

LEGEND:

LIGHTING FIXTURES:

UPPERCASE LETTER ADJACENT TO FIXTURE DENOTES DESIGNATION PER THE LIGHTING FIXTURE SCHEDULE. LOWERCASE LETTER DENOTES SWITCH/LEG. THE RESPECTIVE SWITCH WILL HAVE THE SAME DESTINATIONS. NUMERAL DENOTES BRANCH CIRCUIT CONNECTION.

REFER TO THE FIXTURE SCHEDULE FOR THE SPECIFIC FIXTURE INFORMATION.

EMERGENCY FIXTURES SHALL HAVE FACTORY INSTALLED INTERNAL BATTERIES, PER SPECIFICATIONS.

NON-EMERGENCY	EMERGENCY/ BATTERY BACKUP		
		LIGHTING FIXTURE: LINEAR	
		LIGHTING FIXTURE: LINEAR	
		LIGHTING FIXTURE: LINEAR	
		LIGHTING FIXTURE: STRIP	
		EXIT LIGHT: UNIVERSAL MTD.	
		DIRECTIONAL FIXTURES: EMERGENCY TYPE	

DEVICE IDENTIFIER TAGS:

NUMERAL ADJACENT TO DEVICE DENOTES BRANCH CIRCUIT CONNECTION. IDENTIFIER TAGS ADJACENT TO DEVICES INDICATE:

C	MOUNT ABOVE COUNTERTOP OR BACKSPLASH, 9" ABOVE WORK SURFACE TO CENTER
XX"	MOUNT DEVICE AT HEIGHT INDICATED
WP	PROVIDE WEATHER-PROOF COVER

RECEPTACLES:

NOMINAL MOUNTING HEIGHT OF RECEPTACLES SHALL BE 18" TO CENTER, UNO. IF APPLICABLE, ADJUST SO DEVICE COVER IS IN THE CENTER OF MASONRY COURSE NEAREST THAT HEIGHT. THE HEIGHT ESTABLISHED SHALL GOVERN FOR ALL BOX INSTALLATIONS, WHERE INSTALLED IN MASONRY OR FRAMED WALLS.

ALL RECEPTACLES INSTALLED IN THE FOLLOWING LOCATIONS SHALL BE TAMPER RESISTANT TYPE:

- DWELLING UNITS, DORM ROOMS, GUEST ROOMS AND GUEST SUITES OF HOTELS AND MOTELS.
- CHILD CARE FACILITIES.
- PRESCHOOLS AND ELEMENTARY EDUCATION FACILITIES.
- BUSINESS OFFICES, CORRIDORS, WAITING ROOMS AND THE LIKE IN CLINICS, MEDICAL AND DENTAL OFFICES AND OUTPATIENT FACILITIES.
- SUBSETS OF ASSEMBLY OCCUPANCIES DESCRIBED IN NEC 518.2 TO INCLUDE PLACES OF WAITING TRANSPORTATION, GYMNASIUMS, SKATING RINKS, AND AUDITORIUMS.

	RECEPTACLE: DUPLEX
	RECEPTACLE: GROUND-FAULT-INTERRUPTING TYPE
	RECEPTACLE: QUADRUPLX

ELECTRICAL SPECIFICATIONS

1. GENERAL PROVISIONS:

APPLICABLE PROVISIONS OF THE STATE AND LOCAL CODES AND OF THE NATIONAL ELECTRICAL CODE (NFPA NO. 70), 2017 EDITION, ARE HEREBY IMPOSED ON A GENERAL BASIS FOR ELECTRICAL WORK.

PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND SUPERVISION TO CONSTRUCT A COMPLETE AND OPERABLE ELECTRICAL SYSTEM. ALL MATERIALS AND EQUIPMENT USED SHALL BE NEW, UNDAMAGED AND FREE FROM ANY DEFECTS.

WITH PERMISSION FROM THE OWNER, EXISTING ELECTRICAL EQUIPMENT MAY BE REUSED IF THE SIZE, RATING AND CAPACITY MEETS THE EXACT REQUIREMENTS AS SPECIFIED IN THESE DOCUMENTS. EQUIPMENT THAT IS REUSED SHALL BE CLEANED AND/OR REPAIRED TO ORIGINAL CONDITION BEFORE INSTALLATION. EXISTING MATERIALS MADE UNNECESSARY SHALL REMAIN THE PROPERTY OF THE OWNER.

2. DEMOLITION

REMOVE ALL POWER AND LIGHTING EQUIPMENT IN AREAS OF DEMOLITION UNLESS OTHERWISE NOTED. DEMOLITION SHALL INCLUDE THE REMOVAL OF THE ASSOCIATED OUTLET BOX, SUPPORTS, CONDUITS, FITTINGS AND CONDUCTORS. DEVICES IN AREAS OF NON-DEMOLISHED AREAS SHALL REMAIN INTACT AND OPERATIVE. RE-CIRCUIT THESE DEVICES IF CIRCUIT EXTENDS THROUGH DEMOLISHED AREA.

3. MATERIALS:

A. ALL MATERIALS SHALL CONFORM TO U.L. & NEMA REQUIREMENTS AND SHALL BE AS SPECIFIED OR "PRIOR APPROVED EQUAL" BY THE ENGINEER.

B. RACEWAY SYSTEM: ALL CONDUITS AND RACEWAYS SHALL BE INSTALLED CONCEALED IN FINISHED SPACES. CONCEALED CONDUITS SHALL BE EMT, IMC OR RGS. ROUTE ALL CONDUITS AND RACEWAYS PARALLEL AND PERPENDICULAR TO THE STRUCTURE AND SUPPORT AS REQUIRED BY THE NEC. ALL EXPOSED EXTERIOR OR WET LOCATED BRANCH CIRCUIT OR FEEDER RACEWAYS SHALL BE RGS OR IMC CONDUIT. ALL UNDERGROUND BRANCH CIRCUIT OR FEEDER RACEWAYS SHALL BE PVC CONDUIT. EXPOSED CONDUITS IN MECHANICAL SPACES AND CLOSETS SHALL BE RGS OR IMC. EXPOSED CONDUITS IN FINISHED SPACES SHALL BE SURFACE METAL RACEWAY (MCS) UNLESS OTHERWISE NOTED. USE WITH EMT CONDUIT SHALL BE STEEL COMPRESSION TYPE, EXCEPT THAT STEEL SET SCREW TYPE WILL BE ACCEPTABLE FOR EMT CONDUIT SIZES 2-1/2" AND LARGER. SUPPORT RACEWAY SYSTEM USING WOOD SCREWS TO WOOD; BY TOGGLE BOLTS ON HOLLOW MASONRY UNITS; BY CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR BRICK; BY MACHINE SCREWS, WELDED THREADED STUDS, OR SPRING TENSION CLAMPS ON STEEL WORK. CONDUIT SUPPORTS SHALL BE TWO-HOLE STRAPS, WALL BRACKETS, HANGERS OR CEILING TRAPEZE. THE USE OF MC CABLE IS NOT ALLOWED.

C. BOXES: PROVIDE GALVANIZED STEEL OUTLET BOXES WITH STAMPED KNOCKOUTS FOR INTERIOR DRY LOCATIONS. PROVIDE CAST ALUMINUM BELL TYPE FOR ALL EXTERIOR WET LOCATIONS. INTERIOR FLUSH BOXES SHALL BE 4" SQUARE BY 1-1/4" DEEP. INTERIOR FLUSH BOXES FOR COMMUNICATION OUTLETS AND GFCI OUTLETS SHALL BE 4-11/16" SQUARE BY 2-1/8" DEEP. PROVIDE SINGLE GANG TILE COVERS UNLESS REQUIRED OTHERWISE.

D. GRADE LEVEL PULL BOXES: BOXES SHALL BE QUASITE COMPOSITE TYPE. PROVIDE SIZE AS INDICATED ON THE DRAWINGS. PROVIDE STACKABLE SECTIONS TO ACHIEVE BURIAL DEPTH FOR SPECIFIED FOR CONDUITS. BOXES SHALL HAVE OPEN BOTTOM AND LOCKING COVER WITH "ELECTRICAL" OR "COMMUNICATIONS" LOGO AS APPROPRIATE. PULL BOXES SHALL BE RATED FOR LIGHT VEHICULAR TRAFFIC. ENCASUREMENT IS REQUIRED ONLY IF DIRECTED BY MANUFACTURER TO OBTAIN RATING.

ELECTRICAL EQUIPMENT:

REFER TO EQUIPMENT CONNECTION SCHEDULE FOR LOAD DATA USED AS THE BASIS OF DESIGN AND REQUIRED CONNECTIONS. VERIFY LOAD AND LOCATION WITH EQUIPMENT CUT-SHEETS AND INSTALLER.

	PANELBOARD: SURFACE MOUNTED
	EQUIPMENT AS NOTED, SEE ABBREVIATIONS, THIS SHEET
	GROUND CONNECTION

BRANCH CIRCUITS:

CONDUCTOR COUNTS ARE SHOWN ON THE HOMERUNS ONLY. CONTRACTOR SHALL DETERMINE COUNTS FOR INTERMEDIATE RUNS BASED ON THE MANNER IN WHICH THE CIRCUIT ELEMENTS ARE CONNECTED.

	"HOMERUN" TO PANEL: NUMBER OF HASH MARKS INDICATES QUANTITY OF #12 AWG UNGROUNDED CONDUCTORS IN 3/4" RACEWAY. GROUNDED CONDUCTORS (NEUTRALS) ARE NOT SHOWN. NUMBER OF ARROWHEADS DENOTES QUANTITY OF CIRCUITS INSTALLED. ONE DEDICATED NEUTRAL IS REQUIRED FOR EACH CIRCUIT INSTALLED. SEE SPECIFICATIONS. EACH CONDUCTOR SHALL BE MIN. #12 AWG UNLESS NOTED OTHERWISE. FOR MECHANICAL EQUIPMENT, SEE MECHANICAL EQUIPMENT RATINGS AND CONNECTIONS SCHEDULE FOR ELECTRICAL CHARACTERISTICS.
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ROUGH-IN FOR LOW VOLTAGE SYSTEMS:

THE CONTRACTOR SHALL PROVIDE ROUGH-IN FOR ALL DEVICES AND WIRING. VERIFY ADJACENCY TO CORRESPONDING POWER RECEPTACLES. OTHER DEVICES WHOSE LOCATIONS ARE NOT DEPENDENT ON RECEPTACLE PLACEMENT SHALL BE COORDINATED WITH SYSTEM INSTALLER.

GENERAL NOTES:

- THE ELECTRICAL DRAWINGS ARE ONLY PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS FOR THEIR INTERRELATIONSHIP AND REQUIRED COORDINATION BETWEEN DISCIPLINES.
- WHERE COMPLETE BRANCH CIRCUIT WIRING IS NOT SHOWN, PROVIDE ACCORDING TO HOMERUNS SHOWN AND CORRESPONDING CIRCUIT NUMBERS ADJACENT TO THE DEVICE OR FIXTURE. REFER TO THE SPECIFICATIONS FOR THE WIRING METHODS. BRANCH CIRCUIT RATINGS SHALL BE BASED ON OVERCURRENT DEVICE RATINGS SHOWN IN THE PANEL SCHEDULES.
- REFER TO THE ELECTRICAL PANELBOARD SCHEDULES AND EQUIPMENT RATINGS & CONNECTIONS SCHEDULE FOR VOLTAGE, BRANCH CIRCUITS REQUIREMENTS, BREAKERS SIZES AND OTHER RELATED ELECTRICAL EQUIPMENT TO BE PROVIDED AND/OR INSTALLED BY THE ELECTRICAL CONTRACTOR.

SWITCHES:

MOUNTING HEIGHT OF SWITCHES SHALL BE 48" NOMINAL, ADJUSTED IN THE SAME MANNER AS SPECIFIED ABOVE. FOR RECEPTACLES. LOWERCASE LETTER INDICATES SWITCH/LEG CONNECTION. THE RESPECTIVE FIXTURE(S) WILL HAVE THE SAME DESIGNATION.

	SWITCH: OVERRIDE
	SWITCH: SINGLE-POLE
	SWITCH: SUBSCRIPT THAT INDICATES CORRESPONDING FIXTURES THAT SWITCH CONTROLS
	SWITCH: LOW VOLTAGE OVERRIDE SWITCH WITH 0-10V DIMMING FOR VACANCY SENSOR, WHERE MULTIPLE SUBSCRIPTS ARE INDICATED ("ab" FOR EXAMPLE) PROVIDE A PUSHBUTTON FOR EACH CORRESPONDING GROUP OF FIXTURES TO BE CONTROLLED (2 BUTTON SWITCH FOR "ab" FOR EXAMPLE). THE PUSHBUTTONS SHALL BE MOUNTED UNDER A SINGLE GANG FACEPLATE.
	OCCUPANCY SENSOR, CEILING MOUNTED
	OCCUPANCY SENSOR, WALL MOUNTED
	VACANCY SENSOR, CEILING MOUNTED
	VACANCY SENSOR, WALL MOUNTED

ABBREVIATIONS:

A	AMPERES	MIN	MINIMUM
AFF	ABOVE FINISHED FLOOR	MOCP	MAXIMUM OVERCURRENT PROTECTION
AFG	ABOVE FINISHED GRADE	MRS	MOTOR RATED SWITCH
AIC	AMPERE INTERRUPTING CAPACITY	MTD	MOUNTED
AV	AUDIO/VISUAL	No.	NUMBER
AWG	AMERICAN WIRE GAUGE	NEC	NATIONAL ELECTRIC CODE
BFG	BELOW FINISHED GRADE	NTS	NOT TO SCALE
B.E.	BOTTOM EDGE	RGS	RIGID GALVANIZED STEEL
C.	CONDUIT	SPD	SURGE PROTECTION DEVICE
ECB	ENCLOSED CIRCUIT BREAKER	SWBD	SWITCHBOARD
G	GROUND	Typ	TYPICAL
GFI	GROUND-FAULT INTERRUPTING	UNO	UNLESS NOTED OTHERWISE
HP	HORSE POWER	V	VOLTAGE
KCMIL	KILO CIRCULAR MIL	W	WATTAGE
MB	MAIN BREAKER	W/	WITH
MCA	MINIMUM CIRCUIT AMPS	WP	WEATHER PROOF
		XFMR	TRANSFORMER

SPD FOR SERVICE EQUIPMENT SHALL BE AS FOLLOWS: SINGLE PULSE SURGE CAPACITY PER MODE: [150,000 (225,000) AMPS AND MODES: L-L, L-N, AND L-G. ALL UNITS SHALL HAVE THE FOLLOWING FEATURES: PHASE LED INDICATOR LIGHTS, DISTURBANCE COUNTER, 5-YEAR REPAIR/REPLACEMENT WARRANTY FROM MANUFACTURER IN THE NAME OF THE OWNER. INSTALL SPD UNITS ADJACENT TO ELECTRICAL EQUIPMENT, ENSURING THAT LEAD LENGTHS ARE AS SHORT AS POSSIBLE TO ACHIEVE MAXIMUM PROTECTION. CONNECT TO CIRCUIT BREAKER IN ELECTRICAL EQUIPMENT AS SHOWN ON THE MANUFACTURER'S WIRING DIAGRAMS.

M. FIRE ALARM SYSTEM: APPLICABLE PROVISIONS OF THE STATE AND LOCAL CODES AND OF NFPA No. 70 AND 72, CURRENT EDITION, ARE HEREBY IMPOSED ON A GENERAL BASIS FOR WORK ASSOCIATED WITH THE FIRE ALARM SYSTEM. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND SUPERVISION TO CONSTRUCT A COMPLETE AND OPERABLE FIRE ALARM SYSTEM. THIS IS A PERFORMANCE-BASED SPECIFICATION. THE SYSTEM SPECIFIED HEREIN SHALL BE DESIGNED BY THE MANUFACTURER OR AN AUTHORIZED REPRESENTATIVE OF THE MANUFACTURER WHO IS EITHER A REGISTERED FIRE PROTECTION ENGINEER OR A NICET CERTIFIED ENGINEERING TECHNOLOGIST. ACCEPTABLE MANUFACTURERS ARE NOTIFIER, EDWARDS EST AND SIMPLEX. ALL MATERIALS AND EQUIPMENT USED SHALL BE NEW, UNDAMAGED AND FREE FROM ANY DEFECTS. ALL MATERIALS SHALL CONFORM TO U.L. AND NEMA REQUIREMENTS. PROVIDE INTELLIGENT, ADDRESSABLE, ANALOG FIRE ALARM SYSTEM. ALL WIRING SHALL BE INSTALLED IN RIGID METALLIC CONDUIT SYSTEM. IT IS THE RESPONSIBILITY OF THE MANUFACTURER'S REPRESENTATIVE TO SUBMIT APPROPRIATE DRAWINGS, CALCULATIONS, AND OTHER SUPPORTING DOCUMENTS TO THE AUTHORITY HAVING JURISDICTION FOR PERMIT APPROVAL.

N. LIGHTNING PROTECTION: APPLICABLE PROVISIONS OF THE STATE AND LOCAL CODES AND OF NFPA NO. 70 (2014 EDITION), NFPA NO. 780 (2011 EDITION), AND IEEE STANDARD NO. 148, ARE HEREBY IMPOSED ON A GENERAL BASIS FOR WORK ASSOCIATED WITH THE LIGHTNING PROTECTION SYSTEM. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND SUPERVISION TO CONSTRUCT A COMPLETE AND OPERABLE LIGHTNING PROTECTION SYSTEM WHICH WILL RECEIVE A U.L. MASTER LABEL ONCE INSTALLATION IS COMPLETED. ALL MATERIALS AND EQUIPMENT USED SHALL BE NEW, UNDAMAGED AND FREE FROM ANY DEFECTS. PROVIDE LIGHTNING PROTECTION SYSTEM MATERIAL AND COMPONENTS OF TYPES, SIZES, RATINGS, FOR CLASS 1 SERVICE, WHICH COMPLY WITH MANUFACTURER'S STANDARD MATERIALS, DESIGN, AND CONSTRUCTION IN ACCORDANCE WITH PUBLISHED PRODUCT INFORMATION, AND AS REQUIRED FOR COMPLETE INSTALLATION. MATERIALS AND ALL COMPONENTS SHALL COMPLY WITH NFPA 780 AND LPI STANDARDS. ALL CONDUIT SHALL BE COMPATIBLE FOR INSTALLATION ON THE BUILDING TYPE INSTALLED. INSTALL LIGHTNING PROTECTION SYSTEMS IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S WRITTEN INSTRUCTIONS, AND IN COMPLIANCE WITH APPLICABLE REQUIREMENTS OF NEC, NFPA 780 AND LPI TO ENSURE THAT LIGHTNING PROTECTION SYSTEMS COMPLY WITH REQUIREMENTS. COMPONENTS SHALL BE INSTALLED CONCEALED TO THE GREATEST EXTENT POSSIBLE. THIS IS A PERFORMANCE SPECIFICATION. LAYOUT OF DEVICES, ETC., IS THE RESPONSIBILITY OF THE CONTRACTOR.

4. REFER TO ARCHITECTURAL SECTION FOR LOCATION OF FIRE RATED WALLS AND CEILINGS. ALL FIXTURES, AND THROUGH PENETRATIONS SHALL BE MADE IN ACCORDANCE WITH THE NFPA 70 AND THE UL DESIGN No. OF THE TYPE OF CONSTRUCTION ENCOUNTERED.

- DATA SHEETS ON ALL ITEMS LISTED ABOVE.
- SCALED LAYOUT OF ELECTRICAL SPACES BASED ON THE ELECTRICAL EQUIPMENT BEING INSTALLED.
- OCCUPANCY SENSOR LAYOUT BY SYSTEM MANUFACTURER SHOWING SENSOR LOCATIONS, MODEL NUMBERS, INSTALLATION WIRING DIAGRAMS AND DETAILS.
- FIRE ALARM SYSTEM LAYOUT, WIRING AND INSTALLATION DETAIL DRAWINGS.

PANEL: LPA

VOLTAGE: 120/208 WYE	MAINS RATING: 225 A	LOCATION: ELEC. 123
PHASE: 3	MAINS TYPE: MCS	MOUNTING: SURFACE
WIRES: 4	FED BY: MSB	RATING: Indoor
A.I.C. RATING: 22,000		TOTAL LOAD: 66373 VA

CKT	TRIP	P	CIRCUIT DESCRIPTION	A	B	C	CIRCUIT DESCRIPTION	P	TRIP	CKT		
1	20 A	1	EXISTING LOAD	500	720		EXISTING LOAD	1	20 A	2		
3	20 A	1	EXISTING LOAD		500	720	EXISTING LOAD	1	20 A	4		
5	20 A	1	EXISTING LOAD			500	720	EXISTING LOAD	1	20 A	6	
7	20 A	1	EXISTING LOAD	500	720		EXISTING LOAD	1	20 A	8		
9	20 A	1	EXISTING LOAD		500	500	EXISTING LOAD	1	20 A	10		
11	20 A	1	EXISTING LOAD			500	720	EXISTING LOAD	1	20 A	12	
13	20 A	1	EXISTING LOAD	500	720		EXISTING LOAD	1	20 A	14		
15	20 A	1	EXISTING LOAD		500	720	EXISTING LOAD	1	20 A	16		
17	20 A	1	EXISTING LOAD			500	720	EXISTING LOAD	1	20 A	18	
19	20 A	1	EXISTING LOAD	500	720		EXISTING LOAD	1	20 A	20		
21	20 A	1	EXISTING LOAD		500	720	EXISTING LOAD	1	20 A	22		
23	20 A	1	EXISTING LOAD			500	720	EXISTING LOAD	1	20 A	24	
25	20 A	1	EXISTING LOAD	500	720		EXISTING LOAD	1	20 A	26		
27	20 A	1	EXISTING LOAD		500	500	EXISTING LOAD	1	20 A	28		
29	20 A	1	EXISTING LOAD			500	500	EXISTING LOAD	1	20 A	30	
31	20 A	1	EXISTING LOAD	500	500		EXISTING LOAD	1	20 A	32		
33	20 A	1	EXISTING LOAD		500	500	EXISTING LOAD	1	20 A	34		
35	20 A	1	EXISTING LOAD			500	500	EXISTING LOAD	1	20 A	36	
37	20 A	1	EXISTING LOAD	720	500		EXISTING LOAD	1	20 A	38		
39	20 A	1	EXISTING LOAD		720	20	EXISTING LOAD	1	20 A	40		
41	20 A	1	EXISTING LOAD			720	20	EXISTING LOAD	1	20 A	42	
43	20 A	1	EXISTING LOAD	20	20		EXISTING LOAD	1	20 A	44		
45	20 A	1	EXISTING LOAD		20	720	EXISTING LOAD	1	20 A	46		
47	20 A	1	EXISTING LOAD			20	180	EXISTING LOAD	1	20 A	48	
49	20 A	1	EXISTING LOAD	20	720		EXISTING LOAD	1	20 A	50		
51	20 A	1	EXISTING LOAD		500	180	EXISTING LOAD	1	20 A	52		
53	20 A	1	EXISTING LOAD			250	1800	EXISTING LOAD	2	30 A	54	
55	20 A	1	EXISTING LOAD	180	1800		EXISTING LOAD	2	30 A	56		
57	30 A	2	EXISTING LOAD		1800	749		EX-DHP	2	20 A	58	
59	20 A	1	RECEPTACLES OFFICE 111	720	264		1800	749	EF-2	1	20 A	60
61	20 A	1	RECEPTACLES OFFICE 110			720	1498		EH-1	2	30 A	64
63	20 A	1	RECEPTACLES OFFICE 109			720	1498		EH-1	2	30 A	66
65	20 A	1	RECEPTACLES OFFICE 109	1705	1498		720	1498	EH-2	2	30 A	68
67	20 A	3	WHP-1		1705	1498			EH-2	2	30 A	70
69	20 A	3	WHP-1		1705	1498			EH-2	2	30 A	72
71	20 A	3	WHP-1		1705	1498			EH-2	2	30 A	74
73	20 A	3	WHP-2		1705	1056			EH-2	2	30 A	76
75	20 A	3	WHP-2		1705	1056			EH-2	2	30 A	78
77	20 A	2	DHP-1	749	0		1705	1056	SPARE	1	20 A	80
79	20 A	2	DHP-1		749	0			SPARE	1	20 A	82
81	20 A	1	EF-1				264	0	SPARE	1	20 A	84
83	20 A	1	EF-1				264	0	SPARE	1	20 A	86
				22214 VA	20299 VA	23860 VA						
				188 A	169 A	201 A						

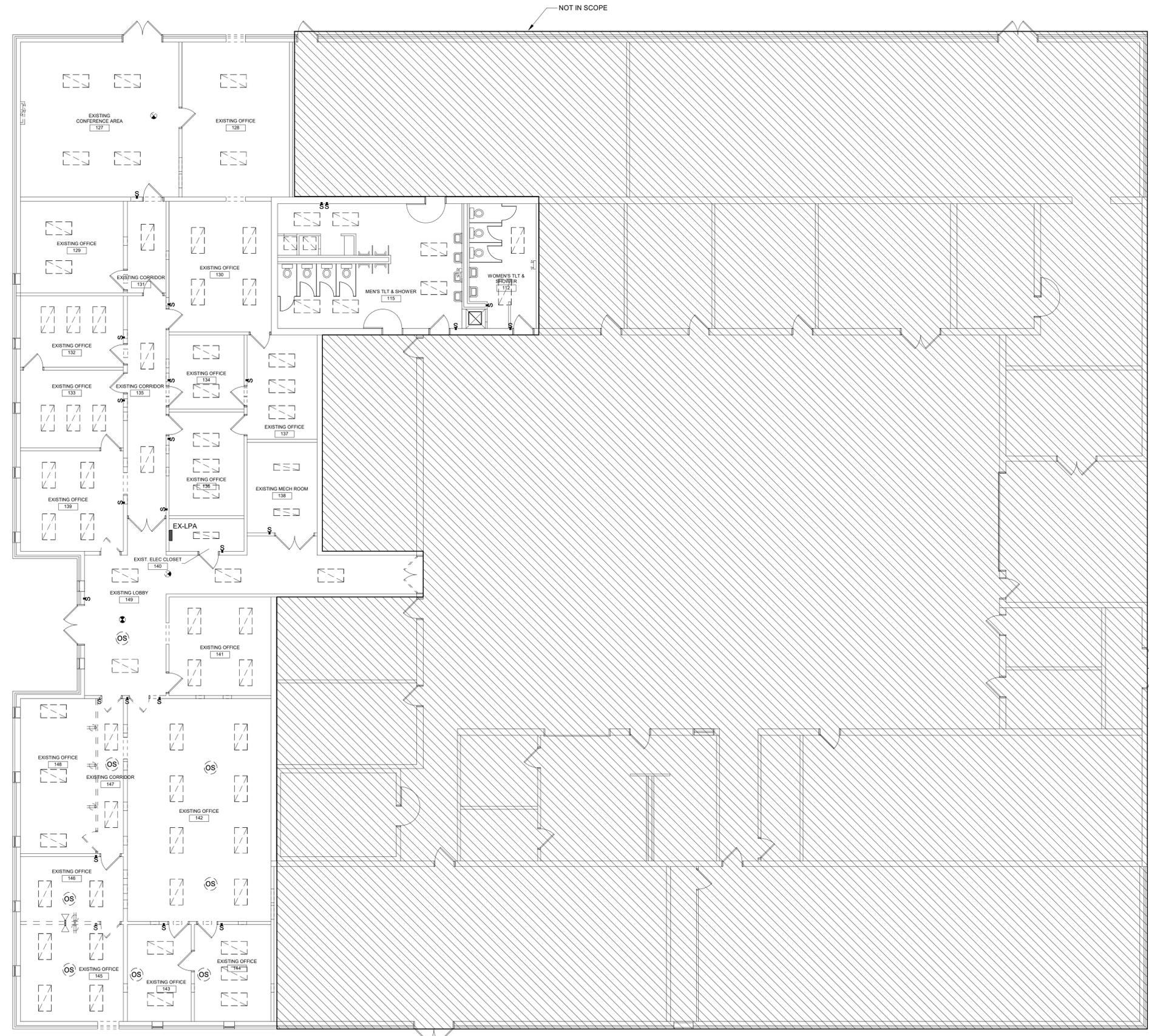
NOTES:

MECHANICAL EQUIPMENT RATINGS AND CONNECTIONS

ITEM	VOLT	PH	FLA	MCA	MOCP	CONTROL/ DISCONNECT BY DIV 26	WIRE SIZE
DHP-1	208 V	1	7.2	9	20	30A/2P/3R DSC	2#12,#12G;1/2"C
EF-2	120 V	1	2.2	2.8	20	MRS	2#12,#12G;1/2"C
EF-3	120 V	1	2.2	2.8	20	MRS	2#12,#12G;1/2"C
EF-3	120 V	1	8.8	11	20	MRS	2#12,#12G;1/2"C
EF-4	120 V	1	8.8	11	20	MRS	2#12,#12G;1/2"C
EH-1	208 V	1	14.4	18	30	MRS	2#10,#10G;3/4"C
EH-2	208 V	1	14.4	18	30	MRS	2#10,#10G;3/4"C
EX-DHP	208 V	1	7.2	9	20	30A/2P/3R DSC	2#12,#12G;1/2"C
WH-1	208 V	1	43.2	54	60	60A/2P/NEMA 1	2#6,#10G;3/4"C
WHP-1	208 V	3	14.2	16.6	20	30A/3P/3R DSC	3#12,#12G;3/4"C
WHP-2	208 V	3	14.2	16.6	20	30A/3P/3R DSC	3#12,#12G;3/4"C

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER/SERIES	REFLECTOR/DIFFUSER	FINISH	MOUNTING	LAMPS	NOTES
A	2'X2' RECESSED	LITHONIA EPNAL SERIES OR APPROVED EQUAL	MATTE/EDGE LIT	HOUSING AND EXPOSED PARTS - WHITE	RECESSED CEILING	3,400 LUMENS 31W 4000K	
B1	2'X4' RECESSED	LITHONIA EPNAL SERIES OR APPROVED EQUAL	MATTE/EDGE LIT	HOUSING AND EXPOSED PARTS - WHITE	RECESSED CEILING	3,000 LUMENS 35W 4000K	
B2	2'X4' RECESSED	LITHONIA EPNAL SERIES OR APPROVED EQUAL	MATTE/EDGE LIT	HOUSING AND EXPOSED PARTS - WHITE	RECESSED CEILING	4,0	



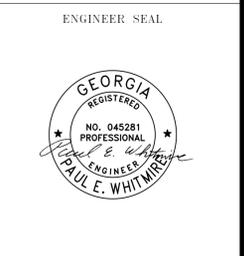
- DEMOLITION GENERAL NOTES:
- THIS PLAN HAS BEEN PROVIDED AS A GENERAL SCOPE OF DEMOLITION REQUIRED. THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS AND REMOVE ITEMS INDICATED IN THESE DEMOLITION NOTES ON THIS SHEET WHETHER THE SPECIFIC ITEM IS SHOWN ON THE DEMOLITION PLAN OR NOT.
 - EXISTING LIGHTING CIRCUITS SERVING AREAS BEING RENOVATED SHALL BE PRESERVED AND PROTECTED FOR REUSE IN NEW WORK.
 - ENSURE ANY EXISTING LOW VOLTAGE CABLING TO REMAIN IS SECURED TO STRUCTURE WITH J-HOOKS AND PROTECTED FROM DAMAGE DURING DEMOLITION AND NEW CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR KEEPING THESE SYSTEMS IN WORKING ORDER. PROVIDE 4" J-HOOK AS REQUIRED.
 - REMOVE ALL ELECTRICAL OUTLETS ON WALLS SCHEDULED TO BE DEMOLISHED. WALLS BEING REMOVED ARE SHOWN DASHED. COORDINATE ALL WALLS BEING DEMOLISHED WITH ARCHITECTURAL.
 - EXISTING CEILINGS, WALLS, AND FLOORS DISTURBED OR DISFIGURED BY THE ELECTRICAL RENOVATION SHALL BE PATCHED, MENDED OR REPLACED BY TRADES ACTIVELY PARTICIPATING IN THIS TYPE OF WORK. RESPONSIBILITY FOR REPAIRS SHALL BE COORDINATED BETWEEN GENERAL CONTRACTOR AND ELECTRICAL SUBCONTRACTOR.
 - ALL EXISTING EQUIPMENT REMOVED FROM SERVICE AND NOT INTENDED FOR REUSE SHALL REMAIN THE PROPERTY OF OWNER AND SHALL BE DISPOSED OF OR STORED AS DIRECTED BY THE OWNER, OR AS INDICATED ON PLANS.
 - MAINTAIN SERVICE TO ALL EXISTING CIRCUITS THAT ARE NOT SCHEDULED FOR REMOVAL.
 - REMOVE ANY ABANDONED SURFACE RACEWAY TO ABOVE CEILING.
 - WHERE ONLY A PORTION OF A CIRCUIT'S LOAD IS SCHEDULED TO BE REMOVED, REMOVE ONLY THAT PORTION ASSOCIATED WITH THE DEMOLISHED DEVICE TO A POINT WHERE THE REMAINING LOAD IS ACTIVE AND MAINTAIN IN A GOOD OPERATING CONDITION.
 - EXISTING EQUIPMENT NOT SCHEDULED FOR DEMOLITION ON ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS SHALL HAVE SERVICE MAINTAINED OR RECONNECTED TO EXISTING OR NEW PANELBOARD AS NECESSARY.
 - TO MAINTAIN SERVICE OR EXTEND OR RECONNECT CIRCUITS WHERE CONDUIT CAN NOT BE CONCEALED, SURFACE METAL RACEWAY (WIREMOLD 2000 SERIES) SHALL BE USED IN FINISHED AREAS, EMT CONDUIT OTHERWISE - VERIFY WITH ARCHITECT BEFORE INSTALLING.
 - COORDINATE ELECTRICAL DEMOLITION WITH ARCHITECTURAL DETAILS, FLOOR PLANS, ELEVATIONS, STRUCTURAL, MECHANICAL AND PLUMBING DRAWINGS. PROVIDE FITTINGS, JUNCTION BOXES AND ACCESSORIES TO MEET CONDITIONS. COORDINATE ROUTING OF ALL NEW FEEDERS WITH EXISTING SITE ELEMENTS. ALL FEEDERS SHALL BE CONCEALED WHERE POSSIBLE.
 - REMOVE ELECTRICAL CONNECTIONS/FEEDERS TO MECHANICAL/PLUMBING EQUIPMENT BEING REMOVED. COORDINATE WITH MECHANICAL/PLUMBING PLANS. WHERE EQUIPMENT IS BEING REPLACED AT SAME LOCATION WITH SAME ELECTRICAL CHARACTERISTICS AS EXISTING, EXISTING CIRCUIT SHALL BE RE-USED TO SUPPLY POWER TO NEW ITEM. WHERE EQUIPMENT IS BEING REMOVED AND NOT BEING REPLACED, REMOVE CIRCUIT AND ASSOCIATED DISCONNECT, ACCESSIBLE CONDUIT AND CONDUCTORS. COORDINATE ALL EQUIPMENT AND LOCATIONS OF EQUIPMENT BEING REMOVED WITH MECHANICAL/PLUMBING/KITCHEN PLANS.
 - FIELD VERIFY EXACT LOCATIONS OF ALL EXISTING DEVICES AND EQUIPMENT NOTED OR SHOWN.
 - WHERE WALL BOXES FOR SWITCHES AND OUTLETS ARE REMOVED AND NOT RE-USED IN COMPLETE WORK, CONTRACTOR SHALL PROVIDE BLANK PAINTABLE STEEL COVERPLATES OVER JUNCTION BOXES.
 - WHERE CEILINGS ARE BEING REMOVED, TEMPORARILY SUPPORT ALL CEILING MOUNTED ELECTRICAL DEVICES TO REMAIN (SECURITY SYSTEM DEVICES, ETC.) AND REINSTALL IN THE SAME LOCATION IN THE NEW CEILING. SEE ARCHITECTURAL FOR CEILINGS BEING REPLACED.
 - WHERE RECEPTACLES AND DEVICES ARE BEING REMOVED FROM EXISTING CIRCUITS FEEDING RECEPTACLES TO REMAIN, SPLICE AND EXTEND CIRCUITS (PER N.E.C. REQUIREMENTS) AS REQUIRED TO MAINTAIN FULL OPERATION. PROVIDE ADDITIONAL CONDUIT AND WIRING AS REQUIRED.
 - FIRE ALARM SYSTEM SHALL BE OPERATIONAL THROUGHOUT CONSTRUCTION. COORDINATE ANY DOWN TIME WITH OWNER MINIMUM ONE WEEK IN ADVANCE.

- DEMOLITION KEYNOTES:
- EXISTING LPA IS A (2) SECTION, 225A, 208Y/120V, FEDERAL PACIFIC ELECTRIC PANELBOARD. DUE TO OBSOLESCENCE AND UNAVAILABILITY OF PARTS, THIS PANELBOARD SHALL BE REPLACED IN KIND. BRANCH CIRCUITS SHALL BE PRESERVED AND PROTECTED IN ORDER TO RECONNECT TO NEW BREAKERS IN NEW CONSTRUCTION.

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PROJECT NAME
CITY OF WAYCROSS
ARMORY
RENOVATIONS

DRAWING TITLE
ELECTRICAL
DEMOLITION
PLAN

REVISIONS

DATE
JUNE 30, 2021

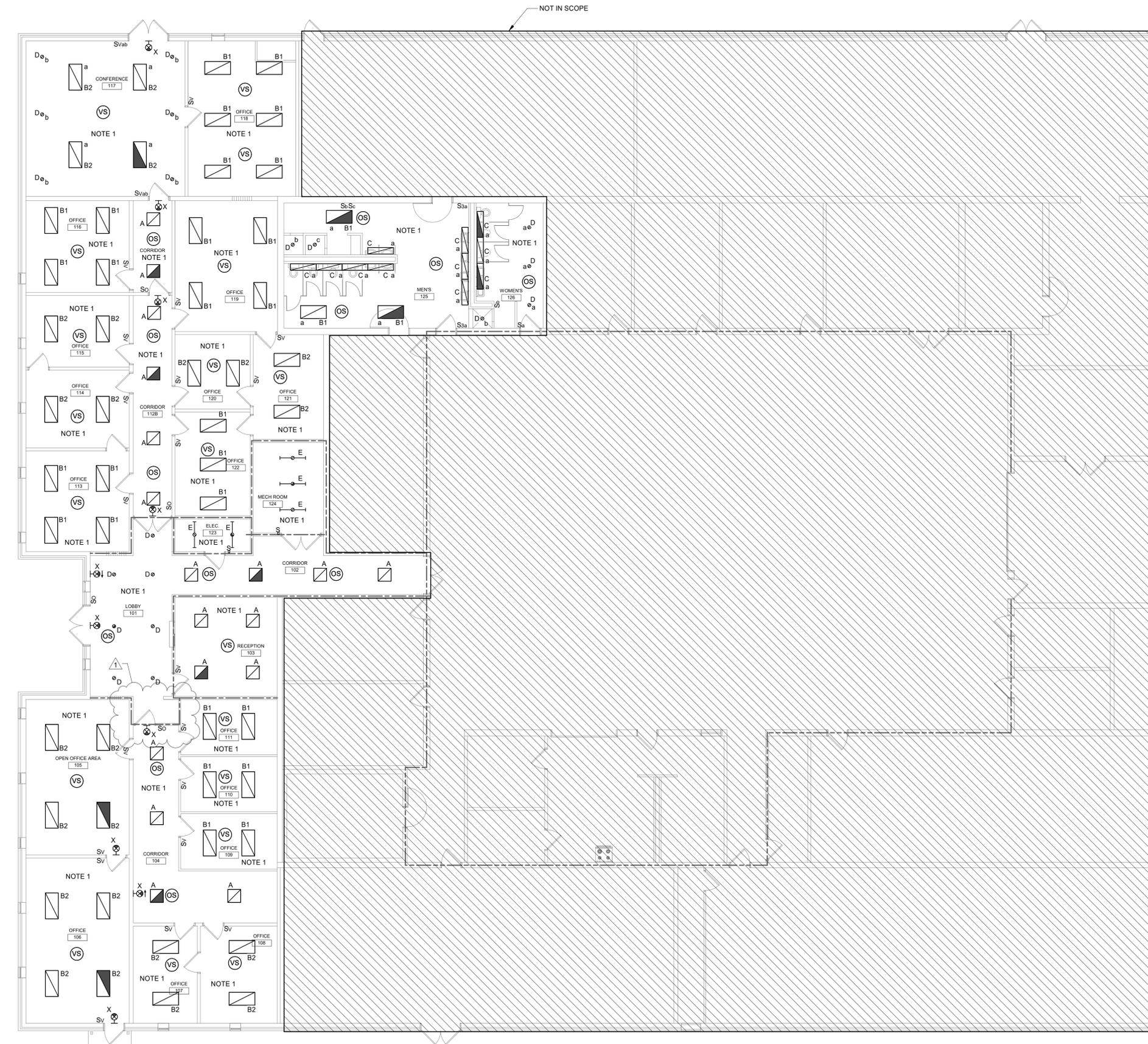
PROJECT NUMBER
2101

CADD FILE NUMBER

1 ELECTRICAL DEMOLITION
ED101 SCALE: 1/8" = 1'-0"



ED101



KEYNOTES:

1. CONNECT LIGHTING IN THIS SPACE TO EXISTING LIGHTING CIRCUIT PRESERVED DURING DEMOLITION. REWORK BRANCH CIRCUIT AS REQUIRED FOR NEW LIGHTING CONTROLS.

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PROJECT NAME
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LIGHTING
PLAN

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1 09-10-21 Addendum No. 1

DATE
JUNE 30, 2021

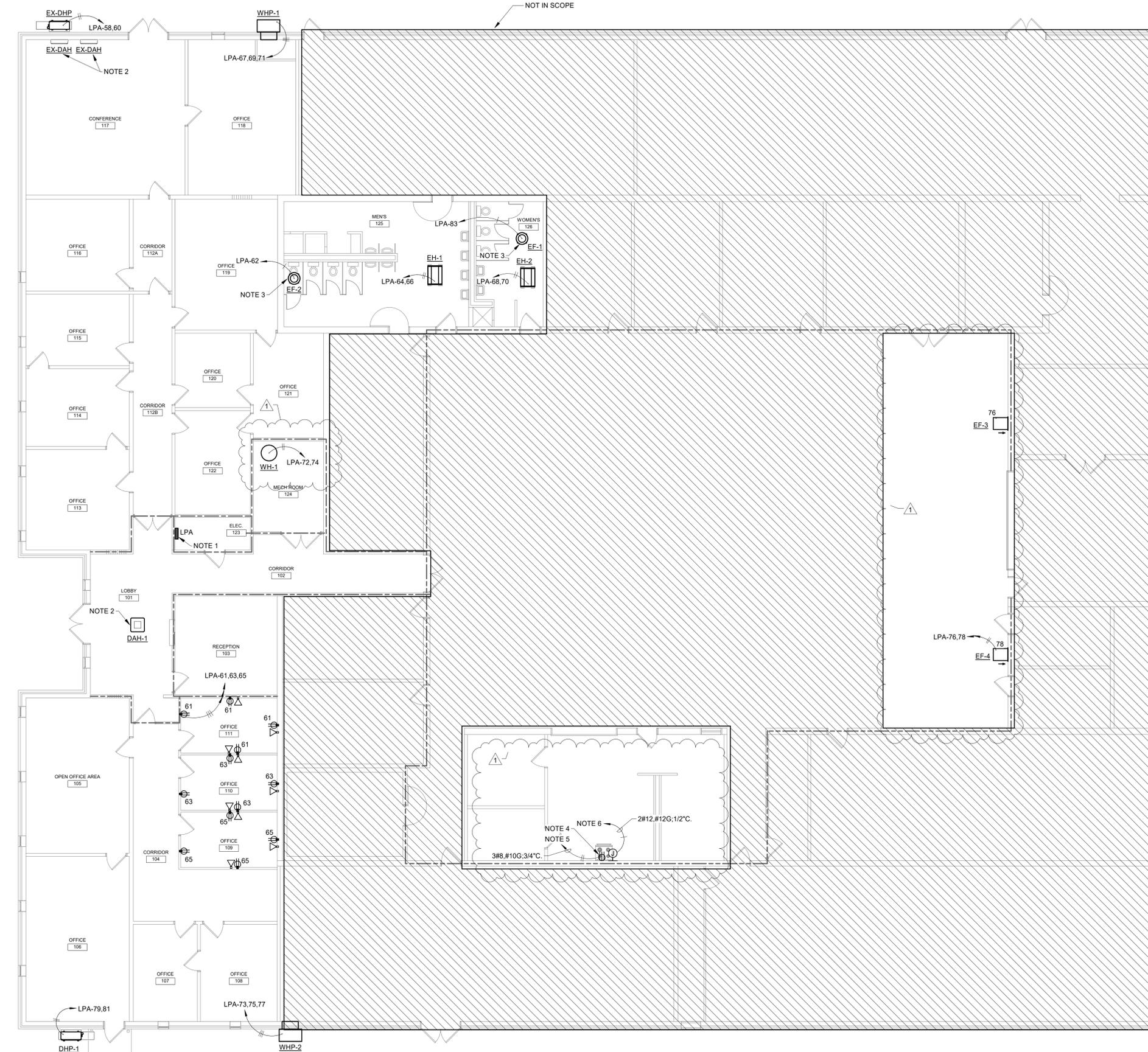
PROJECT NUMBER
2101

CADD FILE NUMBER

1 LIGHTING PLAN
EL101 SCALE: 1/8" = 1'-0"

EL101





- KEYNOTES:
1. INSTALL NEW (2) SECTION PANEL LPA IN SAME LOCATION AS DEMOLISHED PANEL LPA. RECONNECT ALL EXISTING BRANCH CIRCUITS TO NEW CIRCUIT BREAKERS. FIELD VERIFY REQUIREMENTS OF EXISTING CIRCUITS PRIOR TO ORDERING CIRCUIT BREAKERS.
 2. INDOOR UNIT POWERED FROM ASSOCIATED OUTDOOR UNIT PER MANUFACTURER'S INSTALLATION MANUAL.
 3. EQUIPMENT LOCATED ON ROOF ABOVE.
 4. RECEPTACLE FOR NEW ELECTRIC RANGE. COORDINATE RECEPTACLE TYPE WITH RANGE REQUIREMENTS. COORDINATE EXACT LOCATION WITH RANGE INSTALLATION.
 5. CIRCUIT TO EXISTING KITCHEN PANEL. PROVIDE 50A/2P CIRCUIT BREAKER MATCHING EXISTING IN TYPE AND AIC RATING.
 6. CIRCUIT TO EXISTING KITCHEN PANEL. PROVIDE 20A/1P CIRCUIT BREAKER MATCHING EXISTING IN TYPE AND AIC RATING.

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PROJECT NAME
CITY OF WAYCROSS
ARMORY
RENOVATIONS

DRAWING TITLE
POWER AND
SYSTEMS
PLAN

REVISIONS
1 09-10-21 Addendum No. 1

DATE
JUNE 30, 2021

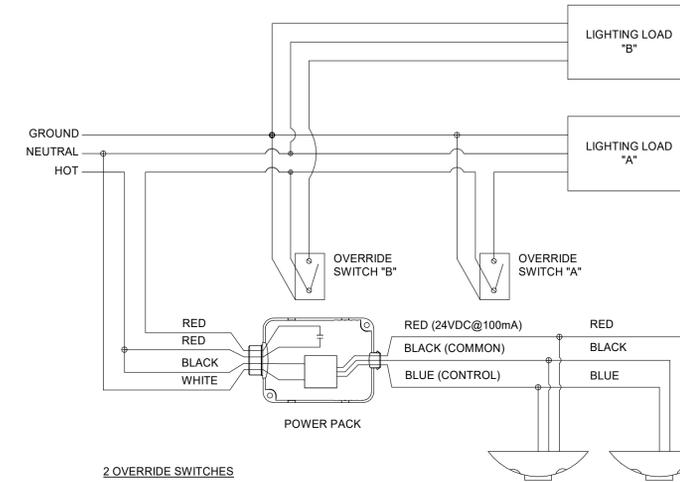
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2101

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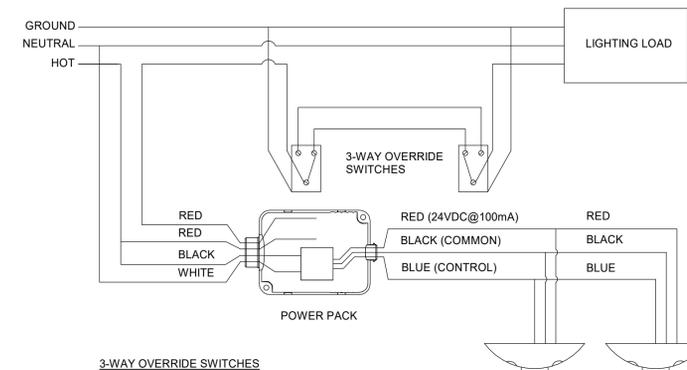
1 POWER & SYSTEMS PLAN
EP101 SCALE: 1/8" = 1'-0"



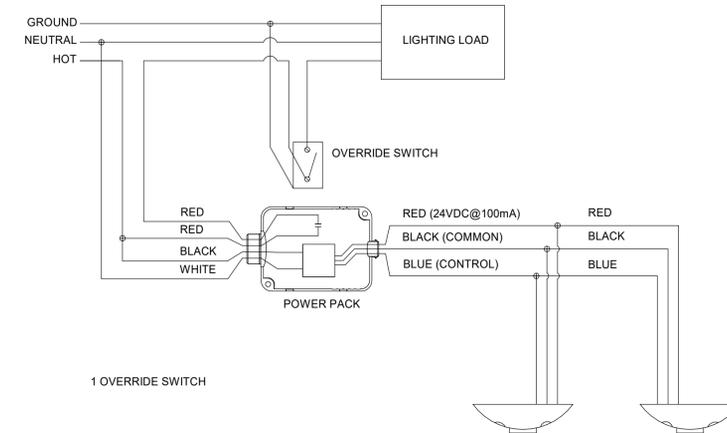
EP101



2 OVERRIDE SWITCHES



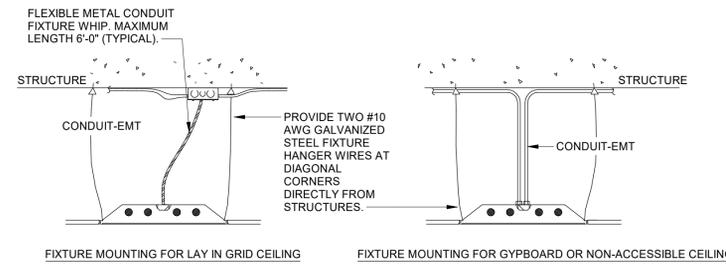
3-WAY OVERRIDE SWITCHES



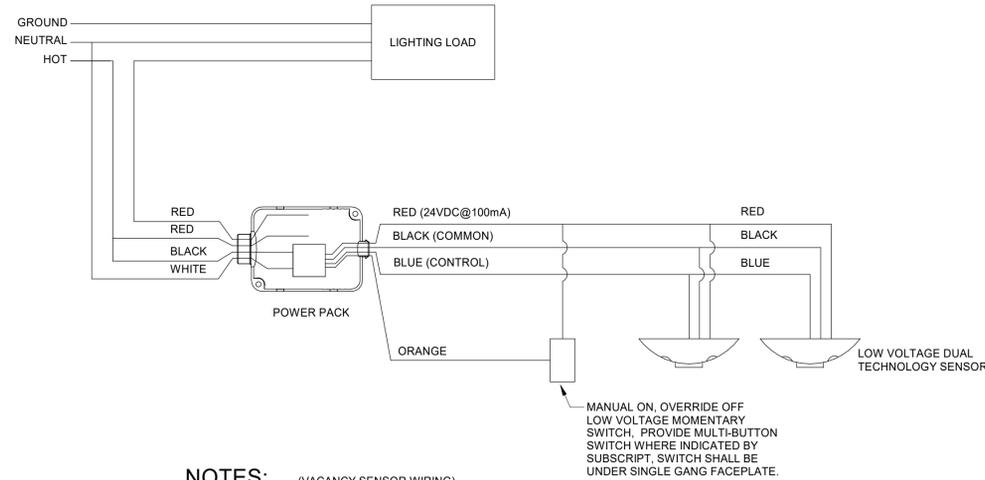
1 OVERRIDE SWITCH

- NOTES: (OCCUPANCY SENSOR WIRING)
- A NOT ALL MANUFACTURERS' WIRING CONFIGURATIONS ARE THE SAME. REFER TO MANUFACTURER SPECIFIC WIRING DETAILS PRIOR TO INSTALLATION.
 - B THESE PLANS INDICATE AREAS TO BE CONTROLLED BY OCCUPANCY SENSORS. SINCE COVERAGES AND DEVICES VARY BETWEEN MANUFACTURERS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE PROPER DEVICE LOCATION, ORIENTATION, AND QUANTITIES WITH THE MANUFACTURER OF THE SYSTEM BEING INSTALLED TO MEET THE SPECIFIED CRITERIA.
 - C THERE ARE NO POWER PACKS SHOWN ON THESE PLANS. PROVIDE POWER PACKS AS REQUIRED WITH SENSORS. POWER PACKS ARE TO BE RATED AT 20A. PROVIDE ONE POWER PACK PER 20A LIGHTING CIRCUIT OR PER INDIVIDUAL AREA BEING CONTROLLED.
 - D CEILING SENSORS ARE TO BE MOUNTED AWAY FROM ANY STRONG AIRFLOW. COORDINATE LOCATION OF SENSORS WITH MECHANICAL AND LIGHTING PLANS.
 - E ALL SENSORS SHALL BE CEILING MOUNTED EXCEPT WHERE CEILING HEIGHTS EXCEED 15'. PROVIDE SENSOR WITH ADAPTOR PLATE FOR JUNCTION BOX MOUNTING (JUNCTION BOX SHALL BE CONCEALED ABOVE ACCESSIBLE CEILING). JUNCTION BOX SHALL BE SUPPORTED FROM STRUCTURE UTILIZING A 3/8" THREADED ROD. WHERE CEILING HEIGHTS EXCEED 15', WALL MOUNT SENSORS AT 12'.

5 OCCUPANCY SENSOR WIRING DETAIL
E501 NOT TO SCALE

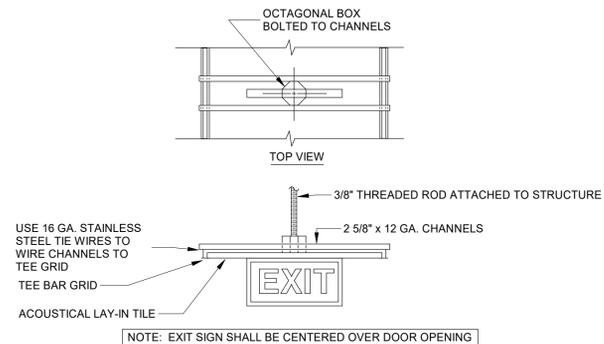


2 LIGHT FIXTURE MOUNTING DETAIL
E501 NOT TO SCALE

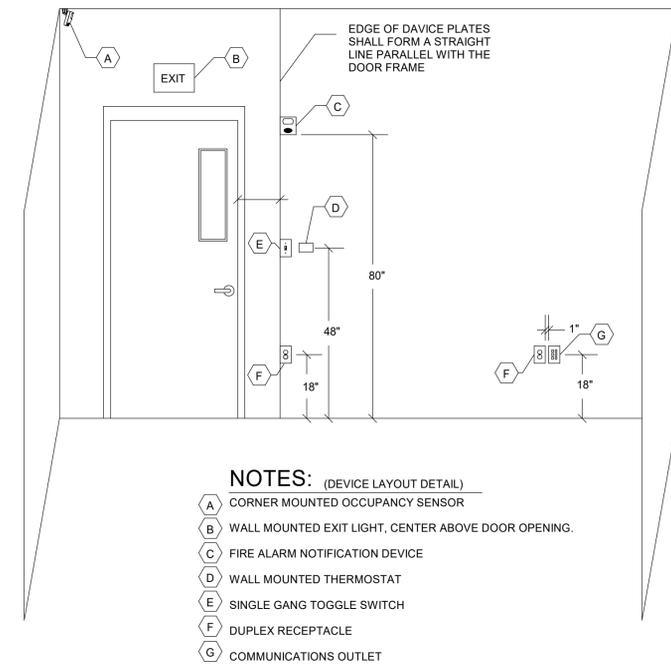


- NOTES: (VACANCY SENSOR WIRING)
- A NOT ALL MANUFACTURERS' WIRING CONFIGURATIONS ARE THE SAME. REFER TO MANUFACTURER SPECIFIC WIRING DETAILS PRIOR TO INSTALLATION.
 - B THESE PLANS INDICATE AREAS TO BE CONTROLLED BY VACANCY SENSORS. SINCE COVERAGES AND DEVICES VARY BETWEEN MANUFACTURERS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE PROPER DEVICE LOCATION, ORIENTATION, AND QUANTITIES WITH THE MANUFACTURER OF THE SYSTEM BEING INSTALLED TO MEET THE SPECIFIED CRITERIA.
 - C THERE ARE NO POWER PACKS SHOWN ON THESE PLANS. PROVIDE POWER PACKS AS REQUIRED WITH SENSORS. POWER PACKS ARE TO BE RATED AT 20A. PROVIDE ONE POWER PACK PER 20A LIGHTING CIRCUIT OR PER INDIVIDUAL AREA BEING CONTROLLED.
 - D CEILING SENSORS ARE TO BE MOUNTED AWAY FROM ANY STRONG AIRFLOW. COORDINATE LOCATION OF SENSORS WITH MECHANICAL AND LIGHTING PLANS.
 - E ALL SENSORS SHALL BE CEILING MOUNTED EXCEPT WHERE CEILING HEIGHTS EXCEED 15'. PROVIDE SENSOR WITH ADAPTOR PLATE FOR JUNCTION BOX MOUNTING (JUNCTION BOX SHALL BE CONCEALED ABOVE ACCESSIBLE CEILING). JUNCTION BOX SHALL BE SUPPORTED FROM STRUCTURE UTILIZING A 3/8" THREADED ROD. WHERE CEILING HEIGHTS EXCEED 15', WALL MOUNT SENSORS AT 12'.

4 VACANCY SENSOR WIRING DETAIL
E501 NOT TO SCALE

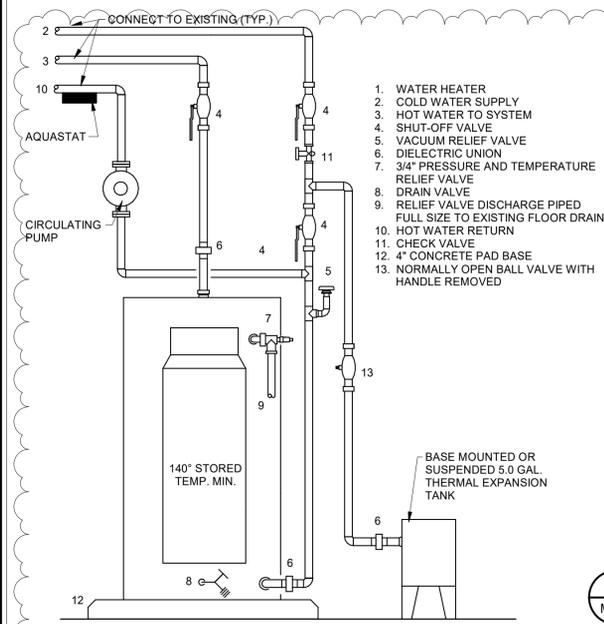


1 EXIT LIGHT FIXTURE MOUNTING DETAIL
E501 NOT TO SCALE

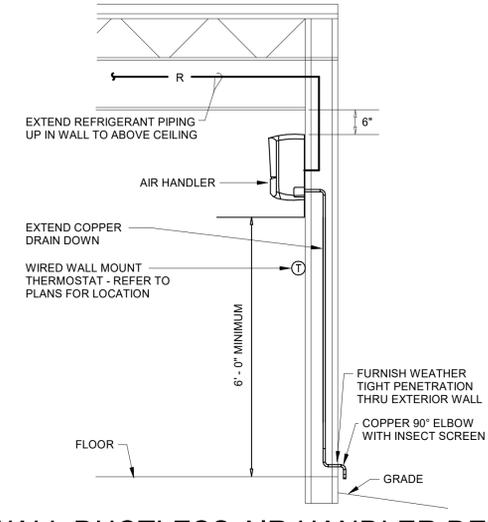


- NOTES: (DEVICE LAYOUT DETAIL)
- A CORNER MOUNTED OCCUPANCY SENSOR
 - B WALL MOUNTED EXIT LIGHT, CENTER ABOVE DOOR OPENING.
 - C FIRE ALARM NOTIFICATION DEVICE
 - D WALL MOUNTED THERMOSTAT
 - E SINGLE GANG TOGGLE SWITCH
 - F DUPLEX RECEPTACLE
 - G COMMUNICATIONS OUTLET

3 DEVICE LAYOUT DETAIL
E501 NOT TO SCALE



1. WATER HEATER
2. COLD WATER SUPPLY
3. HOT WATER TO SYSTEM
4. SHUT-OFF VALVE
5. VACUUM RELIEF VALVE
6. DIELECTRIC UNION
7. 3/4" PRESSURE AND TEMPERATURE RELIEF VALVE
8. DRAIN VALVE
9. RELIEF VALVE DISCHARGE PIPED FULL SIZE TO EXISTING FLOOR DRAIN
10. HOT WATER RETURN
11. CHECK VALVE
12. 4" CONCRETE PAD BASE
13. NORMALLY OPEN BALL VALVE WITH HANDLE REMOVED



2 WALL DUCTLESS AIR HANDLER DETAIL
M001 NOT TO SCALE

LOUVER SCHEDULE								
ITEM	TYPE	USE	SIZE	AIRFLOW CFM	PD. IN WG	FREE AREA FPM	BPWP FPM	REMARKS
L-1	HURRICANE	EXHAUST	40"x40"	2160	0.07	410	974	GREENHECK EHV-901 INSECT SCREEN

1. REFER TO SPEC SECTION 232210 FOR FURTHER INFORMATION.

FAN SCHEDULE							
ITEM	AIRFLOW CFM	EXT. STATIC IN. WG	TYPE	MAX. SONE RATING	MAX. FAN RPM	MAX. MOTOR HP	REMARKS
EF-1	250	0.25	ROOF CENTRIFUGAL DIRECT DRIVE	4.0	1725	1/10	GREENHECK G EXISTING CONTROLS
EF-2	700	0.25	ROOF CENTRIFUGAL DIRECT DRIVE	8.0	1725	1/10	GREENHECK G EXISTING CONTROLS
EF-3	2160	0.50	SIDEWALL PROPELLER DIRECT DRIVE	14.0	1552	3/4	GREENHECK SE GAS MONITOR CONTROL
EF-4	2160	0.50	SIDEWALL PROPELLER DIRECT DRIVE	14.0	1552	3/4	GREENHECK SE GAS MONITOR CONTROL

1. REFER TO ELECTRICAL PLANS FOR POWER CONNECTIONS.

WALL HEAT PUMP SCHEDULE									
ITEM	AIRFLOW CFM		EXT. STATIC IN. WG	COOLING CAPACITY @ 95°F O.A.				ELEC. HEATER KW	REMARKS
	TOTAL	O.A.		TOTAL MBH	SENS. MBH	ENTERING AIR DB °F	WB °F		
WHP-1	1,650	175	0.5	53	40	80	67	6.75	BARD T60S DEHUM 11.0 EER / 15.1 IPLV
WHP-2	1,650	150	0.5	53	40	80	67	6.75	BARD T60S DEHUM 11.0 EER / 15.1 IPLV

1. REFER TO ELECTRICAL PLANS FOR POWER CONNECTIONS.
2. INSTALL AN AIR TREATMENT DEVICE(S) IN ALL WHP UNITS.

DUCTLESS HEAT PUMP SCHEDULE									
ITEM	AIRFLOW CFM		EXT. STATIC IN. WG	COOLING CAPACITY @ 95°F O.A.				ELEC. HEATER KW	REMARKS
	TOTAL	O.A.		TOTAL MBH	SENS. MBH	ENTERING AIR DB °F	WB °F		
DHP-1 DAH-1	420	---	---	16	11	80	67	---	CARRIER 38MARBQ / 40MBCQ 20.0 SEER

1. REFER TO ELECTRICAL PLANS FOR POWER CONNECTIONS.
2. INSTALL AN AIR TREATMENT DEVICE(S) IN ALL DAH UNITS.

ELECTRIC HEATER SCHEDULE					
ITEM	TYPE	CAPACITY KW	AIRFLOW CFM	CONTROL	REMARKS
EH-1	CABINET HEATER CEILING LAY-IN	3.0 208/1	250	INTEGRAL TSTAT	QMARK CU INTEGRAL THERMOSTAT
EH-2	CABINET HEATER CEILING LAY-IN	3.0 208/1	250	INTEGRAL TSTAT	QMARK CU INTEGRAL THERMOSTAT

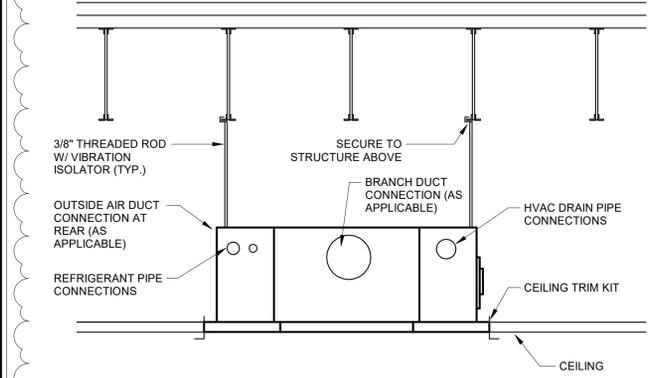
1. REFER TO ELECTRICAL PLANS FOR POWER CONNECTIONS.

DOMESTIC WATER HEATER SCHEDULE						
ITEM	CAPACITY	RECOVERY RATE	FUEL	ELECTRICAL CHARACTERISTICS	LOCATION	REMARKS
WH-1	119 GALLONS STORAGE 399 MBH INPUT	460 GPH @ 100°F RISE	GAS	SEE ELECTRICAL DWGS.	MECH. ROOM 124	SEALED COMBUSTION UNIT B.O.D.A.O. SMITH - 8TH-400(A)

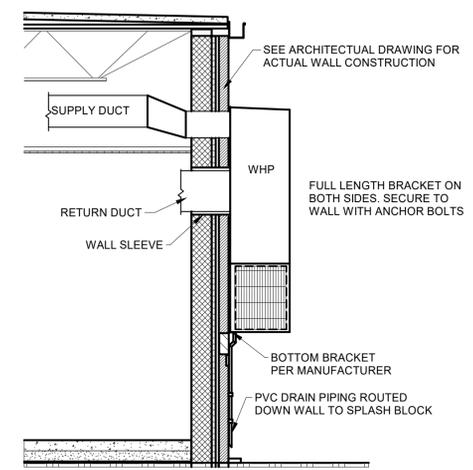
MECHANICAL LEGEND		
	SUPPLY AIR DUCT	
	RETURN AIR DUCT OR EXHAUST DUCT	
	DUCT TRANSITION	
	EXTERIOR DUCT	
	SINGLE WALL SPIRAL SEAM DUCT	
	DOUBLE WALL SPIRAL SEAM DUCT	
	LINED DUCT	
	FABRIC DUCT	
	X = DIFFUSER TYPE / Y = THROW	
	Z = AIRFLOW, CFM	
	MD MANUAL DAMPER	
	MD MOTORIZED DAMPER	
	VAVD VARIABLE AIR VOLUME DAMPER	
	FD FIRE DAMPER	
	SD SMOKE DAMPER	
	FSD FIRE / SMOKE DAMPER	
	SINGLE WALL TURNING VANES	
	FLEXIBLE DUCT CONNECTION	
	AD ACCESS DOOR	
	DHP DUCTLESS HEAT PUMP	
	DAH DUCTLESS AIR HANDLER	
	WHP WALL MOUNT HEAT PUMP	
	EH ELECTRIC HEATER	
	EF EXHAUST FAN	
	T THERMOSTAT / TEMPERATURE SENSOR	
	H HUMIDISTAT / HUMIDITY SENSOR	
	Ø DIA DIAMETER	
	OA OUTDOOR AIR	
	W/ WITH	
	AFF ABOVE FINISH FLOOR	
	CONNECT TO EXISTING	
	D HVAC DRAIN PIPING	

- NOTES:
1. DEMO EXISTING WATER HATER.
 2. DEMO EXISTING FLUE AND COMBUSTION AIR.
 3. CONNECT TO EXISTING WATER AND GAS PIPING.
 4. ROUTE NEW FLUE AND COMBUSTION AIR TO EXTERIOR.
 5. RECONNECT EXISTING ELECTRICAL CIRCUIT TO WH-1.

1 WH-1
M001 NOT TO SCALE

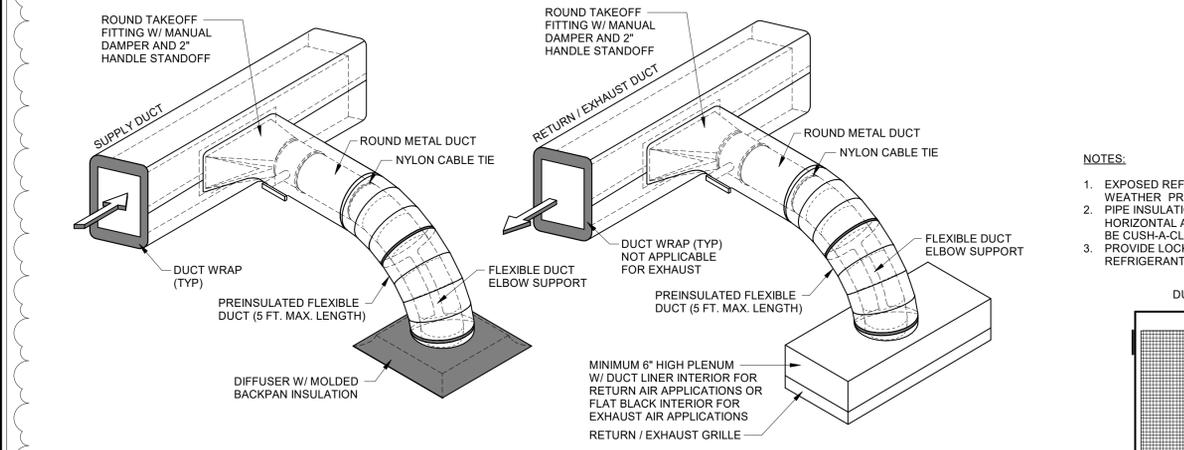


3 CEILING CASSETTE AIR HANDLER DETAIL
M001 NOT TO SCALE



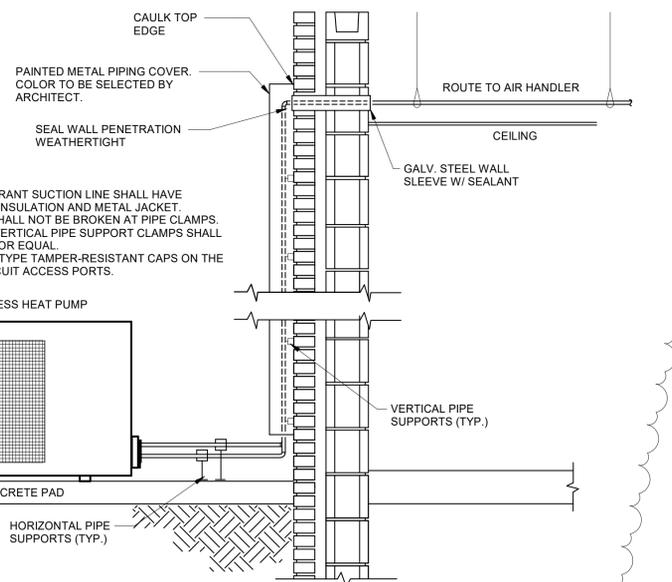
- NOTES:
1. SA AND RA DUCTS THRU WALLS SHALL BE INSULATED WITH DUCT LINER PER MANUFACTURER'S INSTRUCTIONS.
 2. WALL LINTELS AND/OR BOND BEAMS SHALL BE PER ARCHITECTURAL PLANS.

4 WALL HEAT PUMP DETAIL
M001 NOT TO SCALE



- NOTES:
1. INSTALL NYLON CLAMP ON FLEX DUCT INNER LINER AND ALSO ON OUTER JACKET.
 2. SEAL DUCT CONNECTIONS PER DUCT MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 3. DIFFUSER INSULATION SHALL BE FULL SIZE OF GRID WITH SQUARE CORNERS. DO NOT COMPRESS INSULATION OR ALLOW AIR GAPS BETWEEN INSULATION AND DIFFUSER. DO NOT TAPE INSULATION TO GRID.
 4. USE FSK TAPE TO SECURE INSULATION AND BOTTOM EDGE OF DIFFUSER TO CEILING GRID. TRIM TAPE ON FACE OF DIFFUSER. TAPE SHALL NOT BE EXPOSED AT CEILING GRID.
 5. PROVIDE FLEXIBLE DUCT ELBOW SUPPORT ACCESSORY FOR FLEX DUCT CONNECTION AS SPECIFIED.

5 DIFFUSER / GRILLE DETAIL - RECTANGULAR TRUNKS
M001 NOT TO SCALE



- NOTES:
1. EXPOSED REFRIGERANT SUCTION LINE SHALL HAVE WEATHER PROOF INSULATION AND METAL JACKET.
 2. PIPE INSULATION SHALL NOT BE BROKEN AT PIPE CLAMPS. HORIZONTAL AND VERTICAL PIPE SUPPORT CLAMPS SHALL BE CUSH-A-CLAMP OR EQUAL.
 3. PROVIDE LOCKING-TYPE TAMPER-RESISTANT CAPS ON THE REFRIGERANT CIRCUIT ACCESS PORTS.

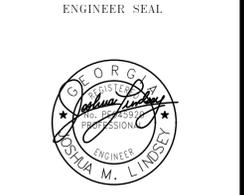
6 DUCTLESS HEAT PUMP DETAIL
M001 NOT TO SCALE

AIR DISTRIBUTION SCHEDULE	
DESIGNATION	DESCRIPTION
A	6" NECK SQUARE PLAQUE FACE CEILING DIFFUSER, LAY-IN
B	8" NECK SQUARE PLAQUE FACE CEILING DIFFUSER, LAY-IN
C	1'x2' EGGRATE CEILING RETURN / EXHAUST GRILLE, LAY-IN
L-1	Hurricane Louver

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MECHANICAL
LEGEND AND
SCHEDULES

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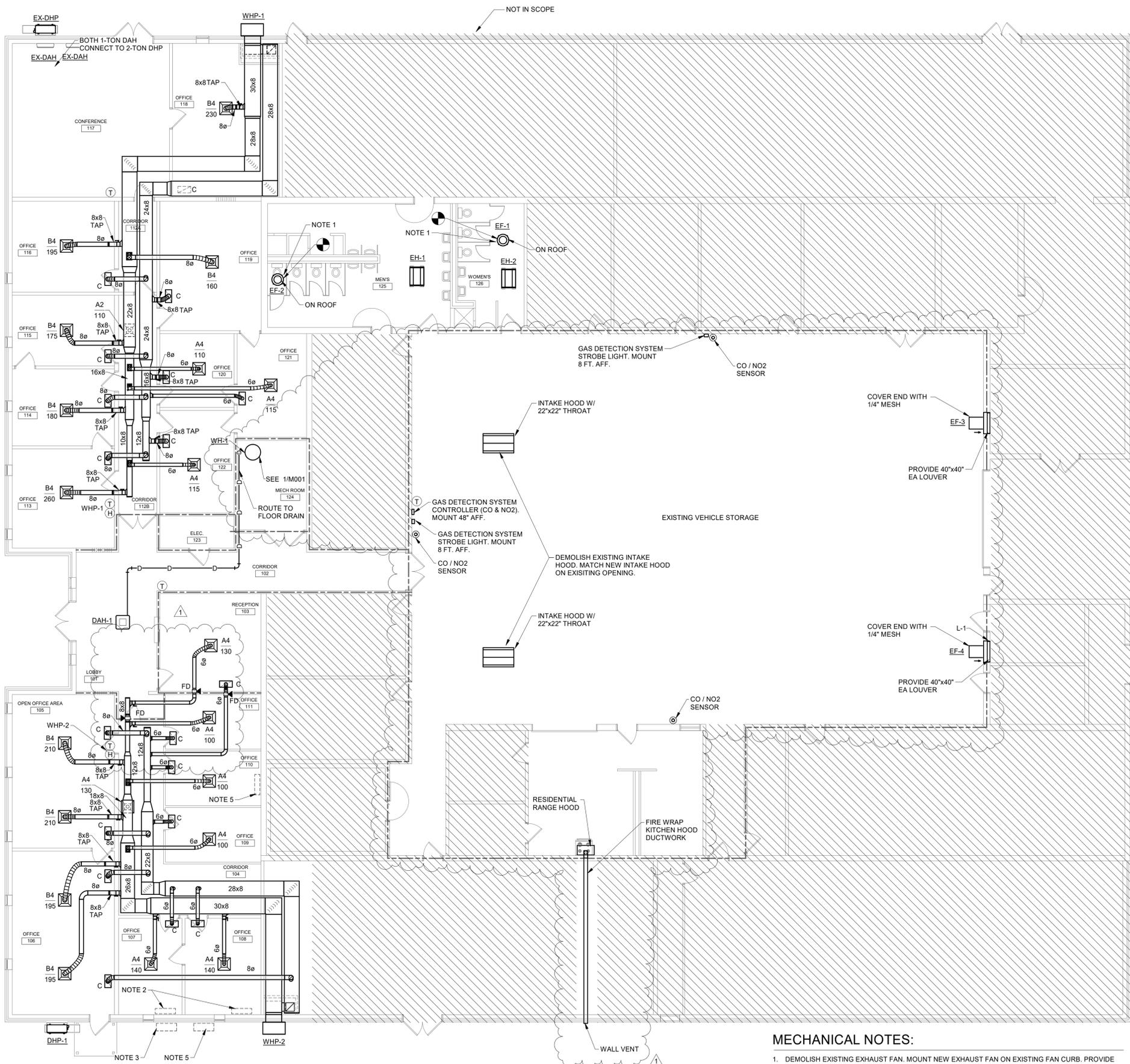
DATE
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PROJECT NUMBER
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CADD FILE NUMBER

M001





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

MECHANICAL NOTES:

- DEMOLISH EXISTING EXHAUST FAN. MOUNT NEW EXHAUST FAN ON EXISTING FAN CURB. PROVIDE TRANSITION CURB AS NEEDED.
- RELOCATE EXISTING DUCTLESS AIR HANDLERS AND THERMOSTAT FROM OFFICE 107 AND OFFICE 108 TO CONFERENCE 117.
- RELOCATE EXISTING DUCTLESS HEAT PUMP TO OUTSIDE OF CONFERENCE 117. INSTALL NEW REFRIGERANT PIPING
- REMOVE EXISTING DUCTLESS AIR HANDLER / HEAT PUMP / THERMOSTAT AND RETURN TO OWNER.
- COORDINATE DUCT ROUTING WITH STRUCTURAL MEMBERS TO AVOID CONFLICTS.

MECHANICAL SPECIFICATIONS:

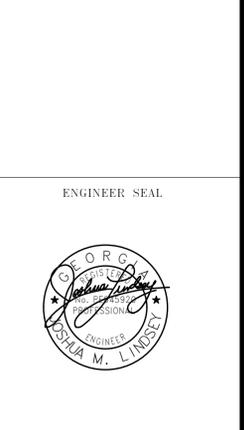
- THE PLANS SHOW THE GENERAL ARRANGEMENT AND LOCATIONS OF MECHANICAL WORK. THE CONTRACTOR SHALL COORDINATE THE MECHANICAL INSTALLATION WITH THE STRUCTURE AND ALL OTHER TRADES. PERFORM ALL WORK IN ACCORDANCE WITH CURRENT STATE AND LOCAL CODES. SUBMIT PDF FILES OF MANUFACTURER'S DATA PRIOR TO EQUIPMENT PURCHASES.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING MOUNTED DEVICES. COORDINATE THE ACTUAL LOCATION OF ALL MECHANICAL WORK VISIBLE IN FINISHED SPACES WITH THE ARCHITECT. THIS INCLUDES AIR DISTRIBUTION DEVICES, EXPOSED DUCTWORK, THERMOSTATS, SWITCHES, SENSORS, ETC.
- DUCTWORK SHOWN ON THE PLANS IS SIZED AND ROUTED BASED ON INFORMATION AVAILABLE DURING THE DESIGN PHASE FOR CEILING HEIGHTS, STRUCTURAL MEMBERS, ETC. ALL DUCT SIZES AND ROUTINGS MUST BE CONFIRMED IN THE FIELD BY THE CONTRACTOR PRIOR TO FABRICATION AND INSTALLATION. WHERE CONFLICTS ARISE, REFER TO THE ENGINEER.
- DUCTLESS HEAT PUMPS (DHP/DAH) SHALL BE BY CARRIER, TRANE OR JOHNSON. REFER TO THE EQUIPMENT SCHEDULE FOR CAPACITIES. OUTDOOR HEAT PUMPS AND INDOOR AIR HANDLERS SHALL BE A MATCHED PAIR OF ONE MANUFACTURER RATED FOR OPERATION TOGETHER BY THE MANUFACTURER'S PUBLISHED LITERATURE AS A YEAR-ROUND HVAC SYSTEM. OUTDOOR UNIT WILL DISCHARGE SUPPLY AIR HORIZONTALLY AS SHOWN ON CONTRACT DRAWINGS. COMPRESSOR MOTOR SHALL BE NEMA RATED CLASS E. CONDENSER COIL SHALL BE CONSTRUCTED OF ALUMINUM FINS MECHANICALLY BONDED TO COPPER TUBES. CONDENSER FAN SHALL BE DIRECT-DRIVE PROPELLER TYPE WITH HORIZONTAL DISCHARGE. CONDENSER FAN MOTOR SHALL BE TOTALLY ENCLOSED TYPE WITH CLASS E INSULATION AND PERMANENTLY LUBRICATED. FAN SHAFT WILL BE CORROSION RESISTANT. FAN BLADES SHALL BE STATICALLY AND DYNAMICALLY BALANCED. PROVIDE CEILING CASSETTE TYPE COMPLETE WITH STATICALLY AND DYNAMICALLY BALANCED CENTRIFUGAL DIRECT DRIVE FAN, INDOOR COIL, STANDARD FILTERS, EXPANSION VALVES AND RELAYS, AND CONTROLS ALL HOUSED IN A FACTORY-FABRICATED AND INSULATED STEEL HOUSING WITH BAKED ENAMEL FINISH. PROVIDE PROGRAMMABLE THERMOSTATS AND PROVIDE SINGLE POINT POWER CONNECTION. PROVIDE A SPARE WASHABLE FILTER FOR EACH UNIT. MOTOR COMPRESSORS SHALL HAVE A THERMAL AND CURRENT SENSITIVE OVERLOAD DEVICE. THE OUTDOOR UNIT SHALL HAVE SHORT CYCLE PROTECTION AND SAFETY LOCK-OUT COMPRESSOR PROTECTION. AUTOMATIC DEFROST CONTROLS SHALL BE PROVIDED. FACTORY CHARGE WITH HFC REFRIGERANT. PROVIDE CONDENSATE OVERFLOW SWITCH. PROVIDE 4-YEAR EXTENDED WARRANTY ON COMPRESSOR PARTS. PROVIDE CONTROLS AND ALL ACCESSORIES NEEDED FOR COMPLETE, OPERABLE SYSTEMS.
- WALL HEAT PUMPS (WHP) SHALL BE BARD. REFER TO THE EQUIPMENT SCHEDULE FOR CAPACITIES. EACH UNIT SHALL BE SELF-CONTAINED, PACKED UNIT COMPLETE WITH PRECHARGED REFRIGERANT CIRCUITS AND READY TO OPERATE AS A YEAR-ROUND HVAC SYSTEM. FRESH AIR INTAKE AND OUTDOOR COIL SHALL BE PROTECTED FROM INTRUSIONS BY A STURDY METAL GRATING WITH LESS THAN 1/2" OPENINGS. MOTOR SHALL BE ECM TYPE. THE HEAT PUMP SHALL HAVE A FACTORY INSTALLED ELECTRIC RESISTANCE HEATER. UNIT SHALL HAVE DEHUMIDIFICATION MODE INCLUDING A HEAT EXCHANGER COIL TO BE LOCATED IN THE SUPPLY AIR STREAM AND CONTROLLED BY SEPARATE SPACE HUMIDISTAT. PROVIDE INTEGRAL FULL LENGTH SIDE MOUNTING BRACKETS AND A BOTTOM MOUNTING BRACKET. DRAIN PAN SHALL BE 20-GAUGE GALVANIZED STEEL, BONDERIZED AND FINISHED WITH BAKED-ON EXTERIOR POLYESTER ENAMEL PAINT. PROVIDE A FILTER RACK AND 2" THICK PLEATED MERV 13 FILTERS. FILTERS SHALL BE LISTED BY UL AS CLASS 2. INITIAL RESISTANCE AT 500 FPM VELOCITY SHALL NOT EXCEED 0.30" WG. THE THERMOSTAT SHALL BE THE HEAT PUMP MANUFACTURER'S DIGITAL AUTOMATIC CHANGE-OVER HEATING/COOLING THERMOSTAT WITH SINGLE STAGE COOLING, TWO STAGE HEATING, SYSTEM HEAT/COOL/AUTO/OFF SWITCH, FAN ON/AUTO SWITCH. SET ALL FAN SWITCHES FOR CONTINUOUS OPERATION. PROVIDE CONTROLS AND ALL ACCESSORIES NEEDED FOR COMPLETE, OPERABLE SYSTEMS.
- EXHAUST FANS SHALL BE BY GREENHECK, COOK OR PENN. PROVIDE SELF-ALIGNING, PERMANENTLY LUBRICATED HEAVY-DUTY BEARINGS, MOTOR, INTEGRAL THERMAL OVERLOAD PROTECTION AND ELECTRICAL DISCONNECT SWITCH UNDER VENTILATOR CAP. PROVIDE ECM MOTOR FOR DIRECT DRIVE FAN, ALUMINUM BIRD SCREEN AND BACKDRAFT DAMPER. PROVIDE SPEED CONTROLLER FOR DIRECT DRIVE FAN. PROVIDE MATCHING ROOF CURB SUITABLE FOR THE ROOF SLOPE.
- SUPPLY AIR DUCTS AND RETURN AIR DUCTS SHALL BE GALVANIZED STEEL FABRICATED AND INSTALLED PER SMACNA STANDARDS FOR 2" STATIC PRESSURE RATING. CONCEALED DUCTS SHALL BE INSULATED WITH 2" THICK R-6.7 FIBERGLASS DUCT WRAP WITH VAPOR BARRIER. PROVIDE FLEXIBLE CONNECTIONS AT ALL UNIT SUPPLY AIR AND RETURN AIR TRUNK DUCTS. CONCEALED ROUND DUCTS SHALL BE THE SPIRAL SEAM TYPE OR SNAP-LOCK TYPE WITH MATCHING FITTINGS.
- AIR DISTRIBUTION DEVICES SHALL BE ALUMINUM BY METALAIR, KRUEGER, TITUS OR PRICE. SEE ARCHITECTURAL PLANS FOR CEILING TYPES AND AIR DISTRIBUTION FINISHES. LOUVERS SHALL BE AMCA 550 AND AMCA 540 LISTED. GREENHECK IS THE BASIS OF DESIGN MANUFACTURER FOR LOUVERS. EQUIVALENT EQUIPMENT BY AIROLITE, NAILOR, POTTORFF, RUSKIN AND UNITED ENERTECH THAT MEETS PERFORMANCE.
- REFER TO ARCHITECTURAL DRAWINGS FOR THE LOCATIONS OF ALL FIRE RATED CEILINGS, FLOORS AND WALLS. THE CONTRACTOR SHALL FURNISH DETAILED SHOP DRAWINGS OF ALL FIRESTOPPING DETAILS TO BE USED FOR BOTH PIPING AND DUCTWORK. ALL FIRESTOPPING DETAILS SHALL BE U.L. LISTED AND SUBJECT TO APPROVAL BY THE AUTHORITY HAVING JURISDICTION.
- PROVIDE ENGRAVED MECHANICAL IDENTIFICATION NAMEPLATES FOR ALL MECHANICAL EQUIPMENT. NAMEPLATES SHALL BE PERMANENTLY ATTACHED.
- COORDINATE THE INITIAL CLEANING AND START-UP OF THE AIR DISTRIBUTION SYSTEM, TO OCCUR PRIOR TO PREPARATORY CLEANING AND GENERAL INTERIOR PAINTING AND DECORATING ON THE PROJECT. THE HVAC SYSTEM SHOULD NOT BE OPERATED UNTIL DRYWALL WORK IS COMPLETED. DRYWALL DUST MUST NOT BE ALLOWED TO CONTAMINATE THE INTERIOR OF AIR HANDLING UNITS AND DUCTWORK. USE HIGH EFFICIENCY TEMPORARY FILTERS UNTIL PROJECT CLOSEOUT.
- CEILING HEATERS SHALL BE THE 2'X2' T-BAR MOUNTED FAN-FORCED TYPE. PROVIDE ACCESSORY MOUNTING KITS AS APPLICABLE. THE HEATING SECTION SHALL CONSIST OF A STEEL CHASSIS WITH HEATING ELEMENTS, FAN AND MOTOR, FAN CONTROL AND THERMAL CUTOFF. HEATER SECTION SHALL BE COMPLETELY PREWIRED. ELEMENTS SHALL BE THE FIN-TUBE TYPE ENCLOSED IN A STEEL SHEATH. THE FAN MOTOR SHALL BE IMPEDANCE PROTECTED, PERMANENTLY LUBRICATED TYPE TOTALLY ENCLOSED MOTOR. FAN CONTROL SHALL BE BI-METALLIC, SNAP-ACTION TYPE DELAY SWITCH. THERMAL CUTOFF SHALL ALSO BE BI-METALLIC, SNAP-ACTION TYPE. HEATERS SHALL HAVE BUILT-IN THERMOSTAT AND DISCONNECT SWITCH.
- RESIDENTIAL RANGE HOODS SHALL BE THE STEEL SHELL TYPE WITH MITERED SIDES AND HEMMED BOTTOM SUITABLE FOR MOUNTING UNDER A WALL CABINET. HOODS SHALL BE 30" WIDE AND SHALL HAVE A 75 WATT LIGHT WITH SAFETY LENS, LIGHT SWITCH, 190 CFM 2-SPEED FAN WITH ROCKER SWITCH, WASHABLE ALUMINUM FILTER, POLYMERIC FAN BLADES, BACKDRAFT DAMPER, 7" ROUND DUCT CONNECTION. HOODS SHALL HAVE A FINISH SELECTED BY ARCHITECT. EACH HOOD SHALL HAVE A PRE-ENGINEERED, PRE-ASSEMBLED, WET CHEMICAL AUTOMATIC FIRE EXTINGUISHER UNIT CONSISTING OF AN EXTINGUISHER KIT, A PIPING KIT, AND A DETECTION KIT. ALL COMPONENTS SHALL BE INSTALLED IN THE HOOD AND WALL CABINET.
- THE CARBON MONOXIDE / NITROGEN DIOXIDE DETECTION SYSTEM SHALL INCLUDE A CONTROL PANEL, GAS DETECTION SENSORS, AN AUDIBLE ALARM HORN AND STROBE LIGHT. THE DISPLAY SHALL INDICATE THE EXACT CONCENTRATION OF GAS DETECTED. THE CONTROL PANEL SHALL HAVE AN INTEGRAL AUDIBLE ALARM WITH A RATING OF 65 DBA AT 3'. THE SENSORS FOR CARBON MONOXIDE AND NITROGEN DIOXIDE SHALL BE POWERED BY THE CONTROL PANEL AND SHALL COMMUNICATE VIA A DAISY CHAIN NETWORK. THE DETECTION SENSORS SHALL BE OF THE ELECTROCHEMICAL CELL TECHNOLOGY. DETECTION SYSTEM SHALL HAVE 2 ALARM LEVELS. THE FIRST ALARM SHALL BE SET A 25 PPM FOR CARBON MONOXIDE AND 0.2 PPM FOR NITROGEN DIOXIDE AND SHALL RAMP EF-3.4 TO FULL SPEED. THE SECOND ALARM LEVEL SHALL BE SET AT 200 PPM FOR CARBON MONOXIDE AND 1.0 PPM FOR NITROGEN DIOXIDE AND SHALL SOUND THE ALARM HORN AND START THE STROBE LIGHT. FANS EF-3.4 SHALL RUN NORMALLY AND CONTINUOUSLY AT 30% SPEED. FANS EF-3.4 SHALL RUN AT FULL SPEED UPON A SIGNAL FROM THE GAS DETECTION SYSTEM OR THE WALL THERMOSTAT. THE GAS DETECTION SYSTEM SHALL BE WIRED TO OVERRIDE THE WALL SWITCH. POWER FOR THE CONTROL PANEL SHALL BE SINGLE POINT 120V/1PHASE.
- EXTERIOR WALL VENTS SHALL BE USED TO TERMINATE RESIDENTIAL RANGE HOOD EXHAUST DUCTS SHOWN ON THE PLANS. WALL VENTS SHALL BE XVENTBOX TYPE BR OR EQUAL APPROVED BY THE ENGINEER. FINISH COLOR SHALL BE SELECTED BY THE ARCHITECT.
- ALL KITCHEN HOOD EXHAUST DUCTWORK SHALL BE INSULATED WITH FLEXIBLE FIRE-RATED DUCT WRAP SUITABLE FOR ZERO CLEARANCE TO COMBUSTIBLES. WHERE INDICATED ON THE PLANS, FIRE RATED DUCT WRAP MAY ALSO BE USED TO CREATE FIRE-RATED SHAFTS FOR OTHER DUCT SYSTEMS.
- ALL FIRE DAMPERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S U.L. LISTED DETAILS.
- PROVIDE A TEST AND BALANCE REPORT BY A CERTIFIED TAB FIRM.
- SUBMIT O&M MANUAL AND EQUIPMENT WARRANTIES.

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