREAKER EQUAL TO EXISTING. THE CIRCUITS TO NEW EQUIPMENT BY OTHER SHALL BE NEW HOMERUNS AND NEW CIRCUIT BREAKERS ADEQUATE FOR LOAD CONNECTED.
6. CONTRACTOR SHALL, UPON COMPLETION OF WORK, ENSURE ALL EXISTING CIRCUITS ADJACENT THE REMODELED AREA(S) ARE IN PROPER WORKING CONDITION.
7. CONTRACTOR SHALL MAKE ALL NECESSARY ADJUSTMENTS TO ELECTRICAL DEVICES REQUIRED TO ACCOMMODATE NEW WALLS AND CEILINGS. BECAUSE OF THE NATURE OF THE JOB, UNFORESEEN INTERFERENCES MAY OCCUR. TO AVOID COORDINATION BETWEEN TRADES IS REQUIRED. VERIFY ALL CONNECTION REQUIREMENTS BEFORE ROUGH-IN.
8. ALL REMOVED BALLASTS & LAMPS SHALL BE CAREFULLY STORED, PACKAGED, AND DISPOSED OF ACCORDING TO EPA REQUIREMENTS. ALL FEES ASSOCIATED WITH LEGAL DISPOSAL OF LAMPS & BALLASTS SHALL BE PAID FOR BY THE CONTRACTOR.

ELECTRICAL GENERAL NOTES

1. WIRING SHALL BE COPPER, TYPE THHN/THWN-2 IN RACEWAY UNLESS NOTED OTHERWISE. RIGID ELECTRICAL NON-METALLIC SCHEDULE 40 PVC SHALL BE USED IN SLABS AND BELOW GRADE; RIGID STEEL CONDUIT (RSC) SHALL BE USED WHERE EXPOSED TO PHYSICAL DAMAGE; ELECTRICAL METALLIC TUBING (EMT) MAY BE USED ELSEWHERE WHERE APPROVED BY N.E.C. AND LOCAL CODES. FLEXIBLE METAL CONDUIT (FMC) SHALL BE STEEL AND SHALL BE USED TO CONNECT MOVEABLE EQUIPMENT AND/OR SUBJECT TO VIBRATION. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LFMC) SHALL BE USED OUTDOORS OR WHERE SUBJECT TO MOISTURE.
2. CONDUIT SHALL BE STRAPPED IN ACCORDANCE WITH REQUIREMENTS OF N.E.C.
3. CONTRACTOR SHALL BOND AND GROUND SYSTEMS AND EQUIPMENT PER ARTICLE 250 OF N.E.C. PROVIDE A GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH ARTICLE 250-122 N.E.C. ON ALL RECEPTACLES AND POWER BRANCH CIRCUITS.
4. LIGHTING FIXTURES SHALL BE SECURELY FASTENED AND SUPPORTED PER N.E.C.
5. THE CONTRACTOR SHALL COORDINATE THE CIRCUIT REQUIREMENTS WITH THE MANUFACTURER OF THE ACTUAL EQUIPMENT FURNISHED UNDER OTHER DIVISIONS OF WORK. THE CIRCUIT BREAKER, WIRE AND CONDUIT SHALL BE SIZED AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
6. CIRCUIT BREAKERS SHALL BE BOLT-IN TYPE.
7. PROVIDE A MINIMUM PLASTIC NAMEPLATE IDENTIFYING EACH NEW PANELBOARD, MOTOR STARTER AND DISCONNECT SWITCH. LETTERING SHALL BE 1/2" MINIMUM AND SHALL IDENTIFY EQUIPMENT SERVED, FEEDER ORIGIN AND CIRCUIT NUMBER. SECURE NAMEPLATE WITH SCREWS TO EQUIPMENT TO BE IDENTIFIED. PLASTIC TAPE IS NOT APPROVED.
8. A 120V/240V GFI RECEPTACLE SHALL BE INSTALLED AT AN ACCESSIBLE LOCATION FOR THE SERVING OF HEATING, AIR-CONDITIONING, AND REFRIGERATION EQUIPMENT. THE RECEPTACLE SHALL BE LOCATED ON THE SAME LEVEL, AND WITHIN 25 FT. OF THE HEATING, AIR-CONDITIONING, AND REFRIGERATION EQUIPMENT. THE OUTLET SHALL NOT BE CONNECTED TO THE LOAD SIDE OF THE EQUIPMENT DISCONNECTING MEANS.
9. DEVICE MOUNTING HEIGHTS INDICATED SHALL BE TO DEVICE CENTER LINE.
10. RELOCATE, AS REQUIRED, ANY EXISTING WIRE AND CONDUIT WHICH INTERFERES WITH INSTALLATION OF THE NEW WORK.
11. EXISTING DEVICES SHALL BE WEATHER PROOF ENCLOSURES AND GFI RATED IN ACCORDANCE WITH N.E.C. INSTALLER REQUIRED TO VERIFY PRIOR TO ORDERING MATERIALS.
12. EACH FEEDER, UNGROUNDED CONDUCTOR, AND GROUNDED CONDUCTOR SHALL BE IDENTIFIED BY PHASE OR LINE AND SYSTEM AT ALL TERMINATION, CONNECTION, AND SPLICE POINTS. IDENTIFICATION MEANS SHALL BE PERMANENTLY POSTED AT EACH PANELBOARD OR SIMILAR DISTRIBUTION EQUIPMENT WITH LABEL. LABEL SHALL BE 1/2-INCH THICK PLASTIC WITH BLACK BACKGROUND AND 1/4-INCH HIGH WHITE LETTERS ATTACHED WITH CONDUCTIVE TYPE PERMANENT ADHESIVE. SEE FIGURE BELOW FOR TYPICAL LABEL DESIGN.

VOLTAGE 208Y/120V		VOLTAGE 480Y/277V	
PHASE A	BLACK	PHASE A	BROWN
PHASE B	RED	PHASE B	ORANGE
PHASE C	BLUE	PHASE C	YELLOW
NEUTRAL	WHITE	NEUTRAL	GRAY

APPLICABLE CODES

PERFORM WORK IN ACCORDANCE WITH THE FOLLOWING CODES AND ANY APPLICABLE STATUTES, ORDINANCES, CODES, AND REGULATIONS OF GOVERNMENTAL AUTHORITIES HAVING JURISDICTION.

1. OCCUPATIONAL SAFETY AND HEALTH REGULATIONS (OSHA).
2. NATIONAL FIRE CODES
 - a. NFPA 1
UNIFORM FIRE CODE - 2021 (FLORIDA EDITION)
 - b. NFPA 70
NATIONAL ELECTRICAL CODE - 2020
 - c. NFPA 72
NATIONAL FIRE ALARM AND SIGNALING GUIDE - 2019
 - d. NFPA 101
LIFE SAFETY CODE - 2021 (FLORIDA EDITION)
1. FLORIDA BUILDING CODE, 2023 EDITION
 - a. BUILDING CODE
 - b. EXISTING BUILDING CODE
 - c. ENERGY CONSERVATION CODE
 - d. FIRE CODE
 - e. ACCESSIBILITY CODE
2. FLORIDA STATUTES
 - a. CHAPTER 471
ENGINEERING
 - b. CHAPTER 533.80
BUILDING CONSTRUCTION STANDARDS; FLORIDA BUILDING CODE -
ENFORCEMENT
3. FLORIDA ADMINISTRATIVE CODE
 - a. CHAPTER 6A-2
EDUCATIONAL FACILITIES
 - b. CHAPTER 9B-7
FLORIDA BUILDING COMMISSION HANDICAPPED ACCESSIBILITY STANDARDS
 - c. CHAPTER 61G15-33
RESPONSIBILITY RULES OF PROFESSIONAL ENGINEERS CONCERNING THE
DESIGN OF ELECTRICAL SYSTEMS
 - d. CHAPTER 69A-3
FIRE PREVENTION - GENERAL PROVISIONS
 - e. CHAPTER 69A-58
FIRE SAFETY IN EDUCATIONAL FACILITIES
 - f. CHAPTER 69A-60
THE FLORIDA FIRE PREVENTION CODE

RESOLVE, IN WRITING, ANY CODE VIOLATION DISCOVERED IN CONTRACT DOCUMENTS WITH THE ENGINEER PRIOR TO BIDDING, AND UPON AWARD OF THE CONTRACT, MAKE ANY CORRECTION OR ADDITION NECESSARY FOR COMPLIANCE WITH APPLICABLE CODES AT NO ADDITIONAL COST TO OWNER.

THE CONTRACTOR SHALL INCLUDE IN THE WORK, WITHOUT EXTRA COST TO THE OWNER, ANY LABOR, MATERIALS, SERVICES, APPARATUS, AND DRAWINGS REQUIRED TO COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, AND REGULATIONS.

WHERE THERE IS CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND THE APPLICABLE CODES, THE CODES SHALL GOVERN, EXCEPT WHERE THE REQUIREMENTS OF THE CONTRACT DOCUMENTS ARE MORE STRINGENT.

GENERAL NOTES

1. INSTALL ALL WORK IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 2023, THE FLORIDA FIRE PREVENTION CODE, THE NATIONAL ELECTRICAL CODE 2020 EDITION, AND ALL CODES, ORDINANCES, RULES AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION AT THIS SITE. WHERE CONFLICTS OCCUR BETWEEN CODES AND THE CONSTRUCTION DOCUMENTS, THE MOST RESTRICTIVE REQUIREMENTS SHALL GOVERN.
2. DRAWINGS ARE DIAGRAMMATIC, INDICATIVE OF WORK TO BE FURNISHED AND INSTALLED UNDER THIS CONTRACT. REFER TO ARCHITECTURAL CONDITIONS UNDER WHICH CONTRACTOR WILL BE OBLIGED TO OPERATE AND COMPLETE THE WORK UNDER THIS BIDDER. NO ALLOWANCE WILL SUBSEQUENTLY BE MADE IN THIS CONNECTION ON BEHALF OF THE CONTRACTOR FOR ANY ERROR OR OMISSION ON CONTRACTOR'S PART.
3. THE CONTRACTOR SHALL PAY FOR ALL INSPECTION PERMITS, CERTIFICATES, CONNECTION FEES, SYSTEM DEMAND CHARGES AND LICENSE FEES IN CONNECTION WITH CONTRACTOR'S WORK.
4. CONSTRUCTION MANAGER OR GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SEQUENCING AND COORDINATING WORK OF SUBCONTRACTORS TO AVOID INTERFERENCES.
5. WORK SHALL COMPLY WITH APPLICABLE O.S.H.A. AND E.P.A. REGULATIONS AND GUIDELINES.
6. ERECT AND MAINTAIN ALL REASONABLE PRECAUTIONS FOR SAFETY AND HEALTH INCLUDING POSTING DANGER SIGNS AND OTHER WARNINGS AGAINST HAZARDS INCLUDING PROMULGATING SAFETY REGULATIONS. PROVIDE SAFETY PRECAUTIONS AND BARRICADES FOR PEDESTRIANS AT CONSTRUCTION VEHICLE ACCESS AND EGRESS LOCATIONS.
9. THE CONTRACTOR SHALL PROVIDE MANPOWER AND EQUIPMENT NECESSARY TO MAINTAIN THE PROJECT SCHEDULE.
10. THE CONTRACTOR SHALL BE RESTRICTED TO AREAS DESIGNATED BY THE OWNER FOR ON-SITE STORAGE OF CONSTRUCTION MATERIALS AND IS RESPONSIBLE FOR THE PROTECTION AND SECURITY OF ALL EQUIPMENT AND MATERIALS.
11. THE CONTRACTOR SHALL MAINTAIN A CLEAN WORK ENVIRONMENT AND SHALL CLEAN CONSTRUCTION SITE OF ALL DEBRIS AT COMPLETION OF THE JOB AND BEFORE FINAL PAYMENT IS MADE.
12. THE CONTRACTOR SHALL FURNISH "AS-BUILT" RECORD DOCUMENTS TO THE OWNER AT COMPLETION OF CONSTRUCTION.
13. THE CONTRACTOR SHALL GUARANTEE THE WORK AND MATERIALS FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. THIS GUARANTEE SHALL BE IN ADDITION TO THE WARRANTIES PROVIDED BY MATERIAL SUPPLIERS AND MANUFACTURERS.
14. CONTRACTOR'S APPROVAL STAMP ON SUBMITTALS AND SHOP DRAWINGS CERTIFIES THAT THE CONTRACTOR HAS REVIEWED THE DOCUMENTS AND THAT THE CONTRACT DOCUMENT REQUIREMENTS HAVE BEEN ADHERED TO.
15. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR DEVIATIONS FROM REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE ARCHITECT/ENGINEER'S APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, SAMPLES OR SIMILAR SUBMITTALS UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE ARCHITECT/ENGINEER IN WRITING OF SUCH DEVIATION AT THE TIME OF SUBMITTAL AND THE ARCHITECT/ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS, PRODUCT DATA, SAMPLES OR SIMILAR SUBMITTALS BY THE ARCHITECT/ENGINEER'S APPROVAL THEREOF.
16. PROVIDE INSTALLATION, COORDINATE AND ADJUST THE FINAL LOCATION OF ALL WALL MOUNTED DEVICES AND EQUIPMENT WITH ALL CASEWORK, SHELVING, MARKER BOARDS, BULLETIN BOARDS OR OTHER WALL MOUNTED FURNISHINGS.
17. SUPPORTS AND HANGERS SHALL PRESENT A NEAT, ORDERLY APPEARANCE.
18. CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF ALL FIRE AND SMOKE WALL ASSEMBLIES AND ACoustICAL WALLS.
19. BEAM AND FLOOR PENETRATIONS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. BEAM SLEEVES AND BEAM REINFORCING APPROVED BY STRUCTURAL ENGINEER SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR.
20. CONTRACTOR SHALL FURNISH U.L. APPROVED DRAWINGS FOR EACH TYPE OF FIRE RATED ASSEMBLY PENETRATION BY DUCTS, PIPES OR CONDUITS. THESE DRAWINGS SHALL BE DISPLAYED ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION. SEE DETAIL C-10.
21. THE BUILDING WILL REMAIN OCCUPIED DURING CONSTRUCTION. THE OWNER WILL MAKE ALL REASONABLE EFFORTS TO ASSIST THE CONTRACTOR IN COMPLETING THE WORK. COORDINATE ALL WORK WITH THE OWNER'S DESIGNATED REPRESENTATIVE. EXIT WAYS SHALL BE KEPT CLEAR. IF AN EXIT MUST BE TEMPORARILY BLOCKED, PROVIDE THE REQUIRED BARRICADE AND DIRECTIONAL SIGNS FOR TEMPORARY EXITING AND SAFETY.
22. REMOVE AND REPAIR OR RE-INSTALL EXISTING CEILING ASSEMBLIES AS REQUIRED. REPLACE ANY ASSEMBLIES DAMAGED OR SOLED DURING CONSTRUCTION.
23. PROVIDE PROPER PROTECTIVE MEASURES TO PROTECT EXISTING FINISHES DURING THE COURSE OF CONSTRUCTION. TAKE CARE NOT TO DAMAGE EXISTING SURFACES. REPAIR TO MATCH EXISTING CONDITIONS AS REQUIRED.
24. SEAL ALL HOLES IN WALLS, CEILING, FLOORS, ETC. TO MATCH EXISTING ADJACENT AREAS WHERE EQUIPMENT, CONDUIT AND/OR PIPING ARE REMOVED.
25. REMOVE ELECTRICAL EQUIPMENT (CONDUIT, POWER & CONTROL WIRING, DISCONNECT SWITCHES, STARTERS, ETC.) RELATED TO EQUIPMENT BEING REMOVED OR REPLACED.

ABBREVIATIONS	
ACT	ABOVE COUNTERTOP
AFC	AVAILABLE FAULT CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
C	CONDUIT
CNT	CONTACTOR
DISC	DISCONNECT
DN	DOWN
EC	ELECTRICAL CONTRACTOR
EM	FIXTURE PROVIDED WITH EMERGENCY BATTERY OR ON EMERGENCY CIRCUIT
ER	EXISTING ELECTRICAL DEVICE RELOCATED TO NEW POSITION
EX	EXISTING ELECTRICAL DEVICE TO REMAIN
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GFIB	GROUND FAULT INTERRUPTER BREAKER
G	GROUND
GRC	GALVANIZED RIGID CONDUIT
MSB	MAIN SWITCH BOARD
POB	POWER GROUNDING BAR
PNL	ELECTRICAL PANEL
REL	REPLACE EXISTING ELECTRICAL DEVICE (AND COVER PLATE) AT THIS LOCATION
RE	RELOCATE EXISTING ELECTRICAL DEVICE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
WPO	WEATHERPROOF

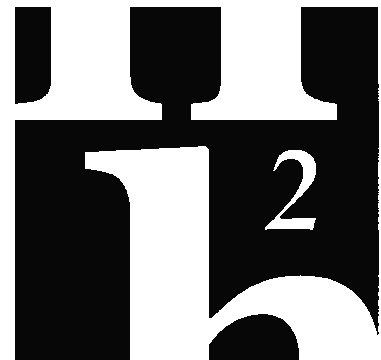
DRAWING INDEX	
E0.1	GENERAL NOTES & LEGENDS
E1.1	BASEMENT - EXISTING/DEMOLITION AND RENOVATION PLANS
E2.1	BASEMENT - EXISTING/DEMOLITION AND RENOVATION PLANS
E4.1	SCHEDULES
E5.1	DETAILS

FIRESTOP SCHEDULE OF THROUGH PENETRATION SYSTEMS. BASIS OF DESIGN: HILTI, INC.						
TYPE OF PENETRANT	F-RATING (HR)	CONCRETE FLOORS	CONCRETE OR BLOCK WALLS	GYPSUM WALLS		HILTI PRODUCTS
		BASIS OF DESIGN UL SYSTEM				
CIRCULAR BLANK OPENINGS (0000-9999)	1	F-A-0006, C-AJ-0055, C-AJ-0090	C-AJ-0055, C-AJ-0090	--		CP 680, CP 618, FS-ONE MAX, CFS-BL
	2	F-A-0006, C-AJ-0055, C-AJ-0090	C-AJ-0055, C-AJ-0090	--		
METAL PIPES OR CONDUIT (1000-9999)	1	C-AJ-1226, F-A-1028, F-A-1017	C-AJ-1226, W-J-1067, W-J-1020	W-L-1054, W-L-1058, W-L-1164, W-L-1506		CP 680, FS-ONE MAX, CP 606, CFS-S SIL GG, CFS-D, MINERAL WOOL
	2	C-AJ-1226, F-A-1028, F-A-1017	C-AJ-1226, W-J-1067, W-J-1020, W-J-1248	W-L-1054, W-L-1058, W-L-1164, W-L-1506		
NON-METALLIC PIPE OR CONDUIT (i.e. PVC, CPVC, ABS, FRP, ENT) (2000-2999)	1	F-A-2053, F-A-2025, C-AJ-2109, C-AJ-2098, C-AJ-2271, C-AJ-2167, C-BJ-2021, C-AJ-2342	C-AJ-2109, C-AJ-2098, C-AJ-2167, C-AJ-2371, C-AJ-2342	W-L-2078, W-L-2075, W-L-2128		CP 680, CP 643N, MINERAL WOOL, CP 644, FS-ONE MAX, CFS-S SIL SL, CFS-S SIL CG, CP 645
	2	F-A-2053, F-A-2025, C-AJ-2109, C-AJ-2098, C-AJ-2271, C-AJ-2167, C-BJ-2021, C-AJ-2371, C-AJ-2342	C-AJ-2109, C-AJ-2098, C-AJ-2167, C-AJ-2371, C-AJ-2342	W-L-2078, W-L-2075, W-L-2128		
SINGLE OR BUNDLED CABLES (3000-3999)	1	F-A-3007, C-AJ-3095, C-AJ-3180, C-AJ-3283	W-J-3036, C-AJ-3095, C-AJ-3180, W-J-3060, W-J-3167	W-L-3065, W-L-3111, W-L-3112, W-L-3334, W-L-3414, W-L-3396		CP 680, CP 653, FS-ONE MAX, CP 618, CP 606, CFS-D, CFS-CC
	2	F-A-3007, C-AJ-3095, C-AJ-3334, F-A-3060	W-J-3036, C-AJ-3095, C-AJ-3180, W-J-3060, W-J-3167, W-J-3189	W-L-3065, W-L-3111, W-L-3112, W-L-3334, W-L-3414, W-L-3396		
CABLE TRAY (4000-4999)	1	C-AJ-4034, C-AJ-4035	W-J-4027, C-AJ-4034, C-AJ-4035	W-L-4011, W-L-4019, W-L-4081		CFS-BL, FS-ONE MAX, CP 620, CP 618
	2	C-AJ-4034, C-AJ-4035	W-J-4027, C-AJ-4034, C-AJ-4035	W-L-4011, W-L-4019, W-L-4081		
ELECTRICAL BUSWAY (6000-6999)	1	C-AJ-6006, C-AJ-6017, F-A-6002, C-AJ-6036	C-AJ-6006, C-AJ-6017, C-AJ-6036	--		CP 637, FS-ONE MAX, CP 620, CFS-BL, MINERAL WOOL, CFS-S SIL SG, CFS-S SIL SL
	2	C-AJ-6006, C-AJ-6017, F-A-6042, C-AJ-6036	C-AJ-6006, C-AJ-6017, C-AJ-6036	--		

NOTES:

1. JOBSITE CONDITIONS OF EACH THROUGH-PENETRATION FIRESTOP SYSTEM MUST MEET ALL DETAILS OF THE UL-CLASSIFIED SYSTEM SELECTED.
2. IF JOBSITE CONDITIONS DO NOT MATCH ANY UL-CLASSIFIED SYSTEMS IN THE SCHEDULES ABOVE, CONTACT FIRESTOP MANUFACTURER FOR ALTERNATIVE SYSTEMS OR ENGINEER JUDGMENT DRAWINGS.
3. WHERE MORE THAN ONE APPLICABLE UL-CLASSIFIED SYSTEM IS LISTED IN THE SCHEDULES, CHOOSE THE UL SYSTEM WHICH IS MOST ECONOMICAL FOR EACH THROUGH-PENETRATION FIRESTOP SYSTEM.
4. COORDINATE WORK WITH OTHER TRADES TO ENSURE THAT PENETRATION OPENING SIZES ARE APPROPRIATE FOR PENETRANT LOCATIONS, AND VICE-VERSA.
5. ALL THROUGH-PENETRATION FIRESTOPS SHALL BE PROVIDED BY ONE MANUFACTURER. APPROVED MANUFACTURERS: HILTI, RECTORS SEAL, 3M, STI.

 H2E ENGINEERING 114 EAST 5th AVENUE TALLAHASSEE, FL 32303 PHONE 850.224.7922 www.H2Eengineering.com			
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 NORTH FLORIDA COLLEGE			
BUILDING 13 - WELDING LAB BOOTH EXPANSION			
TURNER DAVIS DRIVE MADISON, FLORIDA			
 ARCHITECTS			
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100% CONSTRUCTION DOCS	6/11/26	BJM	THG
BID SET	10/12/26	BJM	THG
Revision			
#	Description	Date	
CRA Project # 25061			
Phase: BID SET			
SHEET TITLE GENERAL NOTES & LEGENDS			
E0.1			



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BUILDING 13 - WELDING LAB BOOTH EXPANSION

TURNER DAVIS DRIVE
MADISON, FLORIDA



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Architects
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CRA Project # 25061

Phase:
BID SET

SHEET TITLE
BASEMENT -
EXISTING/DEMOLITION AND
RENOVATION PLANS

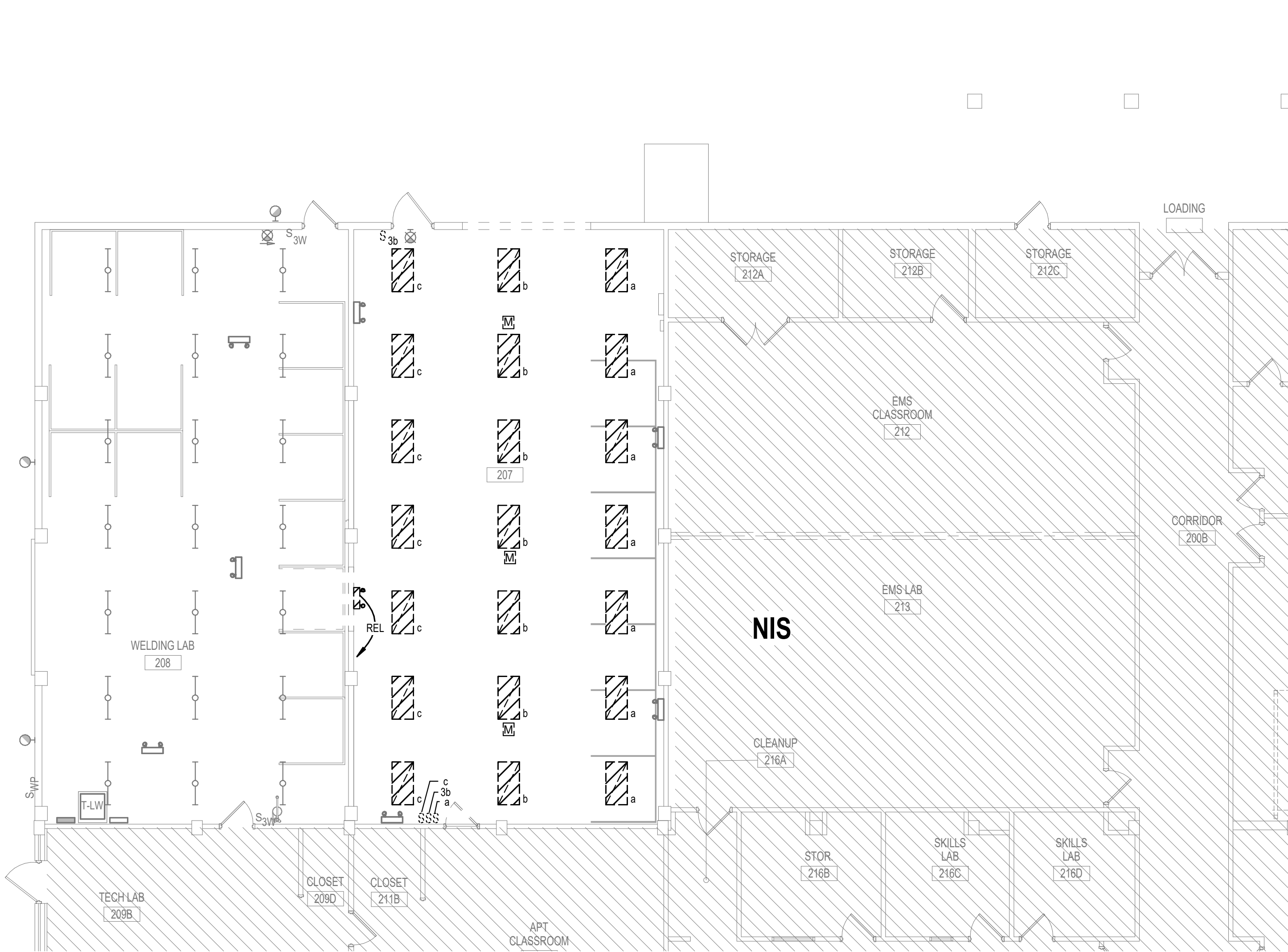
E1.1

DEMOLITION LIGHTING NOTES

1. ALL DEVICES SHOWN DASHED ARE TO BE DEMOLISHED. ALL OTHER DEVICES ARE EXISTING TO REMAIN.
2. WHERE DEVICE IS SHOWN TO BE REMOVED IN EXISTING WALL TO REMAIN, REMOVE BACK BOX AND FINISH WALL / FLOOR / CEILING TO MATCH SURROUNDING AREA.
3. DISCONNECT WIRING AT PANEL OR NEAREST DEVICE OR JUNCTION BOX TO REMAIN ON SAME CIRCUIT.
4. WHERE SURFACE RACEWAYS EXISTS TO DEVICE, REMOVE RACEWAY BACK TO POINT BEHIND FINISHED SURFACE, INCLUDING BACK BOX RECESS IN SURFACE'S PATCH SURFACE.

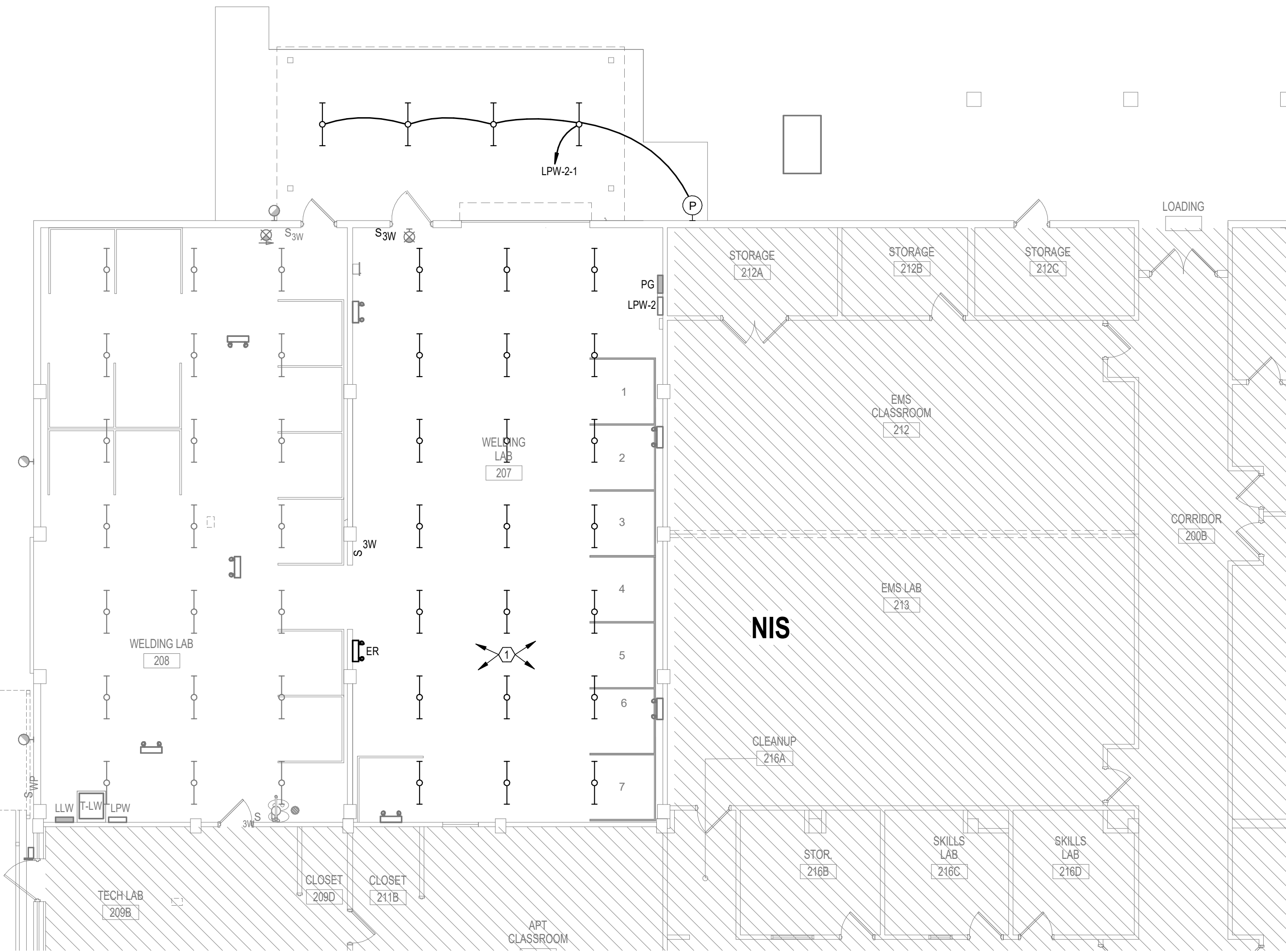
RENOVATION LIGHTING NOTES

1. ALL DEVICES SHOWN SHADED ARE EXISTING. ALL OTHER DEVICES ARE NEW.
2. ALL 4 FOOT STRIP FIXTURES SHALL BE DAYBRITE; FSS-4-55L-840-UNV-DIM.
3. RECONNECT NEW LIGHT FIXTURES TO EXISTING LIGHTING CIRCUITS IN PROJECT AREA MADE AVAILABLE DURING DEMOLITION.



GROUND FLOOR - EXISTING / DEMOLITION PLAN - LIGHTING

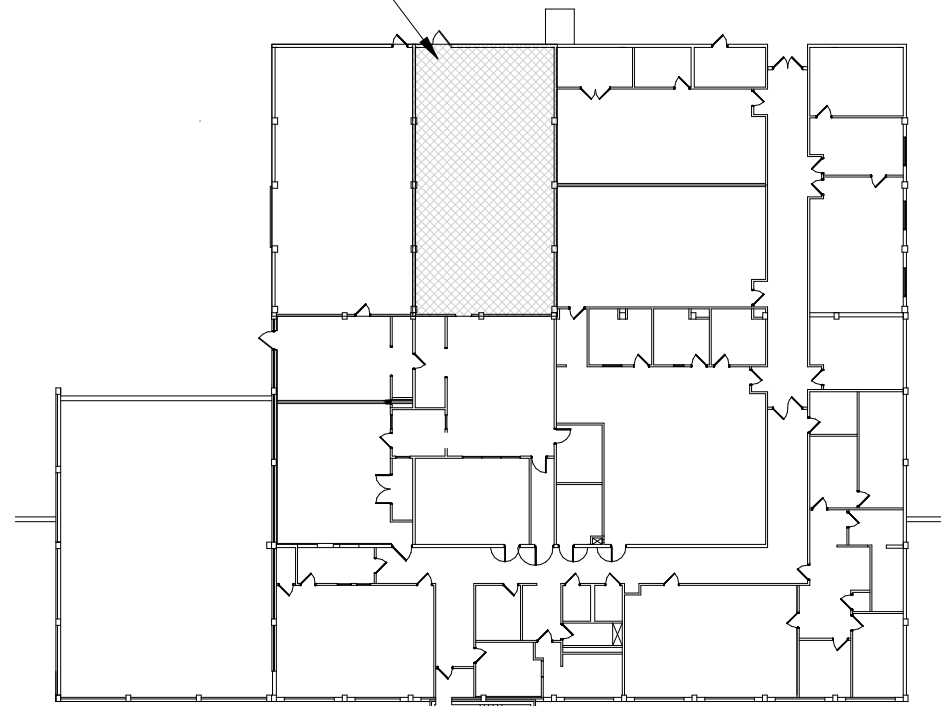
1/8" = 1'-0"



GROUND FLOOR - RENOVATION PLAN - LIGHTING

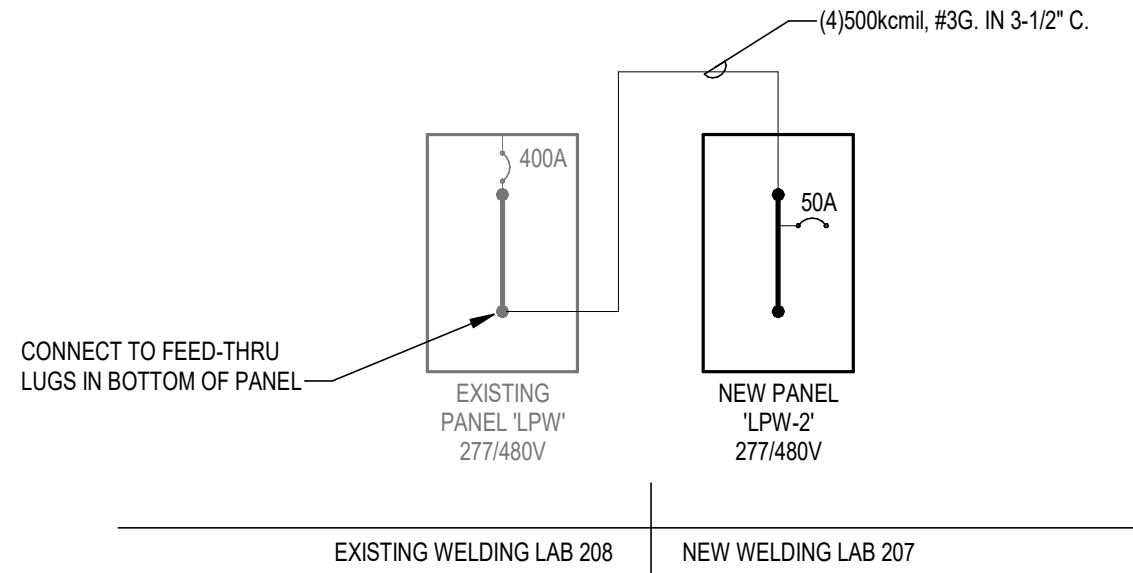
1/8" = 1'-0"

SCOPE OF WORK



KEY PLAN

1" = 40'-0"



1 RISER DIAGRAM - ELECTRICAL

SCALE: NONE

GENERAL NOTES

- EXISTING EQUIPMENT AND FEEDERS ARE SHOWN SHADED. ALL OTHERS ARE NEW.

DEMOLITION POWER NOTES

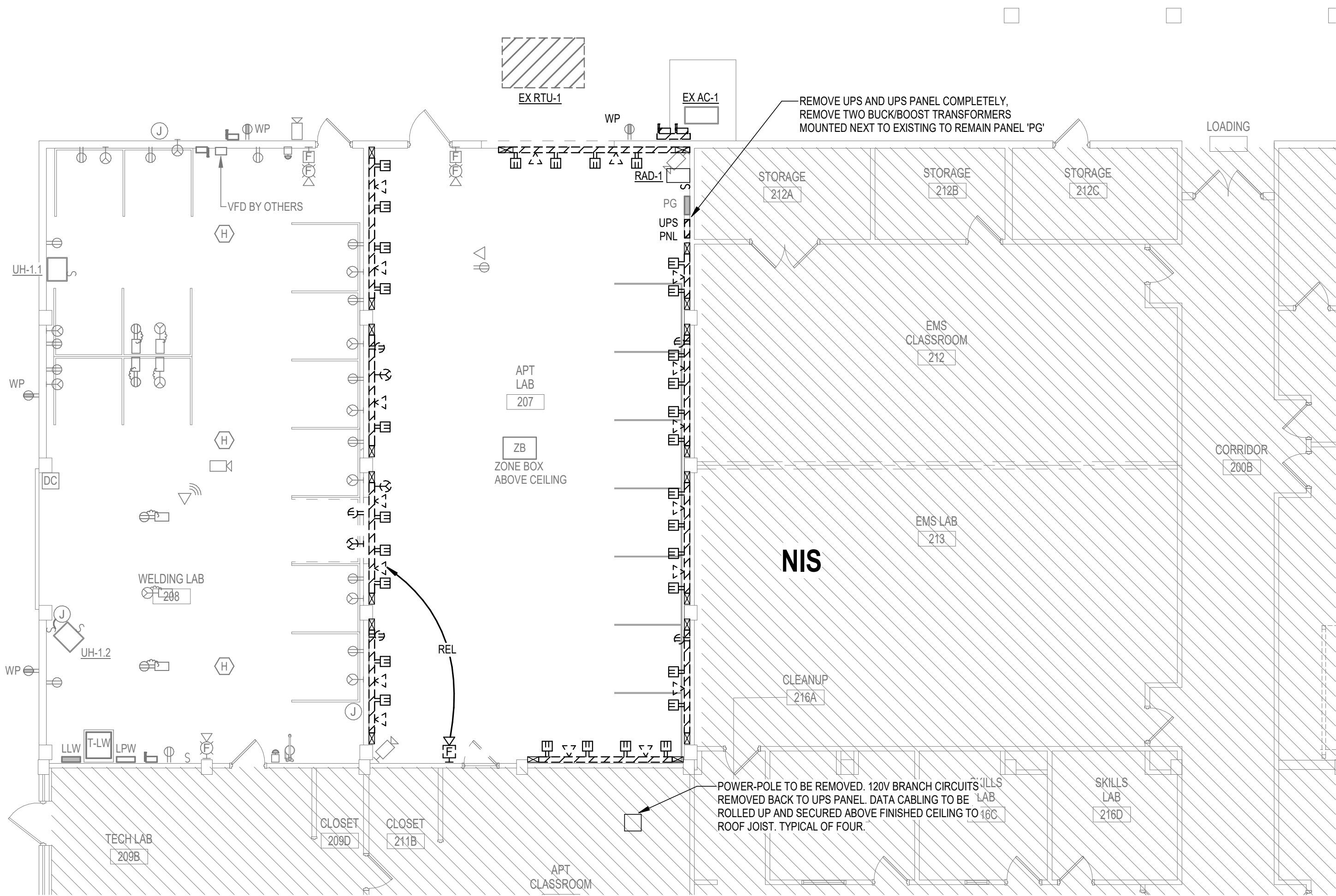
- ALL DEVICES SHOWN DASHED ARE TO BE DEMOLISHED. ALL OTHER DEVICES ARE EXISTING TO REMAIN.
- DISCONNECT WIRING AT PANEL OR NEAREST DEVICE OR JUNCTION BOX TO REMAIN ON SAME CIRCUIT.
- WHERE DEVICE IS SHOWN TO BE REMOVED IN EXISTING WALL TO REMAIN, REMOVE BACK BOX AND FINISH WALL / FLOOR / CEILING TO MATCH SURROUNDING AREA.

RENOVATION POWER NOTES

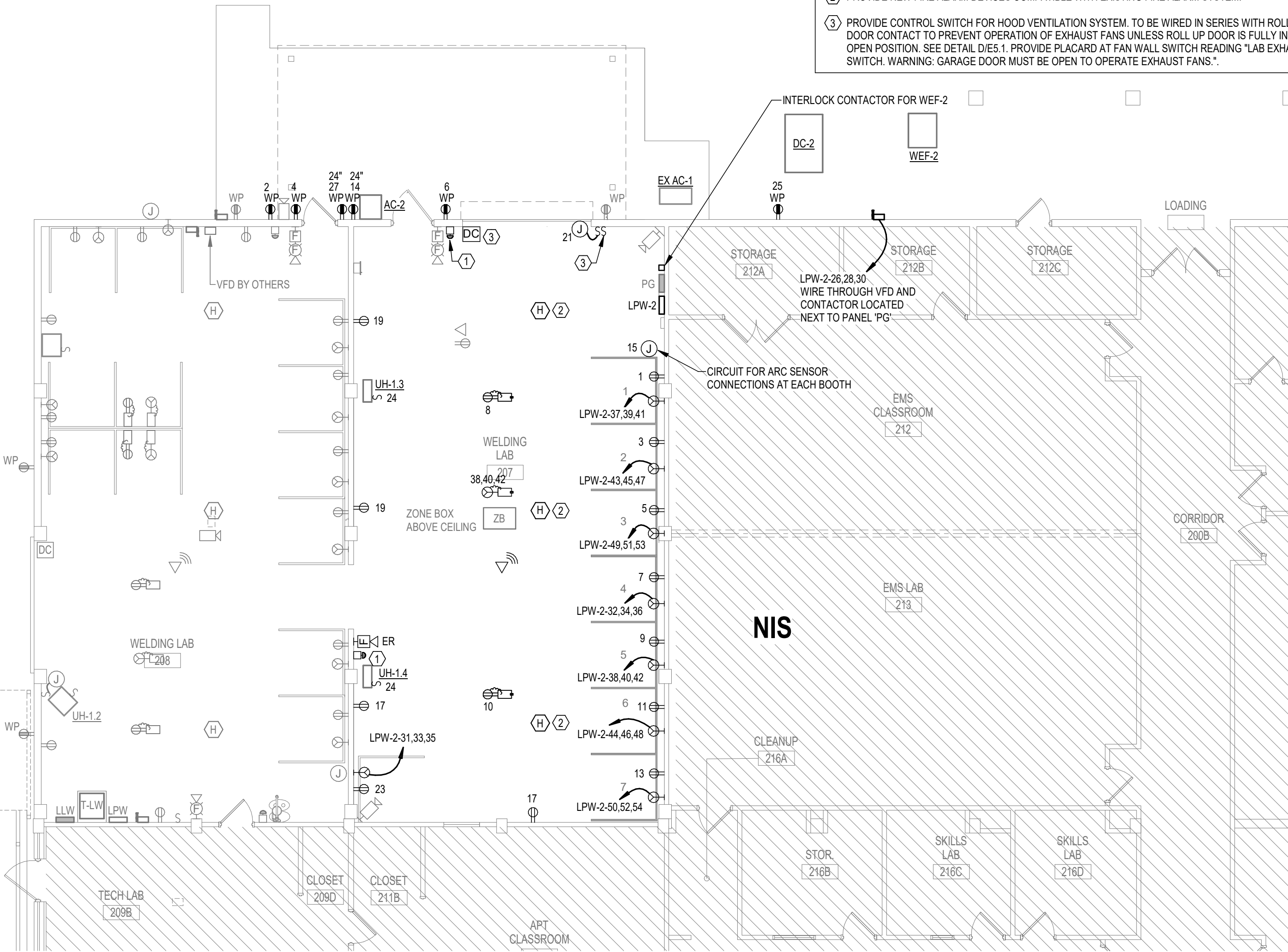
- ALL DEVICES SHOWN SHADED ARE EXISTING. ALL OTHER DEVICES ARE NEW.
- DEVICES (NOT INCLUDING LIGHTING) SHALL BE POWERED FROM PANEL "PG" U.N.O. DEVICES ARE LABELED WITH CIRCUIT NUMBER CORRESPONDING TO DESIGNATED PANEL.
- MECHANICAL EQUIPMENT DISCONNECTS SHOWN ON PLANS ARE DIAGRAMMATIC AND SHOWN FOR CLARITY. LOCATE DISCONNECTS SO ACCESSIBLE WITH WORKING CLEARANCE PER NEC.
- COORDINATE EXACT LOCATIONS OF WELDING BOOTH RECEPTACLES WITH WELDING BOTH LAYOUT AND OWNER PRIOR TO ROUGH IN.
- CONTRACTOR TO PROVIDE 50A NEMA RATED PLUGS FOR EACH WELDING STATION. BOD WELDING STATION HILTI/INCOIN ELECTRIC POWER WAVE 300C. INSTALL PLUGS TO CONFIGURE MACHINES TO OPERATE ON THE PROVIDED 480V/3PH CIRCUIT.
- SURFACE MOUNTED RACEWAYS AND BOXES ARE ACCEPTABLE ON EXISTING CMU WALLS.

RENOVATION KEYNOTES

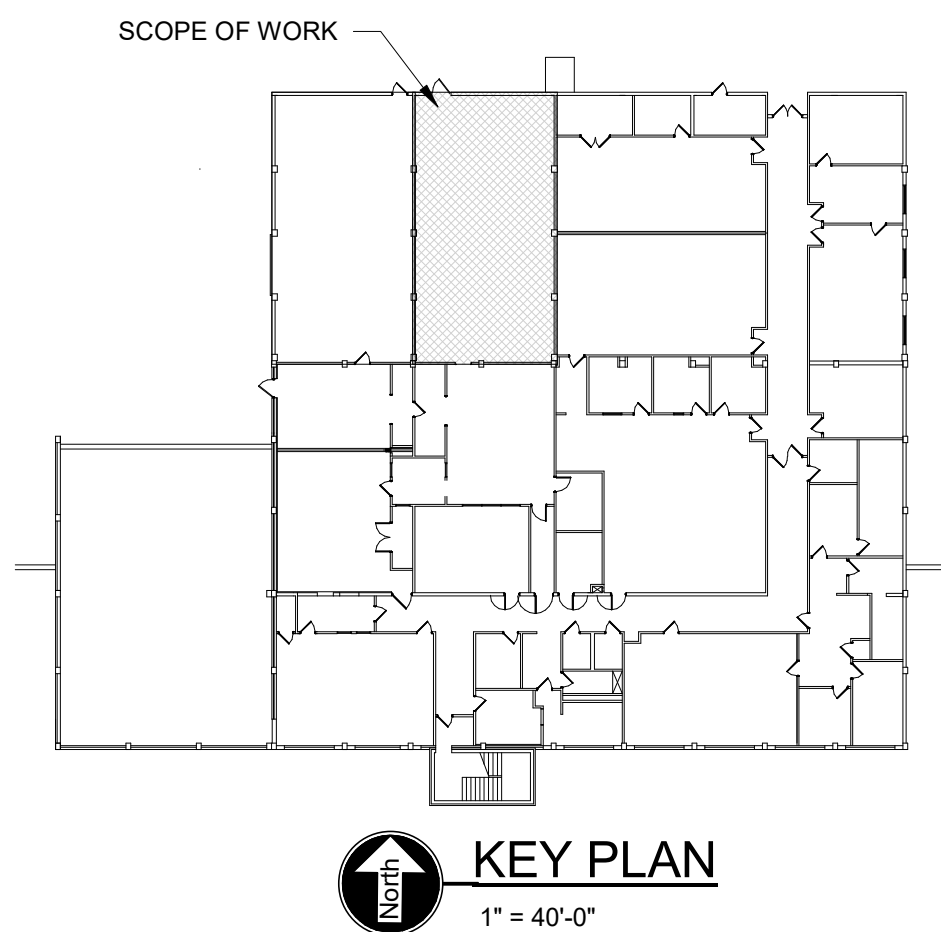
- EMERGENCY STOP BUTTON TO CONTROL SHUNT TRIP BREAKER IN PANEL "LPW". PROVIDE PLACARD READING "EMERGENCY STOP". WIRE NEW EPO BUTTONS IN PARALLEL WITH EXISTING EPO BUTTONS IN EXISTING WELDING LAB 208. REFER TO DETAIL A/E501.
- PROVIDE NEW FIRE ALARM DEVICES COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM.
- PROVIDE CONTROL SWITCH FOR HOOD VENTILATION SYSTEM. TO BE WIRED IN SERIES WITH ROLL-UP DOOR CONTACT TO PREVENT OPERATION OF EXHAUST FANS UNLESS ROLL UP DOOR IS FULLY IN THE OPEN POSITION. SEE DETAIL D/E5.1. PROVIDE PLACARD AT FAN WALL SWITCH READING "LAB EXHAUST SWITCH. WARNING: GARAGE DOOR MUST BE OPEN TO OPERATE EXHAUST FANS".



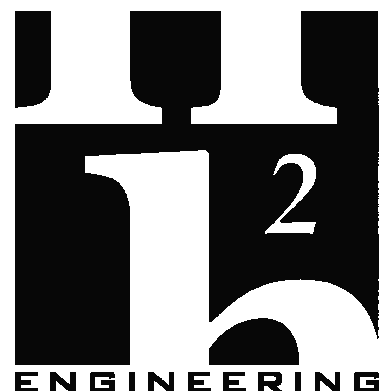
GROUND FLOOR - EXISTING / DEMOLITION PLAN - POWER
1/8" = 1'-0"



GROUND FLOOR - RENOVATION PLAN - POWER
1/8" = 1'-0"



KEY PLAN
1" = 40'-0"



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BUILDING 13 - WELDING LAB BOOTH EXPANSION

TURNER DAVIS DRIVE
MADISON, FLORIDA



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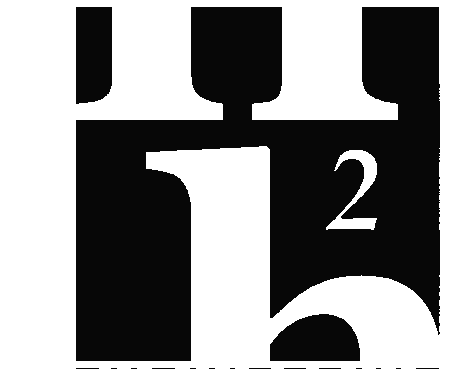
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E2.1



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BUILDING 13 - WELDING
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#	Description	Date

CRA Project # 25061

Phase:
BID SET

SHEET TITLE
SCHEDULES

E4.1

150 AMP RATING 90 MCB TRIP: 208 /120 V, 3 PH, 4W 10 KA AIR										LIGHTING AND APPLIANCE PANEL: PG										EXISTING SURFACE TYPE 1																																																																																																																																																																																														
CIRCUIT LOAD TYPE		CKT BREAKER			SEE 1-LINE	CONDUIT SIZE	PHASE & NEUTRAL SIZE	EGC SIZE	CONNECTED LOAD (VA)			CONDUCTOR SIZE	PHASE & NEUTRAL SIZE	CONDUIT SIZE	SEE 1-LINE	POLE	CKT BREAKER		LOAD TYPE																																																																																																																																																																																															
		TRIP	SPECIAL	POLE					A	B	C									A	B	C																																																																																																																																																																																												
1	R SERVING	20	1		3/4"	#12	#12	1200				1200	#12	#12	3/4"	1	20	SERVING	R																																																																																																																																																																																															
3	R RECPT BOOTH #1	20		1	3/4"	#12	#12		1200			1200	#12	#12	3/4"	1	20	RECEPT GRINDING STATION	R																																																																																																																																																																																															
5	R RECPT BOOTH #2	20		1	3/4"	#12	#12			1200		1200	#12	#12	3/4"	1	20	RECEPT GRINDING STATION	R																																																																																																																																																																																															
7	R RECPT BOOTH #3	20		1	3/4"	#12	#12	1200				1200	#12	#12	3/4"	1	20	RECEPT GRINDING STATION	R																																																																																																																																																																																															
9	R RECPT BOOTH #4	20		1	3/4"	#12	#12		1200			1200	#12	#12	3/4"	1	20	RECEPT CORD REEL	R																																																																																																																																																																																															
11	R RECPT BOOTH #5	20		1	3/4"	#12	#12			1200		1200	#12	#12	3/4"	1	20	RECEPT CORD REEL	R																																																																																																																																																																																															
13	R RECPT BOOTH #6	20		1	3/4"	#12	#12			1200					1	20	SPARE	R																																																																																																																																																																																																
15	R RECPT BOOTH #7	20		1	3/4"	#12	#12	1200				1920	#12	#12	3/4"	1	20	AC-2	R																																																																																																																																																																																															
17	O ARC SENSOR CONTROLS	20		1	3/4"	#12	#12		800			1200	#12	#12	3/4"	1	20	RECEPT WORK TABLE	R																																																																																																																																																																																															
19	R RECPT GENERAL	20		1	3/4"	#12	#12			540		1200	#12	#12	3/4"	1	20	RECEPT WORK TABLE	R																																																																																																																																																																																															
21	R RECPT GENERAL	20		1	3/4"	#12	#12	360				800	#12	#12	3/4"	1	20	RECEPT GENERAL	R																																																																																																																																																																																															
23	O ROLL UP DOOR	20		1	3/4"	#12	#12		1000			180	#12	#12	3/4"	1	20	EXISTING CLG RECEPT	R																																																																																																																																																																																															
25	R RECPT BOOTH #8	20		1	3/4"	#12	#12			1200		500	#12	#12	3/4"	1	15	UH - 1.3.1.4	H																																																																																																																																																																																															
27	O DC-2	20		1	3/4"	#12	#12	200				500	#12	#12	3/4"	1	20	REC. GENERAL	R																																																																																																																																																																																															
29	O RAD-1	20		1	3/4"	#12	#12			720		480	#12	#12	3/4"	1	20	WEF CONTROLS	O																																																																																																																																																																																															
31	SPARE	20		1											1		20	SPACE	R																																																																																																																																																																																															
33	SPARE	20		1											1			SPACE	R																																																																																																																																																																																															
35	SPARE			1											1			SPACE	R																																																																																																																																																																																															
37	SPARE			1								1200							R																																																																																																																																																																																															
39	SPARE			1								1200	#12	#12	3/4"	3	20	RECEPT CORD REEL	R																																																																																																																																																																																															
41	SPARE			1								1200							R																																																																																																																																																																																															
<table><tr><td colspan="2">LOAD CLASSIFICATION</td><td></td><td></td><td colspan="2">DEMAND</td><td colspan="3">KVA (THIS PANEL)</td><td colspan="3">KVA (SUB-PANELS)</td><td colspan="3">KVA CONNECTED</td><td colspan="3">KVA DEMAND</td></tr><tr><td>M</td><td>MOTOR</td><td></td><td></td><td></td><td></td><td>100%</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>K</td><td>KITCHEN</td><td></td><td></td><td></td><td></td><td>100%</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>R</td><td>RECEPTACLES</td><td></td><td></td><td>APPLIANCE #:</td><td>0</td><td>10KVA+50%</td><td>11</td><td>7</td><td>8</td><td>0</td><td>0</td><td>0</td><td>11</td><td>7</td><td>8</td><td>7</td><td>5</td><td>6</td></tr><tr><td>L</td><td>LIGHTING</td><td></td><td></td><td></td><td></td><td>100%</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>H</td><td>HVAC</td><td></td><td></td><td></td><td></td><td>100%</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td></tr><tr><td>N</td><td>N+1 REDUNDANT LOAD</td><td></td><td></td><td></td><td></td><td>50%</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>O</td><td>OTHER</td><td></td><td></td><td></td><td></td><td>100%</td><td>0</td><td>3</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>3</td><td>0</td><td>0</td><td>3</td><td>0</td></tr><tr><td colspan="7">TOTAL LOAD (KVA)</td><td>11</td><td>10</td><td>8</td><td>0</td><td>0</td><td>0</td><td>11</td><td>10</td><td>8</td><td>7</td><td>8</td><td>6</td></tr><tr><td colspan="7">TOTAL LOAD (AMPS)</td><td>91</td><td>86</td><td>69</td><td>0</td><td>0</td><td>0</td><td>91</td><td>86</td><td>69</td><td>60</td><td>70</td><td>50</td></tr></table>																			LOAD CLASSIFICATION				DEMAND		KVA (THIS PANEL)			KVA (SUB-PANELS)			KVA CONNECTED			KVA DEMAND			M	MOTOR					100%	0	0	0	0	0	0	0	0	0	0	0	0	K	KITCHEN					100%	0	0	0	0	0	0	0	0	0	0	0	0	R	RECEPTACLES			APPLIANCE #:	0	10KVA+50%	11	7	8	0	0	0	11	7	8	7	5	6	L	LIGHTING					100%	0	0	0	0	0	0	0	0	0	0	0	0	H	HVAC					100%	0	0	0	1	0	0	0	0	1	0	0	1	N	N+1 REDUNDANT LOAD					50%	0	0	0	0	0	0	0	0	0	0	0	0	O	OTHER					100%	0	3	0	0	0	0	0	3	0	0	3	0	TOTAL LOAD (KVA)							11	10	8	0	0	0	11	10	8	7	8	6	TOTAL LOAD (AMPS)							91	86	69	0	0	0	91	86	69	60	70	50	CONNECTED (AMPS)		62
LOAD CLASSIFICATION				DEMAND		KVA (THIS PANEL)			KVA (SUB-PANELS)			KVA CONNECTED			KVA DEMAND																																																																																																																																																																																																			
M	MOTOR					100%	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																
K	KITCHEN					100%	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																
R	RECEPTACLES			APPLIANCE #:	0	10KVA+50%	11	7	8	0	0	0	11	7	8	7	5	6																																																																																																																																																																																																
L	LIGHTING					100%	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																
H	HVAC					100%	0	0	0	1	0	0	0	0	1	0	0	1																																																																																																																																																																																																
N	N+1 REDUNDANT LOAD					50%	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																
O	OTHER					100%	0	3	0	0	0	0	0	3	0	0	3	0																																																																																																																																																																																																
TOTAL LOAD (KVA)							11	10	8	0	0	0	11	10	8	7	8	6																																																																																																																																																																																																
TOTAL LOAD (AMPS)							91	86	69	0	0	0	91	86	69	60	70	50																																																																																																																																																																																																
																		CONNECTED (KVA)	30																																																																																																																																																																																															
																		DEMAND (AMPS)	60																																																																																																																																																																																															
																		DEMAND (KVA)	22																																																																																																																																																																																															
																		SPARE	20%																																																																																																																																																																																															
																		RATING	125%																																																																																																																																																																																															
																		BASIS FOR RATING (AMPS)	90																																																																																																																																																																																															

400 AMP RATING 400 MLO TRIP: 480 /277 V, 3 PH, 4W 18 KA AIR										LIGHTING AND APPLIANCE PANEL: LPW-2										NEW SURFACE TYPE 1	
CIRCUIT LOAD TYPE	SERVING	CKT BREAKER			SEE 1-LINE	CONDUIT SIZE	PHASE & NEUTRAL SIZE	EGC SIZE	CONNECTED LOAD (VA)			CONDUCTOR SIZE	PHASE & NEUTRAL SIZE	CONDUIT SIZE	SEE 1-LINE	CKT BREAKER			SERVING	LOAD TYPE	
		TRIP	SPECIAL	POLE					A	B	C					A	B	C			POLE
1	L CANOPY LIGHTING	20		1		3/4"	#12	#12	150								1	20	SPARE		
3	SPARE	20		1													1	20	SPARE		
5	SPARE	20		1													1	20	SPARE		
7	SPARE	20		1													1	20	SPARE		
9	SPARE	20		1													1	20	SPARE		
11	SPARE	20		1													1	20	SPARE		
13	SPACE			1													1		SPACE		
15	SPACE			1													1		SPACE		
17	SPACE			1													1		SPACE		
19	SPACE			1																	
21	SPACE			1																	
23	SPACE			1																	
25	SPACE			1																	
27	SPACE			1																	
29	SPACE			1																	
31	O								5600											O	
33	O WELDING BOOTH #8	40		3		1"	#6	#6		5600										O	
35	O																			O	
37	O								5600											O	
39	O WELDING BOOTH #1	40		3		1"	#6	#6		5600										O	
41	O									5600										O	
43	O								5600											O	
45	O WELDING BOOTH #2	40		3		1"	#6	#6		5600										O	
47	O																			O	
49	O								5600											O	
51	O WELDING BOOTH #3	40		3		1"	#6	#6		5600										O	
53	O									5600										O	
LOAD CLASSIFICATION						DEMAND		KVA (THIS PANEL)			KVA (SUB-PANELS)			KVA CONNECTED			KVA DEMAND				
M	MOTOR					100%		A	B	C	A	B	C	A	B	C	A	B	C	CONNECTED (AMPS)	
K	KITCHEN	APPLIANCE #				0	100%	6	6	6	0	0	0	6	6	6	0	0	0	CONNECTED (KVA)	
R	RECEPTACLES					10KVA+50%		0	0	0	11	7	8	11	7	8	7	5	6		
L	LIGHTING					100%		0	0	0	0	0	0	0	0	0	0	0	0	DEMAND (AMPS)	
H	HVAC					100%		0	0	0	0	0	1	0	0	1	0	0	1	DEMAND (KVA)	
N	N+1 REDUNDANT LOAD					50%		0	0	0	0	0	0	0	0	0	0	0	0		
O	OTHER (WELDING)					69%		49	49	49	0	2	0	49	51	49	34	35	34	SPARE	
TOTAL LOAD (KVA)								55	55	55	11	10	8	65	64	63	47	46	45	RATING	
TOTAL LOAD (AMPS)								197	197	197	39	35	30	236	232	226	168	167	164	BASIS FOR RATING (AMPS)	

