DIVISION 15A – PLUMBING

1.1 DESCRIPTION OF THE WORK

A. Work under this section includes, but is not necessarily limited to, furnishing and installing the following:
   1. Plumbing fixtures, water heaters, and any other equipment necessary.
   2. Cold and hot water piping and insulation.
   3. DWV piping.
   4. Natural gas piping.
   5. Connection of all equipment; drain, vent, water, gas.

B. All work under this contract shall be installed in compliance with the latest edition of the following codes and standards insofar as they apply.
   1. The National Electrical Code.
   2. 2018 N.C. Building Code: Plumbing, and all applicable category codes.
   3. American Society of Sanitary Engineering Standard 1010.
   4. All local codes and ordinances.

C. These codes are minimum standards. If codes require a more stringent method of construction than the specifications require, the codes shall govern.

D. The Plumbing Contractor shall be licensed in the State of North Carolina and have all local licenses required for the work.

E. Obtain all permits, licenses, inspections, etc., required for the work, and pay for the same.

1.2 INTENT

A. The intent of these specifications and accompanying drawings is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The Plumbing Contractor shall take this into consideration and include in his base bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

A. Coordinate work with other contractors. Notify Architect of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Architect for a decision before resuming operations.

B. Locations shown are approximate. The Plumbing Contractor shall refer to the architectural drawings for placement of equipment, fixtures, etc. Where locations are not clear, the Contractor shall obtain the exact locations from the Architect.

C. Coordinate all exterior piping connections w/Architect, site contractor/plans. Verify manhole elevations and provide backwater valves as required if flood level rims are below next upstream manhole cover elevation. Fixtures with flood level rims above upstream manhole shall not discharge thru bw valve. Notify engineer of backwater valve requirement, any issue prior to bid.

1.4 SHOP DRAWINGS

A. Shop drawings shall be submitted for plumbing fixtures and for pipe. These may consist of the manufacturer's standard catalog or tear sheets and shall have the exact items being offered clearly identified.

PART 2 – PRODUCTS

2.1 FIXTURES

A. Each fixture shall be properly supported from the building structure as required to the end effect that all fixtures and accessories will be held rigidly in place. Water pipes supplying the fixtures must also be held rigidly in place.

B. Provide loose key angle stops and chrome plated supply pipe water supplies to fixtures.

C. All exposed piping traps and accessories for fixtures shall be chrome plated. Provide chrome plated escutcheon plates where pipes enter walls.

D. Provide shutoff valves for all sinks, water heaters, toilets, washing machines, refrigerator icemaker, exterior hose bibbs and all other plumbing fixtures.

E. Provide trap primers for all floor drains in areas not served by hose bibbs.

2.2 PIPING

A. Drain–Waste–Vent: All DWV piping shall be Schedule 40 PVC–DWV u.o.n., with the following exceptions: Use cast iron piping in all return air plenums, penetrations of rated walls/floors/ceilings, and in areas/walls adjacent to cooking equipment exhaust hoods. Review Arch. and Mech. drawings. ABS or cast iron piping shall be used for drainage/discharge with a temperature greater than 140 deg. F for a minimum distance of 10'–0".

B. Hot and cold water piping above grade: Type "L" copper w/solder joints (ASTM–B88), hard drawn with wrought copper fittings (ANSI B16.22). PEX piping with copper fittings may be used with owner/tenant approval and as allowed per code. Copper piping shall be used in areas/walls adjacent to cooking equipment exhaust hoods. Review Arch. and Mech. drawings.

C. Cold water piping below grade: Type "K" copper (ASTM–B8A) soft drawn.

D. Natural gas piping shall be black steel pipe with screwed or welded joints. Support all piping as required by code. Use commercial style hangers, pipe strapping will not be allowed. Provide dirtleg, union, shut–off valve and flexible connection to all equipment. Pressure test all piping prior to putting into use. Verify size requirements prior to installation. Coordinate requirements with local gas company prior to submitting bid. Provide all components necessary for a complete operation system. Label piping per code. Paint exterior and exposed gas lines per code and building owner.

E. Hangers: Use pipe hangers where required on 8–foot centers with saddles to avoid crushing insulation.

F. Solder: 95/5. Lead free.

G. Unions: Provide unions where indicated on drawings, in long runs of piping (except drainage) and at equipment to provide convenient disassembly. Provide dielectric unions when connecting copper tubing to equipment and piping made of ferrous materials.

2.3 CLEANOUTS

A. Hex plugs in rough areas: Recessed plugs with cover plates in exposed locations.

2.4 SHOCK ARRESTERS

A. Provide shock arresters as required by codes, manufacturer's recommendations and accepted industry standards for quality construction. Provide for all quick closing valves.

PART 3 – EXECUTION

3.1 CONNECTIONS

A. This contract includes complete connection of cold water, hot water, drain, vent, and natural gas piping as required. All fittings, valves, accessories, cutoffs, drains, etc., required to complete such connections shall be included.

B. The connection to water closets shall be made watertight with gasket and wax ring. Floor flanges shall be caulked into position. Plastic caps shall be provided on the tie down bolts, and shall be secured in place by screwing down on threaded brass washers.

C. Where water pipes connect to exposed chrome plated trim, use proper chrome plated escutcheons.

3.2 SERVICE ACCESS

A. All valves and accessories shall be insulated so that they can be properly serviced. In no case shall the Plumbing Contractor install equipment or other components in situations that do not meet code requirements or manufacturer's requirements. Provide access doors as required to access valves, etc.

3.3 ROUTING OF PIPING

A. Coordinate routing of piping with others, line up work true to or at right angle to adjacent surfaces and in a workmanlike manner. Support all interior piping from building structure by means of hanger or inserts to maintain pitch of lines, to prevent vibration, and to secure piping place.

B. Space pipe hangers 8'–0" on center for one inch and smaller pipe, 4'–0" on center for 1–1/4 inch and larger pipe. Provide expansion loops as required.

C. Pipe hangers for insulated lines shall have suitable saddles to protect insulation.

3.4 INSULATION

A. All H/W and C/W piping shall be insulated with a min. of 1" inch elastomeric insulation (R–6.5 min.) in unconditioned areas. See NCSBC–Plumbing Sect. 305 for all protection requirements. All H/W piping of circulating systems shall be insulated with 1" insulation per Sect. C404.4 of the NCSBC 2018 Energy Conservation Code.

B. Provide pre–fabricated insulation kits for all sink and lavatory exposed drain and supply piping.

3.5 INSPECTIONS AND TESTS

A. Before being concealed, all water, soil and vent piping shall be tested to determine if they are water– and air–tight.

B. Prior to placing into service, entire system shall be tested for leaks in strict accordance with state and local codes.

3.6 STERILIZATION OF PIPING

A. Sterilize the new water piping thoroughly with a solution containing not less than 50 parts per million of available chlorine, using liquid chlorine, or sodium hydrochloride solution, introduced into the system in an approved manner. The sterilizing solution shall remain in the system in an approved manner. The sterilizing solution shall remain in the system for a period of 24 hours. After sterilization, flush the solution from the system with clean water until the residual chlorine content is not greater than 0.2 parts per million, unless otherwise directed.

3.7 SERVICE PRESSURE

A. Provide approved water–pressure reducing valve (PRV) if service pressure exceeds 80 psi to reduce pressure to 80 psi static or less and as required per NCSBC–Plumbing Sect. 604.8.

3.8 DRAINDOWN

A. Contractor to provide for complete plumbing system drain down.

3.9 CLEAN UP

A. During construction, keep the site clear of debris and upon completion, and before final inspection, clean up the premises to remove all evidence of his work. In addition, upon completion of construction, clean, wash, and/or polish all fixtures, equipment and exposed material and leave them bright and clean.

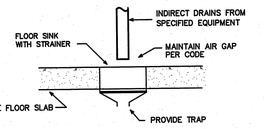
3.10 GUARANTEES

A. Guarantee all materials and labor included in the plumbing work for a period of one year from date of final acceptance by the Owner.

B. Any defects in the system which become evident during the guarantee period shall be corrected without cost to the Owner. This shall include the replacing of defective materials where required, and the repair of damage caused by leaking pipes, etc., and damage to building surfaces caused in making repairs.

GENERAL NOTES – PLUMBING

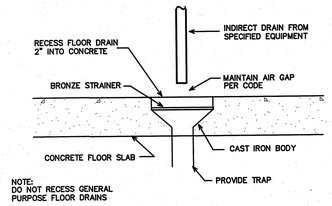
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE, ALL LOCAL AND OTHER APPLICABLE CODES.
2. ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN. THE PLUMBING CONTRACTOR (PC) SHALL COORDINATE ALL OF HIS WORK WITH THE GENERAL CONTRACTOR (GC).
3. THE PLUMBING PLANS AND SPECIFICATIONS SHALL BE THOROUGHLY REVIEWED PRIOR TO PURCHASING MATERIALS AND INSTALLATION AND ALL DISCREPANCIES OR INTERFERENCES BROUGHT TO THE ENGINEERS ATTENTION.
4. THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. THE PC SHALL PROVIDE ALL MISC. ITEMS NEEDED FOR A COMPLETE SYSTEM REGARDLESS IF NOTED ON THE DRAWINGS OR NOT. FOR DIMENSIONS REFER TO ARCHITECTURAL PLANS.
5. THE GC SHALL PROVIDE ALL WALL, FLOOR AND ROOF OPENINGS OF THE SIZE AND LOCATION REQUIRED BY THE PC AND SHALL BE RESPONSIBLE FOR PAINTING AND FLOOR FINISHES. THE PC SHALL PROPERLY SEAL ALL PENETRATIONS AND PROVIDE ESCUTCHEON PLATES AT ALL FINISHED LOCATIONS.
6. ALL NEW WATER PIPING SHALL BE INSTALLED TIGHT TO STRUCTURE, ADEQUATELY SUPPORTED AND PROTECTED AND PROPERLY PITCHED TO ALLOW TOTAL DRAINAGE.
7. ALL WATER PIPING SHALL BE HYDROSTATICALLY TESTED FOR A MINIMUM OF 15 MINUTES AT A MINIMUM OF 100 PSIG BEFORE COVERING AND ALL LEAKS CORRECTED. THE ENTIRE WATER DISTRIBUTION SYSTEM SHALL BE DISINFECTED PRIOR TO PLACING IN SERVICE.
8. PROVIDE MIN. 18" SHOCK ABSORBERS WITH STOPS ON ALL HOT AND COLD WATER FIXTURE RUNS AS REQUIRED BY CODE.
9. VENT LINES SHALL SLOPE UP TO ALL STACKS AND TERMINATE A MIN. OF 12" ABOVE ROOF LINE.
10. PROVIDE CUT SHEETS ON ALL PLUMBING FIXTURES FOR ARCHITECT AND OWNER APPROVAL PRIOR TO ORDERING ANY FIXTURES.
11. PROVIDE/VERIFY HIGH TEMP. HOT WATER (HTHW) AT 140 DEGREES (MAX.) F. PROVIDE/VERIFY MEDIUM TEMP. HOT WATER (MTHW) AT 120 DEGREES (MAX.) F. PROVIDE/VERIFY LOW TEMP. HOT WATER (LTHW) AT 110 DEGREES (MAX.) F. VERIFY LTHW FROM ALL LAVATORY/HAND SINK FAUCETS, ANY OTHER REQUIRED FIXTURES– PROVIDE ASSE 1070/1016 (SHOWERS)/1017 THERMOSTATIC MIXING VALVES WHERE REQUIRED, AND PER CODE REGARDLESS IF NOT SHOWN ON PLANS.
12. PROVIDE CLEANOUTS AS REQUIRED BY CODE. NOT MORE THAN 100 FEET FOR 4" DRAIN.



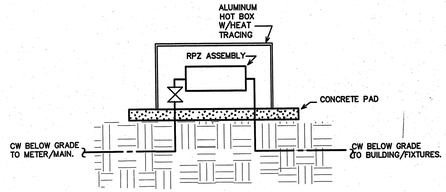
2 P-1 FLOOR SINK DETAIL
SCALE: NTS

LOAD SUMMARY – PLUMBING

WASTE DEMAND (FU)	WATER DEMAND (FU)	WATER DEMAND (GPM)
194.0	271.0	107.0



1 P-1 FDR DETAIL
SCALE: NTS

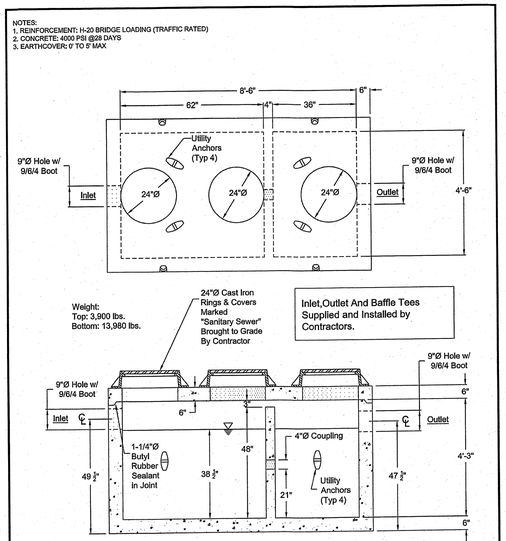


3 P-1 RPZ/HOT BOX DETAIL
SCALE: NTS

SYMBOL LEGEND – PLUMBING

SYMBOL	DESCRIPTION (U.O.N.)
	SANITARY WASTE PIPING (W)
GW	GREASE WASTE PIPING (GW)
RD	ROOF DRAIN PIPING (RD)
	VENT PIPING (V)
G	NATURAL GAS PIPING (G)
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
HTHW	HIGH TEMPERATURE HW PIPING (HTHW) 140 DEG. F (MAX.)
MTHW	MEDIUM TEMPERATURE HW PIPING (MTHW) 120 DEG. F (MAX.)
LTHW	LOW TEMPERATURE HW PIPING (LTHW) 110 DEG. F (MAX.)
	SHUT–OFF VALVE
HWR	HW RETURN PIPING (HWR)
	CHECK VALVE
	BALANCING VALVE
	CIRCULATION PUMP
	DIELECTRIC UNION
COFF	CLEANOUT FINISH FLOOR
WCO/HCO	WALL/HORIZONTAL CLEANOUT
COFG	CLEANOUT FINISH GRADE
	VENT THRU ROOF (VTR)
	FREEZE PROOF, HOSE BIBB (FPHB/HB)
A.F.F.	ABOVE FINISHED FLOOR
A.A.V.	AIR ADMITTANCE VALVE
U.O.N.	UNLESS OTHERWISE NOTED

NOTES:
1. REINFORCEMENT: H-20 BRIDGE LOADING (TRAFFIC RATED)
2. CONCRETE: 4000 PSI @28 DAYS
3. EARTHCOVER: 0' TO 5' MAX



Filename: S:\CAD\Catalog 2009\Grease Interceptors\GI-4 1000gpl

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P.O. Box 680 2870 US 1 HWY Pittsboro, NC 27312 Phone:(919) 494-7600 Fax:(919) 494-7616

1000 Gallon Grease Interceptor Traffic Rated GI-4

FIXTURE SCHEDULE – PLUMBING *

CP–1,* CP–2 THRU CP–3 — CIRCULATING PUMP #1–3
TACO MODEL 112, 115 VOLT, 1/3 HP. SECURELY SUPPORT FROM STRUCTURE. PROVIDE AQUASTAT, TIMER, CHECK VALVES AS REQUIRED.

ET–1,* ET–2 — EXPANSION TANK (FOR EWH–1/EWH–2)
AMTROL MODEL ST–5, 2.1 GALLON, STEEL CONSTRUCTION, NON–ASME RATED.

ET–3 * — EXPANSION TANK (FOR EWH–3)
AMTROL MODEL ST–12, 4.4 GALLON, STEEL CONSTRUCTION, NON–ASME RATED.

EWH–1 * — ELECTRIC WATER HEATER #1
A.O. SMITH MODEL DRE–120–30, 119 GALLON, 30,000 WATT, 208V, 3 PH. 154 GPH RECOVERY AT 80 DEGREE (F) RISE. 1–1/4" INLET AND OUTLET, PROVIDE DRAIN PAN, EXPANSION TANK AND PRESSURE RELIEF VALVE. VERIFY INSTALLATION CLEARANCES PRIOR TO ORDERING.

EWH–2 * — ELECTRIC WATER HEATER #2
A.O. SMITH MODEL DRE–120–54, 120 GALLON, 54,000 WATT, 208V, 3 PH. 221 GPH RECOVERY AT 100 DEGREE (F) RISE. 1–1/4" INLET AND OUTLET, PROVIDE DRAIN PAN, EXPANSION TANK AND PRESSURE RELIEF VALVE. VERIFY INSTALLATION CLEARANCES PRIOR TO ORDERING.

EWH–3 * — ELECTRIC WATER HEATER #3
RHEEM MODEL ELD40–TB–12, 40 GALLON, 12,000 WATT (TOTAL), SIMULTANEOUS DUAL ELEMENT (6000/6000) OPERATION, 208 V, 3 PH. 49 GPH RECOVERY AT 100 DEG. (F) TEMPERATURE RISE. 3/4" INLET/OUTLET. PROVIDE DRAIN PAN, EXP. TANK, PRESSURE RELIEF VALVE. VERIFY INSTALLATION CLEARANCES PRIOR TO ORDERING.

FD * — FLOOR DRAIN
ZURN MODEL Z415 WITH HEEL–PROOF TYPE B STRAINER, CAST IRON W/NICKEL BRONZE TOP, 5" DRAIN WITH 3" CONNECTION. PROVIDE TRAP PRIMER CONNECTION IF REQUIRED.

FDR * — RECESSED FLOOR DRAIN
ZURN MODEL Z415 WITH HEEL–PROOF TYPE B STRAINER, CAST IRON WITH NICKEL BRONZE TOP, 5" DRAIN WITH 3" CONNECTION. PROVIDE TRAP PRIMER CONNECTION IF REQUIRED. RECESS 2" INTO FLOOR SLAB WHERE REQUIRED. COORDINATE LOCATION W/EQUIPMENT SERVED.

FPHB * — FREEZE PROOF RECESSED HOSE BIBB ENCASED IN FLUSH–TO–WALL BOX
ZURN Z–1320–C, 3/4" NON FREEZE WALL HYDRANT WITH INTEGRAL BACKFLOW PREVENTER. ENCASED WITH KEY LOCK. VERIFY WALL THICKNESS. PROVIDE WALL BOX AS REQUIRED– COORDINATE WITH OWNER, ARCH. VERIFY MOUNTING LOCATION.

FS–1 * — FLOOR SINK #1
ZURN PVC FLOOR SINK MODEL FD–2370–PV4, 12" X 12", 1/2 GRATE, WITH 4" PIPE CONNECTION. VERIFY GRATE REQUIREMENTS.

FS–2 * — FLOOR SINK #1
ZURN CAST IRON A.R.C. FLOOR SINK MODEL FD–2377–NH3, 12" X 12", 1/2 GRATE, WITH 3" PIPE CONNECTION. VERIFY GRATE REQUIREMENTS.

FS–3, * FS–4 — FLOOR SINK #3, #4
ZURN PVC FLOOR SINK MODEL FD–2370–PV3, 12" X 12", 1/2 GRATE, WITH 3" PIPE CONNECTION. VERIFY GRATE REQUIREMENTS.

FS–5 * THRU FS–13 — FLOOR SINK #5–13
ZURN PVC FLOOR SINK MODEL FD–2370–PV2, 12" X 12", 1/2 GRATE, WITH 2" PIPE CONNECTION. VERIFY GRATE REQUIREMENTS.

GI * — EXTERIOR GREASE INTERCEPTOR
STAY–RIGHT PRECAST EXTERIOR BELOW GRADE GREASE INTERCEPTOR, 1000 GALLON CAPACITY. COORDINATE ACTUAL DIMENSIONS W/MFR. PROVIDE PROPER REQUIRED VENTING. VERIFY INSTALLATION CLEARANCES, INVERT REQUIREMENTS, PRIOR TO ORDERING. VERIFY/INSTALL PER AHJ SPECIFICATIONS, PROVIDE SAMPLE VAULT IF/AS REQUIRED. PROVIDE/INSTALL UNIT TO BE TRAFFIC RATED.

L1 * — LAVATORY (COUNTERTOP)
AMERICAN STANDARD AQUALYN SELF RIMMING COUNTERTOP LAVATORY, # 0475.047, WHITE COLOR, ADA COMPLIANT, PROVIDE SLOAN OPTIMA #EBF–615 BATTERY OPERATED SENSOR FAUCET. PROVIDE DRAIN WITH GRID STRAINER, P–TRAP AND SHUT–OFF VALVES.

L2 * — LAVATORY (WALL MOUNT)
AMERICAN STANDARD LUCERNE #0355.012, VITREOUS CHINA, 4" CENTERS, ADA COMPLIANT. PROVIDE DELTA MODEL 523LF–HGMHDF FAUCET, 0.5 GPM MAX WITH GRID STRAINER. PROVIDE P–TRAP AND SHUT–OFF VALVES.

MS * — MOP SINK/CAN WASH FAUCET
CHICAGO FAUCET WALL MOUNT MODEL 540–LD897SWXFCP CAST BRASS 8–3/4 SPOUT REACH, PAIL HOOK, VACUUM BREAKER, LEVER HANDLES, SUPPORT BRACE, 3/4 HOSE THREAD OUTLET.

RPZ * — 3" REDUCED PRESSURE BACKFLOW PREVENTER W/HOT BOX
WATTS MODEL #LF009–QT–FDA, 3" REDUCED PRESSURE BACKFLOW PREVENTER, 'LEAD FREE' CONSTRUCTION. PROVIDE WATTS WATTSBOX WB–N3 ALUMINUM ENCLOSURE, WITH 1000W HEATER. PROVIDE POURED–IN–PLACE CONCRETE SLAB PER ENCLOSURE REQUIREMENTS. COORDINATE W/AHJ SPECIFICATIONS.

SHR * — SHOWER (VERIFY IF CUSTOM BUILT, PROVIDE PRE–FAB STALL OR BASIN IF REQUIRED)
COORDINATE UNIT/FAUCET, ACCESSORIES WITH OWNER AND ARCH. PROVIDE ADA MODELS/ADA INSTALL IF REQUIRED– VERIFY W/ARCH. PROVIDE DWV/SUPPLY AS REQUIRED. VERIFY HANDING, ROUTE ALL PLUMBING AS REQUIRED REGARDLESS OF HOW SHOWN ON PLANS. VERIFY PROPER PRESSURE BALANCING MIXING VALVE. PROVIDE FLOOR DRAIN IF REQUIRED.

SP * — ELEVATOR SUMP PUMP
STANCOR MODEL SE–40 MULTI–OPTION ELEVATOR OIL MINDER SYSTEM. 0.5 HP, 115 V, 11' TOTAL DYN. HEAD AT 3000 GPH, 2" DISCHARGE CONNECTION. INCLUDES REMOTE ALARM–VERIFY LOCATION. VERIFY MIN. PIT SIZE REQUIREMENTS. COORDINATE ALARM/CONTROL PANEL LOCATION WITH ARCH., G.C., BLDG. OWNER.

TMV * — THERMOSTATIC MIXING VALVE (ASSE 1070)
WATTS LFUSG–B 'LEAD FREE' GUARDIAN. INSTALL IN MAINTENANCE ACCESSIBLE LOCATION BELOW LAV/SINK OR ABOVE CEILING. SET HW OUTFLOW TO SPECIFIED TEMPERATURE (110 DEG. F (MAX.) LTHW).

UR * — URINAL
AMERICAN STANDARD ALLBROOK #8350.001. 3/4" TOP SPUD, ADA COMPLIANT WITH PROPER INSTALL, 0.5 GPF, 2" OUTLET DRAIN. PROVIDE SLOAN G2 #8186–0.5 BATTERY SENSOR FLUSH VALVE, 0.5 GPF. PROVIDE/VERIFY VALVE WITH OVERRIDE BUTTON.

WC1 * — WATER CLOSET (FLOOR MOUNT FLUSH VALVE)
AMERICAN STANDARD MADERA EVERCLEAN #3461.001, ELONGATED BOWL, 1.28 GPF, ADA COMPLIANT. PROVIDE SEAT, WAX SEAL, CLOSET BOLT KIT. FOR UNITS NOT REQUIRING ADA COMPLIANCE (COORDINATE W/ARCHITECT), USE STANDARD HEIGHT MADERA MODEL #3451.001. PROVIDE SLOAN G2 8111–1.28 BATTERY POWERED SENSOR FLUSH VALVE. VERIFY MODEL FLUSH VALVE WITH OVERRIDE BUTTON.

WC2 * — LOW–FLOW WATER CLOSET (ADA FLUSH TANK)
AMERICAN STANDARD CADET 1.1 GPF TANK W/PRESSURE ASSIST MODEL #4142.100 AND ELONGATED RIGHT HEIGHT (ADA) UNIVERSAL BOWL MODEL #3483.001. PROVIDE OPEN FRONT SEAT, SUPPLY AND STOP, WAX SEAL, CLOSET BOLT KIT. VERIFY/PROVIDE MODEL WITH FLUSH CONTROL ON SIDE OPPOSITE GRAB BAR. VERIFY SUPPLY (PSI) REQUIREMENTS. COORDINATE MODEL W/OWNER. VERIFY SUPPLY (PSI) REQUIREMENTS.

* OR APPROVED EQUAL. SUBMIT ALL ITEMS FOR APPROVAL BY OWNER AND ARCHITECT PRIOR TO ORDERING.
ALL OTHER PLUMBING FIXTURES SHOWN ARE PROVIDED BY THE OWNER AND INSTALLED BY THE PLUMBING CONTRACTOR. SEE PLANS FOR NUMBER AND LOCATION. COORDINATE ALL REQUIREMENTS WITH EQUIPMENT SERVED.

WATER HEATER SIZING (EWH–2)

AMOUNT	ITEM	GPH *
1	3 COMP SINK	78.5
3	PREP SINK	15.0
6	HAND/BAR SINK (@ 70% FOR LTHW)	21.0
1	LAVATORY (@ 70% FOR LTHW)	3.5
1	PRE RINSE SINK	45.0
1	DISH MACHINE	32.3
1	GLASS WASHER	26.4
	TOTAL	221.7 GPH
	221.7 @ 90% = 199.5 GPH	

* GPH REQUIREMENT BASED ON 100 DEG. F TEMPERATURE RISE (HTHW) U.O.N.

WATER HEATER SIZING (EWH–3)

AMOUNT	ITEM	GPH *
4	LAVATORY (@ 70% FOR LTHW)	14.0
2	HAND/BAR SINK (@ 70% FOR LTHW)	7.0
1	MOP SINK/CAN WASH	5.0
1	GLASS WASHER	26.4
	TOTAL	52.4 GPH
	52.4 @ 90% = 47.1 GPH	

* GPH REQUIREMENT BASED ON 100 DEG. F TEMPERATURE RISE (HTHW) U.O.N.

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MOREHEAD CITY COUNTRY CLUB CLUBHOUSE
MOREHEAD CITY, NORTH CAROLINA

1/24/21
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BRIAN E. BURKE

PLUMBING SPECIFICATIONS

20010
ISSUED: 01/29/2021
DWG BY: DS
CKD BY: BEB
REVISIONS

SHEET NO. P-1

ENGINEER
BURKE DESIGN GROUP
3305–109 DURHAM DRIVE
RALEIGH, NC 27603
PHONE: (919) 771–1916
FAX: (919) 779–0826
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GREASE INTERCEPTOR SIZING PROCEDURE FOR KITCHEN FIXTURES					
FIXTURE TYPE	QUANTITY	PIPE DIAMETER	GPM/FIXTURE	FIXTURE RATING	GPM
Pot sink (3 comp)	1	1-1/2"	13	1.00	13
Meat & Vegetable prep sink	3	1-1/2"	13	0.10	3.9
Pre-rinse sink	1	1-1/2"	13	0.75	9.75
Wok					0
Other					0
Dishwasher	[redacted]				4
Can wash / Mop sink					0
Total					30.65
Grease Interceptor Size = flow rate x 30 minutes =					919.5
Please round up to the next available size to determine the required grease interceptor.					

Sizing Procedure for Food Service Establishments (FSE's)
Minimum of 1,000 Gallons

Volume of Grease Interceptor (gallons) = [(A x B) + C + D] x F

A. GPM/fixture – These values are derived from the Manning Formula. The Manning Formula takes into account the slope; roughness of the pipe, and pipe diameter size. Listed below are the drainage rates of various pipe diameters using Manning n = 0.009, slope 1/4" per foot and full pipe flow:

0.5 inch pipe diameter = 0.7 GPM/fixture
1.0 inch pipe diameter = 4.4 GPM/fixture
1.5 inch pipe diameter = 13 GPM/fixture
2.0 inch pipe diameter = 28 GPM/fixture
2.5 inch pipe diameter = 51 GPM/fixture
3.0 inch pipe diameter = 82 GPM/fixture, 58 GPM/fixture if slope is 1/8" per foot

B. Fixture Ratings of Greasy Waste Streams – Fixtures that have more grease in their waste stream received higher values while less grease corresponds to a lower rating. The table is shown below:

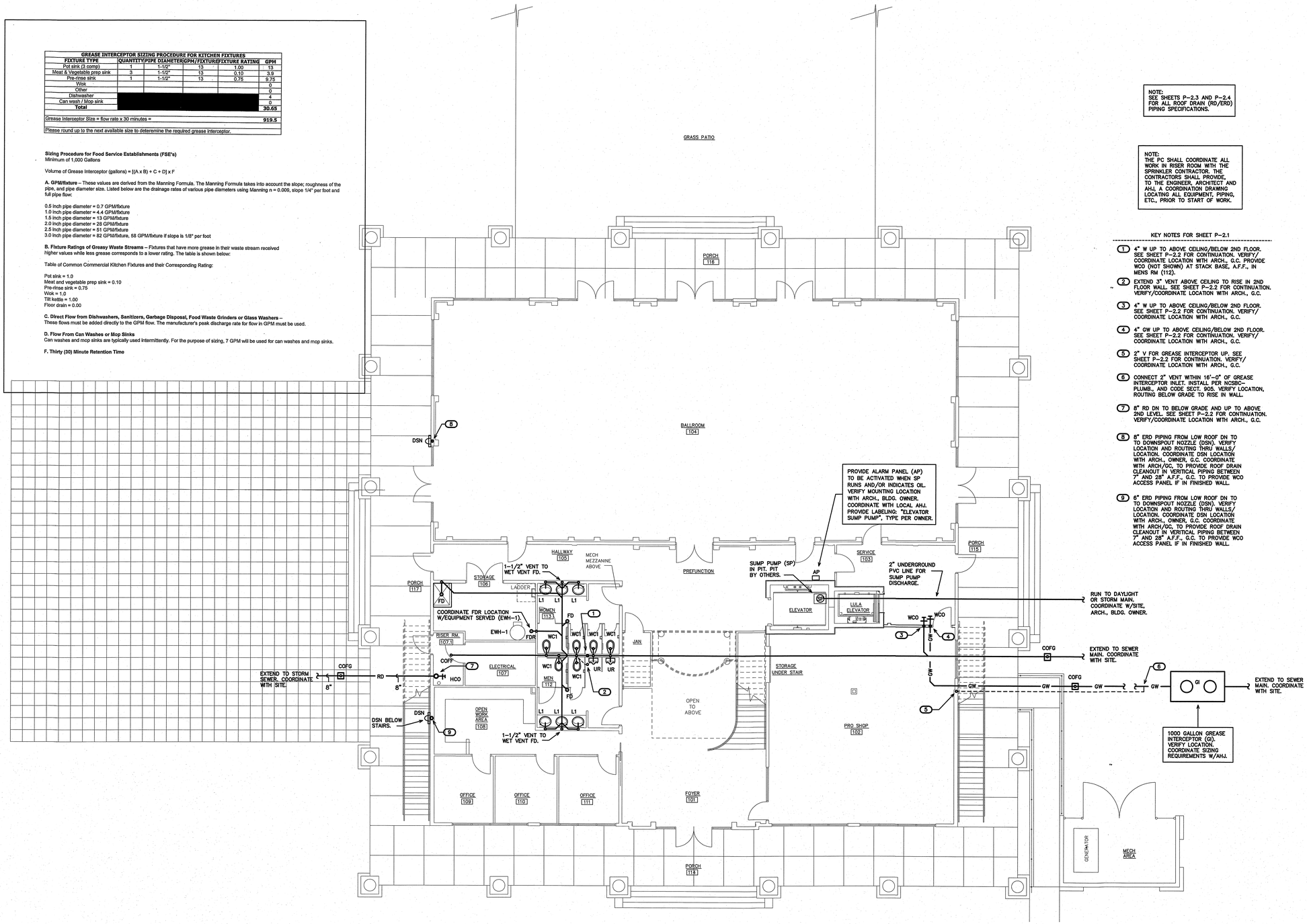
Table of Common Commercial Kitchen Fixtures and their Corresponding Rating:

Pot sink = 1.0
Meat and vegetable prep sink = 0.10
Pre-rinse sink = 0.75
Wok = 1.0
Tilt kettle = 1.00
Floor drain = 0.00

C. Direct Flow from Dishwashers, Sanitizers, Garbage Disposal, Food Waste Grinders or Glass Washers – These flows must be added directly to the GPM flow. The manufacturer's peak discharge rate for flow in GPM must be used.

D. Flow From Can Washes or Mop Sinks
Can washes and mop sinks are typically used intermittently. For the purpose of sizing, 7 GPM will be used for can washes and mop sinks.

F. Thirty (30) Minute Retention Time



1 / P-2.1 FIRST FLOOR DWV PLAN
SCALE: 1/8"=1'-0"

NOTE:
SEE SHEETS P-2.3 AND P-2.4 FOR ALL ROOF DRAIN (RD/ERD) PIPING SPECIFICATIONS.

NOTE:
THE PC SHALL COORDINATE ALL WORK IN RISER ROOM WITH THE SPRINKLER CONTRACTOR. THE CONTRACTORS SHALL PROVIDE, TO THE ENGINEER, ARCHITECT AND AHJ, A COORDINATION DRAWING LOCATING ALL EQUIPMENT, PIPING, ETC., PRIOR TO START OF WORK.

KEY NOTES FOR SHEET P-2.1

1. 4" W UP TO ABOVE CEILING/BELOW 2ND FLOOR. SEE SHEET P-2.2 FOR CONTINUATION. VERIFY/ COORDINATE LOCATION WITH ARCH., G.C. PROVIDE WCO (NOT SHOWN) AT STACK BASE, A.F.F., IN MENS RM (112).
2. EXTEND 3" VENT ABOVE CEILING TO RISE IN 2ND FLOOR WALL. SEE SHEET P-2.2 FOR CONTINUATION. VERIFY/COORDINATE LOCATION WITH ARCH., G.C.
3. 4" W UP TO ABOVE CEILING/BELOW 2ND FLOOR. SEE SHEET P-2.2 FOR CONTINUATION. VERIFY/ COORDINATE LOCATION WITH ARCH., G.C.
4. 4" GW UP TO ABOVE CEILING/BELOW 2ND FLOOR. SEE SHEET P-2.2 FOR CONTINUATION. VERIFY/ COORDINATE LOCATION WITH ARCH., G.C.
5. 2" V FOR GREASE INTERCEPTOR UP. SEE SHEET P-2.2 FOR CONTINUATION. VERIFY/ COORDINATE LOCATION WITH ARCH., G.C.
6. CONNECT 2" VENT WITHIN 15'-0" OF GREASE INTERCEPTOR INLET. INSTALL PER NCSBC-PLUMB., AND CODE SECT. 905. VERIFY LOCATION, ROUTING BELOW GRADE TO RISE IN WALL.
7. 8" RD DN TO BELOW GRADE AND UP TO ABOVE 2ND LEVEL. SEE SHEET P-2.2 FOR CONTINUATION. VERIFY/COORDINATE LOCATION WITH ARCH., G.C.
8. 8" ERD PIPING FROM LOW ROOF DN TO TO DOWNSPOUT NOZZLE (DSN). VERIFY LOCATION AND ROUTING THRU WALLS/ LOCATION. COORDINATE DSN LOCATION WITH ARCH., OWNER, G.C. COORDINATE WITH ARCH/GC, TO PROVIDE ROOF DRAIN CLEANOUT IN VERTICAL PIPING BETWEEN 7" AND 28" A.F.F., G.C. TO PROVIDE WCO ACCESS PANEL IF IN FINISHED WALL.
9. 6" ERD PIPING FROM LOW ROOF DN TO TO DOWNSPOUT NOZZLE (DSN). VERIFY LOCATION AND ROUTING THRU WALLS/ LOCATION. COORDINATE DSN LOCATION WITH ARCH., OWNER, G.C. COORDINATE WITH ARCH/GC, TO PROVIDE ROOF DRAIN CLEANOUT IN VERTICAL PIPING BETWEEN 7" AND 28" A.F.F., G.C. TO PROVIDE WCO ACCESS PANEL IF IN FINISHED WALL.

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MOREHEAD CITY COUNTRY CLUB CLUBHOUSE
MOREHEAD CITY, NORTH CAROLINA

1/29/21
NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE

FIRST FLOOR DWV PLAN

20010

ISSUED:	01/29/2021
DWG BY:	DS
CKD BY:	BEB

REVISIONS

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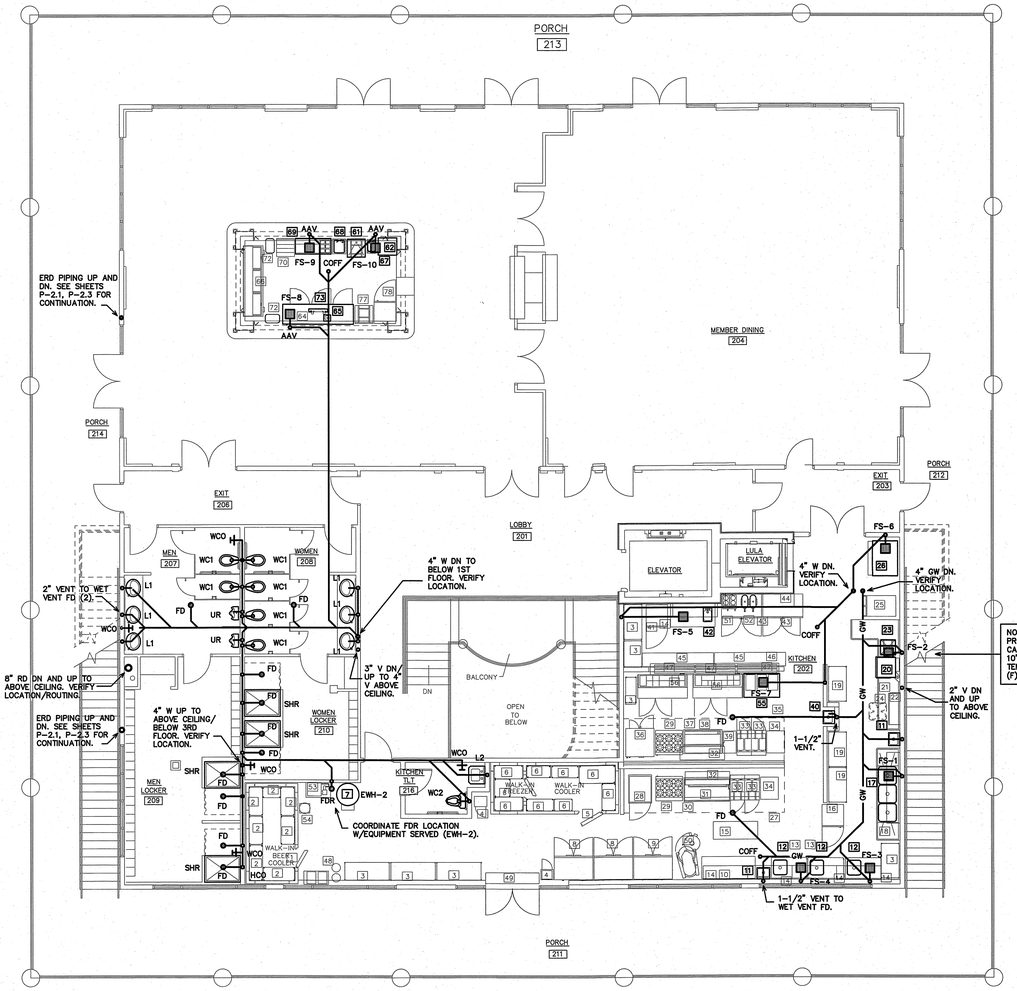
SHEET NO.
P-2.1

(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

Morehead Country Club P2.2 EQUIPMENT SCHEDULE

ITEM	QUAN	DESCRIPTION	UTILITY CONNECTIONS			
			WASTE	HW	CW	GAS (BTUH)
1	1	WALK-IN BEER COOLER				
2	LOT	WALK-IN SHELVING				
3	LOT	FREESTANDING WIRE DRY STORAGE SHELVING				
4	2	EMPLOYEE LOCKERS				
5	1	WALK-IN COOLER/FREEZER COMBO				
6	LOT	WALK-IN SHELVING				
7	**1**	**WATER HEATER- 2ND FLOOR KITCHEN/BAR (EWH-2)**	**1"**	**1-1/4"**	**1-1/4"**	
8	2	2-DOOR REACH-IN REFRIG				
9	1	2-DOOR REACH-IN FREEZER				
10	1	WORKTABLE W/ UNDERSHELF (30X48)				
11	**2**	**WALL-MOUNT HANDSINK W/ SPLASHGUARDS**	**1-1/2"**	**1/2"**	**1/2"**	
12	**3**	**PREP SINK**	**1-1/2"**	**1/2"**	**1/2"**	
13	2	WALL-MOUNT SPLASHGUARDS				
14	5	WALL-MOUNT SHELF (18X60)				
15	1	WORKTABLE W/ UNDERSHELF (24X60)				
16	1	1-DOOR REFRIG				
17	**1**	**3-COMP SINK W/ 24" DRAINBOARDS**	**1-1/2"**	**1/2"**	**1/2"**	
18	1	WALL-MOUNT SHELF W/ POT RACK (15X96)				
19	LOT	FREESTANDING WIRE DRYING RACKS				
20	**1**	**HIGH TEMP DISHMACHINE W/ VAPORVENT SYSTEM**	**2"**	**1/2" ***	**3/8" ***	
21	1	72" CLEAN RIGHT-HAND DISHTABLE				
22	1	42" WALL-MOUNT RACK SHELF				
23	**1**	**SOILED LEFT HAND DISHTABLE W/PRE-RINSE SINK**	**1-1/2"**	**1/2" ***	**1/2" ***	
24	1	DISH CADDY ON CASTERS				
25	1	UTILITY CART ON CASTERS				
26	**1**	**ICE MACHINE W/ BIN**	**1/2",3/4"**		**3/8" ***	
27	1	18' EXHAUST HOOD W/ REMOTE ANSUL				
28	1	COOK & HOLD CABINET (ELEC)				
29	**2**	**6-BURNER RANGE WITH OVEN (GAS)**				**227,000**
30	1	62" REFRIG CHEF BASE				
31	**1**	**60" FLAT GRIDDLE (GAS)**				**150,000**
32	**2**	**60" SALAMANDER BROILER (GAS)**				**35,000**
33	**4**	**DEEP FRYER (GAS)**				**200,000**
34	2	BREADING STATION				
35	1	18' EXHAUST HOOD W/ REMOTE ANSUL				
36	**1**	**DOUBLE CONVECTION OVEN (GAS)**				**110,000 (TOT.)**
37	1	52" REFRIG. CHEF BASE				
38	**1**	**48" FLAT GRIDDLE (GAS)**				**120,000**
39	**1**	**BROASTER PRESSURE DEEP FRYER (GAS)**				**65,000**
40	**1**	**WALL-MOUNT HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
41	1	1-DOOR REACH-IN FREEZER				
42	**1**	**WORKTABLE W/ DROP-IN HAND SINK (30X60)**	**1-1/2"**	**1/2"**	**1/2"**	
43	2	2-DOOR WORKTOP REFRIG				
44	1	WALL-MOUNT SHELF (15X96)				
45	2	LOW DISH SHELVING (18X96)				
46	2	PASSTHRU SHELF W/ OVERSHELF (15X144)				
47	3	48" IR HEAT LAMP				
48	1	BAG-IN-BOX W/ CARBON DIOXIDE CANISTERS				
49	1	72" INTERIOR MOUNT FLY FAN				
50	1	40 QT MIXER				
51	**2**	**COFFEE BREWER**			**1/4" ***	
52	**2**	**TEA BREWER / URN**			**1/4" ***	
53	1	DRAFT BEER REFRIG LINE / GLYCOL CHILLER				
54	1	NITROGEN GENERATOR W/ TANK				
55	**1**	**3 WELL HOT HOLDING TABLE**	**1"**			
56	2	REF. PREP TABLE				
57	–	NOT USED				
58	–	NOT USED				
59	–	NOT USED				
60	–	NOT USED				
61	**2**	**S/S SOILED GLASS RACK STORAGE**	**1"**			
62	**2**	**UNDERCOUNTER GLASS WASHER**	**1"**	**3/4" ***		
63	1	2-DOOR UC REFRIG				
64	LOT	POINT OF SALE				
65	**2**	**GLASS RINSER / DRIP TRAY**	**3/4"**		**1/2" ***	
66	1	94" DEEP WELL BOTTLE COOLER				
67	**2**	**S/S BAR HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
68	**1**	**S/S 18" BAR HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
69	**1**	**S/S 48" ICE WELL W/ LIQUOR STORAGE**	**1/2"**			
70	2	S/S LIQUOR DISPLAY				
71	**1**	**S/S 36" ICE WELL W/ COLD PLATE**	**1/2"**			
72	LOT	TRASH RECEPTACLE				
73	**1**	**94" DIRECT DRAFT BEER COOLER**	**1/2"**			
74	**1**	**S/S BAR DUMP SINK**	**1-1/2"**	**1/2"**	**1/2"**	
75	1	48" DEEP WELL BOTTLE COOLER				
76	1	DRAFT BEER TOWER W/ REFRIG LINES				
77	2	S/S CLEAN GLASS RACK STORAGE				
78	1	1-DOOR WORKTOP REFRIGERATOR				

* PROVIDE BACKFLOW PREVENTER PER NCSBC-PLUMBING SECT. 608.3 (EX: ASSE 1024 (WATTS SERIES 7 OR EQUAL), ASSE 1022 (WATTS SERIES SD-3 OR EQUAL), ETC.), WHERE REQUIRED IF NOT AN INTEGRAL PART OF THE EQUIPMENT.



1 P-2.2 SECOND FLOOR DWV PLAN
SCALE: 1/8"=1'-0"

NOTE:
SEE SHEETS P-2.3 AND P-2.4 FOR ALL ROOF DRAIN (RD/ERD) PIPING SPECIFICATIONS.

NOTE:
COORDINATE EXACT LOCATIONS OF FLOOR SINKS WITH TENANT/EQUIPMENT SERVED PRIOR TO ROUGH-IN. MINIMUM CLEARANCES FOR ALL EXPOSED INDIRECT DRAIN LINES ARE 4" A.F.F., 1" FROM WALL, 1" FROM OTHERS. ALL INDIRECT WASTE PIPING FROM EQUIPMENT EXCEEDING 30" IN DEVELOPED LENGTH HORIZONTALLY, OR 54" IN TOTAL DEVELOPED LENGTH, SHALL BE TRAPPED. PROVIDE DRAIN PIPING FOR SO THAT EACH WELL OF A MULTI-COMPARTMENT SINK DISCHARGES INDEPENDENTLY TO A WASTE RECEPTOR PER NCSBC-PLUMBING SECT. 802.1.1. PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS.

NOTE:
DVW PIPING SHALL NOT BE UNNECESSARILY EXPOSED. EXPOSED LINES SHALL BE INSTALLED SO THEY DO NOT OBSTRUCT OR PREVENT CLEANING OF THE FLOORS, WALLS, OR CEILINGS. EXPOSED HORIZONTAL LINES MAY NOT BE INSTALLED ON THE FLOOR. PROVIDE ANY STAND-OFFS AS REQUIRED PER HEALTH DEPARTMENT. RUN LINES TIGHT AND CONCEALED UNDER BAR/ EQUIPMENT, OR IN HALF WALL AS REQUIRED. PROVIDE AIR INTAKE VENT/GRILLE FOR AAV'S WHERE REQUIRED.

INDIRECT CONNECTION SCHEDULE *	
FLOOR SINK #1 (FS-1)	SIZE
(17) 3 COMP. SINK **	1-1/2"
FLOOR SINK #2 (FS-2)	SIZE
(20) DISH MACHINE	2"
(23) PRE RINSE SINK	1-1/2"
FLOOR SINK #3 (FS-3)	SIZE
(12) PREP SINK	1-1/2"
FLOOR SINK #4 (FS-4)	SIZE
(12) PREP SINK (QTY OF 2)	1-1/2"
FLOOR SINK #5 (FS-5)	SIZE
(42) HAND SINK	1-1/2"
FLOOR SINK #6 (FS-6)	SIZE
(26) ICE MACHINE/BIN	1/2", 3/4"
FLOOR SINK #7 (FS-7)	SIZE
(55) HOT TABLE	1"
FLOOR SINK #8 (FS-8)	SIZE
(65) RINSER/DRIP TRAY	3/4"
(73) BEER COOLER	1/2"
FLOOR SINK #9 (FS-9)	SIZE
(68) HAND SINK	1-1/2"
(69) ICE WELL	1/2"
FLOOR SINK #10 (FS-10)	SIZE
(61) GLASS RACK	1"
(62) GLASS WASHER	1"
(67) HAND SINK	1-1/2"

* VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN.

** PROVIDE SEPARATE DRAIN FROM EACH WELL BASIN OF MULTI-COMP SINK.

NOTE:
PROVIDE CAST IRON MODEL FS-2 AND CAST IRON OR ABS PIPING FOR MINIMUM 10'-0" AS DISH MACHINE DISCHARGE TEMPERATURE IS TO BE ABOVE 140 DEG. (F). VERIFY WITH TENANT/EQUIPMENT.

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MOREHEAD CITY, NORTH CAROLINA

1/29/21
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 12038 BENJAMIN E. BURKE

SECOND FLOOR DWV PLAN

20010

ISSUED:	01/29/2021
DWG BY:	DS
CKD BY:	BEB

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SHEET NO.
P-2.2

SCHEDULE NOTE: ROOF DRAIN SIZING PER 2018 NCSBC- PLUMBING, CHAPTER 11. VERIFY ALL REQUIREMENTS PER CODE. PRIMARY ROOF DRAIN (RD) SIZES BASED ON 1-HOUR RAINFALL RATE OF 5"/HR, 2% SLOPE. SECONDARY/EMERGENCY ROOF DRAIN (ERD) SIZES BASED ON 15-MINUTE RAINFALL RATE OF 8"/HR, 2% SLOPE.

ROOF DRAIN SIZING SCHEDULE

ROOF DRAIN #	DRAINAGE AREA (SQ. FT.) ROOF	PARAPETS AND/ OR WALLS (1/2 OF TOTAL PER CODE)	TOTAL	MINIMUM PIPE DIA. SIZE (IN.)** RD	ERD
RD-1	1560*	72	1632	4"	6"
RD-2	1304*	–	1304	4"	6"
RD-3	1546*	72	1618	4"	6"
RD-4	338	63	401	3"	3"
RD-5	846*	228	1074	4"	4"
RD-6	346*	117	463	3"	3"
RD-7	798*	203	1001	4"	4"
RD-8	401*	135	536	3"	3"
RD-9	397*	61	458	3"	3"
RD-10	679*	254	933	4"	N/A***
RD-11	188*	100	288	3"	N/A***

* INCLUDES ADDITIONAL AREA PORTION TOTAL FROM HIGH ROOF(S).

** COMBINATION UNIT SHALL HAVE (MIN.) OUTLET SIZES OF LARGEST REQUIRED PIPE SIZE. AREAS REQUIRING CODE MINIMUM SIZE OF 5" ARE SHOWN TO NEXT COMMON SIZE (6").

*** SECONDARY ROOF DRAINS OR SCUPPERS ARE NOT REQUIRED AS ROOF AREA PERIMETER CONSTRUCTION DOES NOT ENTRAP WATER AND/OR DOES NOT EXTEND ABOVE THE ROOF.

(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

Morehead Country Club P2.3 EQUIPMENT SCHEDULE

ITEM	QUAN	DESCRIPTION	UTILITY CONNECTIONS WASTE	HW	CW	GAS (BTUH)
61	2	S/S SOILED GLASS RACK STORAGE	1"			
62	2	UNDERCOUNTER GLASS WASHER	1"	3/4"*		
63	1	2-DOOR UC REFRIG				
64	LOT	POINT OF SALE				
65	2	GLASS RINSER / DRIP TRAY	3/4"		1/2"*	
66	1	94" DEEP WELL BOTTLE COOLER				
67	2	S/S BAR HAND SINK	1-1/2"	1/2"	1/2"	
68	1	S/S 18" BAR HAND SINK	1-1/2"	1/2"	1/2"	
69	1	S/S 48" ICE WELL W/ LIQUOR STORAGE	1/2"			
70	2	S/S LIQUOR DISPLAY				
71	1	S/S 36" ICE WELL W/ COLD PLATE	1/2"			
72	LOT	TRASH RECEPTACLE				
73	1	94" DIRECT DRAFT BEER COOLER	1/2"			
74	1	S/S BAR DUMP SINK	1-1/2"	1/2"	1/2"	
75	1	48" DEEP WELL BOTTLE COOLER				
76	1	DRAFT BEER TOWER W/ REFRIG LINES				
77	2	S/S CLEAN GLASS RACK STORAGE				
78	1	1-DOOR WORKTOP REFRIGERATOR				

* PROVIDE BACKFLOW PREVENTER PER NCSBC-PLUMBING SECT. 608.3 (EX: ASSE 1024 (WATTS SERIES 7 OR EQUAL), ASSE 1022 (WATTS SERIES SD-3 OR EQUAL), ETC.), WHERE REQUIRED IF NOT AN INTEGRAL PART OF THE EQUIPMENT.

INDIRECT CONNECTION SCHEDULE *

FLOOR SINK #11 (FS-11)	SIZE
(61) GLASS RACK	1"
(65) RINSER/DRIP TRAY	3/4"
FLOOR SINK #12 (FS-12)	**SIZE**
(61) GLASS RACK	1"
(62) GLASS WASHER	1"
FLOOR SINK #13 (FS-13)	**SIZE**
(67) HAND SINK	1-1/2"
(71) ICE WELL	1/2"
(74) DUMP SINK	1-1/2"

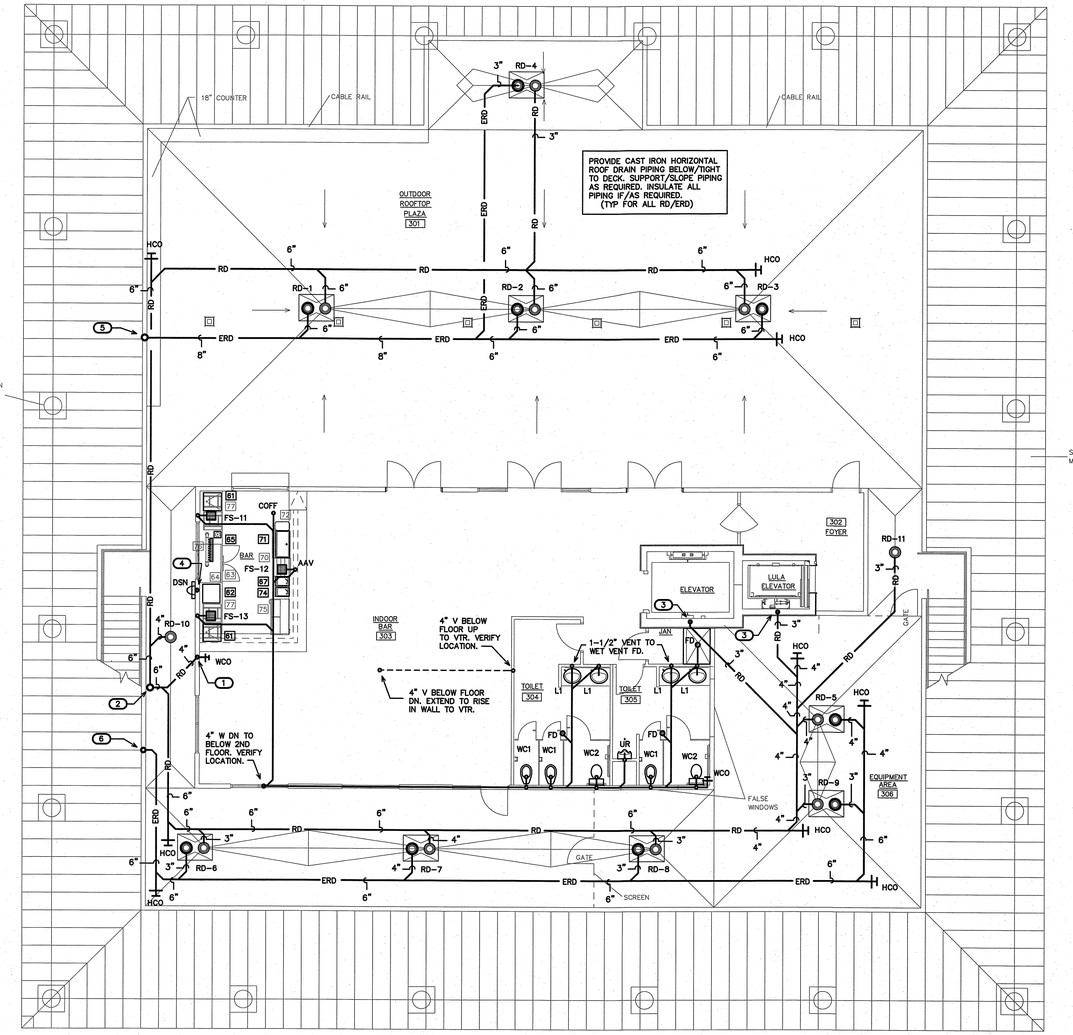
* VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN.

NOTE:
COORDINATE EXACT LOCATIONS OF FLOOR SINKS WITH TENANT/EQUIPMENT SERVED PRIOR TO ROUGH-IN. MINIMUM CLEARANCES FOR ALL EXPOSED INDIRECT DRAIN LINES ARE 4" A.F.F., 1" FROM WALL 1" FROM OTHERS. ALL INDIRECT WASTE PIPING FROM EQUIPMENT EXCEEDING 30" IN DEVELOPED LENGTH HORIZONTALLY, OR 54" IN TOTAL DEVELOPED LENGTH, SHALL BE TRAPPED. PROVIDE DRAIN PIPING FOR SO THAT EACH WELL OF A MULTI-COMPARTMENT SINK DISCHARGES INDEPENDENTLY TO A WASTE RECEPTOR PER NCSBC-PLUMBING SECT. 802.1.1. PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS.

NOTE:
DVW PIPING SHALL NOT BE UNNECESSARILY EXPOSED. EXPOSED LINES SHALL BE INSTALLED SO THEY DO NOT OBSTRUCT OR PREVENT CLEANING OF THE FLOORS, WALLS, OR CEILINGS. EXPOSED HORIZONTAL LINES MAY NOT BE INSTALLED ON THE FLOOR. PROVIDE ANY STAND-OFFS AS REQUIRED PER HEALTH DEPARTMENT. RUN LINES TIGHT AND CONCEALED UNDER BAR/ EQUIPMENT, OR IN HALF WALL AS REQUIRED. PROVIDE AIR INTAKE VENT/GRILLE FOR AAV'S WHERE REQUIRED.

ROOF DRAIN LEGEND

- RD ——— PRIMARY ROOF DRAIN PIPING (RD)
- ERD ——— EMERGENCY ROOF DRAIN PIPING (ERD)
- RD-X ROOF DRAIN COMBO UNIT (SEE PLAN/SPECS FOR 'X')
- RD-X SINGLE ROOF DRAIN UNIT (SEE PLAN/SPECS FOR 'X')
- DSN DOWNSPOUT NOZZLE (DSN)



ROOF TOP/MAIN ROOF DWV AND ROOF DRAIN PLAN

(1/P-2.3) SCALE: 1/8"=1'-0"

ROOF DRAIN PLAN SPECIFICATIONS

1. RD-1 THRU RD-9 ROOF DRAIN UNITS SHALL BE EQUAL TO ZURN MODEL Z163 15" DIAMETER LOW SILHOUETTE DOME COMBINATION MAIN ROOF & OVERFLOW DRAIN, OUTLET SIZE PER SIZING SCHEDULE (THIS SHEET). DRAIN SHALL BE COMPATABLE WITH ROOFING SYSTEM. VERIFY EXTENTION HEIGHT OF OVERFLOW DRAIN WITH ARCHITECT. COORDINATE LOCATION WITH ARCH, G.C.
2. RD-10 AND RD-11 ROOF DRAIN UNITS SHALL BE EQUAL TO ZURN MODEL Z100, 15" DIA. CAST IRON ROOF DRAIN, OUTLET SIZE PER SCHEDULE (THIS SHEET). DRAIN SHALL BE COMPATABLE W/ ROOFING SYSTEM. COORDINATE EXACT MODEL, DOME STYLE, ETC., AND LOCATION W/ARCHITECT, G.C.
3. ALL ROOF DRAIN PIPING SHALL BE CAST IRON. ALL HORIZONTAL ROOF DRAIN PIPING SHALL BE SLOPED AT 1/4" PER FOOT. ALL HORIZONTAL ROOF DRAIN PIPING SHALL MATCH ROOF DRAIN UNIT OUTLET DIAMETER IF DIRECTLY CONNECTED (U.O.N.), AND ALL HORIZONTAL PIPING CONNECTED TO (DOWNSTREAM OF) VERTICAL ROOF CONDUCTORS SHALL BE SIZED AS NOTED- SEE PLAN FOR (MIN.) SIZES. ALL VERTICAL ROOF DRAIN PIPING SHALL MATCH ROOF DRAIN UNIT OUTLET DIAMETER IF DIRECTLY CONNECTED, OR SHALL MATCH HORIZONTAL RD PIPING AFTER (DOWNSTREAM OF) THE HORIZONTAL PIPING CONNECTION (U.O.N.). PROVIDE PROPER INSULATION ON VERTICAL RD/ERD CONDUCTORS THRU ALL FLOORS, AND AS REQUIRED PER NOTE #6. PROPERLY SEAL WALL/ROOF PENETRATIONS AS REQUIRED AND AS NOT TO VOID ANY WARRANTIES. ALL PIPE SIZES SHOWN ARE REQUIRED MINIMUMS, MAINTAIN SIZES UNTIL LARGER SIZE REACHED.
4. ALL ROOF DRAIN LEADERS SHALL BE RUN TO 5'-0" (MIN.) OUTSIDE OF BUILDING BY PLUMBING CONTRACTOR. SITE UTILITIES CONTRACTOR SHALL CONNECT TO PIPING AT END LOCATION.
5. ALL EMERGENCY ROOF DRAIN PIPING SHALL TERMINATE ABOVE GRADE LEVEL. COORDINATE EXACT LOCATION, ROUTING W/STRUCTURE, ARCH. PROVIDE DOWNSPOUT NOZZLE (DSN) TIGHT AGAINST WALL AT DRAIN PIPE TERMINATION W/SPLASHBLOCK (NOT SHOWN) IF REQUIRED. NOZZLE SHALL BE ZURN #Z199 OR EQUAL, CAST BRONZE, SIZE TO MATCH PIPE SIZE. COORDINATE LOCATION WITH WINDOWS, DOORS, ETC. COORDINATE EXACT MODEL WITH ARCHITECT/OWNER. ERD TERMINATION/ DOWNSPOUT NOZZLE DISCHARGE TERMINATION LOCATION SHALL BE ABOVE GRADE IN A LOCATION THAT WOULD NORMALLY BE OBSERVED BY THE BUILDING'S OCCUPANTS OR MAINTENANCE PERSONNEL. COORDINATE LOCATION WITH ARCH., BLDG. OWNER.
6. PROVIDE PROPER INSULATION ON ALL VERTICAL ROOF DRAIN CONDUCTOR PIPING, AND HORIZONTAL ROOF DRAIN PIPING INITIALLY CONNECTING TO ROOF DRAIN UNIT FROM AND INCLUDING ROOF DRAIN UNIT OUTLET THROUGH TO A MINIMUM OF 15'-0". INSULATION SHALL BE- 1" GLASS FIBER INSULATION, WITH JACKETED PVC FITTING COVERS: FACTORY-FABRICATED FITTING COVERS MANUFACTURED FROM 20-MIL THICK, HIGH IMPACT, ULTRA-VIOLET RESISTANT PVC;- OR ALUMINUM JACKET IN EXPOSED LOCATIONS: ASTM B 209, 3003 ALLOY, H-14 TEMPER SMOOTH FINISH, 0.020 INCH THICK WITH PRE-FORMED ELBOWS.

NOTE:
SEE ARCH. DRAWINGS FOR VERIFICATION OF ROOF PLAN, SLOPES, ETC. COORDINATE WITH G.C., ALL TRADES. ALL ROOF FEATURES, EQUIPMENT, ETC., ARE NOT SHOWN.

NOTE:
ALL VERTICAL ROOF DRAIN CONDUCTORS SHALL BE CAST IRON AND PROPERLY INSULATED THRU ALL FLOORS.

KEY NOTES FOR SHEET P-2.3

1. 4" RD FROM ABOVE CEILING/BELOW HIGH ROOF TO BELOW FLOOR. SEE SHEET P2.4 FOR CONTINUATION UP. VERIFY/COORDINATE LOCATION WITH ARCH., G.C.
2. 8" RD MAIN DN TO RUN BELOW GRADE LEVEL. SEE SHEETS P-2.2, P-2.1 FOR CONTINUATION. VERIFY/COORDINATE LOCATION WITH ARCH., G.C.
3. 3" RD MAIN FROM ABOVE TO BELOW FLOOR, SEE SHEET P-2.4 FOR CONTINUATION UP. VERIFY/ COORDINATE LOCATION WITH ARCH., G.C.
4. 4" ERD PIPING FROM HIGH ROOF DN TO TO DOWNSPOUT NOZZLE (DSN). VERIFY LOCATION AND ROUTING THRU WALLS/ LOCATION. COORDINATE DSN LOCATION WITH ARCH., OWNER, G.C. COORDINATE WITH ARCH/GC, TO PROVIDE ROOF DRAIN CLEANOUT IN VERTICAL PIPING BETWEEN 7" AND 28" A.F.F., G.C. TO PROVIDE WCO ACCESS PANEL IF IN FINISHED WALL.
5. 8" ERD PIPING DROP THRU STRUCTURE TO DOWNSPOUT NOZZLE (DSN). VERIFY LOCATION AND ROUTING THRU WALLS/ FLOORS. COORDINATE TERMINATION LOCATION WITH ARCH., G.C. SEE SHEET P-2.2 FOR CONTINUATION.
6. 6" ERD PIPING DROP THRU STRUCTURE TO DOWNSPOUT NOZZLE (DSN). VERIFY LOCATION AND ROUTING THRU WALLS/ FLOORS. COORDINATE TERMINATION LOCATION WITH ARCH., G.C. SEE SHEET P-2.2 FOR CONTINUATION.

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE

ROOF TOP/MAIN ROOF DWV AND ROOF DRAIN PLAN

20010

ISSUED:	01/29/2021
DWG BY:	DS
CKD BY:	BEB
REVISIONS	

SHEET NO. P-2.3

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SCHEDULE NOTE: ROOF DRAIN SIZING PER 2018 NCSBC– PLUMBING, CHAPTER 11. VERIFY ALL REQUIREMENTS PER CODE. PRIMARY ROOF DRAIN (RD) SIZES BASED ON 1–HOUR RAINFALL RATE OF 5"/HR, 2% SLOPE. SECONDARY/EMERGENCY ROOF DRAIN (ERD) SIZES BASED ON 15–MINUTE RAINFALL RATE OF 8"/HR, 2% SLOPE.

ROOF DRAIN SIZING SCHEDULE

ROOF DRAIN #	DRAINAGE AREA (SQ. FT.)			MINIMUM PIPE DIA. SIZE (IN.)**	
	ROOF	PARAPETS AND/ OR WALLS (1/2 OF TOTAL PER CODE)	TOTAL	RD	ERD
RD–12	540	–	540	3"	3"
RD–13	602*	35	637	3"	4"
RD–14	96	–	96	3"	N/A***
RD–15	52	–	52	3"	N/A***

* INCLUDES ADDITIONAL AREA PORTION TOTAL FROM ELEVATOR ROOF(S).

** COMBINATION UNIT SHALL HAVE (MIN.) OUTLET SIZES OF LARGEST REQUIRED PIPE SIZE.

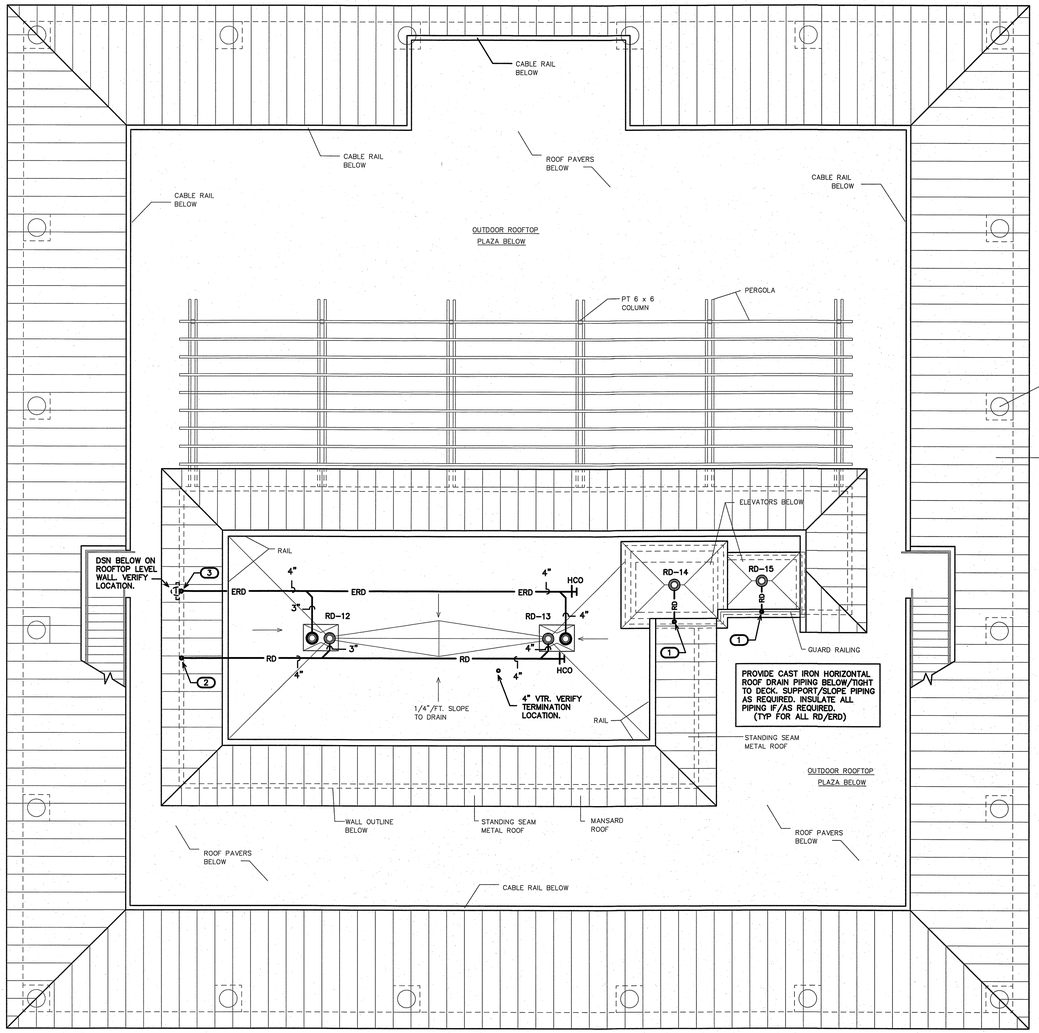
*** SECONDARY ROOF DRAINS OR SCUPPERS ARE NOT REQUIRED AS ROOF AREA PERIMETER CONSTRUCTION DOES NOT ENTRAP WATER AND/OR DOES NOT EXTEND ABOVE THE ROOF,

ROOF DRAIN LEGEND

RD	PRIMARY ROOF DRAIN PIPING (RD)
ERD	EMERGENCY ROOF DRAIN PIPING (ERD)
RD–X	ROOF DRAIN COMBO UNIT (SEE PLAN/SPECS FOR "X")
RD–X	SINGLE ROOF DRAIN UNIT (SEE PLAN/SPECS FOR "X")
DSN	DOWNSPOUT NOZZLE (DSN)

ROOF DRAIN PLAN SPECIFICATIONS

1. RD–12 AND RD–13 ROOF DRAIN UNITS SHALL BE EQUAL TO ZURN MODEL Z163 15" DIAMETER LOW SILHOUETTE DOME COMBINATION MAIN ROOF & OVERFLOW DRAIN, OUTLET SIZE PER SIZING SCHEDULE (THIS SHEET). DRAIN SHALL BE COMPATABLE WITH ROOFING SYSTEM. VERIFY EXTENTION HEIGHT OF OVERFLOW DRAIN WITH ARCHITECT. COORDINATE LOCATION WITH ARCH, G.C.
2. RD–14 AND RD–15 ROOF DRAIN UNITS SHALL BE EQUAL TO ZURN MODEL Z100, 15" DIA. CAST IRON ROOF DRAIN, OUTLET SIZE PER SCHEDULE (THIS SHEET). DRAIN SHALL BE COMPATABLE W/ ROOFING SYSTEM. COORDINATE EXACT MODEL, DOME STYLE, ETC., AND LOCATION W/ARCHITECT, G.C.
3. ALL ROOF DRAIN PIPING SHALL BE CAST IRON. ALL HORIZONTAL ROOF DRAIN PIPING SHALL BE SLOPED AT 1/4" PER FOOT. ALL HORIZONTAL ROOF DRAIN PIPING SHALL MATCH ROOF DRAIN UNIT OUTLET DIAMETER IF DIRECTLY CONNECTED (U.O.N.), AND ALL HORIZONTAL PIPING CONNECTED TO (DOWNSTREAM OF) VERTICAL ROOF CONDUCTORS SHALL BE SIZED AS NOTED– SEE PLAN FOR (MIN.) SIZES. ALL VERTICAL ROOF DRAIN PIPING SHALL MATCH ROOF DRAIN UNIT OUTLET DIAMETER IF DIRECTLY CONNECTED, OR SHALL MATCH HORIZONTAL RD PIPING AFTER (DOWNSTREAM OF) THE HORIZONTAL PIPING CONNECTION (U.O.N.). PROVIDE PROPER INSULATION ON VERTICAL RD/ERD CONDUCTORS THRU ALL FLOORS, AND AS REQUIRED PER NOTE #6. PROPERLY SEAL WALL/ROOF PENETRATIONS AS REQUIRED AND AS NOT TO VOID ANY WARRANTIES. ALL PIPE SIZES SHOWN ARE REQUIRED MINIMUMS, MAINTAIN SIZES UNTIL LARGER SIZE REACHED.
4. ALL ROOF DRAIN LEADERS SHALL BE RUN TO 5'–0" (MIN.) OUTSIDE OF BUILDING BY PLUMBING CONTRACTOR. SITE UTILITIES CONTRACTOR SHALL CONNECT TO PIPING AT END LOCATION.
5. ALL EMERGENCY ROOF DRAIN PIPING SHALL TERMINATE ABOVE GRADE LEVEL. COORDINATE EXACT LOCATION, ROUTING W/STRUCTURE, ARCH. PROVIDE DOWNSPOUT NOZZLE (DSN) TIGHT AGAINST WALL AT DRAIN PIPE TERMINATION W/SPLASHBLOCK (NOT SHOWN) IF REQUIRED. NOZZLE SHALL BE ZURN #Z199 OR EQUAL, CAST BRONZE, SIZE TO MATCH PIPE SIZE. COORDINATE LOCATION WITH WINDOWS, DOORS, ETC. COORDINATE EXACT MODEL WITH ARCHITECT/OWNER. ERD TERMINATION/ DOWNSPOUT NOZZLE DISCHARGE TERMINATION LOCATION SHALL BE ABOVE GRADE IN A LOCATION THAT WOULD NORMALLY BE OBSERVED BY THE BUILDING'S OCCUPANTS OR MAINTENANCE PERSONNEL. COORDINATE LOCATION WITH ARCH., BLDG. OWNER.
6. PROVIDE PROPER INSULATION ON ALL VERTICAL ROOF DRAIN CONDUCTOR PIPING, AND HORIZONTAL ROOF DRAIN PIPING INITIALLY CONNECTING TO ROOF DRAIN UNIT FROM AND INCLUDING ROOF DRAIN UNIT OUTLET THROUGH TO A MINIMUM OF 15'–0". INSULATION SHALL BE– 1" GLASS FIBER INSULATION, WITH JACKETED PVC FITTING COVERS: FACTORY– FABRICATED FITTING COVERS MANUFACTURED FROM 20–MIL THICK, HIGH IMPACT, ULTRA– VIOLET RESISTANT PVC;– OR ALUMINUM JACKET IN EXPOSED LOCATIONS: ASTM B 209, 3003 ALLOY, H–14 TEMPER SMOOTH FINISH, 0.020 INCH THICK WITH PRE–FORMED ELBOWS.



NOTE:
SEE ARCH. DRAWINGS FOR VERIFICATION OF ROOF PLAN, SLOPES, ETC. COORDINATE WITH G.C., ALL TRADES. ALL ROOF FEATURES, EQUIPMENT, ETC., ARE NOT SHOWN.

NOTE:
ALL VERTICAL ROOF DRAIN CONDUCTORS SHALL BE CAST IRON AND PROPERLY INSULATED THRU ALL FLOORS.

KEY NOTES FOR SHEET P–2.4

1. 3" RD DN TO BELOW MAIN ROOF LEVEL. SEE SHEET P–2.3 FOR CONTINUATION. VERIFY LOCATION/ROUTING.
2. 4" RD DN TO BELOW MAIN ROOF LEVEL. SEE SHEET P–2.3 FOR CONTINUATION. VERIFY LOCATION/ROUTING.
3. 4" ERD PIPING DROP THRU STRUCTURE TO DOWNSPOUT NOZZLE (DSN). VERIFY LOCATION AND ROUTING THRU WALLS/ FLOORS. COORDINATE TERMINATION LOCATION WITH ARCH., G.C. SEE SHEET P–2.3 FOR CONTINUATION.

1 / P–2.4 HIGH ROOF DWV/ROOF DRAIN PLAN
SCALE: 1/8"=1'–0"

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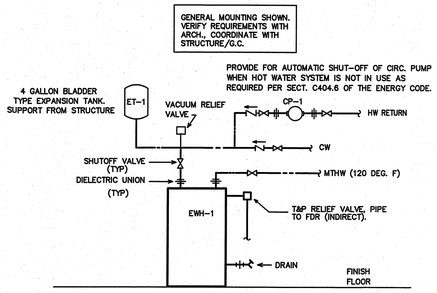
HIGH ROOF DWV/ROOF DRAIN PLAN

20010

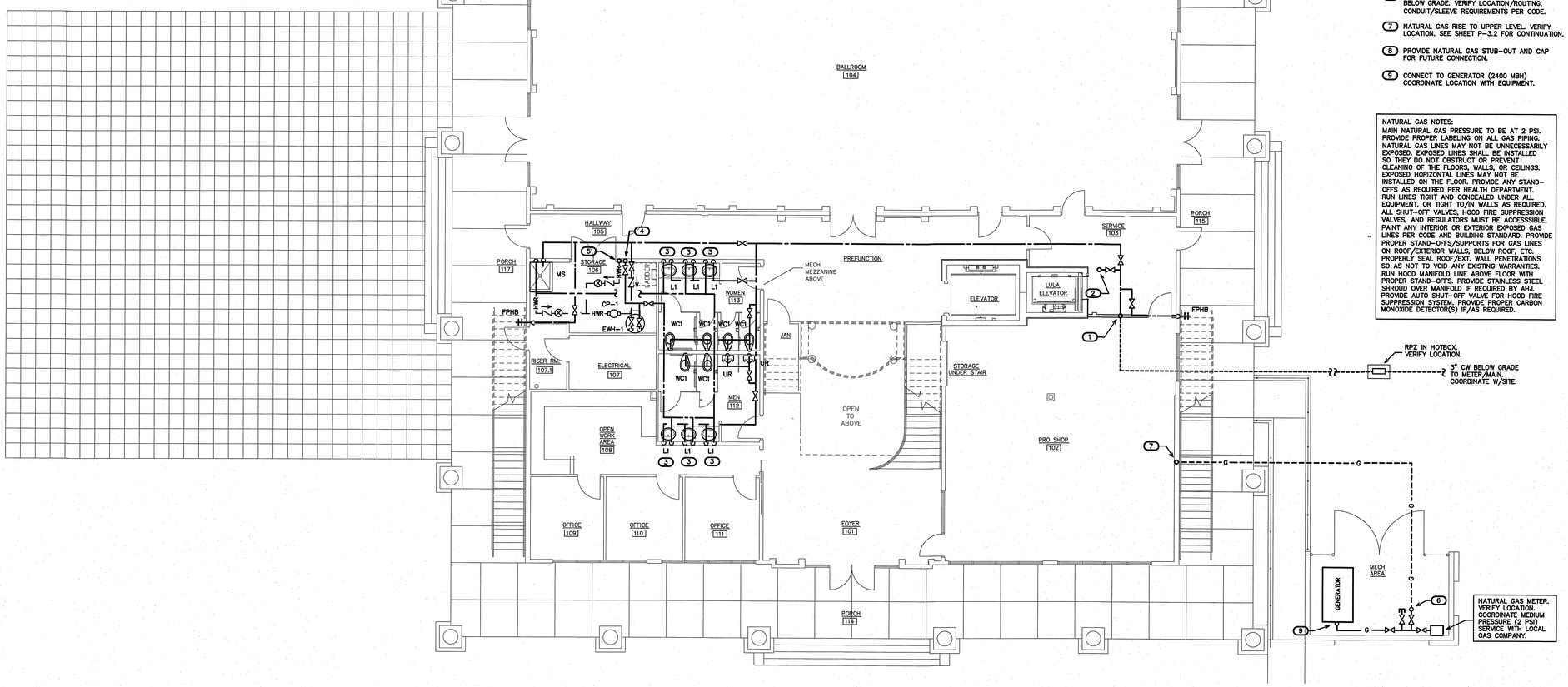
ISSUED:	01/29/2021
DWG BY:	DS
CKD BY:	BEB
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SHEET NO. P–2.4

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2 P-3.1 EWH-1 DETAIL
SCALE: NTS



1 P-3.1 FIRST FLOOR WATER/ NATURAL GAS PLAN
SCALE: 1/8"=1'-0"

WATER NOTES:
WATER PIPING SHALL NOT BE UNNECESSARILY EXPOSED. EXPOSED LINES SHALL BE INSTALLED SO THEY DO NOT OBSTRUCT OR PREVENT CLEANING OF THE FLOORS, WALLS, OR CEILINGS. EXPOSED HORIZONTAL LINES MAY NOT BE INSTALLED ON THE FLOOR. PROVIDE ANY STAND-OFFS AS REQUIRED PER HEALTH DEPARTMENT. RUN LINES TIGHT AND CONCEALED UNDER BAR/ EQUIPMENT, OR IN HALF WALL AS REQUIRED. PROPERLY PROTECT/INSULATE ALL PIPING IN UNCONDITIONED AREAS.VERIFY ROUTING OF ALL WATER LINES W/OWNER AND ARCH. ALL LINES, VALVES, CP, ETC., SHOWN FOR CLARITY- VERIFY LOCATIONS OF ALL COMPONENTS. COORDINATE WITH OWNER, ARCH., G.C., ALL TRADES.

VERIFY QUANTITY AND MOUNTING LOCATION OF FPHB W/OWNER, ARCH. (TYP)

KEY NOTES FOR SHEET P-3.1

1. 3" CW RISE TO MAIN SHUT-OFF VALVE A.F.F., RISE TO RUN MAIN ABOVE CEILING. VERIFY LOCATION. PROVIDE VALVE ACCESS DOOR IN SERVICE ROOM 103.
2. 3" CW RISE TO UPPER LEVEL. VERIFY LOCATION. SEE SHEET P-3.2 FOR CONTINUATION.
3. PROVIDE TMV AT SINK/LAV FOR CW AND/ OR 110 DEG. F (MAX) LTHW TO FAUCET. LOCATE TMV (NOT SHOWN) IN A PROPER MAINTENANCE ACCESSIBLE AREA BELOW FIXTURE, OR AS REQUIRED.
4. MTHW RISE TO UPPER LEVEL. VERIFY LOCATION. SEE SHEET P-3.2 FOR CONTINUATION.
5. HWR FROM UPPER LEVEL. VERIFY LOCATION. SEE SHEET P-3.2 FOR CONTINUATION.
6. DROP NATURAL GAS LINE IN CONDUIT TO RUN BELOW GRADE. VERIFY LOCATION/ROUTING. CONDUIT/SLEEVE REQUIREMENTS PER CODE.
7. NATURAL GAS RISE TO UPPER LEVEL. VERIFY LOCATION. SEE SHEET P-3.2 FOR CONTINUATION.
8. PROVIDE NATURAL GAS STUB-OUT AND CAP FOR FUTURE CONNECTION.
9. CONNECT TO GENERATOR (2400 MBH) COORDINATE LOCATION WITH EQUIPMENT.

NATURAL GAS NOTES:
MAIN NATURAL GAS PRESSURE TO BE AT 2 PSI. PROVIDE PROPER LABELING ON ALL GAS PIPING. NATURAL GAS LINES MAY NOT BE UNNECESSARILY EXPOSED. EXPOSED LINES SHALL BE INSTALLED SO THEY DO NOT OBSTRUCT OR PREVENT CLEANING OF THE FLOORS, WALLS, OR CEILINGS. EXPOSED HORIZONTAL LINES MAY NOT BE INSTALLED ON THE FLOOR. PROVIDE ANY STAND-OFFS AS REQUIRED PER HEALTH DEPARTMENT. RUN LINES TIGHT AND CONCEALED UNDER ALL EQUIPMENT, OR TIGHT TO/IN WALLS AS REQUIRED. ALL SHUT-OFF VALVES, HOOD FIRE SUPPRESSION VALVES, AND REGULATORS MUST BE ACCESSIBLE. PAINT ANY INTERIOR OR EXTERIOR EXPOSED GAS LINES PER CODE AND BUILDING STANDARD. PROVIDE PROPER STAND-OFFS/SUPPORTS FOR GAS LINES ON ROOF/EXTERIOR WALLS, BELOW ROOF, ETC. PROPERLY SEAL ROOF/EXT. WALL PENETRATIONS SO AS NOT TO VOID ANY EXISTING WARRANTIES. RUN HOOD MANIFOLD LINE ABOVE FLOOR WITH PROPER STAND-OFFS. PROVIDE STAINLESS STEEL SHROUD OVER MANIFOLD IF REQUIRED BY AHJ. PROVIDE AUTO SHUT-OFF VALVE FOR HOOD FIRE SUPPRESSION SYSTEM. PROVIDE PROPER CARBON MONOXIDE DETECTOR(S) IF/AS REQUIRED.

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FIRST FLOOR WATER/NATURAL GAS PLAN

20010

ISSUED:	01/29/2021
DWG BY:	DS
CKD BY:	BEB
REVISIONS	

SHEET NO. P-3.1

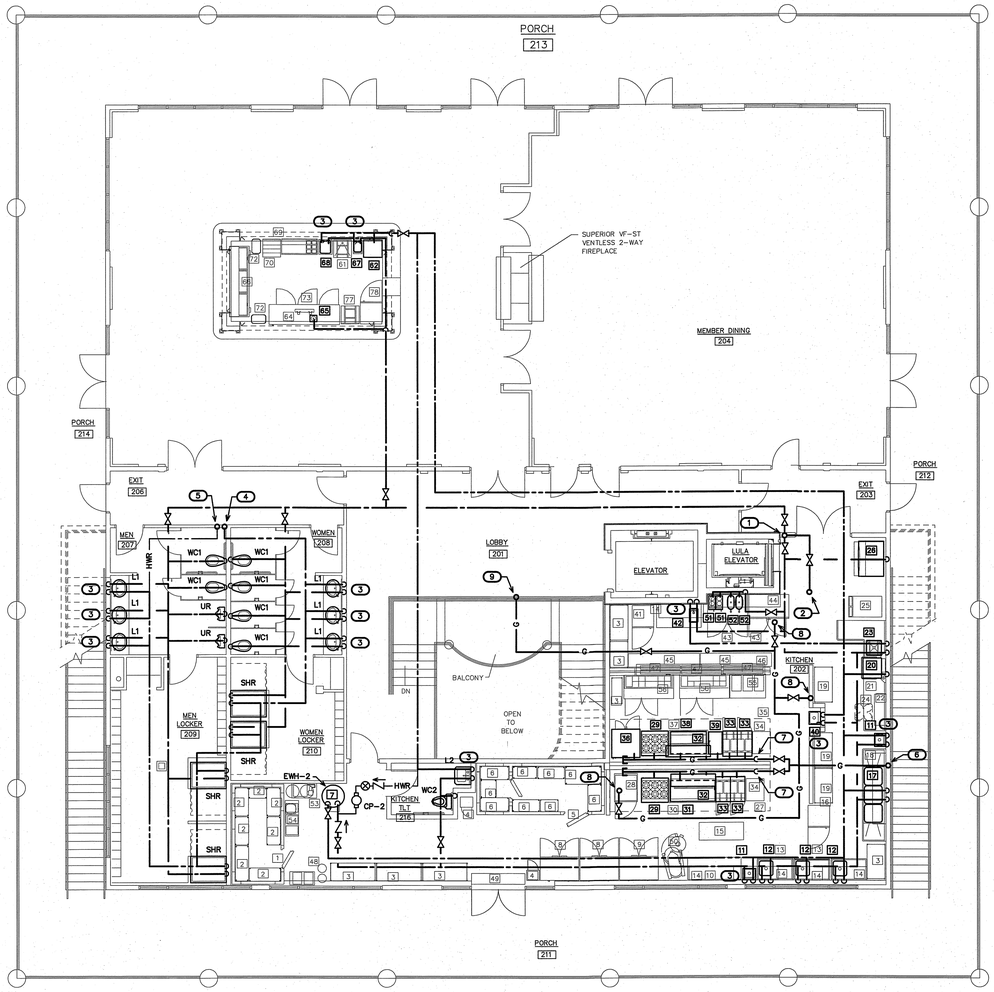
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(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

Morehead Country Club P3.2 EQUIPMENT SCHEDULE

ITEM	QUAN	DESCRIPTION	UTILITY CONNECTIONS			
			WASTE	HW	CW	GAS (BTUH)
1	1	WALK-IN BEER COOLER				
2	LOT	WALK-IN SHELVING				
3	LOT	FREESTANDING WIRE DRY STORAGE SHELVING				
4	2	EMPLOYEE LOCKERS				
5	1	WALK-IN COOLER/FREEZER COMBO				
6	LOT	WALK-IN SHELVING				
7	**1**	**WATER HEATER- 2ND FLOOR KITCHEN/BAR (EWH-2)**	**1"**	**1-1/4"**	**1-1/4"**	
8	2	2-DOOR REACH-IN REFRIG				
9	1	2-DOOR REACH-IN FREEZER				
10	1	WORKTABLE W/ UNDERSHELF (30X48)				
11	**2**	**WALL-MOUNT HANDSINK W/ SPLASHGUARDS**	**1-1/2"**	**1/2"**	**1/2"**	
12	**3**	**PREP SINK**	**1-1/2"**	**1/2"**	**1/2"**	
13	2	WALL-MOUNT SPLASHGUARDS				
14	5	WALL-MOUNT SHELF (18X60)				
15	1	WORKTABLE W/ UNDERSHELF (24X60)				
16	1	1-DOOR REFRIG				
17	**1**	**3-COMP SINK W/ 24" DRAINBOARDS**	**1-1/2"**	**1/2"**	**1/2"**	
18	1	WALL-MOUNT SHELF W/ POT RACK (15X96)				
19	LOT	FREESTANDING WIRE DRYING RACKS				
20	**1**	**HIGH TEMP DISHMACHINE W/ VAPORVENT SYSTEM**	**2"**	**1/2"***	**3/8"***	
21	1	72" CLEAN RIGHT-HAND DISHTABLE				
22	1	42" WALL-MOUNT RACK SHELF				
23	**1**	**SOILED LEFT HAND DISHTABLE W/PRE-RINSE SINK**	**1-1/2"**	**1/2"***	**1/2"***	
24	1	DISH CADDY ON CASTERS				
25	1	UTILITY CART ON CASTERS				
26	**1**	**ICE MACHINE W/ BIN**	**1/2",3/4"**		**3/8"***	
27	1	18' EXHAUST HOOD W/ REMOTE ANSUL				
28	1	COOK & HOLD CABINET (ELEC)				
29	**2**	**6-BURNER RANGE WITH OVEN (GAS)**				**227,000**
30	1	62" REFRIG CHEF BASE				
31	**1**	**60" FLAT GRIDDLE (GAS)**				**150,000**
32	**2**	**60" SALAMANDER BROILER (GAS)**				**35,000**
33	**4**	**DEEP FRYER (GAS)**				**200,000**
34	2	BREADING STATION				
35	1	18' EXHAUST HOOD W/ REMOTE ANSUL				
36	**1**	**DOUBLE CONVECTION OVEN (GAS)**				**110,000 (TOT.)**
37	1	52" REFRIG. CHEF BASE				
38	**1**	**48" FLAT GRIDDLE (GAS)**				**120,000**
39	**1**	**BROASTER PRESSURE DEEP FRYER (GAS)**				**65,000**
40	**1**	**WALL-MOUNT HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
41	1	1-DOOR REACH-IN FREEZER				
42	**1**	**WORKTABLE W/ DROP-IN HAND SINK (30X60)**	**1-1/2"**	**1/2"**	**1/2"**	
43	2	2-DOOR WORKTOP REFRIG				
44	1	WALL-MOUNT SHELF (15X96)				
45	2	LOW DISH SHELVING (18X96)				
46	2	PASSTHRU SHELF W/ OVERSHELF (15X144)				
47	3	48" IR HEAT LAMP				
48	1	BAG-IN-BOX W/ CARBON DIOXIDE CANISTERS				
49	1	72" INTERIOR MOUNT FLY FAN				
50	1	40 QT MIXER				
51	**2**	**COFFEE BREWER**			**1/4"***	
52	**2**	**TEA BREWER / URN**			**1/4"***	
53	1	DRAFT BEER REFRIG LINE / GLYCOL CHILLER				
54	1	NITROGEN GENERATOR W/ TANK				
55	**1**	**3 WELL HOT HOLDING TABLE**	**1"**			
56	2	REF. PREP TABLE				
57	–	NOT USED				
58	–	NOT USED				
59	–	NOT USED				
60	–	NOT USED				
61	**2**	**S/S SOILED GLASS RACK STORAGE**	**1"**			
62	**2**	**UNDERCOUNTER GLASS WASHER**	**1"**	**3/4"***		
63	1	2-DOOR UC REFRIG				
64	LOT	POINT OF SALE				
65	**2**	**GLASS RINSER / DRIP TRAY**	**3/4"**		**1/2"***	
66	1	94" DEEP WELL BOTTLE COOLER				
67	**2**	**S/S BAR HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
68	**1**	**S/S 18" BAR HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
69	**1**	**S/S 48" ICE WELL W/ LIQUOR STORAGE**	**1/2"**			
70	2	S/S LIQUOR DISPLAY				
71	**1**	**S/S 36" ICE WELL W/ COLD PLATE**	**1/2"**			
72	LOT	TRASH RECEPTACLE				
73	**1**	**94" DIRECT DRAFT BEER COOLER**	**1/2"**			
74	**1**	**S/S BAR DUMP SINK**	**1-1/2"**	**1/2"**	**1/2"**	
75	1	48" DEEP WELL BOTTLE COOLER				
76	1	DRAFT BEER TOWER W/ REFRIG LINES				
77	2	S/S CLEAN GLASS RACK STORAGE				
78	1	1-DOOR WORKTOP REFRIGERATOR				

* PROVIDE BACKFLOW PREVENTER PER NCSBC-PLUMBING SECT. 608.3 (EX: ASSE 1024 (WATTS SERIES 7 OR EQUAL), ASSE 1022 (WATTS SERIES SD-3 OR EQUAL), ETC.), WHERE REQUIRED IF NOT AN INTEGRAL PART OF THE EQUIPMENT.



SECOND FLOOR WATER/ NATURAL GAS PLAN
1 / P-3.2 SCALE: 1/8"=1'-0"

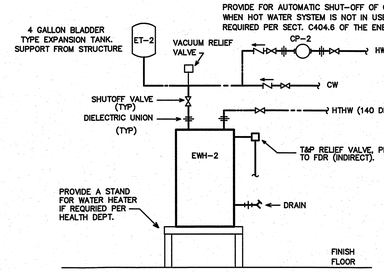
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NATURAL GAS NOTES:
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KEY NOTES FOR SHEET P-3.2

1. CW MAIN RISER DN AND UP TO ABOVE CEILING. VERIFY LOCATION.
2. RISE TO UPPER LEVEL. VERIFY LOCATION. SEE SHEET P-3.3 FOR CONTINUATION.
3. PROVIDE TMV AT SINK/LAV FOR CW AND/ OR 110 DEG. F (MAX) LTHW TO FAUCET. LOCATE TMV (NOT SHOWN) IN A PROPER MAINTENANCE ACCESSIBLE AREA BELOW FIXTURE, OR AS REQUIRED.
4. MTHW DOWN AND UP TO ABOVE CEILING. VERIFY LOCATION/ROUTING- MTHW MAY BE ROUTED BELOW FLOOR IF REQUIRED, COORDINATE W/ARCH., G.C., ALL TRADES.
5. HWR DOWN AND UP TO ABOVE CEILING. VERIFY LOCATION/ROUTING- HWR MAY BE ROUTED BELOW FLOOR IF REQUIRED, COORDINATE W/ARCH., G.C., ALL TRADES.
6. NATURAL GAS LINE DN AND UP TO ABOVE CEILING. VERIFY LOCATION.
7. DROP TO RUN MANIFOLD LINE A.F.F. BELOW HOOD. VERIFY LOCATION. PROVIDE ACCESSIBLE AUTO SHUT-OFF VALVE (NOT SHOWN), TIE IN TO (RESPECTIVE) HOOD FIRE SUPPRESSION SYSTEM. VERIFY MANIFOLD ROUTING W/TENANT, G.C.
8. RISE THRU ROOF ABOVE TO HVAC NAT. GAS EQUIPMENT ON ROOF. VERIFY LOCATION. COORDINATE WITH EQUIPMENT/MECH. PLANS. SEE SHEET P-3.3 FOR CONTINUATION.
9. RISE THRU UPPER LEVEL TO HVAC NAT. GAS EQUIPMENT ON HIGH ROOF. VERIFY LOCATION/ ROUTING TO RISE IN UPPER LEVEL WALL. SEE SHEET P-3.3 FOR CONTINUATION.

GENERAL MOUNTING SHOWN. VERIFY REQUIREMENTS WITH ARCH., COORDINATE WITH STRUCTURE/G.C.



NOTE:
WATER HEATERS, PIPING, AND PIPING APPURTENANCES PROVIDED BY P.C. WATER HEATER SUPPORTS BY P.C.

2 / P-3.2 EWH-2 DETAIL
SCALE: NTS

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MOREHEAD CITY COUNTRY CLUB
CLUBHOUSE
MOREHEAD CITY, NORTH CAROLINA

1/29/21
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E BURKE

SECOND FLOOR WATER/NATURAL GAS PLAN

20010
ISSUED: 01/29/2021
DWG BY: DS
CKD BY: BEB
REVISIONS

SHEET NO.
P-3.2

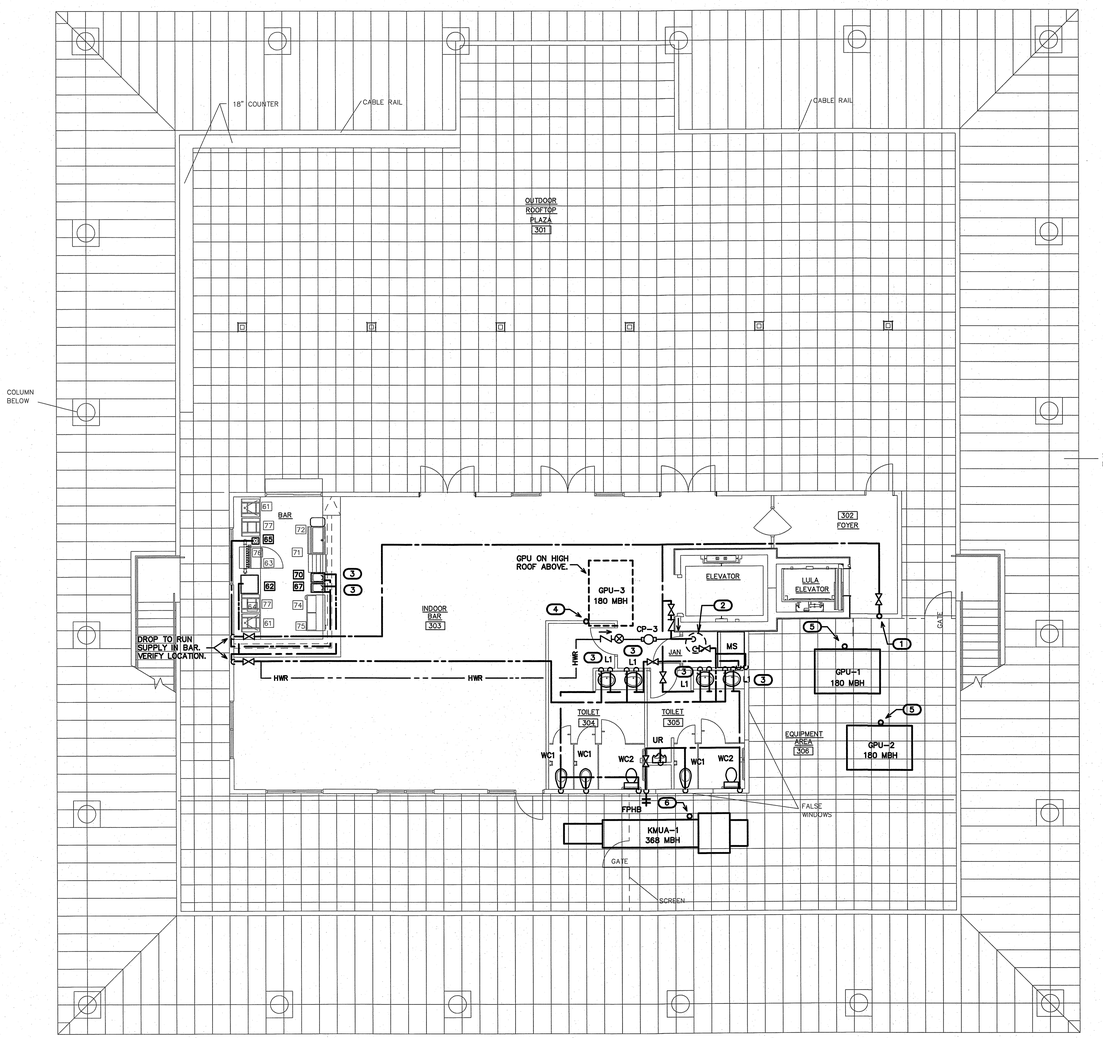
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(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

Morehead Country Club P3.3 **EQUIPMENT SCHEDULE**

ITEM	QUAN	DESCRIPTION	UTILITY CONNECTIONS			
			WASTE	HW	CW	GAS (BTUH)
61	2	S/S SOILED GLASS RACK STORAGE	1"			
62	2	UNDERCOUNTER GLASS WASHER	1"	3/4"*	*	
63	1	2-DOOR UC REFRIG				
64	LOT	POINT OF SALE				
65	2	GLASS RINSER / DRIP TRAY	3/4"		1/2"*	
66	1	94" DEEP WELL BOTTLE COOLER				
67	2	S/S BAR HAND SINK	1-1/2"	1/2"	1/2"	
68	1	S/S 18" BAR HAND SINK	1-1/2"	1/2"	1/2"	
69	1	S/S 48" ICE WELL W/ LIQUOR STORAGE	1/2"			
70	2	S/S LIQUOR DISPLAY				
71	1	S/S 36" ICE WELL W/ COLD PLATE	1/2"			
72	LOT	TRASH RECEPTACLE				
73	1	94" DIRECT DRAFT BEER COOLER	1/2"			
74	1	S/S BAR DUMP SINK	1-1/2"	1/2"	1/2"	
75	1	48" DEEP WELL BOTTLE COOLER				
76	1	DRAFT BEER TOWER W/ REFRIG LINES				
77	2	S/S CLEAN GLASS RACK STORAGE				
78	1	1-DOOR WORKTOP REFRIGERATOR				

* PROVIDE BACKFLOW PREVENTER PER NCSBC-PLUMBING SECT. 608.3 (EX: ASSE 1024 (WATTS SERIES 7 OR EQUAL), ASSE 1022 (WATTS SERIES SD-3 OR EQUAL), ETC.), WHERE REQUIRED IF NOT AN INTEGRAL PART OF THE EQUIPMENT.



1 P-3.3 **ROOF TOP WATER PLAN**
SCALE: 1/8"=1'-0"

WATER NOTES:
WATER PIPING SHALL NOT BE UNNECESSARILY EXPOSED. EXPOSED LINES SHALL BE INSTALLED SO THEY DO NOT OBSTRUCT OR PREVENT CLEANING OF THE FLOORS, WALLS, OR CEILINGS. EXPOSED HORIZONTAL LINES MAY NOT BE INSTALLED ON THE FLOOR. PROVIDE ANY STAND-OFFS AS REQUIRED PER HEALTH DEPARTMENT. RUN LINES TIGHT AND CONCEALED UNDER BAR/EQUIPMENT, OR IN HALF WALL AS REQUIRED. PROPERLY PROTECT/INSULATE ALL PIPING IN UNCONDITIONED AREAS.VERIFY ROUTING OF ALL WATER LINES W/OWNER AND ARCH. ALL LINES, VALVES, CP, ETC., SHOWN FOR CLARITY- VERIFY LOCATIONS OF ALL COMPONENTS. COORDINATE WITH OWNER, ARCH., G.C., ALL TRADES.

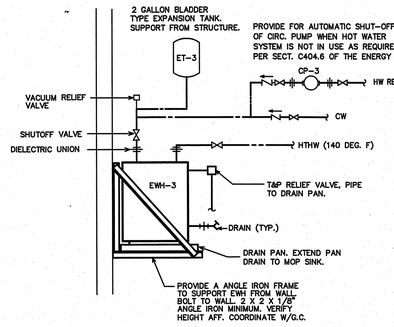
VERIFY QUANTITY AND MOUNTING LOCATION OF FPHB W/OWNER, ARCH. (TYP)

KEY NOTES FOR SHEET P-3.3

1. CW MAIN RISER DN AND UP TO ABOVE CEILING. VERIFY LOCATION.
2. EWH-3 ABOVE MOP SINK SHOWN FOR CLARITY. VERIFY LOCATION.
3. PROVIDE TMV AT SINK/LAV FOR CW AND/OR 110 DEG. F (MAX) LTHW TO FAUCET. LOCATE TMV (NOT SHOWN) IN A PROPER MAINTENANCE ACCESSIBLE AREA BELOW FIXTURE, OR AS REQUIRED.
4. ROUTE NATURAL GAS LINE FROM BELOW FLOOR UP THRU HIGH ROOF, CONNECT TO HVAC GAS PACKAGE UNIT (GPU). VERIFY LOCATION, COORDINATE W/EQUIPMENT, MECH. PLANS. PROPERLY SEAL ROOF PENETRATION.
5. CONNECT NATURAL GAS LINE FROM BELOW TO GPU ON ROOF. VERIFY LOCATION, COORDINATE WITH EQUIPMENT/MECH. PLANS. PROPERLY SEAL ROOF PENETRATION.
6. CONNECT NATURAL GAS LINE FROM BELOW TO HVAC KITCHEN MAKE-UP AIR UNIT (KMUA) ON ROOF. VERIFY LOCATION, COORDINATE WITH EQUIPMENT/MECH. PLANS. PROPERLY SEAL ROOF PENETRATION.

NATURAL GAS NOTES:
MAIN NATURAL GAS PRESSURE TO BE AT 2 PSI. PROVIDE PROPER LABELING ON ALL GAS PIPING. NATURAL GAS LINES MAY NOT BE UNNECESSARILY EXPOSED. EXPOSED LINES SHALL BE INSTALLED SO THEY DO NOT OBSTRUCT OR PREVENT CLEANING OF THE FLOORS, WALLS, OR CEILINGS. EXPOSED HORIZONTAL LINES MAY NOT BE INSTALLED ON THE FLOOR. PROVIDE ANY STAND-OFFS AS REQUIRED PER HEALTH DEPARTMENT. RUN LINES TIGHT AND CONCEALED UNDER ALL EQUIPMENT, OR TIGHT TO/IN WALLS AS REQUIRED. ALL SHUT-OFF VALVES, HOOD FIRE SUPPRESSION VALVES, AND REGULATORS MUST BE ACCESSSIBLE. PAINT ANY INTERIOR OR EXTERIOR EXPOSED GAS LINES PER CODE AND BUILDING STANDARD. PROVIDE PROPER STAND-OFFS/SUPPORTS FOR GAS LINES ON ROOF/EXTERIOR WALLS, BELOW ROOF, ETC. PROPERLY SEAL ROOF/EXT. WALL PENETRATIONS SO AS NOT TO VOID ANY EXISTING WARRANTIES. RUN HOOD MANIFOLD LINE ABOVE FLOOR WITH PROPER STAND-OFFS. PROVIDE STAINLESS STEEL SHROUD OVER MANIFOLD IF REQUIRED BY AHJ. PROVIDE AUTO SHUT-OFF VALVE FOR HOOD FIRE SUPPRESSION SYSTEM. PROVIDE PROPER CARBON MONOXIDE DETECTOR(S) IF/AS REQUIRED.

GENERAL MOUNTING SHOWN. VERIFY REQUIREMENTS WITH ARCH., COORDINATE WITH STRUCTURE/G.C.



NOTE:
WATER HEATERS, PIPING, AND PIPING APPURTENANCES PROVIDED BY P.C. WATER HEATER SUPPORTS BY P.C.

2 P-3.3 **EWH-3 DETAIL**
SCALE: NTS

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MOREHEAD CITY COUNTRY CLUB CLUBHOUSE
MOREHEAD CITY, NORTH CAROLINA

1/28/21
NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE

ROOF TOP WATER PLAN

20010

ISSUED:	01/29/2021
DWG BY:	DS
CKD BY:	BEB
REVISIONS	

SHEET NO.
P-3.3

(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

Morehead Country Club P4 EQUIPMENT SCHEDULE

ITEM	QUAN	DESCRIPTION	UTILITY CONNECTIONS			
			WASTE	HW	CW	GAS (BTUH)
1	1	WALK-IN BEER COOLER				
2	LOT	WALK-IN SHELVING				
3	LOT	FREESTANDING WIRE DRY STORAGE SHELVING				
4	2	EMPLOYEE LOCKERS				
5	1	WALK-IN COOLER/FREEZER COMBO				
6	LOT	WALK-IN SHELVING				
7	**1**	**WATER HEATER- 2ND FLOOR KITCHEN/BAR (EWH-2)**	**1"**	**1-1/4"**	**1-1/4"**	
8	2	2-DOOR REACH-IN REFRIG				
9	1	2-DOOR REACH-IN FREEZER				
10	1	WORKTABLE W/ UNDERSHELF (30X48)				
11	**2**	**WALL-MOUNT HANDSINK W/ SPLASHGUARDS**	**1-1/2"**	**1/2"**	**1/2"**	
12	**3**	**PREP SINK**	**1-1/2"**	**1/2"**	**1/2"**	
13	2	WALL-MOUNT SPLASHGUARDS				
14	5	WALL-MOUNT SHELF (18X60)				
15	1	WORKTABLE W/ UNDERSHELF (24X60)				
16	1	1-DOOR REFRIG				
17	**1**	**3-COMP SINK W/ 24" DRAINBOARDS**	**1-1/2"**	**1/2"**	**1/2"**	
18	1	WALL-MOUNT SHELF W/ POT RACK (15X96)				
19	LOT	FREESTANDING WIRE DRYING RACKS				
20	**1**	**HIGH TEMP DISHMACHINE W/ VAPORVENT SYSTEM**	**2"**	**1/2" ***	**3/8" ***	
21	1	72" CLEAN RIGHT-HAND DISHTABLE				
22	1	42" WALL-MOUNT RACK SHELF				
23	**1**	**SOILED LEFT HAND DISHTABLE W/PRE-RINSE SINK**	**1-1/2"**	**1/2" ***	**1/2" ***	
24	1	DISH CADDY ON CASTERS				
25	1	UTILITY CART ON CASTERS				
26	**1**	**ICE MACHINE W/ BIN**	**1/2",3/4"**		**3/8" ***	
27	1	18' EXHAUST HOOD W/ REMOTE ANSUL				
28	1	COOK & HOLD CABINET (ELEC)				
29	**2**	**6-BURNER RANGE WITH OVEN (GAS)**				**227,000**
30	1	62" REFRIG CHEF BASE				
31	**1**	**60" FLAT GRIDDLE (GAS)**				**150,000**
32	**2**	**60" SALAMANDER BROILER (GAS)**				**35,000**
33	**4**	**DEEP FRYER (GAS)**				**200,000**
34	2	BREADING STATION				
35	1	18' EXHAUST HOOD W/ REMOTE ANSUL				
36	**1**	**DOUBLE CONVECTION OVEN (GAS)**				**110,000 (TOT.)**
37	1	52" REFRIG. CHEF BASE				
38	**1**	**48" FLAT GRIDDLE (GAS)**				**120,000**
39	**1**	**BROASTER PRESSURE DEEP FRYER (GAS)**				**65,000**
40	**1**	**WALL-MOUNT HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
41	1	1-DOOR REACH-IN FREEZER				
42	**1**	**WORKTABLE W/ DROP-IN HAND SINK (30X60)**	**1-1/2"**	**1/2"**	**1/2"**	
43	2	2-DOOR WORKTOP REFRIG				
44	1	WALL-MOUNT SHELF (15X96)				
45	2	LOW DISH SHELVING (18X96)				
46	2	PASSTHRU SHELF W/ OVERSHELF (15X144)				
47	3	48" IR HEAT LAMP				
48	1	BAG-IN-BOX W/ CARBON DIOXIDE CANISTERS				
49	1	72" INTERIOR MOUNT FLY FAN				
50	1	40 QT MIXER				
51	**2**	**COFFEE BREWER**			**1/4" ***	
52	**2**	**TEA BREWER / URN**			**1/4" ***	
53	1	DRAFT BEER REFRIG LINE / GLYCOL CHILLER				
54	1	NITROGEN GENERATOR W/ TANK				
55	**1**	**3 WELL HOT HOLDING TABLE**	**1"**			
56	2	REF. PREP TABLE				
57	–	NOT USED				
58	–	NOT USED				
59	–	NOT USED				
60	–	NOT USED				
61	**2**	**S/S SOILED GLASS RACK STORAGE**	**1"**			
62	**2**	**UNDERCOUNTER GLASS WASHER**	**1"**	**3/4" ***		
63	1	2-DOOR UC REFRIG				
64	LOT	POINT OF SALE				
65	**2**	**GLASS RINSER / DRIP TRAY**	**3/4"**		**1/2" ***	
66	1	94" DEEP WELL BOTTLE COOLER				
67	**2**	**S/S BAR HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
68	**1**	**S/S 18" BAR HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
69	**1**	**S/S 48" ICE WELL W/ LIQUOR STORAGE**	**1/2"**			
70	2	S/S LIQUOR DISPLAY				
71	**1**	**S/S 36" ICE WELL W/ COLD PLATE**	**1/2"**			
72	LOT	TRASH RECEPTACLE				
73	**1**	**94" DIRECT DRAFT BEER COOLER**	**1/2"**			
74	**1**	**S/S BAR DUMP SINK**	**1-1/2"**	**1/2"**	**1/2"**	
75	1	48" DEEP WELL BOTTLE COOLER				
76	1	DRAFT BEER TOWER W/ REFRIG LINES				
77	2	S/S CLEAN GLASS RACK STORAGE				
78	1	1-DOOR WORKTOP REFRIGERATOR				

* PROVIDE BACKFLOW PREVENTER PER NCSBC-PLUMBING SECT. 608.3 (EX: ASSE 1024 (WATTS SERIES 7 OR EQUAL), ASSE 1022 (WATTS SERIES SD-3 OR EQUAL), ETC.), WHERE REQUIRED IF NOT AN INTEGRAL PART OF THE EQUIPMENT.

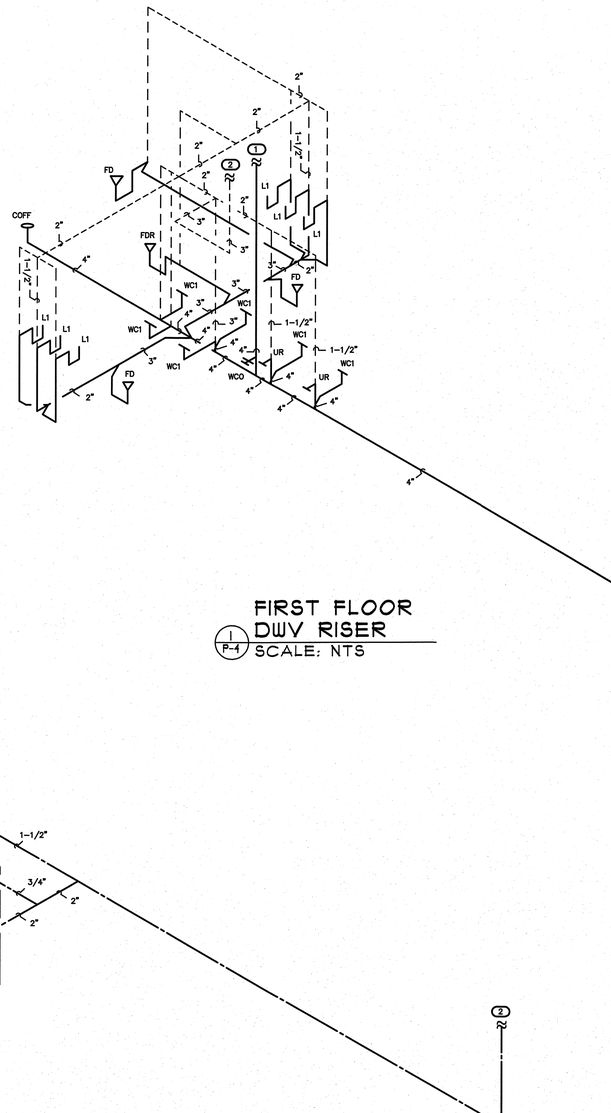
(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

PIPE SIZING SCHEDULE

FIXTURE TYPE	DRAIN	VENT	CW	HW
(FD/FDR) FLOOR DRAIN	3"	1 1/2"	–	–
(FS-1) FLOOR SINK #1	4"	2"	–	–
(FS-2 THRU 4) FLOOR SINK #2-4	3"	1 1/2"	–	–
(FS-5 THRU 13) FLOOR SINK #5-13	2"	1 1/4"	–	–
(FPHB) FREEZE PROOF HOSE BIBB	–	–	1/2"	–
(HS) HAND/BAR SINK	1 1/2"	1 1/4"	1/2"	1/2"
(L1/L2) LAVATORY	1 1/2"	1 1/4"	1/2"	1/2"
(MS) MOP SINK/CAN WASH	–	–	1/2"	1/2"
(SHR) SHOWER	–	–	1/2"	1/2"
(UR) URINAL	2"	1 1/2"	3/4"	–
(WC1) FLUSH VALVE WATER CLOSET	3"	1 1/2"	1"	–
(WC2) FLUSH TANK WATER CLOSET	3"	1 1/2"	1/2"	–

DWV/WATER RISER NOTES:

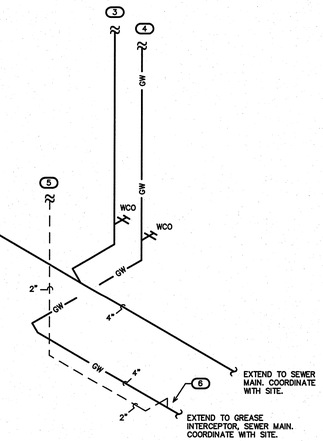
REPRESENTATIVE SIZES ARE GIVEN FOR EACH TYPE OF FIXTURE. SEE EQUIPMENT OR PIPE SIZING SCHEDULE.
MINIMUM 2" DRAIN LINE SIZE UNDER SLAB.
MAINTAIN PIPE SIZES SHOWN UNTIL LARGER SIZE IS REACHED.
PIPE SIZES ARE MINIMUMS FOR INDIVIDUAL FIXTURES U.O.N.



FIRST FLOOR DWV RISER
1/P-4 SCALE: NTS

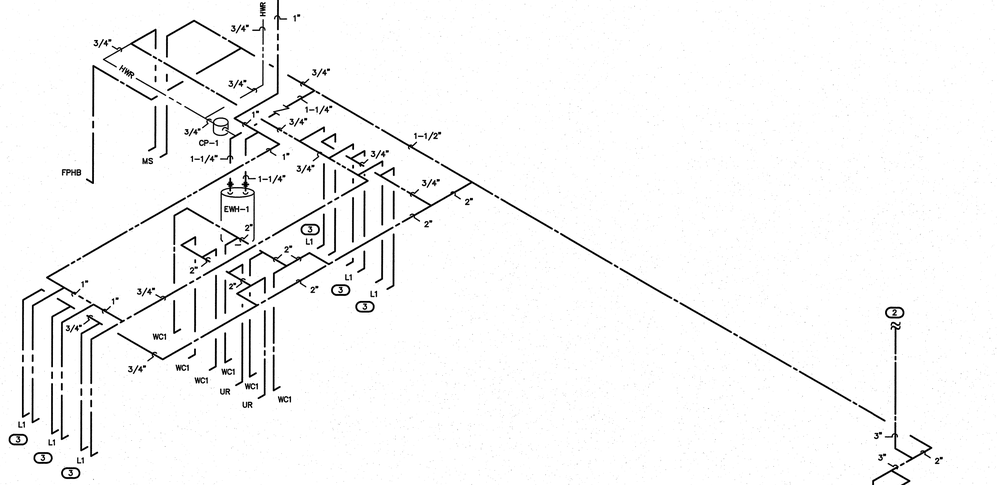
KEY NOTES FOR DRAWING 1/P-4

1. 4" W UP TO ABOVE CEILING/BELOW 2ND FLOOR. SEE SHEET P-5 FOR CONTINUATION.
2. EXTEND 3" VENT ABOVE CEILING TO RISE IN 2ND FLOOR WALL. SEE SHEET P-5 FOR CONTINUATION.
3. 4" W UP TO ABOVE CEILING/BELOW 2ND FLOOR. SEE SHEET P-5 FOR CONTINUATION.
4. 4" GW UP TO ABOVE CEILING/BELOW 2ND FLOOR. SEE SHEET P-5 FOR CONTINUATION.
5. 2" V FOR GREASE INTERCEPTOR UP. SEE SHEET P-5 FOR CONTINUATION.
6. CONNECT 2" VENT WITHIN 16'-0" OF GREASE INTERCEPTOR INLET. INSTALL PER NCSBC-PLUMB., AND CODE SECT. 905.



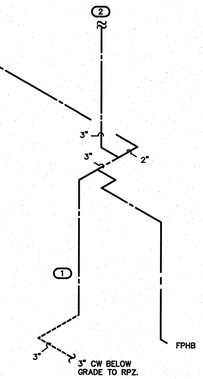
EXTEND TO SEWER MAIN. COORDINATE WITH SITE.

EXTEND TO GREASE INTERCEPTOR, SEWER MAIN. COORDINATE WITH SITE.



NOTE:
SEE PLAN FOR SHUT-OFF VALVE LOCATIONS. COORDINATE LOCATION AND NUMBER WITH LOCAL INSPECTIONS DEPARTMENT. PROVIDE ACCESS DOORS IF REQUIRED.

FIRST FLOOR WATER RISER
2/P-4 SCALE: NTS



KEY NOTES FOR DRAWING 2/P-4

1. CW RISE TO MAIN SHUT-OFF VALVE A.F.F., RISE TO RUN ABOVE CEILING.
2. CW RISE TO UPPER LEVEL. SEE SHEET P-5 FOR CONTINUATION.
3. PROVIDE TMV AT SINK/LAV FOR CW AND/OR 110 DEG. F (MAX) LTHW TO FAUCET. LOCATE TMV (NOT SHOWN) IN A PROPER MAINTENANCE ACCESSIBLE AREA BELOW FIXTURE, OR AS REQUIRED.
4. MTHW RISE TO UPPER LEVEL. SEE SHEET P-5 FOR CONTINUATION.
5. HWR FROM UPPER LEVEL. SEE SHEET P-5 FOR CONTINUATION.

Coastal Architecture PLLC

Architectural Design Planning Interiors

AIA

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MOREHEAD CITY COUNTRY CLUB CLUBHOUSE

MOREHEAD CITY, NORTH CAROLINA

1/22/21

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE

FIRST FLOOR DWV/WATER RISER

20010

ISSUED: 01/29/2021
DWG BY: DS
CKD BY: BEB
REVISIONS

SHEET NO.
P-4

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(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

Morehead Country Club P5 EQUIPMENT SCHEDULE

ITEM	QUAN	DESCRIPTION	UTILITY CONNECTIONS			
			WASTE	HW	CW	GAS (BTUH)
1	1	WALK-IN BEER COOLER				
2	LOT	WALK-IN SHELVING				
3	LOT	FREESTANDING WIRE DRY STORAGE SHELVING				
4	2	EMPLOYEE LOCKERS				
5	1	WALK-IN COOLER/FREEZER COMBO				
6	LOT	WALK-IN SHELVING				
7	**1**	**WATER HEATER- 2ND FLOOR KITCHEN/BAR (EWH-2)**	**1"**	**1-1/4"**	**1-1/4"**	
8	2	2-DOOR REACH-IN REFRIG				
9	1	2-DOOR REACH-IN FREEZER				
10	1	WORKTABLE W/ UNDERSHELF (30X48)				
11	**2**	**WALL-MOUNT HANDSINK W/ SPLASHGUARDS**	**1-1/2"**	**1/2"**	**1/2"**	
12	**3**	**PREP SINK**	**1-1/2"**	**1/2"**	**1/2"**	
13	2	WALL-MOUNT SPLASHGUARDS				
14	5	WALL-MOUNT SHELF (18X60)				
15	1	WORKTABLE W/ UNDERSHELF (24X60)				
16	1	1-DOOR REFRIG				
17	**1**	**3-COMP SINK W/ 24" DRAINBOARDS**	**1-1/2"**	**1/2"**	**1/2"**	
18	1	WALL-MOUNT SHELF W/ POT RACK (15X96)				
19	LOT	FREESTANDING WIRE DRYING RACKS				
20	**1**	**HIGH TEMP DISHMACHINE W/ VAPORVENT SYSTEM**	**2"**	**1/2" ***	**3/8" ***	
21	1	72" CLEAN RIGHT-HAND DISHTABLE				
22	1	42" WALL-MOUNT RACK SHELF				
23	**1**	**SOILED LEFT HAND DISHTABLE W/PRE-RINSE SINK**	**1-1/2"**	**1/2" ***	**1/2" ***	
24	1	DISH CADDY ON CASTERS				
25	1	UTILITY CART ON CASTERS				
26	**1**	**ICE MACHINE W/ BIN**	**1/2",3/4"**		**3/8" ***	
27	1	18' EXHAUST HOOD W/ REMOTE ANSUL				
28	1	COOK & HOLD CABINET (ELEC)				
29	**2**	**6-BURNER RANGE WITH OVEN (GAS)**				**227,000**
30	1	62" REFRIG CHEF BASE				
31	**1**	**60" FLAT GRIDDLE (GAS)**				**150,000**
32	**2**	**60" SALAMANDER BROILER (GAS)**				**35,000**
33	**4**	**DEEP FRYER (GAS)**				**200,000**
34	2	BREADING STATION				
35	1	18' EXHAUST HOOD W/ REMOTE ANSUL				
36	**1**	**DOUBLE CONVECTION OVEN (GAS)**				**110,000 (TOT.)**
37	1	52" REFRIG. CHEF BASE				
38	**1**	**48" FLAT GRIDDLE (GAS)**				**120,000**
39	**1**	**BROASTER PRESSURE DEEP FRYER (GAS)**				**65,000**
40	**1**	**WALL-MOUNT HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
41	1	1-DOOR REACH-IN FREEZER				
42	**1**	**WORKTABLE W/ DROP-IN HAND SINK (30X60)**	**1-1/2"**	**1/2"**	**1/2"**	
43	2	2-DOOR WORKTOP REFRIG				
44	1	WALL-MOUNT SHELF (15X96)				
45	2	LOW DISH SHELVING (18X96)				
46	2	PASSTHRU SHELF W/ OVERSHELF (15X144)				
47	3	48" IR HEAT LAMP				
48	1	BAG-IN-BOX W/ CARBON DIOXIDE CANISTERS				
49	1	72" INTERIOR MOUNT FLY FAN				
50	1	40 QT MIXER				
51	**2**	**COFFEE BREWER**			**1/4" ***	
52	**2**	**TEA BREWER / URN**			**1/4" ***	
53	1	DRAFT BEER REFRIG LINE / GLYCOL CHILLER				
54	1	NITROGEN GENERATOR W/ TANK				
55	**1**	**3 WELL HOT HOLDING TABLE**	**1"**			
56	2	REF. PREP TABLE				
57	--	NOT USED				
58	--	NOT USED				
59	--	NOT USED				
60	--	NOT USED				
61	**2**	**S/S SOILED GLASS RACK STORAGE**	**1"**			
62	**2**	**UNDERCOUNTER GLASS WASHER**	**1"**	**3/4" ***		
63	1	2-DOOR UC REFRIG				
64	LOT	POINT OF SALE				
65	**2**	**GLASS RINSER / DRIP TRAY**	**3/4"**		**1/2" ***	
66	1	94" DEEP WELL BOTTLE COOLER				
67	**2**	**S/S BAR HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
68	**1**	**S/S 18" BAR HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
69	**1**	**S/S 48" ICE WELL W/ LIQUOR STORAGE**	**1/2"**			
70	2	S/S LIQUOR DISPLAY				
71	**1**	**S/S 36" ICE WELL W/ COLD PLATE**	**1/2"**			
72	LOT	TRASH RECEPTACLE				
73	**1**	**94" DIRECT DRAFT BEER COOLER**	**1/2"**			
74	**1**	**S/S BAR DUMP SINK**	**1-1/2"**	**1/2"**	**1/2"**	
75	1	48" DEEP WELL BOTTLE COOLER				
76	1	DRAFT BEER TOWER W/ REFRIG LINES				
77	2	S/S CLEAN GLASS RACK STORAGE				
78	1	1-DOOR WORKTOP REFRIGERATOR				

* PROVIDE BACKFLOW PREVENTER PER NCSBC-PLUMBING SECT. 608.3 (EX: ASSE 1024 (WATTS SERIES 7 OR EQUAL), ASSE 1022 (WATTS SERIES SD-3 OR EQUAL), ETC.), WHERE REQUIRED IF NOT AN INTEGRAL PART OF THE EQUIPMENT.

(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

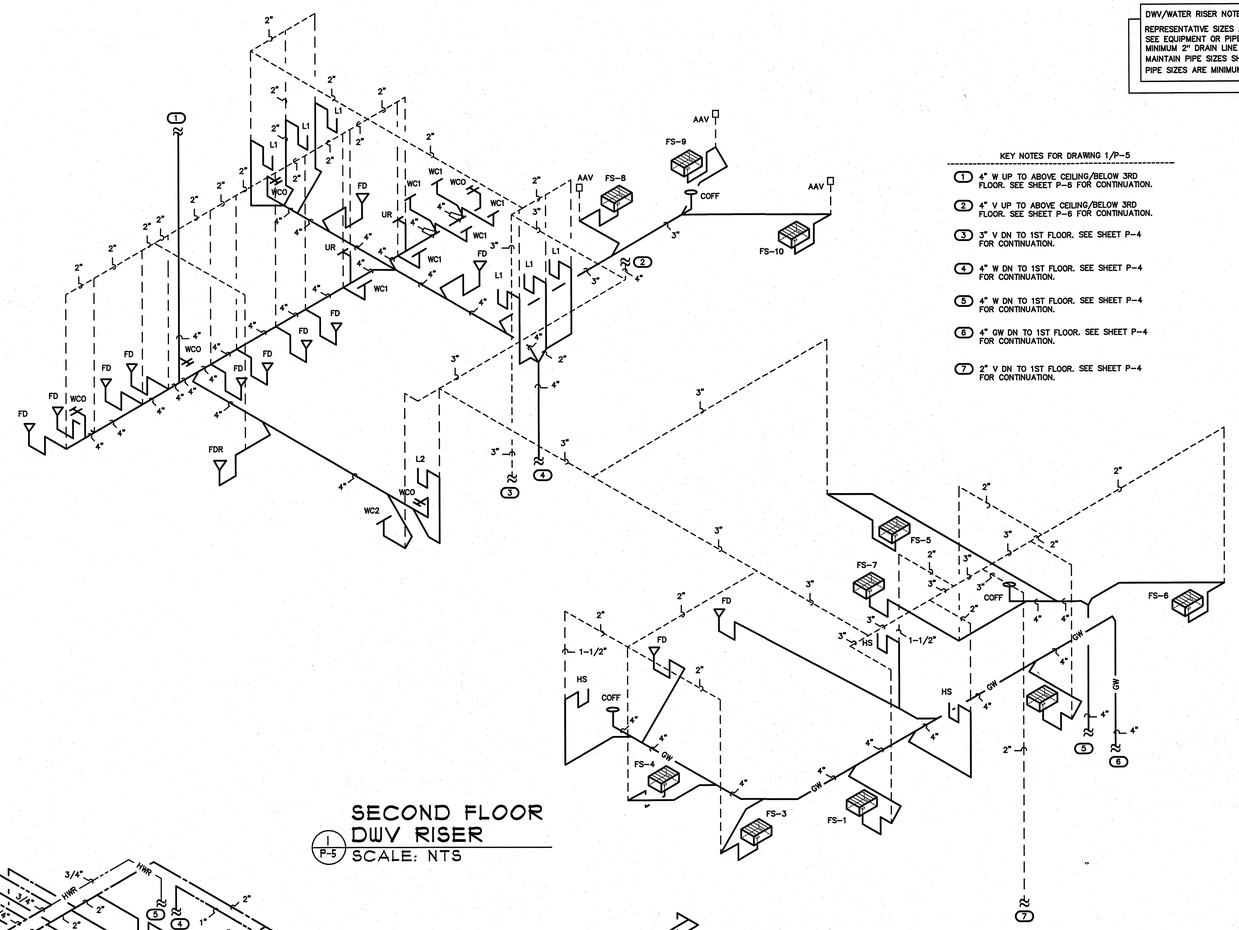
PIPE SIZING SCHEDULE

FIXTURE TYPE	DRAIN	VENT	CW	HW
(FD/FDR) FLOOR DRAIN	3"	1 1/2"	-	-
(FS-1) FLOOR SINK #1	4"	2"	-	-
(FS-2 THRU 4) FLOOR SINK #2-4	3"	1 1/2"	-	-
(FS-5 THRU 13) FLOOR SINK #5-13	2"	1 1/4"	-	-
(FPHB) FREEZE PROOF HOSE BIBB	-	-	1/2"	-
(HS) HAND/BAR SINK	1 1/2"	1 1/4"	1/2"	1/2"
(L1/L2) LAVATORY	1 1/2"	1 1/4"	1/2"	1/2"
(MS) MOP SINK/CAN WASH	-	-	1/2"	1/2"
(SHR) SHOWER	-	-	1/2"	1/2"
(UR) URINAL	2"	1 1/2"	3/4"	-
(WC1) FLUSH VALVE WATER CLOSET	3"	1 1/2"	1"	-
(WC2) FLUSH TANK WATER CLOSET	3"	1 1/2"	1/2"	-

DWV/WATER RISER NOTES:
REPRESENTATIVE SIZES ARE GIVEN FOR EACH TYPE OF FIXTURE. SEE EQUIPMENT OR PIPE SIZING SCHEDULE.
MINIMUM 2" DRAIN LINE SIZE UNDER SLAB.
MAINTAIN PIPE SIZES SHOWN UNTIL LARGER SIZE IS REACHED.
PIPE SIZES ARE MINIMUMS FOR INDIVIDUAL FIXTURES U.O.N.

KEY NOTES FOR DRAWING 1/P-5

1. 4" W UP TO ABOVE CEILING/BELOW 3RD FLOOR. SEE SHEET P-6 FOR CONTINUATION.
2. 4" V UP TO ABOVE CEILING/BELOW 3RD FLOOR. SEE SHEET P-6 FOR CONTINUATION.
3. 3" V DN TO 1ST FLOOR. SEE SHEET P-4 FOR CONTINUATION.
4. 4" W DN TO 1ST FLOOR. SEE SHEET P-4 FOR CONTINUATION.
5. 4" W DN TO 1ST FLOOR. SEE SHEET P-4 FOR CONTINUATION.
6. 4" GW DN TO 1ST FLOOR. SEE SHEET P-4 FOR CONTINUATION.
7. 2" V DN TO 1ST FLOOR. SEE SHEET P-4 FOR CONTINUATION.



1 / P-5 SECOND FLOOR DWV RISER
SCALE: NTS

KEY NOTES FOR DRAWING 2/P-5

1. CW FROM TO LOWER LEVEL. SEE SHEET P-4 FOR CONTINUATION.
2. CW RISE TO UPPER LEVEL. SEE SHEET P-6 FOR CONTINUATION.
3. PROVIDE TMV AT SINK/LAV FOR CW AND/OR 110 DEG. F (MAX) LTHW TO FAUCET. LOCATE TMV (NOT SHOWN) IN A PROPER MAINTENANCE ACCESSIBLE AREA BELOW FIXTURE, OR AS REQUIRED.
4. MTHW DOWN TO LOWER LEVEL. SEE SHEET P-4 FOR CONTINUATION.
5. HWR DOWN TO LOWER LEVEL. SEE SHEET P-4 FOR CONTINUATION.

NOTE:
SEE PLAN FOR SHUT-OFF VALVE LOCATIONS. COORDINATE LOCATION AND NUMBER WITH LOCAL INSPECTIONS DEPARTMENT. PROVIDE ACCESS DOORS IF REQUIRED.

2 / P-5 SECOND FLOOR WATER RISER
SCALE: NTS

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MOREHEAD CITY COUNTRY CLUB CLUBHOUSE
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NORTH CAROLINA PROFESSIONAL SEAL 22035 ENGINEER BENJAMIN E. BURKE

SECOND FLOOR DWV/WATER RISER

20010

ISSUED: 01/29/2021
DWG BY: DS
CKD BY: BEB
REVISIONS

SHEET NO. P-5

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(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

Morehead Country Club P6 EQUIPMENT SCHEDULE

ITEM	QUAN	DESCRIPTION	UTILITY CONNECTIONS			
			WASTE	HW	CW	GAS (BTUH)
1	1	WALK-IN BEER COOLER				
2	LOT	WALK-IN SHELVING				
3	LOT	FREESTANDING WIRE DRY STORAGE SHELVING				
4	2	EMPLOYEE LOCKERS				
5	1	WALK-IN COOLER/FREEZER COMBO				
6	LOT	WALK-IN SHELVING				
7	**1**	**WATER HEATER- 2ND FLOOR KITCHEN/BAR (EWH-2)**	**1"**	**1-1/4"**	**1-1/4"**	
8	2	2-DOOR REACH-IN REFRIG				
9	1	2-DOOR REACH-IN FREEZER				
10	1	WORKTABLE W/ UNDERSHELF (30X48)				
11	**2**	**WALL-MOUNT HANDSINK W/ SPLASHGUARDS**	**1-1/2"**	**1/2"**	**1/2"**	
12	**3**	**PREP SINK**	**1-1/2"**	**1/2"**	**1/2"**	
13	2	WALL-MOUNT SPLASHGUARDS				
14	5	WALL-MOUNT SHELF (18X60)				
15	1	WORKTABLE W/ UNDERSHELF (24X60)				
16	1	1-DOOR REFRIG				
17	**1**	**3-COMP SINK W/ 24" DRAINBOARDS**	**1-1/2"**	**1/2"**	**1/2"**	
18	1	WALL-MOUNT SHELF W/ POT RACK (15X96)				
19	LOT	FREESTANDING WIRE DRYING RACKS				
20	**1**	**HIGH TEMP DISHMACHINE W/ VAPORVENT SYSTEM**	**2"**	**1/2"***	**3/8"***	
21	1	72" CLEAN RIGHT-HAND DISHTABLE				
22	1	42" WALL-MOUNT RACK SHELF				
23	**1**	**SOILED LEFT HAND DISHTABLE W/PRE-RINSE SINK**	**1-1/2"**	**1/2"***	**1/2"***	
24	1	DISH CADDY ON CASTERS				
25	1	UTILITY CART ON CASTERS				
26	**1**	**ICE MACHINE W/ BIN**	**1/2",3/4"**		**3/8"***	
27	1	18" EXHAUST HOOD W/ REMOTE ANSUL				
28	1	COOK & HOLD CABINET (ELEC)				
29	**2**	**6-BURNER RANGE WITH OVEN (GAS)**				**227,000**
30	1	62" REFRIG CHEF BASE				
31	**1**	**60" FLAT GRIDDLE (GAS)**				**150,000**
32	**2**	**60" SALAMANDER BROILER (GAS)**				**35,000**
33	**4**	**DEEP FRYER (GAS)**				**200,000**
34	2	BREADING STATION				
35	1	18' EXHAUST HOOD W/ REMOTE ANSUL				
36	**1**	**DOUBLE CONVECTION OVEN (GAS)**				**110,000 (TOT.)**
37	1	52" REFRIG. CHEF BASE				
38	**1**	**48" FLAT GRIDDLE (GAS)**				**120,000**
39	**1**	**BROASTER PRESSURE DEEP FRYER (GAS)**				**65,000**
40	**1**	**WALL-MOUNT HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
41	1	1-DOOR REACH-IN FREEZER				
42	**1**	**WORKTABLE W/ DROP-IN HAND SINK (30X60)**	**1-1/2"**	**1/2"**	**1/2"**	
43	2	2-DOOR WORKTOP REFRIG				
44	1	WALL-MOUNT SHELF (15X96)				
45	2	LOW DISH SHELVING (18X96)				
46	2	PASSTHRU SHELF W/ OVERSHELF (15X144)				
47	3	48" IR HEAT LAMP				
48	1	BAG-IN-BOX W/ CARBON DIOXIDE CANISTERS				
49	1	72" INTERIOR MOUNT FLY FAN				
50	1	40 QT MIXER				
51	**2**	**COFFEE BREWER**			**1/4"***	
52	**2**	**TEA BREWER / URN**			**1/4"***	
53	1	DRAFT BEER REFRIG LINE / GLYCOL CHILLER				
54	1	NITROGEN GENERATOR W/ TANK				
55	**1**	**3 WELL HOT HOLDING TABLE**	**1"**			
56	2	REF. PREP TABLE				
57	–	NOT USED				
58	–	NOT USED				
59	–	NOT USED				
60	–	NOT USED				
61	**2**	**S/S SOILED GLASS RACK STORAGE**	**1"**			
62	**2**	**UNDERCOUNTER GLASS WASHER**	**1"**	**3/4"***		
63	1	2-DOOR UC REFRIG				
64	LOT	POINT OF SALE				
65	**2**	**GLASS RINSER / DRIP TRAY**	**3/4"**		**1/2"***	
66	1	94" DEEP WELL BOTTLE COOLER				
67	**2**	**S/S BAR HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
68	**1**	**S/S 18" BAR HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
69	**1**	**S/S 48" ICE WELL W/ LIQUOR STORAGE**	**1/2"**			
70	2	S/S LIQUOR DISPLAY				
71	**1**	**S/S 36" ICE WELL W/ COLD PLATE**	**1/2"**			
72	LOT	TRASH RECEPTACLE				
73	**1**	**94" DIRECT DRAFT BEER COOLER**	**1/2"**			
74	**1**	**S/S BAR DUMP SINK**	**1-1/2"**	**1/2"**	**1/2"**	
75	1	48" DEEP WELL BOTTLE COOLER				
76	1	DRAFT BEER TOWER W/ REFRIG LINES				
77	2	S/S CLEAN GLASS RACK STORAGE				
78	1	1-DOOR WORKTOP REFRIGERATOR				

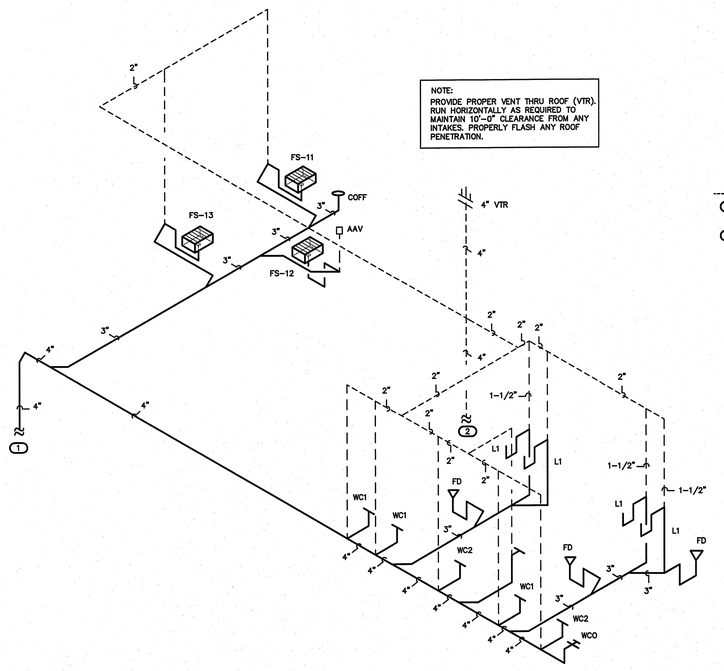
* PROVIDE BACKFLOW PREVENTER PER NCSBC-PLUMBING SECT. 608.3 (EX: ASSE 1024 (WATTS SERIES 7 OR EQUAL), ASSE 1022 (WATTS SERIES SD-3 OR EQUAL), ETC.), WHERE REQUIRED IF NOT AN INTEGRAL PART OF THE EQUIPMENT.

(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

PIPE SIZING SCHEDULE

FIXTURE TYPE	DRAIN	VENT	CW	HW
(FD/FDR) FLOOR DRAIN	3"	1 1/2"	–	–
(FS-1) FLOOR SINK #1	4"	2"	–	–
(FS-2 THRU 4) FLOOR SINK #2-4	3"	1 1/2"	–	–
(FS-5 THRU 13) FLOOR SINK #5-13	2"	1 1/4"	–	–
(FPHB) FREEZE PROOF HOSE BIBB	–	–	1/2"	–
(HS) HAND/BAR SINK	1 1/2"	1 1/4"	1/2"	1/2"
(L1/L2) LAVATORY	1 1/2"	1 1/4"	1/2"	1/2"
(MS) MOP SINK/CAN WASH	–	–	1/2"	1/2"
(SHR) SHOWER	–	–	1/2"	1/2"
(UR) URINAL	2"	1 1/2"	3/4"	–
(WC1) FLUSH VALVE WATER CLOSET	3"	1 1/2"	1"	–
(WC2) FLUSH TANK WATER CLOSET	3"	1 1/2"	1/2"	–

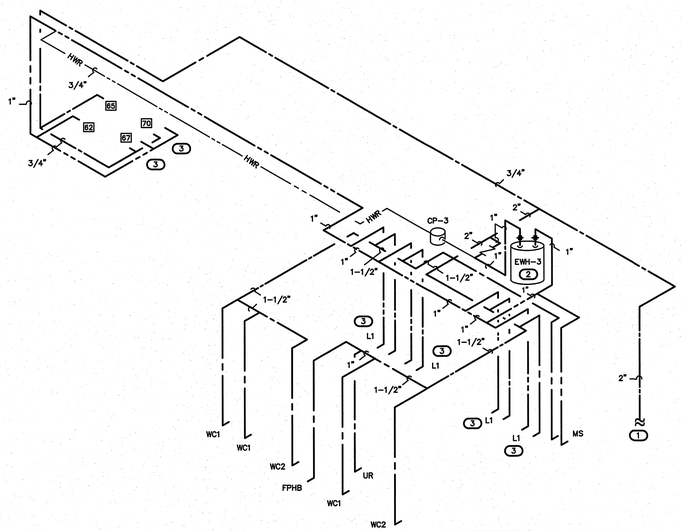
DWV/WATER RISER NOTES:
REPRESENTATIVE SIZES ARE GIVEN FOR EACH TYPE OF FIXTURE. SEE EQUIPMENT OR PIPE SIZING SCHEDULE.
MINIMUM 2" DRAIN LINE SIZE UNDER SLAB.
MAINTAIN PIPE SIZES SHOWN UNTIL LARGER SIZE IS REACHED.
PIPE SIZES ARE MINIMUMS FOR INDIVIDUAL FIXTURES U.O.N.



ROOF TOP DWV RISER
(1 / P-4) SCALE: NTS

KEY NOTES FOR DRAWING 1/P-6

1. 4" W DN. SEE SHEET P-5 FOR CONTINUATION.
2. 4" V UP DN TO 3" MAIN BELOW FLOOR. SEE SHEET P-5 FOR CONTINUATION.



NOTE:
SEE PLAN FOR SHUT-OFF VALVE LOCATIONS. COORDINATE LOCATION AND NUMBER WITH LOCAL INSPECTIONS DEPARTMENT. PROVIDE ACCESS DOORS IF REQUIRED.

ROOF TOP WATER RISER
(2 / P-4) SCALE: NTS

KEY NOTES FOR DRAWING 2/P-6

1. CW FROM TO LOWER LEVEL. SEE SHEET P-5 FOR CONTINUATION.
2. EWH-3 ABOVE MOP SINK SHOWN FOR CLARITY. VERIFY LOCATION.
3. PROVIDE TMV AT SINK/LAV FOR CW AND/OR 110 DEG. F (MAX) LTHW TO FAUCET. LOCATE TMV (NOT SHOWN) IN A PROPER MAINTENANCE ACCESSIBLE AREA BELOW FIXTURE, OR AS REQUIRED.

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1/28/21
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ROOF TOP RISER

20010

ISSUED: 01/29/2021
DWG BY: DS
CKD BY: BEB
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SHEET NO.
P-6

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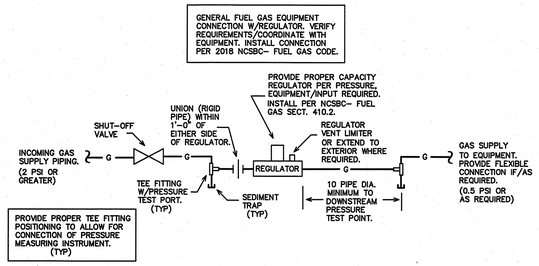
(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

Morehead Country Club P7

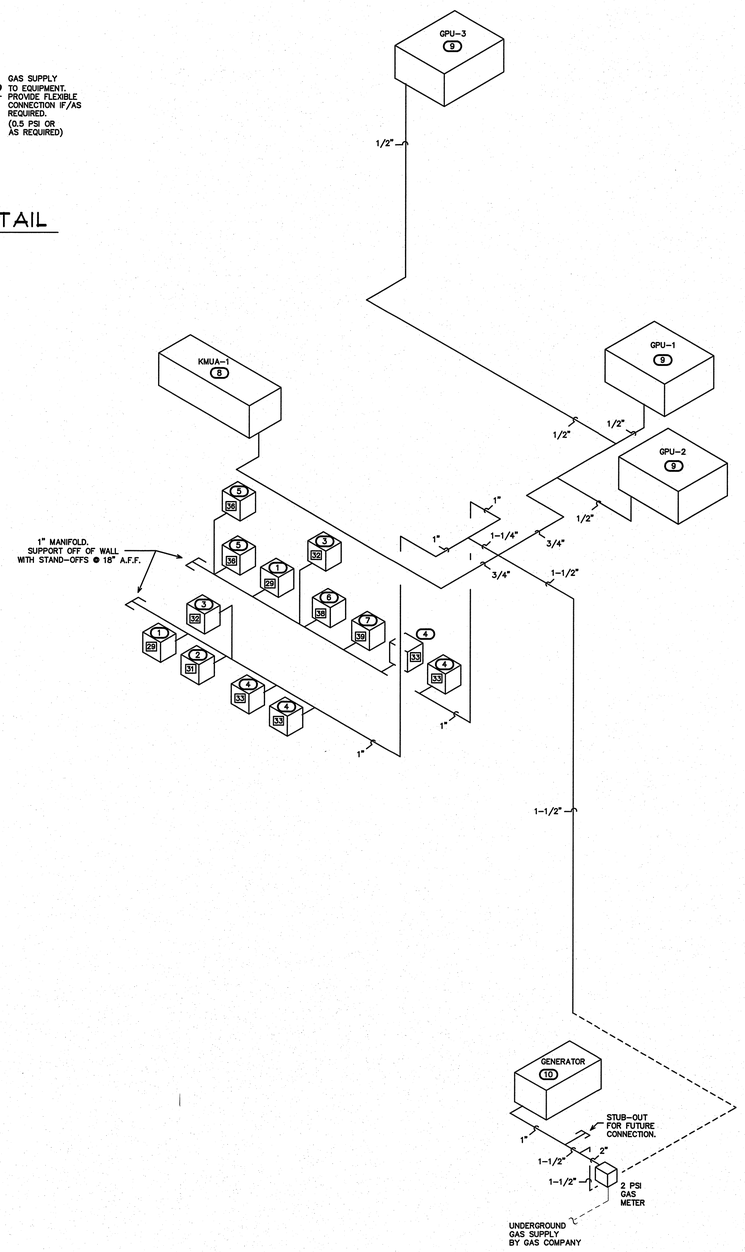
EQUIPMENT SCHEDULE

ITEM	QUAN	DESCRIPTION	UTILITY CONNECTIONS			
			WASTE	HW	CW	GAS (BTUH)
1	1	WALK-IN BEER COOLER				
2	LOT	WALK-IN SHELVING				
3	LOT	FREESTANDING WIRE DRY STORAGE SHELVING				
4	2	EMPLOYEE LOCKERS				
5	1	WALK-IN COOLER/FREEZER COMBO				
6	LOT	WALK-IN SHELVING				
7	**1**	**WATER HEATER- 2ND FLOOR KITCHEN/BAR (EWH-2)**	**1"**	**1-1/4"**	**1-1/4"**	
8	2	2-DOOR REACH-IN REFRIG				
9	1	2-DOOR REACH-IN FREEZER				
10	1	WORKTABLE W/ UNDERSHELF (30X48)				
11	**2**	**WALL-MOUNT HANDSINK W/ SPLASHGUARDS**	**1-1/2"**	**1/2"**	**1/2"**	
12	**3**	**PREP SINK**	**1-1/2"**	**1/2"**	**1/2"**	
13	2	WALL-MOUNT SPLASHGUARDS				
14	5	WALL-MOUNT SHELF (18X60)				
15	1	WORKTABLE W/ UNDERSHELF (24X60)				
16	1	1-DOOR REFRIG				
17	**1**	**3-COMP SINK W/ 24" DRAINBOARDS**	**1-1/2"**	**1/2"**	**1/2"**	
18	1	WALL-MOUNT SHELF W/ POT RACK (15X96)				
19	LOT	FREESTANDING WIRE DRYING RACKS				
20	**1**	**HIGH TEMP DISHMACHINE W/ VAPORVENT SYSTEM**	**2"**	**1/2" ***	**3/8" ***	
21	1	72" CLEAN RIGHT-HAND DISHTABLE				
22	1	42" WALL-MOUNT RACK SHELF				
23	**1**	**SOILED LEFT HAND DISHTABLE W/PRE-RINSE SINK**	**1-1/2"**	**1/2" ***	**1/2" ***	
24	1	DISH CADDY ON CASTERS				
25	1	UTILITY CART ON CASTERS				
26	**1**	**ICE MACHINE W/ BIN**	**1/2",3/4"**		**3/8" ***	
27	1	18' EXHAUST HOOD W/ REMOTE ANSUL				
28	1	COOK & HOLD CABINET (ELEC)				
29	**2**	**6-BURNER RANGE WITH OVEN (GAS)**				**227,000**
30	1	62" REFRIG CHEF BASE				
31	**1**	**60" FLAT GRIDDLE (GAS)**				**150,000**
32	**2**	**60" SALAMANDER BROILER (GAS)**				**35,000**
33	**4**	**DEEP FRYER (GAS)**				**200,000**
34	2	BREADING STATION				
35	1	18' EXHAUST HOOD W/ REMOTE ANSUL				
36	**1**	**DOUBLE CONVECTION OVEN (GAS)**				**110,000 (TOT.)**
37	1	52" REFRIG. CHEF BASE				
38	**1**	**48" FLAT GRIDDLE (GAS)**				**120,000**
39	**1**	**BROASTER PRESSURE DEEP FRYER (GAS)**				**65,000**
40	**1**	**WALL-MOUNT HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
41	1	1-DOOR REACH-IN FREEZER				
42	**1**	**WORKTABLE W/ DROP-IN HAND SINK (30X60)**	**1-1/2"**	**1/2"**	**1/2"**	
43	2	2-DOOR WORKTOP REFRIG				
44	1	WALL-MOUNT SHELF (15X96)				
45	2	LOW DISH SHELVING (18X96)				
46	2	PASSTHRU SHELF W/ OVERSHELF (15X144)				
47	3	48" IR HEAT LAMP				
48	1	BAG-IN-BOX W/ CARBON DIOXIDE CANISTERS				
49	1	72" INTERIOR MOUNT FLY FAN				
50	1	40 QT MIXER				
51	**2**	**COFFEE BREWER**			**1/4" ***	
52	**2**	**TEA BREWER / URN**			**1/4" ***	
53	1	DRAFT BEER REFRIG LINE / GLYCOL CHILLER				
54	1	NITROGEN GENERATOR W/ TANK				
55	**1**	**3 WELL HOT HOLDING TABLE**	**1"**			
56	2	REF. PREP TABLE				
57	–	NOT USED				
58	–	NOT USED				
59	–	NOT USED				
60	–	NOT USED				
61	**2**	**S/S SOILED GLASS RACK STORAGE**	**1"**			
62	**2**	**UNDERCOUNTER GLASS WASHER**	**1"**	**3/4" ***		
63	1	2-DOOR UC REFRIG				
64	LOT	POINT OF SALE				
65	**2**	**GLASS RINSER / DRIP TRAY**	**3/4"**		**1/2" ***	
66	1	94" DEEP WELL BOTTLE COOLER				
67	**2**	**S/S BAR HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
68	**1**	**S/S 18" BAR HAND SINK**	**1-1/2"**	**1/2"**	**1/2"**	
69	**1**	**S/S 48" ICE WELL W/ LIQUOR STORAGE**	**1/2"**			
70	2	S/S LIQUOR DISPLAY				
71	**1**	**S/S 36" ICE WELL W/ COLD PLATE**	**1/2"**			
72	LOT	TRASH RECEPTACLE				
73	**1**	**94" DIRECT DRAFT BEER COOLER**	**1/2"**			
74	**1**	**S/S BAR DUMP SINK**	**1-1/2"**	**1/2"**	**1/2"**	
75	1	48" DEEP WELL BOTTLE COOLER				
76	1	DRAFT BEER TOWER W/ REFRIG LINES				
77	2	S/S CLEAN GLASS RACK STORAGE				
78	1	1-DOOR WORKTOP REFRIGERATOR				

* PROVIDE BACKFLOW PREVENTER PER NCSBC-PLUMBING SECT. 608.3 (EX: ASSE 1024 (WATTS SERIES 7 OR EQUAL), ASSE 1022 (WATTS SERIES 9D-3 OR EQUAL), ETC.), WHERE REQUIRED IF NOT AN INTEGRAL PART OF THE EQUIPMENT.



2 P-1 EQUIPMENT CONNECTION DETAIL
SCALE: NTS



1 P-1 NATURAL GAS RISER
SCALE: NTS

2018 NCSBC, FUEL GAS CODE- TABLE 402.4(5)

NOTE:
GAS PIPE SIZES BASED UPON A INITIAL PRESSURE OF 2 PSI AND A PRESSURE DROP OF 1 PSI AT 20 FEET IN DEVELOPED LENGTH.
PIPE SIZES SHOWN ARE NOMINAL INSIDE DIAMETER.
TOTAL CONNECTED LOAD (GENERATOR LINE ONLY) = 2,400,000 BTUH

2018 NCSBC, FUEL GAS CODE- TABLE 402.4(5)

NOTE:
GAS PIPE SIZES BASED UPON A INITIAL PRESSURE OF 2 PSI AND A PRESSURE DROP OF 1 PSI AT 200 FEET IN DEVELOPED LENGTH.
PIPE SIZES SHOWN ARE NOMINAL INSIDE DIAMETER.
TOTAL CONNECTED LOAD (LINE TO BUILDING ONLY) = 2,676,880 BTUH

NOTE:
GAS PIPING SHALL BE BLACK STEEL, SCHEDULE 40 WITH SCREWED (LESS THAN 2-1/2" DIA. PIPING) OR WELDED (GREATER THAN OR EQUAL TO 2-1/2" DIA. PIPING) FITTINGS. TEST, LABEL AND INSTALL ALL PIPING PER THE NCSBC.

NOTE:
NATURAL GAS PRESSURE TO EQUIPMENT IS TO BE AT 2 PSI. PROVIDE PROPER REGULATORS AT EACH PIECE OF GAS EQUIPMENT. VENT REGULATORS TO EXTERIOR IF REQUIRED. PROVIDE PROPER LABELING ON 2 PSI PIPING. PROVIDE REGULATOR/CONNECTION PER NCSBC- FUEL GAS SECT. 410.2 AND ALL OTHER APPLICABLE SECTIONS. EQUIPMENT CONNECTIONS/REGULATORS NOT SHOWN ON RISER- SEE CONNECTION DETAIL THIS SHEET.

KEY NOTES FOR SHEET P-7

1. (29) RANGE, 227,000 BTUH INPUT. CONNECT TO 1/2" (MIN.) 2 PSI LINE. PROVIDE REGULATOR.
2. (31) GRIDDLE, 150,000 BTUH INPUT. CONNECT TO 1/2" (MIN.) 2 PSI LINE. PROVIDE REGULATOR.
3. (32) BROILER, 35,000 BTUH INPUT. CONNECT TO 1/2" (MIN.) 2 PSI LINE. PROVIDE REGULATOR.
4. (33) FRYER, 200,000 BTUH INPUT. CONNECT TO 1/2" (MIN.) 2 PSI LINE. PROVIDE REGULATOR.
5. (36) OVEN, 55,000 BTUH INPUT. CONNECT TO 1/2" (MIN.) 2 PSI LINE. PROVIDE REGULATOR.
6. (38) GRIDDLE, 120,000 BTUH INPUT. CONNECT TO 1/2" (MIN.) 2 PSI LINE. PROVIDE REGULATOR.
7. (39) FRYER, 65,000 BTUH INPUT. CONNECT TO 1/2" (MIN.) 2 PSI LINE. PROVIDE REGULATOR.
8. KMUA, 367,880 BTUH INPUT, CONNECT TO 3/4" (MIN.) 2 PSI LINE. PROVIDE REGULATOR.
9. GPU, 180,000 BTUH INPUT, CONNECT TO 1/2" (MIN.) 2 PSI LINE. PROVIDE REGULATOR.
10. GENERATOR, 2,400,000 BTUH INPUT, CONNECT to 1" (MIN.) 2 PSI LINE. PROVIDE REGULATOR.

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MOREHEAD CITY COUNTRY CLUB
CLUBHOUSE
MOREHEAD CITY, NORTH CAROLINA

1/27/21
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E BURKE

NATURAL GAS RISER

20010

ISSUED:	01/29/2021
DWG BY:	DS
CKD BY:	BEB

REVISIONS

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FLEXIBLE DUCTWORK SIZES
MAXIMUM CFM'S

SIZES	SUPPLY	RETURN
6"	100	100
8"	115	115
10"	250	250
12"	400	350
14"	550	500
16"	NA	900

(CHANGE OUT EXISTING FLEX DUCTS AND COLLARS AS REQUIRED TO GET NEW CFM'S SHOWN)

FLEXIBLE DUCTWORK NOTES

1) INSTALL FLEXIBLE DUCTWORK RUNS AS STRAIGHT AS POSSIBLE.
2) DO NOT ALLOW FLEXIBLE DUCT TO SAG BETWEEN SUPPORTS.
3) DO NOT STRETCH A SHORT SECTION TO FIT A SLIGHTLY LONGER SECTION. THIS DISTORTS THE DUCT SHAPE AND IMPEDES AIR FLOW.
4) DO NOT CRUSH DUCTWORK TO FIT IN A SPACE SMALLER THAN ITS ORIGINAL OUTSIDE DIAMETER. MAXIMUM ALLOWABLE DEFORMATION IS 15% OF ORIGINAL VOLUME.
5) USE RIGID 90 DEGREE ELBOWS AT ANY LOCATION WHERE THE DUCTWORK BECOMES DISTORTED.
6) EXTREME CARE SHALL BE TAKEN TO ELIMINATE ANY REDUCTION IN FLOW WITHIN THE FLEXIBLE DUCTS. THE MECH. CONTRACTOR WILL BE REQUIRED TO REPLACE THE FLEXIBLE DUCT WITH RIGID IF PROPER FLOW IS NOT OBTAINED.
7) SIZE ALL FLEXIBLE DUCT SO AS NOT TO EXCEED MAXIMUM CFM'S GIVEN IN TABLE.

REFRIGERANT CALCULATIONS

NCSBC MECH EDITION, TABLE 1103.1 ALLOWABLE AMOUNTS OF REFRIGERANT.

404A: 31 LBS. PER 1000 CUBIC FEET
COOLER
SIZE: 9'-11" x 5'-2" x 7'-6" = 384 CUBIC FEET
31 lbs/1000 ft3 x 384 ft3 = 11.9 lbs
AMOUNT (R-404A): 11.9 LBS.
(maximum allowed)

404A: 31 LBS. PER 1000 CUBIC FEET
FREEZER
SIZE: 5'-2" x 3'-4" x 7'-6" = 129 CUBIC FEET
31 lbs/1000 ft3 x 129 ft3 = 4.0 lbs
AMOUNT (R-404A): 4.0 LBS.
(maximum allowed)

404A: 31 LBS. PER 1000 CUBIC FEET
BEER COOLER
SIZE: 10'-7" x 5'-2" x 7'-6" = 410 CUBIC FEET
31 lbs/1000 ft3 x 420 ft3 = 12.71 lbs
AMOUNT (R-404A): 12.71 LBS.
(maximum allowed)

GENERAL NOTES – MECHANICAL

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE AND ALL LOCAL AND OTHER APPLICABLE CODES.
2. ANY PERMITS AND INSPECTION FEES SHALL BE SECURED AND PAID FOR BY THE MECHANICAL CONTRACTOR (MC).
3. ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN. THE MC SHALL COORDINATE ALL OF HIS WORK WITH THE GENERAL CONTRACTOR (GC) AND OTHER TRADES.
4. THE LOCATION OF ALL DUCT, PIPING AND EQUIPMENT SHALL BE ADJUSTED TO ACCOMMODATE ANTICIPATED OR ENCOUNTERED INTERFERENCES.
5. THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. FOR DIMENSIONS REFER TO THE ARCHITECTURAL PLANS.
6. THE MC SHALL BE RESPONSIBLE FOR ALL ELECTRICAL STARTERS INTERLOCKS, CONTROL WIRING CONDUIT AND POWER WIRING FROM DISCONNECTS TO HIS EQUIPMENT, USING A LICENSED ELECTRICIAN.
7. THE MC SHALL USE FIRE DAMPERS FOR PROTECTION OF THE OPENING IN ACCORDANCE WITH STATE AND LOCAL CODES IN ALL LOCATIONS WHERE PENETRATIONS OF RATED WALLS AND FLOORS OCCUR. SEE ARCHITECTURAL PLANS FOR RATED WALL AND FLOOR LOCATIONS. PROVIDE ACCESS DOORS AT ALL DAMPER LOCATIONS. LOCATE DOORS FOR EASY ACCESS.
8. INSTALL FLEXIBLE CONNECTORS ON SUPPLY AND RETURN DUCTWORK AHU. ALL MECHANICAL EQUIPMENT SHALL OPERATE FREE OF OBJECTIONAL NOISE AND VIBRATION.
9. INSTALL TURNING VANES IN SUPPLY DUCTS AT ALL ELBOWS AND SPLITTER DAMPERS. PROVIDE BALANCING DAMPERS IN ALL DUCTS WHERE SHOWN OR REQUIRED FOR SYSTEM BALANCING. ADJUST DIFFUSERS TO PROVIDE FOR PROPER OPERATION OF HOOD.
10. DUCT DIMENSIONS ARE SHOWN INSIDE CLEAR.
11. THE MC SHALL KEEP THE PREMISES CLEAR OF DEBRIS FROM HIS WORK DURING CONSTRUCTION AND LEAVE THE AREA AND BUILDING CLEAN AT THE COMPLETION OF HIS WORK. HE SHALL ALSO LEAVE CLEAN ALL EXPOSED EQUIPMENT IN HIS CONTRACT.
12. FANS AND CURBS. CURBS AND FLASHING ARE BY THE GENERAL CONTRACTOR. ALL ROOFING WORK SHALL BE DONE BY THE ORIGINAL ROOFING CONTRACTOR SO AS TO MAINTAIN ORIGINAL WARRANTY.
13. THE M.C. SHALL COORDINATE WITH AND PROVIDE EQUIPMENT SPEC. SHEETS TO THE GENERAL PROVIDE ALL REQUIRED ROOF AND FLOOR PENETRATIONS FOR THE INSTALLATION OF THE NEW EQUIPMENT, HOOD AND ELECTRICAL CONTRACTORS FOR REVIEW PRIOR TO ORDERING EQUIPMENT.
14. PROPERLY SUPPORT ALL DUCT WORK, HOOD AND FANS FROM STRUCTURE. PROVIDE ALL STRUCTURAL SUPPORTS FOR THE LOADS AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
15. RELOCATE ANY EXISTING OBSTRUCTIONS IN THE PATH OF THE NEW HOOD, DUCTWORK AND FAN INSTALLATION. FIELD VERIFY PRIOR TO SUBMITTING BID.

OA SCHEDULE
OUTDOOR VENTILATION AIR PROVIDED PER TABLE 403.3 NCSBC MECHANICAL CODE.

APPLICATION	SQUARE FOOTAGE (SF)	AREA OUTDOOR AIR FLOW RATE (CFM/SF)	PEOPLE OUTDOOR AIR FLOW RATE (CFM/PERSON)	OCCUPANCY DENSITY RATE (# PEOPLE/ 1000SF)	OCCUPNCY (# PEOPLE)	AREA OUTDOOR AIR FLOW (CFM)	PEOPLE OUTDOOR AIR FLOW (CFM)	TOTAL (CFM)
OFFICE	587	0.06	5	5	3	35	15	50
CORRIDOR	3042	0.06	–	–	–	181	–	181
DINING & BALLROOM	7343	0.18	7.5	70	410 *	1322	3075	4397
RETAIL/PRO SHOP	1000	0.06	7.5	15	15	60	113	173
TOTAL REQUIRED								4801

OUTDOOR AIR PROVIDED FROM EACH HVAC UNIT **

HVAC UNIT	OUTDOOR AIR (CFM)
AHU-1	100 – 8" DIA. O.A. DUCT
AHU-2	230 – 8" DIA. O.A. DUCT
AHU-3	120 – 8" DIA. O.A. DUCT
AHU-4	400 – 10" DIA. O.A. DUCT
AHU-5	400 – 10" DIA. O.A. DUCT
AHU-6	400 – 10" DIA. O.A. DUCT
AHU-7	350 – 10" DIA. O.A. DUCT
AHU-8	350 – 10" DIA. O.A. DUCT
AHU-9	650 FROM ERV-1
GPU-1	750
GPU-2	750
GPU-3	750
TOTAL PROVIDED	5250

APPLICATION	CFM
TOILETS	70 CFM/FLUSHING FIXTURE
SHOWER	50 CFM/SHOWER FIXTURE

15 FLUSHING FIXTURES X 70 CFM =1190 CFM
4 SHOWER FIXTURE X 20 CFM CONTINUOUS = 50 CFM

EXHAUST PROVIDED BY (5) EXHAUST FANS AND (1) ERV, MAKE UP AIR BY TRANSFER AIR

APPLICATION	EXHAUST CFM PER SQ./FT.
COOKING KITCHENS	0.7 CFM PER SQ.FT.

1553 SQ. FT. X 0.7 CFM PER SQ.FT. = 1087 CFM
7200 CFM EXHAUST PROVIDED BY 4 KITCHEN HOODS.

*ACTUAL OCCUPANCY PER BUILDING TENANT AS ALLOWED BY 2018 NCSBC: MECHANICAL CODE, SECTION 403.3.1.1, EXCEPTION.
** SET OUTDOOR AIR DAMPER CONTROLS TO PROVIDE OUTDOOR AIR AS INDICATED IN THIS SCHEDULE.

AIR BALANCE CALCULATION

TOTAL OA PROVIDED	= 5200 CFM	KITCHEN OA PROVIDED	= 700 CFM
TOTAL KITCHEN HOOD EXHAUST	= (7200 CFM)	TOTAL KITCHEN HOOD EXHAUST	= (7200 CFM)
TOTAL KITCHEN HOOD SUPPLY	= 5760 CFM	TOTAL KITCHEN HOOD SUPPLY	= 5760 CFM
TOILET EXHAUST FANS	= (1758 CFM)		
TOTAL AIR BALANCE=	= 2004 CFM	KITCHEN AIR BALANCE=	= (740) CFM

LEGEND – MECHANICAL

- 12 X 8 — RECTANGULAR DUCTWORK. INSIDE CLEAR DIMENSION INDICATED (WIDTH X HEIGHT)
- FLEXIBLE DUCTWORK
- 12" DIA. — ROUND GALVANIZED STEEL DUCT INSIDE CLEAR DIMENSION INDICATED.
- 6" DIA — EX — TOILET EXHAUST DUCTWORK INSIDE CLEAR DIMENSION INDICATED.
- 6" DIA — OA — OUTSIDE AIR DUCTWORK INSIDE CLEAR DIMENSION INDICATED.
- SUPPLY DIFFUSER
- RETURN GRILLE
- MD — MANUAL BALANCING DAMPER
- T AHU-1 — WALL MOUNTED THERMOSTAT (UNIT SERVED IS INDICATED)
- X / XXX — GRILLE TYPE / MIN. CFM
- SD — DUCT TYPE SMOKE DETECTOR
- PS — REMOTE MANUAL PULL STATION FOR KITCHEN HOOD FIRE EXTINGUISHING SYSTEM
- D — D — CONDENSATE PIPING
- R — R — REFRIGERANT PIPING

APPENDIX B

2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)
MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEM AND EQUIPMENT

Thermal Zone

winter dry bulb	23F
summer dry bulb	93F

Interior Design Conditions

winter dry bulb	72F
summer dry bulb	75F
relative humidity	50%

Building Heating Load — 496,600 BTU/hr

Building Cooling Load — 676,700 BTU/hr

Mechanical Spacing Conditioning System

Unitary – The tenant space is served the following systems:
(1) 2 ton split system heat pump unit
(1) 2.5 ton split system heat pump unit
(2) 3 ton split system heat pump units
(2) 5 ton split system heat pump units
(3) 7.5 ton roof-top gas package units with dx cooling

Boiler – Not applicable to this project.

Chiller – Not applicable to this project.

Equipment efficiencies

Efficiencies and outputs are listed on equipment schedules – See drawings.

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1/29/21

HVAC SCHEDULES

20020

ISSUED:	1/29/21
DWG BY:	WBE
CKD BY:	BEB

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HVAC EQUIPMENT SCHEDULE

HVAC SYSTEM #1	
AHU #1 DIRECT EXPANSION FAN COIL UNIT	* CARRIER MODEL #FX4DNF025, 4 WAY, MULTIPOISE FAN COIL UNIT. 3.8 KW HEATER. NOMINAL CAPACITY = 24,000 BTUH. 800 CFM NOMINAL. PROVIDE HARD SHUT-OFF TXV VALVE. 2 TON NOMINAL PROVIDE PROGRAMMABLE THERMOSTAT AND FILTER RACK WITH HINGED DOOR. 1/3HP, 2.8A MOTOR FLA, 18.1A HEAT FLA, 208V, 1 PH, 26.1A MCA, 30A MOCP AHU & HEAT.
HP #1 OUTDOOR HEAT PUMP UNIT	* CARRIER MODEL #25HCC524A0030, 2 TON OUTDOOR HEAT PUMP UNIT, 15 SEER, PROVIDE CYCLE PROTECTOR, LOW PRESSURE SWITCH, CRANKCASE HEATER, 208 VOLT, 1 PHASE. COMP 12.8A RLA, FAN 0.5A FLA, OUTDOOR HEAT PUMP 16.5A MCA, 25A MOCP.
HVAC SYSTEM #2	
AHU #2 DIRECT EXPANSION FAN COIL UNIT	* CARRIER MODEL #FX4DNB031, 4 WAY, MULTIPOISE FAN COIL UNIT. 3.8 KW HEATER. NOMINAL CAPACITY = 30,000 BTUH. 1000 CFM NOMINAL. PROVIDE HARD SHUT-OFF TXV VALVE. 2.5 TON NOMINAL. PROVIDE PROGRAMMABLE THERMOSTAT AND FILTER RACK WITH HINGED DOOR. 1/2 HP, 4.1A MOTOR FLA, 18 A HEAT FLA, 208V, 1 PH, 28A MCA, 30A MOCP AHU & HEAT.
HP #2 OUTDOOR HEAT PUMP UNIT	* CARRIER MODEL #25HCC530A0030, 2.5 TON OUTDOOR HEAT PUMP UNIT, 15 SEER, PROVIDE CYCLE PROTECTOR, LOW PRESSURE SWITCH, CRANKCASE HEATER, 208 VOLT, 1 PHASE. COMP 14.1A RLA, FAN 1.2A FLA, OUTDOOR HEAT PUMP 18.1A MCA, 30A MOCP.
HVAC SYSTEM #3	
AHU #3 DIRECT EXPANSION FAN COIL UNIT	* CARRIER MODEL #FX4CNF037, 4 WAY, MULTIPOISE FAN COIL UNIT. 6 KW HEATER. NOMINAL CAPACITY = 36,000 BTUH. 1200 CFM NOMINAL. PROVIDE HARD SHUT-OFF TXV VALVE. 3 TON NOMINAL. PROVIDE PROGRAMMABLE THERMOSTAT AND FILTER RACK WITH HINGED DOOR. 1/2HP, 4.1A MOTOR FLA, 28.9A HEAT FLA, 208V, 1 PH, 44.7A MCA, 45A MOCP AHU & HEAT.
HP #3 OUTDOOR HEAT PUMP UNIT	* CARRIER MODEL #25HCC536A0030, 3 TON OUTDOOR HEAT PUMP UNIT, 15 SEER, PROVIDE CYCLE PROTECTOR, LOW PRESSURE SWITCH, CRANKCASE HEATER, 208 VOLT, 1 PHASE. COMP 16.7A RLA, FAN 1.2A FLA, OUTDOOR HEAT PUMP 22.1A MCA, 35A MOCP.
HVAC SYSTEM #4	
AHU #4 DIRECT EXPANSION FAN COIL UNIT	* CARRIER MODEL #FX4DNB061, 4 WAY, MULTIPOISE FAN COIL UNIT. 7.5 KW HEATER. NOMINAL CAPACITY = 60,000 BTUH. 2000 CFM NOMINAL. PROVIDE HARD SHUT-OFF TXV VALVE. 5 TON NOMINAL. PROVIDE PROGRAMMABLE THERMOSTAT AND FILTER RACK WITH HINGED DOOR. 3/4HP, 6.0A MOTOR FLA, 36.2A HEAT FLA, 208V, 1 PH, 52.8A MCA, 60A MOCP AHU & HEAT.
HP #4 OUTDOOR HEAT PUMP UNIT	* CARRIER MODEL #25HCC560A0030, 5 TON OUTDOOR HEAT PUMP UNIT, 15 SEER, PROVIDE CYCLE PROTECTOR, LOW PRESSURE SWITCH, CRANKCASE HEATER, 208 VOLT, 1 PHASE. COMP 28.4A RLA, FAN 1.2A FLA, OUTDOOR HEAT PUMP 34.2A MCA, 50A MOCP.
HVAC SYSTEM #5	
AHU #5 DIRECT EXPANSION FAN COIL UNIT	* CARRIER MODEL #FX4DNB061, 4 WAY, MULTIPOISE FAN COIL UNIT. 7.5 KW HEATER. NOMINAL CAPACITY = 60,000 BTUH. 2000 CFM NOMINAL. PROVIDE HARD SHUT-OFF TXV VALVE. 5 TON NOMINAL. PROVIDE PROGRAMMABLE THERMOSTAT AND FILTER RACK WITH HINGED DOOR. 3/4HP, 6.0A MOTOR FLA, 36.2A HEAT FLA, 208V, 1 PH, 52.8A MCA, 60A MOCP AHU & HEAT.
HP #5 OUTDOOR HEAT PUMP UNIT	* CARRIER MODEL #25HCC560A0030, 5 TON OUTDOOR HEAT PUMP UNIT, 15 SEER, PROVIDE CYCLE PROTECTOR, LOW PRESSURE SWITCH, CRANKCASE HEATER, 208 VOLT, 1 PHASE. COMP 28.4A RLA, FAN 1.2A FLA, OUTDOOR HEAT PUMP 34.2A MCA, 50A MOCP.
HVAC SYSTEM #6	
AHU #6 DIRECT EXPANSION FAN COIL UNIT	* CARRIER MODEL #FX4DNB061, 4 WAY, MULTIPOISE FAN COIL UNIT. 7.5 KW HEATER. NOMINAL CAPACITY = 60,000 BTUH. 2000 CFM NOMINAL. PROVIDE HARD SHUT-OFF TXV VALVE. 5 TON NOMINAL. PROVIDE PROGRAMMABLE THERMOSTAT AND FILTER RACK WITH HINGED DOOR. 3/4HP, 6.0A MOTOR FLA, 36.2A HEAT FLA, 208V, 1 PH, 52.8A MCA, 60A MOCP AHU & HEAT.
HP #6 OUTDOOR HEAT PUMP UNIT	* CARRIER MODEL #25HCC560A0030, 5 TON OUTDOOR HEAT PUMP UNIT, 15 SEER, PROVIDE CYCLE PROTECTOR, LOW PRESSURE SWITCH, CRANKCASE HEATER, 208 VOLT, 1 PHASE. COMP 28.4A RLA, FAN 1.2A FLA, OUTDOOR HEAT PUMP 34.2A MCA, 50A MOCP.
HVAC SYSTEM #7	
AHU #7 DIRECT EXPANSION FAN COIL UNIT	* CARRIER MODEL #FX4DNB061, 4 WAY, MULTIPOISE FAN COIL UNIT. 7.5 KW HEATER. NOMINAL CAPACITY = 60,000 BTUH. 2000 CFM NOMINAL. PROVIDE HARD SHUT-OFF TXV VALVE. 5 TON NOMINAL. PROVIDE PROGRAMMABLE THERMOSTAT AND FILTER RACK WITH HINGED DOOR. 3/4HP, 6.0A MOTOR FLA, 36.2A HEAT FLA, 208V, 1 PH, 52.8A MCA, 60A MOCP AHU & HEAT.
HP #7 OUTDOOR HEAT PUMP UNIT	* CARRIER MODEL #25HCC560A0030, 5 TON OUTDOOR HEAT PUMP UNIT, 15 SEER, PROVIDE CYCLE PROTECTOR, LOW PRESSURE SWITCH, CRANKCASE HEATER, 208 VOLT, 1 PHASE. COMP 28.4A RLA, FAN 1.2A FLA, OUTDOOR HEAT PUMP 34.2A MCA, 50A MOCP.
HVAC SYSTEM #8	
AHU #8 DIRECT EXPANSION FAN COIL UNIT	* CARRIER MODEL #FX4DNB061, 4 WAY, MULTIPOISE FAN COIL UNIT. 7.5 KW HEATER. NOMINAL CAPACITY = 60,000 BTUH. 2000 CFM NOMINAL. PROVIDE HARD SHUT-OFF TXV VALVE. 5 TON NOMINAL. PROVIDE PROGRAMMABLE THERMOSTAT AND FILTER RACK WITH HINGED DOOR. 3/4HP, 6.0A MOTOR FLA, 36.2A HEAT FLA, 208V, 1 PH, 52.8A MCA, 60A MOCP AHU & HEAT.
HP #8 OUTDOOR HEAT PUMP UNIT	* CARRIER MODEL #25HCC560A0030, 5 TON OUTDOOR HEAT PUMP UNIT, 15 SEER, PROVIDE CYCLE PROTECTOR, LOW PRESSURE SWITCH, CRANKCASE HEATER, 208 VOLT, 1 PHASE. COMP 28.4A RLA, FAN 1.2A FLA, OUTDOOR HEAT PUMP 34.2A MCA, 50A MOCP.
HVAC SYSTEM #9	
AHU #9 DIRECT EXPANSION FAN COIL UNIT	* CARRIER MODEL #FX4CNF037, 4 WAY, MULTIPOISE FAN COIL UNIT. 6 KW HEATER. NOMINAL CAPACITY = 36,000 BTUH. 1200 CFM NOMINAL. PROVIDE HARD SHUT-OFF TXV VALVE. 3 TON NOMINAL. PROVIDE PROGRAMMABLE THERMOSTAT AND FILTER RACK WITH HINGED DOOR. 1/2HP, 4.1A MOTOR FLA, 28.9A HEAT FLA, 208V, 1 PH, 44.7A MCA, 45A MOCP AHU & HEAT.
HP #9 OUTDOOR HEAT PUMP UNIT	* CARRIER MODEL #25HCC536A0030, 3 TON OUTDOOR HEAT PUMP UNIT, 15 SEER, PROVIDE CYCLE PROTECTOR, LOW PRESSURE SWITCH, CRANKCASE HEATER, 208 VOLT, 1 PHASE. COMP 16.7A RLA, FAN 1.2A FLA, OUTDOOR HEAT PUMP 22.1A MCA, 35A MOCP.

* OR APPROVED EQUAL

AHU CONTROL NOTE:

FOR EACH SYSTEM PROVIDE "SIMPLE ENGINEERED SOLUTIONS" MODEL #HPDM-XX HEAT PUMP DEHUMIDIFICATION CONTROL MODULE. PROVIDE PROGRAMMABLE ELECTRONIC THERMOSTAT WITH AUTO CHANGEOVER AND HUMIDISTAT FUNCTION. THERMOSTAT SHALL BE COMPATIBLE WITH DEHUMIDIFICATION CONTROL MODULE. PURPOSE OF DEHUMIDIFICATION CONTROL MODULE IS TO INITIATE COOLING MODE WHEN HUMIDISTAT SENSES HUMIDITY OVER SETPOINT AND ENERGIZE AND CONTROL ELECTRIC HEAT TO MAINTAIN SPACE TEMPERATURE. CONTACT ROB ARMSTRONG WITH BRADY TRANE FOR INFORMATION ON DEHUMIDIFICATION CONTROL MODULE: (919) 232-5714. email: Rob.Armstrong@trane.com.

Morehead Country Club M1.1

GAS PACK SCHEDULE

GAS PACK UNIT #1 (GPU-1)	
GPU #1 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT	* CARRIER MODEL #48HCED08A2A5-0A0A0 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT; 12 EER; 89,000 BTUH NET COOLING; 3000 CFM; 208 VOLT, 3 PHASE; COMP (2) @ 13.6 RLA EA; OFM (2) @ 1.5 FLA EA.; IFM 5.8 FLA; 39 MCA, 50A MOCP; 7.5 TONS. PROVIDE PROGRAMMABLE THERMOSTAT/HUMIDISTAT. ENTHALPY BASED ECONOMIZER WITH BAROMETRIC RELIEF DAMPER, "HUMIDIMIZER" HOT GAS REHEAT, ACCESS PANELS, FILTER RACK, AND COIL GUARDS. 180,000 BTUH INPUT NATURAL GAS. PROVIDE MOTORIZED DAMPER TO CLOSE OUTSIDE AIR INTAKE WHEN UNIT IS NOT IS USE PER 2018 NC ENERGY CODE.
GAS PACK UNIT #2 (GPU-2)	
GPU #2 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT	* CARRIER MODEL #48HCED08A2A5-0A0A0 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT; 12 EER; 89,000 BTUH NET COOLING; 3000 CFM; 208 VOLT, 3 PHASE; COMP (2) @ 13.6 RLA EA; OFM (2) @ 1.5 FLA EA.; IFM 5.8 FLA; 39 MCA, 50A MOCP; 7.5 TONS. PROVIDE PROGRAMMABLE THERMOSTAT/HUMIDISTAT. ENTHALPY BASED ECONOMIZER WITH BAROMETRIC RELIEF DAMPER, "HUMIDIMIZER" HOT GAS REHEAT, ACCESS PANELS, FILTER RACK, AND COIL GUARDS. 180,000 BTUH INPUT NATURAL GAS. PROVIDE MOTORIZED DAMPER TO CLOSE OUTSIDE AIR INTAKE WHEN UNIT IS NOT IS USE PER 2018 NC ENERGY CODE.
GAS PACK UNIT #3 (GPU-3)	
GPU #3 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT	* CARRIER MODEL #48HCED08A2A5-0A0A0 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT; 12 EER; 89,000 BTUH NET COOLING; 3000 CFM; 208 VOLT, 3 PHASE; COMP (2) @ 13.6 RLA EA; OFM (2) @ 1.5 FLA EA.; IFM 5.8 FLA; 39 MCA, 50A MOCP; 7.5 TONS. PROVIDE PROGRAMMABLE THERMOSTAT/HUMIDISTAT. ENTHALPY BASED ECONOMIZER WITH BAROMETRIC RELIEF DAMPER, "HUMIDIMIZER" HOT GAS REHEAT, ACCESS PANELS, FILTER RACK, AND COIL GUARDS. 180,000 BTUH INPUT NATURAL GAS. PROVIDE MOTORIZED DAMPER TO CLOSE OUTSIDE AIR INTAKE WHEN UNIT IS NOT IS USE PER 2018 NC ENERGY CODE.

* OR APPROVED EQUAL

ENERGY RECOVERY UNIT SCHEDULE

		FANS / MOTORS							THERMAL PERFORMANCE						
									INLET / OUTLET CONDITIONS						
EQUIP. NUMBER	MODEL NO.	FLOW	STATIC PRESSURE (EXTERNAL)	FAN MOTORS	FLA (EACH MOTOR)	VOLTS/ PHASE/ HZ	MCA (SINGLE POINT)	MOCP (SINGLE POINT)	SUPPLY AIR TEMP(F) & HUMIDITY (DB) / (WB)		OUTSIDE AIR TEMP(F) & HUMIDITY (DB) / (WB)		ROOM AIR TEMP (F) & HUMIDITY (DB) / (WB OR RH)		NOTES:
									SUMMER	WINTER	SUMMER	WINTER	SUMMER	WINTER	
ERV-1	RENEWAIRE HE-1X.INH	650 CFM	0.5 IN H_2O	(2) 0.5 HP	4.8 A	208V 1 PH 60 HZ	10.8 A	15 A	80.8F / 70.2F	54.4F	95F / 78F	16F	75F / 50%	72F / 50%	ALL

NOTES:

1. FLOW & LOADS BASED ON ARI-1060 PERFORMANCE & CERTIFIED CORE.
2. SHUT DOWN ALL FANS ON DUCT SMOKE DETECTOR ALARM CONDITION.
3. VENTILATION TYPE: CORE TYPE HEAT EXCHANGER, HEAT & HUMIDITY TRANSFER.
4. INCLUDE INTEGRAL DISPOSABLE FILTERS (OUTSIDE AND ROOM AIR) WITH MERV8 OR BETTER RATING.
5. INCLUDE SINGLE POINT ELECTRICAL POWER CONNECTION.
6. HOUSING SHALL BE GALVANIZED, .20 GAUGE (OR THICKER) STEEL WITH LAPPED CORNERS.
7. OR APPROVED EQUALS.
8. SERVICE ACCESS DOORS SHALL BE GASKETED & PROVIDE ACCESS FOR MAINTENANCE OF ALL COMPONENTS.
9. INCLUDE INSULATION ON ALL CASE WALLS & DOORS.
10. INCLUDE THERMALLY PROTECTED MOTORS WITH STARTERS.
11. UL LISTED 1995
12. PROVIDE WITH FUSED DISCONNECT SWITCH.
13. ERV UNITS SHALL RUN AT ALL TIMES WHEN AHU FANS ARE RUNNING.

Morehead Country Club M1.1

EXHAUST FAN SCHEDULE

EXHAUST FAN #1 (EF-1)	* CARNES MODEL# VCDD030C EXHAUST FAN, 303 CFM @ 1/4" SP, 905 RPM, 2.7 AMPS, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, 10" RIGID DUCT TO EXTERIOR, FLASHING AND ROOF CAP. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES.
EXHAUST FAN #2 (EF-2)	* CARNES MODEL# VCDD030C EXHAUST FAN, 303 CFM @ 1/4" SP, 905 RPM, 2.7 AMPS, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, 10" RIGID DUCT TO EXTERIOR, FLASHING AND ROOF CAP. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES.
EXHAUST FAN #3 (EF-3)	* CARNES MODEL# VCDD010C EXHAUST FAN, 93 CFM @ 1/4" SP, 640 RPM, 1.1 AMPS, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, 6" RIGID DUCT TO WALL CAP. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES.
EXHAUST FAN #4 (EF-4)	* CARNES MODEL# VCDD025C EXHAUST FAN, 250 CFM @ 1/4" SP, 830 RPM, 2.2 AMPS, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, 10" RIGID DUCT TO EXTERIOR, FLASHING AND ROOF CAP. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES.
EXHAUST FAN #5 (EF-5)	* CARNES MODEL# VCDD025C EXHAUST FAN, 250 CFM @ 1/4" SP, 830 RPM, 2.2 AMPS, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, 10" RIGID DUCT TO EXTERIOR, FLASHING AND ROOF CAP. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES.

* OR APPROVED EQUAL

NOTE: RUN EXHAUST DUCTS HORIZONTALLY AS REQUIRED TO MAINTAIN 10'-0" MINIMUM SEPARATION FROM ANY INTAKES.

ELECTRIC WALL HEATER SCHEDULE

ELECTRIC WALL HEATER (EH-1)	* QMARK MODEL #CWH1202DSF ELECTRIC FAN-FORCED WALL HEATER, 1500 WATTS, 7.3 AMPS 208 VOLT, 1 PHASE PROVIDE WALL MOUNTING BOX, DISCONNECT SWITCH AND INTEGRAL THERMOSTAT.

* OR APPROVED EQUAL

AIR DISTRIBUTION SCHEDULE

MARK	* MANUFACTURER	MODEL NO.	NECK SIZE	FACE SIZE	MATERIAL	SERVICE	NOTES
A	CARNES	SPAB224	SEE FLEXIBLE DUCT SCHEDULE	24" X 24"	STEEL	SUPPLY	LAY-IN CEILING, WHITE 4-WAY BLOW
B	CARNES	SETA40	SEE FLEXIBLE DUCT SCHEDULE	24" X 24"	ALUMINUM	SUPPLY	LAY-IN CEILING, 4-WAY BLOW COLOR SELECTED BY ARCHITECT
C	CARNES	SESA40	9" DIA.	9" X 9"	ALUMINUM	SUPPLY	GYPSUM BOARD CEILING, 4-WAY BLOW, WHITE
D	CARNES	SESA40	8" DIA.	12" X 12"	ALUMINUM	SUPPLY	GYPSUM BOARD CEILING, 4-WAY BLOW, WHITE
E	CARNES	CHCB	4" X 48"	4" X 48"	ALUMINUM	SUPPLY	GYPSUM BOARD CEILING LINEAR DIFFUSER, (2) 3/4" SLOTS ** COLOR SELECTED BY ARCHITECT
F	CARNES	CHCB	4" X 72"	4" X 72"	ALUMINUM	SUPPLY	GYPSUM BOARD CEILING LINEAR DIFFUSER, (2) 3/4" SLOTS ** COLOR SELECTED BY ARCHITECT
G	CARNES	SPAB124	SEE FLEXIBLE DUCT SCHEDULE	12" X 24"	STEEL	SUPPLY	LAY-IN CEILING, WHITE 4-WAY BLOW
RA	CARNES	SPRB22	SEE FLEXIBLE DUCT SCHEDULE	24" X 24"	STEEL	RETURN	LAY-IN CEILING, WHITE
RB	CARNES	RAAMH	24" X 12"	26" X 14"	ALUMINUM	RETURN	SIDEWALL MOUNTED COLOR SELECTED BY ARCHITECT
RC	CARNES	RATA	12" X 12"	14" X 14"	ALUMINUM	RETURN	GYPSUM BOARD CEILING, WHITE **
RD	CARNES	RATA	18" X 18"	24" X 24"	ALUMINUM	RETURN	LAY-IN CEILING ** COLOR SELECTED BY ARCHITECT
RE	CARNES	RATA	18" X 12"	24" X 24"	ALUMINUM	RETURN	LAY-IN CEILING ** COLOR SELECTED BY ARCHITECT
RF	CARNES	RAAMH	36" X 24"	38" X 26"	ALUMINUM	RETURN	GYPSUM BOARD CEILING MOUNTED ** COLOR SELECTED BY ARCHITECT
EA	CARNES	RATA	12" X 12"	14" X 14"	ALUMINUM	EXHAUST	GYPSUM BOARD CEILING, WHITE **

* OR APPROVED EQUAL

** PROVIDE LINED PLENUM BOX ON TOP OF GRILLE OR DIFFUSER WITH ROUND CONNECTION FOR FLEXIBLE DUCT.
COORDINATE BORDER TYPE WITH THE CEILING TYPE. SEE ARCH SHEETS
PROVIDE CUT SHEETS TO OWNER/ARCH. PRIOR TO ORDERING.

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 WILLIAM E. BURKE 1/29/21

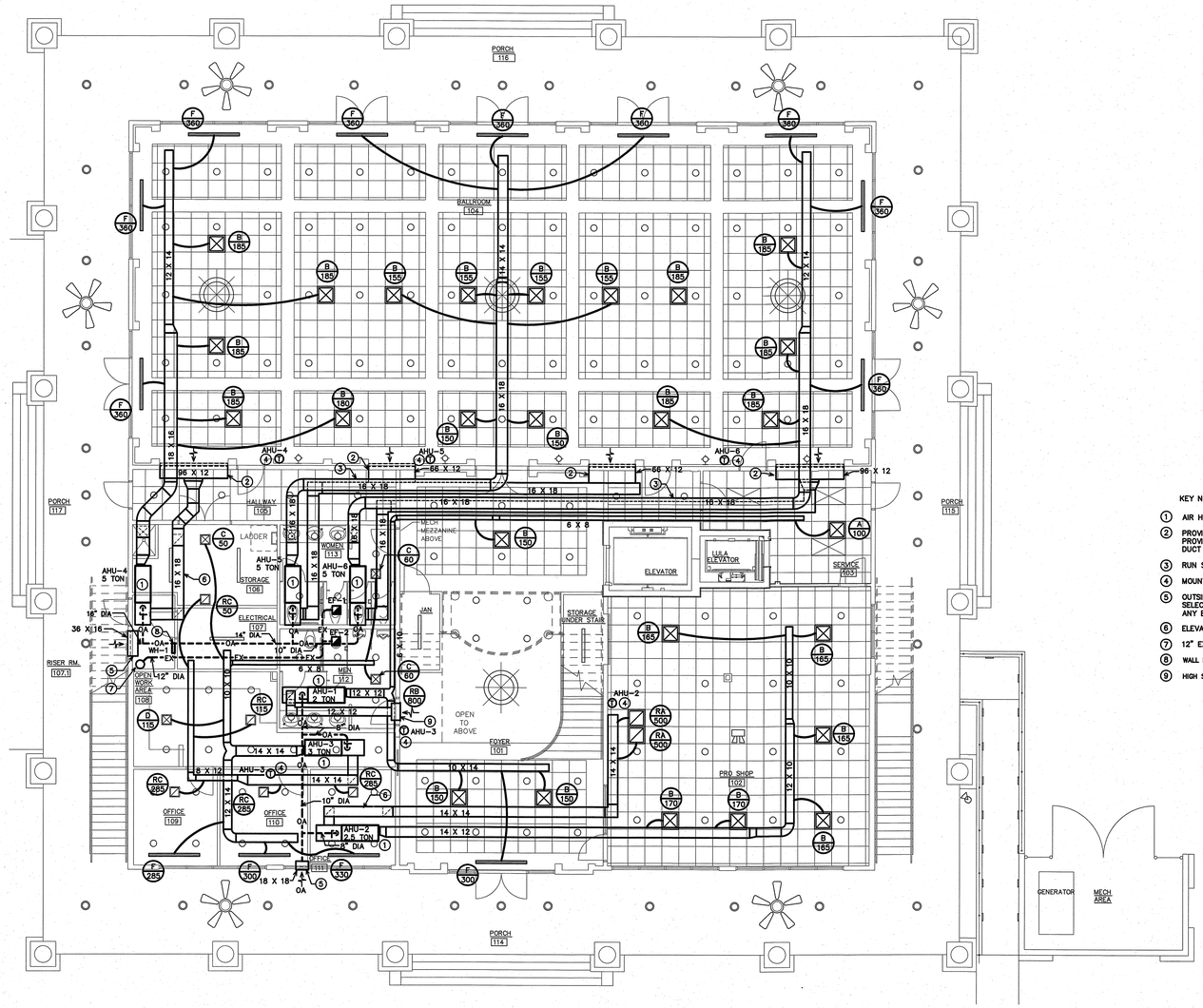
HVAC SCHEDULES

20020

ISSUED: 1/29/21
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SHEET NO.
M-1.1



1 M-2.1 FIRST FLOOR HVAC PLAN
SCALE: 1/8"=1'-0"

KEY NOTES FOR SHEET M-2.1

1. AIR HANDLING UNIT MOUNTED ON FLOOR OF MECHANICAL MEZZANINE. SEE DETAIL 1/M-3.
2. PROVIDE RETURN AIR PLENUM ON BACK OF WOODEN WALL LOUVER. WALL LOUVER IS PROVIDED BY THE GENERAL CONTRACTOR. THE DUCT PLENUM SHALL HAVE INTERNAL DUCT LINER INSULATION.
3. RUN SUPPLY AIR ABOVE RETURN AIR DUCT.
4. MOUNT THERMOSTAT AT 48" AFF.
5. OUTSIDE AIR INTAKE WALL LOUVER. LOUVER SHALL BE EQUAL TO CARNES MODE FKDC, COLOR SELECTED BY ARCHITECT. LOUVER SIZE INDICATED. INTAKE SHALL BE 10'-0" MIN. FROM ANY EXHAUST DISCHARGE.
6. ELEVATE RETURN AIR DUCT TO PROVIDE CLEARANCE IN FRONT OF AIR HANDLING UNIT.
7. 12" EXHAUST DUCT UP TO SECOND FLOOR. SEE 1/M-2.3 FOR CONTINUATION.
8. WALL MOUNTED ELECTRIC HEATER. MOUNT WITH BOTTOM AT 8" AFF.
9. HIGH SIDE WALL MOUNTED RETURN AIR GRILLE.

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1/29/21

FIRST FLOOR HVAC PLAN

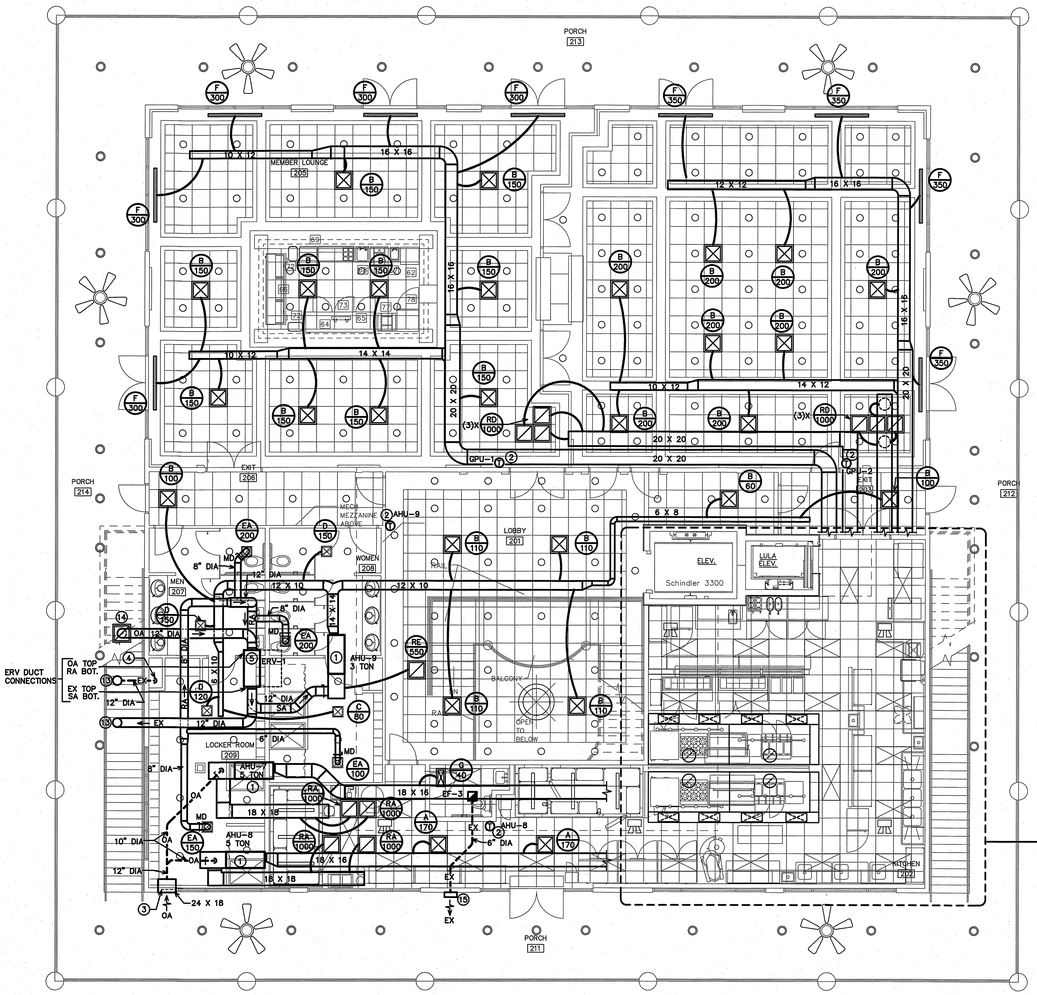
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DWG BY:	WBE
CKD BY:	BEB

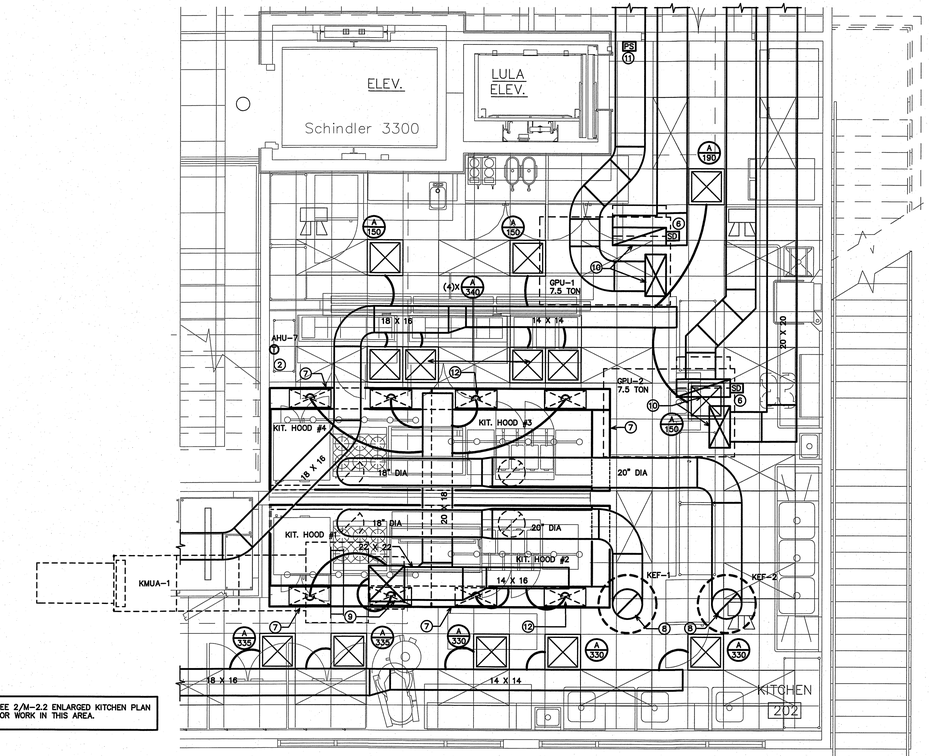
REVISIONS

SHEET NO. M-2.1

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1 M-2.2 SECOND FLOOR HVAC PLAN
SCALE: 1/8"=1'-0"



2 M-2.2 ENLARGED KITCHEN PLAN
SCALE: 1/4"=1'-0"

SEE 2/M-2.2 ENLARGED KITCHEN PLAN FOR WORK IN THIS AREA.

KITCHEN HOOD NOTES:

1. SEE ATTACHED CAPTIVE AIRE DRAWINGS FOR KITCHEN HOOD DETAILS, SPECIFICATIONS, FIRE EXTINGUISHING SYSTEMS, AND ALL KITCHEN HOOD EXHAUST AND SUPPLY AIR FAN SPECIFICATIONS.
2. THE CONTROLS FOR ALL KITCHEN HOODS SHALL BE INTERLOCKED WITH THE CONTROLS FOR AIR HANDLING UNITS AHU-7 & AHU-8 SO THAT THE AIR HANLING UNITS FANS RUN AT ALL TIMES WHEN HOOD FANS ARE RUNNING. WHEN THE HOOD FIRE EXTINGUISHING SYSTEM IS ACTIVATED THE AIR HANDLING UNITS FANS SHALL BE SHUT-DOWN.

KEY NOTES FOR SHEET M-2.2

1. AIR HANDLING UNIT MOUNTED ON FLOOR OF MECHANICAL MEZZANINE. SEE DETAIL 1/M-3. PROVIDE ALL MANUFACTURERS CLEARANCES AROUND UNIT.
2. MOUNT THERMOSTAT AT 48" AFF.
3. OUTSIDE AIR INTAKE WALL LOUVER. LOUVER SHALL BE EQUAL TO CARNES MODE FKDC. COLOR SELECTED BY ARCHITECT. LOUVER SIZE INDICATED. INTAKE SHALL BE 10'-0" MIN. FROM ANY EXHAUST DISCHARGE.
4. 12" EXHAUST DUCT DOWN IN CHASE TO FIRST FLOOR. SEE 1/M-2.1 FOR CONTINUATION.
5. ENERGY RECOVERY VENTILATOR MOUNTED ON FLOOR OF MECHANICAL MEZZANINE. PROVIDE ALL MANUFACTURERS CLEARANCES AROUND UNIT.
6. INSTALL DUCT TYPE SMOKE DETECTOR IN RETURN AIR DUCT FOR ROOF-TOP UNIT. PROVIDE ACCESS DOOR IN DUCT.
7. KITCHEN EXHAUST HOOD.
8. 20" DIA. KITCHEN HOOD EXHAUST DUCT UP TO ROOF MOUNTED EXHAUST FAN. SEE 1/M-2.3 FOR CONTINUATION.
9. 24" X 24" KITCHEN HOOD SUPPLY AIR DUCT UP TO ROOF MOUNTED KITCHEN HOOD MAKE-UP AIR UNIT. SEE 1/M-2.3.
10. SUPPLY AND RETURN DUCTWORK UP TO ROOF-TOP GAS PACKAGE UNIT. SEE 1/M-2.3.
11. WALL MOUNTED MANUAL PULL STATION FOR KITCHEN HOOD FIRE EXTINGUISHING SYSTEM. MOUNT AT 48" AFF. VERIFY FINAL LOCATION WITH LOCAL FIRE MARSHALL.
12. RUN 14" DIA. FLEXIBLE MAKE-UP AIR DUCT TO DUCT COLLAR ON KITCHEN HOOD MAKE-UP AIR PLENUM. PROVIDE ROUND TO RECTANGULAR DUCT TRANSITION FITTING. (TYPICAL FOR 8).
13. 12" RIGID EXHAUST DUCT UP TO ROOF MOUNTED EXHAUST HOOD. EXHAUST HOOD SHALL HAVE LOW PROFILE AND BE INSTALLED ON SAME ANGLE AS ROOF SLOPE.
14. 18" X 18" ALUMINUM OUTSIDE AIR INTAKE GRILLE MOUNTED IN PORCH CEILING. GRILLE SHALL BE EQUAL TO CARNES MODEL RATA.
15. WALL EXHAUST CAP. DISCHARGE SHALL BE 10'-0" MIN. FROM ANY OUTSIDE AIR INTAKE, AND 3'-0" FROM ANY OPERABLE WINDOW OR DOOR.

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SECOND FLOOR HVAC PLAN

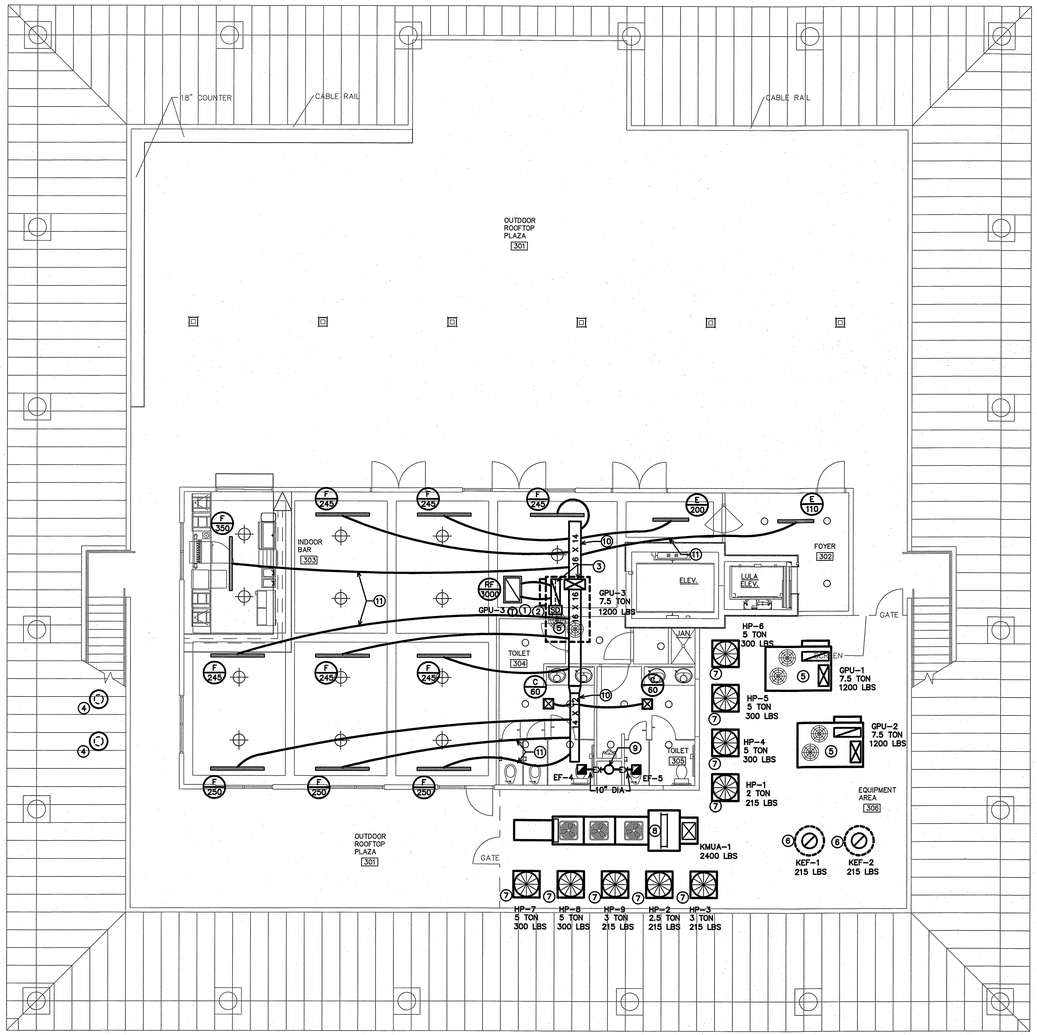
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1 M-2.3 ROOFTOP HVAC PLAN
SCALE: 1/8"=1'-0"

KEY NOTES FOR SHEET M-2.3

1. MOUNT THERMOSTAT AT 48" AFF.
2. INSTALL DUCT TYPE SMOKE DETECTOR IN RETURN AIR DUCT FOR ROOF-TOP UNIT. PROVIDE ACCESS DOOR IN DUCT.
3. SUPPLY AND RETURN DUCTWORK UP TO ROOF-TOP GAS PACKAGE UNIT. SEE 1/M-2.3.
4. ROOF MOUNTED EXHAUST HOOD. EXHAUST HOOD SHALL HAVE LOW PROFILE AND BE INSTALLED ON SAME ANGLE AS ROOF SLOPE.
5. ROOF TOP GAS PACKAGE UNIT. SEE DETAIL 2/M-3. PROVIDE ALL MANUFACTURER'S REQUIRED CLEARANCES AROUND UNIT.
6. ROOF MOUNTED KITCHEN HOOD EXHAUST FAN. EXHAUST DISCHARGE SHALL BE 10'-0" MIN. FROM ANY OUTSIDE AIR INTAKE. IF TOP OF FAN (EXHAUST DISCHARGE) IS BELOW TOP OF PARAPET WALL THEN PROVIDE ROOF CURB OF EXHAUST EXTENSION SO THE TOP OF FAN IS FLUSH WITH OR SLIGHTLY ABOVE TOP OF PARAPET WALL.
7. ROOF MOUNTED OUTDOOR HEAT PUMP UNIT. ROUTE REFRIGERANT PIPING FROM UNIT CONCEALED ABOVE CEILING AND IN WALLS TO INDOOR AIR HANDLING UNIT. PROVIDE ALL MANUFACTURER'S REQUIRED CLEARANCES AROUND UNIT.
8. ROOF MOUNTED HEATED AND COOLED MAKE-UP AIR UNIT. INTAKE SHALL BE 10'-0" MIN. FROM ANY EXHAUST DISCHARGE. PROVIDE ALL MANUFACTURER'S CLEARANCES AROUND UNIT.
9. 12" DIA. RIGID EXHAUST DUCT UP TO ROOF MOUNTED EXHAUST CAP. EXHAUST DISCHARGE SHALL BE 10'-0" MIN. FROM ANY OUTSIDE AIR INTAKE.
10. RUN SUPPLY AIR DUCTWORK ABOVE CEILING PARALLEL TO AND BETWEEN ROOF TRUSSES.
11. RUN FLEXIBLE DUCTS THROUGH WEBS OF ROOF TRUSSES. (TYPICAL).

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ROOFTOP HVAC PLAN

20020

ISSUED:	12/10/20
DWG BY:	RM
CKD BY:	BEB

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SHEET NO. M-2.3

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DIVISION 15 B – HEATING, VENTILATING AND AIR CONDITIONING

1.1 DESCRIPTION OF THE WORK

A. Work under this section includes, but is not necessarily limited to, furnishing and installing the following:

1. Heating, ventilation, and air conditioning equipment.
2. Ductwork.
3. Grilles and diffusers.
4. Controls and control wiring.
5. Condensate piping.

B. All work under this contract shall be installed in compliance with the latest edition of the following codes and standards insofar as they apply:

1. ASHRAE Guide
2. National Electric Code.
3. 2018 NC State Building Code: Mech Code.
4. The Electrical Specifications for this project.
5. SMACNA HVAC Duct Construction Standards.
6. All local codes and ordinances.
7. ARI rating.
8. 2018 NC State Building Code: Energy Conservation Code.

C. These codes are minimum standards. If codes require a more stringent method of construction than the specifications require, the codes shall govern.

D. The HVAC Contractor shall be licensed in North Carolina and have all local licenses required for the work.

1.2 INTENT

A. The intent of these specification and the accompanying drawing is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The HVAC Contractor shall take this into consideration and include in his bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

A. Coordinate work with other contractors. Notify Owner of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Owner for a decision before resuming operations.

B. Locations shown are approximate. The HVAC Contractor shall verify with owner, the placement of equipment, fixtures, outlets, etc. The drawings do not give exact details as to elevations and locations of various pipes, fittings, ducts, conduit, etc., and do not show all offsets and other installation details which may be required.

C. Changes in duct or piping design caused by obstructions shall be submitted to Engineer in sketch form for study and comment prior to execution. Additional cost will not be allowed for this type of work.

1.4 SHOP DRAWINGS

A. Shop drawings shall be submitted for all major items of equipment. These may consist of the manufacturer's standard catalog or tear sheets and shall have the exact items being offered clearly identified. Shop drawings shall include but are not limited to the following:

1. All equipment and accessories.
2. Grilles and diffusers.
3. Unit sizes and requirements.

PART 2 –PRODUCTS

2.1 EQUIPMENT

A. All air handling devices must have the manufacturer's recommended filter rack, for 1" thick filters.

2.2 PIPING

A. Condensate drain piping shall be PVC pipe. Provide tee and plug at changes in direction. Route pipe to proper termination point. All condensate piping shall be insulated with flexible elastomeric insulation. Provide copper piping in plenum areas.

2.3 DUCTWORK

A. Ductwork shall be built in accordance with SMACNA HVAC Duct construction standards. Furnish and install all supply, return, and ventilation ductwork shown, together with splitters, deflectors, dampers, etc. This work shall be constructed of new galvanized prime grade steel sheets. The gauges of metal to be used and the construction and bracing of joints shall be in accordance with the SMACNA recommendations.

B. Seal all sheet metal joints with fiber impregnated mastic.

C. Support from building structure on strap hangers not over 8 feet apart.

D. Use manufactured turning vanes in each elbow where required or where indicated on drawings.

E. Flexible connectors shall be 3 inches wide, of fireproof material and used to isolate noise between equipment and ductwork on supply and return side of all units.

F. Round runouts, where used, shall be built in accordance with the above standards, and each runout shall also have manufactured side take off, adjustable quadrant damper at all accessible locations and shall be of Owens Corning INL–25 flexible duct with UL label. Flex duct lengths allowed up to 14 feet. Duct must be supported with sufficient hangers in order to prevent sags. Serpentine routing will not be permitted. Quadrant damper to be 22 gauge easily adjustable manually with exterior handle (similar to H&C Kwik–set) and is not to be mounted in side take–off.

G. Kitchen exhaust hood exhaust air ductwork shall be shall have all welded seams. Ducts shall meet all requirements of NCSBC, Mechanical Code, Section 506. Minimum thickness of steel ducts shall be 16 gauge steel and 18 gauge for stainless steel.

2.4 DUCT INSULATION (LOW PRESSURE)

A. All insulation, linings, coverings and adhesives shall have a flame spread classification of 25 or less and a smoke developed rating of not more than 50, exposed exterior piping.

B. All duct insulation shall comply with Section 604, of the N. C. Building Code: Mechanical Code

C. All supply and return ductwork shall be completely insulated, either internally or externally.

D. Rectangular ductwork shall be lined with two–inch thick, 1.5 lb. per cubic foot density, duct liner, Armstrong, CSG Ultraliner, Johns Manville or approved equal.

E. As an alternative to duct liner rectangular duct may be wrapped with Class 1 – 2", 3/4 lb. density (R–6.5) thick reinforced foil back fiberglass insulation, Owens–corning Series ED or equal. Tape shall be Kraft reinforced foil tape or equal.

F. Exhaust air duct does not require insulation, unless otherwise noted on the plans.

G. Insulation shall be held inplace with adhesive and welding pins 18" on center.

H. Duct dimensions shown on the drawings are Net Inside Dimensions

2.5 THERMOSTATS

A. Provide programmable electronic thermostats.
B. Submit proposed thermostats for approval.

2.6 ROOF PENETRATIONS

A. Provide pre–manufactured roof flashings compatible with equipment served.
B. Coordinate roof work with roof system used. Provide proper flashing as required.
C. Provide 1 year warranty on all roof work performed.

2.7 DUCT SMOKE DETECTORS

A. Install duct mounted smoke detectors in all gas package roof–top units. The duct smoke detectors shall be supplied and wired by the Fire Alarm Contractor. Provide access doors and wire to unit for unit shut–down. Install per code.

B. Duct detectors are not required in split system heat pump air handling units since units air flows are 2000 cfm or less per NCSBC: Mechanical Code, Section 606.2

PART 3 – EXECUTION

3.1 PIPING

A. The HVAC Contractor shall coordinate such routing with others, to line his work true to adjacent spaces and in a workmanlike manner and to use only short radius 90 degree elbows. Where required, piping to be sturdily supported and separated in a manner satisfactory to the Engineer.

B. The HVAC Contractor shall paint all exterior refrigerant piping, with UV resistant paint as recommended by the closed cell insulation manufacturer.

C. Insulate all condensate lines for their entire length with 1/2" closed cell insulation. Install insulation per the manufacturers recommendations.

3.2 ELECTRICAL WORK

A. The electrical contractor shall provide all switches, starters, wire conduit for the air conditioning, heating and ventilation equipment. Control wiring shall be by the heating and air conditioning contractor.

B. HVAC Contractor is responsible for verifying that power terminals have been properly grounded prior to operating equipment and must find connections to all equipment including control wiring.

C. All materials and workmanship shall be in accordance with the electrical specifications for the project. All wiring shall be color coded, and as–built wiring diagram prepared showing all connections and colors of wiring and delivered to the Owner.

D. Furnish certification for acceptance of control wiring from local electrical inspector prior to acceptance.

3.3 CLEAN UP

A. During construction, keep the site clean of debris. Upon completion, and before final inspection, clean up the premises to remove all evidence of work. In addition upon completion of construction leave equipment clean.

B. Furnish one box of clean filters, for each size required, at the time of final inspection to the owner.

3.4 OPERATOR'S MANUAL AND DIAGRAM

A. The HVAC Contractor shall prepare in one copy a manual describing the proper maintenance and operation of the systems. This manual shall not consist of standard factory instructions (although these may be included) but shall be prepared to describe this particular job.

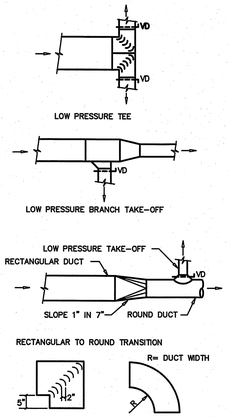
B. The manual shall be bound, indexed, dated and signed by the HVAC Contractor.

C. Qualified representative of the HVAC contractor shall meet with the designated representatives of the Owner and the Owner's representative shall be instructed in the proper operation and maintenance of the control system and other systems.

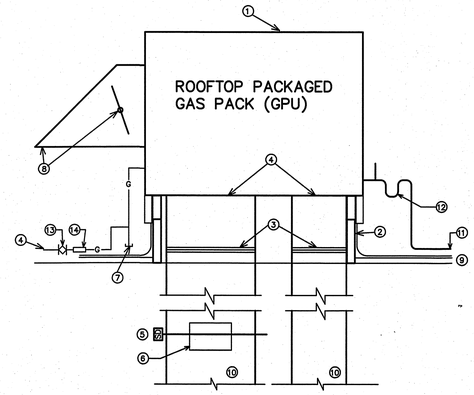
3.5 GUARANTEE

A. Guarantee all materials and labor included in the HVAC work for a period of one year from date of final acceptance by the owner. In addition, motor compressors shall be a nonprorated five year warranty. Any part or parts of the work or equipment which prove to be defective during the guarantee period shall be replaced at no additional cost to the owner or tenant.

B. All air flows must be measured and balanced to within 10% of design airflows. All equipment used must have a current certification. Provide two copies of the balance report to the owner at closeout. The HVAC contractor shall return and re–balance to occupant comfort after 90 days from close–out. Provide all balance dampers needed for satisfactory operation regardless if shown on the drawings or not, and shift location of thermostats thermostats if required for occupancy comfort.



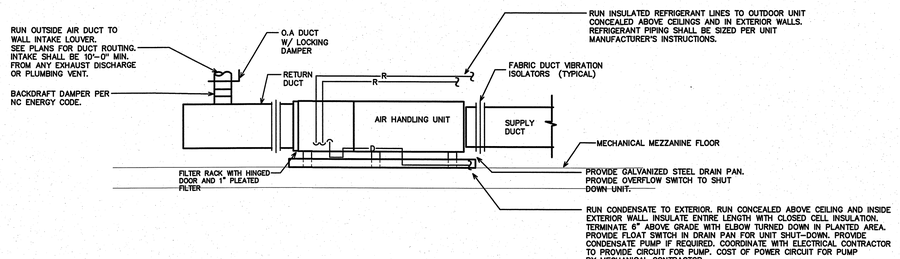
3 M-3 DUCT CONSTRUCTION DETAILS
SCALE: NOT TO SCALE



KEY NOTES FOR 2/M–3

1. ROOFTOP NATURAL GAS PACKAGED UNIT PROVIDED MECHANICAL CONTRACTOR.
2. ROOF CURB PROVIDED BY HVAC CONTRACTOR. ALL ROOF WORK SHALL BE DONE LICENSED ROOFING CONTRACTOR HIRED BY THE HVAC CONTRACTOR.
3. FLEXIBLE CONNECTIONS
4. GAS LINE TO UNIT PROVIDED BY PLUMBING OR MECHANICAL CONTRACTOR. FINAL CONNECTION AND START UP BY MECH. CONTRACTOR.
5. INSTALL DUCT SMOKE DETECTOR IN ACCESSIBLE LOCATION. THE DETECTOR SHALL PROVIDE FOR UNIT SHUT DOWN. SEE SPECIFICATIONS. PROVIDE ON ALL ROOF–TOP UNITS.
6. PROVIDE ACCESS DOOR. COORDINATE LOCATION WITH DUCT DETECTOR.
7. 6" DIRT LEG.
8. ECONOMIZER OR OUTSIDE AIR HOOD. SET UNIT CONTROLS TO PROVIDE MINIMUM REQUIRED OUTSIDE AIR WHEN ECONOMIZER IS NOT BEING USED. ECONOMIZER DAMPER SHALL CLOSE WHEN UNIT FAN IS NOT RUNNING.
9. ROOF SYSTEM. COORDINATE TYPE WITH GENERAL CONTRACTOR.
10. DUCT WORK DROP DOWN INTO SPACE AND CONNECT TO BRANCH DUCT. TRANSITION FROM UNIT CONNECTION SIZES TO DUCT SIZES NOTED ON DRAWING.
11. CONDENSATE DRAIN. RUN TO ROOF.
12. PROVIDE CONDENSATE DRAIN TRAP. SIZE PER MANUFACTURERS RECOMMENDATIONS.
13. GAS SHUT–OFF VALVE, UNION AND FLEXIBLE HOSE.
14. GAS REGULATOR.

2 M-3 TYPICAL GAS PACKAGE ROOF–TOP UNIT DETAIL
SCALE: NOT TO SCALE



1 M-3 TYPICAL AIR HANDLING UNIT DETAIL
SCALE: NOT TO SCALE

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE

1/29/21

HVAC SPECIFICATIONS

20020

ISSUED:	1/29/21
DWG BY:	WBE
CKD BY:	BEB

REVISIONS

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DIVISION 16 – ELECTRICAL

PART 1 – GENERAL

1.1 DESCRIPTION OF THE WORK

A. Work under this section includes, but is not necessarily limited to, furnishing and installing the following:
   1. Electrical service and service equipment.
   2. Lighting and power distribution system.
   3. Provide lighting fixtures selected by owner with lamps to match.
   4. Wiring devices, boxes, cover plates, etc.
   5. Source of power for all items of equipment.
   6. Grounding.
   7. Other requirements and/or systems where shown.

B. All work shall be complete and items, equipment, etc., shall be electrically connected for proper and correct operation.

C. All work under this contract shall be installed in accordance with the latest edition of the following codes and standards insofar as they apply:
   1. The 2017 National Electrical Code.
   2. The National Electrical Safety Code.
   3. Underwriter's Laboratories, Inc., Standards and approved listings.
   4. Electrical Testing Labatories standards.
   5. North Carolina Building Code, Latest Edition and Revisions.
   6. All local codes and ordinances.

D. The Electrical Contractor shall be licensed in the State of North Carolina and have all local licenses required for the work.

E. Obtain all permits, licenses, inspections, etc., required for the work and pay for the same. Furnish final certificate of inspection and approval from the electrical inspector having jurisdiction prior to acceptance of the work.

F. All work shall be done by skilled mechanics and shall present a neat, trim, workmanlike condition when complete.

1.2 INTENT

A. The intent of these specifications and the accompanying drawings is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The Electrical Contractor shall take this into consideration and include in his base bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

A. Coordinate work with other contractors. Notify Architect of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Architect for a decision before resuming operations.

B. Locations shown are approximate. The drawings do not give exact details as to elevations and locations of various pipes, fittings, ducts, conduit, etc., and do not show all offsets and other installation details which may be required. Coordinate all locations with architect before any rough-in.

1.4 SHOP DRAWINGS

A. Shop drawings shall be submitted for panels and service equipment, lighting, wiring devices, and cover plates. These may consist of the manufacturer's standard catalog or tear sheets and shall have the exact items being offered clearly identified.

PART 2 – PRODUCTS AND MATERIALS

2.1 GENERAL

A. All material shall be new and shall bear the manufacturer's name, trade name, and UL label where such standard has been established for the particular material. Materials shall be the standard products of manufacturer's regularly engaged in the manufacturer of the required type of equipment and the manufacturer's latest approved design.
   1. Boxes installed in concealed locations shall be set flush with the finished surfaces.
   2. Provide rated boxes in all fire barriers & walls installed per code.

2.2 NOT USED

2.3 CONDUCTORS

A. Conductors shall be color coded, sizes #8 and larger may be color taped on the job. Color coding shall be: Standard Practice.

B. Conductors shall be manufactured by Dodge, Southwire or approved equal. Conductors shall meet the latest requirements of NEMA and IPCEA and shall be UL approved.

C. Metallic sheathed "MC" cable may be used where allowed by N.E.C.

D. Conductors shall be spliced and taped as follows:
   1. Size #10 and #12, use Ideal "Wing Nuts" or T&B "Piggy" connectors. Connectors shall be rated for 150 degrees C for use in recessed lighting fixtures.
   2. Size #8 and larger shall be solderless screw and screw-clamping type, smoothly covered and shaped with rubber gum type with final cover vinyl plastic electrical type. In lieu of rubber gum and vinyl plastic type, factory fabricated approved preformed insulating covers may be used. All connectors shall be UL approved.
   3. No split-bolt type connectors may be used.

E. All branch wire and connections shall be copper and sized per National Electric Code.

F. All conductors shall be continuous without splice between junction, outlet, device boxes, etc. No splicing will be permitted in panelboard cabinets, safety switches, etc.

G. All wiring in mechanical spaces shall be plenum rated.

H. Provide GFI protection within 6'-0" of any sink.

I. All multi-wire branch circuits shall comply with 2017 NEC, 210.4(B).

J. All wiring at medical facilities shall comply with 2017 NEC, 517.1.

2.4 PANELBOARDS, SAFETY SWITCHES

A. Panelboards shall comply with NEMA Standard PB 1 – Latest Edition and as manufactured by Square D or ITE–Siemens.

B. The contractor shall be responsible for correctly phasing the circuits in the panelboards.

C. Safety switches shall be general duty type, size and rating as required for load service. Safety switches shall be fused or unfused as shown and/or as required. Safety switches serving motor loads shall be horsepower rated for load served.

2.5 NOT USED

2.6 WIRING DEVICES

A. Wiring devices shall be commercial grade by Bryant, Leviton, or approved equal. With matching cover. Color by Architect.

B. Wiring devices installed under a Kitchen Hood shall have stainless steel covers.

C. Wiring devices installed over counters shall comply with ANSI A117.1.

2.7 NOT USED

2.8 CONDUIT

A. PVC conduit will be allowed where N.E.C. approved.

B. All service conduit shall be rigid where exposed below 8'–0" AFF or exposed to the elements or hazardous conditions.

PART 3 – EXECUTION

3.1 CIRCUIT GROUNDING

A. All circuits shall contain an insulated, green, copper grounding conductor, sized in accordance with Table 250–95 of the NEC. Grounding conductors shall be connected to equipment grounding bus in panelboard and securely attached and grounded to the device or enclosure at the other end.

3.2 GROUNDING TYPE CONVENIENCE OUTLETS AND SWITCHES

A. Outlets and switches shall be solidly grounded to equipment grounding system with a green colored insulated conductor. Electrical connections shall be continuous from equipment ground bus in panelboard to the hex nut on the convenience outlet or switch.

3.3 MOTORS

A. All motors shall be connected to conduit system with short length (minimum length 24" and maximum length 36") of flexible liquidtight conduit.

3.4 NOT USED

3.5 EQUIPMENT LABELING

A. Provide permanent name plates for all panelboards, safety switches, wiring troughs, etc., for identification of equipment controlled, services, etc. Nameplates shall be securely and permanently attached to equipment with stainless steel screws. Nameplates shall include the name of the equipment and where it is fed from.

B. All switch plates, receptacle plates and outlet covers shall be labeled with machine printed vinyl labels identifying the circuit(s) within.

C. All empty conduit runs shall be identified and indicated where they terminate.

D. Provide typewritten directory in each panelboard to clearly identify each circuit, service, etc.

3.6 NOT USED

3.7 NOT USED

3.8 JUNCTION AND/OR PULL BOXES

A. Boxes shall be installed where necessary to avoid excessive runs and/or too many bends between outlets.

3.9 PULL WIRE

A. Leave pull wire in each empty conduit run.

3.10 NOT USED

3.11 GROUNDING

A. All grounding shall be in accordance with Article 250 of the NEC. In addition, the following requirements shall be met:
   1. Grounding conductors shall be installed as to permit the shortest and most direct path from equipment to ground. All connections to grounding conductors shall be accessible.
   2. Equipment ground continuity shall be maintained through flexible metal conduit.
   3. All wiring devices equipped with grounding connection shall be solidly grounded to ground system with grounding conductors.
   4. The frame of all lighting fixtures shall be securely grounded to the equipment ground system with grounding conductors.
   5. All equipment enclosures, and non-current-carrying metallic parts of electrical equipment, raceway systems, etc., shall be effectively and adequately bonded to ground.
   6. All equipment enclosures, and non-current-carrying metallic parts of electrical equipment, raceway systems, etc., shall be effectively and adequately bonded to ground.

3.12 ELECTRICAL WORK IN CONNECTION WITH OTHER WORK

A. PLUMBING WORK: The Electrical Contractor shall furnish and install switches and devices as shown and electrically connect electric water heaters, etc. All other electrical work required will be performed by the PLUMBING CONTRACTOR.

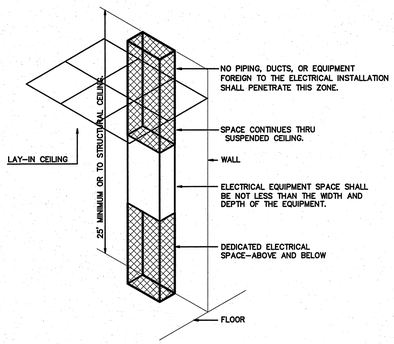
B. HEATING AND AIR CONDITIONING WORK: The Electrical Contractor shall provide all disconnect switches, starters, and associated hardware for the equipment furnished including all line and load side wiring and conduit. Final connections to the equipment will be by the HVAC contractor. All control wiring will be accomplished by the HVAC contractor. Coordinate all work associated with the HVAC contractor.

3.13 CLEAN UP

A. During construction, keep the site clean of debris. Upon completion, and before final inspection, clean up the premises to remove all evidence of work. In addition upon completion of construction leave equipment clean.

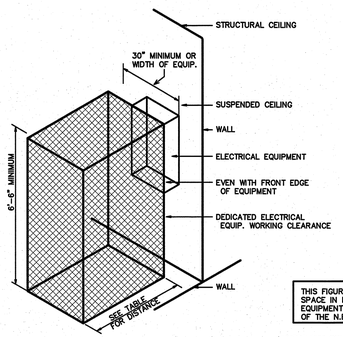
3.14 GUARANTEE

A. Guarantee all materials and labor included in the electrical work for a period of one year from date of final acceptance by the Owner. Any part or parts of the work or equipment which prove to be defective during the guarantee period shall be replaced at no additional cost to the Owner.



ELECTRICAL EQUIPMENT DEDICATED SPACE
PER ARTICLE 110.26.F.1 OF N.E.C.

1 E-1 DEDICATED SPACE
SCALE: NTS



ELECTRICAL EQUIPMENT WORKING CLEARANCE
PER ARTICLE 110–26 OF N.E.C.

WORKING CLEARANCES			
VOLTAGE TO GROUND NOMINAL	MIN. CLEAR DISTANCE IN FEET		
CONDITION:	1	2	3
0–150	3	3	3
151–800	3	3–1/2	4

THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT REQUIRED BY SECTION 110–16 OF THE N.E.C.

WHERE THE CONDITIONS ARE AS FOLLOWS:

1 EXPOSED LIVE PARTS ON ONE SIDE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES EFFECTIVELY GUARDED BY SUITABLE WOOD OR INSULATED BUSBARS OPERATING AT NOT OVER 300V SHALL NOT BE CONSIDERED LIVE PARTS.

2 EXPOSED LIVE PARTS ON ONE SIDE AND GROUNDED PARTS ON THE OTHER SIDE.

3 EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE (NOT GUARDED AS PROVIDED IN CONDITION 1) WITH THE OPERATOR BETWEEN.

2 E-1 ELECTRICAL CLEARANCES
SCALE: NTS

GENERAL NOTES

1 ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL LOCAL CODES HAVING JURISDICTION.

2 ALL BRANCH CIRCUIT CONDUCTORS TO BE COPPER (SERVICE CONDUCTORS MAY BE ALUMINUM WITH SAME AMPACITY AS COPPER CONDUCTORS. RE–SIZE CONDUCTERS AND CONDUIT PER NEC.)

3 ALL CIRCUITS TO BE 2 #12, 1 #12 GND IN 1/2" EMT CONDUIT AS A MINIMUM. PROVIDE WIRING FOR LARGER CIRCUITS AS REQUIRED BY NEC. RIGID CONDUIT IS REQUIRED WHERE EXPOSED BELOW 8'–0" A.F.F.

4 ALL EMPTY CONDUIT RUNS IN EXCESS OF 10 FEET SHALL BE PROVIDED WITH A PULL WIRE OR FISH TAPE/CORD.

5 CONTRACTOR SHALL VERIFY THAT ALL DOOR SWINGS ARE CORRECT BEFORE INSTALLING LIGHT SWITCH OUTLETS.

6 ALL BRANCH CIRCUIT CONDUCTORS FROM THE PANEL TO THE FIRST OUTLET SHALL BE INCREASED TO THE NEXT LARGER SIZE WHERE THE LENGTH OF THE HOME RUN EXCEEDS 120 FEET ON 120V AND 208V CIRCUITS.

7 THE CORRECT NUMBER OF WIRES MAY NOT BE INDICATED FOR ALL CIRCUITS, ONLY THOSE WHERE CLARIFICATION IS NECESSARY. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL WIRES NECESSARY FOR THE PROPER FUNCTION OF THE SYSTEM WHETHER INDICATED ON DRAWINGS OR NOT.

8 THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANELBOARDS.

9 THE ELECTRICAL CONTRACTOR SHALL VERIFY THE TYPE OF CEILING SYSTEM WITH THE GENERAL CONTRACTOR TO INSURE THAT ALL LIGHTING FIXTURES ARE COMPATIBLE WITH THE CEILING SYSTEM BEING INSTALLED. LIGHTING FIXTURES SHOULD NOT BE ORDERED UNTIL TYPE OF CEILING HAS BEEN VERIFIED.

10 ELECTRICAL REQUIREMENTS INDICATED ON DRAWINGS MAY DIFFER FROM ACTUAL EQUIPMENT FURNISHED. IF FURNISHED EQUIPMENT DIFFERS FROM RATINGS ON DRAWINGS CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER FOR APPROPRIATE ACTION TO BE TAKEN.

11 IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE EXACT BREAKER REQUIREMENTS FOR ALL EQUIPMENT PRIOR TO ORDERING PANEL. ADJUST BREAKER AND WIRE SIZES AS REQUIRED.

12 PROVIDE BOXES, JACKS, WIRING AND CONDUIT FROM LOCATIONS SHOWN TO MTP LOCATION. VERIFY EXACT REQUIREMENTS WITH OWNER.

13 ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DISCONNECTS FOR MECHANICAL & PLUMBING EQUIPMENT. DISCONNECTS SHALL BE PER MANUFACTURES RECOMMENDATIONS AND FUSED PER NAME PLATE. PROVIDE NEMA 3R ENCLOSURES ON EXTERIOR. COORDINATE FUSE SIZES.

14 THE EC SHALL MEET WITH THE ARCHITECT AND TENANT PRIOR TO INSTALLING OUTLET BOXES TO VERIFY LOCATIONS AND MOUNTING HEIGHTS OF RECEPTACLES AND TELEPHONE OUTLETS.

ELECTRICAL LEGEND

X / O_X / X	LIGHT FIXTURE: LETTER DENOTES FIXTURE TYPE (REFER TO LIGHTING PLAN AND FIXTURE SCHEDULE). NL = NIGHT LIGHT (NOT SWITCHED/ALWAYS ON)
U WP/GFI	DUPLEX RECEPTACLE – 120V; MOUNT 18" TO CENTER AFF UNLESS NOTED OTHERWISE. "WP" INDICATES WEATHER PROOF, "GFI" INDICATES GROUND FAULT CURRENT INTERRUPT PROTECTED. 'U' INDICATES RECEPTACLE WITH (2) USB PORTS.
	QUADRAPLEX RECEPTACLE – 120V
	FLOOR OR CEILING OUTLET (AS NOTED) – 120V
	SPECIAL PURPOSE RECEPTACLE – REFER TO POWER PLAN AND PANEL SCHEDULE
S	LIGHT SWITCH
S_L	SWITCH WITH INDICATING LIGHT
S_M	SWITCH WITH INTEGRAL PIR/US MOTION SENSOR FOR AUTOMATIC SHUT–OFF WITH UP TO 2 HOUR ADJUSTABLE DELAY.
S_D	DIMMABLE LIGHT SWITCH
(S)	MOTOR RATED SWITCH
(J)	JUNCTION BOX
	TELE/DATA OUTLET – PROVIDE JUNCTION BOX WITH CONDUIT BACK TO MTP. PROVIDE (1) TELEPHONE JACK AND (1) CAT 5 DATA JACK
	SINGLE–POLE HOMERUN TO PANELBOARD
	TWO–POLE OR 3–POLE HOMERUN TO PANELBOARD
EXIT	EXIT LIGHT
	EMERGENCY EGRESS FIXTURE
PC	PHOTOCELL (LED COMPLIANT)
	BRANCH CIRCUIT WIRING
	SWITCH LEG
	GROUND CONNECTION
PANEL A	DISTRIBUTION PANELBOARD
	DISCONNECTING MEANS AS REQUIRED BY CODE

APPENDIX B

2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)
ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance

Energy Code:	Prescriptive	[X]	Energy Cost Budget	[ ]
ASHRAE 90.1:	Prescriptive	[ ]	Energy Cost Budget	[ ]

Lighting Schedule

lamp type required in fixture
number of lamps in fixture
ballast type used in fixture
number of ballasts in fixture
total wattage in fixture
→ See Light Fixture Schedule
total interior wattage specified vs. allowed 12780VA / 17889A
total exterior wattage specified vs. allowed 720VA / 750VA

Additional Prescriptive Compliance

- [ ] 506.2.1 More Efficient Mechanical Equipment
- [X] 506.2.2 Reduced Lighting Power Density
- [ ] 506.2.3 Energy Recovery Ventilation Systems
- [ ] 506.2.4 Higher Efficiency Service Water Heater
- [ ] 506.2.5 On–Site Supply of Renewable Energy
- [ ] 506.2.6 automatic Daylighting Control System

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ELECTRICAL SPECIFICATIONS

20020

ISSUED:	1/26/21
DWG BY:	RM
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Morehead Country Club E2.1

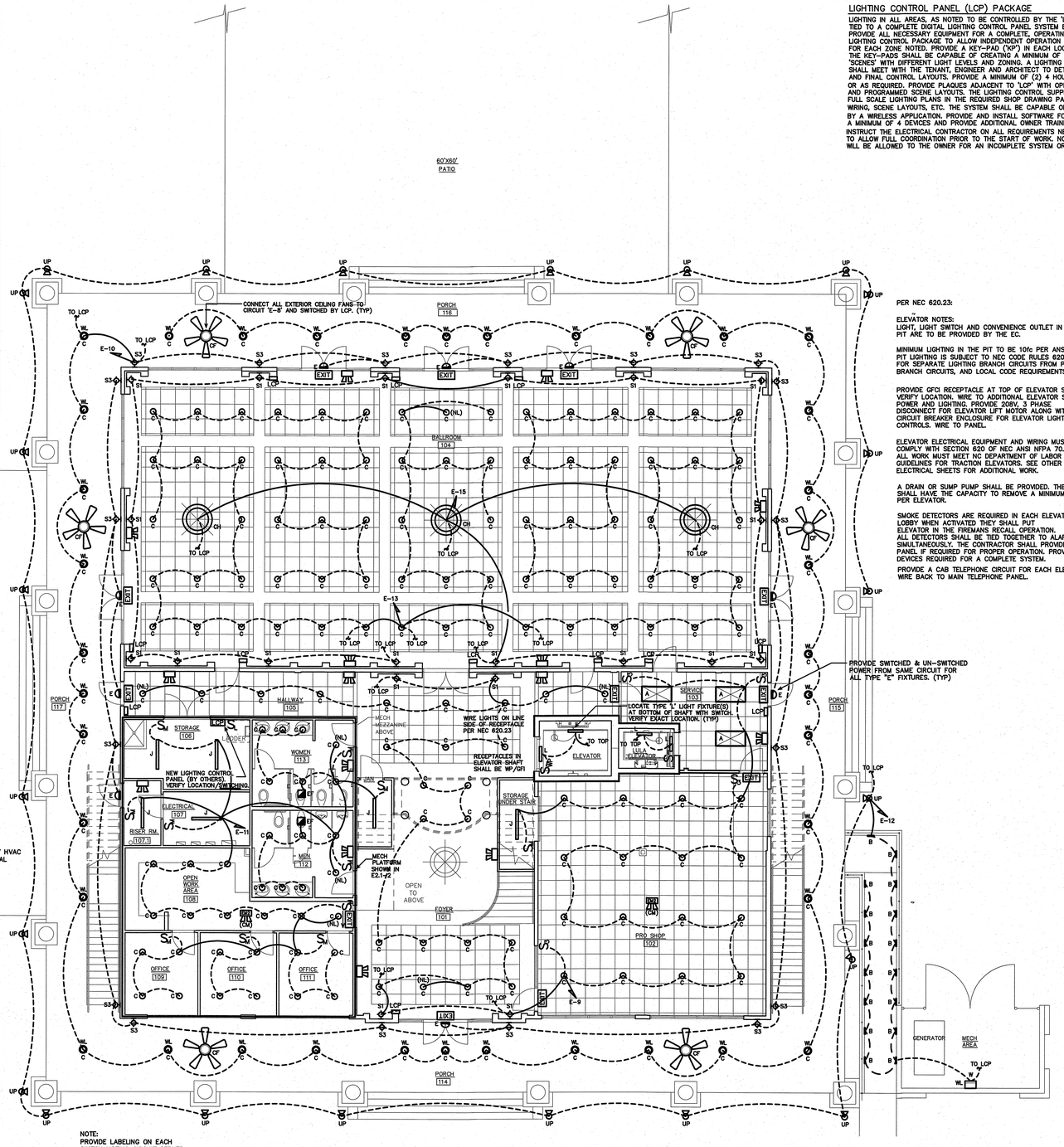
LIGHTING SCHEDULE *

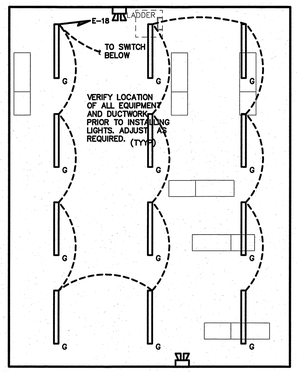
MARK	MANUFACTURER	CATALOG NO.	VOLT.	LAMPS NO.	LAMPS TYPE	LAMPS W	BALLAST TYPE	W/ FIXTURE	REMARKS
A	COLUMBIA	LJT24-35VLG-FSA12-EU	120	–	LED	–	–	60	LED 2X4 LAY-IN FIXTURE, FOOD GRADE LENS (KITCHEN) *
B	AMERICAN LTNG	BB-HSG, FACEPLATE CHOSEN BY ARCH	120	–	LED	–	–	3	LOUVERED RECESSED WALL MOUNT BRICK LIGHT, WET LOCATION, FACEPLATE COLOR AND STYLE BY ARCH
C	PRESCOLITE	LF6LEDG4-6LFLED6G435K	120	–	LED	–	–	20	LED 6" RECESSED CAN LIGHT, FOOD GRADE LENS (KITCHEN), WET LOCATION (EXT) *
CF	CEILING-FAN	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	–	–	–	100	CEILING FAN (EXTERIOR), WET LOCATION, $600/EACH ALLOWANCE *
CH	CHANDELIER	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	100	LED DECORATIVE CHANDELIER, $1500/EACH ALLOWANCE *
CH2	CHANDELIER	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	100	LED DECORATIVE CHANDELIER, $2500/EACH ALLOWANCE *
E	COMPASS	CUSO	120	–	LED	–	–	10	EMERGENCY EGRESS FIXTURE – DUAL MODE, NORMAL/EMERGENCY OPERATION *
F	HUBBELL	VTC-5K-G-U	120	–	LED	–	–	28	LED VAPOR TIGHT, COOLER *
G	COLUMBIA	LXEM4-35ML-RFA-EDU	120	–	LED	–	–	42	ENCLOSED GASKETED LED STRIP LIGHT *
J	COLUMBIA	CSL-4-4035	120	–	LED	–	–	40	LED 4' STRIP FIXTURE, WIRE GUARD *
L	SYLVANIA	STRIP1A/032UNVD840/48S/WH	120	–	LED	–	–	32	LED LINEAR STRIP (ELEVATOR), WL W/ GUARD.
P	PENDANT	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	30	LED PENDANT FIXTURE, $500/EACH ALLOWANCE *
S1	SCONCE	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	30	LED SCONCE FIXTURE, $500/EACH ALLOWANCE *
S2	SCONCE	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	30	LED SCONCE FIXTURE, $500/EACH ALLOWANCE *
S3	SCONCE	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	30	LED SCONCE FIXTURE (EXTERIOR), WET LOCATION, $400/EACH ALLOWANCE *
SF	SOFFIT	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	20	LED SOFFIT LIGHTING, WET LOCATION, $500/EACH ALLOWANCE *
SL	ASPECT LED	AL-SL-NR-U	120	–	LED	–	–	3W/FT	LED FLEX STRIP LIGHTING, WET LOCATION, COLOR/FINISH BY ARCH
U	COLUMBIA	CUC2-ED120	120	–	LED	–	–	14	LED UNDERCABINET LIGHT FIXTURE, ROCKER SWITCH *
UP	UPLIGHT	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	20	LED UPLIGHTING (EXTERIOR) AT COLUMNS, WET LOCATION, $300 ALLOWANCE *
W	WALL PACK	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	30	LED WALL PACK (EXTERIOR), WET LOCATION, $400 ALLOWANCE *
X	STRING LIGHTS	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	0.5/FT	LED EDISON-STYLE STRING LIGHTING, WET LOCATION, $3/FT ALLOWANCE *
EXIT	DUAL-LITE	LECD	120	–	LED	–	–	–	LED EXIT LIGHT, COLOR/FINISH BY ARCH *
EXIT	DUAL-LITE	EVCU	120	–	LED	–	–	–	COMBINATION EMERGENCY/EXIT LIGHT, COLOR/FINISH BY ARCH *
	DUAL-LITE	EV4D-102WAL	120	–	LED	–	–	–	EMERGENCY LIGHT, BATTERY BACKUP / DIAGNOSTICS, COLOR/FINISH BY ARCH *
EM	DUAL-LITE	EV4R-I	120	–	LED	–	–	–	EMERGENCY LIGHT, CEILING-MOUNT, BATTERY BACKUP / DIAGNOSTICS, COLOR/FINISH BY ARCH *

* OR APPROVED EQUAL. PROVIDE CUT SHEETS FOR OWNER APPROVAL PRIOR TO ORDERING FIXTURES.

LIGHTING CONTROL PANEL (LCP) PACKAGE

LIGHTING IN ALL AREAS, AS NOTED TO BE CONTROLLED BY THE 'LCP', ARE TO BE TIED TO A COMPLETE DIGITAL LIGHTING CONTROL PANEL SYSTEM EQUAL TO WATTSTOPPER. PROVIDE ALL NECESSARY EQUIPMENT FOR A COMPLETE, OPERATING SYSTEM AS SHOWN. LIGHTING CONTROL PACKAGE TO ALLOW INDEPENDENT OPERATION AND DIMMING FOR EACH ZONE NOTED. PROVIDE A KEY-PAD ('KP') IN EACH LOCATION SHOWN. THE KEY-PADS SHALL BE CAPABLE OF CREATING A MINIMUM OF (12) LIGHTING 'SCENES' WITH DIFFERENT LIGHT LEVELS AND ZONING. A LIGHTING REPRESENTATIVE SHALL MEET WITH THE TENANT, ENGINEER AND ARCHITECT TO DETERMINE SCENE DEFINITIONS AND FINAL CONTROL LAYOUTS. PROVIDE A MINIMUM OF (2) 4 HOUR TRAINING SESSIONS OR AS REQUIRED. PROVIDE PLAQUES ADJACENT TO 'LCP' WITH OPERATING INSTRUCTION AND PROGRAMMED SCENE LAYOUTS. THE LIGHTING CONTROL SUPPLIER SHALL PROVIDE FULL SCALE LIGHTING PLANS IN THE REQUIRED SHOP DRAWING PACKAGE NOTING ALL WIRING, SCENE LAYOUTS, ETC. THE SYSTEM SHALL BE CAPABLE OF BEING CONTROLLED BY A WIRELESS APPLICATION. PROVIDE AND INSTALL SOFTWARE FOR OWNER USAGE FOR A MINIMUM OF 4 DEVICES AND PROVIDE ADDITIONAL OWNER TRAINING AS REQUIRED. INSTRUCT THE ELECTRICAL CONTRACTOR ON ALL REQUIREMENTS NEEDED PRIOR TO BID TO ALLOW FULL COORDINATION PRIOR TO THE START OF WORK. NO ADDITIONAL COSTS WILL BE ALLOWED TO THE OWNER FOR AN INCOMPLETE SYSTEM OR UNCOORDINATED WORK.





VERIFY LOCATION OF ALL EQUIPMENT AND DUCTWORK PRIOR TO INSTALLING LIGHTS. ADJUST AS REQUIRED. (TYP)

2 E-21 MECH PLATFORM
SCALE: 1/8"=1'-0"

PER NEC 620.23:

ELEVATOR NOTES:
LIGHT, LIGHT SWITCH AND CONVENIENCE OUTLET IN EACH ELEV PIT ARE TO BE PROVIDED BY THE EC.

MINIMUM LIGHTING IN THE PIT TO BE 10fc PER ANSI A17.1.2000. PIT LIGHTING IS SUBJECT TO NEC CODE RULES 620.23, 620.24 FOR SEPARATE LIGHTING BRANCH CIRCUITS FROM POWER BRANCH CIRCUITS, AND LOCAL CODE REQUIREMENTS. (TYP)

PROVIDE GFCI RECEPTACLE AT TOP OF ELEVATOR SHAFT. VERIFY LOCATION. WIRE TO ADDITIONAL ELEVATOR SHAFT POWER AND LIGHTING. PROVIDE 208V, 3 PHASE DISCONNECT FOR ELEVATOR LIFT MOTOR ALONG WITH CIRCUIT BREAKER ENCLOSURE FOR ELEVATOR LIGHTS AND CONTROLS. WIRE TO PANEL.

ELEVATOR ELECTRICAL EQUIPMENT AND WIRING MUST COMPLY WITH SECTION 620 OF NEC ANSI NFPA 70. ALL WORK MUST MEET NC DEPARTMENT OF LABOR GUIDELINES FOR TRACTION ELEVATORS. SEE OTHER ELECTRICAL SHEETS FOR ADDITIONAL WORK.

A DRAIN OR SUMP PUMP SHALL BE PROVIDED. THE SUMP PUMP/DRAIN SHALL HAVE THE CAPACITY TO REMOVE A MINIMUM OF 3,000 GAL/H PER ELEVATOR.

SMOKE DETECTORS ARE REQUIRED IN EACH ELEVATOR LOBBY WHEN ACTIVATED THEY SHALL PUT ELEVATOR IN THE FIREMANS RECALL OPERATION. ALL DETECTORS SHALL BE TIED TOGETHER TO ALARM SIMULTANEOUSLY. THE CONTRACTOR SHALL PROVIDE A SMALL PANEL IF REQUIRED FOR PROPER OPERATION. PROVIDE ALL DEVICES REQUIRED FOR A COMPLETE SYSTEM.

PROVIDE A CAB TELEPHONE CIRCUIT FOR EACH ELEVATOR. WIRE BACK TO MAIN TELEPHONE PANEL.

NOTE:
PROVIDE LABELING ON EACH SWITCH NOTING CIRCUIT SERVED.

AUTOMATIC LIGHTING SHUTOFF IS NOT SHOWN IN THE EGRESS PATH LIGHTING AS ALLOWED PER 505.2.2.2.1 EXCEPTION #3, WHERE AUTOMATIC SHUTOFF WOULD ENDANGER OCCUPANT SAFETY.

TIE ALL EXIT AND EMERGENCY LIGHTS TO NEAREST AVAILABLE UNSWITCHED LIGHTING CIRCUIT IN THE AREA SERVED.

VERIFY HEIGHT/LOCATION OF ALL SWITCHES AND DEVICES PRIOR TO INSTALLATION.

1 E-21 FIRST FLOOR LIGHTING PLAN
SCALE: 1/8"=1'-0"

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1/26/21
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 020038 BENJAMIN E. BURKE

FIRST FLOOR LIGHTING PLAN

20020

ISSUED:	1/26/21
DWG BY:	RM
CKD BY:	BEB

REVISIONS

SHEET NO. E-2.1

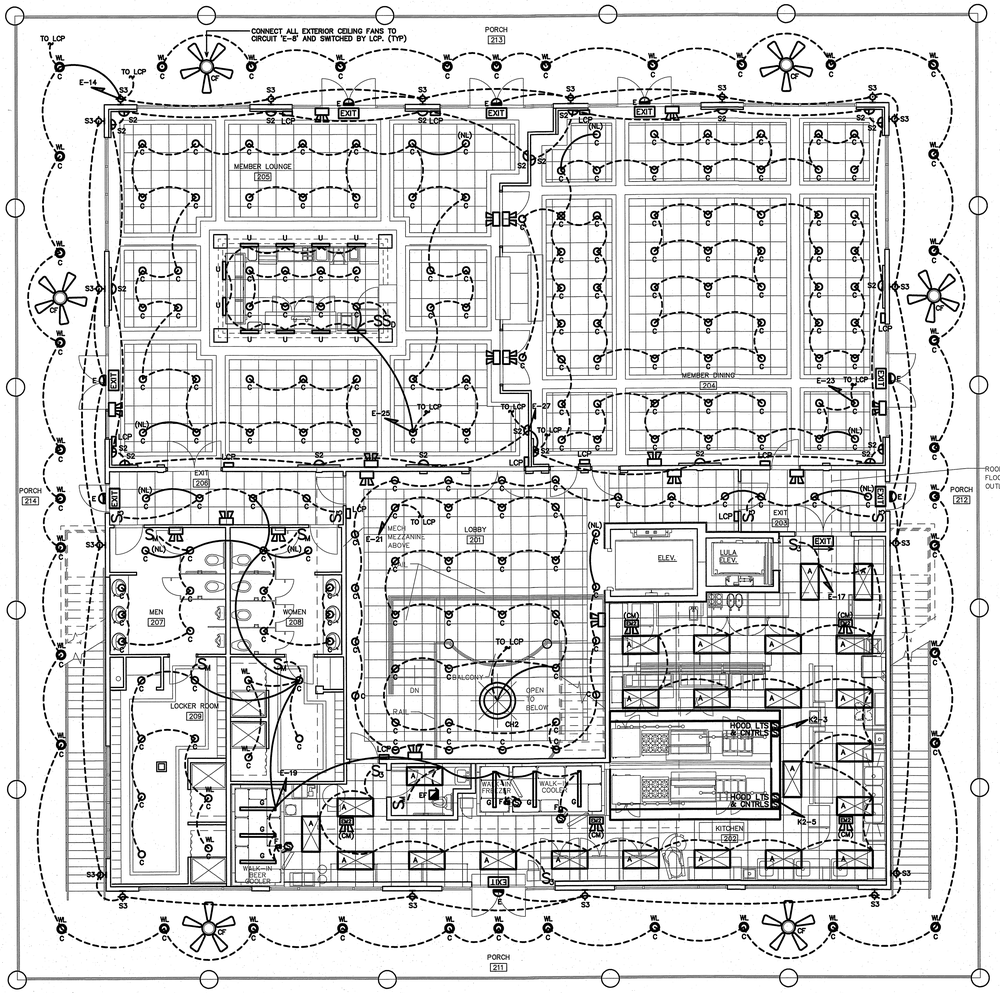
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Morehead Country Club E2.2

LIGHTING SCHEDULE *

MARK	MANUFACTURER	CATALOG NO.	VOLT.	LAMPS NO.	LAMPS TYPE	LAMPS W	BALLAST TYPE	W/ FIXTURE	REMARKS
A	COLUMBIA	LJT24-35WLG-FSA12-EU	120	–	LED	–	–	60	LED 2X4 LAY-IN FIXTURE, FOOD GRADE LENS (KITCHEN) *
B	AMERICAN LTNG	BB-HSG, FACEPLATE CHOSEN BY ARCH	120	–	LED	–	–	3	LOUVERED RECESSED WALL MOUNT BRICK LIGHT, WET LOCATION, FACEPLATE COLOR AND STYLE BY ARCH *
C	PRESCOLITE	LF6LED64-6LFLED6G435K	120	–	LED	–	–	20	LED 6" RECESSED CAN LIGHT, FOOD GRADE LENS (KITCHEN), WET LOCATION (EXT) *
CF	CEILING-FAN	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	–	–	–	100	CEILING FAN (EXTERIOR), WET LOCATION, $600/EACH ALLOWANCE *
CH	CHANDELIER	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	100	LED DECORATIVE CHANDELIER, $1500/EACH ALLOWANCE *
CH2	CHANDELIER	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	100	LED DECORATIVE CHANDELIER, $2500/EACH ALLOWANCE *
E	COMPASS	CUSO	120	–	LED	–	–	10	EMERGENCY EGRESS FIXTURE – DUAL MODE, NORMAL/EMERGENCY OPERATION *
F	HUBBELL	VTC-5K-G-U	120	–	LED	–	–	28	LED VAPOR TIGHT, COOLER *
G	COLUMBIA	LXEM4-35ML-RFA-EDU	120	–	LED	–	–	42	ENCLOSED GASKETED LED STRIP LIGHT *
J	COLUMBIA	CSL-4-4035	120	–	LED	–	–	40	LED 4' STRIP FIXTURE, WIRE GUARD *
L	SYLVANIA	STRIP1A/032UNVD840/48S/WH	120	–	LED	–	–	32	LED LINEAR STRIP (ELEVATOR), WL W/ GUARD. *
P	PENDANT	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	30	LED PENDANT FIXTURE, $500/EACH ALLOWANCE *
S1	SCONCE	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	30	LED SCONCE FIXTURE, $500/EACH ALLOWANCE *
S2	SCONCE	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	30	LED SCONCE FIXTURE, $500/EACH ALLOWANCE *
S3	SCONCE	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	30	LED SCONCE FIXTURE (EXTERIOR), WET LOCATION, $400/EACH ALLOWANCE *
SF	SOFFIT	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	20	LED SOFFIT LIGHTING, WET LOCATION, $500/EACH ALLOWANCE *
SL	ASPECT LED	AL-SL-NR-U	120	–	LED	–	–	3W/FT	LED FLEX STRIP LIGHTING, WET LOCATION, COLOR/FINISH BY ARCH
U	COLUMBIA	CUC2-ED120	120	–	LED	–	–	14	LED UNDERCABINET LIGHT FIXTURE, ROCKER SWITCH *
UP	UPLIGHT	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	20	LED UPLIGHTING (EXTERIOR) AT COLUMNS, WET LOCATION, $300 ALLOWANCE *
W	WALL PACK	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	30	LED WALL PACK (EXTERIOR), WET LOCATION, $400 ALLOWANCE *
X	STRING LIGHTS	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	0.5/FT	LED EDISON-STYLE STRING LIGHTING, WET LOCATION, $3/FT ALLOWANCE *
EXIT	DUAL-LITE	LECD	120	–	LED	–	–	–	LED EXIT LIGHT, COLOR/FINISH BY ARCH *
EXIT	DUAL-LITE	EVCU	120	–	LED	–	–	–	COMBINATION EMERGENCY/EXIT LIGHT, COLOR/FINISH BY ARCH *
	DUAL-LITE	EV4D-I02WAL	120	–	LED	–	–	–	EMERGENCY LIGHT, BATTERY BACKUP / DIAGNOSTICS, COLOR/FINISH BY ARCH *
	DUAL-LITE	EV4R-I	120	–	LED	–	–	–	EMERGENCY LIGHT, CEILING-MOUNT, BATTERY BACKUP / DIAGNOSTICS, COLOR/FINISH BY ARCH *

* OR APPROVED EQUAL. PROVIDE CUT SHEETS FOR OWNER APPROVAL PRIOR TO ORDERING FIXTURES.



NOTE:
PROVIDE LABELING ON EACH SWITCH NOTING CIRCUIT SERVED.

AUTOMATIC LIGHTING SHUTOFF IS NOT SHOWN IN THE EGRESS PATH LIGHTING AS ALLOWED PER 505.2.2.2.1 EXCEPTION #3. WHERE AUTOMATIC SHUTOFF WOULD ENDANGER OCCUPANT SAFETY.

TIE ALL EXIT AND EMERGENCY LIGHTS TO NEAREST AVAILABLE UNSWITCHED LIGHTING CIRCUIT IN THE AREA SERVED.

VERIFY HEIGHT/LOCATION OF ALL SWITCHES AND DEVICES PRIOR TO INSTALLATION.

1 / E-2.2 SECOND FLOOR LIGHTING PLAN
SCALE: 1/8"=1'-0"

PER NEC 620.23:

ELEVATOR NOTES:
LIGHT, LIGHT SWITCH AND CONVENIENCE OUTLET IN EACH ELEV PIT ARE TO BE PROVIDED BY THE EC.

MINIMUM LIGHTING IN THE PIT TO BE 10fc PER ANSI A17.1.2000. PIT LIGHTING IS SUBJECT TO NEC CODE RULES 620.23, 620.24 FOR SEPARATE LIGHTING BRANCH CIRCUITS FROM POWER BRANCH CIRCUITS, AND LOCAL CODE REQUIREMENTS. (TYP)

PROVIDE GFCI RECEPTACLE AT TOP OF ELEVATOR SHAFT. VERIFY LOCATION. WIRE TO ADDITIONAL ELEVATOR SHAFT POWER AND LIGHTING. PROVIDE 208V, 3 PHASE DISCONNECT FOR ELEVATOR LIFT MOTOR ALONG WITH CIRCUIT BREAKER ENCLOSURE FOR ELEVATOR LIGHTS AND CONTROLS. WIRE TO PANEL.

ELEVATOR ELECTRICAL EQUIPMENT AND WIRING MUST COMPLY WITH SECTION 620 OF NEC ANSI NFPA 70. ALL WORK MUST MEET NC DEPARTMENT OF LABOR GUIDELINES FOR TRACTION ELEVATORS. SEE OTHER ELECTRICAL SHEETS FOR ADDITIONAL WORK.

A DRAIN OR SUMP PUMP SHALL BE PROVIDED. THE SUMP PUMP/DRAIN SHALL HAVE THE CAPACITY TO REMOVE A MINIMUM OF 3,000 GAL/H PER ELEVATOR.

SMOKE DETECTORS ARE REQUIRED IN EACH ELEVATOR LOBBY WHEN ACTIVATED THEY SHALL PUT ELEVATOR IN THE FIREMANS RECALL OPERATION. ALL DETECTORS SHALL BE TIED TOGETHER TO ALARM SIMULTANEOUSLY. THE CONTRACTOR SHALL PROVIDE A SMALL PANEL IF REQUIRED FOR PROPER OPERATION. PROVIDE ALL DEVICES REQUIRED FOR A COMPLETE SYSTEM.

PROVIDE A CAB TELEPHONE CIRCUIT FOR EACH ELEVATOR. WIRE BACK TO MAIN TELEPHONE PANEL.

PROVIDE JUNCTION BOXES FOR WALK-IN COOLER LIGHTS. COORDINATE LOCATION AND REQUIREMENTS.

MINIMUM 10fc SHALL BE MAINTAINED IN WALK-IN COOLER. EC SHALL PROVIDE SUPPLEMENTAL FIXTURES IF FREEZER/COOLER GLOBES ARE NOT ADEQUATE.

PROVIDE CONDUIT SEALS FOR ALL LOCATIONS WHERE CONDUITS PENETRATE WALK-IN COOLER WALLS.

HEALTH DEPARTMENT LIGHTING NOTES

PRIOR TO INSPECTION, EC SHALL VERIFY THAT THE FOLLOWING MINIMUM LIGHT LEVELS ARE PROVIDED:

10 fc AT A DISTANCE OF 2'-6" ABOVE THE FLOOR IN DRY STORAGE AREAS AND IN OTHER AREAS AND ROOMS DURING CLEAN-UP;

20 fc AT SELF-SERVICE COUNTERS SUCH AS BUFFETS AND SALAD BARS, WHERE FRESH PRODUCE OR PACKAGED FOOD IS SOLD OR OFFERED FOR CONSUMPTION, INSIDE EQUIPMENT SUCH AS REACH-IN AND UNDER-COUNTER REFRIGERATORS, AND AT A DISTANCE OF 2'-6" ABOVE THE FLOOR IN AREAS USED FOR HANDWASHING, WAREWASHING, EQUIPMENT AND UTENSIL STORAGE, AND IN TOILET ROOMS;

50 fc AT FOOD PREPARATION SURFACES AND SURFACES WHERE EMPLOYEE SAFETY IS A FACTOR SUCH WHERE USING KNIVES, SLICERS, GRINDERS, OR SAWS, ETC.

EC SHALL ADJUST LIGHTING AS REQUIRED TO PROVIDE THE NECESSARY MINIMUM LIGHT LEVELS.

THE LIGHTING IN THE KITCHEN AND PREP AREAS ARE DESIGNED AROUND HEALTH DEPARTMENT REQUIREMENTS FOR MINIMUM LIGHT LEVELS. PER SECTION 101.3 OF THE 2012 NC ENERGY CODE, THESE SPACES ARE EXEMPT FROM MEETING THE REQUIRED INTERIOR ENERGY ALLOWNACE PER TABLE 505.5.2.

EC SHALL VERIFY THAT 50fc IS PROVIDED AT ALL EQUIP UNDER THE HOOD PRIOR TO HEALTH DEPT INSPECTION. SHIFT LIGHT FIXTURE LOCATIONS AS NECESSARY.

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MOREHEAD CITY, NORTH CAROLINA

1/26/21
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE

SECOND FLOOR LIGHTING PLAN

20020

ISSUED:	1/26/21
DWG BY:	RM
CKD BY:	BEB

REVISIONS

SHEET NO. E-2.2

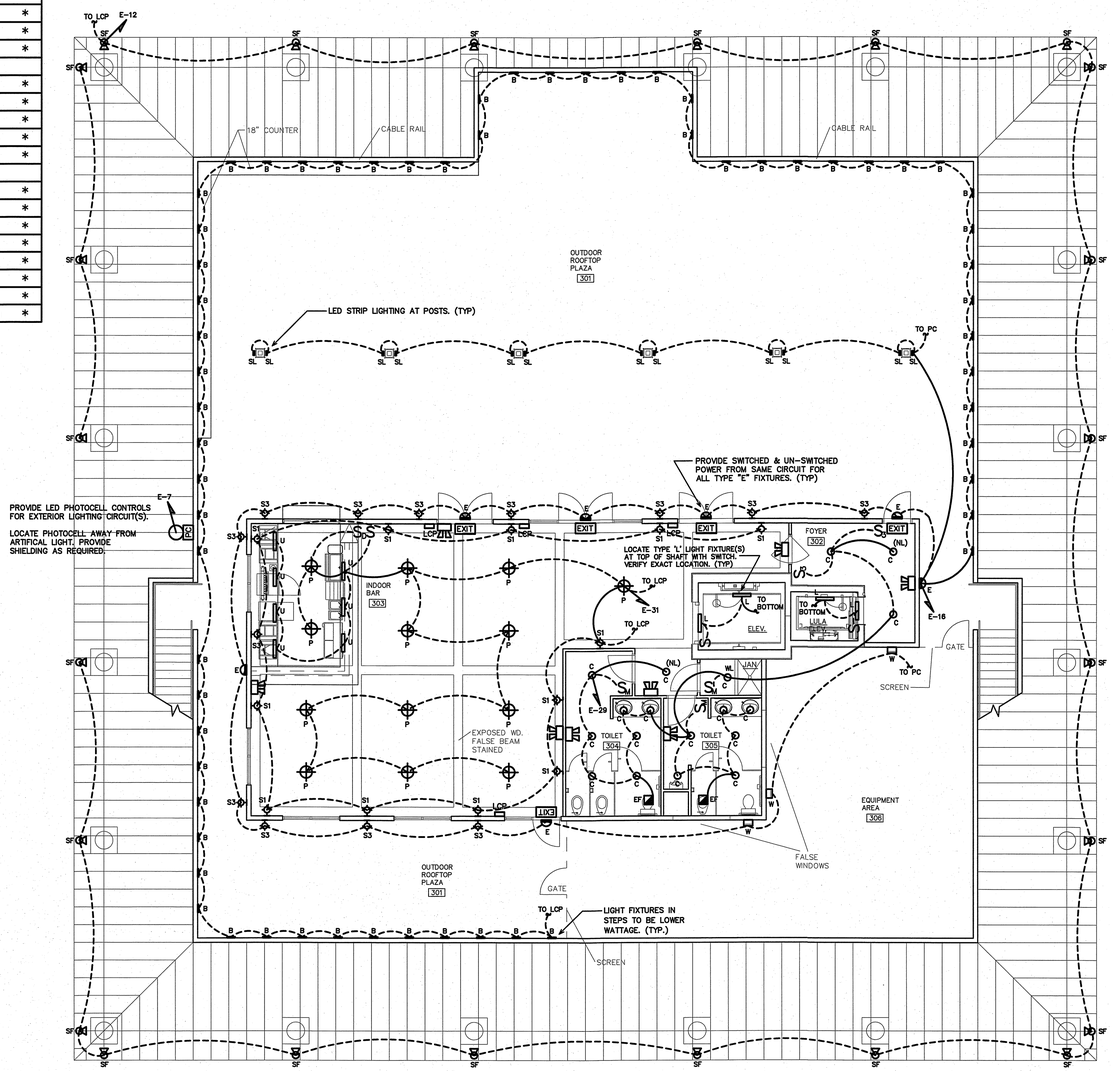
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Morehead Country Club E2.3

LIGHTING SCHEDULE *

MARK	MANUFACTURER	CATALOG NO.	VOLT.	LAMPS NO.	LAMPS TYPE	LAMPS W	BALLAST TYPE	W/ FIXTURE	REMARKS	
A	COLUMBIA	LJT24-35VLG-FSA12-EU	120	–	LED	–	–	60	LED 2X4 LAY-IN FIXTURE, FOOD GRADE LENS (KITCHEN)	*
B	AMERICAN LTNG	BB-HSG, FACEPLATE CHOSEN BY ARCH	120	–	LED	–	–	3	LOUVERED RECESSED WALL MOUNT BRICK LIGHT, WET LOCATION, FACEPLATE COLOR AND STYLE BY ARCH	
C	PRESCOLITE	LF6LEDG4-6LFLED6G435K	120	–	LED	–	–	20	LED 6" RECESSED CAN LIGHT, FOOD GRADE LENS (KITCHEN), WET LOCATION (EXT)	*
CF	CEILING-FAN	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	–	–	–	100	CEILING FAN (EXTERIOR), WET LOCATION, $600/EACH ALLOWANCE	*
CH	CHANDELIER	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	100	LED DECORATIVE CHANDELIER, $1500/EACH ALLOWANCE	*
CH2	CHANDELIER	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	100	LED DECORATIVE CHANDELIER, $2500/EACH ALLOWANCE	*
E	COMPASS	CUSO	120	–	LED	–	–	10	EMERGENCY EGRESS FIXTURE – DUAL MODE, NORMAL/EMERGENCY OPERATION	*
F	HUBBELL	VTC-5K-G-U	120	–	LED	–	–	28	LED VAPOR TIGHT, COOLER	*
G	COLUMBIA	LXEM4-35ML-RFA-EDU	120	–	LED	–	–	42	ENCLOSED GASKETED LED STRIP LIGHT	*
J	COLUMBIA	CSL-4-4035	120	–	LED	–	–	40	LED 4' STRIP FIXTURE, WIRE GUARD	*
L	SYLVANIA	STRIP1A/032UNVD840/48S/WH	120	–	LED	–	–	32	LED LINEAR STRIP (ELEVATOR), WL W/ GUARD.	
P	PENDANT	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	30	LED PENDANT FIXTURE, $500/EACH ALLOWANCE	*
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SL	ASPECT LED	AL-SL-NR-U	120	–	LED	–	–	3W/FT	LED FLEX STRIP LIGHTING, WET LOCATION, COLOR/FINISH BY ARCH	
U	COLUMBIA	CUC2-ED120	120	–	LED	–	–	14	LED UNDERCABINET LIGHT FIXTURE, ROCKER SWITCH	*
UP	UPLIGHT	(CHOSEN BY OWNER/ARCH; PROVIDED BY EC)	120	–	LED	–	–	20	LED UPLIGHTING (EXTERIOR) AT COLUMNS, WET LOCATION, $300 ALLOWANCE	*
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EXIT	DUAL-LITE	LECD	120	–	LED	–	–	–	LED EXIT LIGHT, COLOR/FINISH BY ARCH	*
EXIT/EL	DUAL-LITE	EVCU	120	–	LED	–	–	–	COMBINATION EMERGENCY/EXIT LIGHT, COLOR/FINISH BY ARCH	*
EL	DUAL-LITE	EV4D-I02WAL	120	–	LED	–	–	–	EMERGENCY LIGHT, BATTERY BACKUP / DIAGNOSTICS, COLOR/FINISH BY ARCH	*
EM2	DUAL-LITE	EV4R-I	120	–	LED	–	–	–	EMERGENCY LIGHT, CEILING-MOUNT, BATTERY BACKUP / DIAGNOSTICS, COLOR/FINISH BY ARCH	*

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NOTE:
PROVIDE LABELING ON EACH SWITCH NOTING CIRCUIT SERVED.

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TIE ALL EXIT AND EMERGENCY LIGHTS TO NEAREST AVAILABLE UNSWITCHED LIGHTING CIRCUIT IN THE AREA SERVED.

VERIFY HEIGHT/LOCATION OF ALL SWITCHES AND DEVICES PRIOR TO INSTALLATION.

1 / E-2.3 ROOFTOP LIGHTING PLAN
SCALE: 1/8"=1'-0"

PER NEC 620.23:
"

ELEVATOR NOTES:
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1/26/21
NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E BURKE

ROOFTOP LIGHTING PLAN

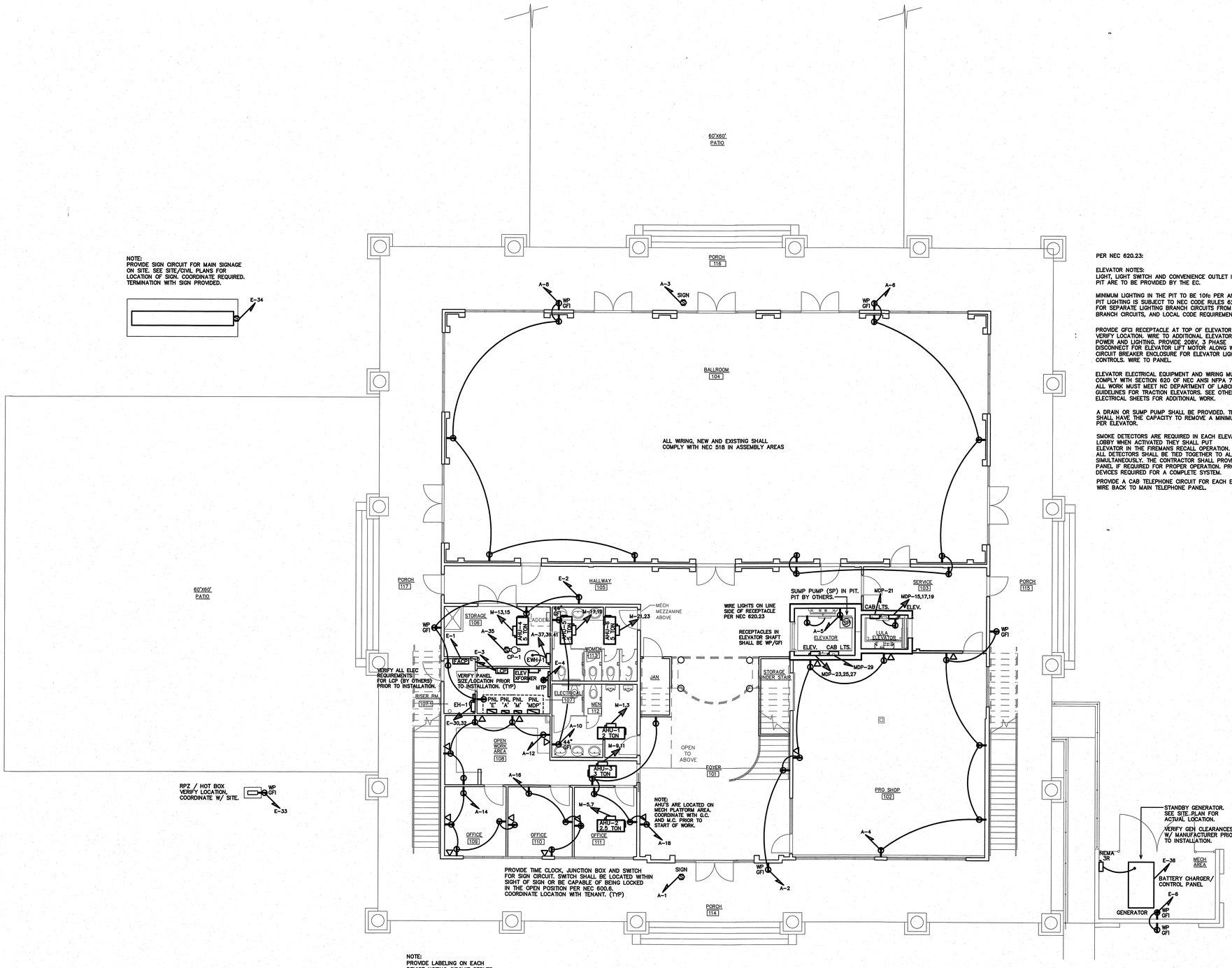
20020

ISSUED:	1/26/21
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CKD BY:	BEB

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SHEET NO.
E-2.3



NOTE:
PROVIDE LABELING ON EACH
DEVICE NOTING CIRCUIT SERVED.

COORDINATE LOCATION AND MOUNTING OF
ALL DISCONNECTS AND RECEPTACLES WITH
EQUIPMENT SERVED. DO NOT BLOCK ANY
ACCESS PANELS OR NAMEPLATE DATA.
PROVIDE SEPARATE SUPPORTS IF REQUIRED.

VERIFY HEIGHT/LOCATION OF ALL
DEVICES PRIOR TO INSTALLATION.

PER NEC 620.23:

ELEVATOR NOTES:
LIGHT, LIGHT SWITCH AND CONVENIENCE OUTLET IN EACH ELEV PIT ARE TO BE PROVIDED BY THE EC.

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PROVIDE A CAB TELEPHONE CIRCUIT FOR EACH ELEVATOR. WIRE BACK TO MAIN TELEPHONE PANEL.

(1) FIRST FLOOR POWER PLAN
(E-3.1) SCALE: 1/8"=1'-0"

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1/24/21
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE

FIRST FLOOR POWER PLAN

20020

ISSUED:	1/26/21
DWG BY:	RM
CKD BY:	BEB

REVISIONS

SHEET NO.
E-3.1

KITCHEN EQUIPMENT SCHEDULE

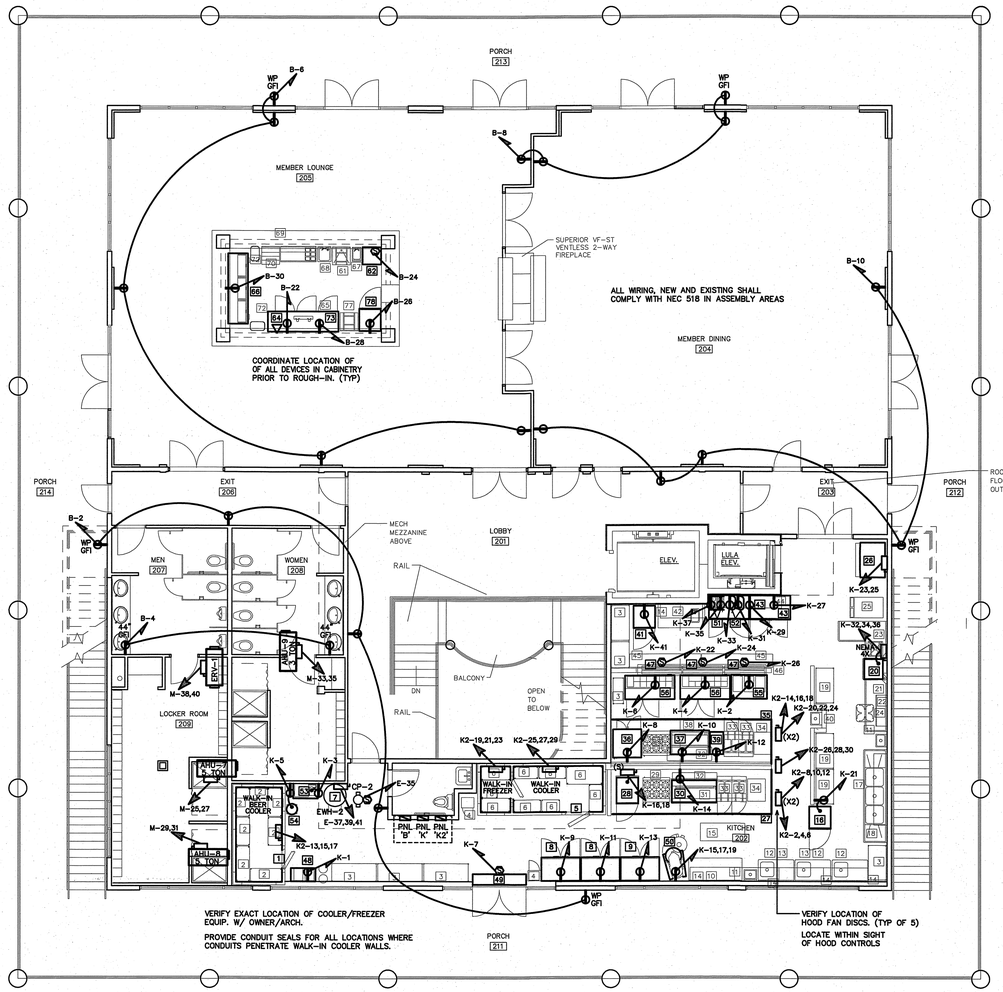
(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

ITEM	QUAN	DESCRIPTION	ELECTRICAL CHARACTERISTICS								
			FLA	MCA	MOCP	WATTS	HP	VOLTS	PH	CONNECTION	WIRE SIZES
1	1	**WALK-IN BEER COOLER (6X12) +VERIFY**	9.3A	–	20A	–	1	208	3	DISCONNECT(S)	3–#12, 1–#12 GND IN 3/4" CONDUIT
2	LOT	WALK-IN SHELVING	–	–	–	–	–	–	–	–	–
3	LOT	FREESTANDING WIRE DRY STORAGE SHELVING	–	–	–	–	–	–	–	–	–
4	2	EMPLOYEE LOCKERS	–	–	–	–	–	–	–	–	–
5	1	**WALK-IN COOLER/FREEZER COMBO (6X15) +VERIFY**	14.7A	–	20A	–	1.5	208	3	DISCONNECT(S)	3–#12, 1–#12 GND IN 3/4" CONDUIT
6	LOT	WALK-IN SHELVING	–	–	–	–	–	–	–	–	–
7	–	**WATER HEATER(S) +SEE PLUMBING**	–	–	–	–	–	–	–	–	–
8	2	**2–DOOR REACH–IN REFRIG**	9.1A	–	20A	–	1/2	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
9	1	**2–DOOR REACH–IN FREEZER**	13.2A	–	20A	–	3/4	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
10	1	WORKTABLE W/ UNDERSHELF (30X48)	–	–	–	–	–	–	–	–	–
11	2	WALL–MOUNT HANDSINK W/ SPLASHGUARDS	–	–	–	–	–	–	–	–	–
12	3	PREP SINK	–	–	–	–	–	–	–	–	–
13	2	WALL–MOUNT SPLASHGUARDS	–	–	–	–	–	–	–	–	–
14	2	WALL–MOUNT SHELF (18X60)	–	–	–	–	–	–	–	–	–
15	1	WORKTABLE W/ UNDERSHELF (24X60)	–	–	–	–	–	–	–	–	–
16	1	**1–DOOR REFRIG**	7.6A	–	20A	–	1/3	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
17	1	3–COMP SINK W/ 24" DRAINBOARDS	–	–	–	–	–	–	–	–	–
18	1	WALL–MOUNT SHELF W/ POT RACK (15X96)	–	–	–	–	–	–	–	–	–
19	LOT	FREESTANDING WIRE DRYING RACKS	–	–	–	–	–	–	–	–	–
20	1	**HIGH TEMP DISH|MACHINE W/ VAPORVENT SYSTEM**	47A	–	60A	–	–	208	3	DISCONNECT	3–#6, 1–#10 GND IN 1" CONDUIT
21	1	72" CLEAN RIGHT–HAND DISHTABLE	–	–	–	–	–	–	–	–	–
22	1	42" WALL–MOUNT RACK SHELF	–	–	–	–	–	–	–	–	–
23	1	SOILED LEFT HAND DISHTABLE W/ LANDING	–	–	–	–	–	–	–	–	–
24	1	DISH CADDY ON CASTERS	–	–	–	–	–	–	–	–	–
25	1	UTILITY CART ON CASTERS	–	–	–	–	–	–	–	–	–
26	1	**ICE MACHINE W/ BIN**	11.9A	–	20A	–	–	208	1	VERIFY	3–#12, 1–#12 GND IN 3/4" CONDUIT
27	1	**18" EXHAUST HOOD (SEE #35)**	–	–	–	–	–	–	–	–	–
28	1	**COOK & HOLD CABINET (ELEC)**	28.9A	–	40A	–	–	208	1	DISCONNECT	3–#8, 1–#10 GND IN 3/4" CONDUIT
29	1	6–BURNER RANGE WITH OVEN (GAS)	–	–	–	–	–	–	–	–	–
30	1	**62" REFRIG CHEF BASE**	8.1A	–	20A	–	1/3	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
31	1	60" FLAT GRIDDLE (GAS)	–	–	–	–	–	–	–	–	–
32	2	60" SALAMANDER BROILER (GAS)	–	–	–	–	–	–	–	–	–
33	4	DEEP FRYER (GAS)	–	–	–	–	–	–	–	–	–
34	2	BREADING STATION	–	–	–	–	–	–	–	–	–
35	–	**18" EXHAUST HOOD (KEF–1)**	15.0A	–	20A	–	5	208	3	DISCONNECT	3–#12, 1–#12 GND IN 3/4" CONDUIT
	–	**18" EXHAUST HOOD (KEF–2)**	15.0A	–	20A	–	5	208	3	DISCONNECT	3–#12, 1–#12 GND IN 3/4" CONDUIT
	–	**18" EXHAUST HOOD (KMUA–1)**	17.4A	–	30A	–	–	208	3	DISCONNECT	3–#10, 1–#10 GND IN 1" CONDUIT
	–	**18" EXHAUST HOOD (KMUA–2)**	17.4A	–	30A	–	–	208	3	DISCONNECT	3–#10, 1–#10 GND IN 1" CONDUIT
	–	**18" EXHAUST HOOD (KMUA–3)**	17.4A	–	30A	–	–	208	3	DISCONNECT	3–#10, 1–#10 GND IN 1" CONDUIT
36	1	**CONVECTION OVEN (GAS)**	6.0A	–	20A	–	1/3	120	1	VERIFY	2–#12, 1–#12 GND IN 1/2" CONDUIT
37	1	**52" REFRIG. CHEF BASE**	8.1A	–	20A	–	1/3	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
38	1	48" FLAT GRIDDLE (GAS)	–	–	–	–	–	–	–	–	–
39	1	**BROASTER PRESSURE DEEP FRYER (GAS) CNTRLS**	–	–	20A	–	–	120	1	VERIFY	2–#12, 1–#12 GND IN 1/2" CONDUIT
40	1	WALL–MOUNT HAND SINK	–	–	–	–	–	–	–	–	–
41	1	**1–DOOR REACH–IN FREEZER**	10.4A	–	20A	–	1/2	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
42	1	WORKTABLE W/ DROP–IN HAND SINK (30X60)	–	–	–	–	–	–	–	–	–
43	2	**2–DOOR WORKTOP REFRIG**	5.0A	–	20A	–	1/5	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
44	1	WALL–MOUNT SHELF (15X96)	–	–	–	–	–	–	–	–	–
45	1	18X96 LOW DISH SHELVING	–	–	–	–	–	–	–	–	–
46	1	15X144 PASSTHRU SHELF W/ OVERSHELF	–	–	–	–	–	–	–	–	–
47	3	**48" IR HEAT LAMP**	–	–	20A	–	–	120	1	SWITCH	2–#12, 1–#12 GND IN 1/2" CONDUIT
48	1	**BAG–IN–BOX W/ CARBON DIOXIDE CANISTERS**	7.2A	–	20A	–	–	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
49	–	**72" INTERIOR MOUNT FLY FAN +VERIFY**	–	–	20A	500	–	120	1	SWITCH	2–#12, 1–#12 GND IN 1/2" CONDUIT
50	–	**40 QT MIXER**	5.6A	–	20A	–	1.5	208	3	DISCONNECT	3–#12, 1–#12 GND IN 3/4" CONDUIT
51	2	**COFFEE BREWER**	14A	–	20A	–	–	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
52	2	**TEA BREWER / URN**	15A	–	20A	–	–	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
53	1	**DRAFT BEER REFRIG LINE / GLYCOL CHILLER**	12.1A	–	20A	–	1/3	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
54	1	**NITROGEN GENERATOR W/ TANK**	5.0A	–	20A	–	–	120	1	VERIFY	2–#12, 1–#12 GND IN 1/2" CONDUIT
55	1	**3–WELL HOT HOLDING TABLE**	16.0A	–	20A	–	–	120	1	5–20	2–#12, 1–#12 GND IN 1/2" CONDUIT
56	2	**68" REFRIG PREP TABLE**	9.0A	–	20A	–	1/2	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT

BAR EQUIPMENT SCHEDULE

(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

ITEM	QUAN	DESCRIPTION	ELECTRICAL CHARACTERISTICS								
			FLA	MCA	MOCP	WATTS	HP	VOLTS	PH	CONNECTION	WIRE SIZES
61	2	S/S SOILED GLASS RACK STORAGE	–	–	–	–	–	–	–	–	–
62	2	**UNDERCOUNTER GLASS WASHER**	13A	–	20A	–	3/4	120	1	VERIFY	2–#12, 1–#12 GND IN 1/2" CONDUIT
63	1	**2–DOOR UC REFRIG**	5.0A	–	20A	–	1/5	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
64	LOT	**POINT OF SALE**	–	–	20A	–	–	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
65	2	GLASS RINSER / DIP TRAY	–	–	–	–	–	–	–	–	–
66	1	**94" DEEP WELL BOTTLE COOLER**	9.5A	–	20A	–	1/2	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
67	2	S/S BAR HAND SINK	–	–	–	–	–	–	–	–	–
68	1	S/S 18" BAR HAND SINK	–	–	–	–	–	–	–	–	–
69	1	S/S 48" ICE WELL W/ LIQUOR STORAGE	–	–	–	–	–	–	–	–	–
70	2	S/S LIQUOR DISPLAY	–	–	–	–	–	–	–	–	–
71	1	S/S 36" ICE WELL W/ COLD PLATE	–	–	–	–	–	–	–	–	–
72	LOT	TRASH RECEPTACLE	–	–	–	–	–	–	–	–	–
73	1	**94" DIRECT DRAFT BEER COOLER**	7.4A	–	20A	–	1/3	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
74	1	S/S BAR DUMP SINK	–	–	–	–	–	–	–	–	–
75	1	**48" DEEP WELL BOTTLE COOLER**	6.3A	–	20A	–	1/3	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
76	1	DRAFT BEER TOWER W/ REFRIG LINES	–	–	–	–	–	–	–	–	–
77	2	S/S CLEAN GLASS RACK STORAGE	–	–	–	–	–	–	–	–	–
78	–	**1–DOOR REACH–IN REFRIG**	3.9A	–	20A	–	1/6	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
79	–	NOT USED	–	–	–	–	–	–	–	–	–
80	–	NOT USED	–	–	–	–	–	–	–	–	–



PER NEC 620.23:

ELEVATOR NOTES:
LIGHT, LIGHT SWITCH AND CONVENIENCE OUTLET IN EACH ELEV PIT ARE TO BE PROVIDED BY THE EC.

MINIMUM LIGHTING IN THE PIT TO BE 10fc PER ANSI A17.1.2000. PIT LIGHTING IS SUBJECT TO NEC CODE RULES 620.23, 620.24 FOR SEPARATE LIGHTING BRANCH CIRCUITS FROM POWER BRANCH CIRCUITS, AND LOCAL CODE REQUIREMENTS. (TYP)

PROVIDE GFCI RECEPTACLE AT TOP OF ELEVATOR SHAFT, VERIFY LOCATION. WIRE TO ADDITIONAL ELEVATOR SHAFT POWER AND LIGHTING. PROVIDE 208V, 3 PHASE DISCONNECT FOR ELEVATOR LIFT MOTOR ALONG WITH CIRCUIT BREAKER ENCLOSURE FOR ELEVATOR LIGHTS AND CONTROLS. WIRE TO PANEL.

ELEVATOR ELECTRICAL EQUIPMENT AND WIRING MUST COMPLY WITH SECTION 620 OF NEC ANSI NFPA 70. ALL WORK MUST MEET NC DEPARTMENT OF LABOR GUIDELINES FOR TRACTION ELEVATORS. SEE OTHER ELECTRICAL SHEETS FOR ADDITIONAL WORK.

A DRAIN OR SUMP PUMP SHALL BE PROVIDED. THE SUMP PUMP/DRAIN SHALL HAVE THE CAPACITY TO REMOVE A MINIMUM OF 3,000 GAL/H PER ELEVATOR.

SMOKE DETECTORS ARE REQUIRED IN EACH ELEVATOR LOBBY WHEN ACTIVATED THEY SHALL PUT ELEVATOR IN THE FIREMANS RECALL OPERATION. ALL DETECTORS SHALL BE TIED TOGETHER TO ALARM SIMULTANEOUSLY. THE CONTRACTOR SHALL PROVIDE A SMALL PANEL IF REQUIRED FOR PROPER OPERATION. PROVIDE ALL DEVICES REQUIRED FOR A COMPLETE SYSTEM.

PROVIDE A CAB TELEPHONE CIRCUIT FOR EACH ELEVATOR. WIRE BACK TO MAIN TELEPHONE PANEL.

KITCHEN/BAR AREA:
ALL SINGLE PHASE RECEPTACLES 50A OR LESS, 150 VOLTS TO GROUND OR LESS AND ALL THREE PHASE RECEPTACLES 100A OR LESS, 150 VOLTS TO GROUND OR LESS SHALL BE GFCI PROTECTED.

(S) RECEPTACLES SHALL RUN THROUGH HOOD CONTROL RELAYS FOR "SHUNT PURPOSES".

SHUNT TRIP IS ONLY REQUIRED FOR ELECTRICAL HEAT GENERATING EQUIPMENT. NOT REQUIRED FOR THIS PROJECT.

EC PROVIDE WIRING FROM HOOD CONTROLS TO FANS ON ROOF. VERIFY HOOD FANS HAVE INTEGRAL DISCONNECTING MEANS ON ROOF AS SPECIFIED. IF NOT, PROVIDE WP/NEMA–3R RATED DISCONNECTING MEANS AS REQUIRED. PROVIDE FAN DISCONNECTING MEANS WITH–IN SIGHT OF HOOD CONTROLLER. SEE MECH SHEETS FOR KITCHEN HOOD FAN LOCATIONS.

CO DETECTOR(S) REQUIRED IN ALL A2 OCCUPANCY (RESTAURANT) WITH GAS FUEL FIRED EQUIPMENT. PROVIDE IN KITCHENS AND ANY OTHER AREAS OPEN TO KITCHENS

NOTE:
PROVIDE LABELING ON EACH DEVICE NOTING CIRCUIT SERVED.

COORDINATE LOCATION AND MOUNTING OF ALL DISCONNECTS AND RECEPTACLES WITH EQUIPMENT SERVED. DO NOT BLOCK ANY ACCESS PANELS OR NAMEPLATE DATA. PROVIDE SEPARATE SUPPORTS IF REQUIRED.

VERIFY HEIGHT/LOCATION OF ALL DEVICES PRIOR TO INSTALLATION.

SECOND FLOOR POWER PLAN

E-3.2 SCALE: 1/8"=1'-0"

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MOREHEAD CITY COUNTRY CLUB CLUBHOUSE

MOREHEAD CITY, NORTH CAROLINA

1/26/21

NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE

SECOND FLOOR POWER PLAN

20020

ISSUED:	1/26/21
DWG BY:	RM
CKD BY:	BEB

REVISIONS

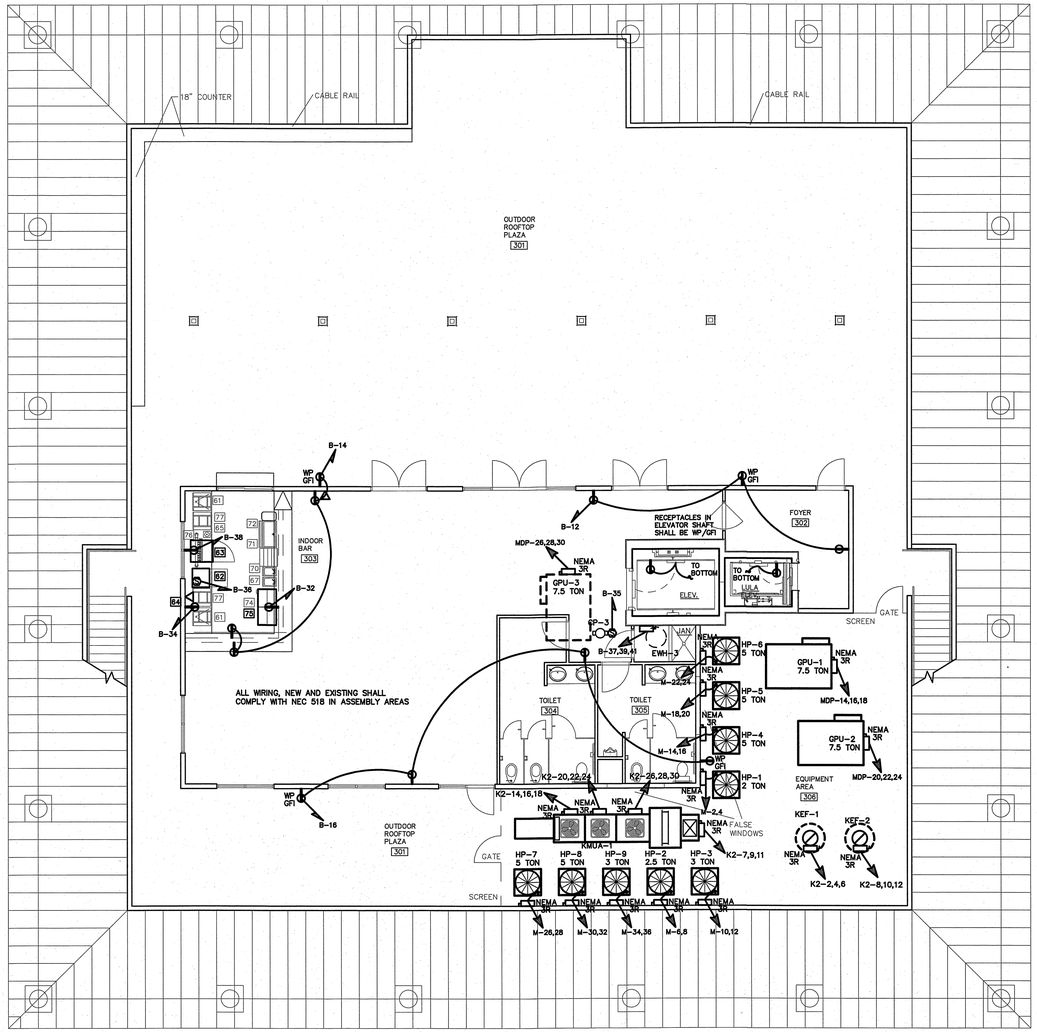
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SHEET NO.
E-3.2

BAR EQUIPMENT SCHEDULE

(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

ITEM	QUAN	DESCRIPTION	ELECTRICAL CHARACTERISTICS								
			FLA	MCA	MOCP	WATTS	HP	VOLTS	PH	CONNECTION	WIRE SIZES
61	2	S/S SOILED GLASS RACK STORAGE	–	–	–	–					
62	2	UNDERCOUNTER GLASS WASHER	13A	–	20A	–	3/4	120	1	VERIFY	2–#12, 1–#12 GND IN 1/2" CONDUIT
63	1	2–DOOR UC REFRIG	8.0A	–	20A	–	1/3	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
64	LOT	POINT OF SALE	–	–	20A	–	–	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
65	2	GLASS RINSER / DIP TRAY	–	–	–	–	–	–	–	–	–
66	1	94" DEEP WELL BOTTLE COOLER	9.5A	–	20A	–	1/2	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
67	2	S/S BAR HAND SINK	–	–	–	–	–	–	–	–	–
68	1	S/S 18" BAR HAND SINK	–	–	–	–	–	–	–	–	–
69	1	S/S 48" ICE WELL W/ LIQUOR STORAGE	–	–	–	–	–	–	–	–	–
70	2	S/S LIQUOR DISPLAY	–	–	–	–	–	–	–	–	–
71	1	S/S 36" ICE WELL W/ COLD PLATE	–	–	–	–	–	–	–	–	–
72	LOT	TRASH RECEPTACLE	–	–	–	–	–	–	–	–	–
73	1	94" DIRECT DRAFT BEER COOLER	7.4A	–	20A	–	1/3	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
74	1	S/S BAR DUMP SINK	–	–	–	–	–	–	–	–	–
75	1	48" DEEP WELL BOTTLE COOLER	6.3A	–	20A	–	1/3	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
76	1	DRAFT BEER TOWER W/ REFRIG LINES	–	–	–	–	–	–	–	–	–
77	2	S/S CLEAN GLASS RACK STORAGE	–	–	–	–	–	–	–	–	–
78	–	1–DOOR REACH–IN REFRIG	3.9A	–	20A	–	1/6	120	1	5–15	2–#12, 1–#12 GND IN 1/2" CONDUIT
79	–	NOT USED	–	–	–	–	–	–	–	–	–
80	–	NOT USED	–	–	–	–	–	–	–	–	–



NOTE:
PROVIDE LABELING ON EACH DEVICE NOTING CIRCUIT SERVED.

COORDINATE LOCATION AND MOUNTING OF ALL DISCONNECTS AND RECEPTACLES WITH EQUIPMENT SERVED. DO NOT BLOCK ANY ACCESS PANELS OR NAMEPLATE DATA. PROVIDE SEPARATE SUPPORTS IF REQUIRED.

VERIFY HEIGHT/LOCATION OF ALL DEVICES PRIOR TO INSTALLATION.

1/E-33 ROOFTOP POWER PLAN
SCALE: 1/8"=1'-0"

PER NEC 620.23:

ELEVATOR NOTES:
LIGHT, LIGHT SWITCH AND CONVENIENCE OUTLET IN EACH ELEV PIT ARE TO BE PROVIDED BY THE EC.

MINIMUM LIGHTING IN THE PIT TO BE 10fc PER ANSI A17.1.2000. PIT LIGHTING IS SUBJECT TO NEC CODE RULES 620.23, 620.24 FOR SEPARATE LIGHTING BRANCH CIRCUITS FROM POWER BRANCH CIRCUITS, AND LOCAL CODE REQUIREMENTS. (TYP)

PROVIDE GFCI RECEPTACLE AT TOP OF ELEVATOR SHAFT. VERIFY LOCATION. WIRE TO ADDITIONAL ELEVATOR SHAFT POWER AND LIGHTING. PROVIDE 208V, 3 PHASE DISCONNECT FOR ELEVATOR LIFT MOTOR ALONG WITH CIRCUIT BREAKER ENCLOSURE FOR ELEVATOR LIGHTS AND CONTROLS. WIRE TO PANEL.

ELEVATOR ELECTRICAL EQUIPMENT AND WIRING MUST COMPLY WITH SECTION 620 OF NEC ANSI NFPA 70. ALL WORK MUST MEET NC DEPARTMENT OF LABOR GUIDELINES FOR TRACTION ELEVATORS. SEE OTHER ELECTRICAL SHEETS FOR ADDITIONAL WORK.

A DRAIN OR SUMP PUMP SHALL BE PROVIDED. THE SUMP PUMP/DRAIN SHALL HAVE THE CAPACITY TO REMOVE A MINIMUM OF 3,000 GAL/H PER ELEVATOR.

SMOKE DETECTORS ARE REQUIRED IN EACH ELEVATOR LOBBY WHEN ACTIVATED THEY SHALL PUT ELEVATOR IN THE FIREMANS RECALL OPERATION. ALL DETECTORS SHALL BE TIED TOGETHER TO ALARM SIMULTANEOUSLY. THE CONTRACTOR SHALL PROVIDE A SMALL PANEL IF REQUIRED FOR PROPER OPERATION. PROVIDE ALL DEVICES REQUIRED FOR A COMPLETE SYSTEM.

PROVIDE A CAB TELEPHONE CIRCUIT FOR EACH ELEVATOR. WIRE BACK TO MAIN TELEPHONE PANEL.

THERE SHALL BE A WP/GFI RECEPTACLE WITHIN 25'-0" OF ALL EXTERIOR EQUIP. PROVIDE AS REQUIRED.

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E BURKE

ROOFTOP POWER PLAN

20020

ISSUED:	1/26/21
DWG BY:	RM
CKD BY:	BEB

REVISIONS

SHEET NO.
E-3.3

Morehead Country Club E4

NEW PANEL– 'MDP'

MAKE: CUTLER HAMMER | TYPE: PRI 4B | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | M.L.O. MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
SPACE		----			1		2	----				SPACE
SPACE			----		3		4		----			SPACE
SPACE				----	5		6			----		SPACE
SPACE		----			7		8	----				SPACE
SPACE			----		9		10		----			SPACE
SPACE				----	11		12			----		SPACE
SPACE		----			13		14	4320				GPU–1
* LULA ELEVATOR	40A		3120		15		16		4320		50A	
		3120			17		18			4320		
					19		20	4320				GPU–2
LULA CAB LIGHTS	20A		1000		21		22		4320		50A	
* ELEVATOR				5540	23		24			4320		
(VFA XFORMER)	125A	5540			25		26	4320				GPU–3
			5540		27		28		4320		50A	
ELEV CAB LIGHTS	20A			1000	29		30			4320		
PANEL 'A'		13900			31		32	64288				PANEL 'E'
	200A		13360		33		34		63588		600A	
				13200	35		36			62862		(SUBFED FROM BUS)
PANEL 'B'		8164			37		38	37636				PANEL 'M'
	200A		7588		39		40		36722		400A	
				10200	41		42			38608		

NOTES: * VERIFY EXACT ELEVATOR OVER CURRENT PROTECTION W/ SUPPLIER PRIOR TO ROUGH–IN

SUB–TOTALS 'B'	30724	30608	33060	
1200A BUS	114864	113270	112430	SUB–TOTALS 'A'
1200A LUGS	30724	30608	33060	SUB–TOTALS 'B'
1200A FEED	145588	143878	145490	GRAND TOTAL
VERIFY SIZE	1213A	1199A	1212A	AMPS/PHASE

TOTAL CONNECTED LOAD

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR(6)	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING	(1)	125%	7133	6988	6355	20476
TRACK LIGHTING		125%	----	----	----	----
GENERAL USE		≤10KVA/1ØBRANCH	3333	3333	3333	9999
RECEPTACLES		>10KVA/1ØBRANCH	1304	944	584	2832
MOTORS AND EQUIPMENT	LARGEST	125%	6925	6925	6925	20775
	ALL OTHERS	100%	53718	53602	53688	161208
WATER HEATERS		125%	40000	40000	40000	120000
KITCHEN EQUIPMENT	(3)	65%	24918	24587	28798	78304
FIX. ELEC. SPACE HEAT.	(4)	100%	750	----	750	1500
SHOW WINDOW LIGHTS	(5)	125%	----	----	----	----
SIGN		125%	1500	3000	----	4500
MISC		100%	2400	1500	2700	6600
PHASE (TOTAL VA)			141880	140079	141133	424192
TOTAL AMPS			1183A	1176A	1176A	VOLT AMPS / VOLTS X 1.732 = 1178A TOTAL AMPS

Morehead Country Club E4

NEW PANEL– 'A'

MAKE: CUTLER HAMMER | TYPE: PRI1a | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | M.L.O. MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
SIGN	20A	1200			1		2	900			20A	REC: 101,105
SIGN	20A		1200		3		4		900		20A	REC: 102
SPARE	20A			----	5		6			900	20A	REC: 103,104
SPARE	20A	----			7		8	900			20A	REC: 104
SPARE	20A		----		9		10		360		20A	REC: 112,113
SPACE				----	11		12			900	20A	REC: 108
SPACE		----			13		14	900			20A	REC: 109
SPACE			----		15		16		900		20A	REC: 110
SPACE				----	17		18			900	20A	REC: 111
SPACE		----			19		20	----			20A	SPARE
SPACE			----		21		22		----		20A	SPARE
SPACE				----	23		24			----		SPACE
SPACE		----			25		26	----				SPACE
SPACE			----		27		28		----			SPACE
SPACE				----	29		30			----		SPACE
SPACE		----			31		32	----				SPACE
SPACE			----		33		34		----			SPACE
CP–1	20A			500	35		36			----		SPACE
EWH–1		10000			37		38	----				SPACE
	125A		10000		39		40		----			SPACE
				10000	41		42			----		SPACE

SUB–TOTALS 'B'	11200	11200	10500	
200A BUS	2700	2160	2700	SUB–TOTALS 'A'
200A LUGS	11200	11200	10500	SUB–TOTALS 'B'
200A FEED	13900	13360	13200	GRAND TOTAL
VERIFY SIZE	116A	111A	110A	AMPS/PHASE

TOTAL CONNECTED LOAD

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR(6)	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING	(1)	125%	----	----	----	----
TRACK LIGHTING		125%	----	----	----	----
GENERAL USE		≤10KVA/1ØBRANCH	2700	2160	2700	7560
RECEPTACLES		>10KVA/1ØBRANCH	----	----	----	----
MOTORS AND EQUIPMENT	LARGEST	125%	----	----	----	----
	ALL OTHERS	100%	----	----	----	----
WATER HEATERS		125%	12500	12500	12500	37500
KITCHEN EQUIPMENT	(3)	100%	----	----	----	----
FIX. ELEC. SPACE HEAT.	(4)	100%	----	----	----	----
SHOW WINDOW LIGHTS	(5)	125%	----	----	----	----
SIGN		125%	1500	1500	----	3000
MISC		100%	----	----	500	500
PHASE (TOTAL VA)			18700	16160	15700	49560
TOTAL AMPS			139A	135A	131A	VOLT AMPS / VOLTS X 1.732 = 134A TOTAL AMPS

Morehead Country Club E4

NEW PANEL– 'B'

MAKE: CUTLER HAMMER | TYPE: PRI1a | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: FLUSH | MINIMUM AIC: VERIFY | M.L.O. MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
SPARE	20A	----			1		2	900			20A	REC: 201,202,206
SPARE	20A		----		3		4		360		20A	REC: 207,208
SPARE	20A			----	5		6			900	20A	REC: 205
SPARE	20A	----			7		8	720			20A	REC: 204
SPARE	20A		----		9		10		900		20A	REC: 204
SPARE	20A			----	11		12			540	20A	REC: 302,303
SPACE	20A	----			13		14	720			20A	REC: 303
SPACE			----		15		16		720		20A	REC: 303,EXT
SPACE				----	17		18			----	20A	SPARE
SPACE		----			19		20	----			20A	SPARE
SPACE			----		21		22		360		20A	POS (64)
SPACE				----	23		24			1560	20A	UC GLASS WASHER (62)
SPACE		----			25		26	468			20A	1–DOOR REFRIG (78)
SPACE			----		27		28		888		20A	BEER COOLER (73)
SPACE				----	29		30			1140	20A	94" BOTTLE COOLER (66)
SPACE		----			31		32	756			20A	48" BOTTLE COOLER (75)
SPACE			----		33		34		360		20A	POS (64)
CP–3	20A			500	35		36			1560	20A	UC GLASS WASHER (62)
EWH–3	50A	4000			37		38	600			20A	2–DOOR UC REFRIG (63)
			4000		39		40		----			SPACE
				4000	41		42			----		SPACE

SUB–TOTALS 'B'	4000	4000	4500	
200A BUS	4184	3588	5700	SUB–TOTALS 'A'
200A LUGS	4000	4000	4500	SUB–TOTALS 'B'
200A FEED	8164	7588	10200	GRAND TOTAL
VERIFY SIZE	68A	63A	85A	AMPS/PHASE

TOTAL CONNECTED LOAD

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR(6)	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING	(1)	125%	----	----	----	----
TRACK LIGHTING		125%	----	----	----	----
GENERAL USE		≤10KVA/1ØBRANCH	2340	2700	1440	6480
RECEPTACLES		>10KVA/1ØBRANCH	----	----	----	----
MOTORS AND EQUIPMENT	LARGEST	125%	----	----	----	----
	ALL OTHERS	100%	----	----	----	----
WATER HEATERS		125%	5000	5000	5000	15000
KITCHEN EQUIPMENT	(3)	65%	1186	577	2789	4532
FIX. ELEC. SPACE HEAT.	(4)	100%	----	----	----	----
SHOW WINDOW LIGHTS	(5)	125%	----	----	----	----
SIGN		125%	----	----	----	----
MISC		100%	----	----	500	500
PHASE (TOTAL VA)			8528	8277	9729	26512
TOTAL AMPS			71A	69A	81A	VOLT AMPS / VOLTS X 1.732 = 74A TOTAL AMPS

Morehead Country Club E4

NEW PANEL– 'M'

MAKE: CUTLER HAMMER | TYPE: PRI1a | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | M.L.O. MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
AHU–1	30A	2174			1		2	1383			25A	HP–1
			2174		3		4		1383			
AHU–2	30A			2652	5		6			1591	30A	HP–2
		2652			7		8	1591				
AHU–3	45A		3432		9		10		1882		35A	HP–3
		3432			11		12			1882		
AHU–4	60A	4389			13		14	2870			50A	HP–4
			4389		15		16		2870			
AHU–5	60A			4389	17		18			2870	50A	HP–5
		4389			19		20	2870				
AHU–6	60A		4389		21		22		2870		50A	HP–6
				4389	23		24			2870		
AHU–7	60A	4389			25		26	2870			50A	HP–7
			4389		27		28		2870			
AHU–8	60A			4389	29		30			2870	50A	HP–8
		4389			31		32	2870				
AHU–9	45A		3432		33		34		1882		35A	HP–9
				3432	35		36			1882		
SPACE		----			37		38	800			20A	ERV–1
SPACE			----		39		40		800			
SPACE				----	41		42			----		SPACE

SUB–TOTALS 'B'	22382	22205	22883	
400A BUS	15254	14517	13925	SUB–TOTALS 'A'
400A LUGS	22382	22205	22883	SUB–TOTALS 'B'
400A FEED	37636	36722	36808	GRAND TOTAL
VERIFY SIZE	314A	308A	305A	AMPS/PHASE

TOTAL CONNECTED LOAD

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR(6)	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING	(1)	125%	----	----	----	----
TRACK LIGHTING		125%	----	----	----	----
GENERAL USE		≤10KVA/1ØBRANCH	----	----	----	----
RECEPTACLES		>10KVA/1ØBRANCH	----	----	----	----
MOTORS AND EQUIPMENT	LARGEST	125%	3588	3588	3588	10764
	ALL OTHERS	100%	34766	33852	33738	102356
WATER HEATERS		125%	----	----	----	----
KITCHEN EQUIPMENT	(3)	100%	----	----	----	----
FIX. ELEC. SPACE HEAT.	(4)	100%	----	----	----	----
SHOW WINDOW LIGHTS	(5)	125%	----	----	----	----
SIGN		125%	----	----	----	----
MISC		100%	----	----	----	----
PHASE (TOTAL VA)			38354	37440	37328	113120
TOTAL AMPS			320A	312A	311A	VOLT AMPS / VOLTS X 1.732 = 314A TOTAL AMPS

Morehead Country Club E4

NEW PANEL– 'E'

MAKE: CUTLER HAMMER | TYPE: PRI 43a | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | M.L.O. MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
FACP	20A	500			1		2	900			20A	REC: 105–107
LCP CNTRL	20A		700		3		4		360		20A	REC: MTP
LCP DIM	20A			700	5		6			360	20A	REC: EXT
PHOTOCELL	20A	700			7		8	1200			20A	CEILING FANS (EXT)
LTS: 101–105	20A		1020		9		10		1300		20A	LTS: PORCH 1
LTS: 106–113	20A			880	11		12			920	20A	LTS: COLUMN/SOFFIT
LTS: 104	20A	1440			13		14	1300			20A	LTS: PORCH 2
LTS: 104	20A		780		15		16		960		20A	LTS: ROOF PLAZA
LTS: 202	20A			1380	17		18			----	20A	SPARE
LTS: 206–209,COOLER/FREEZER	20A	1068			19		20	----			20A	SPARE
LTS: 201	20A		900		21		22		----		20A	SPARE
LTS: 204	20A			1280	23		24			----		SPACE
LTS: 205	20A	1020			25		26	----				SPACE
LTS: 204,205	20A		630		27		28		----			SPACE
LTS: 302,304	20A			624	29		30			750	20A	EH–1
LTS: 303	20A	878			31		32	750				
HOT BOX / RPZ	20A		800		33		34		1200		20A	MAIN/SITE SIGNANGE
CP–2	20A			500	35		36			500	20A	GEN BATT CHARGER / CNTRL PANEL
EWH–2		18000			37		38	36512				PANEL 'K'
	200A		18000		39		40		36938		200A	
				18000	41		42			36968		

SUB–TOTALS 'B'	23606	22830	23364	
600A BUS	40662	40758	39498	SUB–TOTALS 'A'
600A LUGS	23606	22830	23364	SUB–TOTALS 'B'
600A FEED	64268	63588	62862	GRAND TOTAL
VERIFY SIZE	536A	530A	524A	AMPS/PHASE

TOTAL CONNECTED LOAD

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR(6)	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING	(1)	125%	7133	6988	6355	20476
TRACK LIGHTING		125%	----	----	----	----
GENERAL USE		≤10KVA/1ØBRANCH	900	360	360	1620
RECEPTACLES		>10KVA/1ØBRANCH	----	----	----	----
MOTORS AND EQUIPMENT	LARGEST	125%	----	----	----	----
	ALL OTHERS	100%	----	----	----	----
WATER HEATERS		125%	23500	23500	23500	67500
KITCHEN EQUIPMENT	(3)	65%	23733	24010	24029	71772
FIX. ELEC. SPACE HEAT.	(4)	100%	750	----	750	1500
SHOW WINDOW LIGHTS	(5)	125%	----	----	----	----
SIGN		125%	----	1500	----	1500
MISC		100%	2400	1500	1700	5600
PHASE (TOTAL VA)			57416	56858	55694	169968
TOTAL AMPS			478A	474A	464A	VOLT AMPS / VOLTS X 1.732 = 472A TOTAL AMPS

Morehead Country Club E4

NEW PANEL– 'K'

MAKE: CUTLER HAMMER | TYPE: PRI1a | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: FLUSH | MINIMUM AIC: VERIFY | M.L.O. MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
BAG–N–BOX (48)	20A	864			1		2	1920			20A	3–WELL HOT HOLDING TABLE (55)
DRAFT BEER LINE / CHILLER (53)	20A		1452		3		4		1100		20A	66" REFRIG PREP TABLE (56)
NITRO GEN (54)	20A			600	5		6			1100	20A	66" REFRIG PREP TABLE (56)
FLY FAN (46)	20A	500			7		8	720			20A	CONVEC OVEN (36)
2–DOOR REFRIG (8)	20A		1092		9		10		972		20A	REFRIG CHEF BASE (37)
2–DOOR REFRIG (8)	20A			1092	11		12			400	20A	BROASTER FRYER CNTRLS (39)
2–DOOR FREEZER (9)	20A	1584			13		14	972			20A	REFRIG CHEF BASE (30)
MIXER (50)			672		15		16			3006	40A	COOK & HOLD CAB (28)
		672			17		18			3006		
				672	19		20	----				(S)
1–DOOR REFRIG (16)	20A		912		21		22		1200		20A	IR HEAT LAMP (47)
ICE MACHINE (26)	20A			1238	23		24			1200	20A	IR HEAT LAMP (47)
		1238			25		26	1200			20A	IR HEAT LAMP (47)
2–DOOR WORKTOP REFRIG (43)	20A		600		27		28		----		20A	SPARE
2–DOOR WORKTOP REFRIG (43)	20A			600	29		30			----	20A	SPARE
TEA BREWER (52)	20A	1800			31		32	5640				DISHMACHINE (20)
TEA BREWER (52)	20A		1800		33		34		5640		60A	
COFFEE BREWER (51)	20A			1680	35		36			5640		
COFFEE BREWER (51)	20A	1680			37		38	17892				PANEL 'K2'
SPARE	20A		----		39		40		18492		100A	
1–DOOR FREEZER (41)	20A			1248	41		42			18492		

SUB–TOTALS 'B'	8168	6528	7130	
200A BUS	28344	30410	29838	SUB–TOTALS 'A'
200A LUGS	8168	6528	7130	SUB–TOTALS 'B'
200A FEED	36512	36938	36968	GRAND TOTAL
VERIFY SIZE	304A	308A	308A	AMPS/PHASE

TOTAL CONNECTED LOAD

(S) SHUNT TRIP / HOOD RELAY

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR(6)	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING	(1)	125%	----	----	----	----
TRACK LIGHTING		125%	----	----	----	----
GENERAL USE		≤10KVA/1ØBRANCH	----	----	----	----
RECEPTACLES		>10KVA/1ØBRANCH	----	----	----	----
MOTORS AND EQUIPMENT	LARGEST	125%	----	----	----	----
	ALL OTHERS	100%	----	----	----	----
WATER HEATERS		125%	----	----	----	----
KITCHEN EQUIPMENT	(3)	65%	23733	24010	24030	71773
FIX. ELEC. SPACE HEAT.	(4)	100%	----	----	----	----
SHOW WINDOW LIGHTS	(5)	125%	----	----	----	----
SIGN		125%	----	----	----	----
MISC		100%	----	----	----	----
PHASE (TOTAL VA)			23733	24010	24030	71773
TOTAL AMPS			198A	200A	200A	VOLT AMPS / VOLTS X 1.732 = 199A TOTAL AMPS

Morehead Country Club E4

NEW PANEL– 'K2'

MAKE: CUTLER HAMMER | TYPE: PRI1a | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: FLUSH | MINIMUM AIC: VERIFY | M.L.O. MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
SPACE		----			1		2	1800				
HOOD LTS/CNTRLS	20A		600		3		4		1800		20A	
HOOD LTS/CNTRLS	20A			600	5		6			1800		
HOOD KMUA FAN		3240			7		8	1800				HOOD KEF–1
	60A		3240		9		10		1800		20A	
				3240	11		12			1800		HOOD KEF–2
WALK–IN BEER COOLER		1596			13		14	2088				
	20A		1596		15		16		2088		30A	HOOD KMUA COND–1
				1596	17		18			2088		
WALK–IN COOLER/FREEZER		1596			19		20	2088				
	20A		1596		21		22		2088		30A	HOOD KMUA COND–2
				1596	23		24			2088		
WALK–IN COOLER/FREEZER		1596			25		26	2088				
	20A		1596		27		28		2088		30A	HOOD KMUA COND–3
				1596	29		30			2088		

SUB–TOTALS 'B'	8028	8628	8628	
100A BUS	9864	9864	9864	SUB–TOTALS 'A'
100A LUGS	8028	8628	8628	SUB–TOTALS 'B'
100A FEED	17892	18492	18492	GRAND TOTAL
VERIFY SIZE	149A	154A	154A	AMPS/PHASE

TOTAL CONNECTED LOAD

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON–COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE		DEMAND FACTOR(6)	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING	(1)	125%	----	----	----	----
TRACK LIGHTING		125%	----	----	----	----
GENERAL USE		≤10KVA/1ØBRANCH	----	----	----	----
RECEPTACLES		>10KVA/1ØBRANCH	----	----	----	----
MOTORS AND EQUIPMENT	LARGEST	125%	----	----	----	----
	ALL OTHERS	100%	----	----	----	----
WATER HEATERS		125%	----	----	----	----
KITCHEN EQUIPMENT	(3)	65%	11630	12020	12020	35670
FIX. ELEC. SPACE HEAT.	(4)	100%	----	----	----	----
SHOW WINDOW LIGHTS	(5)	125%	----	----	----	----
SIGN		125%	----	----	----	----
MISC		100%	----	----	----	----
PHASE (TOTAL VA)			11630	12020	12020	35670
TOTAL AMPS			97A	100A	100A	VOLT AMPS / VOLTS X 1.732 = 99A TOTAL AMPS

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MOREHEAD CITY COUNTRY CLUB
CLUBHOUSE
MOREHEAD CITY, NORTH CAROLINA

1/26/21
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BRYAN E. BURKE

ELECTRICAL PANELS

20020

ISSUED:	1/26/21
DWG BY:	RM
CKD BY:	BEB
REVISIONS	

SHEET NO. E-4

Morehead Country Club E5

(ATS) AUTOMATIC TRANSFER SWITCH SCHEDULE

ATS-1 "STAND-BY"	*	ASCO MODEL# J-03ATS-B-3-400-C-G0-F, AUTOMATIC TRANSFER SWITCH, OPEN TRANSITION. 400 AMP, 208/120 VOLT, 3 PHASE WITH NEMA 3R ENCLOSURE. PROVIDE GFI PROTECTION.

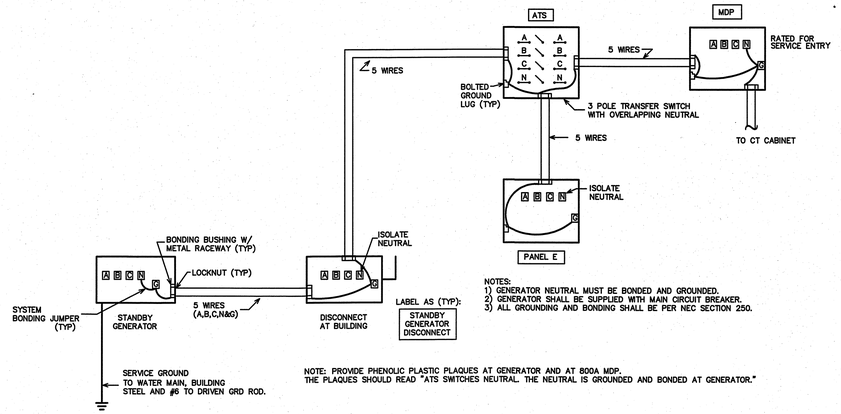
* OR APPROVED EQUAL

STAND-BY GENERATOR SCHEDULE *

175 KW NATURAL GAS FUELED STANDBY GENERATOR

PROVIDE A "GENERAC" MODEL SG175 STANDBY GENERATOR WITH (1) "STAND-BY" AUTOMATIC TRANSFER SWITCH. THE GENERATOR SHALL BE CAPABLE OF RUNNING ON NATURAL GAS FUEL. PROVIDE ALL ACCESSORIES AS REQUIRED FOR A COMPLETE OPERATING SYSTEM. THE ENGINE SHALL HAVE A MINIMUM OF 266 HP AT 1800 RPM WITH AND ENCLOSED MUFFLER. THE DELIVERY VOLTAGE SHALL BE 208/120 VOLT, 3 PHASE. PROVIDE 10A DUAL RATE BATTERY CHARGER, AUTOMATIC VOLTAGE REGULATOR, AUTOMATIC LOW OIL PRESSURE AND HIGH TEMPERATURE SHUTDOWN. THE AUTOMATIC TRANSFER SWITCH SHALL TRANSFER FROM THE UTILITY AUTOMATICALLY WITH-IN 30 SECONDS. PROVIDE A SERVICE RATED DISCONNECTING MEANS WITH OVERCURRENT PROTECTION AT THE GENERATOR LOCATION. PROPERLY GROUND THE GENERATOR AND SERVICE EQUIPMENT PER THE NEC. PROVIDE INITIAL START UP AND OWNER TRAINING.
PROVIDE A DIGITAL CONTROL PANEL, UNIT VIBRATION ISOLATION, AND A LEVEL 1 ACOUSTIC WEATHER PROTECTIVE ENCLOSURE.
PROVIDE A LOAD TEST, START-UP AND OWNER TRAINING BY THE GENERATOR MANUFACTURER'S FACTORY TRAINED REPRESENTATIVE.
PROVIDE AN ADJUSTABLE 7-DAY/24-HOUR EXERCISE TIMER.

* OR APPROVED EQUAL



2 E-5 GENRATOR GROUNDING/BONDING DETAIL
SCALE: NTS

Morehead Country Club E5

EQUIPMENT WIRING SCHEDULE

EQUIPMENT	MCA	MOCP	VOLTS	PH	WIRE SIZE
AHU-1	26.1A	30A	208V	1	2-#10, 1-#10 GND IN 1/2" CONDUIT
HP-1	16.5A	25A	208V	1	2-#10, 1-#10 GND IN 1/2" CONDUIT
AHU-2	26A	30A	208V	1	2-#10, 1-#10 GND IN 1/2" CONDUIT
HP-2	18.1A	30A	208V	1	2-#10, 1-#10 GND IN 1/2" CONDUIT
AHU-3	44.7A	45A	208V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
HP-3	22.1A	35A	208V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
AHU-4	52.8A	60A	208V	1	2-#6, 1-#10 GND IN 3/4" CONDUIT
HP-4	34.2A	50A	208V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
AHU-5	52.8A	60A	208V	1	2-#6, 1-#10 GND IN 3/4" CONDUIT
HP-5	34.2A	50A	208V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
AHU-6	52.8A	60A	208V	1	2-#6, 1-#10 GND IN 3/4" CONDUIT
HP-6	34.2A	50A	208V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
AHU-7	52.8A	60A	208V	1	2-#6, 1-#10 GND IN 3/4" CONDUIT
HP-7	34.2A	50A	208V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
AHU-8	52.8A	60A	208V	1	2-#6, 1-#10 GND IN 3/4" CONDUIT
HP-8	34.2A	50A	208V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
AHU-9	44.7A	45A	208V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
HP-9	22.1A	35A	208V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
LULA ELEVATOR	(10kW)	40A	208V	3	3-#8, 1-#10 GND IN 3/4" CONDUIT
ELEVATOR	(18kW)	125A	277V	3	3-#1, 1-#6 GND IN 1 1/2" CONDUIT

NOTE:
THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS PRIOR TO ROUGH-IN AND RELEASING GEAR. ADJUST BREAKER, WIRE SIZES, ETC. AS REQUIRED.

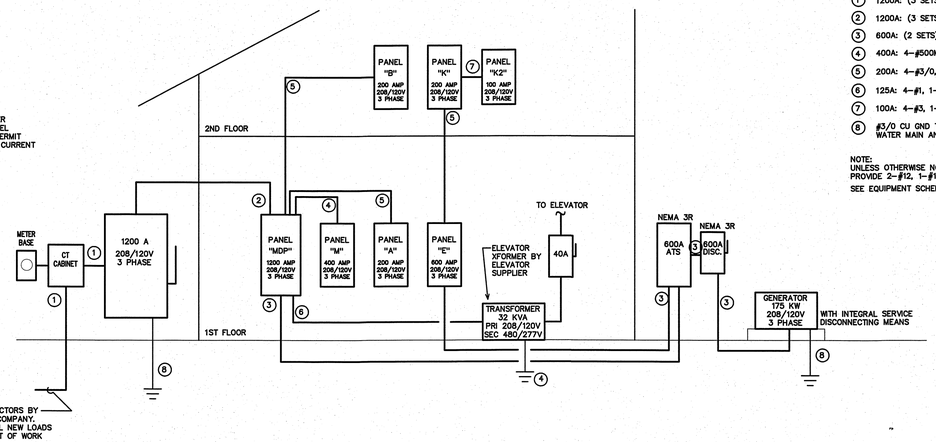
Morehead Country Club E5

EQUIPMENT WIRING SCHEDULE

EQUIPMENT	MCA	MOCP	VOLTS	PH	WIRE SIZE
GPU-1	39A	50A	208V	3	3-#8, 1-#10 GND IN 3/4" CONDUIT
GPU-2	39A	50A	208V	3	3-#8, 1-#10 GND IN 3/4" CONDUIT
GPU-3	39A	50A	208V	3	3-#8, 1-#10 GND IN 3/4" CONDUIT
EWH-1	(30KW)	125A	208V	3	3-#1, 1-#6 GND IN 1 1/2" CONDUIT
EWH-2	(54KW)	200A	208V	3	3-#3/0, 1-#6 GND IN 2" CONDUIT
EWH-3	(12KW)	50A	208V	3	3-#8, 1-#10 GND IN 3/4" CONDUIT
EH-1	(1.5KW)	20A	208V	1	3-#12, 1-#12 GND IN 1/2" CONDUIT
ERV-1	10.8A	15A	208V	1	3-#12, 1-#12 GND IN 1/2" CONDUIT
KEF-1	18.75A	20A	208V	3	3-#12, 1-#12 GND IN 1/2" CONDUIT
KEF-2	18.75A	20A	208V	3	3-#12, 1-#12 GND IN 1/2" CONDUIT
KMUA COND-1	21.4A	30A	208V	3	2-#10, 1-#10 GND IN 1/2" CONDUIT
KMUA COND-2	21.4A	30A	208V	3	2-#10, 1-#10 GND IN 1/2" CONDUIT
KMUA COND-3	21.4A	30A	208V	3	2-#10, 1-#10 GND IN 1/2" CONDUIT
KMUA FAN	33.8A	60A	208V	3	3-#6, 1-#10 GND IN 1" CONDUIT
MIXER	(2000W)	20A	208V	3	3-#12, 1-#12 GND IN 1/2" CONDUIT
ICE MACHINE	(2500W)	20A	208V	1	3-#12, 1-#12 GND IN 1/2" CONDUIT
DISHWASHER	(18kW)	60A	208V	3	3-#6, 1-#10 GND IN 1" CONDUIT
COOK& HOLD CAB	(6000W)	40A	208V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
WALK-IN BEER COOLER	14.7A	20A	208V	1	3-#12, 1-#12 GND IN 1/2" CONDUIT
WALK-IN COOLER/FREEZER	14.7A	20A	208V	1	3-#12, 1-#12 GND IN 1/2" CONDUIT
WALK-IN COOLER/FREEZER	14.7A	20A	208V	1	3-#12, 1-#12 GND IN 1/2" CONDUIT

NOTE:
THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS PRIOR TO ROUGH-IN AND RELEASING GEAR. ADJUST BREAKER, WIRE SIZES, ETC. AS REQUIRED.

VERIFY AVAILABLE FAULT CURRENT AT SERVICE LOCATION WITH LOCAL POWER COMPANY. PROVIDE INFORMATION TO ENGINEER TO CALCULATE MINIMUM PANEL AIC RATING PRIOR TO RELEASING GEAR. AIC RATING ON PANELS ARE FOR PERMIT REVIEW AND PRICING ONLY. EC SHALL PROVIDE LABELING INDICATING FAULT CURRENT AT SERVICE ENTRY AND ON ALL PANELS PRIOR TO ENERGIZING.



1 E-5 ELECTRICAL SERVICE RISER
SCALE: NTS

RISER WIRING SCHEDULE

1. 1200A: (3 SETS) 4-#600MCM IN (3) 3 1/2" CONDUIT
2. 1200A: (3 SETS) 4-#600MCM, 1-#3/0 CU GND, IN (3) 4" CONDUIT
3. 600A: (2 SETS) 4-#350MCM, 1-#1 CU GND, IN (2) 3" CONDUIT
4. 400A: 4-#500MCM, 1-#3 CU GND, IN 3 1/2" CONDUIT
5. 200A: 4-#3/0, 1-#6 CU GND, IN 2 1/2" CONDUIT
6. 125A: 4-#1, 1-#6 CU GND, IN 2" CONDUIT
7. 100A: 4-#3, 1-#8 CU GND, IN 1 1/4" CONDUIT
8. #3/0 CU GND TO BUILDING STEEL, FOUNDATION STEEL AND METALLIC WATER MAIN AND #6 CU GND TO 10' X 5/8" DRIVEN GROUND ROD

NOTE:
UNLESS OTHERWISE NOTED ALL OTHER CIRCUITS ARE 20A, 120VOLT. PROVIDE 2-#12, 1-#12 CU GND IN 1/2" CONDUIT.
SEE EQUIPMENT SCHEDULES FOR ADDITIONAL WIRE SIZES.

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CLUBHOUSE
MOREHEAD CITY, NORTH CAROLINA

1/26/21
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE

ELECTRICAL RISER

20020

ISSUED:	1/26/21
DWG BY:	RM
CKD BY:	BEB

REVISIONS

SHEET NO.
E-5

PART 1 – GENERAL

1.1 DESCRIPTION OF THE WORK

A. Work under this section includes, but is not necessarily limited to, furnishing and installing the following:
   1. Fire alarm panel, wiring and devices

B. All work shall be complete and items, equipment, etc., shall be electrically connected for proper and correct operation.

C. All work under this contract shall be installed in accordance with the latest edition of the following codes and standards insofar as they apply:
   1. The 2008 National Electrical Code.
   2. NFPA 72
   3. Underwriter's Laboratories, Inc., Standards and approved listings.
   4. Electrical Testing Labotories standards.
   5. North Carolina Building Code, Latest Edition and Revisions.
   6. All local codes and ordinances.

D. The Fire Alarm Contractor shall be licensed in the State of North Carolina and have all local licenses required for the work

E. Obtain all permits, licenses, inspections, etc., required for the work and pay for the same. Furnish final certificate of inspection and approval from the electrical inspector having jurisdiction prior to acceptance of the work.

F. All work shall be done by skilled mechanics and shall present a neat, trim, workmanlike condition when complete.

1.2 INTENT

A. The intent of these specifications and the accompanying drawings is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The Fire Alarm Contractor shall take this into consideration and include in his base bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

A. Coordinate work with other contractors. Notify Architect of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Architect for a decision before resuming operations.

B. Locations shown are approximate. The drawings do not give exact details as to elevations and locations of various pipes, fittings, ducts, conduit, etc., and do not show all offsets and other installation details which may be required. Coordinate all locations with architect before any rough-in.

1.4 SHOP DRAWINGS

A. Provide complete shop drawings per NCSFC section 907.1 to the local fire marshal including:
   1. Floorplan with room names
   2. Location of all FA devices
   3. Location of panels
   4. Power connections
   5. Battery calculations
   6. Conductors types and sizes
   7. Voltages drop calculations
   8. Equipment cut-sheets, model numbers, etc.

PART 2 – PRODUCTS AND MATERIALS

2.1 GENERAL

A. All material shall be new and shall bear the manufacturer's name, trade name, and UL label where such standard has been established for the particular material. Materials shall be the standard products of manufacturer's regularly engaged in the manufacturer of the required type of equipment and the manufacturer's latest approved design.
   1. Boxes installed in concealed locations shall be set flush with the finished surfaces.
   2. Provide rated boxes in all fire barriers & walls installed per code.

PART 3 – EXECUTION

3.1 FIRE ALARM SYSTEM EQUIPMENT

A. Provide a complete operable fire alarm system as shown on the drawings and as required by State, and Local codes.

B. The main control panel shall be addressable type with a minimum spare capacity of 25%.

C. Provide a remote visual zone annunciator at the main entry. Locate as directed by the local AHJ.

D. All fire alarm system cables shall be installed in conduit. Size as required by the equipment supplier. Provide a submittal of all devices and a riser diagram for approval before installation of any equipment.

E. The return air smoke detectors will be furnished by the E.C. to the HVAC contractor for installation. The HVAC contr shall be responsible for the shut down of all AHU'S. The E.C. shall be responsible for all connections to the fire alarm controller.

3.2 CLEAN UP

A. During construction, keep the site clean of debris. Upon completion, and before final inspection, clean up the premises to remove all evidence of work. In addition upon completion of construction leave equipment clean.

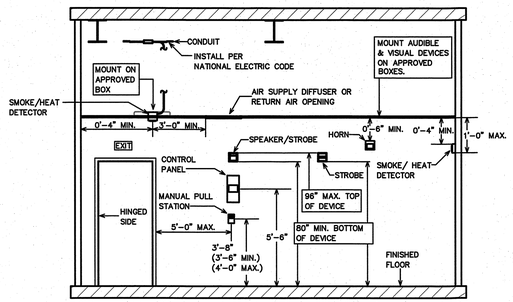
3.3 GUARANTEE

A. Guarantee all materials and labor included in the fire alarm work for a period of one year from date of final acceptance by the Owner. Any part or parts of the work or equipment which prove to be defective during the guarantee period shall be replaced at no additional cost to the Owner.

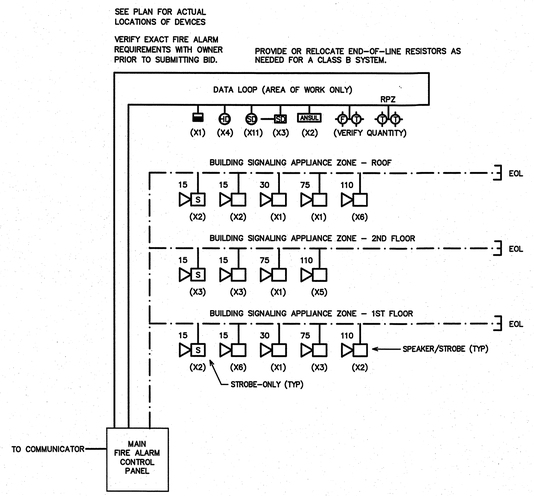
FIRE ALARM LEGEND

- SPEAKER/STROBE SIGNALING DEVICE (XX) CANDELLA RATING; (S) INDICATES STROBE-ONLY
- PULL STATION
- SMOKE DETECTOR
- DUCT SMOKE DETECTOR
- FACP — FIRE ALARM CONTROL PANEL
- ANBUL — HOOD FIRE SUPRESSION SYSTEM
- FLOW/TAMPER SWITCH

SYSTEM INPUTS		SYSTEM OUTPUTS: FACP ANNUNCIATION										NOTIFICATION								REQUIRED FIRE SAFETY CONTROL									
		A ACTUATE COMMON ALARM SIGNAL INDICATOR	B ACTUATE AUDIBLE ALARM SIGNAL	C ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	D ACTUATE AUDIBLE SUPERVISORY SIGNAL	E ACTUATE COMMON TROUBLE SIGNAL INDICATOR	F ACTUATE AUDIBLE TROUBLE SIGNAL	G ACTUATE ZONE OR DEVICE ADDRESS ALARM INDICATOR	H ACTUATE GENERAL EVACUATION SIGNAL	I DISPLAY CHANGE OF STATUS	J TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	K TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	L TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION	M RELEASE MAGNETICALLY HELD DOORS	N RECALL ELEVATOR TO RECALL FLOOR	O RECALL ELEVATOR TO ALTERNATE RECALL FLOOR	P ACTUATE WARNING TO ELEVATOR CABS	Q RELATED SEQUENCE OF POWER FROM ELEVATOR	R CLOSE ALL SMOKE DAMPERS	S UNLOCK EXITS AND CONTROL DOORS	T SHUT DOWN RESPECTIVE AIR HANDLING EQUIPMENT	U ACTUATE FLOOR PRESSURIZATION	V ACTUATE STAIRWELL PRESSURIZATION	W ACTUATE SMOKE EXHAUST	X	Y	
1	FIRE ALARM SYSTEM AC POWER FAILURE			●	●						●																		1
2	FIRE ALARM SYSTEM LOW BATTERY					●	●					●																		2
3	OPEN CIRCUIT					●	●					●																		3
4	GROUND FAULT					●	●					●																		4
5	NOTIFICATION APPLIANCE CIRCUIT SHORT					●	●					●																		5
6	BUILDING MANUAL PULL STATIONS	●	●					●	●	●	●			●						●										6
7	CORRIDOR SMOKE DETECTORS	●	●					●	●	●	●			●	●					●	●			●	●	●				7
8	AREA SMOKE DETECTORS	●	●					●	●	●	●			●	●					●	●			●	●	●				8
9	HVAC AIR DUCT SMOKE DETECTORS			●	●			●				●										●								9
10	AREA HEAT DETECTORS	●	●					●	●	●	●			●	●					●	●			●	●	●				10
11	HOOD OR ROOM FIRE SUPPRESSION SYSTEM ALARM	●	●					●	●	●	●			●	●					●	●									11
12	SPRINKLER TAMPER SWITCH			●	●			●				●																		12
13	SPRINKLER WATER FLOW IN BUILDING	●	●					●	●	●	●			●	●					●	●									13
14	SPRINKLER WATER FLOW IN ELEV EQUIP RM OR SHAFT	●	●					●	●	●	●			●	●	●	●			●	●									14
15	ELEV EQUIP RM AREA SMOKE DETECTOR	●	●					●	●	●	●			●	●	●				●	●									15
16	ELEV SHAFT AND ELEV EQUIP RM HEAT DETECTORS	●	●					●	●	●	●			●	●	●	●			●	●									16
17	ELEV LOBBY SMOKE DETECTORS – UPPER FLOORS	●	●					●	●	●	●			●	●					●	●			●	●	●				17
18	ELEV LOBBY SMOKE DETECTOR – RECALL FLOOR	●	●					●	●	●	●			●		●	●			●	●			●	●	●				18
19	ELEV CONTROLLER POWER SHUNT TRIP STATUS			●	●			●				●																		19
20	FIRE PUMP POWER FAILURE/PHASE REVERSAL			●	●			●				●																		20
21	FIRE PUMP RUNNING	●	●					●	●	●	●			●	●					●	●									21
22	FIRE PUMP SYSTEM NOT IN AUTOMATIC			●	●			●				●																		22
23	LEGALLY REQUIRED GENERATOR SYSTEM LOW FUEL			●	●			●				●																		23
24	LEGALLY REQUIRED GENERATOR NOT IN AUTOMATIC			●	●			●				●																		24
25	AREA OF REFUGE TWO-WAY COMMUNICATIONS STATUS			●	●			●				●																		25
26																														26
27																														27
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	V	W				



1 FA-1 DEVICE MOUNTING DETAIL
SCALE: NTS



2 FA-1 FIRE ALARM RISER
SCALE: NTS

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- Planning
- Interiors

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1/26/21
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E BURKE

FIRE ALARM SPECIFICATIONS

20020

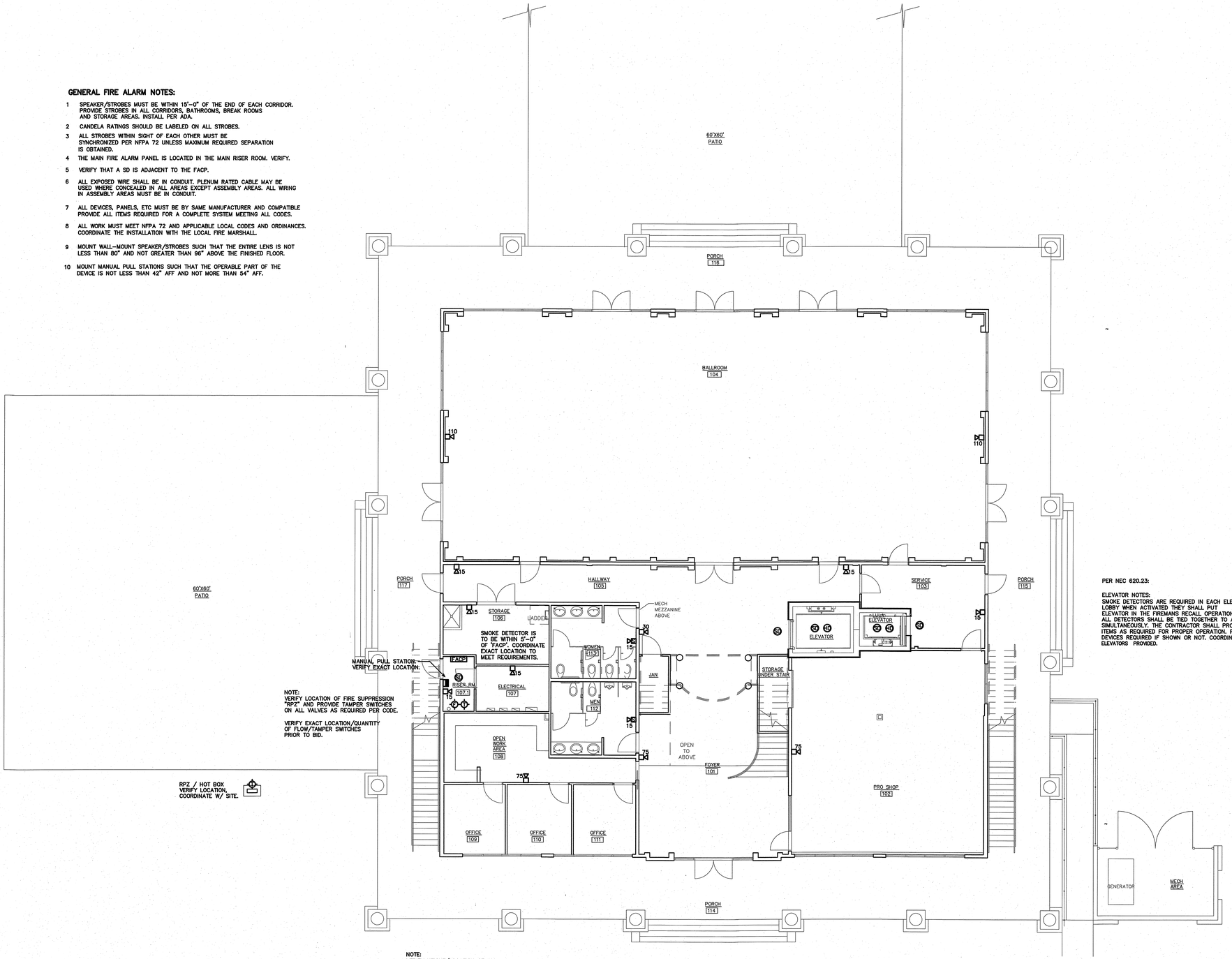
ISSUED:	1/26/21
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GENERAL FIRE ALARM NOTES:

1. SPEAKER/STROBES MUST BE WITHIN 15'-0" OF THE END OF EACH CORRIDOR. PROVIDE STROBES IN ALL CORRIDORS, BATHROOMS, BREAK ROOMS AND STORAGE AREAS. INSTALL PER ADA.
2. CANDELA RATINGS SHOULD BE LABELED ON ALL STROBES.
3. ALL STROBES WITHIN SIGHT OF EACH OTHER MUST BE SYNCHRONIZED PER NFPA 72 UNLESS MAXIMUM REQUIRED SEPARATION IS OBTAINED.
4. THE MAIN FIRE ALARM PANEL IS LOCATED IN THE MAIN RISER ROOM. VERIFY.
5. VERIFY THAT A SD IS ADJACENT TO THE FACP.
6. ALL EXPOSED WIRE SHALL BE IN CONDUIT. PLENUM RATED CABLE MAY BE USED WHERE CONCEALED IN ALL AREAS EXCEPT ASSEMBLY AREAS. ALL WIRING IN ASSEMBLY AREAS MUST BE IN CONDUIT.
7. ALL DEVICES, PANELS, ETC MUST BE BY SAME MANUFACTURER AND COMPATIBLE PROVIDE ALL ITEMS REQUIRED FOR A COMPLETE SYSTEM MEETING ALL CODES.
8. ALL WORK MUST MEET NFPA 72 AND APPLICABLE LOCAL CODES AND ORDINANCES. COORDINATE THE INSTALLATION WITH THE LOCAL FIRE MARSHALL.
9. MOUNT WALL-MOUNT SPEAKER/STROBES SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80" AND NOT GREATER THAN 96" ABOVE THE FINISHED FLOOR.
10. MOUNT MANUAL PULL STATIONS SUCH THAT THE OPERABLE PART OF THE DEVICE IS NOT LESS THAN 42" AFF AND NOT MORE THAN 54" AFF.



PER NEC 620.23:

ELEVATOR NOTES:
SMOKE DETECTORS ARE REQUIRED IN EACH ELEVATOR LOBBY WHEN ACTIVATED THEY SHALL PUT ELEVATOR IN THE FIREMANS RECALL OPERATION. ALL DETECTORS SHALL BE TIED TOGETHER TO ALARM SIMULTANEOUSLY. THE CONTRACTOR SHALL PROVIDE ALL ITEMS AS REQUIRED FOR PROPER OPERATION. PROVIDE ANY DEVICES REQUIRED IF SHOWN OR NOT. COORDINATE WITH ELEVATORS PROVIDED.

NOTE:
VERIFY HEIGHT/LOCATION OF ALL DEVICES PRIOR TO INSTALLATION.

PROVIDE DUCT SMOKE DETECTORS FOR ALL HVAC EQUIP OVER 5 TONS IN SIZE.

VERIFY A SMOKE DETECTOR IS WITHIN 5'-0" OF "FACP". PROVIDE AS REQUIRED.

FA-2.1 FIRST FLOOR FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

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- Interiors

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1/26/21
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE

FIRST FLOOR FIRE ALARM PLAN

20020

ISSUED:	1/26/21
DWG BY:	RM
CKD BY:	BEB

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GENERAL FIRE ALARM NOTES:

1 SPEAKER/STROBES MUST BE WITHIN 15'-0" OF THE END OF EACH CORRIDOR. PROVIDE STROBES IN ALL CORRIDORS, BATHROOMS, BREAK ROOMS AND STORAGE AREAS. INSTALL PER ADA.

2 CANDELA RATINGS SHOULD BE LABELED ON ALL STROBES.

3 ALL STROBES WITHIN SIGHT OF EACH OTHER MUST BE SYNCHRONIZED PER NFPA 72 UNLESS MAXIMUM REQUIRED SEPARATION IS OBTAINED.

4 THE MAIN FIRE ALARM PANEL IS LOCATED IN THE MAIN RISER ROOM. VERIFY.

5 VERIFY THAT A SD IS ADJACENT TO THE FACP.

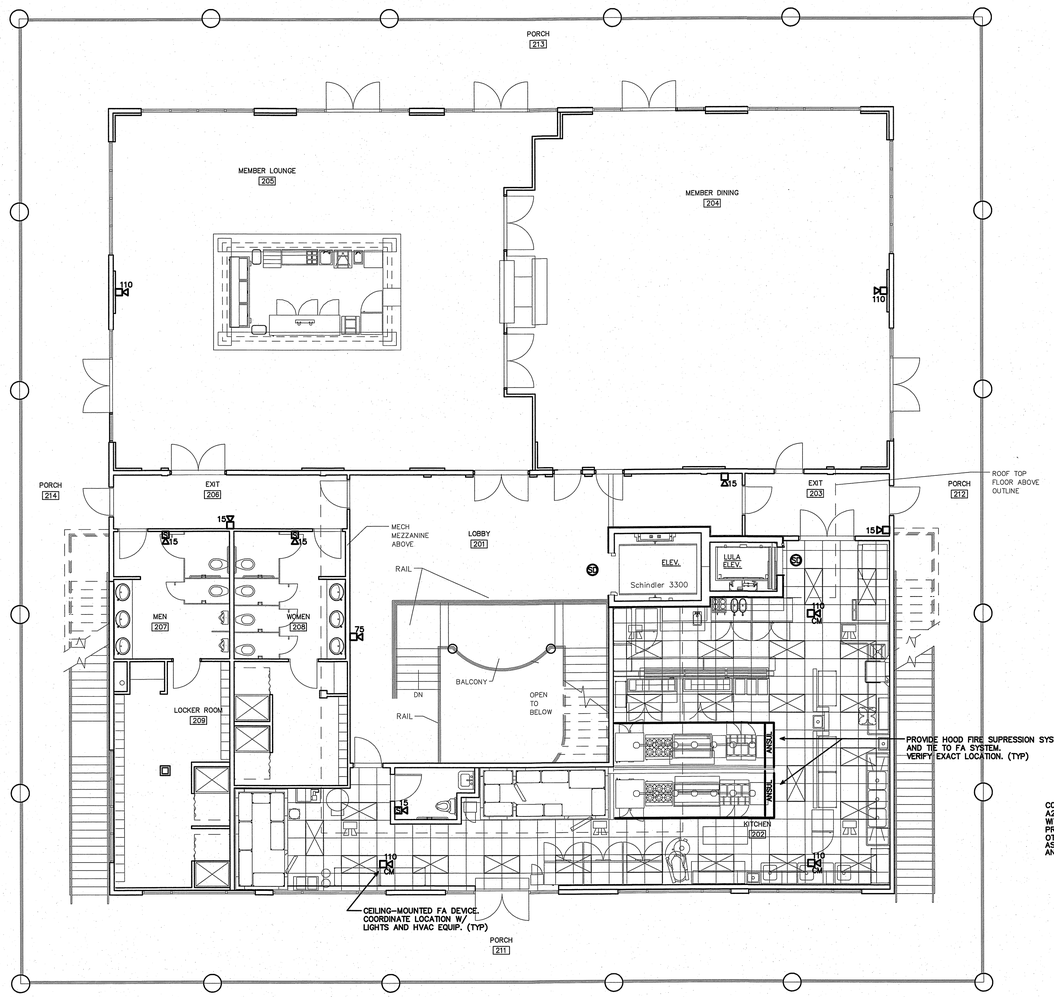
6 ALL EXPOSED WIRE SHALL BE IN CONDUIT. PLENUM RATED CABLE MAY BE USED WHERE CONCEALED IN ALL AREAS EXCEPT ASSEMBLY AREAS. ALL WIRING IN ASSEMBLY AREAS MUST BE IN CONDUIT.

7 ALL DEVICES, PANELS, ETC MUST BE BY SAME MANUFACTURER AND COMPATIBLE PROVIDE ALL ITEMS REQUIRED FOR A COMPLETE SYSTEM MEETING ALL CODES.

8 ALL WORK MUST MEET NFPA 72 AND APPLICABLE LOCAL CODES AND ORDINANCES. COORDINATE THE INSTALLATION WITH THE LOCAL FIRE MARSHALL.

9 MOUNT WALL-MOUNT SPEAKER/STROBES SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80" AND NOT GREATER THAN 96" ABOVE THE FINISHED FLOOR.

10 MOUNT MANUAL PULL STATIONS SUCH THAT THE OPERABLE PART OF THE DEVICE IS NOT LESS THAN 42" AFF AND NOT MORE THAN 54" AFF.



CO DETECTOR(S) REQUIRED IN ALL A2 OCCUPANCY (RESTAURANT) WITH GAS FUEL FIRED EQUIPMENT. PROVIDE IN KITCHENS AND ANY OTHER AREAS OPEN TO KITCHENS AS REQUIRED BY CODE. VERIFY NUMBER AND SPACING WITH LOCAL AHJ.

NOTE:
VERIFY HEIGHT/LOCATION OF ALL DEVICES PRIOR TO INSTALLATION.

PROVIDE DUCT SMOKE DETECTORS FOR ALL HVAC EQUIP OVER 5 TONS IN SIZE.

VERIFY A SMOKE DETECTOR IS WITHIN 5'-0" OF 'FACP'. PROVIDE AS REQUIRED.

1/FA-2.2 SECOND FLOOR FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

Coastal Architecture PLLC

- Architectural Design
- Planning
- Interiors

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MOREHEAD CITY COUNTRY CLUB
CLUBHOUSE
MOREHEAD CITY, NORTH CAROLINA

1/29/21
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E BURKE

SECOND FLOOR FIRE ALARM PLAN

20020

ISSUED:	1/26/21
DWG BY:	RM
CKD BY:	BEB

REVISIONS

SHEET NO.
FA-2.2

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email: benburke@nc.rr.com
Corp. License # C-2652

GENERAL FIRE ALARM NOTES:

1 SPEAKER/STROBES MUST BE WITHIN 15'-0" OF THE END OF EACH CORRIDOR. PROVIDE STROBES IN ALL CORRIDORS, BATHROOMS, BREAK ROOMS AND STORAGE AREAS. INSTALL PER ADA.

2 CANDELA RATINGS SHOULD BE LABELED ON ALL STROBES.

3 ALL STROBES WITHIN SIGHT OF EACH OTHER MUST BE SYNCHRONIZED PER NFPA 72 UNLESS MAXIMUM REQUIRED SEPARATION IS OBTAINED.

4 THE MAIN FIRE ALARM PANEL IS LOCATED IN THE MAIN RISER ROOM. VERIFY.

5 VERIFY THAT A SD IS ADJACENT TO THE FACP.

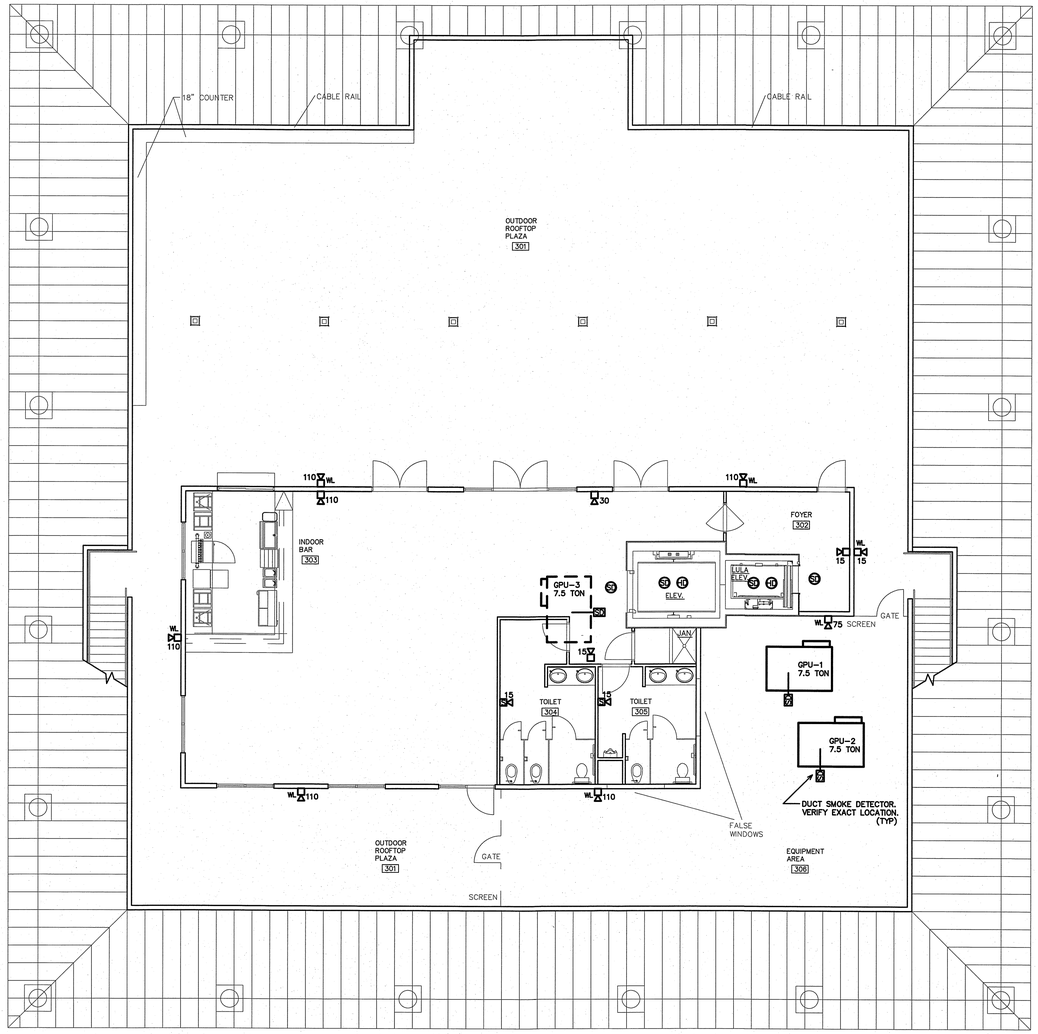
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NOTE:
VERIFY HEIGHT/LOCATION OF ALL DEVICES PRIOR TO INSTALLATION.

PROVIDE DUCT SMOKE DETECTORS FOR ALL HVAC EQUIP OVER 5 TONS IN SIZE.

VERIFY A SMOKE DETECTOR IS WITHIN 5'-0" OF 'FACP'. PROVIDE AS REQUIRED.

1/FA-2.3 ROOFTOP FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

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ROOFTOP FIRE ALARM PLAN

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ISSUED:	1/26/21
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