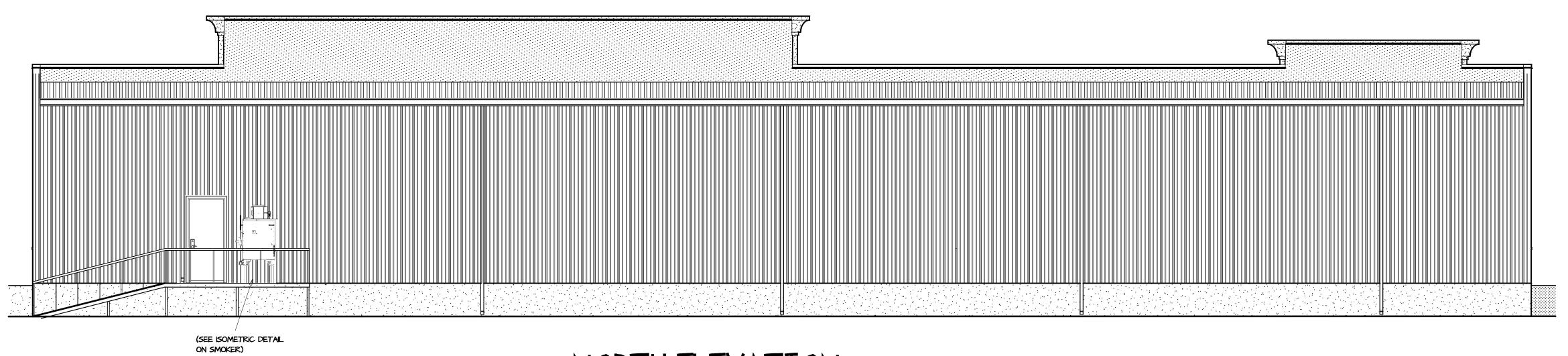


FLOOR PLAN

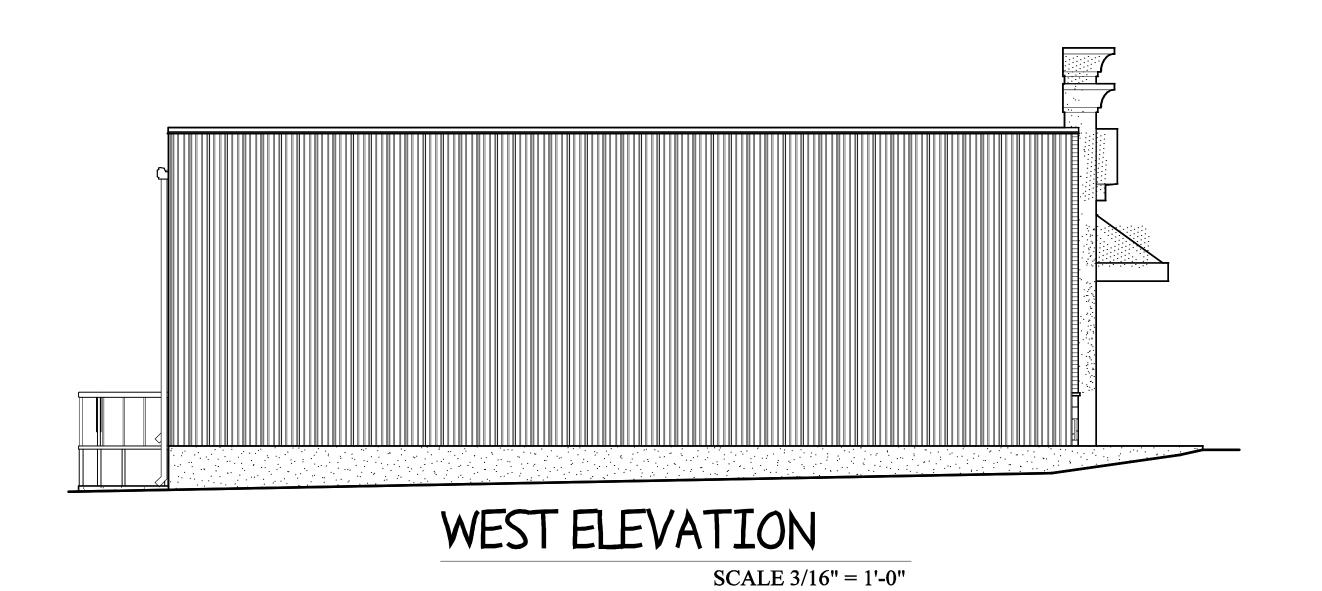
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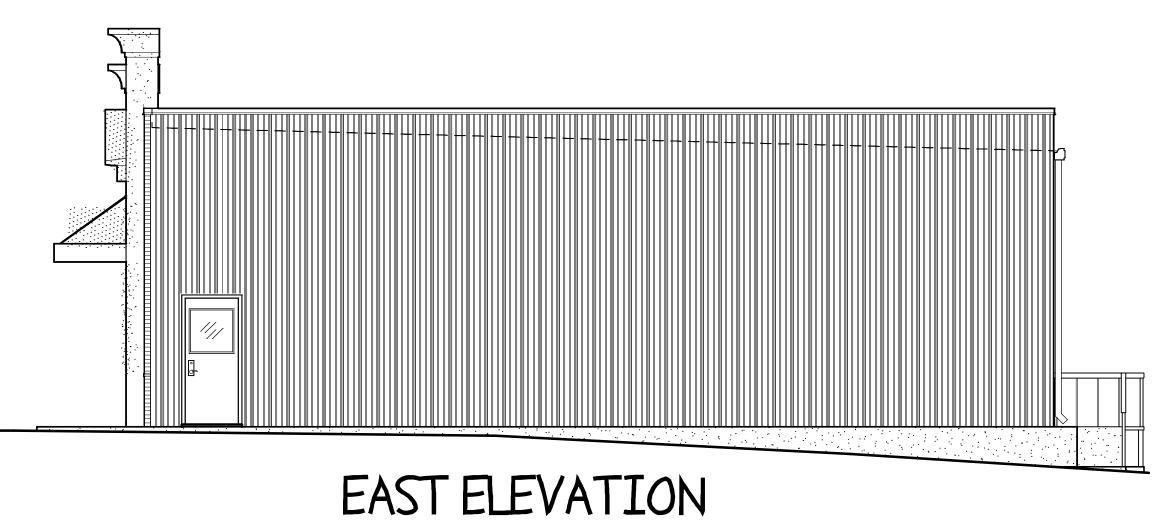
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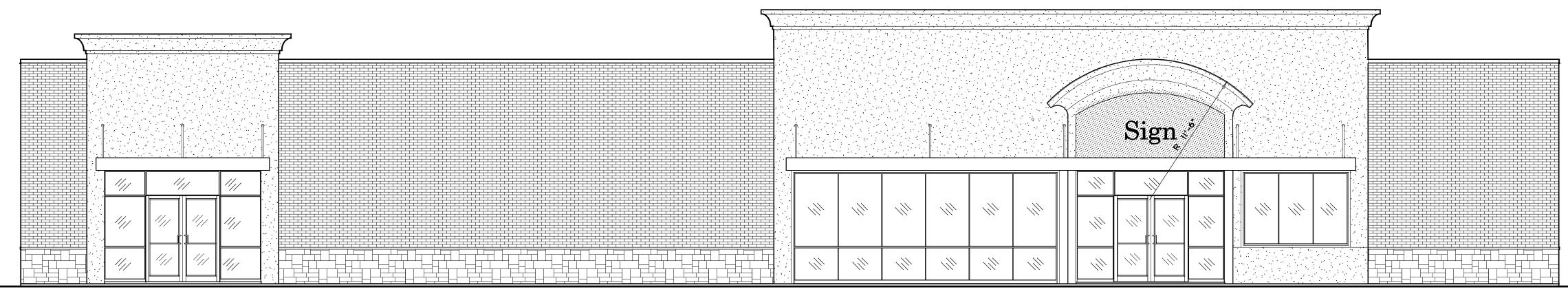
NORTH ELEVATION

SCALE 3/16" = 1'-0"





SCALE 3/16" = 1'-0"



FRONT ELEVATION SCALE 3/16" = 1'-0"



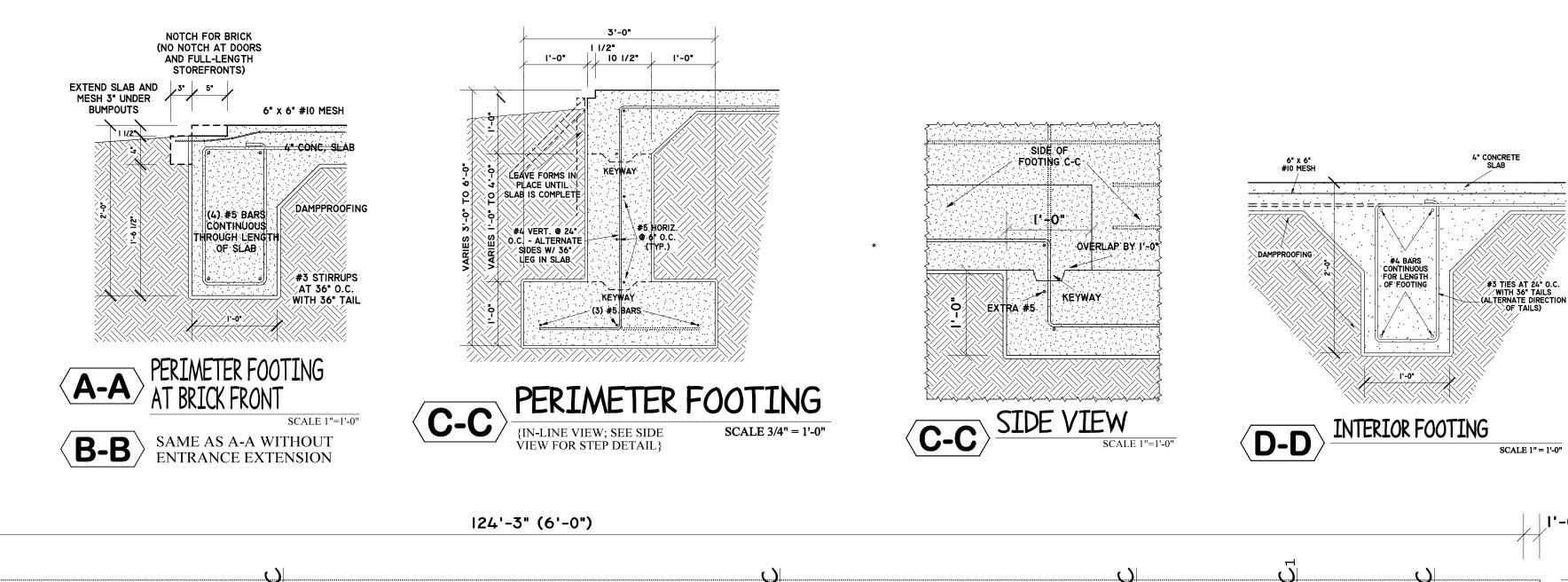
ELEVATIONS Alton B. Clingan, Jr.

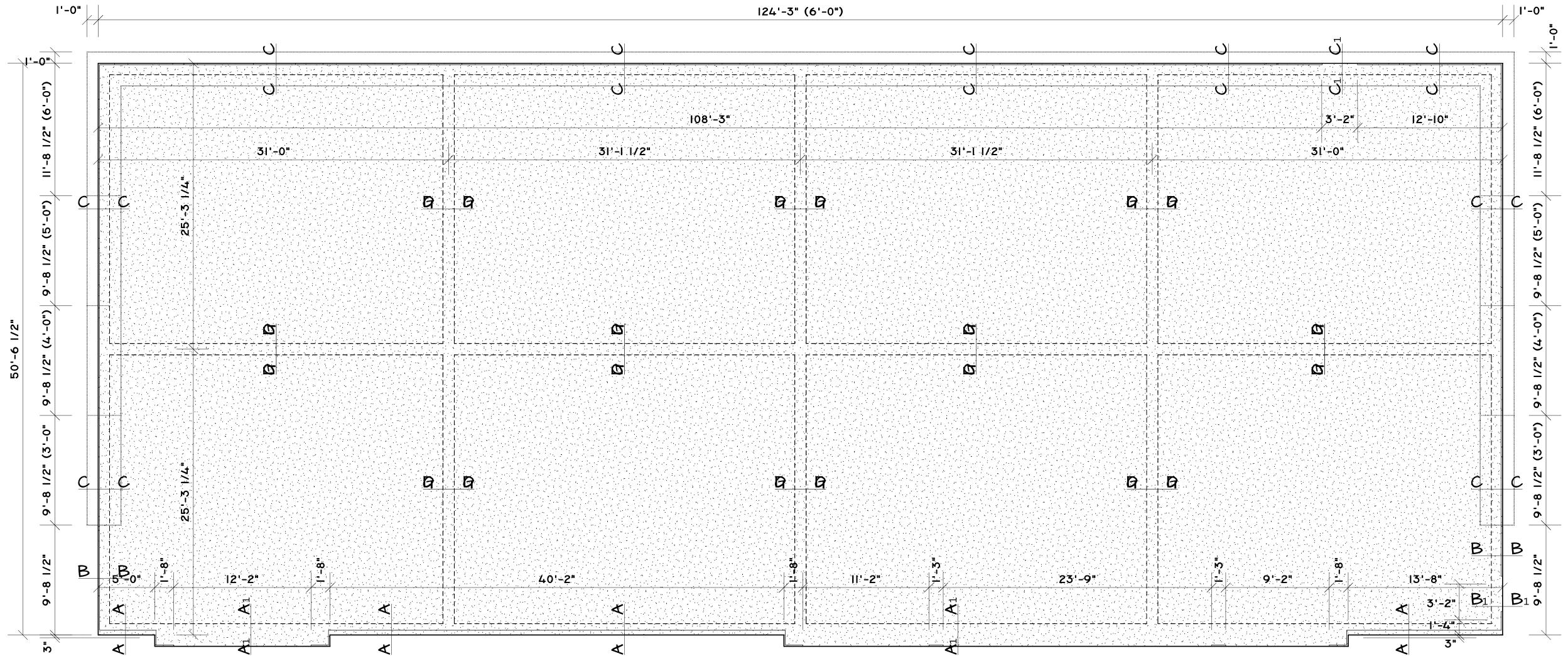
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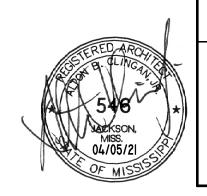
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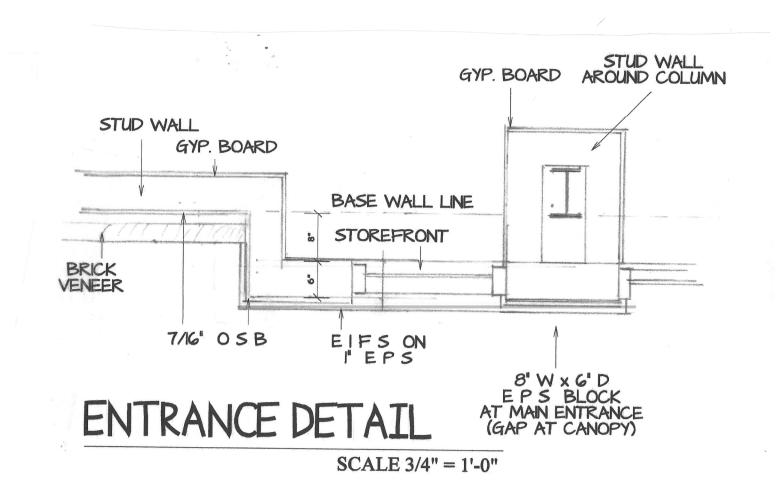


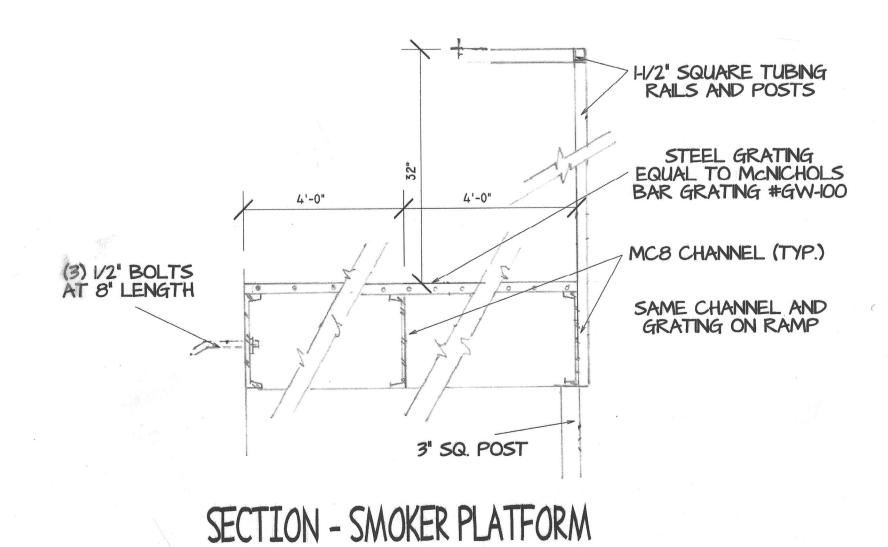


FOUNDATION PLAN SCALE 3/16" = 1'-0"

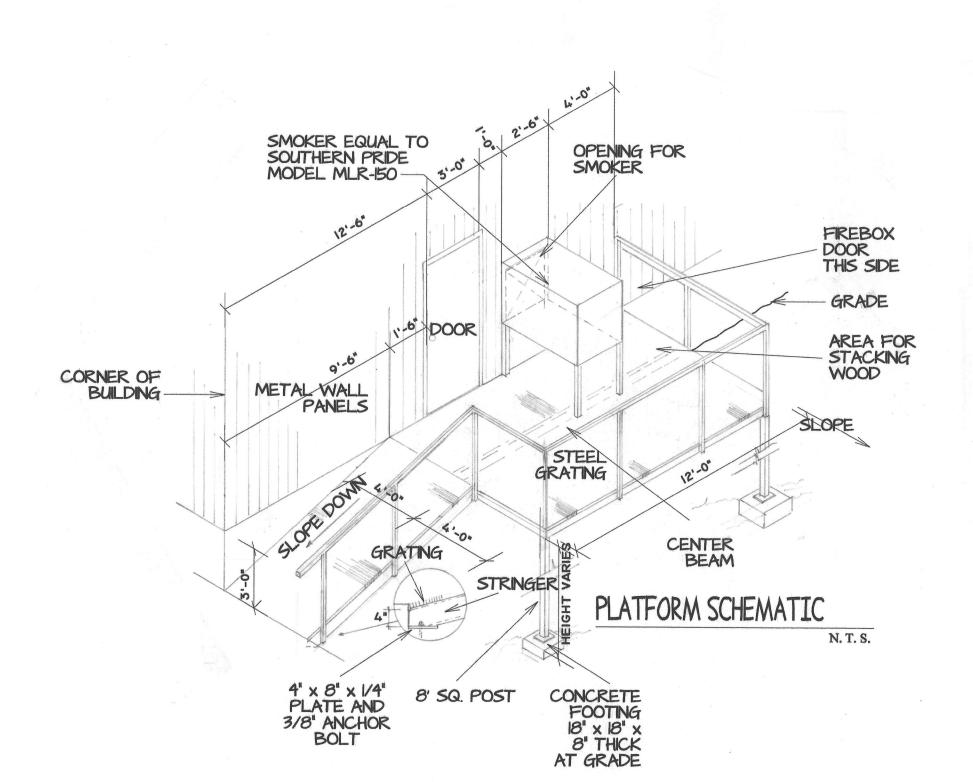


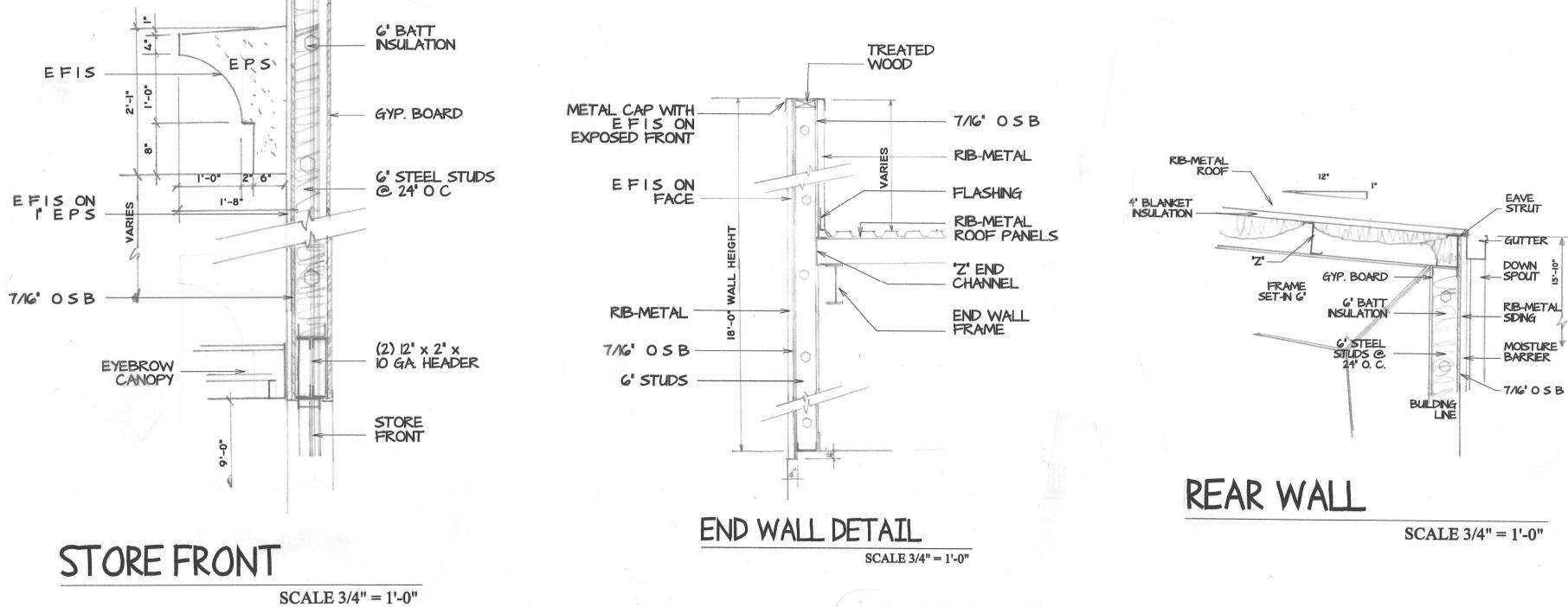
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Alton B. Clingan, Jr.	Date 02/12/21 Rev. 02/23/21 RKC Drawn RKC Rev. 04/05/21 RKC	
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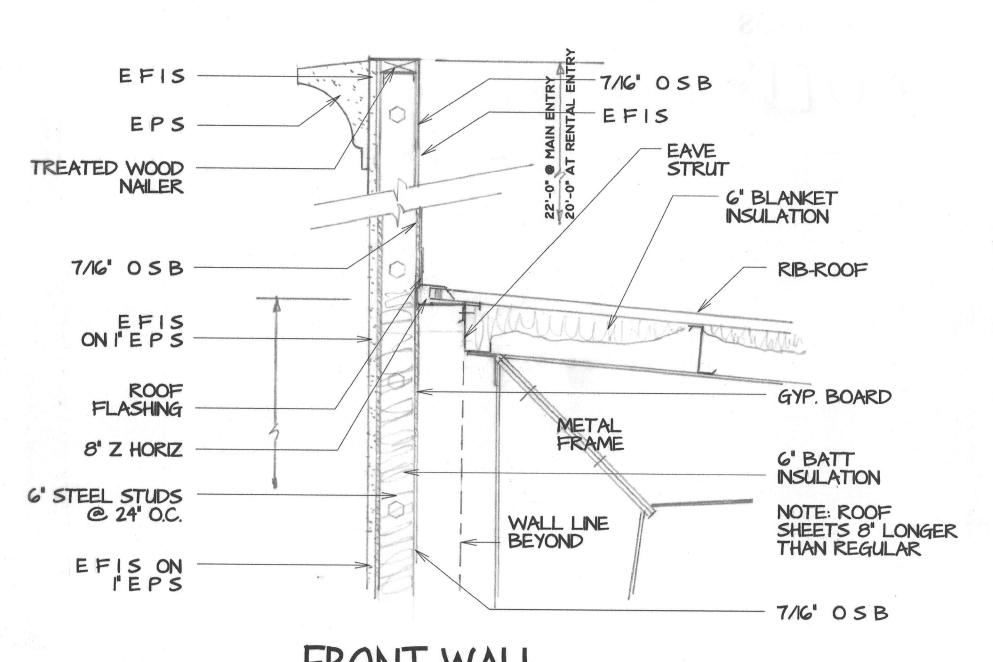


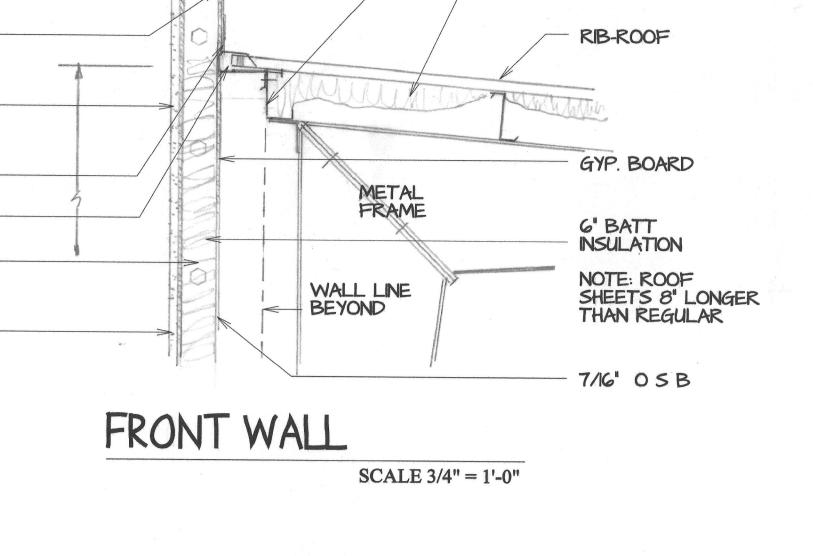


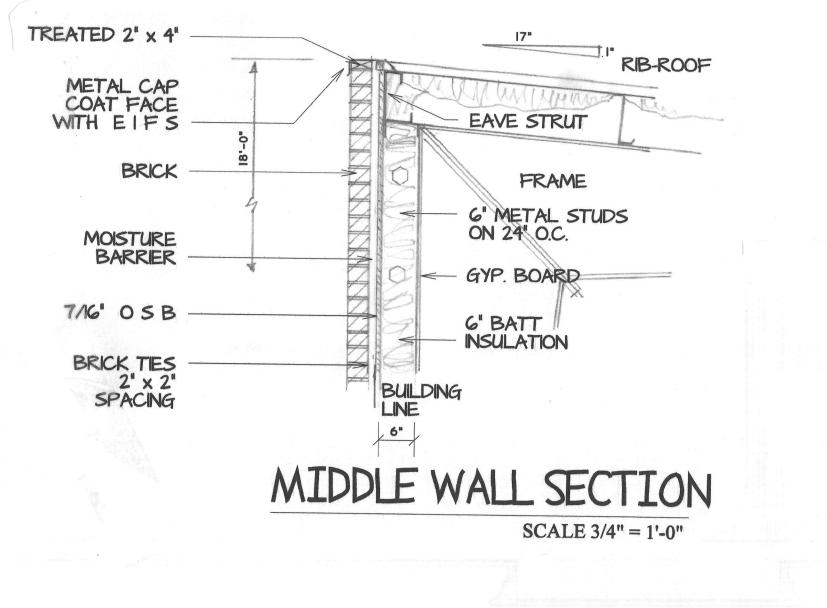
SCALE 1" = 1'-0"













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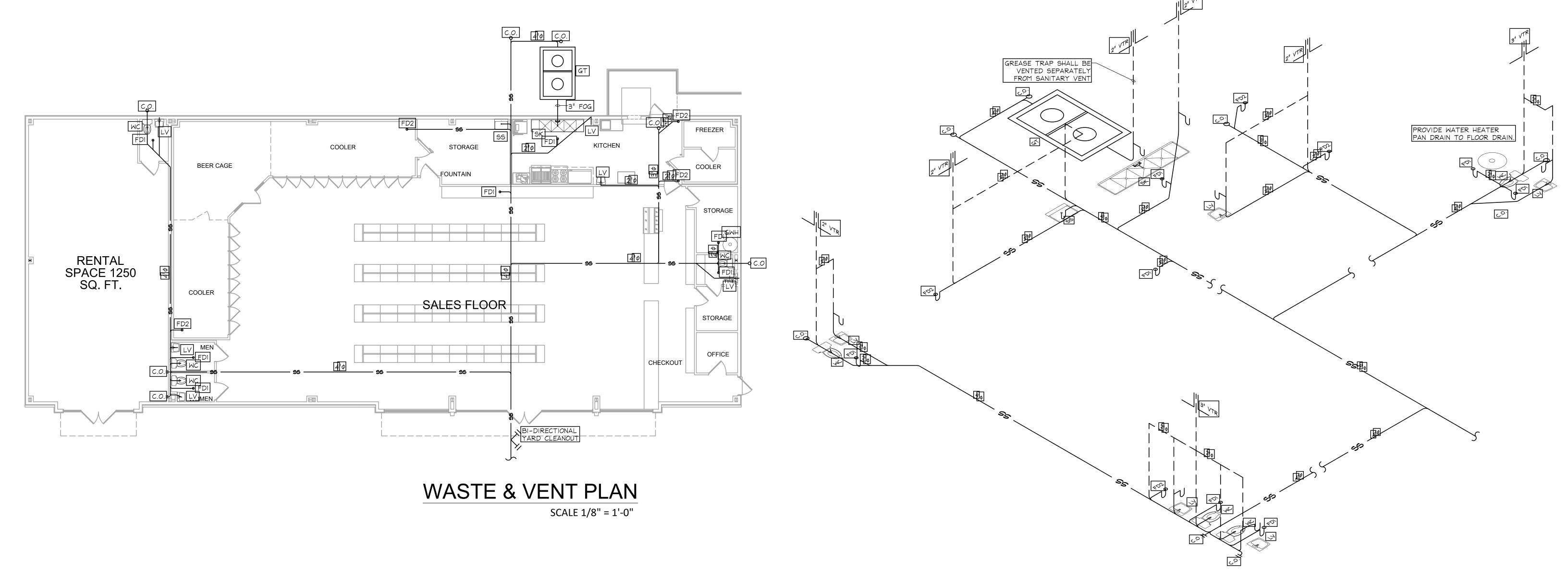
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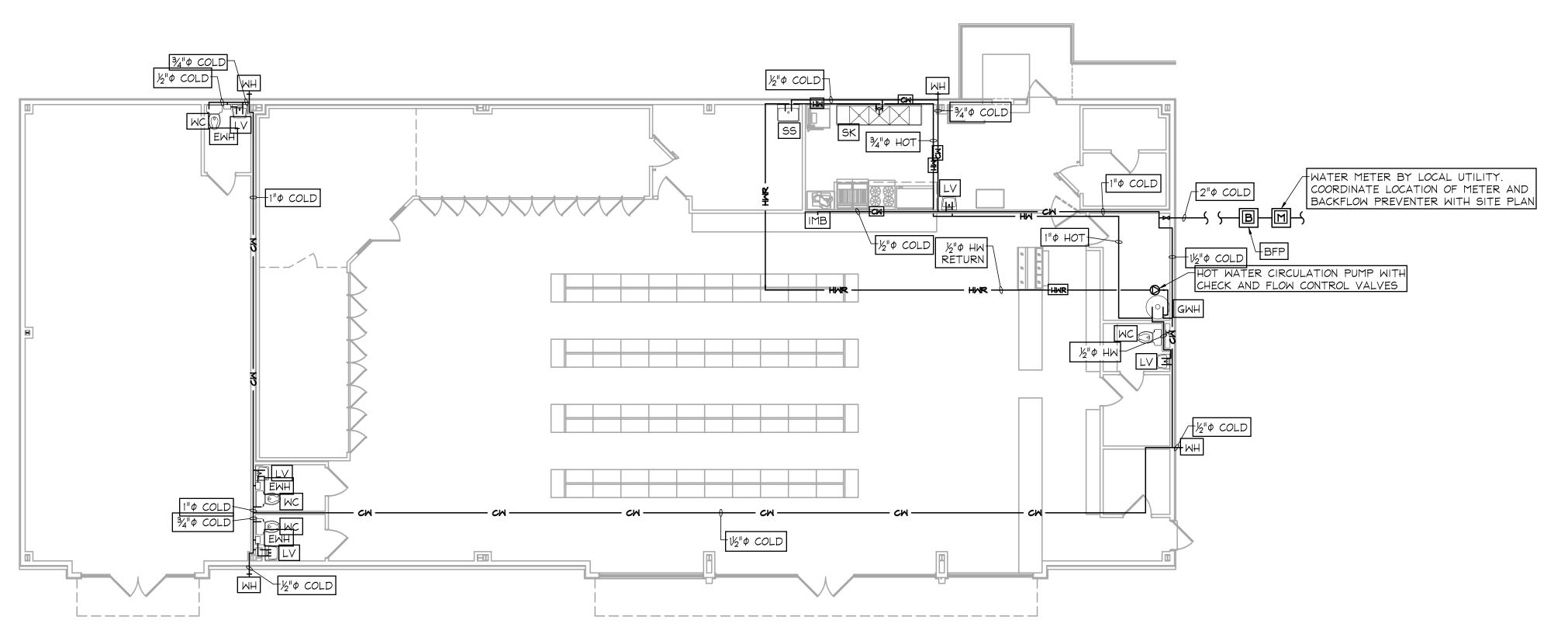
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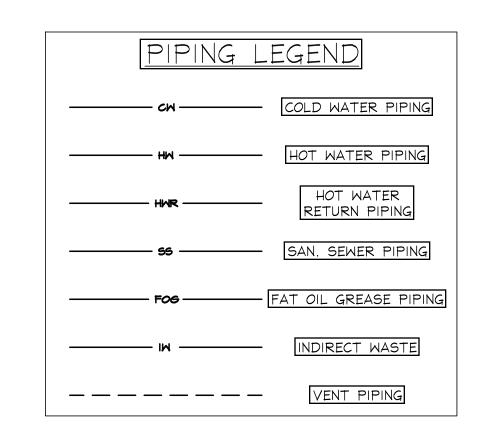
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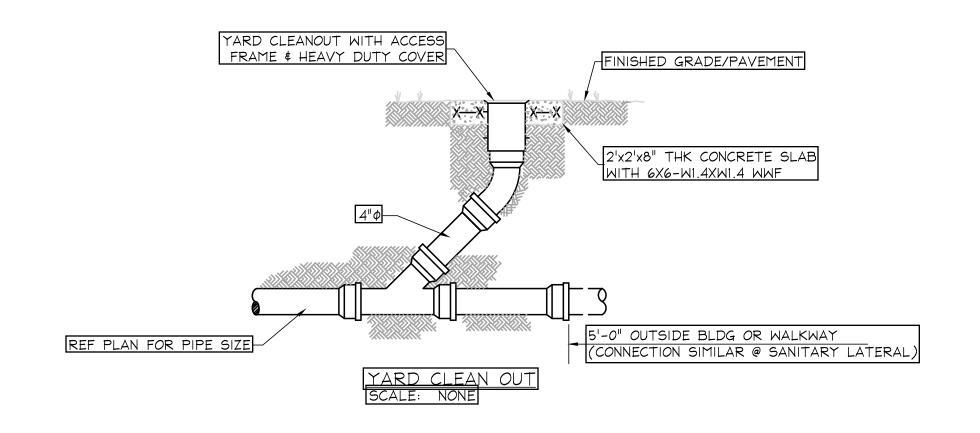


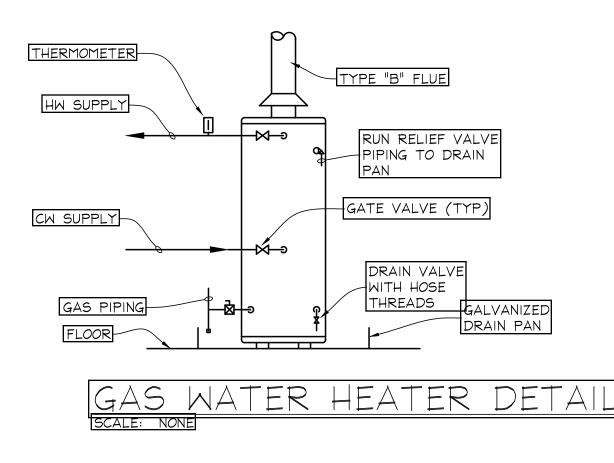
Thomas E	PLUMBING PLANS
Lovelace Mechanical Engineering	Alton B. Clingan, Jr
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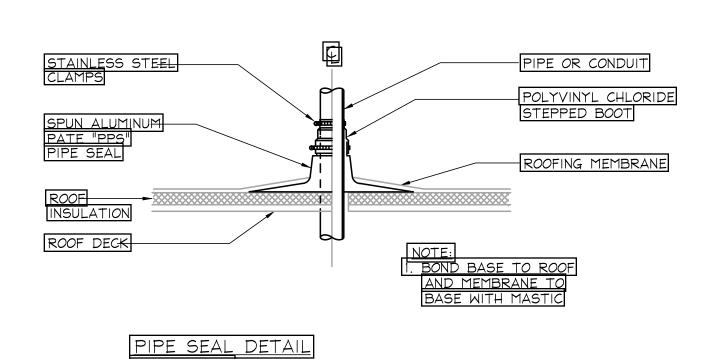


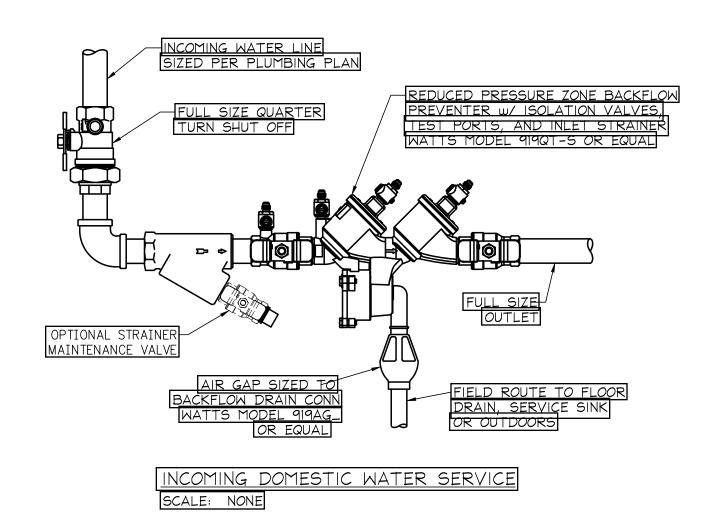
PLUMBING PLAN

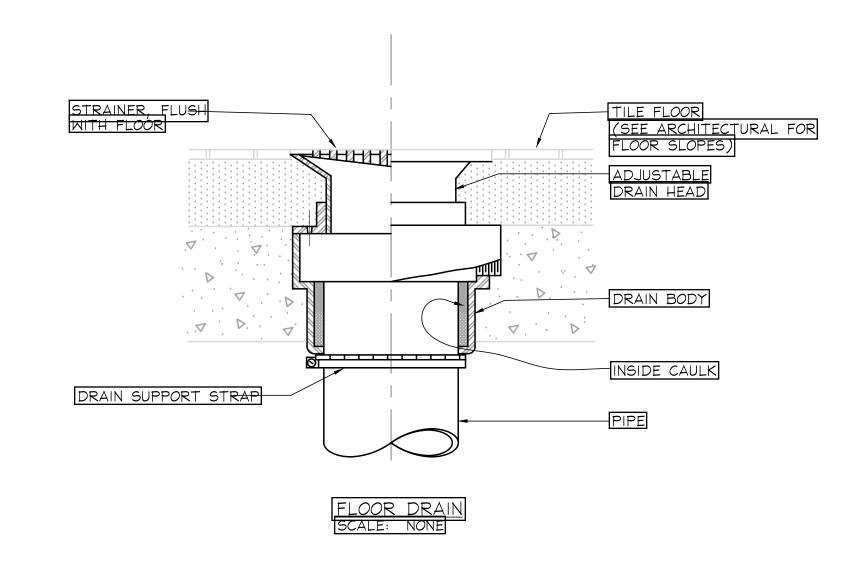
SCALE 1/8" = 1'-0"

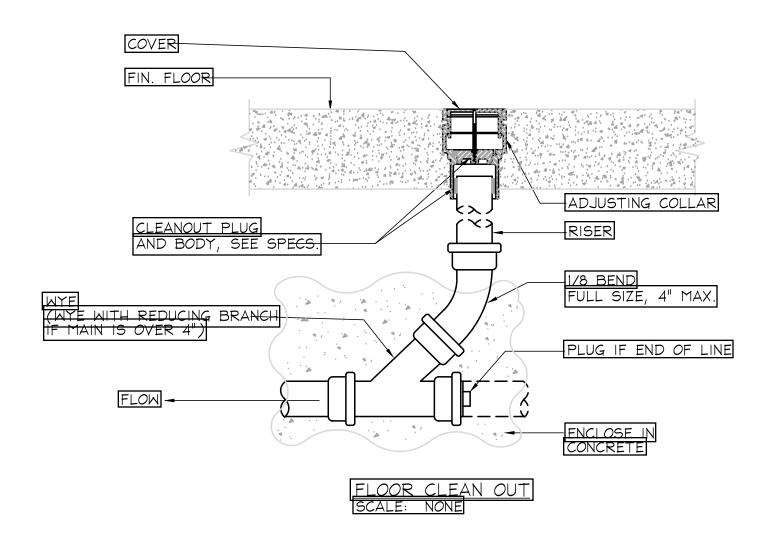


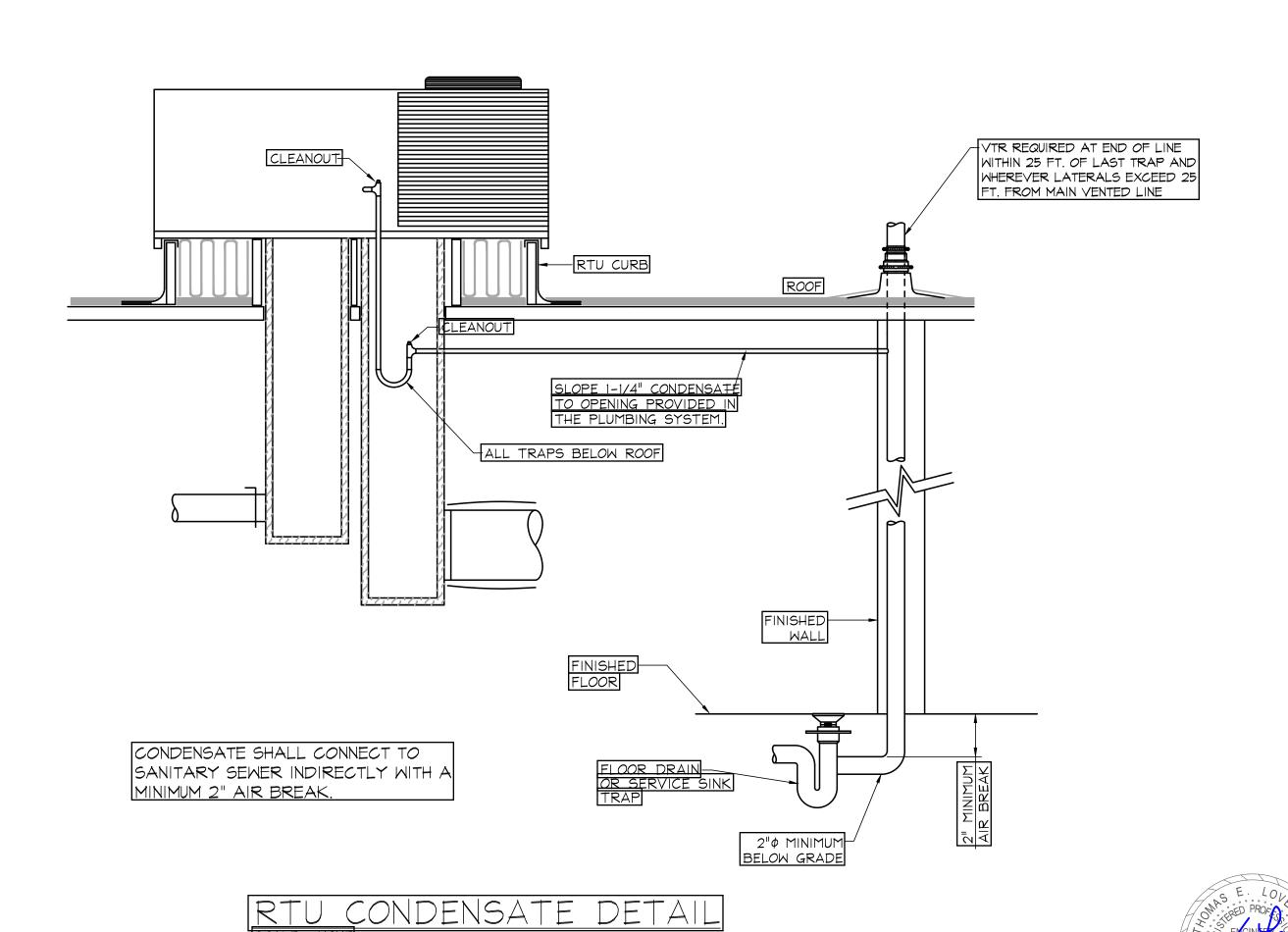


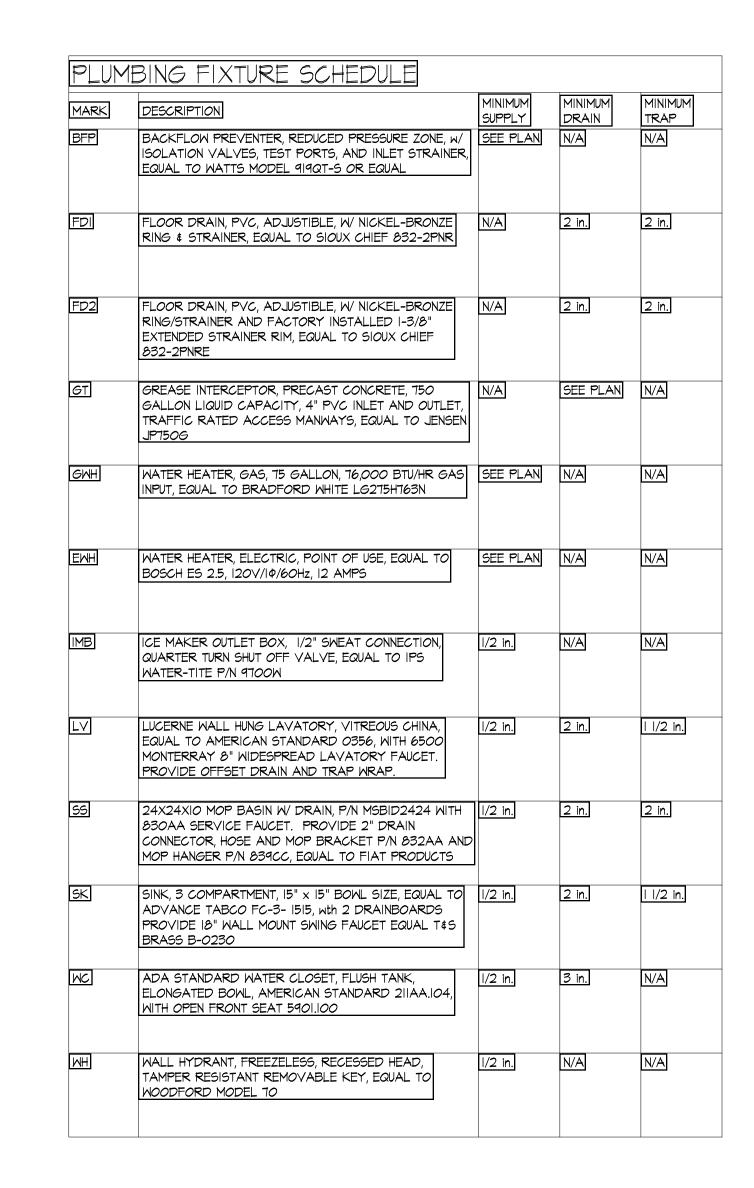












GENERAL PLUMBING NOTES:

THE CONTRACTOR SHALL EXECUTE ALL WORK SO THAT IT PROCEEDS WITH A MINIMUM OF INTERFERENCE WITH OTHER TRADES AND NORMAL FUNCTIONING OF EXISTING FACILITIES AND

VERIFY EXACT ROUGH-IN AND FINAL EQUIPMENT REQUIREMENTS IN FIELD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT U.N.O. THIS INCLUDES, BUT IS NOT LIMITED TO FURNISHING AND INSTALLING ALL

TRAPS, DRAINS, AND SUPPLIES WITH STOPS. THE CONTRACTOR SHALL VERIFY THAT ALL PIPING, AS SHOWN ON THESE DRAWINGS, WILL NOT CONFLICT WITH ANY DRAINS, SCUTTLES, JOINTS, VENTS, EQUIPMENT, ETC.

COORDINATE ROUTING AND LOCATIONS OF WASTE AND VENT PIPING WITH ALL OTHER TRADES. THE PLUMBING CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND OTHER TRADES, ALL REQUIRED OPENINGS AND EXCAVATIONS. ALL REQUIRED OPENINGS IN FOUNDATIONS,

FLOORS, WALL, AND ROOFS SHALL BE DESIGNED INTO THE STRUCTURE INITIALLY BY THE USE OF SLEEVES, CURBS, ETC. CUTTING AND PATCHING SHALL BE HELD TO A MINIMUM. ALL ITEMS PROJECTING THROUGH THE ROOF SHALL BE FLASHED A MINIMUM OF 12" ABOVE THE ROOF. ALL VENTS SHALL BE A MINIMUM OF 10' FROM ANY OUTSIDE AIR INTAKE. ALL VTR'S SHALL BE OFFSET SO THAT ALL ROOF PENETRATIONS SHALL BE TO THE REAR OF THE BUILDING.

ALL UNDERGROUND WASTE PIPES SHALL BE 2" MINIMUM. LOCATE ALL HORIZONTAL SEWER MAINS AWAY FROM LOAD BEARING STRUCTURAL MEMBERS.

O. INSULATE WATER SUPPLY AND WASTE PIPING UNDER HANDICAPPED LAVATORIES WITH "HANDI-LAV GUARD" JACKET.

CONTRACTOR SHALL FURNISH 1/2" "ARMAFLEX" PIPE INSULATION FOR ALL METAL CONDENSATE

DRAIN PIPING.

PROVIDE STOPS AND SHOCK ABSORBERS AT EACH FIXTURE OR GROUP OF FIXTURES.

. PROVIDE VACUUM BREAKERS AT FIXTURES WITH HOSE THREAD CONNECTIONS AND APPLIANCES

WITH DIRECT CONNECTIONS TO DOMESTIC WATER. . PROVIDE DI-ELECTRIC UNIONS AT ALL DISSIMILAR METAL PIPE CONNECTIONS.

5. ALL WATER LINES INSTALLED IN EXTERIOR WALLS OR ABOVE CEILINGS SHALL BE INSTALLED

INSIDE OF WALL INSULATION AND INSULATED INDIVIDUALLY TO PROTECT FROM FREEZING.

6. FLUSH HANDLES ON HANDICAP FIXTURES SHALL BE INSTALLED ON THE WIDE SIDE OF THE STALL 17. A PRESSURE TEST OF PLUMBING SYSTEM SHALL BE PERFORMED PRIOR TO THE INSTALLATION OF DRYWALL. THIS TEST IS TO BE PERFORMED UNDER THE SUPERVISION OF OWNER OR OWNER'S

. ALL VENTS TO BE TERMINATED IN ACCORDANCE WITH ALL APPLICABLE CODES

19. PENETRATIONS THRU RATED WALL AND FLOOR ASSEMBLIES SHALL BE PROTECTED BY UL RATED FIRESTOPS COMPATIBLE AND EQUAL IN RATING TO THE WALL OR FLOOR ASSEMBLY BEING PENETRATED.

20. ALL SEWER, VENT, AND WATER PIPING ROUTED IN CEILINGS SHALL BE COORIDINATED WITH FLOOR FRAMING TO RUN PARALLEL TO JOISTS AND TO MINIMIZE PENETRATIONS THRU FRAMING

ALL WATER HEATER DRAIN PANS SHALL BE MIN. 6" DEEP. PROVIDE 1" INDIRECT WASTE PIPE TO NEAREST FLOOR DRAIN OR ROUTE TO OUTSIDE OF BUILDING. TERMINATE EXTERIOR DRAINS WITH 90° ELL TURNED DOWN, 6" TO 24" ABOVE FINAL GRADE. PROVIDE T\$P VALVE RATED AT 100

PSIG AND 180°F. PIPE TO PAN WITH COPPER PIPE SIZED TO VALVE. 22. PLUMBING CONTRACTOR SHALL PROVIDE INDIRECT CONDENSATE DRAIN TO WITHIN 2 FT. OF COOLING COILS. CONNECT DRAIN TO HOUSE SIDE OF TRAP @ FLOOR DRAIN OR SERVICE SINK WITH 2" MIN. AIR BREAK. FINAL CONNECTION TO COOLING COIL BY MECH CONTRACTOR.

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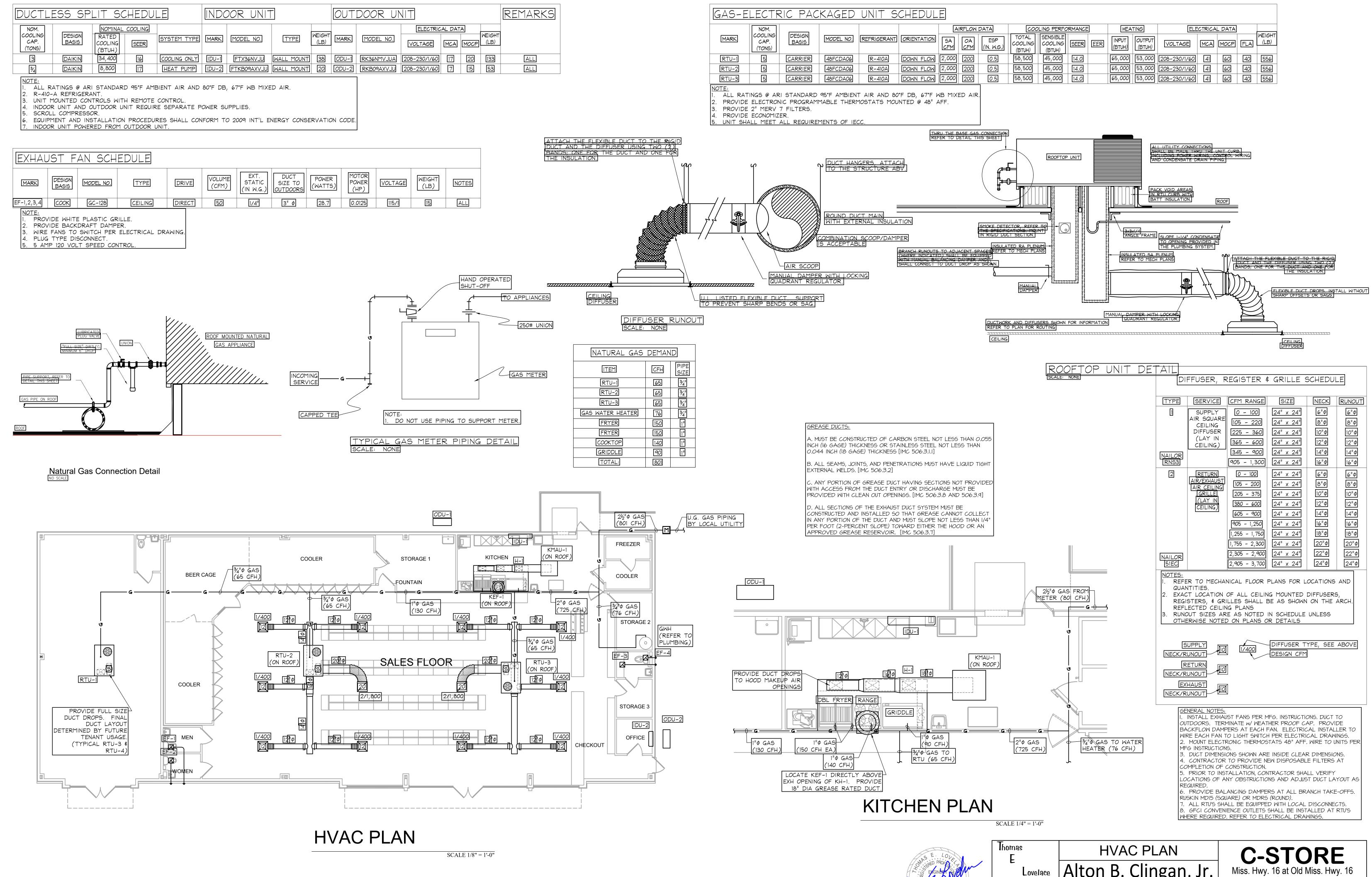
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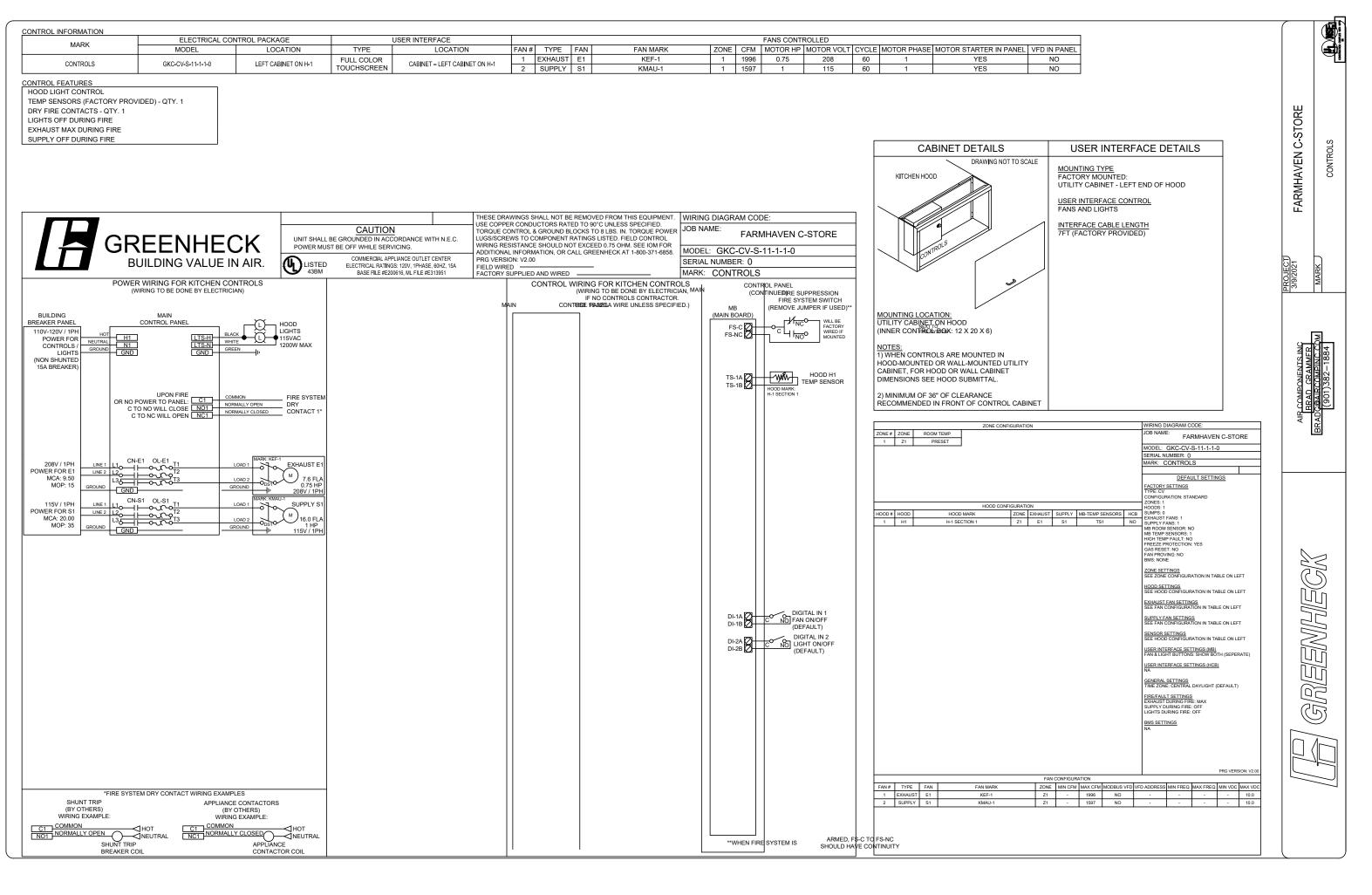


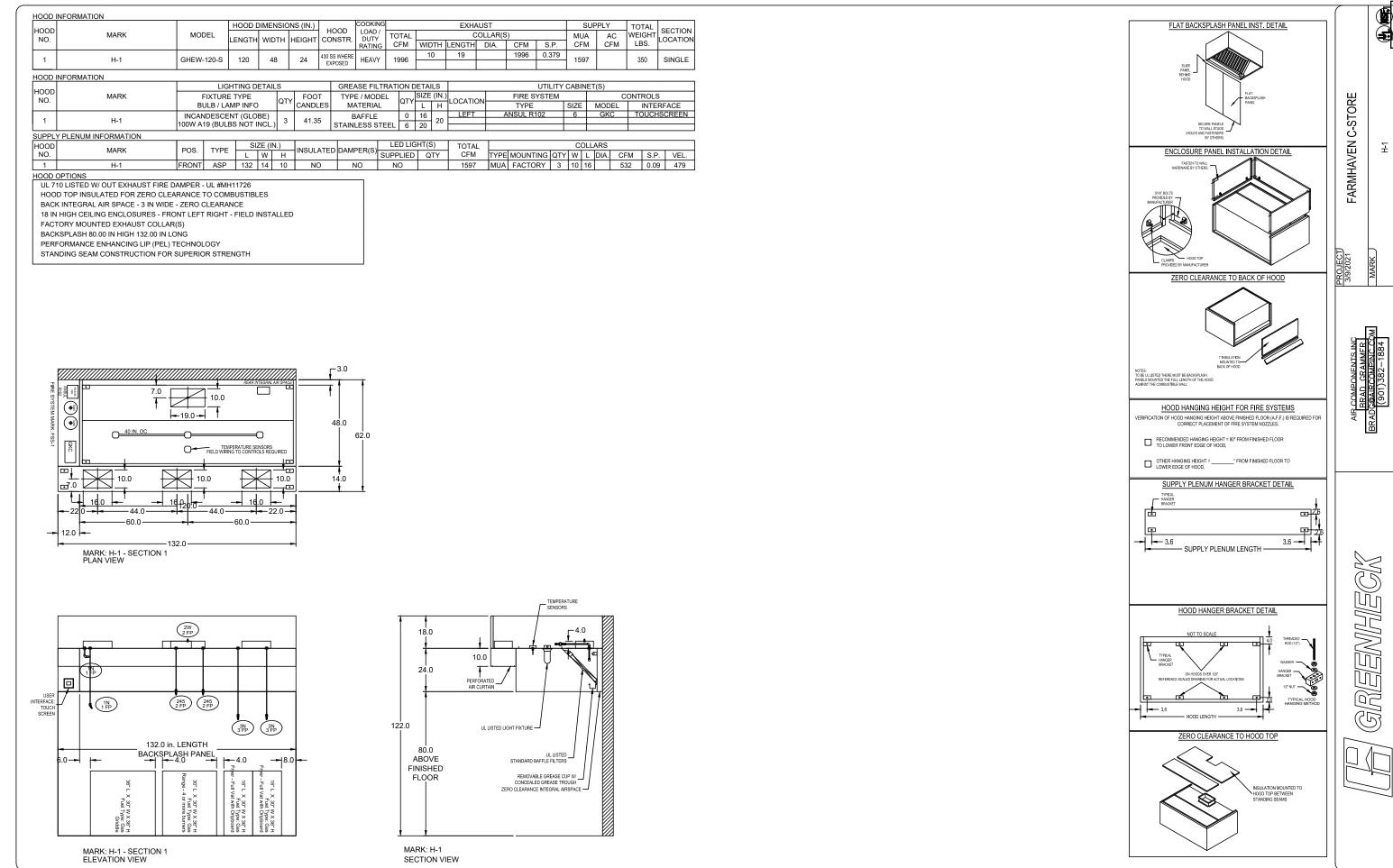
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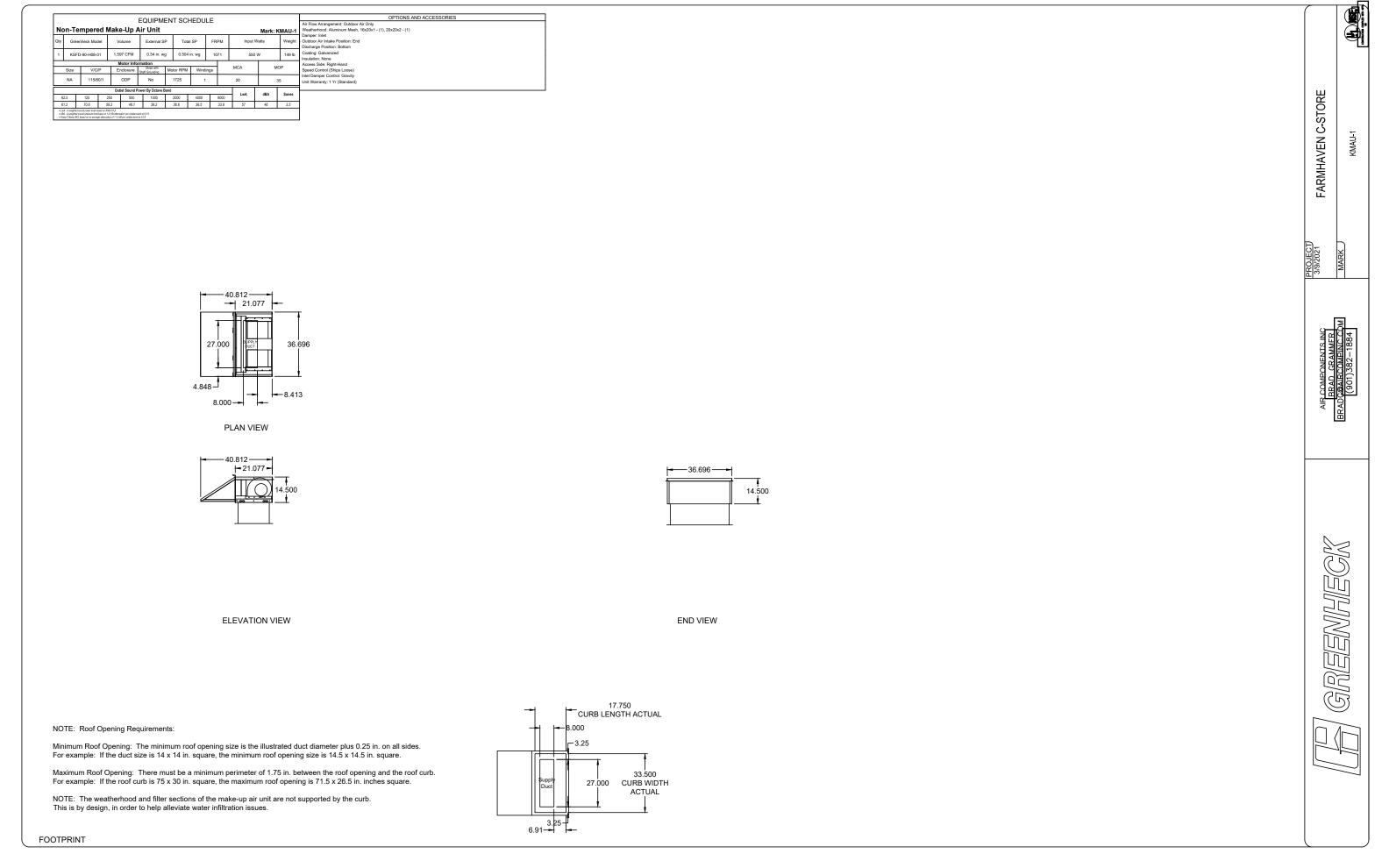
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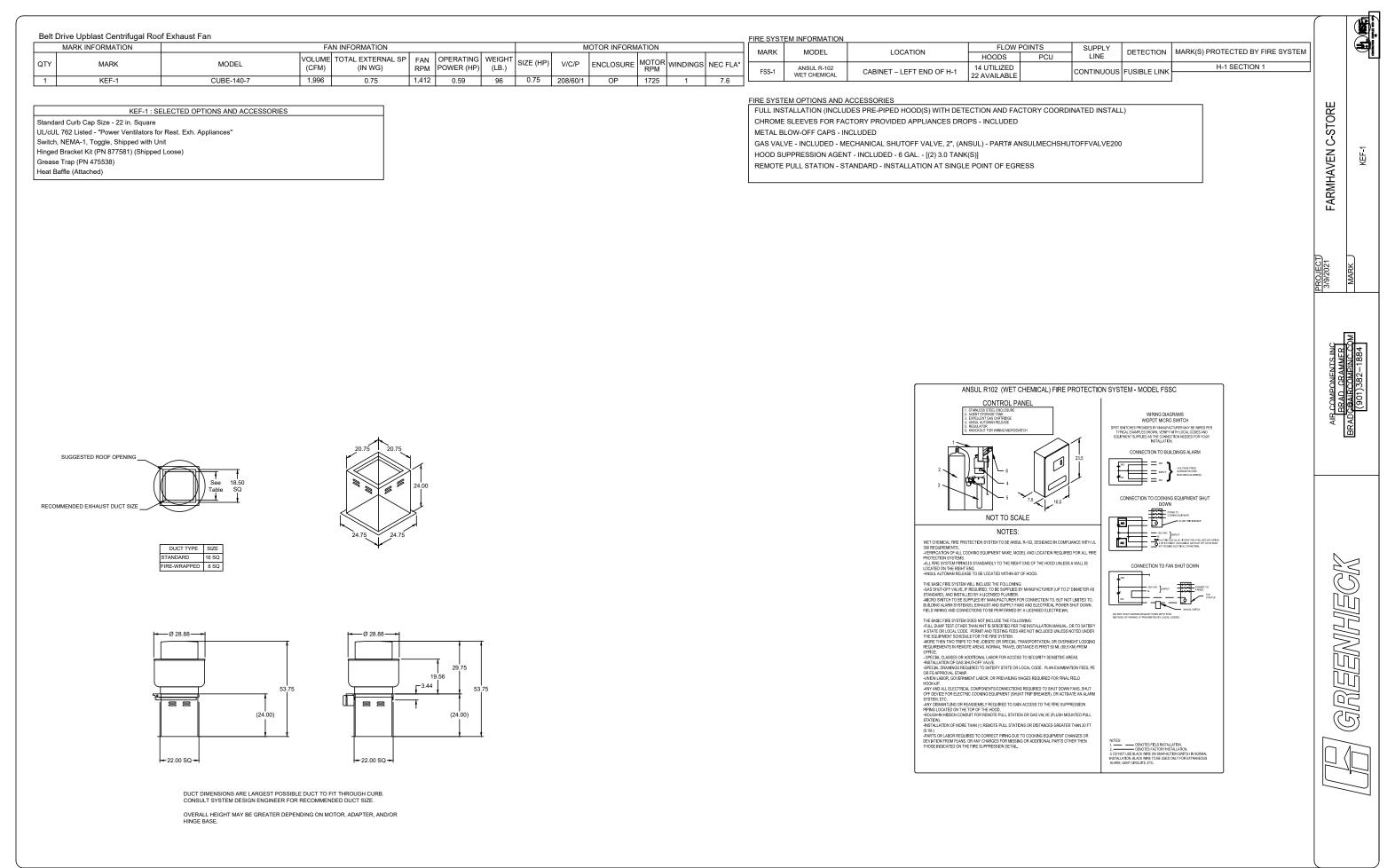
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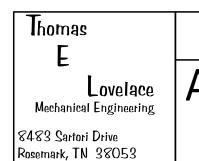












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SECTION 16000 ELECTRICAL

- THE WORK DESCRIBED UNDER THIS SECTION OF THE SPECIFICATIONS INCLUDES FURNISHING ALL MATERIAL, LABOR, AND EQUIPMENT, EXCEPT AS FURNISHED UNDER OTHER SECTIONS OF THE SPECIFICATION, TO INSTALL ALL ELECTRICAL WORK AS SHOWN IN THE DRAWINGS AND AS SPECIFIED ANE REFERRED TO HEREIN.
- 2. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT PAY AL FEES AND COST, SHALL OBTAIN ALL PERMITS, APPROVALS, AND
- INSPECTIONS TO PROVIDE A COMPLETE ELECTRICAL INSTALLATION. ALL ELECTRICAL EQUIPMENT AND THE RESULTANT INSTALLATION OF SUCH. EQUIPMENT, DEVICES, ETC. SHALL BE IN STRICT COMPLIANCE WITH THE NATIONAL ELECTRIC CODE, NFPA 70, ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND THE STANDARD FOR ELECTRICAL SAFETY IN THE
- WORKPLACE, NFPA 70E. CONTRACTOR SHALL TAKE RESPONSIBILITY FOR FIELD VERIFICATION OF ALL DIMENSIONS AND LOCATIONS OF EXISTING, RELOCATED, AND NEW EQUIPMENT, AND SHALL BE RESPONSIBLE FOR COORDINATION WITH THE WORK OF OTHER TRADES NECESSARY TO THE PROJECT.
- 4. THESE DRAWINGS ARE INTENDED TO OUTLINE THE SCOPE OF WORK REQUIRED TO PROVIDE A COMPLETE AND OPERABLE PROJECT CONCLUSION. ALL MISCELLANEOUS COMPONENTS, PARTS, FASTENERS, SPLICES, AND OTHER INCIDENTAL ITEMS NECESSARY TO PROVIDE A COMPLETED PROJECT SHALL BE PROVIDED WHETHER OR NOT SPECIFICALLY NOTED.
- 5. ALL CONNECTIONS TO EXISTING POWER, AND ALL TESTING SHALL BE DONE WITH THE ASSISTANCE AND GUIDANCE OF THE CONSTRUCTION MANAGER AND THE LOCAL POWER COMPANY.
- 6. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY CONFLICTS ARISING FROM DISCOVERED CONDITIONS AT ANY PHASE OF
- 7. AT ANY LOCATION WHERE EXCAVATION OR ASSOCIATED WORK CAUSES DAMAGE TO EXISTING UNDERGROUND UTILITIES, CONTRACTOR SHALL RESTORE THE DAMAGED SYSTEM TO LIKE-NEW STATE. 8. CONTRACTOR SHALL VERIFY ALL FINAL LOCATIONS OF ELECTRICAL
- EQUIPMENT PRIOR TO INSTALLATION WITH CONSTRUCTION MANAGER. LOCATIONS OF OTHER EQUIPMENT SPECIFIED BY OTHER TRADES OR PROVIDED BY OWNER ARE APPROXIMATE. COORDINATE EXACT LOCATION IN
- FIELD PRIOR TO ROUGHING IN AND ROUTING CONDUIT 12. SEE ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS FOR EXACT LOCATIONS FOR LIGHT FIXTURES IN LAY-IN OR DRYWALL CEILINGS, AND ON INTERIOR OR EXTERIOR WALLS.
- 13. CONDUITS ARE NOT NECESSARILY SHOWN ON PLAN DRAWINGS FOR SAKE OF CLARITY. PROVIDE CONDUITS BETWEEN DEVICES AND TO PANELS PER REQUIREMENTS LISTED IN DIVISION 16 SPECIFICATIONS. INDICATE EXACT ROUTING OF CONDUIT ON PLAN DRAWINGS AS PART OF AS BUILT DOCUMENTATION TO BE SUBMITTED AFTER FINAL COMPLETION.
- 16. GENERAL CONTRACTOR SHALL FIELD-VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING ANY WORK AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES. FAILURE TO DO SI INDICATED THAT THE CONTRACTOR ACCEPTS THE CONDITIONS AS THEY EXIST, AND SHALL PERFORM THE WORK REQUIRED AS SHOWN AND
- 17. ELECTRICAL CONTRACTOR SHALL REVIEW MECHANICAL DRAWINGS AND SPECIFICATION TO OBTAIN LOCATIONS, WIRING REQUIREMENTS, CONTROL WIRING SCHEMES, INTERLOCK WIRING, AND THERMOSTAT LOCATIONS.
- 18. EQUIPMENT SHALL BE MOUNTED ON MATERIALS SUITABLE FOR THE ENVIRONMENT WHICH IT IS INSTALLED WITH THE APPROPRIATE NEMA ENCLOSURE RATING 19. WORKING CLEARANCES FOR ELECTRICAL EQUIPMENT SHALL BE IN
- COMPLIANCE WITH ARTICLE 110 AND 408. 20. THE DEDICATED ELECTRICAL SPACE EXTENDING FROM THE FLOOR TO THE STRUCTURAL CEILING WITH THE WIDTH AND DEPTH OF THE PANELBOARD OR SWITCHBOARD, MUST BE CLEAR OF ALL PIPING, DUCTS, EQUIPMENT FOREIGN TO THE ELECTRICAL OR ARCHITECTURAL APPURTENANCES IN ACCORDANCE WITH NEC 110 & 408. COORDINATE INSTALLATION OF ELECTRICAL EQUIPMENT WITH OTHER TRADES PRIOR TO ROUGHING IN
- 30. THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND REVIEW THE MECHANICAL AND SPECIAL EQUIPMENT SUBMITTALS PRIOR TO SUBMITTING THE ELECTRICAL SUBMITTALS. ANY ELECTRICAL EQUIPMENT, CONDUIT, AND WIRE SIZE CHANGES RESULTING FROM THIS REVIEW SHALL ALSO BE SUBMITTED FOR APPROVAL.

- THE CONTRACTOR WILL BE HELD TO HAVE EXAMINED THE PREMISES AND 11.1. FOR ALL 120V TO GROUND CKTS: SATISFIED HIMSELF AS TO THE EXISTING CONDITIONS UNDER WHICH HE WILL BE OBLIGATED TO OPERATE IN PERFORMING PART OF THE WORK OR THAT WHICH WILL IN ANY MANNER AFFECT THE WORK UNDER HIS CONTRACT.
- PRIOR TO ORDERING ANY MATERIAL OR DOING ANY WORK, VERIFY THE DIMENSIONS AT THE SITE; CORRECTNESS OF DIMENSIONS WILL BE THI CONTRACTORS RESPONSIBILITY. NO EXTRA CHARGES OR COMPENSATION WILL BE ALLOWED FOR DIFFERENCES BETWEEN ACTUAL DRAWINGS AND DIMENSIONS INDICATED ON THE DRAWINGS. IMMEDIATELY REPORT DIFFERENCES TO THE ARCHITECT AND DO NOT PROCEED WITH WORK UNTIL THE ARCHITECT RENDERS HIS DECISION.
- .02 REGULATIONS, PERMITS, AND INSPECTIONS 1. REGULATIONS: COMPLY WITH ALL APPLICABLE CODES, RULES, AND 12.1. CONNECTIONS TO CIRCUIT BREAKERS AND SWITCHES: #12 WIRE REGULATIONS. ALL MATERIALS, FOUIPMENT, AND WORK MUST COMPLY WITH THE LATEST ADOPTED CODE AND THE APPLICABLE MUNICIPAL AND LIFE SAFETY CODES.
- 2. PERMITS: OBTAIN AND PAY FOR ALL PERMITS, FEES, AND LICENSES REQUIRED TO PERFORM WORK DESCRIBED HEREIN.
- 3. INSPECTIONS: ALL WORK MUST BE INSPECTED AND APPROVED BY LOCAL AUTHORITIES. PRIOR TO FINAL APPROVAL, FURNISH THE ARCHITECT WITH CERTIFICATES OF INSPECTION AND APPROVALS BY THE LOCAL
- FURNISH AND INSTALL MOTOR CONTROLS UNLESS IN MOTOR CONTROL CENTER. FURNISH HOLE CUTTING IN PRE CAST STRUCTURAL CONCRETE.
- .04 EXISTING SERVICES AND REMODEL AREA MAINTAIN ALL SERVICES, POWER, SOUND, TELEPHONE, ETC. TO EXISTING BUILDINGS OR AREAS. INTERRUPTIONS OF SERVICES REQUIRED FOR 14. SOLID CONDUCTORS SHALL LOOP TIGHTLY AND COMPLETELY AROUND "CUT-OVER" OR CONNECTIONS OF NEW CARLES, FTC. SHALL BE DONE AT THE CONVIENCE OF THE TENANT AND BE APPROVED IN WRITING BY THE TENANT PRIOR TO THE INTERRUPTION.
- PROVIDE TEMPORARY POWER AS REQUIRED BY THE GENERAL CONTRACTOR. THIS SERVICE SHALL BE MAINTAINED THROUGHOUT THE ENTIRE PROJECT AS THE WORK PROGRESSES.
- 2. PROVIDE OUTLETS AT CONVENIENT POINTS AND IN SUFFICIENT NUMBERS SO THAT NO EXTENSION CORD IS OVER 50 FEET IN LENGTH IS REQUIRED TO REACH ANY WORK POINT. MAINTAIN GENERAL LIGHTING IN CORRIDORS, STAIRS, BASEMENT AND OTHER AREAS NOT RECEIVING DAYLIGHT REQUIRED FOR SAFETY. REMOVE TEMPORARY WORK AS RAPIDLY AS REQUIRED FOR OR ALLOWED BY INSTALLATION OF PERMANENT WORK.

16420 SERVICE ENTRANCE EQUIPMENT

- SERVICE ENTRANCE EQUIPMENT TO HAVE SHORT CIRCUIT RATING EQUAL TO OR GREATER THAN AVAILABLE FAULT CURRENT, AND MEET ALL REQUIREMENTS OF U.L. STANDARDS NO 891. OUTDOOR GEAR TO BE NEMA 3R. ALL SWITCHGEAR TO BE FREE STANDING. UNLESS OTHERWISE INDICATED, MOUNTED ON 4" CONCRETE PAD EXTENDING A MINIMUM OF 6" IN FRONT OF EQUIPMENT.
- 2. END SECTION SHALL BE PROVIDED WITH FULL CAPACITY THROUGH BUS 2. RIGID STEEL CONDUITS OR INTERMEDIATE METAL CONDUITS SHALL BE USED FOR FUTURE EXTENTION TO FUTURE SECTIONS.
- . SWITCHBOARDS TO BE SQUARE D TYPE QMB OR EQUAL, FREE STANDING, 90" HIGH, MIN 14" DEEP WITH TYPE QMB SWITCHES. END SECTION WITH FULL CAPACITY THROUGH BUS FOR FUTURE SECTIONS. MOUNT ON 4" CONCRETE PAD EXTENDING MINIMUM OF 6" IN FRONT OF SWITCHBOARDS.

SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE. WHERE OUTSIDE THE BUILDING, THE SWITCHES SHALL BE RAINTIGHT NEMA 3R. ALL SWITCHES

SHALL BE LOCKABLE.

16461 DRY TYPE TRANSFORMERS

- PANEL TYPE AS INDICATED ON THE DRAWING. NEW FLUSH PANELS TO 4. UL LISTED SCHEDULE 80 PVC CONDUIT MAY BE USED FOR UNDERGROUND HAVE 3 (3/4") EMPTY CONDUITS STUBBED INTO ACCESSIBLE CEILING
- 2. PROVIDE A GROUND BUS IN ALL PANELS INCLUDING EXTISTING PANELS 5. NON-METALLIC CONDUIT INSTALLED BELOW CONCRETE FLOORS MAY BE 12. CONDUIT: WHEREIN WORK IS DONE OR LOADS ADDED. CHECK ALL BREAKERS.

REPLACE DEFECTIVE BREAKERS IN AFOREMENTIONED PANELS.

- 3. VERIFY THE INTERRUPTING CAPACITY OF ALL BREAKERS WITH REQUIREMENTS INDICATED ON THE DRAWINGS. REPLACE EXISTING BREAKERS NOT MEETING REQUIRED A.I.C. RATING.
- 4. HOME RUN CIRCUITRY SHALL BE IN 5. INDIVIDUAL CONDUITS FROM THE LOAD TO THE PANEL. DO NOT USE WIRING GUTTERS TO CONSOLIDATE WIRING. CONDUITS SHALL BE LIMITED TO 3 CURRENT CARRYING CONDUCTORS UNLESS INDICATED OTHERWISE.

- 1. SHALL BE EQUAL TO SQUARE D, 150 DEGREE TEMPERATURE RISE; SERIES TLESS THAN 3-1/2" THICK, EXCEPT FOR LOCAL OFFSETS. NO CONDUIT 18. SHOP DRAWINGS: 7410/7411. CLEARANCE ALL AROUND PER MANUFACTURERS RECOMMENDATION. PROVIDE ISOLATION PADS.
- 16510 LIGHTING FITXTURES FLUORESCENT FIXTURES SHALL BE FURNISHED WITH UL LISTED HIGH POWER FACTOR BALLAST. CONTRACTOR SHALL VERIFY CEILING CONSTRUCTION BEFORE ORDING RECESSED UNITS SHALL PROVIDE PLASTER OR DRY WALL FRAMES AS REQUIRED.
- RECESSED INCANDESCENT FIXTURES AND FLUORESCENT DOWN LIGHTS SHALL BE LISTED FOR USE IN INSULATED CEILING SPACES, AND SHALL HAVE ANY REQUIRED FEED THRU BOXES.
- 3. LAMPS FOR INCANDESCENT FIXTURES SHALL BE 1000 HOUR INSIDE FROSTED 130 VOLT, NOT EXCEEDING THE WATTAGE FOR WHICH THE FIXTURE IS LABELED AND SHALL BE OF THE TYPE RECOMMENDED BY THE FIXTURE MANUFACTURER. LAMPS SHALL BE OF THE SAME MANUFACTURER
- ALL FIXTURES SHALL BE PROPERLY SUPPORTED FROM THE CEILING STRUCTURE, NOT FROM GYPSUM BOARD OR PLASTER. SURFACE OR PENDENT MOUNT FIXTURES SHALL BE BOLTED TOGETHER FOR PROPER
- ALL FLUORESCENT FIXTURES RECESSED IN THE CEILING OR IN A GRID CEILING SHALL BE PROVIDED WITH EARTHQUAKE CLIPS AS REQUIRED BY

16195 NAMEPLATES

- PROVIDE CONTRAST PLASTIC EMBOSSING TAPE, ADHESIVE BAKED NAMEPLATES FOR ALL STARTERS AND DISCONNECT SWITCHES.
- PROVIDE LAMICOID NAMEPLATES FOR ALL DISTRIBUTION SWITCHES, BREAKERS, LIGHTING, AND POWER PANELS INDICATING ITEMS SERVED. SIZE OF LETTERS SHALL BE A MINIMUM OF 3/16" HIGH
- ALL WIRE AND CABLE SHALL BE NEW, 600VOLT INSULATED, OF TYPES SPECIFIED BELOW. ALL WIRE AND CABLE SHALL BEAR THE UNDERWRITER'S LABEL AND SHALL BE BROUGHT TO THE JOB IN UNBROKEN PACKAGES. 2. ELEVATION OF EACH RECEPTACLE SHALL BE FLOOR PLUS 18" TO CENTER WIRE SHALL BE COLOR CODED PER THE NEC.
- BRANCH CIRCUIT WIRING SHALL BE MINIMUM #12 AWG COPPER.
- WIRE AND CABLE #4 AWG AND SMALLER SHALL BE THW OR THHN/THWN.
- WIRE AND CABLE LARGER THAN #4 AWG SHALL BE XHHW. ALL AIR CONDITIONING FEEDERS SHALL BE TYPE XHHW.
- ALL WIRING IN PANELBOARDS, SWITCHBOARDS, AND GUTTERS SHALL BE NEATLY ARRANGED. WIRE SHALL BE HELD BUNDLED BY TY-WRAPS. WIRES SHALL BE CONNECTED TO CIRCUIT BREAKERS, SWITCHES, AND OTHER DEVICES PERPENDICULAR TO TERMINAL LUGS.
- ALL WIRING IN MANHOLES, PULL BOXES, OR JUNCTION BOXES OVER 12" IN LENGTH SHALL BE BUNDLED IN A NEAT AND WORKMANLIKE MANNER.
- AFTER COMPLETION OF UNDERGROUND SPLICES AND SPLICES IN MANHOLES, SEAL SPLICES WITH SCOTCHCOAT #82 COATING OR EQUAL TO
- LEAVE NO LESS THAN 6" OF WIRE AT EACH OUTLET FOR CONNECTION TO LIGHTING FIXTURES, SWITCHES, RECEPTACLES AND OTHER PIECES OF EQUIPMENT. WHERE WIRES FEED THROUGH AN OUTLET OR JUNCTION BOX, NEATLY TUCK 6" LOOP IN BOTTOM OF BOX.
- 10. LIGHTING AND POWER CIRCUITS SHALL BE IDENTIFIED BY PANEL LETTER AND CIRCUIT NUMBER WITH BRADY WRAP AROUND CLOTH WIRE MARKERS AT AL TERMINATIONS AND JUNCTIONS.
- 11. ALL BRANCH CIRCUIT AND FEEDER CONDUCTORS SHALL BE COLOR CODED 5. OUTLETS SET IN FURRED CEILING AND STUD WALLS SHALL BE ANCHORED AS FOLLOWS:
- 11.1.1. PHASE CONDUCTIONS: BLACK, RED, BLUE NEUTRAL - WHITE
- 11.2. FOR ALL 277V TO GROUND CKTS: PHASE CONDUCTORS: BROWN, ORANGE, YELLOW NEUTRAL CONDUCTORS: GRAY 11.2.2.
- LARGE FEEDER CONDUCTORS SHALL BE COLOR CODED BY COLORED TAPE WRAPPED AROUND THE CONDUCTOR AT EACH PULL BOX, TERMINATION POINT AND SPLICE.
- 12. ALL CONNECTIONS TO CIRCUIT BREAKERS AND SWITCHES AND ALL JOINTS IN WIRES SHALL BE MAKE AS NOTED:
- SHALL BE FORMED AROUND BINDING POST OR SCREW. #10 AND #8 WIRE - BUCHANAN, "TERMEND" OR APPROVED EQUAL, LOCKING TONGUE LUG. #6 WIRE OR LARGER — BURNDY "QUICK-LUG" TYPE QDA, OR APPROVED EQUAL, ROUND FLANGE SOLDERLESS LUG.
- 12.2. FIXTUE CONNECTION: CIRCUIT CONNECTIONS TO FIXTURE WIRE SHALL BE MADE WITH PRESSURE TYPE SOLDERLESS CONNECTORS -BUCHANAN, SCOTCHLOC OR WING NUT OR APPROVED EQUIAL, COMPLETE WITH INSULATOR AND SECURITY RING.
- 12.3. JOINTS IN WIRES: #6 WIRE AND LARGER BURNDY OR APPROVED EQUAL, #8 OR SMALL - BUCHANAN, SCOTCHLOC, WING NUT, OR EQUAL PRESSURE TYPE SOLDERLESS CONNECTORS COMPLETE WITH INSULATOR AND SECURITY RING.
- 13. CONTROL WIRING AND ALL OTHER STANDARD WIRING TO SCREW CONNECTIONS SHALL BE PROVIDED WITH T&B STA-KON TERMINALS.

TERMINAL SCREWS ON ALL WIRING DEVICES.

- 15. UNINSULATED SOLDERLESS CONNECTORS TO BE INSULATED AS FOLLOWS: TAPE WITH A COVERING OF RUBBER TAPE, EQUAL IN THICKNESS TO THE INSULATION. THIS SHALL BE FOLLOWED WITH AN OTHER COVERING OF FRICTION TAPE IN TWO LAYERS. ONE COAT OF WATERPROOF PAINT SWHALL BE APPLIED WHEN SUBJECT TO MOISTURE.
- 16. WIRE AND CABLE TO BE PULLED INTO CONDUITS WITHOUT STRAIN. USE POWDERED SOAPSTONE, MINERALAC, OR OTHER APPROVED LUBRICANT.
- . WIRE SHALL NOT BE RE PULLED IF SAME HAS BEEN PULLED OUT OF A CONDUIT RUN. NO CONDUCTOR SHALL BE PULLED INTO CONDUIT UNTIL CONDUIT SYSTEM IS COMPLETE, INCLUDING JUNCTION BOXES, PULL BOXES, ETC. WITHOUT PERMISSION OF ARCHITECT
- IN GENERAL, ELECTRICAL METALLIC TUBING SHALL BE USED FOR ALL WIRING EXCEPT IN OR UNDER CONCRETE, EARTH, OR FILL. ELECTRICAL METALLIC TUBING MAY BE USED IN FURRED SPACES, WOO FRAME WALL WHERE CONDUITS DO NOT EXCEED 2 1/2" IN SIZE. BRICK, BLOCK, TILE, AND CONCRETE WALLS ARE NOT CONSIDERED HOLLOW AND RIGID CONDUIT SHALL BE PROVIDED FOR THESE AREA.
- IN CONCRETE SLABS, IN SOLID GROUTED CELLS OR CONCRETE MASONRY WALLS, BRICK, OR TILE WALLS, FOR ALL EXPOSED CONDUIT OUTSIDE OF THE BUILDING. AND FOR CONDUITS EXCEPDING 2 1/2" IN SIZE. IN ADDITION ALL WIRING IN OR UNDER CONCRETE, EARTH, OR FILL SHALL BE RIGID GALVANIZED OR SHERARDIZED STEEL. RIGID CONDUIT UNDER CONCRETE, IN EARTH, OR FILL SHALL BE COATED WITH POLYETHYLENE TAPE. SCOTCH NO 50 OR APPROVED EQUAL, SPIRAL WRAPPED 1/2" LAPPED OT AN OVERALL THICKNESS OF NOT LESS THAN 15 MILS.
- USE FLEXIBLE METAL CONDUITS FOR RECESSED FIXTURES, MOTOR, 9. LOCAL WALL SWITCHES, RECEPTACLES, PILOT LIGHTS: PASS AND TRANSFORMER, AND OTHER EQUIPMENT SUBJECT TO MOVEMENT. USE LIQUID TIGHT TYPE WHERE EXTERIOR OR SUBJECT TO LIQUID SPRAY OR
- RUNS. EXPANSION JOINTS AT 75 FEET ON CENTER OR AS REQUIRED BY MFG. ALL BENDS SHALL BE MANUFACTURED.
- INSTALLED IN THE FILL, HOWEVER, A PORTION OF THE CONCRETE FILL MATERIAL MUST BE PLACED AROUND THE CONDUIT FOR RIGID SUPPORT. NON-METALLIC CONDUIT OUTSIDE THE FILL SHALL BE BURIED A MINIMUM 13. FITTINGS: THOMAS AND BETTS, APPLETON, CROUSE-HINDS. OF 18" BELOW GRADE. NON-METALLIC CONDUIT SHALL BE PROVIDED WITH CODE SIZE COPPER BOND WIRE INSIDE THE CONDUIT FOR ELECTRICAL CONTINUNITY. AND SHALL BE INSTALLED IN ACCORDANCE TO NEC ARTICLE 250. WRAPPED RIGID STELL ELEBOWS SHALL BE USED FOR RISERS ON PVC CONCUIT RUNS AND SHALL BE GROUNDED.
- CONDUIT PLACED IN A CONCRETE SLAB SHALL BE LARGER THAN 16. FLOOR BOXES: HUBBELL, LEW STEEL CITY. 3/4"TRADE SIZE DIAMETER AND CONDUIT SMALLER THAN 3/4" SHALL BE USED FOR UNDERGROUND CIRCUITS. CONDUIT SHALL HAVE MINIMUM 1" CONCRETE COVER. NOT CONDUIT SHALL BE IMBEDDED INA SLAB THAT IS

- SHALL BE PLACED BETWEEN THE REINFORCING STEEL AND THE BOTTOM OF 19. ALL DATA SHALL BE SUBMITTED AT ONE TIME, BOUND, AND INDEXED IN 7. ALL CONDUIT UNDER CONCRETE DRIVES OR ANY LOCATION WHERE SUBJECT TO DAMAGE BY HEAVY EQUIPMENT SHALL BE INSTALLED A MINIMUM OF 24" BELOW GRADE OR 18" BELOW GRADE ENCASED IN A 3' THICK CONCRETE ENVELOPMENT
- 8. TRENCHING, BACFILLING, AND CONCRETE WORK FOR ELECTRICAL WORK AND/OR RULING AUTHORITIES AND REGULATING AGENCIES.
- SHALL BE DONE UNDER THIS SECTION AND AS REQUIRED BY LOCAL
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SLEEVES AND CHASES REQUIRED WHERE CONDUITS PASS THROUGH FLOORS AR WALLS, AND SHALL SEAL ALL AOPENING AND FINISH TO MATCH ADJACENT SURFACES.
- WHERE EXPOSED CONDUITS PASS THOUG WALL, FLOORS, OR CEILINGS, ESCUTCHEON PLATES SHALL BE PROVIDED.
- 10. ALL NECESSARY SERVICES AND BLOCKOUTS SHALL BE PROVIDED. 11. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL WIRE.
- 12. RIGID CONDUIT FITTINGS 12.1. PROVIDE DOUBLE LOCKNUTS AND BUSHINGS EXCEPT AT THREADED
- 13. FMT OR FLEX FITTINGS 13.1. FOR EMT OR MALLEABLE IRON, COMPRESSION, AND SET SCREW (DOUBLE SET SCREW), FOR FLEXIBLE CONDUIT, COMPRESSION OR CLAMP TYPE CONNECTOR SHALL HAVE INSULATED THREADS.
- 14.1. METAL CLAD CABLE MAY BE USED IN LIEU OF EMT CONDUIT AND
- WIRE FOR BRANCH CIRCUIT WIRING IF ACCEPTABLE TO AUTHORITIES.
- SHALL BE MOUNTED IN AN FS CONDUIT BOX.
- UNLESS OTHERWISE NOTED. 3. ALL SWITCHES SHALL BE OF THE SAME MANUFACTURER AS THE THE
- 4. COVERPLATES FOR TPRECPTACLES, SWITCHS, AND OUTLETS SHALL 29. IN GENERAL TEST SHALL BE CONDUCTED AS FOLLOWS: GENERALLY BE PLASTIC, WITH COLOR AS SELECTED BY THE ARCHITECT.

RECEPTACLES FURNISHED.

- BOXES IN EXPOSED OR WET LOCATIONS SHALL BE CAST STEEL CONDUIT BODIES. IN CONCEALED LOCATIONS, THEY SHALL BE SHEET STEEL BOXES WITH GALVANIZED OR SHERARDIZED FINSH, NEOPRENE GASKETED, SCREWED COVERS.
- 2. SHEET STEEL BOXES SHALL BE STANDARD ONE-PIECE KNOCKOUT BOXES. WHERE OUTLETS ARE INSTALLED INCONCRETE SLABS, BOXES SHALL BE CONCRETE CAST TYPE BOXES. BOXES SHALL NOT BE LESS THAN 4" IN DIAMETER AND 1-1/2" DEEP. OUTLET BOXES SET IN CONCRETE SHALL BE SET TO HAVE FINAL OPENING FLUSH WITH FINISH SURFACE.
- 3. CAST-METAL CONDUIT BODIES SHALL BE CROUSE-HINDS CONDUITS APPLETON UNILETS, OR APPROVED EQUIVALENT. BOXES SHALL BE ARRANGED WITH THREADED CONNECTORS FOR RIGID CONDUIT. ALL CONDUIT BODIES SHALL HAVE SUITABLE COVERS, WHICH SHALL BE PROVIDED WITH GASKET FOR EXTERIOR AND MOIST LOCATIONS.
- 4. POWER / PHONE FLOOR OUTLETS SHALL BE STEEL CITY #664 WITH #664CST COVER (VERIFY COLOR), #664-BP PHONE PLATE, #664RP RECEPTACLE PLATE AND 20A DÜPLEX RECEPTACLE. COMPARTMENT TO HAVE 3/4" E.C. TO CEILING SPACE VIA FLOOR WALL.
- TO THE CEILING OR WALL STRUCTURE WITH SUITABLE STEEL STRAPS.
- 6. OUTLET BOXES SHALL BE USED ALL PULL AND JUNCTION BOXES WHEREVER POSSIBLE AND WHERE REQUIRED. BOXES IN PLASTERED WALLS OR CONCRETE BLOCK WALLS IN FINISHED AREAS AND CEILINGS SHALL HAVE TWO GANG RAISED PLASTER RINGS AND BLANK WALL PLATE. OTHER BOXES SHALL HAVE BLANK COVERS.
- 7. WHERE OTHER THAN OUTLET BOXES ARE REQUIRED, PULL AND JUNCTION BOXES SHALL BE CONSTRUCTED OF GALVANIZED STEEL CONFORMING TO CODE REQUIREMENTS. EXTERIOR BOXES SHALL BE OF WEATHERPROOF CONSTRUCTION AND SHALL BE PROVIDED WITH NEOPREME COVER GASKETS BOXES SHALL BE RIGIDLY ATTACHED TO THE STRUCTURE, INDEPENDENT OF ANY CONDUIT SUPPORT.
- FURNISH AND INSTALL ALL UNISTRUT, HANGERS, SUPPORTS, ETC. REQUIRED FOR WORK UNDER THIS DIVISION. SUPPORT CONDUIT FROM BUILDING STRUCTURE, NOT FROM CEILING SUPPORTS. BRANCH CIRCUIT CONDUITS 3/4" AND SMALLER MAY BE RUN FROM CEILING SUPPORTS USING SPRING STEEL CLIPS.
- CONCRETE, EXCAVATION, FILL, BACKFILL
 1. FURNISH ALL CONCRETE, EXCAVATION, FILL, BACKFILL, AND STEEL REQUIRED FOR THIS WORK UNLESS SPECIFICALLY NOTED OTHERWISE.
- 2. ALL CONCRETE, FILL, BACKFILL, STEEL, ETC., WHERE REQUIRED SHALL BE IN STRICT ACCORDANCE WITH SPECIFICATIONS SETUP IN OTHER DIVISIONS OF THE SPECIFICATION.
- SHALL BE ACCOMPLISHED IN THE FIELD, SUBJECT TO THE APPROVALS OF THE ARCHITECT. THE LOCATION OF ALL SWITCHES, FIXTURES, PANELS, ETC. AND THEIR PROXIMITY AND RELATIONSHIP TO ALL VISIBLE FEATURES OF EQUIPMENT FURNISHED BY OTHER TRADES, SHALL BE MADE KNOWN TO THE ARCHITECT. IN CASE OF CONFLICT BETWEEN TRADES, OR BETWEEN A TRADE AND THE ARCHITECT, THE DECISION OF THE ARCHITECT SHALL BE FINAL AND HIS INSTRUCTIONS IN THESE MATTERS SHALL BE FOLLOWED BY ALL CONCERNED.
- ALL EXPOSED ELECTRICAL EQUIPMENT, CONDUIT, FLUSH PANEL FRONTS, TRANSFORMER, SWITCHES, SWITCHBOARDS, PANELS, AND SIMILAR ITEMS SHALL BE PAINTED AS SPECIFIED UNDER THE PAINTING SECTION OF THESE
- AT ALL TIMES KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTER MATERIAL OR RUBBISH CAUSED BY EMPLOYEES. METAL FLOOR PANS SHALL BE PROVED PIPE THREADING MACHINES AND BENCHES AND SHALL BE USED AT ALL TIMES TO PREVENT CONCRETE FLOORS BECOMING OIL SOAKED. UPON COMPLETION OF THE JOB, REMOVE ALL DEBRIS, CLEAN ALL SWITCH PLATES, FIXTURES, PANEL TRIMS AND IN GENERAL, LEAVE THE NOT) PREMISES IN A CLEAN AND TIDY CONDITION.
- THE FOLLOWING IN A LIST OF MANUFACTURERS WHOSE SPECIFICATION GRADE EQUIPMENT IS ACCEPTABLE AS TO MANUFACTURER. SUBSTITUTIONS SHALL NOT CAUSE OR CONTRIBUTE TO CHANGES UNLESS THESE CHANGES ARE APPROVED BY THE ARCHITECT PRIOR TO
- ITEMS: CAREFUL CHECKING MUST BE MADE TO VERIFY THAT THE EQUIPMENT WILL MEET ALL CAPACITIES, REQUIREMENTS, SPACE ALLOCATIONS, AND THAT THE WEIGHTS ARE NOT EXCESSIVE.
- POWER DISTRIBUTION EQUIPMENT: SQUARE D.
- GENERAL ELEC, OKONITE, ROME, SIMPLEX, KAISER.
- SEYMOUR, SIERRA, BRYANT, CIRCLE F, GENERAL ELEC, HUBBELL, RUSSELL & STOLL, ARROW-HART. 10. DEVICE PLATES: HUBBELL, SLATER, PASS AND SEYMOUR, SIERRA, BRYANT, ARROW-HART, LEVITON.
- 11. LAMPS: GENERAL ELECTRIC, PHILLIPS, SYLVANIA. TRIANGLE, NATIONAL ELECTRIC CO., JONES-MCLAUGHLIN,
- REPUBLIC.
- 14. CAST OUTLET BOXES: CROUSE-HINDS, APPLETON. 15. BALLAST: ADVANCE, GENERAL ELEC, JEFFERSON, WESTINGHOUSE, SYLVANIA, UNIVERSAL
- 17. OUTLET BOXES: RACO, STEEL CITY, SLATER.

ARCHTIECT FOR APPROVAL, SIX (6) SETS OF SHOP DRAWINGS OF SERVICE ENTRANCE SECTION, SWITCHBOARDS, PANELBOARDS, LIGHTING FIXTURES, TRANSFORMERS, GENERATORS AND ALL EQUIPMENT FABRICATED

AN ORDERLY MANNER. PRIOR TO STARTING THE WORK, SUBMIT TO THE

- FURNISH ALL METERS, CABLES, CONNECTIONS AND APPARATUS NECESSARY FOR MAKING TEST.
- 2. TEST SYSTEM FOR SHORTS AND GROUNDS. FAULTY WIRING SHALL BE REMOVED AND REPLACED. ANY DEVICE, APPARATUS OR FIXTURE INSTALLED SHOWING SUBSTANDARD PERFORMANCE SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ARCHITECT.
- MEGGER ALL SYSTEM NEUTRALS IN THE PRESENCE OF THE ENGINEER TO INSURE THE NEUTRAL IS NOT GROUNDED WITHIN THE SYSTEM. TEST SHALL BE MADE AFTER ALL BRANCH WIRING IS INSTALLED AND
- 24. TEST ALL GROUND FAULT RELAYS IN THE PRESENCE FO THE ENGINEER. SET RELAY FOR TIME AND CURRENT RATING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
- 25. ALL EQUIPMENT RATED 1,000 AMPS OR MORE OR 480 VOLTS SHALL BE TESTED FOR INSULATION BREAKDOWN. THE APPLICATION OF A 60HZ ALTERNATING POTENTIAL OF 1,000V PLUS TWICE THE RATED VOLTAGE OF THE DEVICE TEST SHALL BE PERFORMED IN THE PRESENCE OF THE
- 3. <u>HIGH POTENTIAL TESTING:</u>
 7. THE HIGH POTENTIAL TEST SHALL BE MADE BY AN INDEPENDENT COMPANY HIRED BY THE ELECTRICAL CONTRACTOR. COPIES OF THE REPORT CERTIFIED BY A REGISTERED ENGINEER, SHALL BE FORWARDED TO THE ARCHITECT WITHIN TWO (2) WEEKS AFTER THE TEST ARE PERFORMED.
- WHEN SURFACE WEATHERPROOF MOUNTING IS REQUIRED, RECEPTACLES 28. TEST SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. "HI-POT" TEST VOLTAGES AND TIMES SHALL BE COORDINATED WITH AND DETERMINED BY THE OWNER'S REPRESENTATIVE WHENANY OTHER CABLE OR DEVICES, OTHER THAN THAT INSTALLED BY THE FLECTRICAL CONTRACTOR UNDER HIS CONTRACT IS TO BE INCLUDED. IN THE TEST PROCEDURE. CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE, IN WRITING, HIS INTENTIONS TO PERFORM THE HI-POT TEST, INCLUDING TIME AND DATE AND TESTING AGENCY.
 - 30. MAXIMUM DC VOLTAGES 52.8KV.
 - BUILD-UP TIME TO TEST VOLTAGE ONE (1) MINUTE IN 10KV DC STEPS WITH RECORDED MILLI-AMP READINGS AT 156, 30 AND 45 SECONDS. 32. HOLDING TIME AT TEST VOLTAGE - FIVE (5) MINUTES, WITH RECORDED MILLI-AMPS READING AT THE END OF EACH MINUTE. 33. "DECAY TIME" SHALL BE RECORDED WITH SHUT-OFF AT APPROXIMATELY
 - 34. THE "HI-POT" TEST SHALL NOT BE MADE UNTO ANY PORTION OF AN ENERGIZED DEVICE. SUFFICIENT TIME LAG SHALL BE ALLOWED IN THE

ORIGINAL REQUEST FOR THE OWNER TO SET UP A DEFINITE PERIOD OF

TESTING IN ANY PORTION OF THE OWNER'S DISTRIBUTION SYSTEM IS

- THE NEUTRAL CONDUCTORS AND ALL OTHER EXPOSED NON-CURRENT CARRYING METAL PARTS AS REQUIRED BY CODE SHALL BE GROUNDED GROUNDING BUSHING SHALL BE USED AS REQUIRED AND SHALL BE 0.Z INSULATED TYPE BL OR APPROVED FOUAL. NO GROUNDING SHALL BE MADE TO GAS PIPING. WHERE EQUIPMENT OR DEVICES ARE SERVED BY NON-METALLIC DUCTS, ENCLOSURES SHALL BE GROUNDED BY MEANS OF A CODE SIZE BARE OR GREEN INSULATED EQUIPMENT GROUND WIRE INSTALLED IN THE DUCT WITH THE CURRENT CARRYING CONDUCTORS AND BE BONDED SECURELY IN EACH CABINET TERMINATING THE GROUND WIRE. COPPER JUMPERS SHALL BRIDGE FLEXIBLE CONDUIT AND BE INSTALLED IN THE CONDUIT. ALL SERVICE GROUNDS SHALL BE IN ACCORDANCE WITH
- . ALL EMT, FLEXIBLE CONDUIT, MC CABLE, OR PVC CONDUIT SHALL BE PROVIDED WITH AND INSULATED GREEN GROUND WIRE.
- PROVIDE EMPTY CONDUIT OR DUCT WITH "JET-LINE" OR EQUAL POLYPROPYLENE PULL LINE AND TERMINAL MOUNTING BOARD AS SHOWN
- US LARGE RADIUS RIGID GALVANIZED STEEL CONDUIT FOR BENDS AND OFFSETS IN DUCT RUNS.
- ALL CONDUIT RUNS TO TELEPHONE OUTLET BOXES SHALL BE A MINIMUM OF 3/4" AND HAVE A MAXIMUM OF TWO 90 DEGREE BENDS BETWEEN PULL BOXES. TELEPHONE TERMINAL BOARDS SHALL BE 3/4" FIR PLYWOOD, GRADE CC PLUS SIZE AS INDICATED ON DRAWINGS. TELEPHONE TERMINAL CABINETS SHALL HAVE THE DOOR FASTENED TO THE TRIM WITH CONCEALED HINGES

AND BE PROVIDED WITH FILISH TYPE COMBINATION LATCH AND LOCK

KEYED TO MATCH LIGHTING PANELS, CABINETS AND TRIM SHALL BE FACTORY PAINTED WITH TWO FINISH COATS. PROVIDE ALL NECESSARY MATERIAL AND LABOR REQUIRED BY THE TELEPHONE COMPANY FOR DELIVERING SERVICE TO THE TELEPHONE TERMINAL BOARD. ALL CONDUIT, TRENCHING AND BACKFILL SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WIT THE

TELEPHONE COMPANY STANDARDS.

- ALL CONDUIT RUNS TO THE DATA OUTLET BOX SHALL BE A MINIMUM OF 3/4" AND HAVE A MAXIMUM OF TWO 90 DEGREE BENDS BETWEEN PULL
- ALL DATA OUTLETS ARE TO HAVE WALL PLATES TO MATCH THE DEVICE
- GUARANTEE ALL MATERIAL, EQUIPMENT, AND WORKMANSHIP FOR ALL SECTIONS UNDER THIS DIVISION IN WRITING TO BE FREE FROM DEFECT OF MATERIAL AND WORKMANSHIP FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. REPLACE WITHOUT CHARGE, ANY MATERIAL OR EQUIPMENT PROVIDING DEFECTIVE DURING THIS PERIOD. THE GUARANTEE SHALL INCLUDE PERFORMANCE OF THE EQUIPMENT UNDER ALL CONDITIONS OF LOAD, INSTALLING ANY ADDITIONAL ITEMS OF CONTROL AND/OR PROTECTIVE DEVICES AS REQUIRED.
- GENERAL ELECTRICAL NOTES (NOTES APPLY WHETHER KEYED TO PLAN OR
- SEE ARCHITECTURAL PLANS AND REFLECTED CEILING PLAN FOR LOCATION OF ALL LIGHT FIXTURES, INCLUDING COVE AND MLL-WORK LIGHTING. WHERE FIXTURE LOCATIONS NEED TO BE CHANGED. COORDINATE WITH THE ARCHITECT. AVOID ROLL-UP DOORS.
- BEFORE ORDERING FIXTURES, FIELD VERIFY THAT FIXTURES WILL FIT IN AVAILABLE SPACE. VERIFY LAMP TYPE / COLOR NUMBER OF LAMPS PER FIXTURE, LENS

TYPE, AND VOLTAGE BEFORE ORDERING NEW FIXTURES TO MATCH

UNSWITCHED LIGHTING CIRCUIT WHEN A NIGHT LIGHT CIRCUIT IS NOT

- EXISITNG. EMERGENCY LIGHTING 8. WIRE AND CABLE: GENERAL CABLE, ANACONDA, CAPITOL, CIRCLE AW, 3.1. UNLESS INDICATED OTHERWISE, FLUORESCENT FIXTURES INDICATED AS EMERGENCY LIGHTS SHALL HAVE A 1 LAMP EMERGENCY LIGHTING FLUORESCENT BALLAST PACK (6 VOLT) FURNISHED WITH A FIXTURE. FMFRGENCY LIGHTS/EXIT LIGHTS SHALL BE CIRCUITED TO AN
 - EXIT SIGNS SHALL HAVE AN INTEGRAL EMERGENCY BATTERY. THEY SHALL BE SURE-LITES PLX 600 RP SERIES, UNIVERSAL EXIT, UNLESS OTHERWISE SPECIFIED. VERIFY THAT NO EXIT SIGN OBSTRUCTS A DOOR SWING OR HEADROOM PRIOR TO INSTALLING. VERIFY CEILING OR WALL MOUNTING.

PROVIDED.

DUPLEX RECEPTACLE WITHIN (6) SIX FEET OF A SINK SHALL BE A GROUND FAULT INTERRUPTING RECEPTACLE. ALL DUPLEX RECEPTACLES WITH ISOLATED GROUND SHALL HAVE A

WITHIN THE AREA OF THIS PROJECT AND SCOPE OF WORK, ANY

MINIMUM #12 GREEN GROUND WIRE RUN TO PANEL GROUND BUS.

- 4.3. IN ANY PATIENT CARE AREAS, A #10 GREEN BOND WIRE SHALL BE RUN WITH ALL RECEPTACLE CIRCUÏTS. PEDIATRIC CARE AREAS SHALL HAVE TAMPERPROOF RECEPTACLES.
- 4.4. ANY 15A OR 20A, 120 VOLT LIGHTING OR OUTLET BRANCH CIRCUIT

- WITH AN OVERALL LENGTH OF 100 FEET OR LONGER SHALL BE #10 WIRE FOR FULL LENGTH OF CIRCUIT EXCEPT AS NOTED OTHER-WISE.
- 4.6. ANY 15A OR 20A 125V RECEPTACLES IN COMMERCIAL GARAGES SHALL BE MOUNTED A MINIMUM OF 18" ABOVE FINISH FLOOR.

4.5. PROVIDE W.P. DUPLEX OUTLET WITHIN 25 FEET OF ANY EXTERIOR

- 4.7. OUTLETS ON OPPOSITE SIDES OF FIRE RATED WALLS SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 24".
- EQUIPMENT AS REFERRED TO IN THESE NOTES SHALL MEAN ANY HEATING, VENTILATING OR AIR CONDITIONING EQUIPMENT, PLUMBING EQUIPMENT, FOOD SERVICE EQUIPMENT, SHOP EQUIPMENT, MEDICAL FOUIPMENT, LAUNDRY FOUIPMENT, OFFICE FOUIPMENT, MODULAR FURNITURE SYSTEMS. SPECIALTY EQUIPMENT, TENANT OR OWNER FURNISHED EQUIPMENT, OR ANY OTHER EQUIPMENT, SPECIAL OR OTHERWISE THAT IS REFERENCED ON ANY CONTRACT DOCUMENTS FOR THIS PROJECT.
- 5.2. A COMPLETE SET OF CONTRACT DOCUMENTS SHALL BE OBTAINED AND REVIEWED BY THE ELECTRICAL CONTRACTOR FOR THE PURPOSE OF STUDYING THE ARCHITECTURAL, HVAC, PLUMBING, FOOD SERVICE, SPECIALTY SYSTEMS DRAWINGS, ETC. THIS SHALL INCLUDE ANY DRAWINGS PREPARED BY VENDORS, SUCH AS KITCHEN EQUIPMENT DRAWINGS, RADIOLOGY EQUIPMENT DRAW- INGS, OR MODULAR FURNITURE DRAWINGS, ETC. THE INTENT IS TO DISCOVER ANY WORK THAT IS TO BE DONE BY THE ELECTRICAL CONTRACTOR WHICH MAY NOT BE SHOWN ON THE ELECTRICAL DRAWINGS.
- 5.3. IF ANY EQUIPMENT REQUIRES ELECTRICAL POWER IT SHALL BE PROVIDED, INCLUDING ALL CIRCUITRY, OVER CURRENT DEVICES, GROUNDING, RECEPTACLES, HARD WIRING, ROUGH-IN, ETC. ALL SUCH WORK SHALL BE DONE BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFIED OTHERWISE IN THESE CONTRACT DOCUMENTS, AND WHETHER OR NOT IT IS INDICATED IN THE ELECTRICAL DOCUMENTS.
- PRIOR TO BID, ANY CONFLICT BETWEEN THE ELECTRICAL DOCUMENTS AND ANY OTHER CONTRACT-RELATED DOCUMENTS SHALL BE RFPORTED TO THE ELECTRICAL ENGINEER. CONFLICT SHALL BE RESOLVED PRIOR TO BID.

5.5. FOR EACH ITEM OF EQUIPMENT, VERIFY THE ELECTRICAL

BALANCING ON PHASES, AND GROUNDING REQUIREMENTS, ETC. VERIFY ROUGH-IN LOCATION, AND FINAL CONNECTION REQUIREMENTS. PROVIDE THE PROPER RECEPTACLES TO MATCH THE CORD CAP FURNISHED WITH THE EQUIPMENT, OR PROVIDE THE APPROPRIATE HARD WIRING.

CHARACTERISTICS, INCLUDING LOAD, VOLTAGE, AND PHASE: LOAD

- 5.7. PROVIDE ANY INDICATED OR REQUIRED OVERCURRENT PROTECTION AND/OR DISCONNECT SWITCHES, FUSED FOR THE LOAD OR PER MANUFACTURERS RECOMMENDATIONS.
- 5.9. PROVIDE ANY CONTROLLERS, STARTERS, AND CONTROL WIRING NOT

5.8. PROVIDE FOR CONNECTION TO ANY CONTROLLER FURNISHED WITH

INDICATED TO BE PROVIDED BY OTHERS.

- 5.10. ANY DROP CORDS SERVING EQUIPMENT SHALL BE PROVIDED WITH KELLEMS STRESS RELIEF GRIPS AT THE JUNCTION BOX CONNECTOR(S). KITCHEN EQUIPMENT SHUT DOWN: WHEN KITCHEN EQUIPMENT IS
- REQUIRED BY CODE TO BE SHUT DOWN BY A FIRE PROTECTION SYSTEM, SAID EQUIPMENT INCLUDING GAS SOLENOIDS FOR THIS EQUIPMENT, IGNITION CIRCUITS, POWER CIRCUITS, AND HOOD EXHAUST FANS AND RELATED MAKE-UP AIR UNIT(S) SHALL BE CONNECTED TO THE KITCHEN FIRE PROTECTION SYSTEM SHUTDOWN MECHANISM VIA SHUNT TRIP BREAKER(S).
- HVAC AND PLUMBING SYSTEMS (RELATED ELECTRICAL WORK) ANY CONTROL WIRING AND CONNECTIONS NOT PROVIDED BY THE HVAC CONTRACTOR SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFIED OTHERWISE.
- 6.2. WHERE ONE OR MORE DISCONNECT SWITCH IS REQUIRED FOR AN HVAC UNIT, THEY SHALL BE PROVIDED BY THE ELECTRICAL SEE MECHANICAL DRAWINGS FOR EXACT LOCATION OF ALL DILCTWORK
- LAYOUT. OVERLAY THE LIGHTING AND HVAC PLANS AND REVIEW FOR 6.4. PROVIDE FOR CONNECTION AND CIRCUITRY OF ANY DUCT DETECTOR

FURNISHED UNDER ANOTHER SECTION. REVIEW MECHANICAL PLANS.

AND DIFFUSERS TO AVOID ANY CONFLICTS WITH LIGHTING FIXTURE

6.5. PROVIDE ALL INTERLOCK WIRING FOR ANY HVAC EQUIPMENT REQUIRING INTERLOCKING. 6.6. WHERE A SIMPLEX OR DUPLEX RECEPTACLE IS SUPPLYING POWER TO A FURNACE, FURNISH AND INSTALL ONE (1) DUPLEX RECEPTACLE, 20A, ADJACENT TO FURNACE. CONNECT FURNACE VIA A 12/3 SJ

CORD AND A 20A MALE CORD CAP.

POWER COMPANY FOR EACH SERVICE.

TELEPHONE / DATA OR SPECIAL SYSTEMS / CONDUIT SYSTEMS WHERE CEILING SPACE IS USED AS AN AIR RETURN PLENUM PROVIDE CONDUIT FROM EACH TELEPHONE, OR DATA OUTLET TO THE SUITE TERMINAL POINT DESIGNATED BY TENANT. ANY PLENUM WIRING NOT IN CONDUIT SHALL BE RATED FOR USE IN PLENUM.

7.2. SERVICE CONDUIT FOR ELECTRICAL OR OTHER SYSTEMS SHALL BE

MARKED AT EACH END AS TO SOURCE AND DESTINATION. (I.E.:

- SERVICE STATION, FACP, SUITE #, PANEL DESIGNATION, ETC.) REQUIREMENT FOR TRENCHING AND BACKFILL FOR SITE UTILITIES INCLUDING EXACT ROUTING AND POINT OF TERMINATION SHALL BE VERIFIED WITH THE POWER AND TELEPHONE COMPANIES. THEIR
- REQUIREMENTS SHALL BE DEEMED PART OF THIS CONTRACT. AVOID CONFLICT WITH EXISTING SITE UTILITIES. ELECTRICAL CONTRACTOR SHALL INCLUDE IN THIS BID AN ESTIMATED SUM AS AN UNDERGROUND SERVICE ALLOWANCE TO BE PAID TO

THE EXACT LOCATION, ORIENTATION AND ACCESSIBILITY OF THE

ELECTRICAL SERVICE ENTRANCE SHALL BE APPROVED BY THE POWER

- COMPANY. SERVICE ENTRANCE EQUIPMENT SHOP DRAWINGS SHALL BE APPROVED BY THE POWER COMPANY. 8.4. THE REQUIREMENTS FOR THE TELEPHONE BOARDS OR CABINETS, AND THEIR LOCATIONS, SERVICE RACEWAYS TO THESE SERVICE POINTS AND ALL CONDUIT REQUIREMENTS BETWEEN TELEPHONE OUTLETS, AND HOME RUN CONDUITS FROM THE OUTLETS TO TERMINAL POINTS SHALL BE VERIFIED WITH THE TELEPHONE COMPANY REPRESENTATIVE PRIOR TO ROUGH-IN. PROVIDE #6 COPPER BOND FROM THE TELEPHONE
- 8.5. MINIMUM POINT OF PRESENCE CABLING IS PROVIDED BY THE TELEPHONE SERVICE COMPANY TO ONE POINT ONLY. THE MAIN TELEPHONE TERMINAL CABINET OR BOARD AT ONE BUILDING ONLY ON THE SITE. ADDITIONAL CABLING WILL BE NECESSARY FROM THE MAIN TELEPHONE CABINET OR BOARD TO THE OTHER TELEPHONE CABINETS OR BOARDS ON THE SITE. THIS CABLING IS NOT PART OF THIS CONTRACT AND SHALL BE PROVIDED BY THE OWNER TO FACILITATE

TERMINAL BOARD TO THE GROUND BUS IN THE SERVICE ENTRANCE

EXACT ORIENTATION OF ALL SITE LUMINARIES, FLOODLIGHTS, AND LANDSCAPE LIGHTING SHALL BE AS DIRECTED BY THE OWNERS. ALL SITE LIGHTING SHALL BE #10 COPPER UNLESS OTHERWISE NOTED, AND SHALL BE RUN IN PVC CÖNDUIT WITH A #10 COPPER GREEN BOND

TELEPHONE SERVICE TO ALL TENANTS ON THE SITE.

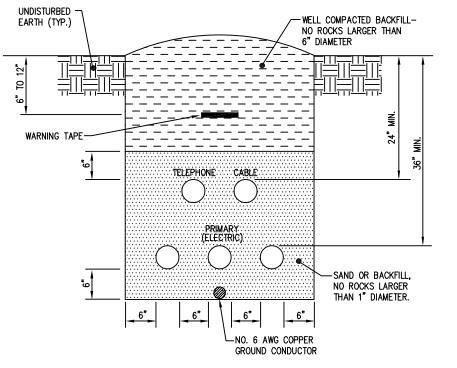
ACCEPTABLE FUSE EQUIVALENTS UL CLASS | VOLT | DESCRIPTION BUSSMAN | RELIANCE | SHAWMUT | LITTLEFUSE 250 TIME DELAY LPN-RK LENRK A2D-R LLNRK 600 TIME DELAY LPS-RK LESRK A6D-R LLSRK 250 TIME DELAY FRN-RK ECNR TR-R FLNR 600 TIME DELAY FRS-R SCSR TRS-R FLSR
 500
 TIME
 DELAY
 KRP-C
 LKU
 A4

 600
 FAST ACTING
 KLU
 LCL

 600
 FAST ACTING
 KTU
 LCU
 FAST ACTING KWN-R ---FAST ACTING KWS-R ---FAST ACTING KTN-R NCSR A2K RK1 (C) 600 FAST ACTING KTS-R SCLR A6K
 J
 600
 FAST ACTING
 JKS
 JLC
 A4J
 JLS

 T
 250
 VERY FAST
 JJN
 -- A3T
 JLLN
 T (A) 600 VERY FAST JJS --- JLLS NOTE: FUSES NOT LISTED ABOVE MUST BE APPROVED BY DESIGNER/ENGINEER.

ONE OR MORE PRIMARY CIRCUITS <u>WITH TELEPHONE AND/OR CABLE TY</u>

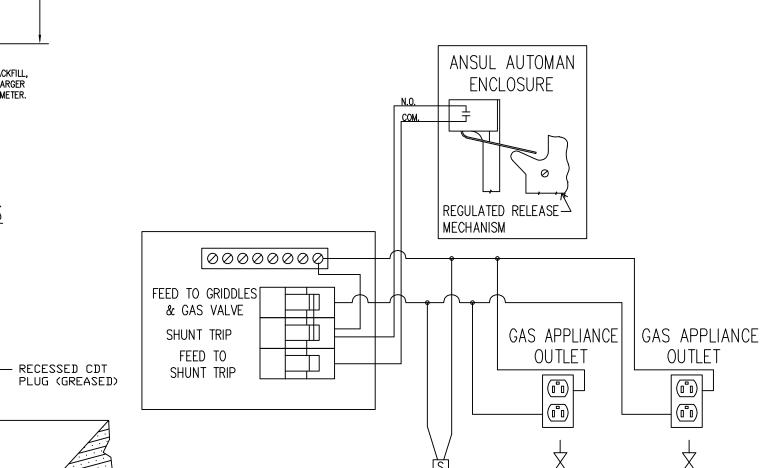


TRENCH FOR JOINT ELECTRIC NOT TO SCALE

RGS COUPLING

— RGS ELB□W

FINISHED CONCRETE SLAB —



FOUIPMENT RACK MOUNTED AT GRADE DETAIL

-MOUNTING RACK AND CONDUITS

SHALL BE PAINTED WITH TWO COATS OF RUST INHIBITING ENAMEL. (COLOR AS SELECTED

1-1/2"x1-1/2" KINDORF, TYPICA

└─U-BOLTS, TYPICAL

AS REQUIRED FOR EQUIPMENT AND

TYPE AS INDICATED ON PLANS.

WITH END CAP. -

REQUIRED FOR EQUIPMENT SIZE.

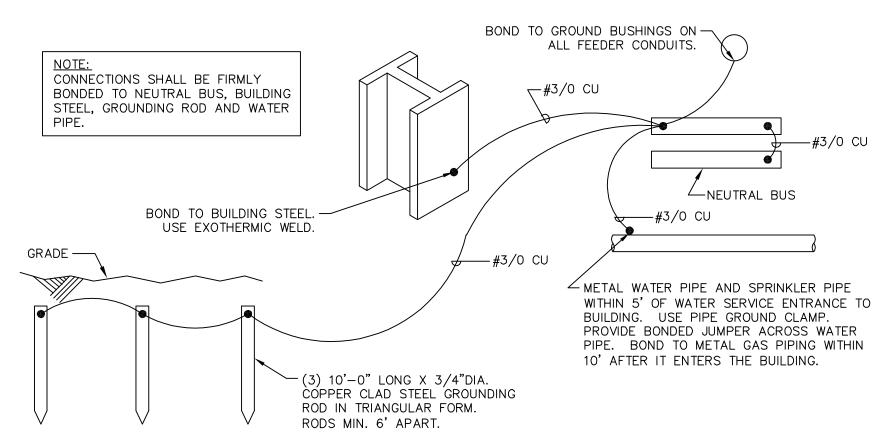
AS REQUIRED, TYPICAL

FIRE SUPPRESSION FOR GAS APPLIANCES - KITCHEN HOOD WIRING DETAI NOT TO SCALE

INSTALLATION OF PVC CONDUIT EMERGING FROM CONCRETE SLAB

- PVC COUPLING

─ PVC C□NDUIT



GROUNDING SYSTEM DETAIL

NOT TO SCALE

ELECTRICAL NOTES

Jackson, Mississippi 39211-4538

Phone and Fax (601) 956-6835

e-mail: clinganassociates@live.com ALL MATERIAL HEREIN © 2021 ALTON B CLINGAN JR.

Bratton Road at Park Plaza Drive New Albany, Mississippi Date 4.5.21 Rev Drawn LEP

Rev. 4.9.21 Check 4.6.21

systems engineering automation power electrical 142 Woodberry Place, Madison, MS 39110 601-214-5513 LannyPurvisPE@SystemsEngr.com PLOTTED ON 4/9/2021 12:35:31 PM

5144 Reddoch Drive

MP	PA				PG	
ROOM VOLTS 240/120V 2P 3W AIC 22,000 MOUNTING SURFACE BUS AMPS 600 MAIN BKR MLO	ROOM MOUNTING SURFACE	VOLTS 240/120V 2P 3W BUS AMPS 250	AIC 22,000 MAIN BKR MLO		ROOM MOUNTING SURFACE	VOLTS 240/120V 2P 3W BUS AMPS 150
FED FROM MD NEUTRAL 100% NOTE UL LISTED FOR USE AS A SERVICE DISCONNECT NOTE UL LISTED FOR USE AS A SERVICE DISCONNECT	FED FROM MP NOTE	NEUTRAL 100%	LUGS STANDARD		FED FROM MP	NEUTRAL 100% ARE OF THE SWITCHED NEUTRAL TYPE. TIE BARS
CKT CKT BKR CIRCUIT DESCRIPTION LOAD KVA A B # BKR CIRCUIT DESCRIPTION LOAD KVA A B	CKT CKT BKR CIRCUIT DESCRIPTION	LOAD KVA CKT A B #	CKT BKR CIRCUIT DESCRIPTION	LOAD KVA A B	CKT CKT BKR CIRCUIT DESCRIPTION	LOAD KVA CKT CKT BKR CIRC
1 250/2 PANEL PA 15.7 2 150/2 PANEL PG 16.8 3 12.3 4 5 250/2 PANEL PK 10.2 6 20/2 DRINK COOLER FAN 1.1	1 20/1 RECEPTACLE 3 20/1 RECEPTACLE 5 20/1 RECEPTACLE	0.72 2 2 0.64 4 0.64 6	20/1 LIGHTING 20/1 LIGHTING 20/1 LIGHTING	0.973 0.5 0.855	1 20/1 DISP 1 3 20/1 SPACE 5 20/1 DISP 2	0.9 2 20/1 DISP 0 4 20/1 SPAC 0.9 6 20/1 DISP
7	7 20/1 SAFE 9 20/1 RECEPTACLE	1.26	20/1 LIGHTING 20/1 LIGHTING	1.13	7 20/1 SPACE 9 20/1 DISP 3	0 8 20/1 SPAC 0.9 10 20/1 DISP
11 60/2 RTU-2 13 15 60/2 RTU-3 4.8 12 14 20/2 ODU-1 1.8 1.8	11	0.72 1.08 12 14 14 0.36 16	20/1 LIGHTING 20/1 LIGHTING 20/1 LIGHTING	0.746	11 20/1 SPACE 13 20/1 DISP 4 15 20/1 SPACE	0 12 20/1 SPAC 0.9 14 20/1 DISP 0 16 20/1 SPAC
17	17 20/1 RECEPTACLE 19 20/1 SPACE	0.36 18 0 20	20/2 DRINK COOLER FAN	1.1	17 20/1 DISP 11 19 20/1 SPACE	0.9 18 20/1 DISP 0 20 20/1 SPAC
21	23 20/1 LIGHTING 25 20/1 TELEPHONE	0.72 22 22 0.72 24 0.45 26	20/2 DRINK COOLER FAN 20/2 BEER COOLER FAN	1.1	23 20/1 SPACE 25 20/1 DISP 13	0 24 20/1 SPAC
27 20/2 DRINK -COOLER COMP 0.9 28 20/1 EWH 1.44	29 20/1 RECEPTACLE	0.9 0.36 28 0.9 30 0.9 32		0 1.1	27 20/1 SPACE 29 20/1 DISP 14 31 20/1 SPACE	0 28 20/1 SPAC 0.9 30 20/1 DISP 0 32 20/1 SPAC
33 0.9 34 20/1 SPACE 0 0 35 20/1 SPACE 0 0 0 0 0 0 0 0 0	33 20/1 RECEPTACLE 35 20/1 RECEPTACLE	0.72 34 0.54 36	20/2 SIGN	0.6	33 20/2 SUB PUMP 35	0.6 34 20/1 SPAC 0.6 36 20/2 SUB
37 20/1 SPACE 0 38 20/1 SPACE 0 0.554	37 20/1 RECEPTACLE 39 20/1 RECEPTACLE 41 20/1 RECEPTACLE	0.18 38 0.18 40 0.18 42	20/1 RECEPTACLE 20/1 RECEPTACLE 20/1 RECEPTACLE	0.72 0.18 0.54	37 20/1 SPACE 39 20/2 SUB PUMP 41	0 38 SUB 0.6 40 20/2 SUB
TOTAL CONNECTED KVA BY PHASE 66.1 44.7			TOTAL CONNECTED KVA BY P	HASE 15.7 12.3		T
CONN KVA CALC KVA CONN KVA CALC KVA		CALC KVA	CONN KVA CALC KVA	-	CONN KVA	CALC KVA
LIGHTING 12.5 15.6 (125%) RECEPTACLES 13.8 11.9 (50%>10) LARGEST MOTOR 9.6 2.4 (25%) KITCHEN EQUIPMENT 5.15 5.15 (100%) MOTORS 71.3 71.3 (100%) CONTINUOUS 0.18 0.225 (125%) NONCONTINUOUS 7.92 7.92 (100%) TOTAL LOAD 114 BALANCED LOAD 477 A	LIGHTING 9.64 LARGEST MOTOR 2.2	TOTAL	DRS 6.6 6.6 PTACLES 11.8 10.9 L LOAD 30.1 NCED LOAD 125 A	(100%) (50%>10) -		0.3 (25%) TOTAL LOAD 9.2 (100%) BALANCED LOAD
PK	-					FEEDER SCH
ROOM VOLTS 240/120V 2P 3W AIC 22,000 MOUNTING SURFACE BUS AMPS 250 MAIN BKR MLO FED FROM MR						ID FEEDER CONDUIT AND AMPS
FED FROM MP NEUTRAL 100% LUGS STANDARD NOTE CKT CKT CKT LOAD KVA CKT CKT LOAD KVA	_					250/2 250 2"C,2#250kcmil,#250kcm
# BKR CIRCUIT DESCRIPTION A B # BKR CIRCUIT DESCRIPTION A B 1 20/1 HOOD FIRE SYS 1 2 20/1 ICE MACHINE 1.8						⟨250/2.A⟩ 250 250/2.1⟩ 250
3 20/1 HOOD LIGHTS/CTRL 1.2 4 20/1 RECEPTACLE 0.18 0.18 5 20/2 COOL COMP 0.77 6 20/1 HOOD SHUNT TRIP 0.18 0.229						600/2 600 (2)2-1/2"C,2#350kcmil,#
9 20/2 F COMPRES 0.96 10 20/1 FREZ EVAP 0.696 11 0.96 12 20/1 COOLER 0.596						(600/2I) 600 (2)3"C,2#350kcmil,#350k (600/2J) 600 (2)2-1/2"C,2#350kcmil,#
13 20/2 ICE COMPRESSOR 1.44 14 20/1 WALK IN FREEZER 0.5 1.44 16 20/1 DRAIN LINE HEATER 0.24 17 20/1 RECEPTACLE 0.18 18 20/1 SPACE 0		UTIL				SIZING METHOD: COPPER, 60°C #12 THROUGH #1,
19 20/1 RECEPTACLE 0.18 20 20/1 SPACE 0 0		⟨600/2J⟩				
25 20/1 RECEPTACLE 0.18 26 20/1 SPACE 0		ww				
31 20/1 RECEPTACLE 0.18 32 20/1 SPACE 0 33 20/2 KEF 0.828 34 20/1 SPACE 0		600/2				\(\frac{250/2}{}
35		₩				£w
41 20/1 SPACE 0 42 20/1 SPACE 0		MD 240/120V	2P 3W			MD1 240/120V 2P 3W 250A
TOTAL CONNECTED AMPS BY PHASE 85.1 66.9 CONN KVA CALC KVA CONN KVA CALC KVA	_	MD 1 600Å) ZSUA
LIGHTING 1 1.25 (125%) RECEPTACLES 1.98 1.98 (50%>10) LARGEST MOTOR 2.88 0.72 (25%) KITCHEN EQUIPMENT 1.2 1.2 (100%)						
MOTORS 13.9 13.9 (100%) CONTINUOUS 0.18 0.225 (125%) TOTAL LOAD 19.3 BALANCED LOAD 80.2 A						
]	(600/2I)				
ROOM VOLTS 240/120V 2P 3W AIC 25,000	_	MP T				
MOUNTING SURFACE LUGS STANDARD FED FROM UTIL NOTE		1				
CKT BREAKER TRIP/POLES CIRCUIT DESCRIPTION LOAD KVA A B FEEDER RACEWAY AND CONDUCTORS			1.		ING FUEL CONTROL PANEL TO NEW	
1 600/2 BREAKER MD 66.1 44.7 (2)2-1/2"C,2#350kcmil,#350kcmil N,#1G 2 250/2 BREAKER MD1 6.81 5.16 2"C,2#250kcmil,#250kcmil N,#4G 3 20/2 SPACE 0 0		(250/21)	(250/2) (250/2.A) 2.	TO MAINTAIN FUN ADD WIRING/CONI	M. EXTEND EXISTING CONDUITS/WI ICTIONALITY OF EXISTING PUMPS. DUITS TO CONNECT (3) NEW FUEL	250/2
		PA	PK PG	PUMPS AND (1) NI	EW UNGROUND STORAGE TANK.	LA
TOTAL CONNECTED KVA BY PHASE 72.9 49.8 CONN KVA CALC KVA CONN KVA CALC KVA	-			FUEL -	CASHIER	
LIGHTING 12.7 15.9 (125%) RECEPTACLES 14.5 12.3 (50%>10) LARGEST MOTOR 9.6 2.4 (25%) KITCHEN EQUIPMENT 5.15 5.15 (100%) MOTORS 80.9 80.9 (100%) CONTINUOUS 0.18 0.225 (125%)				PANEL \	EXT.	
NONCONTINUOUS 9.36 <u>9.36</u> (100%) TOTAL LOAD 126	IIME _	ISER DIAGRAM NOTES:	TRREE FO. SAIR SEARNISTER			
BALANCED LOAD 525 A	PE)	FURNISH AND INSTALL A #6 CE FOR EACH MAIN DISTRIBUTION I INDIVIDAUL TELEPHONE BACKBE	PANEL TO THE DARDS AND TERMINATE /VE	RIFY EXACT REQUIREME TH FUEL PANEL SUPPLI	INTS	
VOLTAGE DROP SCHEDULE DEVICE FEEDER BRANCH CIRCUIT TOTAL	2.	WITH A MECHANICAL LUG ON TO COORDINATE THE EXACT LOCAT	IDN OF THE OVERHEAD	D CONNECT AS REQUIRE	D.	
VOLTAGE DROP WIRE MAX VOLTAGE DROP WIRE SIZE SIZE VOLTAGE DROP VO		SERVICE ENTRANCE WITH THE FURNISH AND INSTALL ALL NEC AND/OR STRUCTURE FOR CONNE	CESSARY HARDWARE	SHUT-OFF	ND INSTALL EMERGENCY PUSH BUTTON SWITCHES OS TERMINAL AND AT	
UTIL 0% #12 0% WW 1.12% (2)#350kcmil 1.12%	3.	SERVICE BY THE UTILITY CO. INSTALL LIGHTING CONTACTOR		EXTERIOR	OF MAIN FRONT DOOR FOR N OF ALL FUEL SER∨ICE	
MD 1.26% (2)#350kcmil – 1.26% MP 1.84% (2)#350kcmil 2.89% (CKT 32) #10 4.72%	\$	PHOTOEYE / MANUAL OVERRIDE VERIFY EXACT LOCATION PRIOR	R TO INSTALLATION.			
PA 1.92% #250kcmil 2.09% (CKT 9) #10 4.01%		INSTALL METERING CT ENCLOSE UTILITY REQUIREMENTS.	≺L ANJ MEILR PER L□CAL			
PG 1.9% #250kcmil 3.26% (CKT 25) #10 5.17% PG-17: 3.25% #10	IN C STORE AT COUNTER, VERIF	Y EXACT LOCATION				
PC-25: 3.26% #10 PK 1.91% #250kcmil 1.19% (CKT 2) #12 3.1%	PRIOR TO ÍNSTA	ALLA I IUN.				
MD1 1.16% #250kcmil 1.16% LA 1.22% #250kcmil 0.65% (CKT 6) #12 1.87%						
	FAULT CURREN	T SCHEDIILE				
DEVICE FAULT AIC L-N UTILITY FED FROM RATING VOLTS	FEEDI	ER	TRANSFORME		MOTOR -	ONNECTED MOTOR LOAD
RATING VOLIS FAULT X R DEVICE FAULT X R	SIZE X / R / 1000'	LENGTH X R	KVA Z% XR FAU RATIO AT PRIM	<i>r</i>	R FAULT KVA FAU	TLT X R
UTIL 42,961 50,000 120V 41,667 0.002824 0.0005648 UTIL 41,667 0.002824 WW 23,902 25,000 120V 22,574 0.004747 0.002392 UTIL 41,667 0.002824 0.0005648	(2)#350kcmiI0.02 0.019 9	0.0019 0.0018	00 2 5 UTILIT	Y 0.002824 0.0	1,328	
MD 22,503 25,000 120V 21,194 0.005009 0.00264 WW 22,574 0.004747 0.002392 MP 18,153 22,000 120V 16,879 0.00609 0.003668 MD 21,194 0.005009 0.00264		3' 0.0003 0.0002 64' 0.0011 0.001			1,309 1,274 31.6 526	0.2212 0.0553
PA 16,293 22,000 120V 15,262 0.006585 0.004296 MP 16,879 0.00609 0.003668	#250kcmil 0.041 0.052 1	2' 0.0005 0.0006			1,031 6.6 110	1.058 0.2646
PG 15,884 22,000 120V 14,848 0.006728 0.004477 MP 16,879 0.00609 0.003668 PK 15,660 22,000 120V 14,666 0.006794 0.00456 MP 16,879 0.00609 0.003668	#250kcmil 0.041 0.052 1	6' 0.0006 0.0008 7' 0.0007 0.0009			1,036 19.2 320 994 13.9 231	0.3638 0.09095 0.5032 0.1258 S
MD1 21,216 22,000 120V 20,142 0.005181 0.002942 WW 22,574 0.004747 0.002392 LA 17,674 22,000 120V 16,872 0.005943 0.003908 MD1 20,142 0.005181 0.002942	#250kcmil 0.041 0.052 1 #250kcmil 0.041 0.052 1	1' 0.0004 0.0005 9' 0.0008 0.001			1,074 802 9.6 160	0.7276 0.1819 au
1. Utility transformer shall be mounted a minimum of 20' away from any main disconnect for AIC ratings to be valid.						

Utility transformer shall be mounted a minimum of 20' away from any main disconnect for AIC ratings to be valid.
 Utility transformer primary shall be 13.8kV or less primary for AIC ratings to be valid.
 Please contact engineer for AIC revisions if above changes.

FED I	ITING SU FROM M	Р	UIT BREAKERS	BUS NEU	TS 240/120 AMPS 150 TRAL 100% SWITCHED)		E. TIE I	AIC 22,000 MAIN BKR MLO LUGS STANDARD BARS ARE NOT ALLOWED.		
CKT #	CKT BKR	CIRCUIT	DESCRIPTION			KVA	CKT #	CKT BKR	CIRCUIT DESCRIPTION		KVA
			DESCRIPTION		A	В	1			A	В
1	20/1	DISP 1			0.9		2	20/1	DISP 5	0.9	_
3	20/1	SPACE				0	4	20/1	SPACE		0
5 7	20/1	DISP 2 SPACE			0.9	0	6 8	20/1	DISP 6	0.9	o
9	20/1 20/1	DISP 3			0.9	"	10	20/1 20/1	DISP 7	0.9	"
11	20/1	SPACE			0.9	0	12	20/1	SPACE	0.9	١٥
13	20/1	DISP 4			0.9	"	14	20/1	DISP 8	0.9	"
15	20/1	SPACE			0.5	0	16	20/1	SPACE	0.5	ا ا
17	20/1	DISP 11			0.9	•	18	20/1	DISP 9	0.9	
19	20/1	SPACE				0	20	20/1	SPACE	1	1 о
21	20/1	DISP 12			0.9	İ	22	20/1	DISP 10	0.9	İ
23	20/1	SPACE			į	0	24	20/1	SPACE	Ī	0
25	20/1	DISP 13			0.9	ĺ	26	20/1	DISP 15	0.9	l
27	20/1	SPACE				0	28	20/1	SPACE		0
29	20/1	DISP 14			0.9		30	20/1	DISP 16	0.9	
31	20/1	SPACE				0	32	20/1	SPACE	1	0
33	20/2	SUB PU	MP		0.6		34	20/1	SPACE	0	
35		60465				0.6	36	20/2	SUB PUMP		0.
37	20/1	SPACE	4D		0	0.6	38	20.70	SUB PUMP	0.6	
39 41	20/2 	SUB PUN	VIT		0.6	0.6	40 42	20/2 	SUB FUMP	0.6	0.
									TOTAL CONNECTED KVA BY PHASE	16.8	2.
									TOTAL CONNECTED AMPS BY PHASE	140	20
			CONN KVA	CALC KVA					TOTAL CONNECTED AMPS BY PHASE CALC KVA	140	

			M NTING FL FROM M			BU:	LTS 240/1 S AMPS 29 UTRAL 100	50	3W			AIC 22,000 MAIN BKR M LUGS STAND			
		NOTE				112	OTIVIL TOO	,,				2000 0171112	771110		
DAD	KVA	СКТ	CKT				LO	AD KVA	СКТ	CKT					LOAD
	В	#	BKR	CIRCUIT	DESCRIPTION		A	В	#	BKR	CIRCUIT	T DESCRIPTION	l		Α
9	İ	1	60/2	RTU-1			4.8		2	20/1	RECEP1	ΓACLE			0.36
I	0	3		İ				4.8	4	20/1	RECEP1	ΓACLE			ĺ
9		5	20/1	LIGHTING			0.21	4	6	20/1	EWH				1.44
	0	7	20/1	SPACE				0	8	20/1	SPACE]
9		9	20/1	SPACE			0		10	20/1	SPACE				0
ļ	0	11	20/1	SPACE				0	12	20/1	SPACE				
9	1	13	20/1	SPACE			0		14	20/1	SPACE				0
-	0	15	20/1	SPACE				0	16	20/1	SPACE				
9		17	20/1	SPACE			0		18	20/1	SPACE				0
-	0	19	20/1	SPACE				0	20	20/1	SPACE				
9		21	20/1	SPACE			0		22	20/1	SPACE				0
-	0	23	20/1	SPACE				0	24	20/1	SPACE				
9		25	20/1	SPACE			0		26	20/1	SPACE				0
	0	27	20/1	SPACE				0	28	20/1	SPACE				
9		29	20/1	SPACE			0		30	20/1	SPACE				0
-	0	31	20/1	SPACE				0	32	20/1	SPACE				
'		33	20/1	SPACE			0	1	34	20/1	SPACE				0
_	0.6	35	20/1	SPACE				0	36	20/1	SPACE				_
6		37	20/1	SPACE			0		38	20/1	SPACE				0
_	0.6	39	20/1	SPACE				0	40	20/1	SPACE				_
6		41	20/1	SPACE			0		42	20/1	SPACE				0
.8	2.4										тот	TAL CONNECTE	D KVA BY	PHASE	6.81
0	20										TOTA	L CONNECTED	AMPS BY	PHASE	56.8
					CONN KVA	CALC KVA	1		•			CONN KVA	CALC KV	4	•
		LIGH	HTING		0.214	0.268	– (125%)		мото	ORS		9.6	9.6	— (100)%)
			GEST MC	OTOR	9.6	2.4	(25%)			PTACLES	3	0.72	0.72		%>10)
							• • • • •			CONTINUC		1.44	1.44	(100	
									TOT:					— ` `	•
									IOTA	L LOAD			14.4		

BALANCED LOAD

60.1 A

FEEDER SCHEDULE								
ID	FEEDER CONDUIT AND FEEDER AMPS							
250/2	250	2"C,2#250kcmil,#250kcmil N,#4G	LA, MD1, PK					
(250/2.A)	250	2"C,2#250kcmil,#250kcmil N,#2G	PG					
250/21	250	2-1/2"C,2#250kcmil,#250kcmil N,#4G,#4IG	PA					
600/2	600	(2)2-1/2"C,2#350kcmil,#350kcmil N,#1G	MD					
(600/2I)	600	(2)3"C,2#350kcmil,#350kcmil N,#1G,#1IG	MP					
(600/2J)	600	(2)2-1/2"C,2#350kcmil,#350kcmil N,#2/0G	ww					

#1, 75°C 1/0 AND ABOVE

Petroleum Storage and Distribution

This work requires field determinations of electrical (power and signal) provisions for the fueling system components, and the connection of all system components in the new electrical room.

The Owner will contract with a licensed petroleum systems installation contractor (PC) who shall have electrical installation capabilities. The GC electrician shall coordinate among the PC, GC, and Owner for this work before commencing. Codes and standards: All work shall be performed per local, state, and federal regulations, including but not limited to NFPA30 and 30A; API Recommended Practice 1615, "Installation of Underground Petroleum Storage Systems"; PEI RP100, "Recommended Practices for Installation of Underground Liquid Storage Systems"; UL 58, 971 & 1315; applicable Mississippi Storage Tank statutes; National Electrical Code.

Coordination with all related trades or associated work, including site work, storm drainage, canopy construction, and paving. ALL raceways shall be concealed under slabs and pavement, within walls, inside of canopy columns and above canopy roofs. Conduits routed within the Class 1 Division 2 limits (applicable Electrical Code hazard locations) shall have conduit seal-offs at both ends of final conduit termination locations. Conduit seal-offs shall be in accessible locations.

Assure the installation of ALL components, and their interconnection with other systems as required for a complete, correctly installed, code compliant system. Provide appropriate raceways and conductors as required for existing and new fuel dispensers, existing and new submerged tank pumps, existing and new sump sensors, leak detectors, monitors, lighted graphics, intercoms, POS systems and other related equipment as coordinated with the PC. Determine the most appropriate and efficient layout of piping, conduits, gutters, panels, equipment back boards to accommodate all components before commencing with the work. Determine and install any additional raceways required.

Assure installation of 2 emergency stop pushbutton stations, one at cashier counter and one on the front of the store for emergency fuel shut down. See electrical drawing for installation locations.



systems engineering automation power electrical

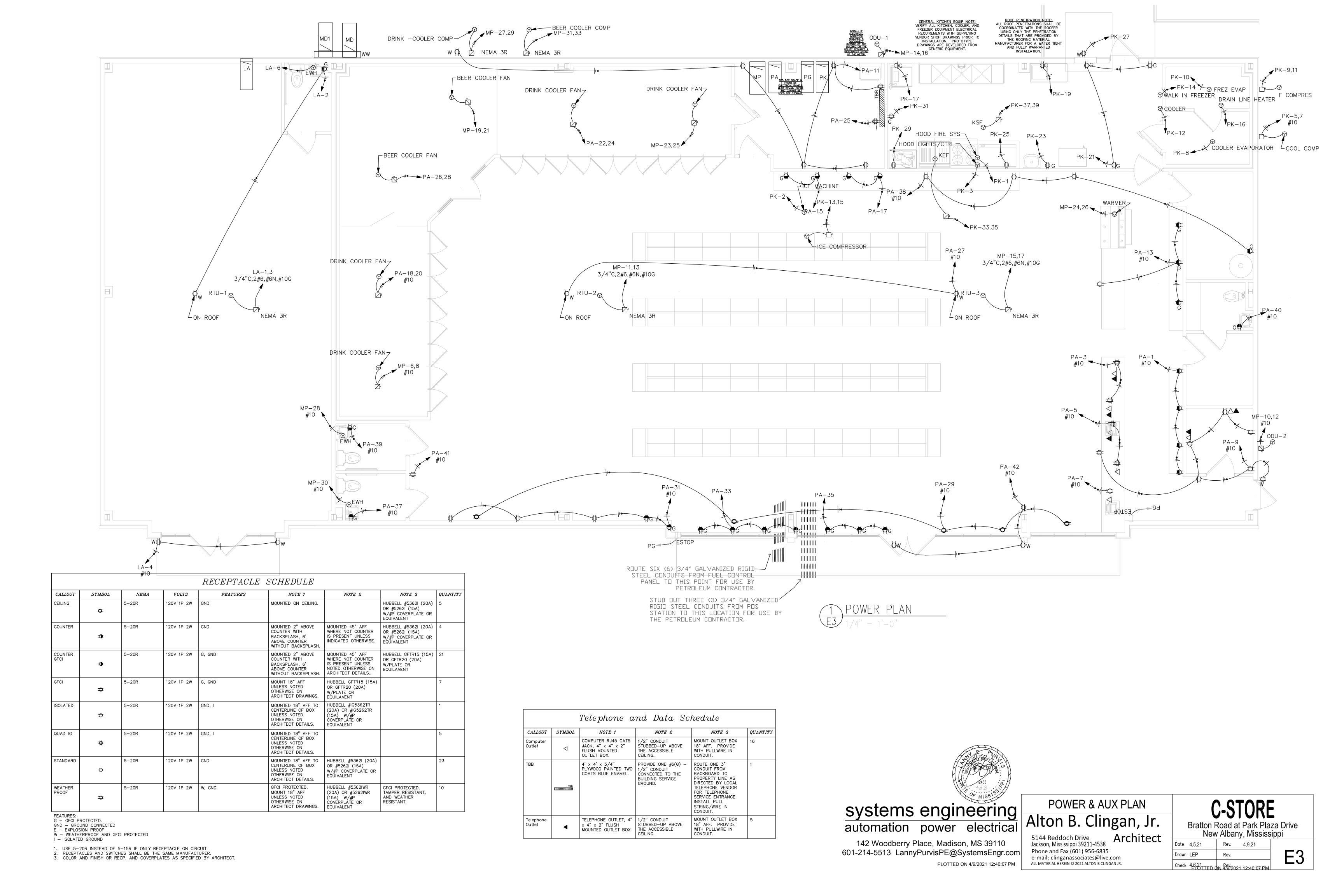
142 Woodberry Place, Madison, MS 39110 601-214-5513 LannyPurvisPE@SystemsEngr.com

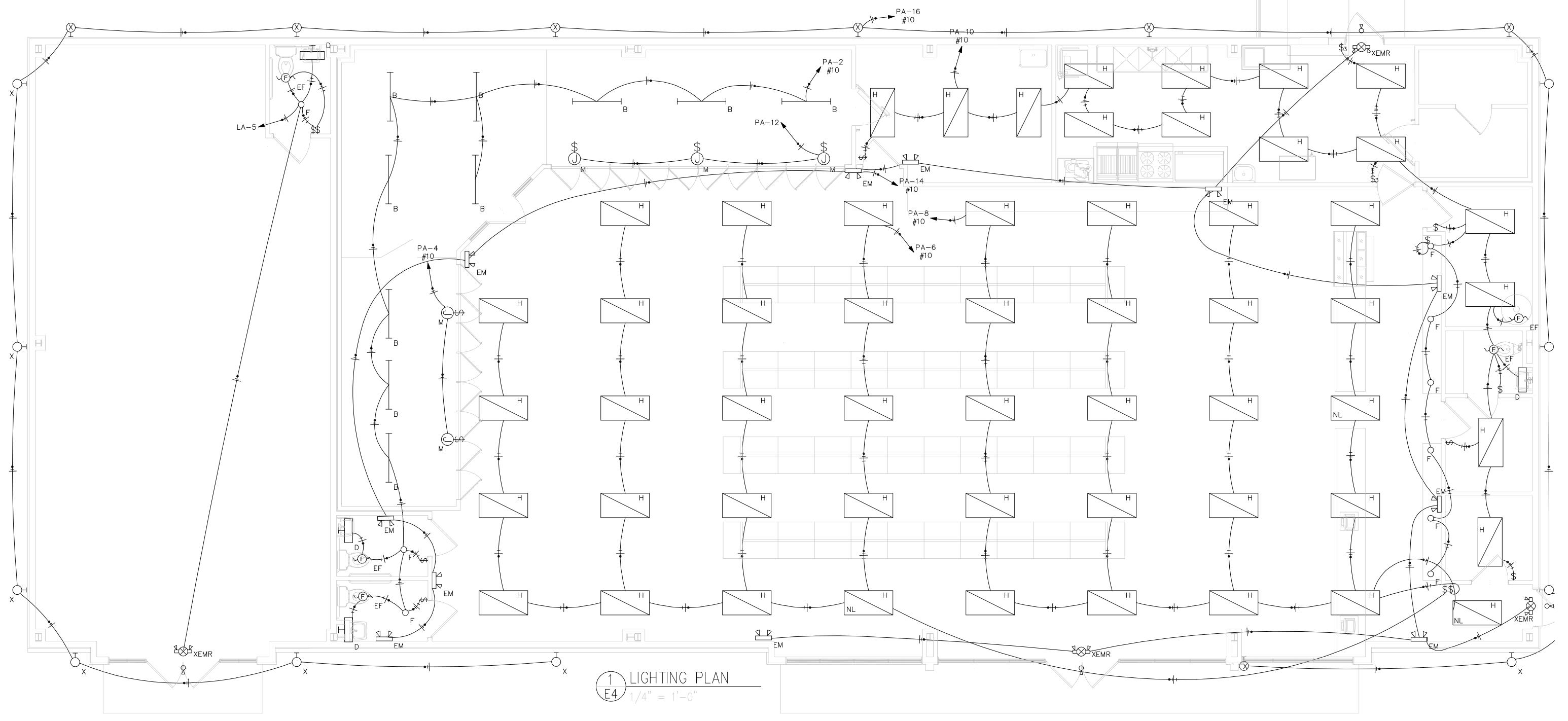
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ELECTRICAL SCHEDULES Alton B. Clingan, Jr.

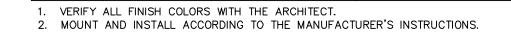
5144 Reddoch Drive Jackson, Mississippi 39211-4538 Phone and Fax (601) 956-6835 e-mail: clinganassociates@live.com ALL MATERIAL HEREIN © 2021 ALTON B CLINGAN JR. Bratton Road at Park Plaza Drive New Albany, Mississippi

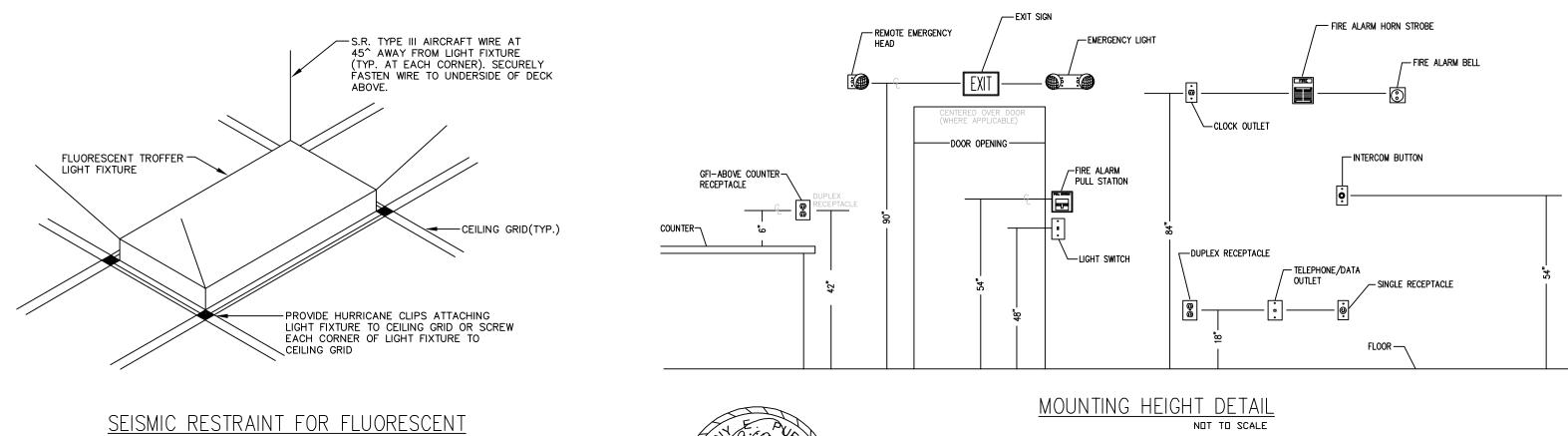
Rev. 4.9.21 Date 4.5.21 Drawn LEP Rev. Check 4.6.21





CALLOUT	SYMBOL	LAMP	DESCRIPTION	BALLAST	MOUNTING	MODEL	INPUT	VOLTS	NOTE 1	QUANTITY
В	<u> </u>	(1) 57W LED	VAPORTIGHT LED, INTERNAL PRISMATIC LENS, 15% DR HIGH IMPACT ADDITIVE, UNIVERSAL VOLTAGE, 4000K, 1 DIMMING	ELECTRONIC	CEILING	COOPER 4VT2 LD4 6 DR UNV L840 CD1	WATTS 57.3	120V 1P 2W		10
D	H	(1) 30W	DRIVER DECORATIVE 2' LED WALL MOUNTED VANITY LIGHT (30W), CONTRACTOR PROVIDED AND INSTALLED, PROVIDE A \$200 ALLOWANCE PER FIXTURE	ELECTRONIC	CEILING	SELECTED BY OWNER	30	120V 1P 2W		4
EF	√F^	(1)		ELECTRONIC	CEILING	SEE HVAC SCHEDULE	150	120V 1P 2W		5
EM		(1)	EMERGENCY LIGHT WITH AUTOMATIC BATTERY BACKUP BLACK	ELECTRONIC	CEILING	ASTRALITE EU MR B	64	120V 1P 2W		11
F	0	(1) 20W LED	RECESSED CAN LIGHT, ROUND OVERLAP TRIM, IC RATED / AIRTIGHT, LC3 REFLECTOR, 1500 LUMEN, 4000K, SHORT CONE WITH 60 DEG SHUTOFF, WIDE FLOOD, CLEAR DIFFUSER, BLACK PAINT	ELECTRONIC	RECESSED	FOCAL POINT FLC3D RO 1500L 120V LDI IC LC3 RO 1500L 40K DNS WFL CD BP	20	120V 1P 2W	0-10VDC 10% DIMMER	9
Н		(1) 45W LED	2X4 LED LIGHT PANEL (45W) (4000K)	ELECTRONIC	RECESSED	CREE ZR24 50L 40K	45	120V 1P 2W		55
К		(1) 120W	BUILDING CANOPY MOUNTED LED, DIRECT MOUNTED, FLAT LENS, UNVERSAL VOLTAGE, 5700K, 70 CRI	ELECTRONIC	CEILING	CREE CPY250 A DM F B UL	120	120V 1P 2W	COLOR BY ARCHITECT	18
М	\$	(1)		ELECTRONIC	CEILING	JUNCTION BOX FOR NEON LIGHTS WITH WALL SWITCH	250	120V 1P 2W		5
P1	о— <u>П</u>	(1) 277W LED	DSX2 LED W/4 (20) LED LIGHT ENGINES, (2) 1050mA DRIVERS, AMBPC LED, TYPE T4M OPTICS WITH HOUSE SIDE SHIELD, NIGHTTIME FRIENDLY, EPA 1.1,	ELECTRONIC	POLE	LITHONIA DSX2 LED 80C 1000 50K AMBPC T4M MVOLT HS SPA	277	240V 2P 2W	USE POLE SSS 30 5G DDB DM19AS	5
Х	Ю	(1) 65W LED	LED COLOR DOWNLIGHT AS SELECTED BY OWNER.	ELECTRONIC	WALL	ALLOW \$250.00 PER FIXTURE	65	120V 1P 2W	HEIGHT AS SELECTED BY OWNER	17
XEMR	8 7 ≪ 1	(1) 7W 7WMR16	COMBINATION EXIT EMERGENCY LIGHT WITH AUTOMATIC BATTERY BACKUP, CEILING OR WALL MOUNT — RED LETTERS — BLACK	ELECTRONIC	CEILING	ASTRALITE EEU MR R B WITH REM 3 1 OD G	14	120V 1P 2W	INCLUDES REMOTE OUTDOOR HEAD	4





SEISMIC RESTRAINT FOR FLUORESCENT TROFFER LIGHT FIXTURE

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PLOTTED ON 4/9/2021 12:41:08 PM

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