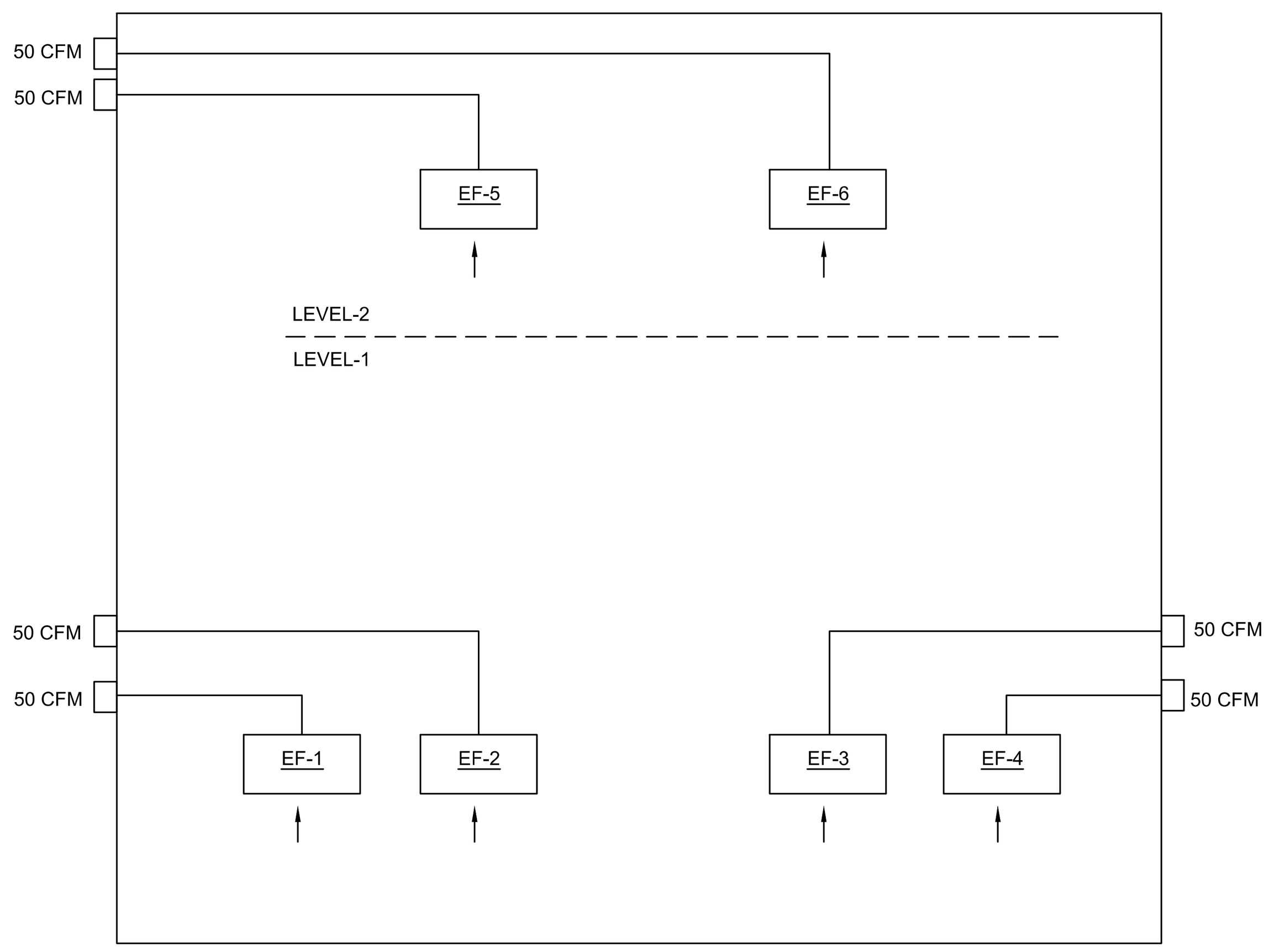
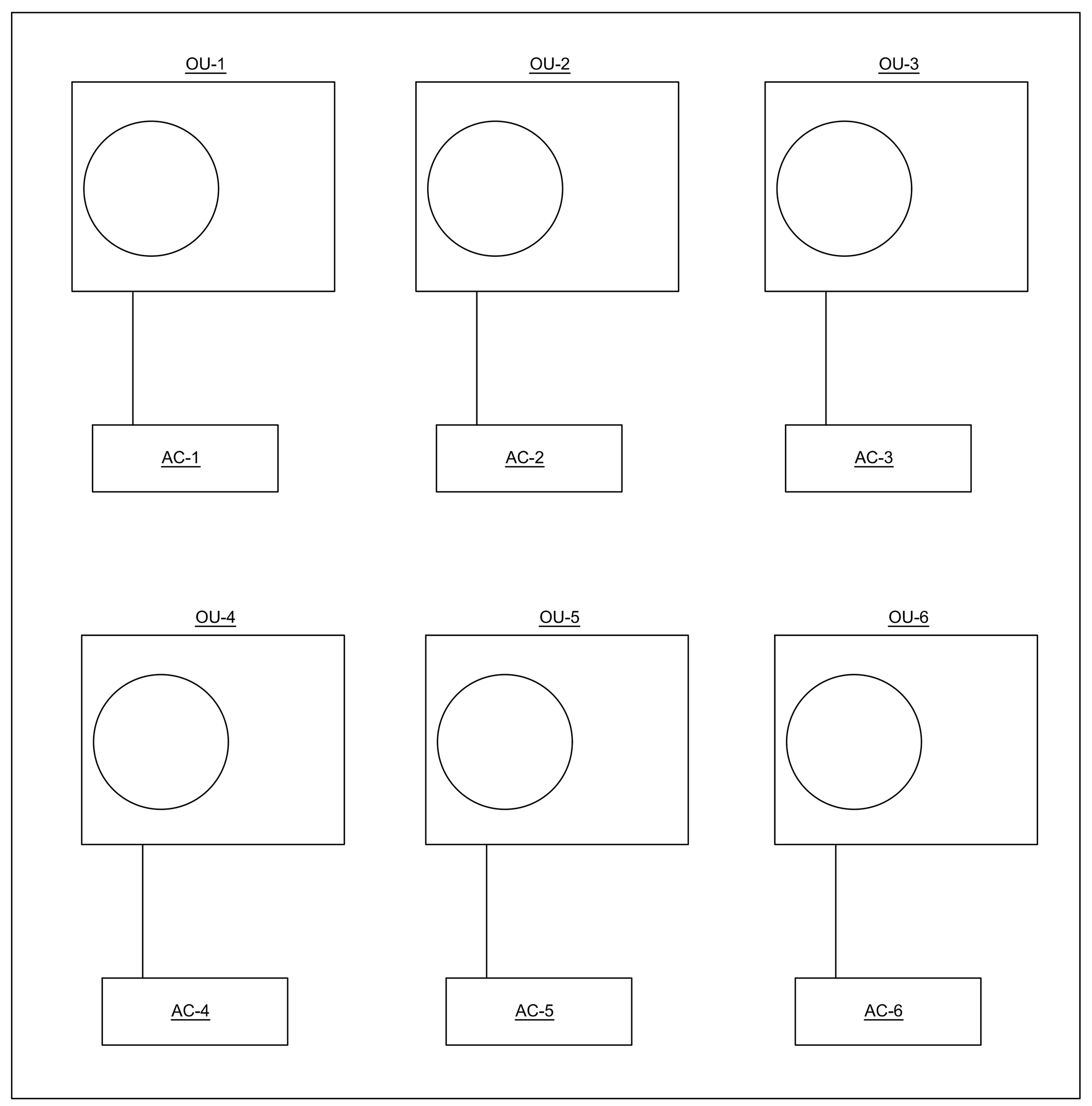


AIR BALANCE DIAGRAM

NTS

NOTES:
1. MAKEUP AIR WILL COME FROM DOOR CLEARANCE



INDOOR/OUTDOOR UNIT SCHEMATIC

NTS

MECHANICAL SYMBOL LIST AND ABBRIVATION.

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
AC	AIR CONDITIONER
OU	OUTDOOR UNIT
TEF	TOILET EXHAUST FAN
EA	EXHAUST AIR
D	CONDENSATE DRAIN
Ⓣ	THERMOSTAT/SENSOR

MECHANICAL GENERAL NOTES:-

1. ALIGN TEMPERATURE SENSORS WITH LIGHT SWITCHES WHEN IN CLOSE PROXIMITY TO EACH OTHER.
2. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND PROVIDE PROPER ACCESS AND CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE.
3. SEAL ALL FLOOR, WALL AND ROOF PENETRATIONS AIRTIGHT WHERE DUCT PENETRATE.
4. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. COORDINATE WITH LAYOUT OF EQUIPMENT PADS,DUCTWORK ETC.
5. MANUFACTURER SHOWN IN SCHEDULE IS BASIS OF DESIGN.
6. CONDENSATE DRAIN FROM ALL MECHANICAL EQUIPMENT SHALL BE PROVIDED FOR PROPER DRAINAGE TO SUIT EQUIPMENT FURNISHED.
7. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
8. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
9. REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAIL AS APPLICABLE TO THE HVAC SYSTEM.

MINI SPLIT OR DUCTLESS SPLIT INDOOR UNIT SCHEDULE (COOLING/HEATING)

TAG	SYSTEM	ZONE	OUTDOOR UNIT	MANUFACTURER	MODEL	INDOOR TYPE	NOM CAP.	SUPPLY AIR	VENTILATION	TOTAL COOLING CAPACITY	SENS. COOLING CAPACITY	TOTAL HEATING CAPACITY	VOLTAGE	WEIGHT	REFRIG. TYPE	REFRIG. LINES GAS/LIQUID
AC-1	SYSTEM 1	GUEST ROOM 2	OU-1	MITSUBISHI	MSZ-GL24NA	WALL	24kBTH	800 CFM	25 CFM	22400 BTH	16800 BTH	27600 BTH	208-1	37 LBS	R410A	5/8" / 3/8"
AC-2	SYSTEM 2	GUEST ROOM 3	OU-2	MITSUBISHI	MSZ-GL18NA	WALL	18kBTH	600 CFM	25 CFM	18000 BTH	15660 BTH	21600 BTH	208-1	28 LBS	R410A	1/2" / 1/4"
AC-3	SYSTEM 1	REFRESHMENT	OU-3	MITSUBISHI	MSZ-GL24NA	WALL	24kBTH	800 CFM	25 CFM	22400 BTH	16800 BTH	27600 BTH	208-1	37 LBS	R410A	5/8" / 3/8"
AC-4	SYSTEM 1	GUEST ROOM 1	OU-4	MITSUBISHI	MSZ-GL24NA	WALL	24kBTH	800 CFM	25 CFM	22400 BTH	16800 BTH	27600 BTH	208-1	37 LBS	R410A	5/8" / 3/8"
AC-5	SYSTEM 1	GUEST ROOM 4	OU-5	MITSUBISHI	MSZ-GL24NA	WALL	24kBTH	800 CFM	25 CFM	22400 BTH	16800 BTH	27600 BTH	208-1	37 LBS	R410A	5/8" / 3/8"
AC-6	SYSTEM 1	GUEST ROOM 5	OU-6	MITSUBISHI	MSZ-GL24NA	WALL	24kBTH	800 CFM	25 CFM	22400 BTH	16800 BTH	27600 BTH	208-1	37 LBS	R410A	5/8" / 3/8"

NOTES:
1. PROVIDE DISCONNECT SWITCH.
2. PROVIDE DIGITAL THERMOSTAT CONTROL FOR EACH AHU.
3. PROVIDE WARRANTY, 1 YR ON PARTS AND DEFECTS AND 7 YRS ON COMPRESSOR.
4. PROVIDE CONDENSATE DRAIN PUMP. PROVIDE 1" CONDENSATE DRAIN.
5.INDOOR UNITS RECEIVE POWER FROM OUTDOOR UNITS THROUGH FIELD SUPPLIED INTERCONNECTED WIRING.

SPLIT SYSTEM OUTDOOR UNIT SCHEDULE

TAG	SERVICE	MANUFACTURER	MODEL	EQUIP. TYPE	ZONES	NOM CAP	REFRIG.	TOTAL COOL'G	TOTAL HEAT'G	COOL'G EFF	HEAT'G EFF	VOLTAGE	MCA	MOCP	WEIGHT
OU-1	AC-1	MITSUBISHI	MXZ-3C24NA2	HEAT PUMP	MULTI	2 TON	R-410A	28400 BTH	28600 BTH	20 SEER	13.60 HSPF	208-1	22.1	25	137
OU-2	AC-2	MITSUBISHI	MXZ-3C24NA2	HEAT PUMP	MULTI	2 TON	R-410A	28400 BTH	28600 BTH	20 SEER	13.60 HSPF	208-1	22.1	25	137
OU-3	AC-3	MITSUBISHI	MXZ-3C24NA2	HEAT PUMP	MULTI	2 TON	R-410A	28400 BTH	28600 BTH	20 SEER	13.60 HSPF	208-1	22.1	25	137
OU-4	AC-4	MITSUBISHI	MXZ-3C24NA2	HEAT PUMP	MULTI	2 TON	R-410A	28400 BTH	28600 BTH	20 SEER	13.60 HSPF	208-1	22.1	25	137
OU-5	AC-5	MITSUBISHI	MXZ-3C24NA2	HEAT PUMP	MULTI	2 TON	R-410A	28400 BTH	28600 BTH	20 SEER	13.60 HSPF	208-1	22.1	25	137
OU-6	AC-6	MITSUBISHI	MXZ-3C24NA2	HEAT PUMP	MULTI	2 TON	R-410A	28400 BTH	28600 BTH	20 SEER	13.60 HSPF	208-1	22.1	25	137

NOTES:
1. PROVIDE DISCONNECT SWITCH STARTER.
2. PROVIDE WARRANTY, 1 YR ON PARTS AND DEFECTS AND 7 YRS ON COMPRESSOR.

COLD PLASMA IONIZ.AIR PURIFICATION MADE BY GLOBAL PLASMA SOLUTIONS / NU-CALGON

NU-CALGON MODE# 4900-35 iWave-M, 110 OR 240V VAC, 5 WATT, 0-1600 CFM AIR FLOW

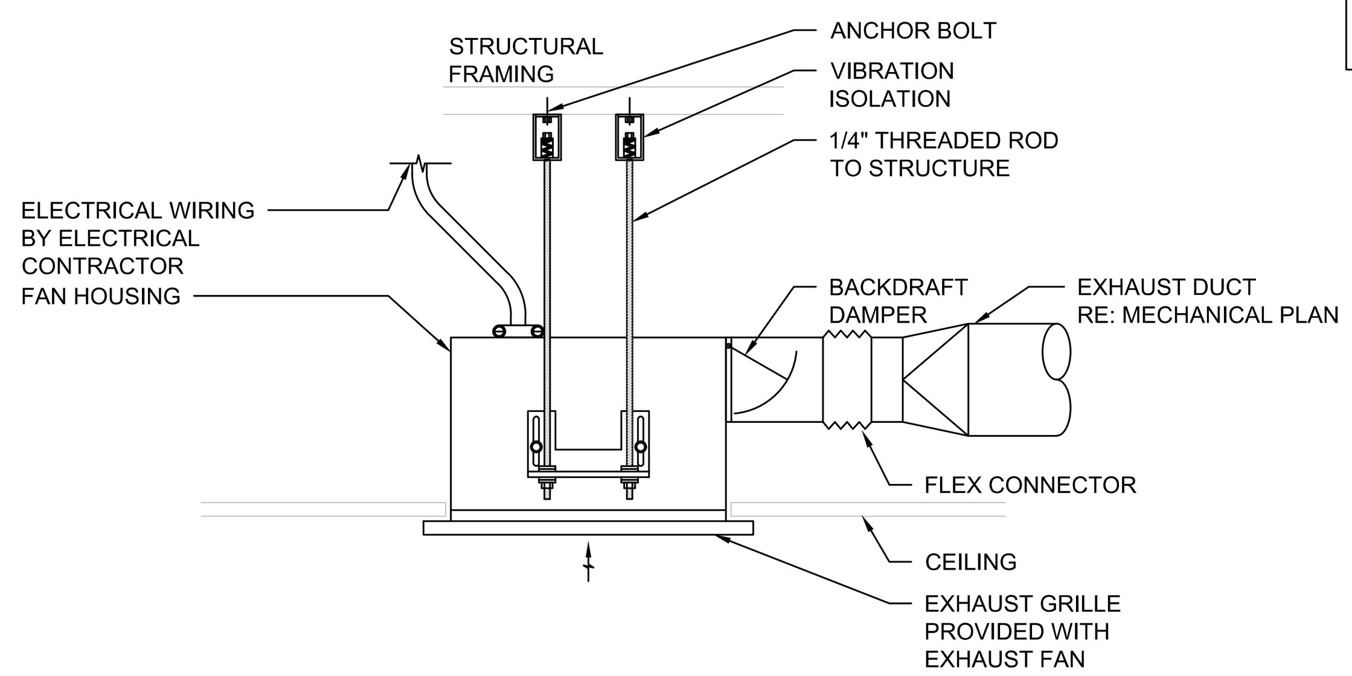
NOTE: TO BE INTERLOCKED WITH INSIDE WALL UNIT FAN MOTOR (WHEN FAN RUNS, 4900-35 iWave-M IS ENERGIZED).
IONIZATION DEVICE CAN BE PURCHASED FROM ONLINE RETAILERS.

THE ABOVE IONIZ. DEVICE CAN BE INSTALLED ON INDOOR UNITS WITH WIDTH 18-36" ≤
EACH INDOOR UNIT REQUIRED TO HAVE IONIZATION DEVICE TO KEEP VENTIL.AIR REQ. 25 CFM PER ZONE.

FAN SCHEDULE

SYMBOL	MANUFACTURER	MODEL	SERVICE LOCATION	CFM	S.P. IN. W.C.	ELECTRICAL			WEIGHT (LBS)	NOTES
						WATT	VOLT-PHASE	RPM		
EF-1	GREENHECK	SP-80-VG	BATHROOM 2	50	0.3	6	115-1	935	12	1
EF-2	GREENHECK	SP-80-VG	BATHROOM 3	50	0.3	6	115-1	935	12	1
EF-3	GREENHECK	SP-80-VG	POWDER ROOM	50	0.3	6	115-1	935	12	1
EF-4	GREENHECK	SP-80-VG	BATH 1 ADA	50	0.3	6	115-1	935	12	1
EF-5	GREENHECK	SP-80-VG	BATHROOM 5	50	0.3	6	115-1	935	12	1
EF-6	GREENHECK	SP-80-VG	BATHROOM 4	50	0.3	6	115-1	935	12	1

NOTES:
1. FAN SHALL RUN CONTINUOUSLY.



1 CEILING EXHAUST FAN DETAILS

NO SCALE

MECHANICAL SHEET INDEX

SHEET NUMBER	SHEET NAME
M100	MECHANICAL COVER SHEET,DETAILS & SCHEDULES.
M101	FIRST FLOOR MECHANICAL PLAN
M102	SECOND FLOOR MECHANICAL PLAN

PROFESSIONAL ENGINEERING:

DURAK EVRIM ERCAN P.E.
ENGINEERING | CONSULTING | ESTIMATING
201-920-2899 info@AmperEngineering.com

SEAL & SIGNATURE:

Durak Evrim Ercan

Digitally signed by Durak Evrim Ercan
DN: CN=Durak Evrim Ercan + E=info@AmperEngineering.com, O=Durak Evrim Ercan, L=Montclair, S=New Jersey, C=US
Reason: I am approving this document.
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Date: 2021.12.09 19:02:18-05'00'

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER
No. 37033
12/09/2021
DURAK EVRIM ERCAN

[illegible]

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REV.	DATE	DESCRIPTION
0	11/24/2021	ISSUED FOR APPROVAL

CLIENT:
NE ST,
LLC

PROJECT:
RENOVATIONS
FOI E
STF

ADDRESS:
REET
BEAUFORT, SC
29902

PROJECT NUMBER: AE# 1481

SHEET SIZE: 24X36

DRAWN BY: DEE

DESIGNED BY: DEE

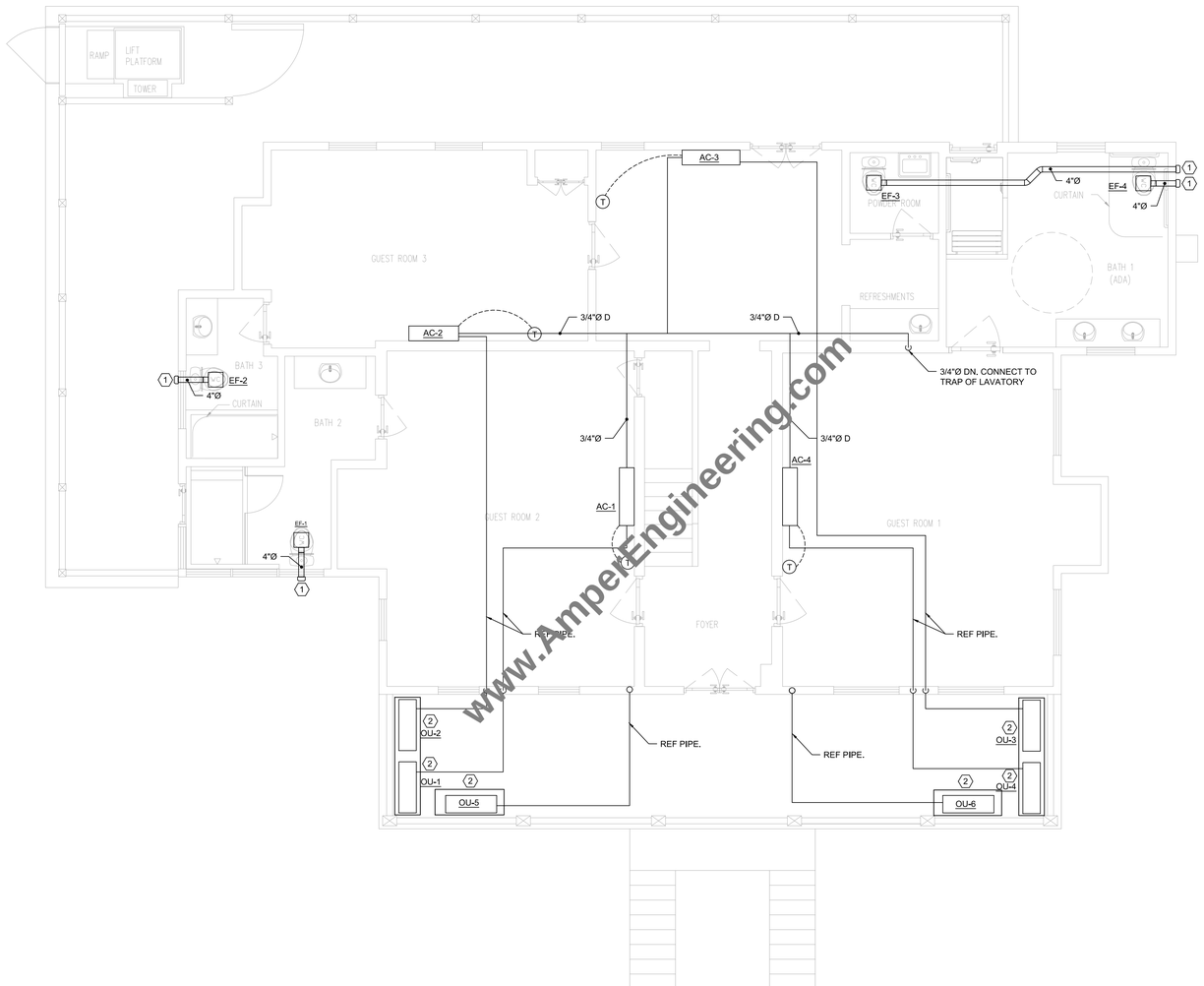
CHECKED BY: DEE

DRAWING TITLE:
MECHANICAL COVER SHEET,GENERAL NOTES, SYMBOL LEGEND & SCHEDULES.

DRAWING NO:
M100

NOTES BY SYMBOL " (#) "

1. TERMINATE TOILET EXHAUST AT EXTERIOR WITH WALL CAP.
2. ROUTE REFRIGERANT PIPES FROM AIR COOLED CONDENSER TO INDOOR UNIT. PIPE SIZE AND INSULATION REQUIREMENTS AS PER MANUFACTURE RECOMMENDATIONS.



1 / M101 MECHANICAL FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"

PROFESSIONAL ENGINEERING:
DURAK EVRIM ERCAN P.E.
ENGINEERING | CONSULTING | ESTIMATING
201-920-2899 info@AmperEngineering.com

SEAL & SIGNATURE:
Durak Evrim Ercan

Digitally signed by Durak Evrim Ercan
DN: CN=Durak Evrim Ercan, C=US, O=Professional Engineer, OU=Civil
Date: 2021.12.09 15:48:39 -05'00'
Adobe Acrobat version: 2021.001.20155
Reason: I am approving this document
Location: Printed copies of this document are not considered signed and sealed and the electronic codes must be verified on any electronic copies.
Durak Evrim Ercan, Civil Engineer

SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 37033
12/09/2021
DURAK EVRIM ERCAN

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REV.	DATE	DESCRIPTION
0	11/24/2021	ISSUED FOR APPROVAL

CLIENT:
NE ST, LLC

PROJECT:
RENOVATIONS FOI
STR

ADDRESS:
REET
BEAUFORT, SC 29902

PROJECT NUMBER: AE# 1481

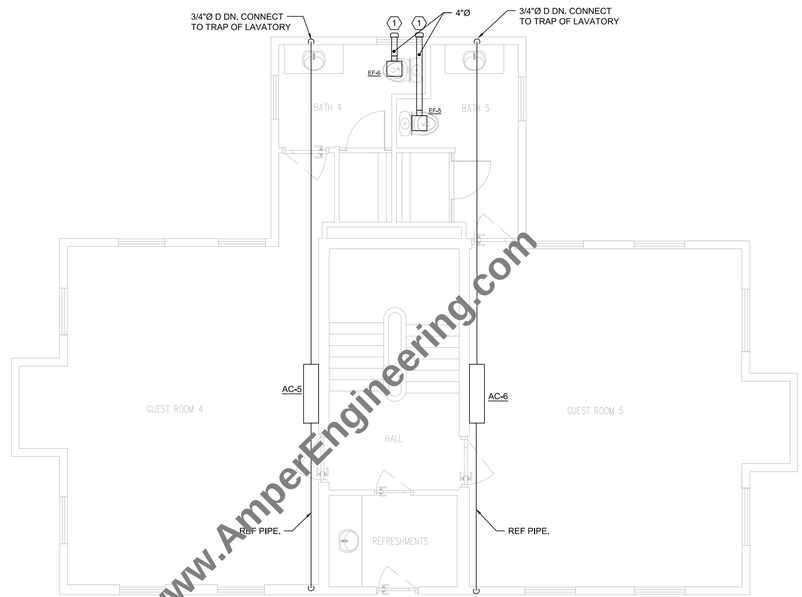
SHEET SIZE:	DRAWN BY:
24X36	DEE
DESIGNED BY:	CHECKED BY:
DEE	DEE

DRAWING TITLE:
FIRST FLOOR MECHANICAL PLAN

DRAWING NO:
M101

NOTES BY SYMBOL " (#) "

1. TERMINATE TOILET EXHAUST AT EXTERIOR WITH WALL CAP.
2. ROUTE REFRIGERANT PIPES FROM AIR COOLED CONDENSER TO INDOOR UNIT. PIPE SIZE AND INSULATION REQUIREMENTS AS PER MANUFACTURE RECOMMENDATIONS.



1 M102 MECHANICAL SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"

PROFESSIONAL ENGINEERING:

DURAK EVRIM ERCAN P.E.
ENGINEERING | CONSULTING | ESTIMATING
201-920-2899 info@AmperEngineering.com

SEAL & SIGNATURE:

Durak Evrim Ercan

Digitally signed by Durak Evrim Ercan
DN: CN=Durak Evrim Ercan, C=US, O=Amper Engineering, OU=Civil, E=info@AmperEngineering.com
Date: 2021.12.09 12:47:56 -05'00'
Adobe Acrobat Version: 2020.013.20074

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL No. 37033 DURAK EVRIM ERCAN 12/09/2021

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REV.	DATE	DESCRIPTION
0	11/24/2021	ISSUED FOR APPROVAL

CLIENT:
NE ST, LLC

PROJECT:
RENOVATIONS FOI E STF

ADDRESS:
REET
BEAUFORT, SC 29902

PROJECT NUMBER: AE# 1481

SHEET SIZE:	DRAWN BY:
24X36	DEE
DESIGNED BY:	CHECKED BY:
DEE	DEE

DRAWING TITLE:
SECOND FLOOR MECHANICAL PLAN

DRAWING NO:
M102

SHEET INDEX

ELECTRICAL NOTES

1. 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.
2. 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.
3. THIS DESIGN IS NOT A COMPLETE SET OF CONSTRUCTION DRAWING OR SHOP DRAWINGS. THIS DESIGN REPRESENTS DIAGRAMMATIC REPRESENTATION OF INTENDENT SCOPE OF WORK.
4. 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.
5. 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.
6. GENERAL WORK PRACTICES FOR ELECTRICAL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NECA 1 STANDARD FOR GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION (ANSI)
7. 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.
8. 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.
9. 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.
10. 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.
11. THE DRAWINGS ARE TO BE CONSIDERED SCHEMATIC ONLY AND DO NOT NECESSARILY SHOW THE EXACT LOCATION AND DETAILS OF THE WORK TO BE INSTALLED.
12. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF RECEPTACLES, AND LIGHTING FIXTURES, ETC.
13. 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 AHJ.
14. PREPARE AND FURNISH TO OWNER 'AS-BUILT' PLANS FOR ALL WORK INSTALLED.
15. ELECTRICAL CONTRACTOR SHALL FURNISH RECORD SET OF DRAWINGS WITH ANY DEVIATIONS MARKED IN RED INK.
16. 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.
17. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE CORRECT PHASE SEQUENCE OF ALL THREE-PHASE FEEDERS AND BRANCH CIRCUITS. VERIFY PROPER ROTATION OF ALL MOTORS.
18. ELECTRICAL CONTRACTOR SHALL VERIFY PHASE LOAD BALANCING ON POWER PANELS UPON COMPLETION OF THE ELECTRICAL INSTALLATION.
19. PROVIDE IDENTIFICATION ON ALL PANELBOARDS, SWITCHES, STARTERS, DIMMERS, SWITCHES IN DISTRIBUTION PANELBOARDS AND SWITCHBOARDS.
20. 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.
21. 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.
22. 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".
23. PULLBOXES , JUNCTION BOXES, CONDUIT BODIES, AND EXPANSION JOINTS SHALL BE INSTALLED AS PER NFPA 70.
24. PROVIDE CONDUIT EXPANSION FITTINGS WITH BONDING JUMPERS FOR ALL CONDUITS PASSING THROUGH EXPANSION JOINTS.
25. PROVIDE SLEEVES FOR PENETRATIONS THROUGH BLOCK OR CONCRETE WALLS AND FLOORS.
26. 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".
27. FLEXIBLE CONDUIT INSTALLED OUT OF DOORS, IN ANY MECHANICAL EQUIPMENT ROOMS, OR IN NORMALLY WET AREAS SHALL BE LIQUID TIGHT FLEX WITH SUITABLE FITTINGS.
28. 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 AS-BUILT DRAWINGS.
29. CONTRACTOR SHALL VERIFY AND COORDINATE ALL MOUNTING HEIGHTS OF ALL DEVICES MOUNTED IN CASEWORK OR IN ABOVE COUNTERS WITH EXISTING EQUIPMENT.
30. 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.
31. PROVIDE INDEPENDENT SUPPORT FOR DISCONNECT SWITCHES, CONTROL STATIONS, BOXES, PANELS, ETC. WHERE NO WALLS OR OTHER STRUCTURAL SURFACE EXISTS.
32. EQUIPMENT SIZED AND LOCATIONS ARE APPROXIMATE. ACTUAL DIMENSIONS TO BE DETERMINED BY EQUIPMENT FURNISHED.
33. 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 THHN AWG COPPER.
34. 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.
35. ALL FIRE ALARM SYSTEMS RACEWAY, SWITCHES, AND JUNCTION BOXES SHALL BE PAINTED RED.
36. TIGHTEN SCREWS AND BOLTS FOR CONNECTORS AND TERMINALS ACCORDING TO MANUFACTURER'S PUBLISHED TORQUE - TIGHTENING VALUES.
37. 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.
38. 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.
39. 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 NOTED.
40. 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.
41. SPARE WIRES INSTALLED SHALL BE NEATLY COILED, BOUND AND PLACED IN SPACE AVAILABLE. LEAVE AT A MINIMUM, 8' OF SLACK AT EACH DESTINATION.
42. WHERE EXISTING CIRCUIT TO REMAIN ARE INTERRUPTED DUE TO NEW CONSTRUCTION, CONDUIT AND WIRE SHALL BE EXTENDED RE-ENERGIZED.
43. PROVIDE DISCONNECT SWITCHES FOR ELECTRICAL HEATER, HVAC EQUIPMENT AND EXHAUST FANS WITHIN EYE SIGHT OF THE EQUIPMENT.
44. PROVIDE SERVICE RECEPTACLE WITHIN 25 FEET OF EACH HVAC EQUIPMENT.
45. 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.
46. 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 (I.T.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.
47. 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.
48. 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.
49. ALL PANELS, SWITCHES, ETC. SHALL HAVE SUFFICIENT GUTTER SPACE AND LUGS TO ACCOMMODATE CONDUCTORS SHOWN.
50. 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.
51. 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.
52. 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.
53. 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.
54. ALL CONDUITS SHALL BE EMT UNLESS OTHERWISE NOTED.
55. 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.
56. ELECTRICAL CONTRACTOR SHALL INSTALL SIZE OF CONDUIT SHOWN ON PLANS.
57. ALL CONDUIT AND RACEWAY SYSTEMS TO BE INSTALLED WITH SEPARATE GROUND CONDUCTOR. CONDUIT SYSTEM IS NOT TO BE USED AS THE SOLE GROUNDING MEANS.
58. 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:

#10 AND #12:	THWN OR THHN
#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.:	THHN

59. ALL CONDUIT AND RACEWAY SYSTEMS TO BE INSTALLED WITH SEPARATE GROUND CONDUCTOR. CONDUIT SYSTEM IS NOT TO BE USED AS THE SOLE GROUNDING MEANS.
60. ALL WIRING TO BE COLOR-CODED AS FOLLOWS:

120/208 VOLT SYSTEM		277/480 SYSTEM	
NEUTRAL:	WHITE	PHASE A:	BROWN
PHASE A OR L1:	BLACK	PHASE B:	ORANGE
PHASE B OR L2:	RED	PHASE C:	YELLOW
PHASE C OR L3:	BLUE	NEUTRAL:	GRAY
GROUND:	GREEN	GROUND:	GREEN

61. 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.
62. 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.
63. 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.
64. ALL EMERGENCY LIGHTS SHALL BE CONNECTED AHEAD OF ANY LOCAL SWITCH.
65. ALL EXIT SIGNS SHOWN ARE PER ARCHITECTURAL LAYOUT AND SHALL BE APPROVED BY FIRE DEPARTMENT AND BUILDING OFFICIAL.
66. LAYOUT BRANCH CIRCUIT WIRING AND ARRANGEMENT OF HOME RUNS FOR MAXIMUM ECONOMY AND EFFICIENCY. INCREASE WIRE SIZE IF 100 FEET OF LENGTH IS EXCEEDED.
67. 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.
68. 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.
69. 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.
70. FOR ALL WIRING DEVICES, VERIFY FINISH COLOR WITH ARCHITECT.

SYMBOL LEGEND

ELECTRICAL EQUIPMENT

TYPICAL FOR ALL RECEPTACLES, OUTLETS, JUNCTION BOXES AND EQUIPMENT: NUMBER DENOTES PANEL CIRCUIT NUMBER.

- AFCI - ARC FAULT CIRCUIT INTERRUPTER
- GFCI - GROUND FAULT INTERRUPTER
- SS - SURGE SUPPRESSION TYPE
- IG - ISOLATED GROUND TYPE
- WP - WEATHERPROOF

- DUPLEX RECEPTACLE
- SWITCHED DUPLEX RECEPTACLE - ONE OUTLET SWITCHED LOWER CASE LETTER DENOTES SWITCH CONTROL
- DOUBLE DUPLEX RECEPTACLE
- SINGLE RECEPTACLE
- SPECIAL RECEPTACLE AMPERE AND VOLTAGE RATING AS INDICATED ON DRAWING
- SURFACE RACEWAY WITH RECEPTACLES, AS INDICATED ON DRAWINGS
- DOUBLE DUPLEX RECEPTACLE - FLOOR MOUNTED
- DUPLEX RECEPTACLE - FLOOR MOUNTED
- SPECIAL RECEPTACLE - FLOOR MOUNTED
- CEILING MOUNTED DUPLEX RECEPTACLE
- FLOOR JUNCTION BOX
- WALL MOUNTED JUNCTION BOX
- JUNCTION BOX, SIZE AND MOUNT AS REQUIRED
- ELECTRICAL OR TELEPHONE MANHOLE
- ELECTRICAL OR TELEPHONE HANDHOLE
- TERMINAL BOX. SIZE IN ACCORDANCE WITH NEC REQUIREMENTS AND TO ACCOMMODATE ALL TERMINAL BLOCKS.
- PULL BOX. SIZE IN ACCORDANCE WITH NEC REQUIREMENTS.
- SURFACE PANELBOARD LETTERS & NUMERALS INDICATE EQUIPMENT TAG
- RECESSED PANELBOARD LETTERS & NUMERALS INDICATE EQUIPMENT TAG
- ELECTRICAL PANEL LETTERS AND NUMBERS INDICATE PANELBOARD IDENTIFICATION TAG SEE PANEL SCHEDULE FOR DETAILS.
- HOMERUN CIRCUITS TO PANELBOARD. NUMBER OF ARROWS INDICATES NUMBER OF CIRCUIT HOMERUNS. 1 PH 120V
- FEEDER TAG WITH CONDUIT AND WIRE SIZE AND DATA
- INDICATES NEW OR EXISTING EQUIPMENT/CONDUIT
- INDICATES CONCEALED NEW OR EXISTING EQUIPMENT/CONDUIT
- INDICATES EXISTING EQUIPMENT/CONDUIT TO BE DEMOLISHED AND/OR REMOVED
- BUSS BAR
- FLEXIBLE CONNECTION
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- CAPPED CONDUIT
- CABLE TRAY (LADDER STYLE) NUMBER DENOTES WIDTH IN INCHES
- BUS DUCT
- HAND OFF AUTO SELECTOR SWITCH
- CONTROL STATION
- PUSHBUTTON STATION
- INDICATING LIGHT STATION

DATA & TELEPHONE

- DATA SYSTEM SYSTEM OUTLET BOX, WITH 3/4" CONDUIT SUB UP ABOVE HUNG CEILING WITH DRAG LINE AND BUSHED ENDS
- TELEPHONE SYSTEM OUTLET BOX, WITH 3/4" CONDUIT SUB UP ABOVE HUNG CEILING WITH DRAG LINE AND BUSHED ENDS
- COMBINATION TELEPHONE/DATA BOX WITH 1" CONDUIT STUB UP ABOVE HUNG CEILING WITH DRAG LINE AND BUSHED ENDS
- DATA OUTLET BOX - FLOOR MOUNTED
- TELE OUTLET BOX - FLOOR MOUNTED
- COMBINATION TELEPHONE/DATA OUTLET FLOOR MOUNTED
- TELEPHONE POKE THRU
- DATA POKE THRU
- TELEPHONE / DATA POKE THRU
- TTB/DTB — TELEPHONE/DATA TERMINAL BOARD. 3/4" x 4' x 6' PLYWOOD FASTENED TO THE WALL WITH 3/4" CHANNEL.

LIGHTING

TYPICAL FOR ALL LIGHTING FIXTURES:
1. CAPITAL LETTER DENOTES FIXTURE TYPE.
2. SEE LIGHTING FIXTURE SCHEDULE FOR DESCRIPTION, TYPE, AND DETAILS.
3. NUMBER DENOTES BRANCH CIRCUIT NUMBER AT RESPECTIVE LIGHTING PANELBOARD. LOWER CASE LETTER DENOTES SWITCHED CIRCUIT.

- TYPICAL LIGHTING FIXTURE
- SINGLE POLE SWITCH
- DOUBLE POLE SWITCH
- THREE-WAY SWITCH
- FOUR-WAY SWITCH
- SINGLE POLE KEY SWITCH
- THREE WAY KEY SWITCH
- SINGLE POLE SWITCH WITH PILOT LIGHT
- DIMMING SWITCH
- OCCUPANCY SENSOR TYPE SWITCH
- THREE WAY DIMMING SWITCH
- MANUAL MOTOR TOGGLE TYPE STARTER WITH INTEGRAL THERMAL OVERLOAD HEATER
- EMERGENCY LIGHTING
- EMERGENCY LIGHTING WITH EXIT SIGN
- EXIT SIGN
- MOTION SENSOR
- PHOTOCELL
- OCCUPANCY SENSOR
- TIME CLOCK
- LIGHTING CONTACTOR. NUMBER DENOTES CONTACTOR IDENTIFICATION TAG. SEE CONTACTOR SCHEDULE FOR NUMBER OF POLES AND DETAILS.
- GENERATOR REMOTE ANNUNCIATOR
- PADDLE FAN

GENERATION & GROUNDING

- LOCK FOR RESPECTIVE KEY INTERLOCK WITH KEY CAPTIVE IN LOCK
- LOCK FOR RESPECTIVE KEY INTERLOCK
- ELECTRONIC METERING DEVICE
- AMMETER - AMMETER SWITCH
- VOLTMETER - VOLTMETER SWITCH
- WATTHOUR METER
- UTILITY COMPANY METER AND METER PAN AS REQUIRED
- FUSE
- SURGE PROTECTOR DEVICE
- HARMONIC FILTER
- POWER FACTOR CORRECTION CAPACITOR
- LINE REACTOR
- RESISTOR
- GENERATOR
- MEDIUM VOLTAGE CABLE STRESS CONNECTION
- 600 VOLT CABLE LIMITER CONNECTION
- LIGHTNING ARRESTER. NUMBER IN PARENTHESIS INDICATES QUANTITY.
- GROUNDED WYE CONNECTION
- UNGROUNDED WYE CONNECTION
- OPEN DELTA CONNECTION
- DELTA CONNECTION
- NODE
- WIRE TERMINAL
- GROUND TEST ELECTRODE
- GROUND ROD
- UNDERGROUND GROUND SYSTEM BARE CABLE. SIZE AS NOTED OR INDICATED.
- BUILDING GROUND SYSTEM BARE CABLE SIZE AS NOTED OR INDICATED
- GROUND GRID CABLE CONNECTION
- GROUND CONNECTION

DISTRIBUTION EQUIPMENT

FOR ALL DISTRIBUTION EQUIPMENT.
- GFP - GROUND FAULT PROTECTION
- ST - SHUNT TRIP
- LSIG - LONG TIME, SHORT TIME INSTANTANEOUS AND GROUND FAULT PROTECTION FUNCTIONS
- 100% - 100% RATED EQUIPMENT.

- ELECTRIC OPERATED DEVICE
- ELECTRONIC TRIP TYPE DEVICE
- CIRCUIT BREAKER
- THERMAL MAGNETIC CIRCUIT BREAKER TOP NUMBER DENOTES TRIP AMPERE RATING BOTTOM NUMBER DENOTES FRAME SIZE AMPERE RATING #P - DENOTES NUMBER OF POLES
- CIRCUIT BREAKER WITH ELECTRONIC TRIP PROGRAMMER. TOP NUMBER INDICATES FRAME SIZE SIZE, BOTTOM NUMBER INDICATES SENSOR RATING. #P - DENOTES NUMBER OF POLES
- DRAW-OUT TYPE THERMAL MAGNETIC CIRCUIT BREAKER TOP NUMBER DENOTES TRIP AMPERE RATING BOTTOM NUMBER DENOTES FRAME SIZE AMP RATING #P - DENOTES NUMBER OF POLES
- MEDIUM VOLTAGE DRAW-OUT CIRCUIT BREAKER TOP NUMBER DENOTES TRIP SIZE AMPERE RATING BOTTOM NUMBER DENOTES FRAME SIZE AMP RATING #P - DENOTES NUMBER OF POLES
- DRAW-OUT MCC FVNR CIRCUIT BREAKER COMBINATION STARTER TOP NUMBER DENOTES TRIP SIZE AMPERE RATING MCP DENOTES MOTOR CIRCUIT PROTECTOR SIZE N# - DENOTES NEMA STARTER SIZE #P - DENOTES NUMBER OF POLES
- DRAW-OUT FUSED SWITCH TOP NUMBER DENOTES SWITCH AMPERE RATING BOTTOM NUMBER DENOTES FUSE AMPERE RATING #P - DENOTES NUMBER OF POLES
- FUSED MEDIUM VOLTAGE DRAW OUT STARTER TOP NUMBER DENOTES FUSE AMPERE RATING N# - DENOTES NEMA STARTER SIZE #P - DENOTES NUMBER OF POLES
- UNFUSED DISCONNECT SWITCH. NUMBER DENOTES SWITCH AMPERE RATING #P - DENOTES NUMBER OF POLES
- FUSED DISCONNECT SWITCH TOP OR FIRST NUMBER DENOTES SWITCH AMPERE RATING BOTTOM OR SECOND NUMBER DENOTES AMPERE FUSE RATING #P - DENOTES NUMBER OF POLES
- MEDIUM VOLTAGE UNFUSED LOAD INTERRUPTER SWITCH NUMBER DENOTES SWITCH AMPERE RATING #P - DENOTES NUMBER OF POLES
- MEDIUM VOLTAGE FUSED LOAD INTERRUPTER SWITCH TOP NUMBER DENOTES SWITCH AMPERE RATING BOTTOM NUMBER DENOTES FUSE AMPERE RATING #P - DENOTES NUMBER OF POLES
- MAGNETIC MOTOR STARTER WITH THERMAL OVERLOADS
- MAGNETIC MOTOR STARTER CONTACTOR N# - DENOTES NEMA STARTER SIZE
- COMBINATION MAGNETIC MOTOR STARTER WITH DISCONNECT SWITCH. N# - DENOTES NEMA STARTER SIZE
- CURRENT TRANSFORMER (CT) NUMBER RATIO DENOTES CT PRIMARY AND SECONDARY CURRENT RATINGS NUMBER IN PARENTHESIS INDICATES QUANTITY
- POTENTIAL TRANSFORMER WITH PRIMARY AND SECONDARY FUSES
- ENCLOSED CIRCUIT BREAKER TOP OR FIRST NUMBER DENOTES SWITCH AMPERE RATING BOTTOM OR SECOND NUMBER DENOTES FUSE AMPERE RATING #P - DENOTES NUMBER OF POLES
- ENCLOSED CIRCUIT BREAKER/COMBINATION FVNR STARTER TOP NUMBER DENOTES MOTOR CIRCUIT PROTECTOR CONTINUOUS AMPERE RATING N# DENOTES NEMA STARTER SIZE. #P - DENOTES NUMBER OF POLES
- ENCLOSED CT CABINET
- RELAY. NUMBER (S) DENOTE ANSI DEVICE FUNCTION NUMBER.
- AUTOMATIC TRANSFER SWITCH (ATS 1, 1200A, 250 V, 4P - 4W)
- AUTOMATIC TRANSFER SWITCH WITH BYPASS ISOLATION (Control Panel; ATS 1 W/BY PASS ISOLATION 1200A 250 V 4P - 4W)
- TRANSFORMER SIZE AS NOTED WITH PRIMARY AND SECONDARY VOLTAGE AS INDICATED (XFMR-1 1000 KVA 13,200 V- 480Y/277V 3P - 4W %65)
- PACKAGED EQUIPMENT WITH DISCONNECT SWITCH AND MOTOR STARTER

ABBREVIATIONS

A	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFI	ARC FLASH INTERRUPTER
AFCI	ARC FLASH CIRCUIT INTERRUPTER
ASYM	ASYMMETRICAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CL	CENTER LINE
CLG	CEILING
CNTL	CONTROL
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
D	DEMOLISH
DIA	DIAMETER
DISC	DISCONNECT
DN	DOWN
DP	DISTRIBUTION PANEL BOARD
DWG	DRAWING
E.C.	ELECTRICAL CONTRACTOR
EL	ELEVATION
ELEC	ELECTRICAL
EQUIP	EQUIPMENT
EXIST (e)	EXISTING
FA	FIRE ALARM
FBO	FURNISHED BY OTHER
FDR	FEEDER
FIXT	FIXTURE
FL	FLOOR
G	GROUND
G.C.	GENERAL CONTRACTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HP	HORSE POWER
IC	INTERRUPTING CAPACITY
I/O	INPUT / OUTPUT
JB	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWH	KILOWATT HOUR
LCP	LOCAL CONTROL PANEL
LIS	LOAD INTERRUPTER SWITCH
LP	LIGHTING PANEL
LTG	LIGHTING
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MCS	MOLDED CASE SWITCH
MDP	MAIN DISTRIBUTION PANEL
MIN	MINIMUM
MSB	MAIN SWITCHBOARD
MSG	MAIN SWITCHGEAR
MTS	MANUAL TRANSFER SWITCH
NA	NON-AUTOMATIC
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NO	NORMALLY OPEN
NTS	NOT TO SCALE
P	POLE
PH	PHASE
PNL	PANEL
PT	POTENTIAL TRANSFORMER
PP	POWER PANEL
PWR	POWER
RECEP	RECEPTACLE
REV	REVISION
SHD	SHIELDED CABLE
SP	SPARE
SS	SURGE SUPRESSION
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
TEL	TELEPHONE
TYP	TYPICAL
U/G	UNDERGROUND
U.O.N.	UNLESS OTHERWISE NOTED
V	VOLT OR VOLTAGE
VA	VOLT AMPERE
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
WHM	WATT HOUR METER
WP	WEATHERPROOF
WW	WIREWAY
XFMR	TRANSFORMER

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Digitally signed by Durak Evrim Ercan DN: CN=Durak Evrim Ercan + E=info@AmperEngineering.com, O=Durak Evrim Ercan, L=Montclair, S=New Jersey, C=US Reason: I am approving this document. Contact Info: Printed copies of this document are not considered signed and sealed and all authentication codes must be verified on any electronic copies. Date: 2021.12.09 19:02:22-05'00'
SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 37033 DURAK EVRIM ERCAN 12/09/2021

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REV.	DATE	DESCRIPTION
0	11/24/2021	ISSUED FOR APPROVAL

CLIENT:
NE ST,
LLC

PROJECT:
RENOVATIONS
FOR
STR

ADDRESS:
REET
BEAUFORT, SC
29902

PROJECT NUMBER: AE# 1481
SHEET SIZE: 24X36
DRAWN BY: DEE
DESIGNED BY: DEE
CHECKED BY: DEE

DRAWING TITLE:
ELECTRICAL COVER SHEET,GENERAL NOTES & SYMBOL LEGEND

DRAWING NO:
E100

PANEL A

VOLTAGE: 120/ 240 | AMPS: 400 MLO | MOUNTING: SURFACE
1 PHASE, 3 WIRE | TOTAL LOAD: 46.3 KVA | FEEDER SIZE #500 KCMIL CU

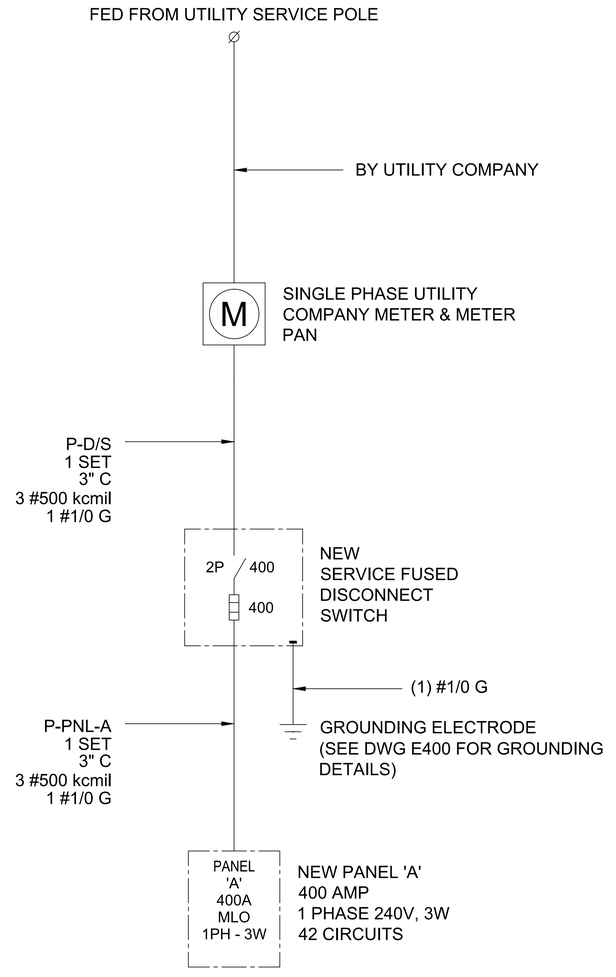
No.	CIRCUIT DESCRIPTION	LOAD (KVA) CONT	RCPT	MTR	A/C	KITCH	MISC	BREAKER TRIP	POLE	PHASE A	PHASE B	BREAKER POLE	BREAKER TRIP	LOAD (KVA) MISC	KITCH	A/C	MTR	RCPT	CONT	CIRCUIT DESCRIPTION	No.
1	LOBBY, GUEST RM, DINING, BATH	0.43						20	1	0.86		1	20						0.43	GUEST RM 1,2, BATH 2,3 LTG & TEF-1	2
3	EMERGENCY LIGHT	0.03						20	1		0.04	1	20						0.01	EXIT LIGHTS	4
5	LOBBY LIGHTING	0.72						20	1	1.14		1	20						0.42	GUEST RM 4,5, BATH 4,5 & REFRESH	6
7	GUEST RM 2 RECEPTACLES		1.26					20	1		1.98	1	20					0.72		BATH 2 GFI RECEPTACLE	8
9	GUEST RM 3 RECEPTACLES		0.90					20	1	1.98		1	20					1.08		DINING AREA RECEPTACLES	10
11	REFRESHMENT, POWDER RM, BATH		0.54					20	1		2.16	1	20					1.62		GUEST RM 1 RECEPTACLES	12
13	REFRESHMENT 2ND FLR GFI RECEPT		0.18					20	1	0.72		1	20					0.54		FOYER AREA RECEPTACLES	14
15	EXTERIOR MAINTENANCE RECEPT		0.72					20	1		2.43	1	20					1.71		GUEST RM 4 RECEPTACLES	16
17	GUEST RM 5 RECEPTACLES		1.71					20	1	4.01		2	25			2.30				OU-2 (FRONT PORCH) FOR AC-2 @ GUEST RM 2	18
19	OU-1 (FRONT PORCH) FOR AC-1 @ GUEST RM 1				2.30			25	2		4.60	X	X			2.30				X	20
21	X				2.30			X	X	4.60		2	25			2.30				OU-4 (FRONT PORCH) FOR AC-4 @ GUEST RM 4	22
23	OU-3 (FRONT PORCH) FOR AC-3 @ GUEST RM 3				2.30			25	2		4.60	X	X			2.30				X	24
25	X				2.30			X	X	4.60		2	25			2.30				OU-6 (FRONT PORCH) FOR AC-6 @ COMMON RM	26
27	OU-5 (FRONT PORCH) FOR AC-5 @ GUEST RM 5				2.30			25	2		4.60	X	X			2.30				X	28
29	X				2.30			X	X	4.80		2	30				2.50			LIFT	30
31	SPARE							20	1		2.50	X	X				2.50			X	32
33	SPARE							20	1	0.00		1	20							SPARE	34
35	SPARE							20	1		0.00	1	20							SPARE	36
37	SPARE							20	1	0.00		1	20							SPARE	38
39	SPACE										0.00	1	20							SPARE	40
41	SPACE									0.00										SPACE	42
	LOADS W/ NEC 220 DEMAND FACTORS (KVA)	CONT	RCPT	MTR	A/C	KITCH	MISC	TOTAL		22.71	22.91			0.00	0.00	27.60	5.00	10.98	2.04	CONNECTED KVA 45.62	
	A PHASE	2.50	4.41	3.13	13.80	0.00	0.00	23.84													
	B PHASE	0.05	6.57	3.13	13.80	0.00	0.00	23.55													
	DEMAND PER LOAD TYPE (KVA)	2.55	10.49	5.63	27.60	0.00	0.00	46.27													
	CONNEDTED LOAD LARGEST PHASE (KVA)							23.84													
	CONNECTED LOAD LARGEST PHASE (AMP)							99													
	TOTAL DEMAND LOAD FOR PANEL (KVA)							46.27													
v3 30/09/2021	TOTAL DEMAND LOAD FOR PANEL (AMP)							193													

NEC 220 DEMAND FACTORS

CONTINUOUS: 125% LOAD
RECEPTACLES: 100% 1st 10KW + 50% RMNG
MOTORS: 125% LARGEST MOTOR + 50% RMNG
A/C or HEAT 100% LOAD
KITCHEN: 65% LOAD
MISC: 100% LOAD
MIN FEEDER AMPACITY SELECTION (AMP) 193

PANEL NOTES

1. BREAKER FRAME SHALL BE AS REQUIRED PER PANEL AIC RATING.
2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
4. ALL INCOMING PANEL LUGS SHALL MATCH FEEDERS.
5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
6. PROVIDE METAL DIRECTORY FRAME.



SINGLE LINE DIAGRAM

NOTES

1. EXISTING ELECTRICAL EQUIPMENT TO BE UPGRADED TO 400A PANEL AND SERVICE.
2. COORDINATE WITH ARCHITECTURAL DRAWINGS, FOR EXACT LOCATION OF EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS INCLUDING EXACT POINT OF ELECTRICAL CONNECTION.

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SEAL & SIGNATURE:
Durak Evrim Ercan
No. 37033
12/09/2021

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REV.	DATE	DESCRIPTION
0	11/24/2021	ISSUED FOR APPROVAL

CLIENT: NE ST, LLC

PROJECT: RENOVATIONS FOI STR

ADDRESS: REET
BEAUFORT, SC
29902

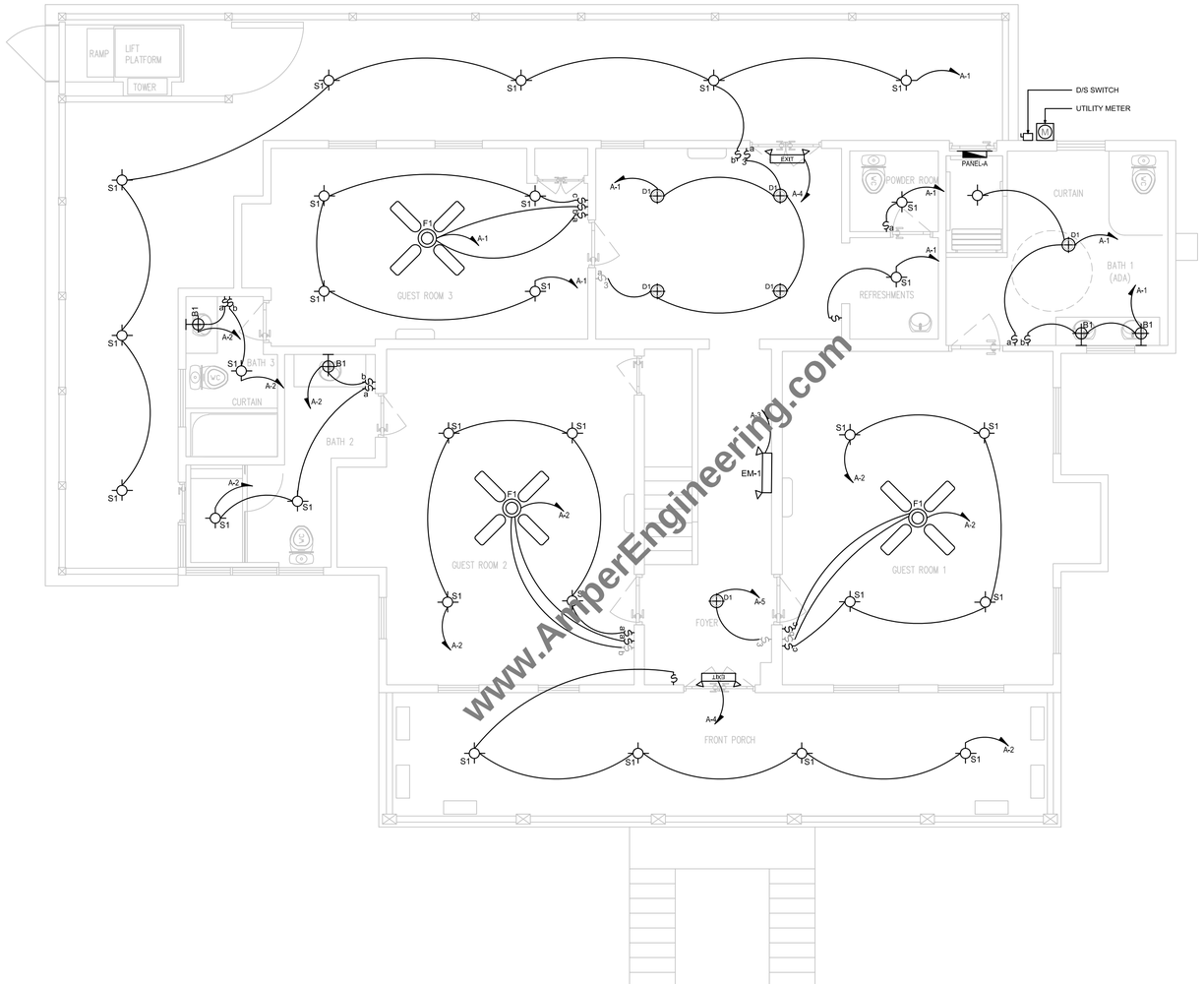
PROJECT NUMBER: AE# 1481
SHEET SIZE: 24X36 | DRAWN BY: DEE
DESIGNED BY: DEE | CHECKED BY: DEE

DRAWING TITLE: ELECTRICAL PANEL SCHEDULE & SINGLE LINE DIAGRAM

DRAWING NO: **E101**

GENERAL NOTE :

1. RE-USE EXISTING WIRING, CONTRACTOR TO VERIFY WIRE SIZE AND CIRCUIT CURRENT FOR FINAL TERMINATION.



1 / E200 ELECTRICAL LIGHTING FIRST FLOOR PLAN

SCALE: 1/4" = 1'-0"

PROFESSIONAL ENGINEERING:

DURAK EVRIM ERCAN P.E.
ENGINEERING | CONSULTING | ESTIMATING
201-920-2899 info@AmperEngineering.com

SEAL & SIGNATURE:

Durak Evrim Ercan

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DN: CN=Durak Evrim Ercan, C=US, O=Professional Engineer, OU=Civil
Date: 2021.12.09 15:08:19 -05'00'
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SOUTH CAROLINA
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29902

PROJECT NUMBER: AE# 1481

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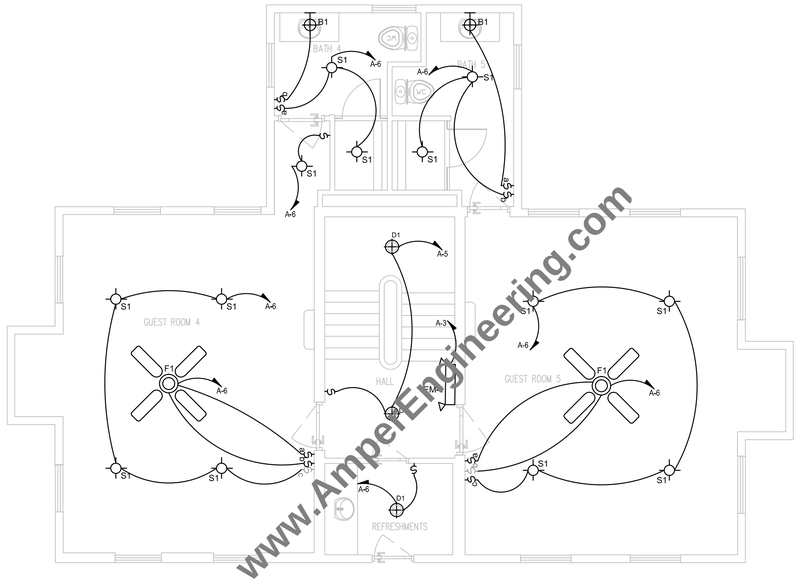
DRAWING TITLE:
ELECTRICAL LIGHTING FIRST FLOOR PLAN

DRAWING NO:
E200

GENERAL NOTE :

1. RE-USE EXISTING WIRING. CONTRACTOR TO VERIFY WIRE SIZE AND CIRCUIT CURRENT FOR FINAL TERMINATION.



1 E201 ELECTRICAL LIGHTING SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"

PROFESSIONAL ENGINEERING:
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BEAUFORT, SC
29902

PROJECT NUMBER:
AE# 1481

SHEET SIZE:	DRAWN BY:
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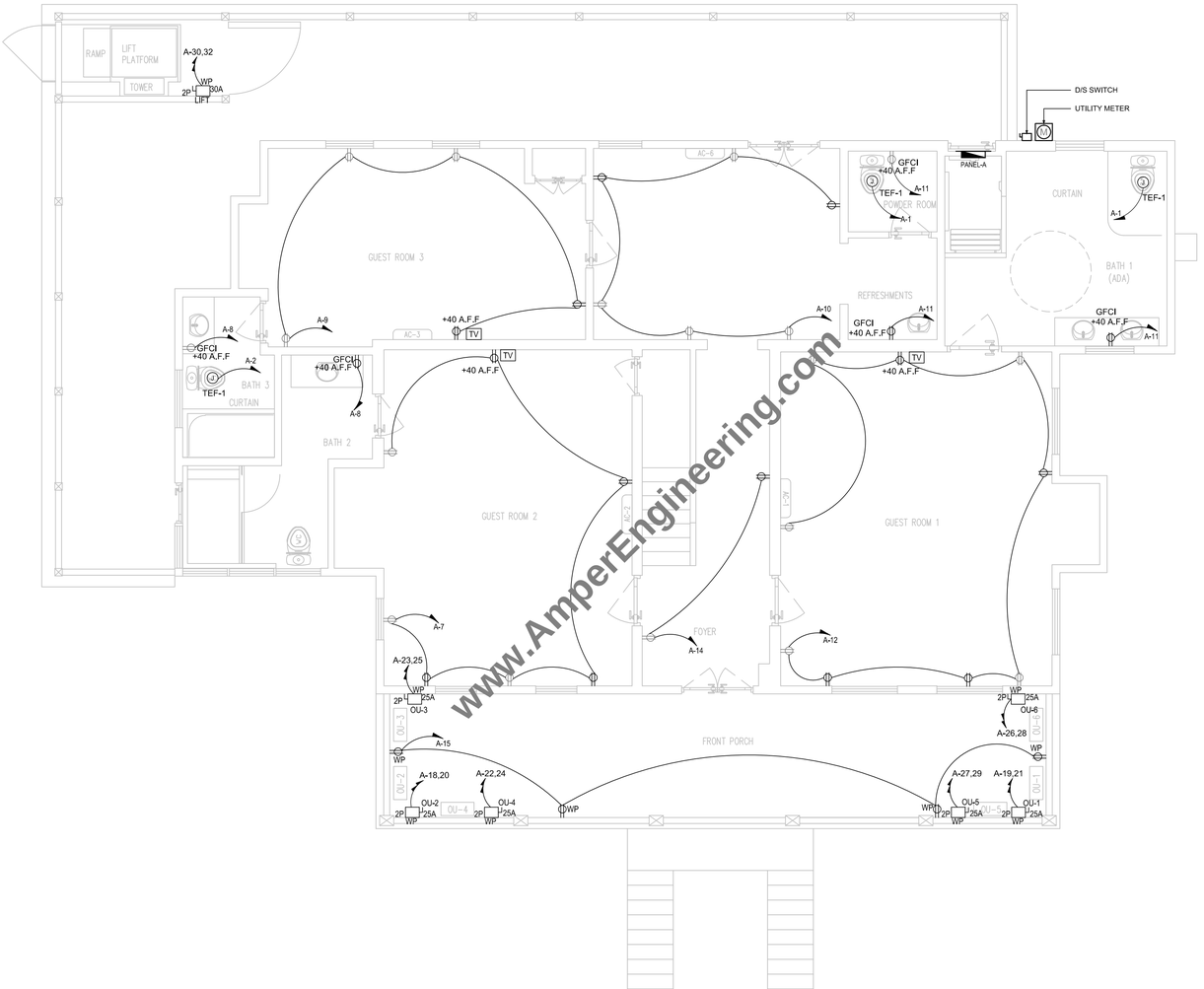
DESIGNED BY:	CHECKED BY:
DEE	DEE

DRAWING TITLE:
ELECTRICAL LIGHTING
SECOND FLOOR PLAN

DRAWING NO:
E201

GENERAL NOTE :

1. RE-USE EXISTING WIRING, CONTRACTOR TO VERIFY WIRE SIZE AND CIRCUIT CURRENT FOR FINAL TERMINATION.



1 / E202 ELECTRICAL POWER FIRST FLOOR PLAN

SCALE: 1/4" = 1'-0"

PROFESSIONAL ENGINEERING:

DURAK EVRIM ERCAN P.E.
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SEAL & SIGNATURE:

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Reason: I am approving this document
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NE ST, LLC

PROJECT:
RENOVATIONS FOR
STR E
ADDRESS:
REET
BEAUFORT, SC
29902

PROJECT NUMBER:
AE# 1481

SHEET SIZE:	DRAWN BY:
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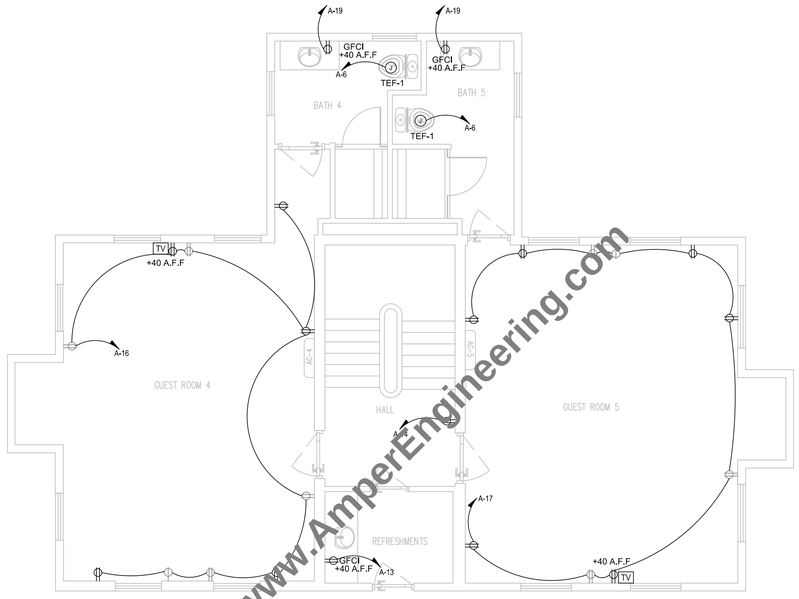
DESIGNED BY:	CHECKED BY:
DEE	DEE

DRAWING TITLE:
ELECTRICAL POWER FIRST FLOOR PLAN

DRAWING NO:
E202



1 E203 ELECTRICAL POWER SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTE :

1. RE-USE EXISTING WIRING, CONTRACTOR TO VERIFY WIRE SIZE AND CIRCUIT CURRENT FOR FINAL TERMINATION.

PROFESSIONAL ENGINEERING:
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SEAL & SIGNATURE:
Durak Evrim Ercan

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Date: 2021.12.09 15:47:38 -05'00'
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CLIENT:
NE ST, LLC

PROJECT:
RENOVATIONS FOI 3 STR

ADDRESS:
REET
BEAUFORT, SC 29902

PROJECT NUMBER: AE# 1481

SHEET SIZE:	DRAWN BY:
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DESIGNED BY:	CHECKED BY:
DEE	DEE

DRAWING TITLE:
ELECTRICAL POWER SECOND FLOOR PLAN

DRAWING NO:
E203

COM*check* Software Version 4.1.5.1

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2015 IECC
Project Title: RENOVATIONS FOR 701 GREENE STREET
Project Type: Alteration

Construction Site:
701 GREENE STREET
BEAUFORT, SC 29902

Owner/Agent:

Designer/Contractor:

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-GUEST ROOM 1 (Common Space Types:Guest Room)	347	0.47	163
2-GUEST ROOM 2 (Common Space Types:Guest Room)	320	0.47	150
3-FOYER (Common Space Types:Guest Room)	119	0.47	56
4-BATH 2 (Common Space Types:Restrooms)	70	0.98	69
5-BATH 2 STORAGE (Common Space Types:Storage <50 sq.ft.)	20	1.24	25
6-BATH 3 (Common Space Types:Restrooms)	52	0.98	51
7-OUTER LOBBY (Common Space Types:Corridor/Transition <8 ft wide)	604	0.66	399
8-GUEST ROOM 3 (Common Space Types:Guest Room)	245	0.47	115
9-DINING AREA (Common Space Types:Dining Area - Family Restaurant)	180	0.89	160
10-POWDER ROOM (Common Space Types:Restrooms)	27	0.98	26
11-REFRESHMENTS (Common Space Types:Restrooms)	30	0.98	29
12-BATH 1 (ADA) (Common Space Types:Restrooms)	164	0.98	161
13-ENTRY LOBBY (Common Space Types:Corridor/Transition <8 ft wide)	310	0.66	205
14-GUEST ROOM 4 (Common Space Types:Guest Room)	350	0.47	164
15-GUEST ROOM 5 (Common Space Types:Guest Room)	360	0.47	169
16-REFRESHMENTS 2ND FLOOR (Common Space Types:Restrooms)	45	0.98	44
17-HALL (Common Space Types:Stairwell)	117	0.69	81
18-BATH 4 (Common Space Types:Restrooms)	64	0.98	63
19-BATH 5 (Common Space Types:Restrooms)	77	0.98	75
		Total Allowed Watts =	2206

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
GUEST ROOM 1 (Common Space Types:Guest Room 347 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	4	15	60
LED 4: F1: FAN+LIGHT COMBO: Other:	1	1	25	25
GUEST ROOM 2 (Common Space Types:Guest Room 320 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	4	15	60
LED 4: F1: FAN+LIGHT COMBO: Other:	1	1	25	25
FOYER (Common Space Types:Guest Room 119 sq.ft.)				

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
LED 2: D1: 9" COMMERCIAL DOWNLIGHT: Other:	1	1	20	20
BATH 2 (Common Space Types:Restrooms 70 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	1	15	15
LED 3: B1: BRACKET LAMP: Other:	1	1	12	12
BATH 2 STORAGE (Common Space Types:Storage <50 sq.ft. 20 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	1	15	15
BATH 3 (Common Space Types:Restrooms 52 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	1	15	15
LED 3: B1: BRACKET LAMP: Other:	1	1	12	12
OUTER LOBBY (Common Space Types:Corridor/Transition <8 ft wide 604 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	7	15	105
GUEST ROOM 3 (Common Space Types:Guest Room 245 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	4	15	60
LED 4: F1: FAN+LIGHT COMBO: Other:	1	1	25	25
DINING AREA (Common Space Types:Dining Area - Family Restaurant 180 sq.ft.)				
LED 2: D1: 9" COMMERCIAL DOWNLIGHT: Other:	1	4	20	80
POWDER ROOM (Common Space Types:Restrooms 27 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	1	15	15
REFRESHMENTS (Common Space Types:Restrooms 30 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	1	15	15
BATH 1 (ADA) (Common Space Types:Restrooms 164 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	1	15	15
LED 2: D1: 9" COMMERCIAL DOWNLIGHT: Other:	1	1	20	20
LED 3: B1: BRACKET LAMP: Other:	1	2	12	24
ENTRY LOBBY (Common Space Types:Corridor/Transition <8 ft wide 310 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	4	15	60
GUEST ROOM 4 (Common Space Types:Guest Room 350 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	4	15	60
LED 4: F1: FAN+LIGHT COMBO: Other:	1	1	25	25
GUEST ROOM 5 (Common Space Types:Guest Room 360 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	4	15	60
LED 4: F1: FAN+LIGHT COMBO: Other:	1	1	25	25
REFRESHMENTS 2ND FLOOR (Common Space Types:Restrooms 45 sq.ft.)				
LED 2: D1: 9" COMMERCIAL DOWNLIGHT: Other:	1	1	20	20
HALL (Common Space Types:Stairwell 117 sq.ft.)				
LED 2: D1: 9" COMMERCIAL DOWNLIGHT: Other:	1	2	20	40
BATH 4 (Common Space Types:Restrooms 64 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	2	15	30
LED 3: B1: BRACKET LAMP: Other:	1	1	12	12
BATH 5 (Common Space Types:Restrooms 77 sq.ft.)				
LED 1: S1: 6" DOWNLIGHT: Other:	1	2	15	30
LED 3: B1: BRACKET LAMP: Other:	1	1	12	12
		Total Proposed Watts =		992

Interior Lighting PASSES

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2015 IECC requirements in COM*check* Version 4.1.5.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.1 [EL15]¹	Lighting controls installed to uniformly reduce the lighting load by at least 50%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1 [EL18]¹	Occupancy sensors installed in required spaces.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1, C405.2.2.3 [EL23]¹	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.2.1 [EL22]¹	Automatic controls to shut off all building lighting installed in all buildings.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.3 [EL16]¹	Daylight zones provided with individual controls that control the lights independent of general area lighting.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.3, C405.2.3.1, C405.2.3.2 [EL20]¹	Primary sidelighted areas are equipped with required lighting controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.3, C405.2.3.1, C405.2.3.3 [EL21]¹	Enclosed spaces with daylight area under skylights and rooftop monitors are equipped with required lighting controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.4 [EL4]¹	Separate lighting control devices for specific uses installed per approved lighting plans.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.4 [EL8]¹	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.3 [EL6]¹	Exit signs do not exceed 5 watts per face.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.2 [FI17]¹	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.4.1 [FI18]¹	Interior installed lamp and fixture lighting power is consistent with that is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Interior Lighting fixture schedule for values.*
C408.2.5.1 [FI16]¹	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.3 [FI33]¹	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

COM*check* Software Version 4.1.5.1

Inspection Checklist

Energy Code: 2015 IECC

Requirements: 0.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR4]¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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PROJECT:
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ADDRESS:
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29902

PROJECT NUMBER:
AE# 1481

SHEET SIZE:	DRAWN BY:
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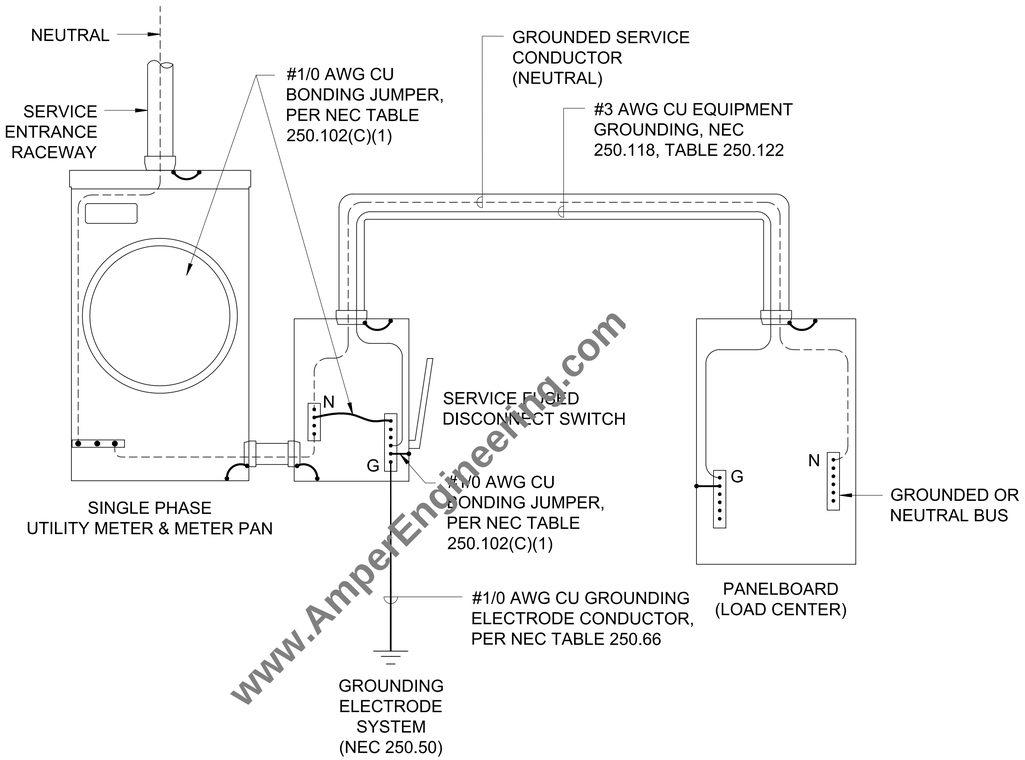
DEE	DEE

DRAWING TITLE:
ELECTRICAL COMCHECK REPORT

DRAWING NO:
E300



GROUNDING AND BONDING DETAILS FOR 400A SERVICE EQUIPMENT

PROFESSIONAL ENGINEERING:
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29902

PROJECT NUMBER:
AE# 1481

SHEET SIZE:	DRAWN BY:
24X36	DEE
DESIGNED BY:	CHECKED BY:
DEE	DEE

DRAWING TITLE:
GROUNDING & BONDING DETAILS

DRAWING NO:
E400

PLUMBING SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
CW	COLD WATER
HW	HOT WATER
SAN	SANITARY BELOW GROUND
V	VENT
HWR	HOT WATER RETURN
G	GAS
	PIPE CONTINUATION
	PIPE DOWN
	PIPE UP OR UP/DOWN
	PITCH PIPE IN DIRECTION
	DIRECTION OF FLOW IN PIPE
	DIELECTRIC CONNECTION
	UNION/FLANGE
	SHUTOFF VALVE NORMALLY OPEN
	SAN DOWN
CW	COLD WATER
FCO	FLOOR CLEAN OUT
HW	HOT WATER
LAV	LAVATORY
SAN	SANITARY
SH	SHOWER
V	VENT
VTR	VENT THRU ROOF
WH	WATER HEATER
WC	WATER CLOSET
HWR	HOT WATER RETURN
D	CONDENSATE DRAIN.
GM	GAS METER

PLUMBING GENERAL NOTES:

1. THE SYMBOLS ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEM, WHETHER SPECIFIED OR NOT.
2. REFER TO ARCHITECTURAL FLOOR PLANS AND ELEVATION FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL PLUMBING FIXTURES BEFORE INSTALLATION OR MAKE-UP OF PIPE. PLUMBING FIXTURES SHALL BE MOUNTED AT HEIGHTS SHOWN ON THE ARCHITECTURAL PLANS.
3. CONTRACTOR SHALL VERIFY THAT FIXTURES SUPPLIED ARE APPROVED PER ALL APPLICABLE STATE, LOCAL AND GOVERNING AUTHORITIES.
4. REFER TO THE PLUMBING ROUGH-IN SCHEDULE FOR THE SIZES OF BRANCH PIPES TO PLUMBING FIXTURE.
5. FOR CLARITY, NOT ALL VALVES HAVE BEEN SHOWN. PROVIDE BALL VALVES FOR ALL WATER ISOLATION AND SUPPLY TAKEOFFS
6. COORDINATE ALL PLUMBING ROUTING WITH GENERAL CONTRACTOR AND OTHER TRADES. PROVIDE NECESSARY OFFSETS TO AVOID CONFLICTS AND TO MAINTAIN REQUIRED EQUIPMENT ACCESS AND SERVICEABILITY.
7. PIPING LOCATIONS HAVE BEEN SHOWN FOR CLARITY AND DO NOT NECESSARILY REFLECT THE SPECIFIC LOCATION OF PIPE. COORDINATE ROUTING OF ALL PIPING WITH ALL OTHER TRADES BEFORE INSTALLATION
8. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE.
9. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
10. VERIFY UNDERGROUND PIPE SIZES, INVERT ELEVATIONS, AND LOCATIONS PRIOR TO BEGINNING ANY WORK.
11. VALVE SHALL BE LINE SIZE UNLESS NOTED OTHERWISE.
12. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS, DO NOT INSTALL PIPING OVER ELECTRICAL PANEL.
13. COORDINATE ALL ROOF PENETRATIONS WITH OTHER TRADES. MAINTAIN MINIMUM 10' CLEARANCE FROM ALL AIR INTAKES. MAINTAIN MINIMUM 2' CLEARANCE FROM ALL OTHER EQUIPMENT.
14. VERIFY LOCATION AND DEPTH OF UTILITIES AT A POINT OF CONNECTION BEFORE START OF PIPING INSTALLATION.

GAS WATER HEATER SCHEDULE

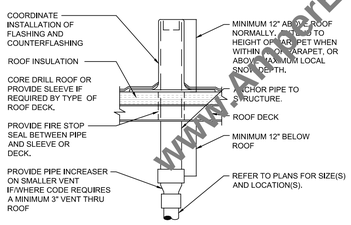
TAG	MANUFACTURER	MODEL	INPUT BTUH	FLOW RATE 67 °F TEMP RISE	TYPE OF GAS	DIMENSIONS	NOTES
WH-1	NAVIEN	NPE-240A2	199,000	5.6 GPM	NATURAL GAS	17,3 in (W) x 27.4 in (H) x 13,2 in (D)	1 TO 5
WH-2	NAVIEN	NPE-240A2	199,000	5.6 GPM	NATURAL GAS	17,3 in (W) x 27.4 in (H) x 13,2 in (D)	1 TO 5

NOTES:
1. GAS SUPPLY PRESSURE RANGE IS 3,5"" MIN - 10,5"" MAX.
2. PROVIDE CONCENTRIC VENT ASSEMBLY FOR INTAKE AND EXHAUST
3. SET WATER HEATER DISCHARGE TEMPERATURE AT 120 F
4. PROVIDE 120V CIRCUIT FOR BLOWER AND CONTROLS,HARD-WIRED
5. PROVIDE CONDENSATE DRAIN NEUTRALIZATION KIT.

PLUMBING ROUGH-IN SCHEDULE

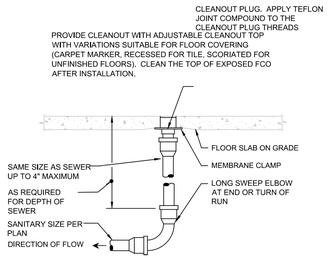
FIXTURE TYPE	DOMESTIC C.W.	DOMESTIC H.W.	SANITARY	VENT	REMARK
WC	3/4"	-	4"	2"	TANK TYPE-PUBLIC
LAV	1/2"	1/2"	1 1/2"	1 1/4"	NOTE 1 & 2
SH	1/2"	1/2"	2"	1 1/2"	NOTE 1 & 2

NOTES:
1. SANITARY RISER UP IN WALL TO FIXTURE SHALL BE A MINIMUM OF 2".
2. 1/2" CW AND HW APPLIES TO THE FINAL VERTICAL RISER-DROP TO EACH FIXTURE. BRANCH PIPING TO VERTICAL DROP SHALL BE A MINIMUM OF 3/4" UNLESS NOTED OTHERWISE.
3. SIZES SHOWN ARE MINIMUMS. SIZES SHOWN ON THE DRAWING THAT AREA LARGER THAN THE SIZE IS LISTED IN THE SCHEDULE SHALL DICTATE THE ROUGH-IN SIZE.



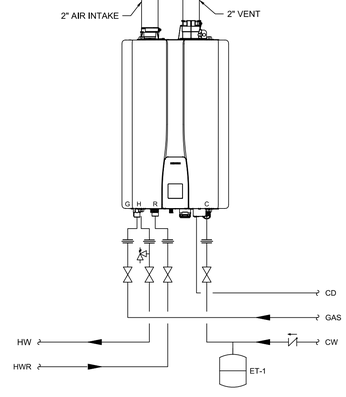
LOCATE VTR MINIMUM THREE FEET FROM PROPERTY LINE, TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, ONE FOOT FROM ANY VERTICAL SURFACE. REFER TO LOCAL CODES FOR OTHER VENT TERMINATION REQUIREMENTS. LOCATE VTR MINIMUM 18" FROM ADJACENT WALL, PARAPET, EXPANSION JOINT, ROOF DRAIN, EQUIPMENT CURB, OR OTHER ROOF FEATURE. OFFSET IN CEILING SPACE WHERE REQUIRED TO MEET THESE CONDITIONS. INSULATE LAST SIX FEET OF VENT PIPE INSIDE BUILDING.

1 VENT THRU ROOF (VTR) DETAIL
NO SCALE



LOCATE AT BUILDING EXIT, AT ENDS OF RUNS, AT TURNS OF PIPE GREATER THAN 45°, AT 50' INTERVALS ON STRAIGHT RUNS, AND/OR WHERE SHOWN ON PLANS AND RISERS. PROVIDE BACKFILL PER ARCHITECTURAL SPECIFICATIONS. LOCATE CLEANOUT WHERE THERE IS 18" CLEAR AROUND, FOR ACCESSIBILITY. CONSULT LOCAL CODES AND OFFICIALS FOR OTHER REQUIREMENTS.

2 FLOOR CLEANOUT
NO SCALE



3 TANKLESS GAS WATER HEATER DETAIL
NO SCALE

PLUMBING SHEET INDEX

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No. 37033
12/09/2021

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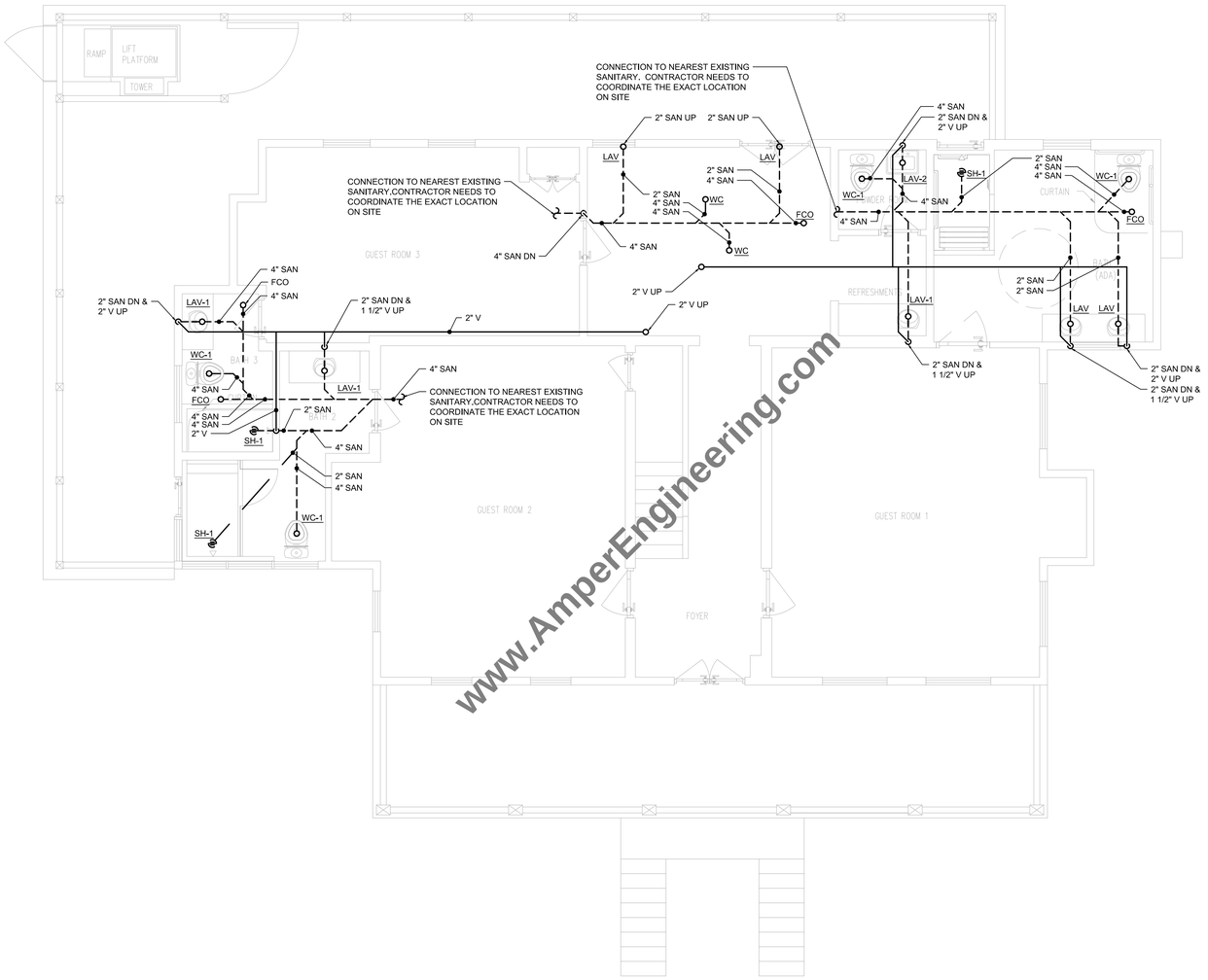
24X36	DEE
DESIGNED BY:	CHECKED BY:
DEE	DEE

DRAWING TITLE:
PLUMBING COVER SHEET, GENERAL NOTES,SYMBOL LEGEND & SCHEDULES.

DRAWING NO:
P100



1 / P101 GROUND FLOOR - SAN & VENT PLAN

SCALE: 1/4" = 1'-0"

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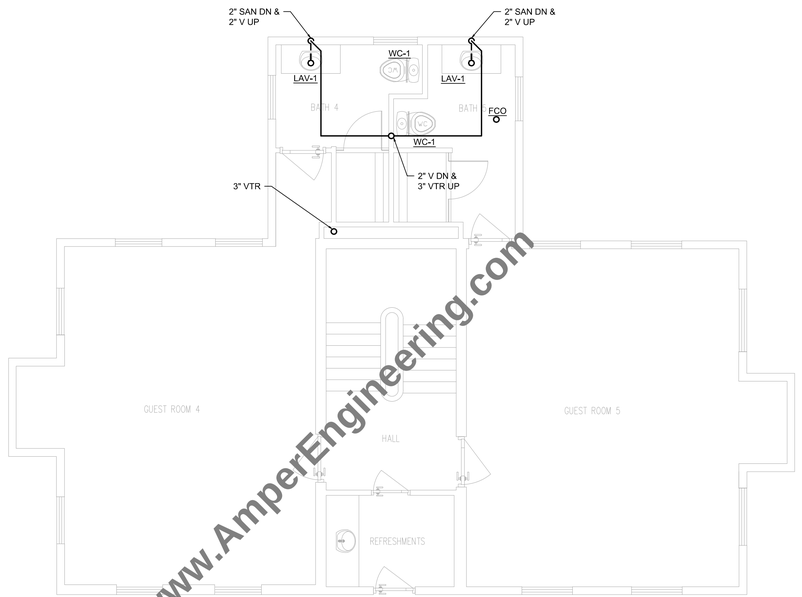
DRAWING NO:
P101



1 P102 FIRST FLOOR - SAN & VENT PLAN
SCALE: 1/4" = 1'-0"

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FIRST FLOOR - SAN & VENT PLAN

DRAWING NO:
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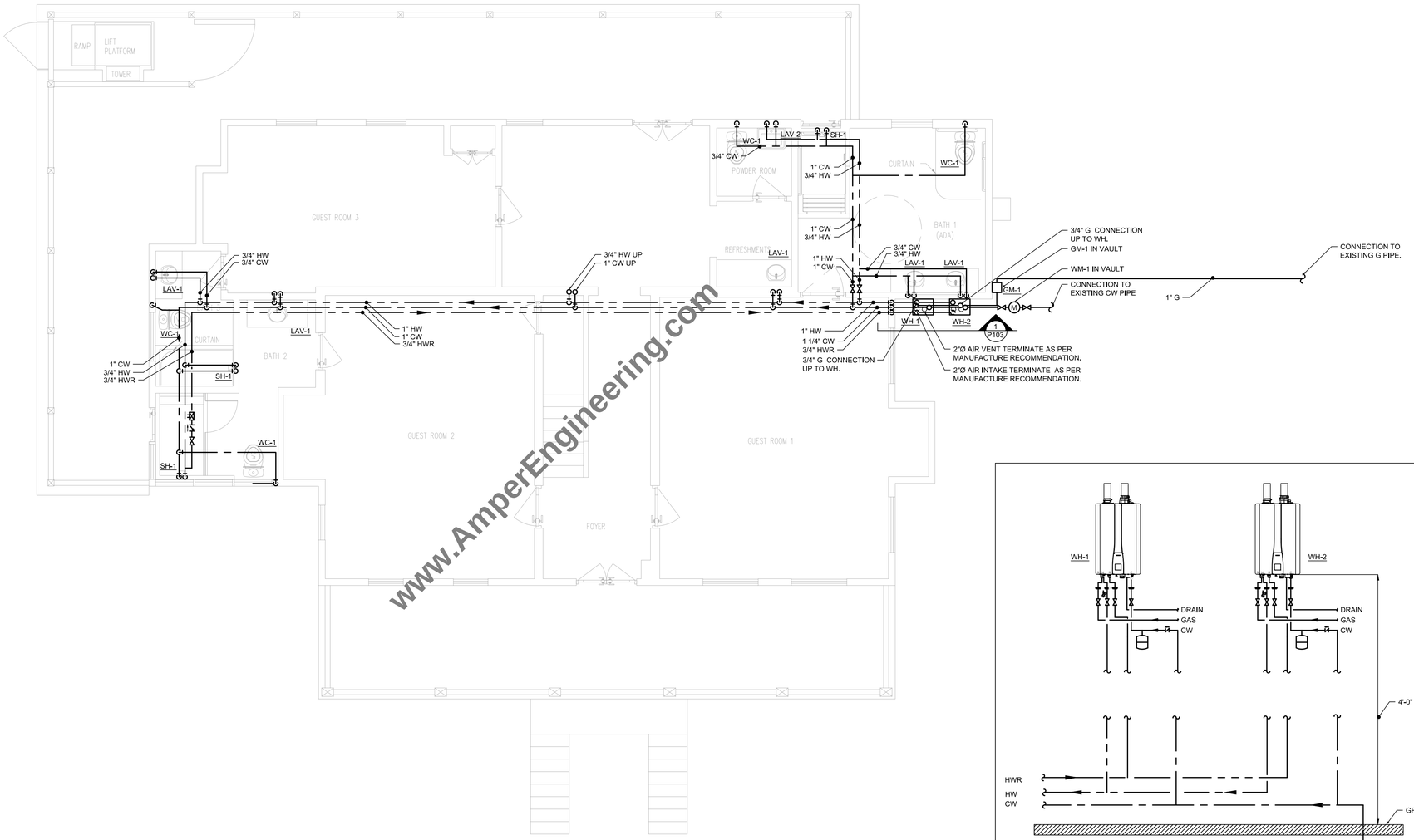

1 P103 GROUND FLOOR - DOMESTIC WATER PLAN
SCALE: 1/4" = 1'-0"

WATER METER SECTION

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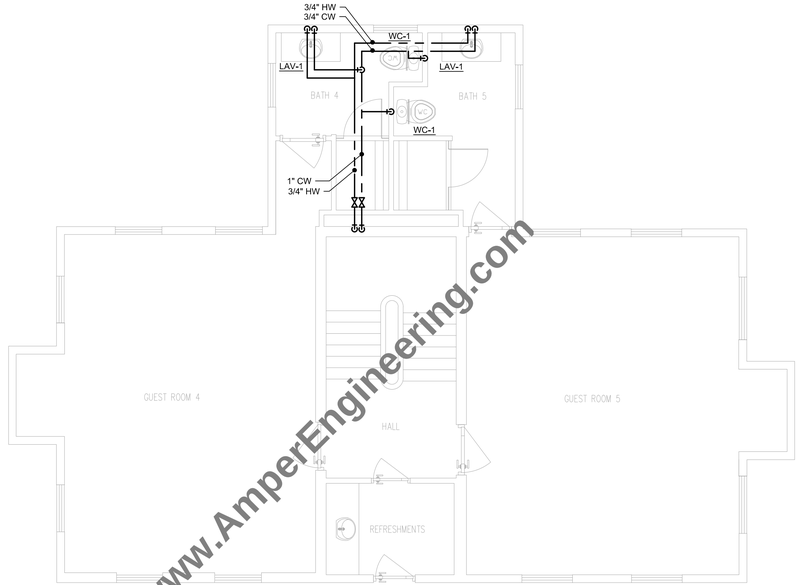
DRAWING TITLE:
GROUND FLOOR - DOMESTIC WATER PLAN

DRAWING NO:
P103



1 / P104 GROUND FLOOR - DOMESTIC WATER PLAN
SCALE: 1/4" = 1'-0"

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Durak Evrim Ercan

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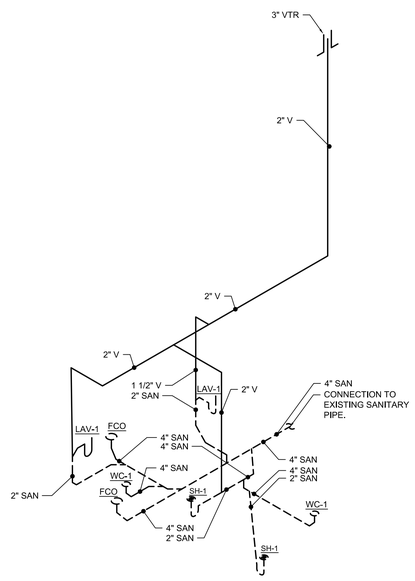
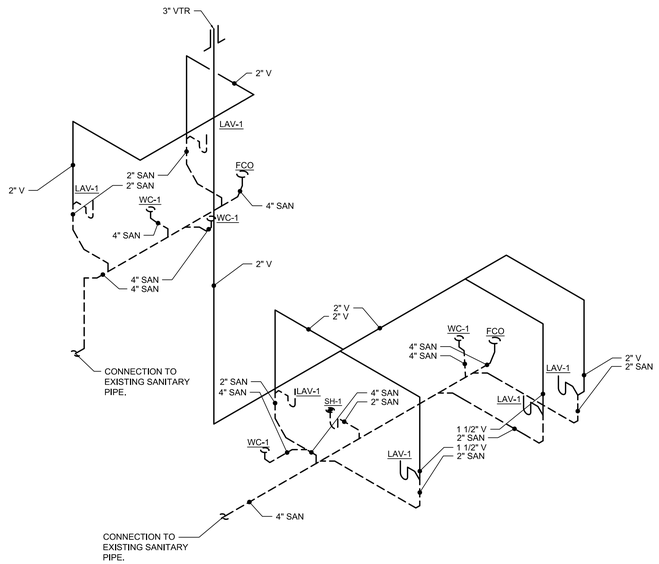
DRAWING TITLE:
FIRST FLOOR - DOMESTIC WATER PLAN

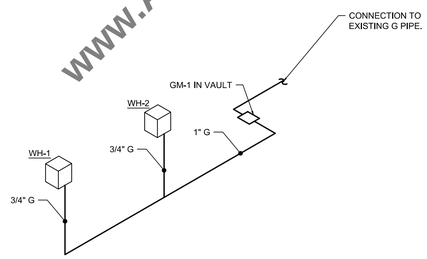
DRAWING NO:
P104



1 P400 SAN & VENT RISER
SCALE: N.T.S



2 P400 DOMESTIC RISER
SCALE: N.T.S



3 P400 GAS RISER
SCALE: N.T.S

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DEE	DEE

DRAWING TITLE:
PLUMBING RISERS

DRAWING NO:
P400