MECHANICAL GENERAL NOTES

- 1. ALL WORK SHALL COMPLY WITH INTERNATIONAL MECHANICAL CODE (IMC), INTERNATIONAL BUILDING CODE (IBC), INTERNATIONAL ENERGY CONSERVATION CODE (IECC), AND ALL LOCAL CODES AND AMENDMENTS.
- 2. CONNECT ALL DUCTS TO MECHANICAL EQUIPMENT BY FLEXIBLE DUCT CONNECTORS WITH NOT LESS THAN 3" SPACING BETWEEN DUCT AND EQUIPMENT.
- 3. ALL DUCTWORK SHALL BE FABRICATED FROM G90 GALVANIZED STEEL IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS. PROVIDE TURNING VANES AT ALL RIGHT ANGLE BENDS IN
- DUCTWORK. SEAL ALL JOISTS WITH MASTIC. 4. ALL DUCT DIMENSIONS ARE INSIDE DIMENSIONS.
- INSTALL DUCTWORK, EQUIPMENT, AND PIPING CONCEALED IN CHASES OR ABOVE CEILINGS WHERE CEILINGS ARE INDICATED, UNLESS NOTED OTHERWISE. WHERE DUCTWORK OR PIPING IS INDICATED TO BE EXPOSED, INSTALL AS HIGH AS POSSIBLE. ELEVATIONS SHOWN ARE TO THE LOWEST POINT, UNLESS NOTED OTHERWISE. 6. ANY PIPING SHOWN TO BE INSTALLED WITHIN AN EXTERIOR WALL MUST BE INSTALLED ON THE INTERIOR SIDE OF THE
- WALL MOUNTED THERMOSTATS SHALL BE INSTALLED 44" ABOVE THE FLOOR AND HANDICAPPED ACCESSIBLE.
- 8. PROVIDE 4" THICK CONCRETE PADS FOR EQUIPMENT INSTALLED ON FLOORS OR ON GRADE, 6" LARGER THAN THE EQUIPMENT ON ALL SIDES.
- 9. SEAL OR CAP OPENINGS IN PIPES OR DUCTS UNTIL FINAL CONNECTIONS ARE MADE. 10. INSTALL SUFFICIENT UNIONS IN PIPING SYSTEMS TO ALLOW SERVICE OF ANY CONNECTED EQUIPMENT WITHOUT
- BREAKING FITTINGS OR CUTTING PIPING CONNECTIONS. 11. DIMENSIONS AND PIPE SIZES ARE IN INCHES UNLESS NOTED OTHERWISE.
- 12. RUNOUTS TO EQUIPMENT SHALL BE RUN IN SIZES INDICATED ON PLANS OR SCHEDULES AND INCREASED OR REDUCED AT POINT OF FINAL CONNECTION.
- 13. DO NOT RUN PIPING OR DUCTWORK OVER ELECTRICAL EQUIPMENT.
- 14. PROVIDE SUFFICIENT CLEARANCE FOR OPERATION AND MAINTENANCE OF MECHANICAL EQUIPMENT ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- 15. PROVIDE SERVICE CLEARANCE FOR ELECTRICAL EQUIPMENT AS REQUIRED BY THE NATIONAL ELECTRICAL CODE
- 16. PIPING INSTALLED ABOVE CEILINGS SHALL BE BELOW THE ROOF INSULATION. 17. COORDINATE LOCATIONS OF ALL PIPING, DUCTWORK, EQUIPMENT AND DEVICES BEFORE INSTALLATION, WITH THE WORK OF OTHER TRADES. WHERE A CONFLICT IN CLEARANCES OCCURS, OBTAIN CLARIFICATION FROM THE
- ENGINEER, ARCHITECT, OR OWNER. INSTALL ALL NECESSARY PIPING, DUCTWORK AND FITTINGS, ETC. THAT ARE REQUIRED FOR A COMPLETE SYSTEM WITHOUT ADDITIONAL COST TO THE CONTRACT. 18. TEST INSTALLATIONS IN ACCORDANCE WITH THE APPROPRIATE CODE REQUIREMENTS AS EACH PORTION IS
- 19. FOR ANY COOLING EQUIPMENT ABOVE CEILING, PROVIDE CONDENSATE OVERFLOW PROTECTION W/LIQUID
- DETECTOR AT TOP OF DRAIN PAN, WIRED TO SHUT DOWN THE SYSTEM. 20. VERIFY MOUNTING HEIGHTS OF EQUIPMENT AND FIXTURES WITH ARCHITECTURAL DRAWINGS, AUTHORITY HAVING JURISDICTION, AND THE OWNER.
- 21. BALANCE SYSTEM TO WITHIN +/-10% OF INDICATED AIRFLOW / HYDRONIC VALUES
- 22. CONTRACTOR TO TEST HVAC CONTROL SYSTEMS FOR PROPER CALIBRATION AND OPERATION.
- 23. ALL EQUIPMENT TO BE STARTED UP AND TESTED PER MANUFACTURER'S INSTRUCTIONS. IN ADDITION PROVIDE ALL INFORMATION AS REQUESTED BY THE ENGINEER'S COMMISSIONING PLAN.
- 24. PRELIMINARY COMMISSIONING REPORT COMPLETED AND CERTIFIED BY REGISTERED DESIGN PROFESSIONAL OR
- APPROVED AGENCY. 25. FINAL COMMISSIONING REPORT DUE TO BUILDING OWNER WITHIN 90 DAYS OF RECEIPT OF CERTIFICATE OF OCCUPANCY.

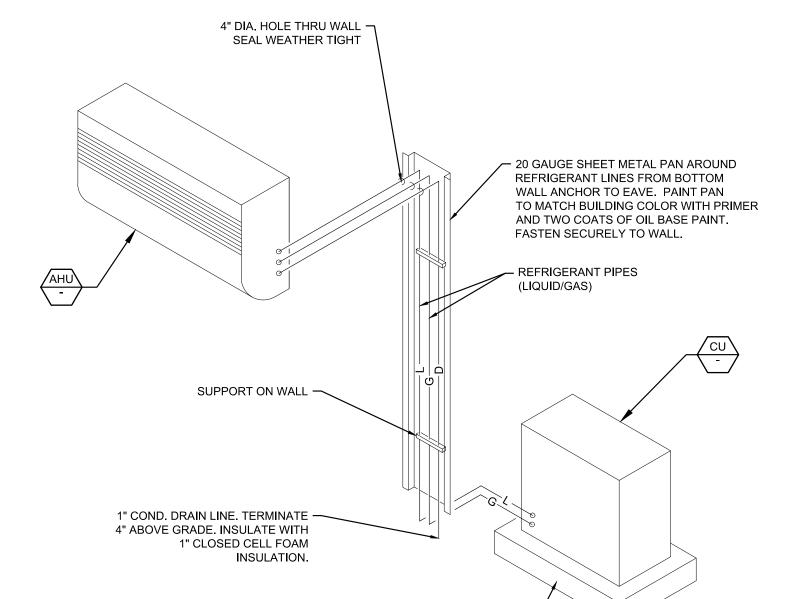
				MINI SP	LIT AI	R HA	ANDL	ER AI	ND C	ONDE	NSER	SC	HED	ULE					
		CONDENSER	AIR HANDLER MFR	FAN	(COOLING		HEA	TING	ELEC	TRICAL (AI	R HANDL	ER)	EL	.ECTRICAL (CONDENSE	R)	SEER	
TAG	LOCATION / SERVICE	MFR MODEL#	MODEL#	OSA (CFM)	NOMINAL TONS	T.C. (MBH)	REFR.	MAX (MBH)	RATED (MBH)	VOLT	PHASE	MCA	MOCP	VOLT	PHASE	MCA	МОСР	HSPF	NOTES
AHU-1 CU-1	COMMON	MITSUBISHI MUZ-D36NA	MITSUBISHI MSZ-D36NA	OPERABLE DOORS/WINDOWS	3	33.2	R410A	36	35.2	208-230	1	1	15	208-230	1	21	25	14.5 8.2	1, 2, 3, 4, 5, 6
AHU-2 CU-2	CLASSROOM #2	MITSUBISHI MUZ-GL24NA	MITSUBISHI MSZ-GL24NA	OPERABLE DOORS/WINDOWS	2	22.4	R410A	36.9	27.6	208-230	1	1	15	208-230	1	18.1	20	20.5 12.5	1, 2, 3, 4, 5, 6
AHU-3A AHU-3B CU-3	MEN WOMEN	MITSUBISHI MXZ-3C24NAHZ2	MSZ-GL12NA MSZ-GL12NA MITSUBISHI	OPERABLE DOORS/WINDOWS	2	24	R410A	28	24	208-230	1	1	15	208-230	1	22.1	25	20.0 9.8	1, 2, 3, 4, 5, 6
AHU-4 CU-4	CLASSROOM #1	MITSUBISHI MUZ-GL24NA	MITSUBISHI MSZ-GL24NA	OPERABLE DOORS/WINDOWS	2	22.4	R410A	36.9	27.6	208-230	1	1	15	208-230	1	18.1	20	20.5 12.5	1, 2, 3, 4, 5, 6
AHU-5 CU-5	COMMON	MITSUBISHI MUZ-D36NA	MITSUBISHI MSZ-D36NA	OPERABLE DOORS/WINDOWS	3	33.2	R410A	36	35.2	208-230	1	1	15	208-230	1	21	25	14.5 8.2	1, 2, 3, 4, 5, 6
AHU-6 CU-6	CLASSROOM #3	MITSUBISHI MUZ-GL24NA	MITSUBISHI MSZ-GL24NA	OPERABLE DOORS/WINDOWS	2	22.4	R410A	36.9	27.6	208-230	1	1	15	208-230	1	18.1	20	20.5 12.5	1, 2, 3, 4, 5, 6

PROVIDE INTEGRATED DX COOLING COIL AND REFRIGERANT PIPING TO THE EXTERIOR HEAT PUMP PER MANUFACTURER'S RECOMMENDATIONS.

- PROVIDE STANDALONE THERMOSTAT.
- PROVIDE LOW AMBIENT
- 4. PROVIDE SUPPORTS TO ELEVATE HEAT PUMP 5. NO SUBSTITUTIONS, EQUIPMENT MANUFACTURER SHALL BE AS LISTED.
- THE AIR HANDLER CAN BE POWERED FROM THE CONDENSER WHEN LOCAL CODES ALLOW.

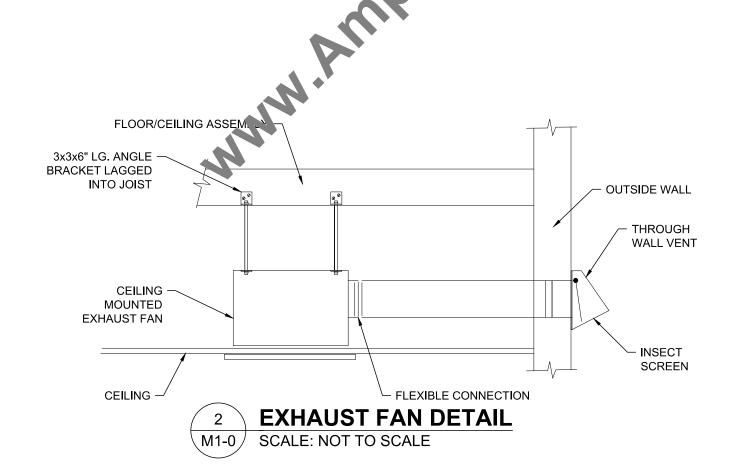
			EXHAU	JST F	ANS	SCH	łEDU	JLE				
					AIR	ESP	SONE		ELEC	TRICAL		
TAG	SERVICE	MANUFACTURER	MODEL NO.	DRIVE	FLOW (CFM)	("W.C.)	LEVEL	VOLT	PHASE	HP (WATTS)	MCA	NOTES
EF-1	MEN'S RESTROOM	BROAN	L300	DIRECT	309	0.10	2.9	120	1	(212)	2.6	1, 2, 3
EF-2	WOMEN'S RESTROOM	BROAN	L250	DIRECT	261	0.10	2.3	120	1	(166)	2.1	1, 2, 3
EF-3	UNISEX RESTROOM	GREENHECK	SP-B90	DIRECT	89	0.125	1	120	1	(5)		2, 3

- NOTES:
 1. CONTINUOUS WORK WHILE BUILDING IS OCCUPIED.
 2. INTERLOCK WITH LIGHTING, PROVIDE TIME DELAY WHICH ALLOWS FAN TO RUN FOR 5-15 MINUTES (ADJUSTABLE)
- AFTER LIGHT IS SWITCHED OFF.
- OR EQUIVALENT APPROVED.



DUCTLESS SINGLE ZONE SPLIT SYSTEM DETAIL M1-0 SCALE: NOT TO SCALE

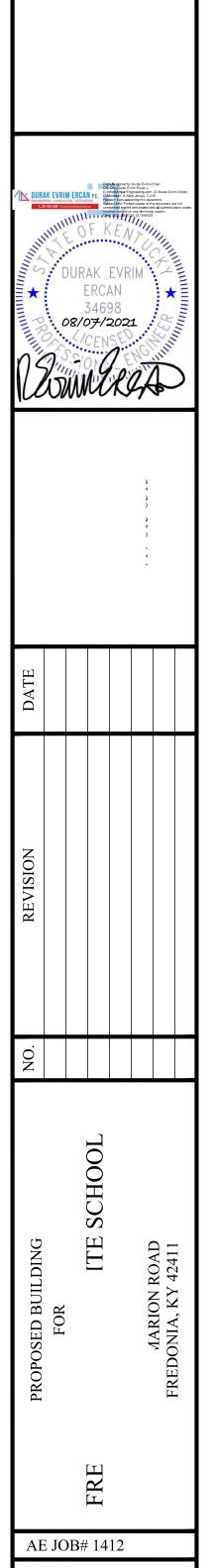
HOUSEKEEPING PAD -



NATURAL VENTILATION CALCULATIONS:

BUILDING AREA REQUIRES 5343 S.F. X 4% = 214 S.F. OPERABLE DOORS AND WINDOWS NET AREA. DOORS PROVIDE 120 S.F. AND WINDOWS PROVIDE 96 S.F. OPERABLE OPENING WHICH TOGETHER = 216 S.F. AND EXCEEDS THE REQUIREMENTS.

		VENT	LATION REQUIREM	MENTS PER 2015 IN	1C					
ROOM	SQUARE FEET	SPACE CLASSIFICATION PER T403.3 IMC	PEOPLE OUTDOOR RATE, CFM/PERSON	AREA BREATHING RATE, CFM/FT2	PEOPLE/1000FT2	CONTINUOUS EXHAUST, CFM	SWITCHED EXHAUST, CFM	UNIT#	PEOPLE	VENT CFM
MEN	246	RESTROOMS	0	0.06	0	0	309		0	15
JANITOR	21	STORAGE	0	0.12	0	0	0		0	3
WOMEN	236	RESTROOMS	0	0.06	0	0	261		0	14
SPORTS EQUIPMENT	24	STORAGE	0	0.12	0	0	0		0	3
STORAGE	257	STORAGE	0	0.12	0	0	0		20	31
ENTRY	277	ENTRY	5	0.06	10	0	0		3	32
CLASSROOM #1	513	CLASSROOM	10	0.12	25	0	0		13	192
FELLOWSHIP HALL	2386	MULTI-USE ASSEMBLY	7.5	0.06	100	0	0		239	1936
CLASSROOM #2	537	CLASSROOM	10	0.12	25	0	0		14	204
TABLE/CHAIR STORAGE	112	STORAGE	0	0.12	0	0	0		0	13
CLOSET	46	STORAGE	0	0.12	0	0	0		0	6
CLOSET	46	STORAGE	0	0.12	0	0	0		0	6
CLASSROOM #3	537	CLASSROOM	10	0.12	25	0	0		14	204
		•	•			•			TOTAL	2657



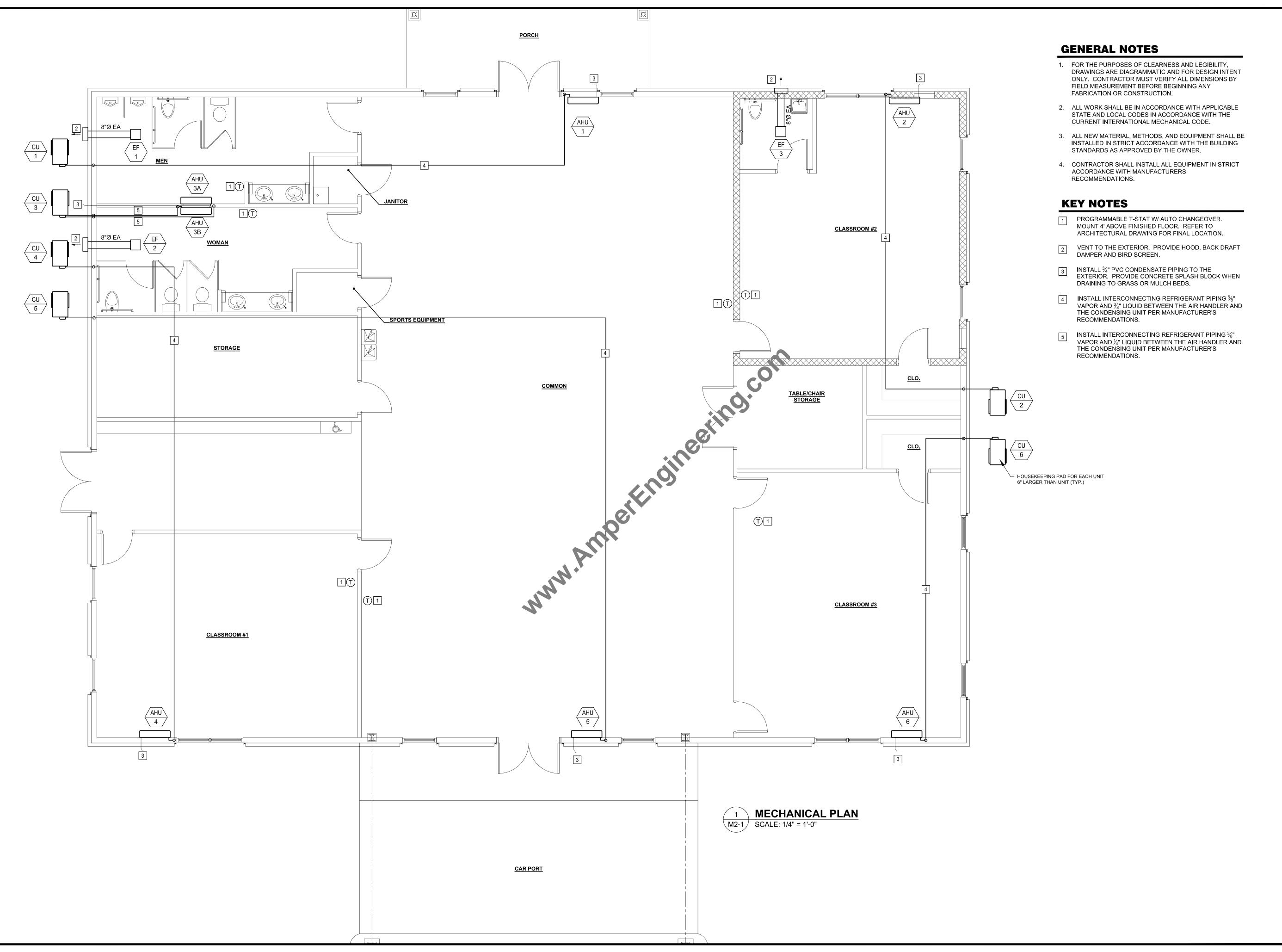
DATE ISSUED: 08/02/2021

DESIGNED BY:

DRAWN BY:

DRAWING TITLE: **MECHANICAL** NOTES, DETAILS SCHEDULES

DRAWING NUMBER



REVISION DATE

DURAK EVRIM

ERCAN

08/07/2021

FOR [TE SCHOOL

RE

AE JOB# 1412

DATE ISSUED: 08/02/2021

DESIGNED BY: JAK DRAWN BY:

DRAWING TITLE:

MECHANICAL PLAN

DRAWING NUMBER:

M2-

ELECTRIC NOTES:

- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF 2017 NEC, ALL LOCAL CODES AND BE INSPECTED BY A REGISTERED ELECTRICAL INSPECTOR. THIS DESIGN MAY BE USED FOR SECURING PERMITS, BID, PLANNING, THE COMPANY'S REVIEW OR SOME OTHER GOAL. THIS DESIGN DOES NOT GUARANTEE THESE APPROVALS,
- NOR ARE THESE APPROVALS A REQUIREMENT FOR SERVICES OR THE COMPLETION OF THIS WORK. 3. THE ELECTRICAL CONTRACTOR SHALL PAY ALL PERMIT FEES, PLAN REVIEW FEES, LICENSE FEES, INSPECTION AND TAXES APPLICABLE TO THE ELECTRICAL WORK. PROVIDE ALL
- INSTRUMENTS AND PERFORM ALL TESTS REQUIRED BY THE AHJ, CORRECT ALL FAILURES AND REPLACE ANY DAMAGED PORTIONS OF THE WORK RESULTING FROM TESTS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE TESTS.
- 4. THIS DESIGN IS NOT A COMPLETE SET OF CONSTRUCTION DRAWING OR SHOP DRAWINGS. THIS DESIGN REPRESENTS DIAGRAMMATIC REPRESENTATION OF INTENDENT SCOPE OF
- 5. THE SYMBOLS AND ABBREVIATIONS LIST ON THIS SHEET IS A COMPREHENSIVE STANDARD GUIDE INTENDED FOR GENERAL USE ON ALL PROJECTS. THEREFORE, NOT ALL THE SYMBOLS AND ABBREVIATIONS CONTAINED IN THIS LIST ARE NECESSARILY USED ON THIS PARTICULAR PROJECT AND SHOULD BE USED FOR CLARIFICATION ONLY.
- 6. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE NATIONAL ELECTRICAL CODE, IECC, LIFE SAFETY CODE, LOCAL BUILDING CODE, OSHA REGULATIONS, OCAL, STATE, FEDERAL AND AUTHORITY HAVING JURISDICTION CODES APPLICABLE AT THE TIME OF THE CONSTRUCTION. GENERAL WORK PRACTICES FOR ELECTRICAL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NECA 1 STANDARD FOR GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION
- 8. ALL MATERIALS PROVIDED BY THE CONTRACTOR SHALL BE NEW AND FREE OF DEFECTS, LISTED/LABELED FOR THE INTENDED PURPOSE BY UNDERWRITERS (UL) OR OTHER
- ORGANIZATION THAT IS ACCEPTABLE TO THE AHJ.
- THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR SCHEDULING DELIVERY, RECEIVING, UNLOADING, STORING, SETTING IN PLACE, AND PROTECTING FROM DAMAGE, VANDALISM, THEFT OR WEATHER DURING CONSTRUCTION FOR ALL NEW EQUIPMENT PROVIDED BY THE ELECTRICAL CONTRACTOR OR PROVIDED BY OTHER PARTIES TO THE ELECTRICAL CONTRACTOR FOR INSTALLATION BY THE ELECTRICAL CONTRACTOR.
- 10. THESE DRAWINGS AND ACCOMPANYING SPECIFICATIONS ARE INTENDED TO DESCRIBE AND ILLUSTRATE SYSTEMS WHICH WILL NOT INTERFERE WITH THE STRUCTURE OF THE BUILDING AND WHICH WILL FIT INTO THE AVAILABLE SPACES. THE CONTRACTOR IS RESPONSIBLE FOR CAREFULLY LAYING OUT ALL WORK TO CONFORM TO NATIONAL ELECTRICAL CODE CLEARANCES, ARCHITECTURAL, STRUCTURAL, MECHANICAL AND SITE CONDITIONS, TO AVOID OBSTRUCTIONS AND TO ALLOW THE PROPER INSTALLATION OF EACH ITEM. 11. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT ONLY. COORDINATE WITH DRAWINGS OF OTHER TRADES TO FIT THE ACTUAL SPACE CONDITIONS,
- HEADROOM AND SPACE CONDITION TO BE MAINTAINED. 12. THE DRAWINGS ARE TO BE CONSIDERED SCHEMATIC ONLY AND DO NOT NECESSARILY SHOW THE EXACT LOCATION AND DETAILS OF THE WORK TO BE INSTALLED.
- 13. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF RECEPTACLES, AND LIGHTING FIXTURES, ETC.
- 14. UPON THE COMPLETION OF THE WORK, THE ENTIRE ELECTRICAL SYSTEM SHALL BE TESTED AND SHALL BE SHOWN TO BE IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE INTENT OF THE SPECIFICATIONS AND DRAWINGS, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL SYSTEM READY FOR OPERATION AND INSPECTION BY
- 15. PREPARE AND FURNISH TO OWNER 'AS-BUILT' PLANS FOR ALL WORK INSTALLED.
- 16. ELECTRICAL CONTRACTOR SHALL FURNISH RECORD SET OF DRAWINGS WITH ANY DEVIATIONS MARKED IN RED INK.
- 17. TEST AND INSPECT ALL WIRING AND EQUIPMENT INSTALLED UNDER THIS SECTION OF SPECIFICATIONS. ALL WIRING MUST BE FREE OF SHORTS AND BROKEN WIRE. LEAVE ALL MATERIALS AND APPARATUS IN PROPER AND SATISFACTORY WORKING CONDITIONS.
- 18. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE CORRECT PHASE SEQUENCE OF ALL THREE-PHASE FEEDERS AND BRANCH CIRCUITS. VERIFY PROPER ROTATION OF ALL
- 19. ELECTRICAL CONTRACTOR SHALL VERIFY PHASE LOAD BALANCING ON POWER PANELS UPON COMPLETION OF THE ELECTRICAL INSTALLATION. 20. PROVIDE IDENTIFICATION ON ALL PANELBOARDS, SWITCHES, STARTERS, DIMMERS, SWITCHES IN DISTRIBUTION PANELBOARDS AND SWITCHBOARDS.
- 21. CONDUIT RUNS WHEN SHOWN ARE DIAGRAMMATICAL, FINAL LOCATION AND ROUTING SHALL BE ESTABLISHED BY THE CONTRACTOR BASED ON THE INSTALLATION CONDITIONS AND SHALL BE VERIFIED IN THE FIELD. ALL CONDUIT TYPES AND INSTALLATION REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- 22. CONDUIT RUNS SHALL BE PARALLEL WITH OR AT RIGHT ANGELS TO WALLS AND CEILINGS. CONDUIT SHALL BE SUPPORTED BY APPROVED MEANS. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A DRAG WIRE.
- 23. ALL SUSPENDED CONDUITS SHALL BE RIGIDLY SUPPORTED FROM THE BUILDING STRUCTURE BY MEANS OF APPROVED CONDUIT FASTENERS, HANGERS, STRAPS, SUPPORTS, CLAMPS, ETC., FIRMLY ANCHORED IN PLACE AND SPACED AT INTERVALS NOT TO EXCEED 10'-0".
- 24. PULLBOXES, JUNCTION BOXES, CONDUIT BODIES, AND EXPANSION JOINTS SHALL BE INSTALLED AS PER NFPA 70.
- 25. PROVIDE CONDUIT EXPANSION FITTINGS WITH BONDING JUMPERS FOR ALL CONDUITS PASSING THROUGH EXPANSION JOINTS.
- 26. PROVIDE SLEEVES FOR PENETRATIONS THROUGH BLOCK OR CONCRETE WALLS AND FLOORS.
- 27. THE USE OF FLEXIBLE CONDUIT FROM LIGHTING FIXTURES TO JUNCTION BOX IS PERMITTED ONLY WHEN A SEPARATE GROUND WIRE IS INSTALLED WITH THE CONDUCTORS INSIDE
- FLEXIBLE CONDUIT. THE GROUND WIRE MUST BOND THE FIXTURE HOUSING TO THE JUNCTION BOX. MAXIMUM LENGTH SHALL BE 6'-0". 28. FLEXIBLE CONDUIT INSTALLED OUT OF DOORS, IN ANY MECHANICAL EQUIPMENT ROOMS, OR IN NORMALLY WET AREAS SHALL BE LIQUID TIGHT FLEX WITH SUITABLE FITTINGS 29. PROVIDE CONDUIT, WIRING, CIRCUITING AND REQUIRED CONNECTIONS TO ALL DEVICES, FIXTURES AND EQUIPMENT. CONNECT TO CIRCUITS AS INDICATED. CIRCUIT NUMBERS ARE FOR INFORMATION PURPOSES ONLY. ACTUAL CIRCUIT NUMBERS SHALL BE DETERMINED IN THE FIELD AND REFLECTED IN THE PANEL SCHEDULE DIRECTORY AND ON THE
- 30. CONTRACTOR SHALL VERIFY AND COORDINATE ALL MOUNTING HEIGHTS OF ALL DEVICES MOUNTED IN CASEWORK OR IN ABOVE COUNTERS WITH EXISTING EQUIPMENT
- 31. UNLESS SPECIFICALLY DIRECTED OTHERWISE, FURNISH AND INSTALL EACH AND EVERY ITEM CONTAINED IN AND ASSOCIATED WITH, THE WORK INVOLVED AS SHOWN ON THE DRAWINGS AND/OR DESCRIBED IN THE ACCOMPANYING SPECIFICATIONS, TOGETHER WITH ALL APPURTENANCES, COMPONENTS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. CONTRACTOR SHALL PROVIDE CONDUIT, WIRING AND CABLING TO ALL DEVICES, FIXTURES AND ETC. FOR A COMPLETE WORKING SYSTEM BASED ON THE CIRCUITS NOTED. 32. PROVIDE INDEPENDENT SUPPORT FOR DISCONNECT SWITCHES, CONTROL STATIONS, BOXES, PANELS, ETC. WHERE NO WALLS OR OTHER STRUCTURAL SURFACE EXISTS.
- 33. EQUIPMENT SIZED AND LOCATIONS ARE APPROXIMATE. ACTUAL DIMENSIONS TO BE DETERMINED BY EQUIPMENT FURNISHED. 34. PROVIDE BRANCH CIRCUIT WIRING TO ALL ITEMS REQUIRING ELECTRICAL CONNECTIONS. WHERE BRANCH CIRCUIT WIRING IS NOT SHOWN, CONNECT ITEMS TO CIRCUITS INDICATED. THE CONTRACTOR SHALL DETERMINE EXACT ROUTING OF CONDUITS AND WIRING, UNLESS INDICATED OTHERWISE, ALL BRANCH CIRCUITS SHALL BE MINIMUM #12
- 35. PROVIDE JUNCTION BOX FOR ANY DEVICE WITH PIG TAIL SUCH AS SOLENOID VALVES, LIMIT SWITCHES, SMOKE DETECTORS AND ETC. FOR PROPER ELECTRICAL CONNECTION. PROVIDE ALL HARDWARE FOR MOUNTING OF JUNCTION BOX.
- 36. ALL FIRE ALARM SYSTEMS RACEWAY, SWITCHES, AND JUNCTION BOXES SHALL BE PAINTED RED.
- 37. TIGHTEN SCREWS AND BOLTS FOR CONNECTORS AND TERMINALS ACCORDING TO MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES. 38. EXACT LOCATION OF MECHANICAL AND PLUMBING EQUIPMENT THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THE MECHANICAL AND PLUMBING DRAWINGS.
- COORDINATE WITH MECHANICAL AND PLUMBING CONTRACTORS.
- 39. WHEREVER THE INSTALLATION OF ELECTRICAL EQUIPMENT AS SHOWN ON THE DRAWINGS IS IMPRACTICAL DUE TO LOCAL INTERFERENCE OR UNFORESEEN FIELD CONDITIONS, THE CONTRACTOR SHALL INSTALL THE EQUIPMENT AT NEW LOCATIONS AS DIRECTED BY THE ENGINEER.
- 40. DESIGN IS BASED ON ALL CONDUCTORS TO BE THHN COPPER AND NO MORE THAN 4 CURRENT CARRYING CONDUCTORS IN THE SAME RACEWAY OR CONDUIT, UNLESS OTHERWISE 41. WHEN EQUIPMENT IS BEING REMOVED/DEMO FROM THE FIELD, ALL WIRING ASSOCIATED WITH THE LOAD MUST BE REMOVED FROM THE JUNCTION BOX OR THE CIRCUIT BREAKER
- DO NOT LEAVE UNUSED CONDUCTORS IN THE FIELD WITH ENDS TAPED WITH TAPE OR WIRE NUTS. 42. SPARE WIRES INSTALLED SHALL BE NEATLY COILED, BOUND AND PLACED IN SPACE AVAILABLE. LEAVE AT A MINIMUM, 8' OF SLACK AT EACH DESTINATION.
- 43. WHERE EXISTING CIRCUIT TO REMAIN ARE INTERRUPTED DUE TO NEW CONSTRUCTION, CONDUIT AND WIRE SHALL BE EXTENDED RE-ENERGIZED.
- 44. PROVIDE DISCONNECT SWITCHES FOR ELECTRICAL HEATER, HVAC EQUIPMENT AND EXHAUST FANS WITHIN EYE SIGHT OF THE EQUIPMENT.
- 45. PROVIDE SERVICE RECEPTACLE WITHIN 25 FEET OF EACH HVAC EQUIPMENT. 46. ELECTRICAL CONTRACTOR TO VERIFY ACTUAL INSTALLED EQUIPMENT ELECTRICAL NAME PLATE DATA BEFORE ENERGIZING THE CIRCUIT. CONFIRM ELECTRICAL DESIGN VALUES
- AND ACTUAL EQUIPMENT BEING INSTALLED ARE IN COMPLIANCE WITH ELECTRICAL CODE AND MANUFACTURER INSTALLATION REQUIREMENTS.
- 47. DISCONNECT SWITCHES SHALL BE HEAVY-DUTY, QUICK-MADE, QUICK-BREAK TYPE, NEMA 1 ENCLOSURE FOR INDOOR LOCATIONS (NEMA 3R FOR OUTDOOR LOCATIONS), SWITCHES SHALL BE AS MANUFACTURED BY SQUARE 'D' GENERAL ELECTRIC OR SIEMENS (LT.E.) PROVIDE FUSES AS MANUFACTURED BY BUSSMAN, GOULD-SHAWMUT, OR LITTLE-FUSE, ALL
- CONDUCTOR TERMINALS TO BE U.L, LISTED FOR A MAXIMUM OF 75°C. SWITCHES USED AS SERVICE ENTRANCE EQUIPMENT TO BE U.L. LISTED AS "SER" RATED EQUIPMENT. 48. PANEL BOARDS SHALL BE MANUFACTURED BY SQUARE-D, EATON, GENERAL ELECTRIC, OR SIMILAR, MEETING U.L. STANDARDS 50 AND 67, WITH U.L. LABEL. PANELS USED AS SERVICE ENTRANCE EQUIPMENT TO BE U.L. LISTED AS "SER" RATED EQUIPMENT.
- 49. ALL SWITCHBOARDS AND PANELBOARDS SHALL BE MARKED WITH IDENTIFYING NAMEPLATES TO INDICATE THE DESIGNATIONS USED ON THESE DRAWINGS. PROVIDE NEW PANELBOARD SCHEDULES, CORRECTLY FILLED OUT FOR EVERY PANELBOARD.
- 50. ALL PANELS, SWITCHES, ETC. SHALL HAVE SUFFICIENT GUTTER SPACE AND LUGS TO ACCOMMODATE CONDUCTORS SHOWN.
- 51. BREAKERS: THERMAL, MAGNETIC TYPE, QUICK-MAKE, QUICK-BREAK, PLUG-IN TYPE FOR LOAD CENTERS AND BOLT IN TYPE FOR PANEL BOARDS AND SINGLE UNIT CONSTRUCTION. TWO POLE BREAKERS SHALL BE SINGLE UNIT COMMON TRIP TYPE. BREAKERS USED AS SWITCHES FOR 120V LIGHTING CIRCUITS SHALL BE APPROVED FOR THAT USE AND MARKED "SWD". ALL BREAKERS FOR HVAC AND REFRIGERATION EQUIPMENT SHALL BE "HACR" RATED BREAKERS.
- 52. GROUNDING SYSTEM: PERMANENTLY AND EFFECTIVELY GROUND ALL METALLIC CONDUIT, SUPPORTS, CABINETS, PANEL BOARDS AND SYSTEM NEUTRAL CONDUCTORS, MAINTAIN CONTINUITY OF EQUIPMENT GROUND THROUGHOUT THE SYSTEM. GROUND CLAMPS SHALL BE APPROVED TYPE, SPECIFICALLY DESIGNED FOR GROUNDING. WHERE GROUNDING CONDUCTOR IS ENCLOSED IN CONDUIT, GROUND CLAMP SHALL BE OF A TYPE WHICH GROUNDS BOTH CONDUCTOR AND CONDUIT. ALL CIRCUITS IN FLEXIBLE METAL OR PLASTIC
- CONDUIT SHALL INCLUDE A GROUND WIRE SIZED AND INSTALLED IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE. 53. PROVIDE AND INSULATED GREEN GROUNDING WIRE IN THE SAME CONDUIT AS THE BRANCH CIRCUIT OR FEEDER WIRING AND FOR ALL (3) PHASES AND/OR SINGLE PHASE, BRANCH CIRCUITS AND FOR ALL FEEDERS. SHOWN OR NOT SHOWN.
- 54. ALL WORK SHALL BE PERMANENTLY AND EFFECTUALLY GROUNDED WHETHER OR NOT SUCH CONNECTIONS ARE SPECIFICALLY SHOWN OR SPECIFIED. GROUND RESISTANCE AT
- ANY POINT SHALL NOT EXCEED 25 OHMS. 55. ALL CONDUITS SHALL BE EMT UNLESS OTHERWISE NOTED.
- 56. CONDUIT SHALL BE SIZED TO COMPLY WITH NEC FOR NUMBER AND SIZE OF CONDUCTORS INSTALLED PER NEC. PROVIDE SCHEDULE 40 PVC PLASTIC OR RIGID STEEL CONDUIT BELOW GRADE, MINIMUM 3/4". PROVIDE ELECTRICAL METAL TUBING (EMT) MEETING FS W-C563, FLEXIBLE METAL CONDUIT (IN LENGTHS 6' OR LESS) FOR INTERIOR LOCATIONS. EMT CONNECTORS AND COUPLING SHALL BE SET-SCREW TYPE. "MC" & "AC" TYPE CABLES MUST BE INSTALLED IN ACCORDANCE WITH N.E.C. AND CAN NOT BE SUPPORTED FROM CEILING SUPPORT WIRES.
- 57. ELECTRICAL CONTRACTOR SHALL INSTALL SIZE OF CONDUIT SHOWN ON PLANS.
- 58. ALL CONDUIT AND RACEWAY SYSTEMS TO BE INSTALLED WITH SEPARATE GROUND CONDUCTOR. CONDUIT SYSTEM IS NOT TO BE USED AS THE SOLE GROUNDING MEANS. 59. CONDUCTORS: INSULATED SOFT ANNEALED 98% PURE COPPER WITH COLOR CODING, B AND S GAGE, #10 AND SMALLER TO BE SOLID, #8 AND LARGER TO BE STRANDED, MINIMUM
- #12 UNLESS OTHERWISE INDICATED. CONDUCTORS MUST BE INSTALLED IN ACCORDANCE WITH NEC AND CANNOT BE SUPPORTED FROM CEILING SUPPORT WIRES. THHN MAY NOT BE USED UNDERGROUND, AT SERVICE ENTRANCE, OUTSIDE, OR IN WET LOCATIONS. ALL INSULATION TO BE RATED FOR 600 V AND TYPES AS FOLLOWS:
- THWN OR THHN #10 AND #12: #8 TO 4/0: THWN OR THHN SERVICE ENTRANCE: SE-RHW OR USE-RHW OVER #4/0 ORDINARY SERVICE: THHN OR XHHN
- OVER #4/0 WET OR HOT SERVICE: XHHW WIRE THRU FLUORESCENT FIXTURES OR WHITHIN OF HTG EQUIP.:
- 60. ALL CONDUIT AND RACEWAY SYSTEMS TO BE INSTALLED WITH SEPARATE GROUND CONDUCTOR. CONDUIT SYSTEM IS NOT TO BE USED AS THE SOLE GROUNDING MEANS
- 61. ALL WIRING TO BE COLOR-CODED AS FOLLOWS:
 - 120/208 VOLT SYSTEM 277/480 SYSTEM PHASE A: BROWN NEUTRAL: PHASE A OR L1: BLACK PHASE B: ORANGE PHASE C: YELLOW PHASE B OR L2: RED PHASE C OR L3: BLUE NEUTRAL: GRAY GROUND: GREEN GROUND: GREEN
- 62. WIRE CONNECTORS SHALL BE EQUAL TO "SCOTCH LOCK" FOR #8 AWG WIRE AND SMALLER AND EQUAL TO T & B "LOCK TIGHT" FOR #6 AWG AND LARGER.
- 63. LIGHT FIXTURES & LAMPS ARE FURNISHED BY CONTRACTOR EXCEPT AS NOTED ON THE LIGHT FIXTURE SCHEDULE. FIXTURE INSTALLATION SHALL BE BY THE ELECTRICAL CONTRACTOR ACCORDING TO LOCAL CODE AUTHORITY. 64. EMERGENCY LIGHTING SHALL HAVE A MINIMUM OF 90 MIN. BATTERY BACK-UP, OR AS REQUIRED BY LOCAL CODE AUTHORITY. PROVIDE LOCK-ON CIRCUIT BREAKERS FOR CIRCUITS
- SERVING EXIT SIGN FIXTURES AND EMERGENCY BATTERY PACK FIXTURES. 65. ALL EMERGENCY LIGHTS SHALL BE CONNECTED AHEAD OF ANY LOCAL SWITCH.
- 66. ALL EXIT SIGNS SHOWN ARE PER ARCHITECTURAL LAYOUT AND SHALL BE APPROVED BY FIRE DEPARTMENT AND BUILDING OFFICIAL
- 67. LAYOUT BRANCH CIRCUIT WIRING AND ARRANGEMENT OF HOME RUNS FOR MAXIMUM ECONOMY AND EFFICIENCY. INCREASE WIRE SIZE IF 100 FEET OF LENGTH IS EXCEEDED. 68. CONCEAL WIRING SYSTEM ABOVE SUSPENDED CEILINGS OR IN WALL OR FLOOR CONSTRUCTION WHERE POSSIBLE. INSTALL CONDUITS PARALLEL TO BUILDING LINES, AND TO CLEAR ALL OPENING, DEPRESSIONS, PIPES, DUCTS, STRUCTURE, ETC.
- 69. INSTALL CONDUIT CONTINUOUS BETWEEN BOXES AND CABINETS WITH NO MORE THAN FOUR (4) 90 DEGREE BENDS. SECURELY FASTEN IN PLACE WITH STRAPS, HANGERS AND STEEL SUPPORTS AS REQUIRED. DO NOT SUPPORT CONDUIT FROM SUSPENDED CEILING GRID OR SUSPENSION WIRES. REAM CONDUIT ENDS BEFORE INSTALLATION AND THOROUGHLY CLEAN BEFORE INSTALLATION. OPENINGS SHALL BE PLUGGED OR COVERED TO KEEP CONDUIT CLEAN. TERMINALS ON SWITCHES AND OUTLET SHALL NOT BE USED
- TO "FEED THRU" TO THE NEXT SWITCH OR OUTLET. 70. PROVIDE SINGLE GANG PLASTER RING AND A 1/8" DIAMETER NYLON PULL ROPE TO ACCESSIBLE CEILING SPACE FROM ALL NEW TELEPHONE AND/OR DATA OUTLETS
- 71. FOR ALL WIRING DEVICES, VERIFY FINISH COLOR WITH ARCHITECT.

			LIGHT	ING FIXTURE SC	HEDULE		
SYN	MBOL	TYPE	DESCRIPTION	MANUFACTURER	MODEL NO.	LAMPING	COMMENTS
		F1	2X4 SURFACE MOUNTED LED FIXTURE	TBD	TBD	40W LED (4,500 LUMENS)	-
		F2	2X2 SURFACE MOUNTED LED FIXTURE	TBD	TBD	21W LED (2,400 LUMENS)	-
		F3	EXTERIOR SURFACE MOUNT LED	TBD	TBD	20W LED (2,200 LUMENS)	-
S S	36	E1	EMERGENCY EXIT COMBO LIGHT	EMERGILITE	ELXN400R-2LEDR	3.6W	-
<u>0</u>	29	E2	EMERGENCY REMOTE HEAD LIGHT	EMERGILITE	EF44D-LED	3.6W	-
6	3 6	E3	EMERGENCY LIGHT W/ BATTERY	EMERGILITE	EC-2	3.6W	-



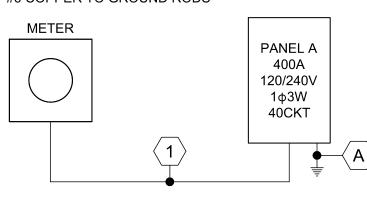
SINGLE POLE WALL SWITCH, 120vAC TWO POLE WALL SWITCH THREE-WAY SWITCH, 120vAC FOUR-WAY SWITCH, 120vAC \$ OCCUPANCY SENSOR SWITCH, 120vAC DIMMER SWITCH, 120vAC TIMER SWITCH, 120vAC \$ MOTOR-RATED SWITCH PSAC SERIES \$ DIMMER SWITCH WITH OCCUPANCY SENSOR \$ OM SINGLE POLE SINGLE THROW MOMENTARY

TOGGLE SWITCH LOW-VOLTAGE INTERCONNECT TO CEILING OCCUPANCY SENSOR

- → SINGLE RECEPTACLE, NEMA 5-20R
- GROUND FAULT CIRCUIT INTERRUPTER
- QUAD RECEPTACLE GFCI
- SPECIAL PURPOSE RECEPTACLE -SPECIAL FUNI GOL 1.22
 E.C. VERIFY REQUIREMENTS
- ⊕on RECEPTACLE OVERHEAD DOOR RECEPTACLE - FLOOR
- RECEPTACLE W/ USB
- ()_{DC} RECEPTACLE CEILING PULL CORD WP WEATHERPROOF
- CT COUNTERTOP HEIGHT UC UNDERCOUNTER
- OD OVERHEAD DOOR TC TIME CLOCK

TOTAL LOAD

CONDUIT/ WIRE SCHEDULE: 1. (2) SET $2\frac{1}{2}$ " PVC, (3)#250 XHHW AL & (1) #6 XHHW AL GND **GROUND SCHEDULE:** A. #1/0 COPPER TO BUILDING STEEL & WATER PIPE AS **APPLICABLE** #4 COPPER TO FOOTING STEEL #6 COPPER TO GROUND RODS



- ALL METHODS OF GROUNDING/ BONDING SHOULD BE SIZED AND INSTALLED AS PER NEC ARTICLE 250 • THE E.C. SHALL VERIFY ALL ASPECTS OF THE PROPOSED ELECTRICAL SERVICE WITH THE LOCAL ELECTRICAL INSPECTOR AND WITH LOCAL ELECTRIC UTILITY PRIOR TO PROVIDING ANY LABOR OR
- FAULT CURRENT DATA FROM THE UTILITY MUST BE VERIFIED AND THE AIC RATING OF THE EQUIPMENT MUST BE RATED FOR THE FAULT CURRENT THAT IS AVAILABLE.

ELECTRICAL SINGLE LINE DIAGRAM

SCALE: N.T.S.

										EL - 1									
RATIN	IG:	TYPE:					PHASE/	WIRE:		VOLTAG	<u>:</u>	MOUNT	:				A.I.C.		
100 A	MP	MLO					1/3			120/240)	SURFAC	E				E.C. TO	PROVIDE	
CIR.		(QUANIT	Υ	TRIP		NO.	VOLT	AMPS	VOLT	AMPS	NO.		TRIP	C	QUANIT	Υ		
NO.	AREA SERVED	LTG	REC	MISC	AMPS	AWG	POLES	Α	В	Α	В	POLES	AWG	AMPS	LTG	REC	MISC	AREA SERVED	
1	RECEPTACLES - MEN, WOMEN, STOR.		5		20	#12	1	900		1080		1	#12	20		6		RECEPTACLES - CLASSROOM #1	
3	RECEPTACLES - CLASSROOM #3		4		20	#12	1		720		1080	1	#12	20		6		RECEPTACLES - CLASSROOM #2	
5	LIGHTING - CLASSROOM/BATHROOM	21			20	#12	1	1428		750		1	#12	20	15			LIGHTING - HALLWAY	
7	ELECTRIC WATER COOLER			1	20	#12	1		900		6000	,	#4	60			1	\A/II 1 (12K\A/)	
9	CUA			1	25	410	,	2415		6000		2	#4	60			1	WH-1 (12KW)	Γ
11	CU-1			1	25	#10	2		2415		2243	2	W1.0	25			4	GU 2	T
13	211.4				20	<i>u</i> 4.5	_	2082		2243		2	#10	25			1	CU-3	Γ
15	CU-4			1	20	#12	2		2082		2415								T
17							_	2082		2415		2	#10	25			1	CU-5	Γ
19	CU-2			1	20	#12	2		2082		2082	_							T
21	AHU-1			1	15	#14	1	230		2082		2	#12	20			1	CU-6	Ī
23	AHU-4			1	15	#14	1		230		230	1	#14	15			1	AHU-3A	7
25	AHU-2			1	15	#14	1	230		230		1	#14	15			1	AHU-3B	T
	BLANK								0		230	1	#14	15			1	AHU-5	T
_	BLANK							0		230		1	#14	15			1	AHU-6	T
_	BLANK								0		0							BLANK	T
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PERFORMED FROM MET-ED AND LEGIBLY FIELD MARK ON THE PANEL. MARKINGS TO BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED. TOTAL A PHASE TOTAL B PHASE

E.C. TO PROVIDE AIC RATING AND DATE OF

WHEN THE CALCULATION WAS

24397

22709

47106

SUB TOTAL 9367 | 8429 | 15030 | 14280 | SUB TOTAL

AE JOB# 1412

DATE ISSUED: 08/02/2021

DESIGNED BY

DRAWN BY:

ELECTRICAL

DRAWING TITLE:

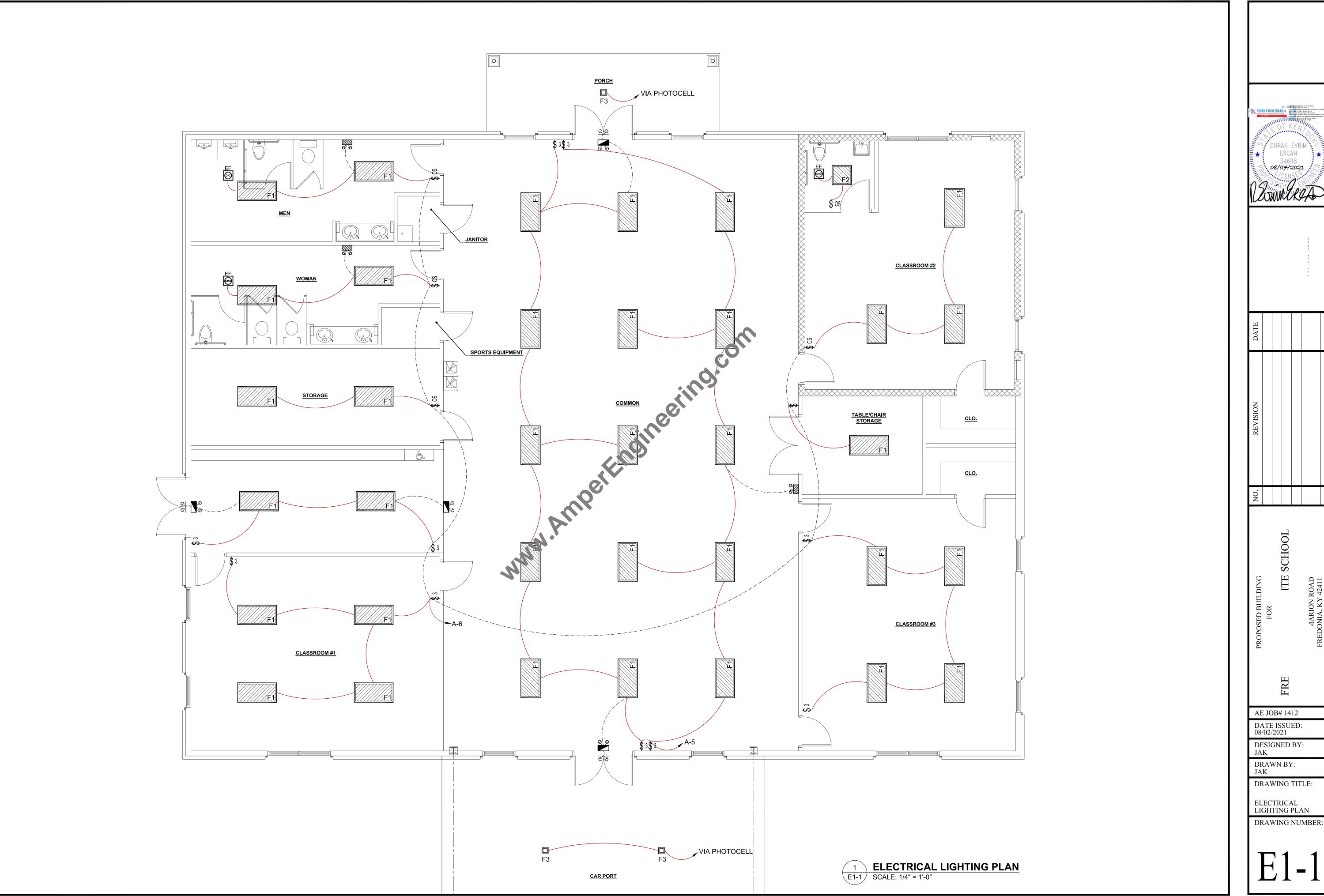
NOTES & SCHEDULE

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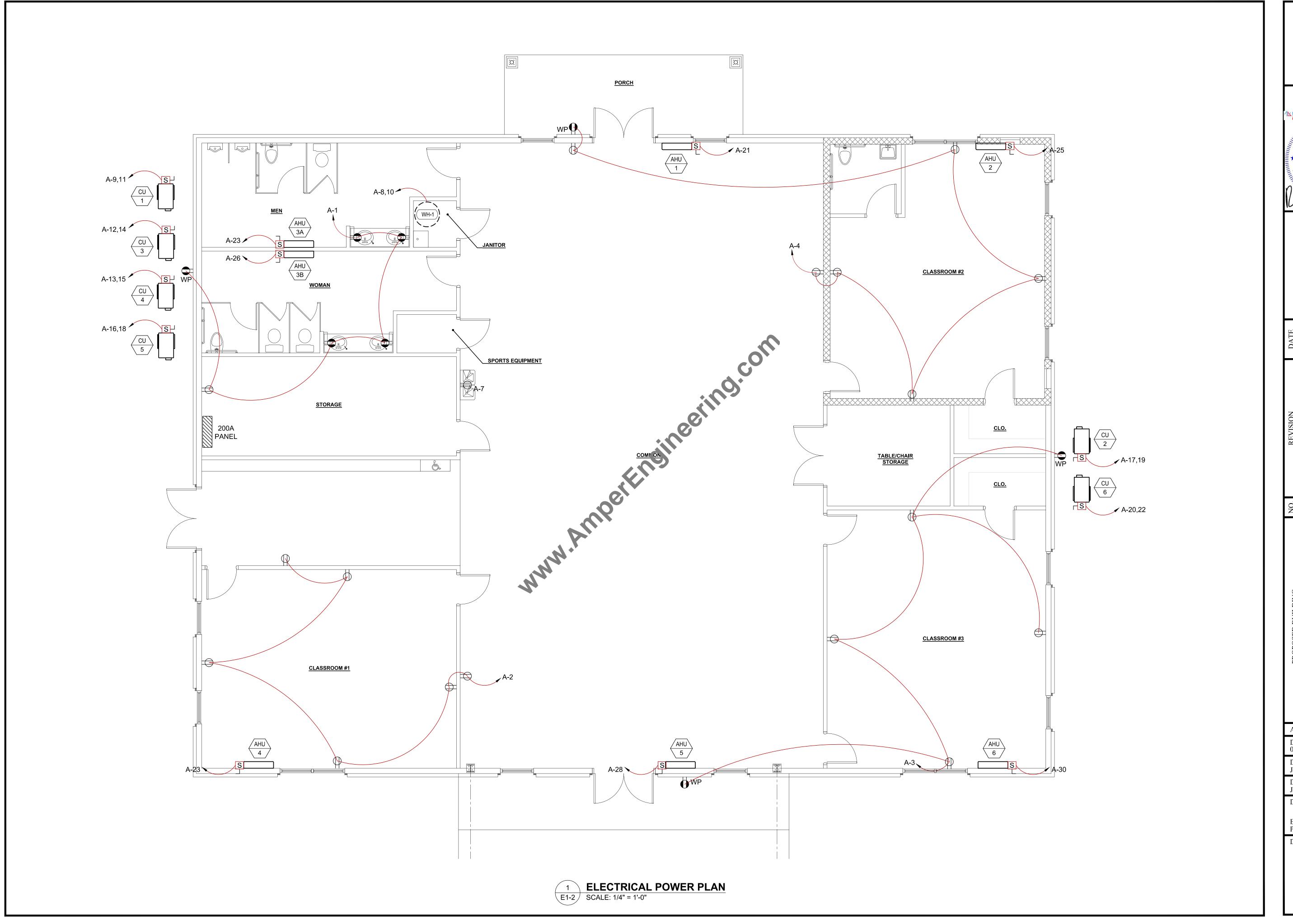
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08/07/2021



DRAWING TITLE:

08/07/2021



AE JOB# 1412 DATE ISSUED: 08/02/2021 DESIGNED BY: JAK DRAWN BY: DRAWING TITLE: ELECTRICAL POWER PLAN DRAWING NUMBER:

E1-2

GENERAL NOTES:

- 1. ALL MATERIALS AND INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE 2015 IPC, 2015 IEBC, LOCAL CODES, AND ALL AUTHORITIES HAVING JURISDICTION.
- 2. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL EQUIPMENT AND MATERIALS LISTED IN PLUMBING FIXTURE SCHEDULE.
- 3. CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT, MATERIALS, AND LABOR TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM AS INDICATED ON THE DESIGN DOCUMENTS.
- 4. CONTRACTOR SHALL OBTAIN ALL PERMITS, INSPECTIONS, AND APPROVALS PRIOR TO AND DURING CONSTRUCTION. 5. CONTRACTOR SHALL PROVIDE ALL ROOF OPENINGS, FLASHING, AUXILIARY STEEL, THREADED RODS, ETC., TO SUPPORT HIS
- EQUIPMENT ON OR FROM THE STRUCTURE. 6. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES AND IN FIELD PRIOR TO INSTALLATION OF ANY WORK. REPORT ALL CONFLICTS IMMEDIATELY TO ENGINEER.
- 7. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL EQUIPMENT WITH ENGINEER AND OTHER TRADES.
- 8. THE CONTRACTOR SHALL PRESSURE TEST ALL PIPING IN ACCORDANCE WITH CODES AND AUTHORITIES HAVING JURISDICTION.

PLUMBING SPECIFICATIONS:

- 1. VERIFY SERVICE POINTS AND METERING LOCATIONS FOR PROJECT WITH LOCAL UTILITIES
- 2. SANITARY AND DRAINAGE PIPING 2" AND SMALLER SHALL BE INSTALLED WITH A MINIMUM SLOPE OF $\frac{1}{4}$ " PER FOOT. PIPING 3" AND LARGER SHALL BE SLOPED $\frac{1}{8}$ " PER FOOT.
- 3. SANITARY WASTE AND VENT PIPING ABOVE GROUND SHALL CONFORM TO ONE OF THE STANDARDS LISTED IN TABLE 702.1 2015 IPC. 4. SANITARY WASTE AND VENT PIPING UNDERGROUND SHALL CONFORM TO ONE OF THE STANDARDS LISTED IN TABLE 702.2 2015 IPC.
- 5. DOMESTIC HOT AND COLD PIPING ABOVE GRADE TO BE PEX WITH INSULATION. BELOW GROUND SHALL BE TYPE "K" SOFT COPPER WITH NO JOINTS PERMITTED.
- 6. PROVIDE ½" THK. ELASTOMERIC OR FIBERGLASS ALL SERVICE JACKET (ASJ) INSULATION ON ALL EXPOSED DOMESTIC HOT AND COLD WATER PIPING.
- 7. FURNISH AND INSTALL SHUTOFF OR BALL VALVE AND DIELECTRIC UNION ON ALL EQUIPMENT HOT AND COLD WATER LINES. CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO EQUIPMENT. COORDINATE WITH EQUIPMENT SUPPLIER FOR EXACT
- 8. JOINTS BETWEEN DIFFERENT PIPING MATERIALS SHALL BE MADE WITH APPROVED ADAPTOR FITTINGS. JOINTS BETWEEN DIFFERENT METALLIC PIPING MATERIAL SHALL BE MADE WITH APPROVED DIELECTRIC FITTINGS OR BRASS CONNECTION FITTINGS. 9. PIPE HANGERS SHALL BE SECURELY ATTACHED TO BUILDING CONSTRUCTION.
- 10. PIPING IN THE PLUMBING SYSTEM SHALL BE INSTALLED SO AS TO PREVENT STRAINS AND STRESSES WHICH WILL EXCEED STRUCTURAL STRENGTH OF THE PIPE. PROVISIONS SHALL BE MADE FOR EXPANSION AND CONTRACTION OF THE PIPING, PROVIDE THREE ELBOW SWING JOINT BRANCH TAKE-OFFS.
- 11. HOLD TOP OF FLOOR DRAINS FLUSH WITH FINISHED FLOOR. SEE ARCH. SHEETS FOR FLOOR SLOPED AROUND DRAINS (IF REQUIRED)
- 12. CONTRACTOR SHALL FURNISH AND INSTALL COPPER INDIRECT WASTE PIPING REQUIRED FROM EQUIPMENT TO FLOOR DRAINS, OPEN RECEPTACLES, OR FLOOR SINKS. PIPING SHALL COMPLY WITH STATE AND LOCAL CODES. COORDINATE WITH ALL EQUIPMENT SUPPLIERS AND SIZE AS REQUIRED BY PIECE OF EQUIPMENT BEING SERVED.
- 13. ALL REQUIRED INDIRECT WASTE PIPING SHALL DISCHARGE INTO THE BUILDING DRAINAGE SYSTEM THROUGH AN AIR GAP OR AIR
- 14. ALL EQUIPMENT DRAINS SHALL HAVE A BACKFLOW PREVENTION DEVICE OR AIR GAP.
- 15. SANITARY DRAINAGE SYSTEM VENTS THROUGH ROOFS SHALL NOT TERMINATE WITHIN 25 FEET OF ANY WINDOW, OR AIR INTAKE.

- COLD WATER LINE

- 16. THE CONTRACTOR SHALL SEAL ALL PENETRATIONS THROUGH FIRE RATED STRUCTURES WITH FIREPROOF SEALANT AS MANUFACTURED BY 3M OR APPROVED EQUAL.
- 17. VERIFY MOUNTING HEIGHTS OF ALL BARRIER FREE FIXTURES WITH ARCH. DRAWINGS

FORM THE SUPPORTING SURFACE

DESCRIBED IN THE ENERGY CODE.

WITH R-10 INSULATION AS

TAG	DESCRIPTION	MANUFACTURER	MODEL NO.	NOTES
WH-1	50 GAL. ELEC. WATER HEATER	A.O. SMITH	DRE-52-12	1
EXT-1	EXPANSION TANK	A.O. SMITH	PMC-5	1
MV-1	HOT WATER MIXING VALVE	WATTS	ES-LFMMV-HTK	1

		Total				Water Supply				Pressure Loss	Velocity
		Number of	Χ	Unit Load	=	Fixture Units		Demand	Pipe Size	(PSI/ 100' of	(Ft./
	Fixture Type	Fixtures		Value		(W.S.F.U.)	W.S.F.U.	(GPM)	(Inches)	Pipe)	Sec.)
	Water Closets	6		5.0		30	2	2	1/2"	4.2	2.7
	Urinal	2		3.0		6	4	3	1/2"	8.7	4.2
	Lavatories	5		2.0		10	6	5	1/2"	22.5	7.0
	Drinking Fountain	1		0.3		0.25	8	6.5	3/4"	6.3	4.3
	Service/ Mop Sink	1		3.0		3	10	8	3/4"	9.0	5.4
				Total Load F	actor	49.25	12	9.2	3/4"	11.5	6.1
							14	10.4	3/4"	15.0	6.9
							16	11.6	3/4"	18.0	7.7
							20	14	1"	7.2	5.6
	SYMBOLS	& ABBREVIA	AOIT.	IS			25	17	1"	10.0	6.6
							30	20	1"	13.6	8.0
G.C. P.C.	GENERAL CONTRACTO PLUMBING CONTRACT		⊕ FD	FLOOR DR	AIN		35	22.5	1 1/4"	5.8	5.7
H.C.	HVAC CONTRACTOR	c	-	TRAP			40	25	1 1/4"	7.0	6.3
E.C.	ELECTRICAL CONTRAC		•	BALL VAL	Æ		45	27	1 1/4"	8.2	6.9
A.F.F. B.F.	ABOVE FINISHED FLOO BELOW FLOOR)R	∙o ^{FCO}	FLOOR CL	EAN O	JT	50	29	1 1/4"	9.5	7.4
WV CDV	WET VENT COMB. DRAIN & VENT		⊣ ^{wcc}	WALL CLE	AN OU	Т					
		•	⊢ ₩-	FIXTURE S	TOP					•	
w or s — — —	WASTE OR SANITARY I	PIPING> \	TW	VENT THR	U WALI	_					

VENT THRU ROOF WATER METER

GAS METER

POINT OF CONTACT

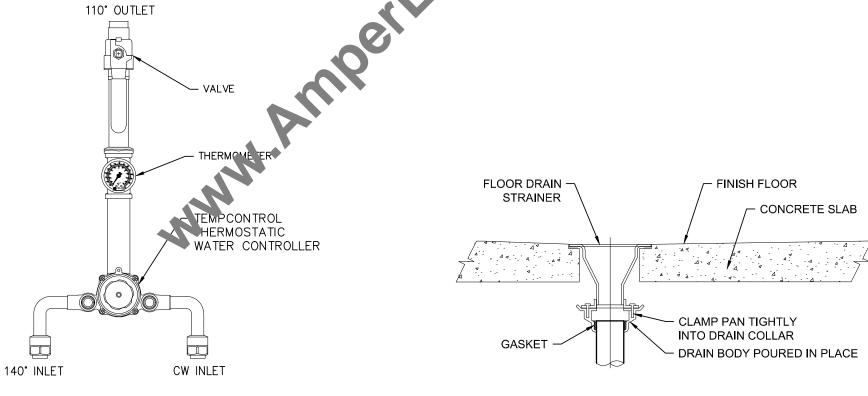
→_{HB} HOSE BIB

- MAY EXTEND AS A

WASTE OR VENT LINE.

	PLUMBING FIXT	ΓURE	SCH	IEDU	LE				
SYMBOL	DESCRIPTION	QTY	CW	HW	WASTE	TRAP	VENT	DFU	TOTA DFU
(HC WC)	ADA WATER CLOSET	3	3/4"	-	4"	3"	2"	4	12
WC	WATER CLOSET	3	3/4"	-	4"	3"	2"	4	12
UR	ADA URINAL	2	3/4"	-	2"	2"	2"	3	6
LAV	ADA LAVATORY	5	1/2"	1/2"	1 1/2"	1 1/2"	1 1/2"	1	5
S.SK	SERVICE SINK	1	1/2"	1/2"	1 1/2"	2"	2"	2	2
EWC	DUAL ADA LEVEL ELECTRICAL WATER COOLER	1	1/2"	-	1 1/2"	1 1/2"	1 1/2"	1	1
WH-1	50 GAL. ELECTRIC WATER HEATER: A.O. SMITH - DRE-52-12	1	-	-	-	-	-	-	-
FD	FLOOR DRAIN - ZURN ZB415-0VP-Y 6" DIA POLISHED BRONZE TYPE "O" STRAINER, SEDIMENT BUCKET. VANDAL PROOF SCREWS. PROVIDE W/ TRAP PRIMER CONNECTION (REQUIRED BY CODE)	2	-	-	3"	3"	-	3	6

- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING HEIGHT OF ALL FIXUTES AND LOCATIONS OF ADA
- AN APPROVED EQUAL MAY BE USED FOR ALL FIXTURES SPECIFIED IF QUALIFIED IN BID.
- CONTRACTOR SHALL PROVIDE AND INSTALL WATTS, ZERN, P.P.P.INC. (OR EQUAL) TRAP PRIMERS TO SERVE ALL FLOOR DRAINS REQUIRING PROTECTION PER CODE.

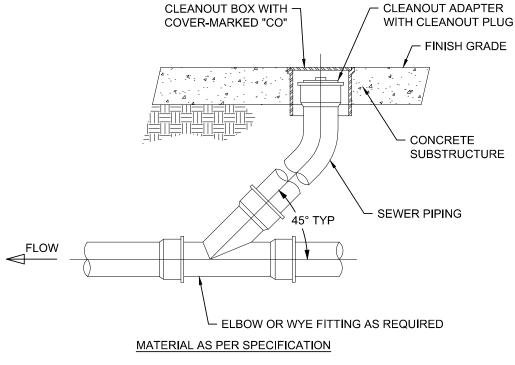


GATE VALVE CHECK VALVE HOT WATER -SUPPLY LINE **MIXING VALVE DETAIL** BALL VALVE SCALE: NOT TO SCALE $\stackrel{2}{\longrightarrow}$ MIXING VALVE -- DIELECTRIC UNIONS TEMP/PRESS -RELIEF VALVE PROVIDE INLINE HEAT TRAP ON BOTH HOT AND COLD WATER LINES GENERAL NOTES: - PLUG ANODE FULL SIZE RELIEF PIPE TO DRAIN 1. WATER HEATER SHALL BE SUPPLIED WITH TEMPERATURE FB 3/16"x1-1/2" BRACE CONTROLS WHICH WILL PERMIT CONNECTING STRAP THE DISCHARGE TEMPERATURE DRAIN VALVE -(2)REQUIRED TO BE SET TO 90° F, BUT WILL BE SET AT 110° F. 2. ELECTRIC WATER HEATERS LOCATED IN UNCONDITIONED SPACES OR ON CONCRETE GALVANIZED DRAIN PAN FLOORS SHALL BE SEPARATED

CHROME WALLCOVER -AND SCREW PLUGGED TEE PVC DWV PIPE - FLOOR LINE

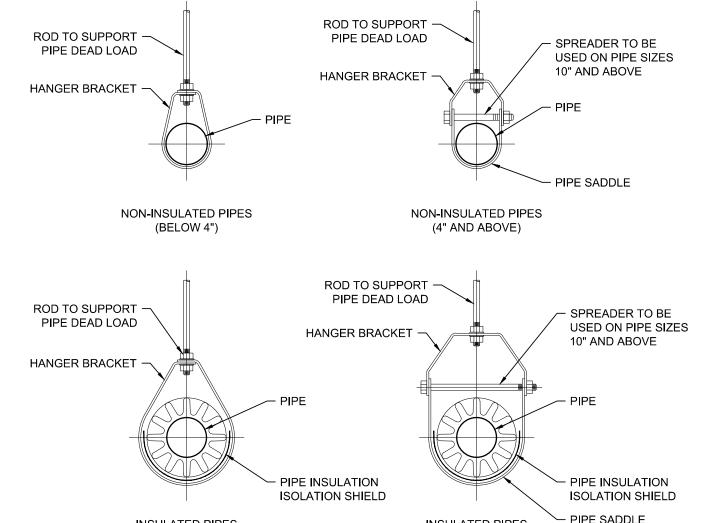
COLD WATER PIPING

HOT WATER PIPING

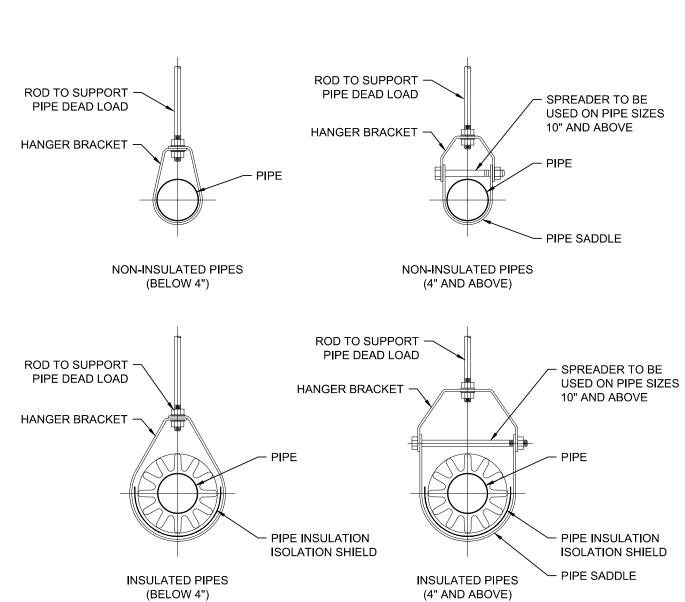


FLOOR DRAIN DETAIL (TYP.)

FLOOR CLEANOUT DETAIL SCALE: NOT TO SCALE



PIPE SUPPORT DETAIL



AE JOB# 1412 DATE ISSUED: 08/02/2021 **DESIGNED BY:** DRAWN BY: DRAWING TITLE: **PLUMBING** NOTES & SCHEDULE DRAWING NUMBER:

08/07/2021

50 GAL. ELECTRIC WATER HEATER DETAIL SCALE: NOT TO SCALE

- R-10 INSULATION PER ENERGY CODE

WALL CLEAN-OUT DETAIL

08/07/2021

