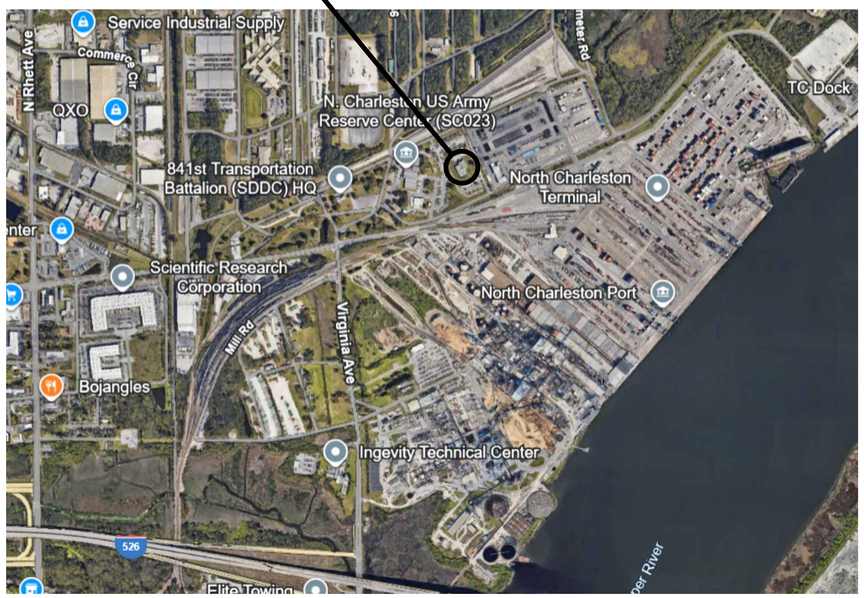
ZAPATA TRUST • INTEGRITY • QUALITY
6302 FAIRVIEW ROAD ,#600
CHARLOTTE, NC 28210
E-MAIL: ZAPATA@ZAPATAINC.COM
PHONE: (704) 358-8240
FAX: (704) 358-8342
WEB SITE: WWW.ZAPATAINC.COM

LBE Engineers ▪ Architects
105 N HIGHWAY 52, PO BOX 1837
MONCKS CORNER, SC 29461
E-MAIL: ADMIN@LBEENG.COM
PHONE: (843) 899-7520
FAX: (843) 970-2403
WEB SITE: HTTPS://LBEENG.COM

DWO - REPAIR NAVAL RESERVE
BLDG. 3370
JOINT BASE CHARLESTON, SC
PROJECT NO.: DKGV 1137999

PROJECT SITE

VICINITY MAP



KEY PLAN

INDEX OF DRAWINGS

	SHEET #	SHEET TITLE
1	G-001	COVER SHEET AND INDEX OF DRAWINGS
2	G-002	GENERAL NOTES, SYMBOLS AND ABBREVIATIONS
		CIVIL
3	C-001	CIVIL NOTES & LEGEND
4	C-101	EXISTING CONDITIONS, SITE DEMOLITION & EROSION CONTROL PLAN
5	C-102	SITE UTILITY PLAN
6	C-501	CIVIL DETAILS
		ARCHITECTURE
7	AD101	DEMOLITION FIRST FLOOR PLAN
8	AD102	DEMOLITION ROOF PLAN
9	AD103	DEMOLITION FIRST FLOOR REFLECTED CEILING PLAN
10	AD201	DEMOLITION ELEVATIONS
11	A-101	FIRST FLOOR PLAN - NEW WORK
12	A-102	ROOF PLAN - NEW WORK
13	A-103	FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK
14	A-201	ELEVATIONS - NEW WORK
		PLUMBING
15	P-001	PLUMBING GENERAL NOTES
16	PD101	FIRST FLOOR PLUMBING DEMOLITION PLAN
17	P-101	FIRST FLOOR PLUMBING PLAN
		MECHANICAL
18	M-001	MECHANICAL GENERAL NOTES
19	MD101	FIRST FLOOR MECHANICAL DEMOLITION PLAN
20	MD102	ROOF MECHANICAL DEMOLITION PLAN
21	M-101	FIRST FLOOR MECHANICAL PLAN
22	M-102	ROOF ROOM MECHANICAL PLAN
23	M-501	MECHANICAL DETAILS
24	M-601	MECHANICAL SCHEDULES
25	MI001	MECHANICAL CONTROLS GENERAL SHEET
26	MI101	FIRST FLOOR MECHANICAL CONTROLS PLAN
27	MI801	RTU-1 CONTROLS AND OPERATION
28	MI802	RTU-2-8 CONTROLS AND OPERATION
29	MI803	EF CONTROLS AND OPERATION
		ELECTRICAL
30	E-001	ELECTRICAL GENERAL NOTES
31	ED101	FIRST FLOOR DEMOLITION PLAN
32	ED102	ROOF ELECTRICAL DEMOLITION PLAN
33	EP101	FIRST FLOOR ELECTRICAL PLAN
34	EP102	ROOF ELECTRICAL PLAN
35	E-501	ELECTRICAL DETAILS
36	E-601	PARTIAL ONE-LINE DIAGRAM, MECHANICAL EQUIPMENT SCHEMATIC, AND ELECTRICAL SCHEDULES
37	E-602	(E)MDP ELEVATION AND PANEL SCHEDULES

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: MJP | DRAWN BY: RLP | CHK BY: MJP | CHK ENGR | SUPV | DATE OCTOBER 2025

SEAL AREA

MARCY PELUCIO
REGISTERED ARCHITECT
CERT. NO. 13309
10/06/2025
NORTH CAROLINA
CHARLOTTE, N.C.

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
DEPARTMENT OF THE AIR FORCE — AIR MOBILITY COMMAND
CHARLESTON, SC
NAVAL RESERVE CENTER B3370
COVER SHEET AND INDEX OF DRAWINGS

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 1 OF 37
G-001

100% DESIGN SUBMITTAL - ISSUE FOR CONSTRUCTION

ZAPATA ENGINEERING OF NORTH CAROLINA, INC. REGISTERED ARCHITECTURAL CORPORATION 52842 NORTH CAROLINA CHARLOTTE, NC

CONTRACT NO.: FA441822D007
TASK ORDER NO.: FA441824F0154
ISSUE DATE: OCTOBER 2025

Tuesday, October 07, 2025

GENERAL NOTES

1. THE DRAWINGS INDICATE THE GENERAL EXTENT OF WORK. THE DRAWINGS ARE NOT INTENDED TO INDICATE OR DESCRIBE ALL WORK REQUIRED FOR THE FULL PERFORMANCE AND COMPLETION OF THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
2. THE ENUMERATION OF PARTICULAR ITEMS OF WORK IN ONE PORTION OF THE CONTRACT DOCUMENTS SHALL NOT BE CONSTRUED TO EXCLUDE OTHER ITEMS NECESSARY OR IMPLIED THEREFROM.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL PARTS OF THE WORK SO THAT NO WORK SHALL BE LEFT IN AN UNFINISHED OR INCOMPLETE CONDITION.
4. ALL WORK SHALL CONFORM TO APPLICABLE INDUSTRY AND MANUFACTURER'S PUBLISHED STANDARDS FOR QUALITY OF MATERIALS AND WORKMANSHIP, AS WELL AS, ALL REQUIREMENTS IN THESE DRAWINGS AND SPECIFICATIONS. ANY CONFLICTING REQUIREMENTS OF THE SOURCES LISTED ABOVE SHALL BE BROUGHT TO THE ARCHITECT/ENGINEER'S ATTENTION PRIOR TO PROCEEDING WITH THE WORK.
5. THE CONTRACTOR SHALL PAY FOR AND COORDINATE THE REMOVAL AND LEGAL DISPOSAL OF MATERIALS AND RUBBISH.
6. ONCE ON SITE, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SHALL VERIFY ALL NEW AND EXISTING CONDITIONS SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IN WRITING OF ANY DIFFERING CONDITIONS BEFORE COMMENCEMENT OF WORK.
7. DO NOT SCALE DRAWINGS; DIMENSIONS GOVERN, LARGE SCALE DETAILS GOVERN OVER SMALL SCALE DETAILS. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DIFFERING CONDITIONS BEFORE COMMENCEMENT OF WORK.
8. NFPA 241, STANDARD FOR SAFEGUARDING CONSTRUCTION, AND ALTERATION OPERATIONS SHALL BE APPLIED.
9. WALL AND/OR CEILING ASSEMBLIES THAT ARE IDENTIFIED WITH A FIRE RESISTIVE RATING SHALL BE CONSTRUCTED AS DETAILED HEREIN.
10. DIMENSIONS SHOWN ARE TO FACE OF STUD OR CMU (U.O.N.).
11. PROVIDE EXPANSION AND CONTROL JOINTS IN ALL WORK AS PER PRODUCT MANUFACTURER'S STANDARDS.
12. THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES AND REGULATORY AGENCIES AND SHALL OBTAIN NECESSARY BUILDING AND FIRE PERMITS FROM ALL AUTHORITIES HAVING JURISDICTION.
13. ALL INTERIOR FINISH MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES, ORDINANCES AND REGULATORY AGENCIES. ALL INTERIOR WALL AND CEILING FINISHES TO MEET FLAME SPREAD AND SMOKE DEVELOPMENT RATING IN ACCORDANCE TO ASTM E 84, ALL INTERIOR FLOOR FINISHES SHALL NOT BE LESS THAN CLASS II (0.22 WATTS/CM SQ.) FOR MINIMUM CRITICAL RADIANT FLUX IN ACCORDANCE WITH NFPA 253.
14. ALL DISSIMILAR METALS SHALL BE ISOLATED FROM EACH OTHER TO AVOID GALVANIC CORROSION.
15. NOTES APPEAR ON VARIOUS SHEETS FOR DIFFERENT SYSTEMS AND MATERIALS. SHEETS ARE TO BE REVIEWED AND NOTES ON INDIVIDUAL SHEETS SHALL BE APPLIED TO RELATED DRAWINGS AND DETAILS.
16. A FINISH INDICATION ON A WALL SHALL MEAN THE ENTIRE LENGTH AND HEIGHT OF WALL IS TO BE FINISHED OR FIRE-RATED AS INDICATED.
17. DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO THOSE DETAILED. WHERE SPECIFIC DIMENSIONS, DETAILS OR DESIGN INTENT CANNOT BE DETERMINED, CONSULT THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
18. ALL PIPE DUCTS AND BUS DUCTS THAT PENETRATE FLOOR SLABS OR WALL PARTITIONS SHALL BE INSTALLED IN A MANNER THAT WILL PRESERVE THE MOISTURE RESISTIVENESS, FIRE RATING, AND STRUCTURAL INTEGRITY OF THE BUILDING.
19. DO NOT CUT INTO, REMOVE OR ALTER ANY STRUCTURAL MEMBER OR PORTION OF THE ROOF STRUCTURE UNLESS IT IS SPECIFICALLY NOTED OR SHOWN ON THE DRAWINGS.
20. THE CONTRACTOR SHALL PLAN HIS/HER WORK TO PROVIDE ADEQUATE PROTECTION FOR PERSONS AND PROPERTY AT ALL TIMES, AND EXECUTE THE WORK IN SUCH A MANNER TO AVOID ANY HAZARD TO PERSONS AND PROPERTY AS NECESSARY.
21. THE CONTRACTOR SHALL COORDINATE THE PHASING OF THE WORK TO BE PERFORMED IN OR ABOUT EXISTING FACILITIES, IF APPLICABLE, WITH THE OWNER PRIOR TO START OF SUCH WORK.
22. ALL SIGNAGE TO BE APPROVED BY THE OWNER PRIOR TO ORDERING MATERIALS.
23. STORED MATERIALS SHALL BE KEPT DRY AND KEPT IN AN ORDERLY FASHION IN AN AREA DESIGNATED BY THE COR.
24. CONTRACTOR IS FULLY RESPONSIBLE FOR CONTACTING APPROPRIATE PARTIES AND ASSURING THAT EXISTING UTILITIES ARE LOCATED PRIOR TO CONSTRUCTION.
25. CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES USING FLAG MEN, ETC. AS NECESSARY TO INSURE SAFETY TO THE PUBLIC.
26. ALL PAVEMENT CUTS, CONCRETE OR ASPHALT,WHERE APPLICABLE ARE TO BE REPLACED ACCORDING TO STANDARDS OF THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION AND JOINT BASE CHARLESTON SPECIFICATIONS.
27. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH JOINT BASE CHARLESTON, STATE, AND LOCAL ORDINANCES AND REGULATIONS. CONSTRUCTION SHALL ALSO COMPLY WITH UFC CRITERIA AS REQUIRED.
28. COORDINATE WITH THE COR REGARDING EXISTING UTILITIES ON-SITE THAT ARE TO REMAIN INTACT. ADDITIONALLY, COORDINATE WITH THE COR REGARDING INTERRUPTIONS OF UTILITY SERVICE AND SCHEDULED SERVICE OUTAGES TO COMPLETE THE REQUIRED WORK.
29. DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS. DISPOSE OF HAZARDOUS WASTES IN A MANNER CONSISTENT WITH APPLICABLE REQUIREMENTS.
30. CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATION VERIFICATION PRIOR TO CONSTRUCTION.
31. CONTRACTOR SHALL REFER TO MEMORANDUM GOVERNING THE DEPARTMENT WIDE TURNING OF HYDROFLUOROCARBONS (HFCS) IN THE DEFENSE LOGISTIC AGENCY DEPARTMENT OF DEFENSE HFC REPOSITORY WHEN REMOVING MECHANICAL ROOFTOP UNITS AND TURN OVER ALL MECHANICAL UNIT REFRIGERANTS RECOVERED FROM THE RTUS TO THE GOVERNMENT.
32. HVAC EQUIPMENT/REFRIGERANT REMOVAL: ALL HFCS IDENTIFIED FOR COLLECTION, REGARDLESS OF ORIGIN, MUST NOT BE TRANSFERRED FROM DOD OWNERSHIP WITHOUT FIRST BEING OFFERED TO DEFENSE LOGISTICS AGENCY (DLA.) REPOSITORY HFCS MUST NOT BE SOLD, INCLUDED IN A CONTRACT FOR DISPOSAL, OR OTHERWISE RELINQUISHED BY THE DOD COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM DLA. CONTRACTOR MUST FOLLOW THE POLICY GOVERNING THE DEPARTMENT-WIDE TURNAN OF HYDROFLUOROCARBONS (HFCS) TO THE (DLA) DEPARTMENT OF DEFENSE (DOD) HFC REPOSITORY TO BE MANAGED IN ACCORDANCE WITH DOD MANUAL 4160.21, VOLUME 1, "DEFENSE MATERIAL DISPOSITION: DISPOSAL GUIDANCE AND PROCEDURES" AND THE REPOSITORY SUPPORTS REQUIREMENTS FOR MISSION CRITICAL MILITARY END USES (MCMEU) AND ALLOCATION MANAGEMENT OF HFCS.
33. CONTRACTOR MUST ENSURE THAT A STRUCTURAL ENGINEER VERIFIES THE INTEGRITY OF THE ROOF FOLLOWING THE REPLACEMENT OF THE ROOF-TOP UNITS (RTUS) IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (IBC) AND ASCE 7 STANDARDS. THE OBJECTIVE IS TO PROPERLY DOCUMENT THAT THE ROOF CAN SAFELY SUPPORT THE REPLACEMENT OF THE RTU UNITS IN KIND. CONTRACTOR MUST ENSURE THAT THE ROOF CURBS THAT ARE TO BE REUSED ARE STRUCTURALLY SOUND TO SUPPORT THE NEW CURB ADAPTERS AND NEW RTUS FOR THE NEW MECHANICAL WORK.
34. CONTRACTOR MUST CONFIRM ALL ROOF CONNECTIONS AT THE ROOF CURBS ARE WATER TIGHT. CONTRACTOR SHALL PERFORM A WATER LEAK TEST TO NEW ROOF CURB CAPS AND ALL EXISTING ROOF CURBS TO PREVENT ANY WATER FROM LEAKING INTO THE BUILDING BELOW. THE MAIN SCOPE OF WORK IS TO PREVENT ROOF LEAKING AND MOISTURE CONTROL THROUGHOUT THE BUILDING TO PREVENT MOLD WITHIN THE BUILDING SPACE. CONTRACTOR TO PROVIDE ALL ADDITIONAL REPAIRS TO ROOF AND ROOF CURBS AS NEEDED TO ENSURE NO LEAKING FROM THE ROOF TO THE BUILDING BELOW.
35. THE MAIN SCOPE OF WORK IS TO PREVENT ROOF LEAKING AND MOISTURE CONTROL THROUGHOUT THE BUILDING TO PREVENT MOLD WITHIN THE BUILDING SPACE. CONTRACTOR MUST ENSURE ALL ROOF WORK WILL BE CHECKED TO BE WATER TIGHT AND PROVIDE AN ADDITIONAL ROOF REPAIRS TO THE ROOF AS NEEDED TO PROVIDE A WATER TIGHT FINISHED ROOF AFTER MECHANICAL UNITS ARE INSTALLED ON ROOF CURBS.

PROJECT SUMMARY

THE GENERAL INTENT OF THIS PROJECT IS TO PROVIDE DESIGN SERVICES, FURNISH ALL MATERIALS REQUIRED FOR DELIVERY TO JOINT BASE CHARLESTON COMPLETE CONSTRUCTION DOCUMENTS NECESSARY FOR THE ACCOMPLISHMENT OF THE PROJECT, AND REPLACING/MODIFYING INEFFICIENT HVAC EQUIPMENT SUCH AS EXHAUST AND VENTILATION SYSTEMS, PROVIDE DESIGN SERVICES TO REPAIR A SECTION OF THE DETERIORATED SANITARY SEWER LINE FROM THE INTERIOR PIPING TO THE EXTERIOR CONNECTION OUTSIDE OF THE BUILDING AND PROVIDE A NEW SEWER EJECTOR PIT. REMOVE EXISTING TRANSFORMER AND CONCRETE PAD AND PROVIDE A NEW TRANSFORMER AND CONCRETE PAD AT GRADE.

THE FACILITY IS APPROXIMATELY 20,000 (SF) AND HAS EXPANDED SINCE THE ORIGINAL CONSTRUCTION AND ALL ORIGINAL HVAC EQUIPMENT HAS BEEN REPLACED. THE FACILITY HAS A MOLD GROWTH ISSUE THAT NEEDS TO BE ADDRESSED BY REPLACING THE HVAC SYSTEM. THE MOLD HAS CURRENTLY BEEN RE-MEDIATED BY THE NAVAL RESERVE PERSONNEL, AND NO MOLD WAS PRESENT IN THE BUILDING AT THE TIME OF THE BUILDING SURVEY. APPROXIMATELY 10 CEILING TILES SHOW WATER DAMAGE AND FREQUENTLY REPLACED BY THE NRC PERSONNEL. THE REGULAR OCCUPANCY OF THE BUILDING IS APPROXIMATELY 25 PEOPLE FROM MONDAY TO FRIDAY, AND 250 DURING DRILL WEEKENDS.

THE PROJECT INCLUDES WORK IN THE FOLLOWING AREAS, BUT NOT ALL:

- B30 ROOFING - PROVIDE WATERPROOF CURB CAPS AT ROOF OPENINGS FOR RTU'S THAT ARE TO BE DEMOLISHED.
- C30 INTERIOR FINISHES - CEILINGS, FLOORING AS PER SEWER PIPE REPAIR AND WATER DAMAGED CEILING TILES.
- D20 PLUMBING - INTERIOR/EXTERIOR SANITARY SEWER LINE REPAIR.
- D30 HVAC - HEAT AND COOLING GENERATING SYSTEMS SHALL BE DESIGNED TO SERVE A FACILITY THAT HAS VARYING OCCUPANCY LEVELS ON A WEEKLY BASIS, PROVIDE HVAC EMERGENCY STOP ACTIVATION SWITCHES FOR ALL AHU EQUIPMENT IN ACCORDANCE WITH UFC, VENTILATION AND EXHAUST SYSTEMS SHALL BE DESIGNED TO ACCOMMODATE THE VARYING OCCUPANCY LEVELS OCCURRING IN THIS FACILITY, AIR DISTRIBUTION SYSTEM SHALL BE DESIGNED FOR SINGLE OR MULTIPLE AIR HANDLING SYSTEMS TO ACCOMMODATE THE VARYING OCCUPANCY LEVELS OCCURRING IN THIS FACILITY, AIR DISTRIBUTION SYSTEM SHALL BE DESIGNED FOR SINGLE OR MULTIPLE AIR HANDLING SYSTEMS TO ACCOMMODATE THE VARYING OCCUPANCY LEVELS OCCURRING IN THIS FACILITY, HUMIDITY CONTROL TO MITIGATE EXCESSIVE HUMIDITY AND MOLD GROWTH.
- PROVIDE NEW SEWER EJECTOR PIT AND SEWER PIPING.
- PROVIDE NEW TRANSFORMER AND CONCRETE PAD.

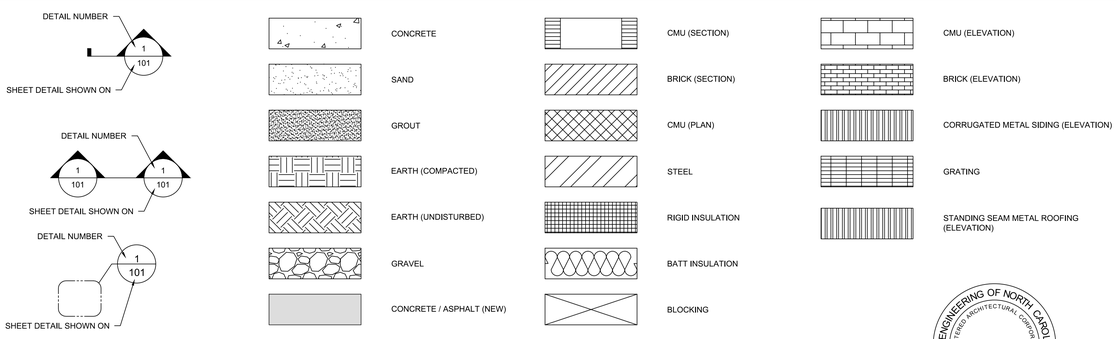
BASIC DESIGN DATA

GOVERNING CODES ARE INTERNATIONAL BUILDING CODE 2024 EDITION, NFPA 101 2025, AND UFC 3-101-01. ALL DESIGNS PERFORMED AND WORK EXECUTED SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSIONS OF THE ABA, IBC, UFC, JOINT BASE CHARLESTON DESIGN GUIDELINES & NFPA.

STANDARD ABBREVIATIONS

A	
A.C.	AIR CONDITIONED
A.C.M.	ASBESTOS CONTAINING MATERIAL
A.D.	AREA DRAIN
A.F.F.	ABOVE FINISH FLOOR
A.H.U.	AIR HANDLING UNIT
ALT.	ALTERNATE
ALUM.	ALUMINUM
AMP.,A	AMPERES
A.O.	ACCESS OPENING
APPROX.	APPROXIMATELY
ARCH.	ARCHITECTURAL
ACT	ACOUSTICAL CEILING TILE
A.B.	ANCHOR BOLT
B	
BAL.	BALANCE
BD.	BOARD
BLDG.	BUILDING
BLK.	BLOCK
BM.	BEAM
BOG.	BOTTOM OF GRADE
BOT.	BOTTOM
BRG.	BEARING
B.T.U.H.	BRITISH THERMO UNIT/HR.
C	
CAB.	CABINET
CAP.	CAPACITY
C/B	CIRCUIT BREAKER
C.D.	CEILING DIFFUSER
CEM.	CEMENT
CER.	CERAMIC
C.F.M.	CUBIC FEET/MINUTE
CIRC.	CIRCULATING
C.J.	CONTROL JOINT
CK'D	CHECKERED
CKT.	CIRCUIT
C.L.	CENTER LINE
CEIL.,CLG.	CEILING
CLOS.	CLOSET
C.M.U.	CONCRETE MASONRY UNIT
C.O.	CLEAN OUT
COL.	COLUMN
CONC.	CONCRETE
COND.	CONDENSATE
CONN.	CONNECTION
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CONT'R.	CONTRACTOR
CONTR. JT.	CONTRACTION JOINT
C.T.	CERAMIC TILE
C.T.B.	CERAMIC TILE BASE
C. TO C.	CENTER TO CENTER
CU. FT.,CF.	CUBIC FEET
D	
DET.	DETAIL
DIA.	DIAMETER
DIFF.	DIFFUSER
DIM.	DIMENSION
DISC.	DISCONNECT
DN.	DOWN
DR.	DOOR
D.S.	DOWNSPOUT
DWG. (S)	DRAWING (S)
DSB	DOUBLE STRENGTH "B" GLASS
E	
EA.	EACH
E.C.	EMPTY CONDUIT
E.F.	EXHAUST FAN
EL., ELEV.	ELEVATION
ELEC.	ELECTRIC
EQUIP.	EQUIPMENT
E.W.	EACH WAY
E.W.C.	ELECTRIC WATER COOLER
EXH.	EXHAUST
EXP. JT.	EXPANSION JOINT
EXT.	EXTERIOR
EXIST.	EXISTING
F	
F.A.	FIRE ALARM
F.C.	FLEXIBLE CONNECTION
F.D.	FLOOR DRAIN
FEXT	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
FIN.	FINISH
FL.	FLOOR
FR.	FRAME
FT.	FOOT - FEET
FTG.	FOOTING
FDN.	FOUNDATION
G	
GA.	GAGE
GAL.	GALLON
GALV.	GALVANIZED
G.F.E.	GOVERNMENT FURNISHED EQUIPMENT
G.F.C.I.	GOVERNMENT FURNISHED CONTRACTOR INSTALLED
G.F.G.I.	GOVERNMENT FURNISHED GOVERNMENT INSTALLED
GL.	GLASS
GND.	GROUND
GOV'T	GOVERNMENT
G.P.H.	GALLONS/HOUR
G.P.M.	GALLONS/MINUTE
GR.	GRILLE
G.W.B.	GYPSUM WALL BOARD
GYP.	GYPSUM
H	
H.	HIGH
H.B.	HOSE BIBB
H.C.	HOLLOW CORE
HT.	HEIGHT
H.M.	HOLLOW METAL
H.P.	HORSE POWER
HR.	HOUR
HTG.	HEATING
HTR.	HEATER
HVAC	HEATING, VENTILATION & AIR CONDITIONING
HW., HDWE.	HARDWARE
HYD.	HYDRANT
HORIZ.	HORIZONTAL
I	
I.D.	INSIDE DIAMETER
I.E.	INVERT
IN.	INCHES
INCAND.	INCANDESCENT
INSUL.	INSULATION
INT.	INTERIOR
J	
J.B.	JUNCTION BOX
JCT.	JUNCTION
JT.	JOINT
K	
KVA	KILOVOLT AMPERE
KW.	KILOWATT
L	
LB.	POUND
LG.	LONG
L.P.	LIGHTING PANEL
LTG.	LIGHTING
LAV.	LAVATORY
M	
M.	MOTOR
MAINT.	MAINTENANCE
MAX.	MAXIMUM
M.D.P.	MAIN DISTRIBUTION PANEL
MECH.	MECHANICAL
MTL.	METAL
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
M.T.	METAL THRESHOLD
MTD.	MOUNTED
MTG.	MOUNTING
M.V.	MECHANICAL VENTILATION
N	
N.A.	NOT APPLICABLE
N.I.C.	NOT IN CONTRACT
NO., #	NUMBER
O	
O.A.	OUTDOOR AIR
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.H.	OVERHEAD
OL.	OVERLOAD
OPNG.	OPENING
OPP.	OPPOSITE
O.S.D.	OPEN SIGHT DRAIN
P	
P.	PAPER
PART'N.	PARTITION
PER.	PERIMETER
PL.	PLATE
PLBG.	PLUMBING
PLYD.	PLYWOOD
PNL.	PANEL
PRESS.	PRESSURE
PSF	POUNDS / SQUARE FOOT
PSI	POUNDS / SQUARE INCH
PSIG	POUNDS / SQUARE INCH GAGE
PT.	POINT
PTD.	PAINTED
P.T.D.	PAPER TOWEL DISPENSER
Q	
QTR.	QUARTER
QUAN.	QUANTITY
R	
R.	RISER
R.A.	RETURN AIR
RAD.	RADIUS
RD.	ROUND
REC'D.	RECESSED
RECIRC.	RECIRCULATING
RECP.	RECEPTACLE
REG.	REGISTER
REINF.	REINFORCING
REQ'D.	REQUIRED
RET.	RETURN
R.G.	RETURN GRILLE
RM.	ROOM
R.O.	ROUGH OPENING
R.P.M.	REVOLUTIONS / MINUTE
S	
S.	SUPPLY
S.A.	SUPPLY AIR
SCH.	SCHEDULE
SECT.	SECTION
SERV.	SERVICE
SHT.	SHEET
S.J.	SLIP JOINT
SPEC.	SPECIFICATIONS
SPF	SPRAY POLYURETHANE FOAM
SQ. FT., SF	SQUARE FEET
STL.	STEEL
STOR.	STORAGE
STRUC.	STRUCTURAL
SUSP.	SUSPENDED
SW.	SWITCH
STD.	STANDARD
T	
T., TOIL.	TOILET
TEL.	TELEPHONE
TEMP.	TEMPERATURE
THK.	THICKNESS
THD.	THRESHOLD
TYP.	TYPICAL
T.T.D.	TOILET TISSUE DISPENSER
T.O.S.	TOP OF STEEL
T & G	TONGUE & GROOVE
TR.	TREAD
U	
U.O.N.	UNLESS OTHERWISE NOTED
V	
V.	VOLT
V.C.T.	VINYL COMPOSITION TILE
VENT.	VENTILATION
VERT.	VERTICAL
VTR.	VENT THRU ROOF
W	
W.	WATT
W/	WITH
WD.	WOOD
W.G.	WATER GAGE
WP.	WEATHERPROOF
WTR.	WATER
W.W.F.	WELDED WIRE FABRIC
W.C.	WATER CLOSET
W.H.	WATER HEATER

STANDARD SYMBOLS



ZAPATA ENGINEERING OF NORTH CAROLINA, INC.
PROFESSIONAL ARCHITECTURAL CORPORATION
52842
NORTH CAROLINA
CHARLOTTE, NC

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: MJP
DRAWN BY: RLP
CHK BY: MJP
SUPV
CHK ENGR
DATE OCTOBER 2025

SEAL AREA

MARCY PELLICIO
REGISTERED ARCHITECT
CERT. NO. 13309
10/06/2025
NORTH CAROLINA
CHARLOTTE, N.C.

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
CHARLESTON, SC
NAVAL RESERVE CENTER B3370

GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE

SHEET 2 OF 37

G-002

100% DESIGN SUBMITTAL - ISSUE FOR CONSTRUCTION

Tuesday, October 07, 2025

EXISTING STANDARD SYMBOLS

—— — — —E— — — —E——	UNDERGROUND POWER
—— — — —3E— — — —3E——	3 PHASE POWER
——— —E— — —∿∿———	OVERHEAD POWER
ETR	ELECTRIC TRANSFORMER
EM	ELECTRIC METER
EB	ELECTRIC BOX
	LIGHT POLE
BLR	BOLLARD
RD	ROOF DRAIN
S	SANITARY SEWER MANHOLE
(DIA)" CO	SANITARY SEWER CLEANOUT
——— — — — SS———	SANITARY SEWER LINE
STMH	STORM MANHOLE
	GRATE INLET
	HOODBACK INLET
(DIA)" STCO	STORM SEWER CLEANOUT
FOMK	FIBER OPTIC MARKER
— — — —TV— — — —TV—	UNDERGROUND TV
— — — —FO— — — —FO—	UNDERGROUND OPTIC
— — — —G— — — —G—	UNDERGROUND GAS LINE
IE: 000.00	INVERT ELEVATION
— — — —W— — — —W—	WATER MAIN LINE
	FIRE HYDRANT
ICV	IRRIGATION CONTROL VALVE
WV	WATER VALVE
HB	HOSE BIB
	SIGN - SINGLE POLE
	SIGN - DOUBLE POLE
	EXISTING WALL
	ASPHALT SURFACE
	GRAVEL SURFACE
	CONCRETE SURFACE
	RIPRAP

PROPOSED STANDARD SYMBOLS

	LIMITS OF DISTURBANCE
—— LOC —— LOC —— LOC ——	LIMITS OF CONSTRUCTION
—— SF —— SF ——	SILT FENCE
— X — X — X —	UTILITY DEMOLITION
	DEMOLITION AREA

GENERAL NOTES

GENERAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS, LOCAL REQUIREMENTS AND GOVERNMENT REQUIREMENTS.

2. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) AND SHALL BE STABILIZED WITH PERMANENT SEEDING UNLESS OTHERWISE NOTED.

3. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE AS SOON AS PRACTICABLE.

4. IN THE EVENT THAT SUSPECTED CONTAMINATED SOILS ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.

5. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS. CONTRACTOR SHALL DISPOSE OF DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES, AND STATUTES.

6. ALL PAVEMENT, DITCHES, CURB AND GUTTER, UTILITIES, DRIVEWAYS, SIDEWALKS, SIGNS, FENCES, ETC. DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED AND/OR RESTORED TO THE SATISFACTION OF THE GOVERNMENT.

7. EXCESS EXCAVATION MATERIAL SHALL BE LEGALLY DISPOSED OF OFF SITE BY THE CONTRACTOR OR IN ON SITE AREAS APPROVED BY THE GOVERNMENT. NO SPOILS SHALL BE STORED ON SITE BEYOND SUBSTANTIAL COMPLETION.

8. DEWATERING SHALL BE THE CONTRACTOR'S RESPONSIBILITY, INCLUDING, BUT NOT LIMITED TO, UTILITY TRENCHING.

9. CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION AND SEQUENCING OF DEMOLITION AS DESCRIBED BY THESE DOCUMENTS AND SPECIFICATIONS.

10. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF DEMOLITION OR RELOCATION WITH APPLICABLE UTILITY COMPANIES, IE, GAS, CABLE, POWER, TELEPHONE, WATER, SEWER, ETC.

11. EQUIPMENT OPERATION, ACTIVITIES, OR PROCESSES PERFORMED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH ALL FEDERAL AND STATE AIR EMISSION AND PERFORMANCE LAWS AND STANDARDS.

12. CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL DURING CONSTRUCTION PER WORK AREA SOUTH CAROLINA WORK ZONE TRAFFIC CONTROL GUIDELINES.

13. BURNING WILL NOT BE ALLOWED ON THE PROJECT SITE UNLESS AUTHORIZED IN WRITING BY THE CONTRACTING OFFICER. THE SPECIFIC TIME, LOCATION AND MANNER OF BURNING SHALL BE SUBJECT TO APPROVAL.

14. TEMPORARY CHAIN LINK FENCING SHALL BE PROVIDED AROUND THE PERIMETER OF THE PROJECT LIMITS UNTIL THE PERMANENT FENCE HAS BEEN CONSTRUCTED. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SITE SAFETY AND PREVENTING UNALLOWED PEDESTRIAN ENTRANCE AS THE SITE(S) ARE IN CLOSE PROXIMITY TO NEARBY NEIGHBORHOODS.

15. SOLID WASTES (EXCLUDING CLEARING DEBRIS) SHALL BE PLACED IN CONTAINERS WHICH ARE EMPTIED ON A REGULAR SCHEDULE. HANDLING, STORAGE, AND DISPOSAL SHALL BE CONDUCTED TO PREVENT CONTAMINATION. SEGREGATION MEASURES SHALL BE EMPLOYED SO THAT NO HAZARDOUS OR TOXIC WASTE WILL BECOME CO-MINGLED WITH SOLID WASTE. THE CONTRACTOR SHALL TRANSPORT SOLID WASTE OFF GOVERNMENT PROPERTY AND DISPOSE OF IT IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS FOR SOLID WASTE DISPOSAL. A SUBTITLE D RCRA PERMITTED LANDFILL SHALL BE THE MINIMUM ACCEPTABLE OFF-SITE SOLID WASTE DISPOSAL OPTION. THE CONTRACTOR SHALL VERIFY THAT THE SELECTED TRANSPORTERS AND DISPOSAL FACILITIES HAVE THE NECESSARY PERMITS AND LICENSES TO OPERATE. THE CONTRACTOR SHALL COMPLY WITH FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS PERTAINING TO THE USE OF LANDFILL AREAS.

16. THE CONTRACTOR SHALL MONITOR CONSTRUCTION ACTIVITIES TO PREVENT POLLUTION OF SURFACE AND GROUND WATERS AND SHALL COMPLY WITH THE CLEAN WATER ACT SECTION 404 REGULATIONS.

17. ALL DIMENSIONS ARE AT 90 DEGREES UNLESS OTHERWISE NOTED.

18. ALL DETAILS SHALL BE CONSTRUCTED IN STRICT COMPLIANCE WITH SPECIFICATIONS AND CONSTRUCTION DOCUMENTS.

LAYOUT AND MATERIALS NOTES

1. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.

2. SEE SITE DRAWINGS FOR LAYOUT OF SITE FEATURES INCLUDING SIDEWALKS, BOLLARDS, ETC.

3. PROPOSED SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS, AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.

EXISTING CONDITIONS NOTES

1. THE EXISTING CONDITIONS SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY EMC ENGINEERING SERVICES, INC.: 4424 COLUMBIA ROAD, SUITE B, MARTINEZ, GA 30907.

2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD OBSERVATION DESIGNATIONS AND INFORMATION OF RECORD. THEY ARE NOT WARRANTED TO BE EXACTLY LOCATED NOR IS IT WARRANTED THAT ALL UNDERGROUND UTILITIES OR OTHER STRUCTURES ARE SHOWN ON THIS PLAN.

3. ELEVATIONS HEREON ARE IN FEET: 100.00'

4. HORIZONTAL CONTROL: THE HORIZONTAL CONTROL POSITIONS FOR THIS PROJECT ARE DETERMINED BY GPS OBSERVATIONS UTILIZING A CHAMPION PRO GPS RECEIVER ON THE SC REALTIME VRS NETWORK.

5. VERTICAL CONTROL: THE ELEVATIONS ARE BASED UPON UPON NAVD88. THE INTERNATIONAL FOOT IS THE MEASUREMENT DEPICTED. LEVEL CONTROL LOOP MEETS OR EXCEEDS THIRD ORDER VERTICAL ACCURACY.

6. THE LOCATION OF UNDERGROUND UTILITIES IS BASED UPON THE FIELD SURVEYS OF ABOVE GROUND FEATURES ESTABLISHED TO S.U.E. QUALITY LEVEL C STANDARDS. THE SURVEYOR DOES NOT GUARANTEE THAT ALL UNDERGROUND STRUCTURES SUCH AS UTILITIES, TANKS, PIPES, ETC. ARE LOCATED HEREON, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, IF MARKED BY OTHERS. NO EXCAVATIONS WERE MADE DURING THIS SURVEY TO LOCATE ANY BURIED UTILITIES OR STRUCTURES. UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE LOCATIONS AND ARE BASED ON ABOVE GROUND FEATURES, PHYSICAL EVIDENCE, PAINT MARKINGS, AND BASE UTILITY PLANS.

7. LOCATION OF UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY CONTACTING THE SC ONE CALL CENTER AT 888-721-7877 OR THE BASE UTILITY LOCATOR SERVICE.

8. NO DETERMINATION HAS BEEN MADE BY THE SURVEYOR AS TO THE FOLLOWING: A. 100-YEAR FLOOD LIMITS; B. UNDERGROUND STORAGE FACILITIES; C. GRAVES, CEMETERIES, OR BURIAL GROUNDS; D. HAZARDOUS WASTE; E. WETLAND AREAS.

9. AN ASSESSMENT OF ENVIRONMENTAL CONCERNS, IF ANY EXIST, WAS NOT PERFORMED AS APART OF THIS SURVEY.

10. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES NOT GRID DISTANCES IN U.S. INTERNATIONAL SURVEY FOOT.

11. DATE OF FIELD SURVEY: 03 JUNE 2025.

12. 1 FOOT CONTOUR INTERVAL

UTILITIES GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE ALL UTILITY WORK WITH THE JOINT BASE CHARLESTON UTILITY DEPARTMENT.

2. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES, AND SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.

3. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED IMMEDIATELY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE CONTRACTING OFFICER FOR THE RESOLUTION OF THE CONFLICT. CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES GOVERNMENT FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.

4. SET INVERTS OF SEWERS AND LIDS IN ACCORDANCE WITH ELEVATIONS SHOWN ON THE PLANS. PIPE LENGTHS AND SLOPES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. PIPE LENGTHS ARE MEASURED FROM CENTER OF UPSTREAM STRUCTURE TO CENTER OF DOWNSTREAM STRUCTURE.

5. RIM ELEVATIONS FOR SEWER MANHOLES, WATER VALVE COVERS, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:

   A. PAVEMENTS AND CONCRETE SURFACES: FLUSH

   B. ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH

5. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY, THE GOVERNMENT.

6. UTILITY PIPE MATERIALS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLAN:
   6.1. SEE UNDERGROUND UTILITY MATERIAL SPECIFICATION OR FOLLOWING UTILITY SECTION DETAIL NOTES.

7. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND SHALL FURNISH EXCAVATION, INSTALLATION, AND BACKFILL OF ELECTRICAL FURNISHED SITEWORK RELATED ITEMS SUCH AS PULL BOXES, CONDUITS, DUCT BANKS, LIGHT POLE BASES, AND CONCRETE PADS. CONTRACTOR SHALL FURNISH CONCRETE ENCASEMENT OF DUCT BANKS IF REQUIRED BY THE UTILITY COMPANY AND AS INDICATED ON THE DRAWINGS.

8. DURING CONSTRUCTION, THE CONTRACTOR SHALL CLOSE ALL PIPE ENDS WHEN LEFT UNATTENDED.

9. THE CONTRACTOR SHALL PROVIDE BARRICADE(S) FOR ALL EXCAVATIONS AND AN ALTERNATE GRAVEL PATH, IF PEDESTRIAN TRAFFIC IS AFFECTED.

DEMOLITION NOTES

1. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

2. CONTRACTOR SHALL APPLY FOR AND OBTAIN ALL NECESSARY PERMITS FORM LOCAL AND STATE AUTHORITIES TO COMPLETE THE WORK.

3. UNLESS OTHERWISE SPECIFICALLY PROVIDED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER HAS NOT PREPARED DESIGNS FOR AND SHALL HAVE NO RESPONSIBILITY FOR THE PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF HAZARDOUS MATERIALS, TOXIC WASTES OR POLLUTANTS AT THE PROJECT SITE. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY CLAIMS OF LOSS, DAMAGE, EXPENSE, DELAY, INJURY OR DEATH ARISING FROM THE PRESENCE OF HAZARDOUS MATERIAL, AND CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ANY CLAIMS MADE IN CONNECTION THEREWITH. MOREOVER, THE ENGINEER SHALL HAVE NO ADMINISTRATIVE OBLIGATIONS OF ANY TYPE WITH REGARD TO ANY CONTRACTOR AMENDMENT INVOLVING THE ISSUES OF PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF ASBESTOS OR OTHER HAZARDOUS MATERIALS.

4. CONTRACTOR SHALL COORDINATE ALL DEMOLITION OR INSTALLATION WORK ALONG ALL ROADS WITH THE JOINT BASE CHARLESTON CONTRACTING OFFICER REPRESENTATIVE(COR).

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING FEATURES TO REMAIN, INCLUDING TREES, ROADS, UTILITIES, PAVING AND SIMILAR ITEMS NOT IN THE CONTRACT WORK LIMITS, WHICH, IF DAMAGED BY THE CONTRACTOR, SHALL BE REPLACED IN KIND AT NO COST TO THE GOVERNMENT.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE DEMOLITION, INCLUDING REMOVAL AND DEMOLITION OF EXISTING PAVEMENT AND UTILITIES. THERE IS NO KNOWN REGULATED HAZARDOUS MATERIAL REMOVAL REQUIRED FOR THIS SITE. UTILITY LINES ENCOUNTERED THAT ARE NOT INDICATED IN THE INSTALLATION UTILITY MAPS SHALL BE REPORTED TO THE CONTRACTING OFFICER PRIOR TO FURTHER WORK IN THE AREA.

EROSION CONTROL NOTES

1. EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO PERFORMING ANY LAND DISTURBING ACTIVITIES OR REMOVALS.

2. TEMPORARY STOCKPILE LOCATIONS OF EXCAVATED MATERIALS FROM THE INSTALLATION OF UTILITIES SHALL BE COORDINATED WITH THE CONTRACTING OFFICER.

3. CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATION VERIFICATION PRIOR TO CONSTRUCTION.

4. DEMOLITION TO BE COORDINATED WITH EROSION CONTROL PLANS.

5. STOCKPILE AREA TO BE CLEARED WHEN STOCKPILE AREA IS NO LONGER REQUIRED.

6. IF UNFORESEEN EROSIVE CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT AREAS AS A RESULT OF INCREASED RUNOFF AND/OR SEDIMENT DISPLACEMENT.

7. ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE IN ACCORDANCE WITH SOUTH CAROLINA DEPARTMENT OF ENVIRONMENTAL SERVICES (SCDES) STANDARDS AND SPECIFICATIONS.

TEMPORARY BYPASS PUMPING SYSTEM NOTES:

1. THE DESIGN, INSTALLATION, AND OPERATION OF THE TEMPORARY BYPASS PUMPING SYSTEM SHALL BE SOLELY THE CONTRACTOR'S RESPONSIBILITY. THE BYPASS SYSTEM SHALL MEET THE REQUIREMENTS OF ALL CODES AND REGULATORY AGENCIES HAVING JURISDICTION.

2. SCHEDULE AND PERFORM WORK IN MANNER THAT DOES NOT CAUSE OR CONTRIBUTE TO INCIDENCE OF OVERFLOWS, RELEASES OR SPILLS OF SEWAGE FROM SANITARY SEWER SYSTEM OR BYPASS OPERATION.

3. IT IS ESSENTIAL TO THE OPERATION OF THE EXISTING SEWERAGE SYSTEM THAT THERE IS NO INTERRUPTION IN THE FLOW OF SEWAGE THROUGHOUT THE DURATION OF THE PROJECT.

4. DURING ALL BYPASS PUMPING OPERATION, THE CONTRACTOR SHALL PROTECT THE PUMPING STATION, MAIN AND ALL LOCAL SEWER LINES FROM DAMAGE INFLICTED BY ANY EQUIPMENT.

5. MAINTAIN ADEQUATE HOISTING EQUIPMENT AND ACCESSORIES ON SITE FOR EACH PUMP.

6. INSTALLATION AND REMOVAL PROCEDURE:

   6.1. TRANSPORT, DELIVER, HANDLE, AND STORE PIPE, FITTINGS, PUMPS, ANCILLARY EQUIPMENT AND MATERIALS TO PREVENT DAMAGE AND FOLLOWING MANUFACTURER'S RECOMMENDATIONS. KEEP AND MAINTAIN SPARE PARTS FOR PUMPS AND PIPING ON SITE, AS REQUIRED.
   6.2. INSPECT ALL MATERIAL AND EQUIPMENT FOR PROPER OPERATION BEFORE INITIATING WORK.
   6.2.1. WHEN ENGINEER DEEMS REPAIRABLE: REPAIR AS RECOMMENDED BY MANUFACTURER.
   6.2.2. WHEN ENGINEER DEEMS NOT REPAIRABLE: REPLACE AS DIRECTED BY ENGINEER BEFORE INITIATING WORK.

   6.3. PERFORM LEAKAGE AND PRESSURE TESTS ON DISCHARGE PIPING USING CLEAN WATER, BEFORE OPERATION. NOTIFY ENGINEER 24 HOURS PRIOR TO TESTING. MAINTAIN AND INSPECT TEMPORARY PUMPING SYSTEM EVERY TWO HOURS. RESPONSIBLE OPERATOR: ON SITE WHEN PUMPS ARE OPERATING.

   6.4. WHEN WORKING INSIDE A MANHOLE OR FORCE MAIN, THE CONTRACTOR SHALL EXERCISE CAUTION AND COMPLY WITH OSHA AND APPLICABLE JB CHS CONFINED SPACE REQUIREMENTS FOR WORKING IN THE PRESENCE OF SEWER GASES, COMBUSTIBLE OXYGEN-DEFICIENT ATMOSPHERES, AND CONFINED SPACES.

   6.5. DURING BYPASS PUMPING OPERATION, PROTECT SEWER LINES FROM DAMAGE INFLICTED BY EQUIPMENT.

   6.6. UPON COMPLETION OF BYPASS PUMPING OPERATIONS, AND AFTER THE RECEIPT OF WRITTEN PERMISSION FROM CONTRACT MANAGER, REMOVE PIPING, RESTORE PROPERTY TO PRECONSTRUCTION CONDITION AND RESTORE PAVEMENT.

TEMPORARY BYPASS MATERIALS AND EQUIPMENT INFORMATION:

1. BYPASS PUMP EQUIPMENT SHALL CONFORM TO THE FOLLOWING:
   1.1. PUMPS SHALL BE FULLY AUTOMATIC SELF-PRIMING UNITS THAT DO NOT REQUIRE THE USE OF FOOT-VALVES OR VACUUM PUMPS IN PRIMING SYSTEM.
   1.2. CONSTRUCTED TO ALLOW DRY RUNNING FOR LONG PERIODS OF TIME TO ACCOMMODATE CYCLICAL NATURE OF EFFLUENT FLOWS.

2. AT MINIMUM EACH SITE PUMP SHALL MEET THE SAME FLOW AND TDH OF THE PERMANENT PUMPS
   2.1. PUMPS SHALL BE QUIET FLOW OR PROVIDED WITH SOUND ATTENUATION ENCLOSURE.
   2.2. BYPASS PUMPING SYSTEM MAY BE REQUIRED TO BE OPERATED 24 HOURS A DAY. CONTRACTOR SHALL PROVIDE ALL NECESSARY MONITORING DEVICES TO NOTIFY THE CONTRACTOR OF ANY PUMP FAILURE. ALL UNMANNED BYPASS PUMPING OPERATIONS SHALL BE FITTED WITH AN AUTO-DIALER FEATURE TO MONITOR THE OPERATION OF THE PUMP AND NOTIFY THE CONTRACTOR IN THE EVENT OF A PUMP FAILURE OR OVERFLOW SITUATION.

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: D.PULLEN | DRAWN BY: J.BATTLE | CHK BY: H.MCARTHUR | SUPV: | CHK ENGR: | DATE: OCTOBER 2025

SEAL AREA

SOUTH CAROLINA PROFESSIONAL ENGINEER 10/06/2025 No. 38880 DONAVON PULLEN

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
DEPARTMENT OF THE AIR FORCE — AIR MOBILITY COMMAND
CHARLESTON, SC
NAVAL RESERVE CENTER B3370
CIVIL NOTES & LEGEND

DRAWING SIZE: ARCH30 E(30X42)

PROJECT NO. DKGV 1137999

RECORD DRAWING DATE

SHEET 3 OF 37

C-001

100% DESIGN SUBMITTAL - ISSUE FOR CONSTRUCTION

Thursday, October 02, 2025

1 EXISTING CONDITIONS, SITE DEMOLITION, & EROSION CONTROL PLAN

SCALE: 1" = 10'

DEMOLITION AND EROSION CONTROL NOTES

1. EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO PERFORMING ANY LAND DISTURBING ACTIVITIES OR REMOVALS.
2. TEMPORARY STOCKPILE LOCATIONS OF EXCAVATED MATERIALS FROM THE INSTALLATION OF UTILITIES SHALL BE COORDINATED WITH THE CONTRACTING OFFICER.
3. CONTRACTOR RESPONSIBLE FOR ALL UTILITY LOCATION VERIFICATION PRIOR TO CONSTRUCTION.
4. DEMOLITION TO BE COORDINATED WITH EROSION CONTROL PLANS.
5. STOCKPILE AREA TO BE CLEARED WHEN STOCKPILE AREA IS NO LONGER REQUIRED.
6. CONTRACTOR MUST DISCONNECT POWER AT THE SOURCE TO ALL ELECTRICAL CONROLS AND PANELS PRIOR TO REMOVAL OF PUMPS.
7. CONTRACTOR STAGING AREA TO INCLUDE ALL TRAILERS, STORAGE PARKING, ETC. NEEDED BY CONTRACTOR WITHIN CONSTRUCTION LIMITS AND/OR CONTRACTOR TO COORDINATE ADDITIONAL STAGING LOCATION WITH CONTRACTING OFFICER.
8. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS INCLUDING UTILITIES PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES.
9. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITIES DEPARTMENT TO COORDINATE CONSTRUCTION AND SCHEDULING ACTIVITIES. CONTRACTOR SHALL COORDINATE WITH THE CONTRACTING OFFICER. THE CONTRACTOR SHALL MAKE SURE THAT THE SEWER SYSTEM REMAINS IN SERVICE AT ALL TIMES. REFER TO THE TEMPORARY BYPASS PUMPING SYSTEM NOTES ON SHEET C-001.
10. CONTRACTOR SHALL PROTECT ALL EXISTING SITE FEATURES DEEMED TO REMAIN TO THE GREATEST EXTENT POSSIBLE. ANY SITE FEATURES SHALL BE REPLACED IN KIND.
11. ALL DISTURBED AREAS SHALL BE SEEDED.
12. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER CONSTRUCTION, STABILIZATION AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROL DEVICES AND RELATED ITEMS IN ADDITION. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY EROSION AND SEDIMENTATION CONTROL PERMITS.
13. SHOULD MEASURES UTILIZED FOR THIS PROJECT PROVE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT FROM ON-SITE FLOWS PRIOR TO DISCHARGE OR OF STABILIZING THE SURFACES INCLUDING, ADDITIONAL MEASURES SHALL BE IMMEDIATELY IMPLEMENTED BY THE CONTRACTOR TO ELIMINATE ALL SUCH PROBLEMS.
14. IF UNFORESEEN EROSIVE CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT AREAS AS A RESULT OF INCREASED RUNOFF AND/OR SEDIMENT DISPLACEMENT.
15. ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE IN ACCORDANCE WITH SOUTH CAROLINA DEPARTMENT OF ENVIRONMENTAL SERVICES (SCDES) STANDARDS AND SPECIFICATIONS.
16. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS (EROSION CONTROL, ETC.) APPLICABLE TO THIS PROJECT.
17. CONTRACTOR SHALL COORDINATE ALL UTILITY WORK WITH JB CHS UTILITY DEPARTMENT.
18. CONTRACTOR TO FIELD VERIFY THE DEPTH AND TYPE OF UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTRACTOR TO FIELD VERIFY PAVEMENT MARKING LOCATIONS PRIOR TO REMOVAL.
19. REFER TO ARCHITECTURE & ELECTRICAL SHEETS FOR INFORMATION REGARDING TRANSFORMER REPLACEMENT.

GENERAL SURVEY NOTES

1. A GEOMAX ZOOM95 SERIES ROBOTIC TOTAL STATION AND A EGPS 20TL GPS BASE AND ROVER MULTI-FREQUENCY RECEIVERS WERE USED TO PERFORM THE SURVEY DEPICTED HEREON.
2. THE BASIS OF BEARINGS FOR THIS SURVEY IS GEORGIA EAST ZONE STATE PLANE COORDINATE SYSTEM, (NAD83/2011). HORIZONTAL CONTROL MEETS OR EXCEEDS THIRD ORDER CLASS II ACCURACY, DETERMINED BY GPS OBSERVATIONS UTILIZING AN EGPS 20TL GPS BASE AND ROVER ON THE EGPS SOLUTIONS, LLC VRS NETWORK. VERTICAL DATUM IS BASED ON NAVD88. THE US SURVEY FOOT IS THE MEASUREMENT DEPICTED.

SUBSURFACE UTILITY LOCATING:
PATRIOT SCANNING
324 S WILMINGTON ST. #204, RALEIGH, NC 2760

FLOODPLAIN INFORMATION:
THE PROPERTY SHOWN HEREON IS LOCATED ON MAP NUMBER NO.45015C0315K, OF THE FEMA FLOOD INSURANCE RATE MAP COVERING CITY OF NORTH CHARLESTON REVISED JANUARY 29, 2021 AND IS SHOWN TO BE IN FLOOD ZONE X, WHICH IS NOT A SPECIAL FLOOD HAZARD AREA.

KEYED NOTES

1. REMOVE EXISTING CONCRETE COVER WITH HATCH TO BE REUSED AT COMPLETION OF INTERNAL CHANGES.
2. DEMOLISH AND REMOVE THE TWO EXISTING PUMPS AND INTERNAL PIPING.
3. CONNECT PUMP CONTROLS, CONTROL BOX AND WIRING AS REQUIRED FOR NEW PUMPS.
4. INSTALL 185 LF OF SILT FENCE. SEE DETAIL 1 ON SHEET C-501.
5. REMOVE APPX 5 LF SECTION OF 2" STEEL FORCE MAIN THAT WAS NOT IN USE DUE TO TEMPORARY BYPASS.

NORTH

GRAPHIC SCALE(S)

1" = 10' 0 5' 10' 20' 30'

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: D.PULLEN
DRAWN BY: J.BATTLE
CHK BY: H.MCARTHUR
SUPV
CHK ENGR
DATE OCTOBER 2025

SEAL AREA

SOUTH CAROLINA
10/06/2025
No. 38880
DONAVON PULLEN

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

DRAWING REVISIONS

JOINT BASE CHARLESTON - WEAPONS
DEPARTMENT OF THE AIR FORCE CHARLESTON, SC AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
EXISTING CONDITIONS, SITE DEMOLITION, & EROSION CONTROL PLAN

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 4 OF 37
C-101

100% DESIGN SUBMITTAL - ISSUE FOR CONSTRUCTION

Thursday, October 02, 2025

1 SITE UTILITY PLAN
SCALE: 1" = 10'

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH SCDHEC DESIGN STANDARDS, DETAILS AND SPECIFICATIONS.
2. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW AND APPROVAL OF AN AMENDED PLAN PRIOR TO CONSTRUCTION.
3. THE PROPOSED DUPLEX GRINDER PUMP SYSTEM SHALL BE WITHIN THE EXISTING 48" DIAMETER AND 10' DEEP WETWELL. THE PACKAGE SHALL CONSIST OF A CUSTOM PUMP SYSTEM MODEL SULTZER ABS PIRANHA PE SERIES PIR-PE28_2CFM-208V/60 WITH 3 PHASE 208V MOTOR OR AN APPROVED EQUIVALENT. SEE THE PUMP SYSTEM DETAIL ON C-501.
4. INSTALLATION GUIDANCE AT NO TIME IS INTENDED TO OVERRIDE MANUFACTURER'S INSTALLATION GUIDELINES.
5. CONTROL PANEL SHALL BE PER MANUFACTURER'S INSTRUCTION. REFER TO ELECTRICAL DRAWINGS FOR FURTHER POWER INFORMATION.
6. ALL EXISTING SITE FEATURES NOT SHOWN TO BE DEMOLISHED AND UTILITIES WITHIN OR NEARBY THE PROJECT AREA SHALL BE PROTECTED.
7. REFER TO ARCHITECTURE & ELECTRICAL SHEETS FOR INFORMATION REGARDING TRANSFORMER REPLACEMENT.

KEYED NOTES

1. INSTALL NEW DUPLEX GRINDER PUMPS, PUMP RAIL SYSTEM, AND PANEL TO CONNECT TO EXISTING. SEE DETAIL ON C-501.
2. INSTALL 5 LF OF 2" PVC FORCE MAIN UTILIZING EXISTING WETWELL OPENING. CONNECT TO EXISTING LINE WITH PVC ADAPTER TO STEEL OR OTHER PIPE MATERIAL AS FIELD VERIFIED.
3. INSTALL ALUMINUM MANHOLE MECHANICAL PLUG ON OPENING OF THE ABANDONED 10" LINE. THE PLUG MUST BE INSTALLED TO ENSURE THAT IT MUST NOT FALL INTO THE WETWELL.

NORTH

GRAPHIC SCALE(S)

1" = 10' 0 5' 10' 20' 30'

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: D.PULLEN
DRAWN BY: J.BATTLE
CHK BY: H.MCARTHUR
SUPV
CHK ENGR
DATE OCTOBER 2025

SEAL AREA

SOUTH CAROLINA
10/06/2025
No. 38880
PROFESSIONAL ENGINEER
DONAVON PULLEN

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
DEPARTMENT OF THE AIR FORCE
CHARLESTON, SC
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
SITE UTILITY PLAN

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE

SHEET 5 OF 37

C-102

100% DESIGN SUBMITTAL - ISSUE FOR CONSTRUCTION

Thursday, October 02, 2025

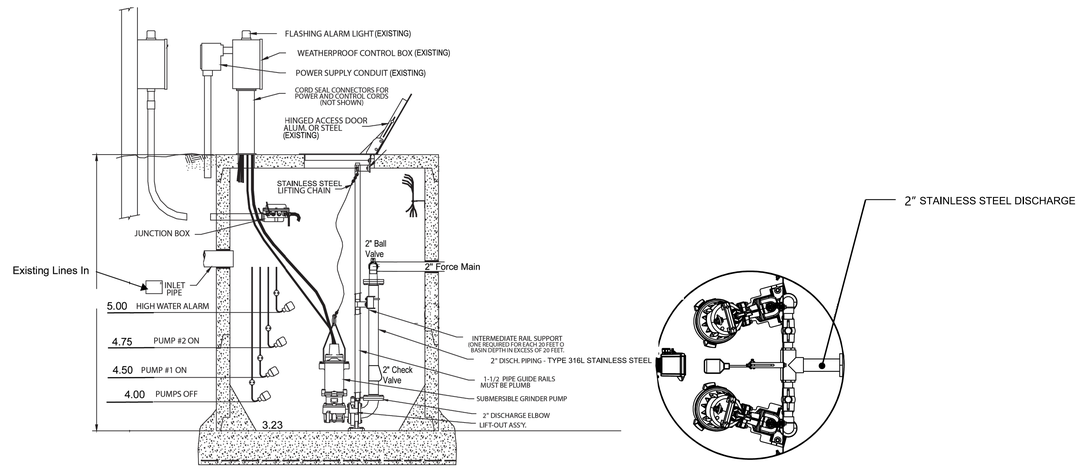
NOTE:
DUPLEX GRINDER PUMPS SHALL BE PIR-PE28_2CFM-208V/60 OR APPROVED EQUIVALENT.

PUMP DESIGN DATA:
PUMP SELECTED TO MATCH THE EXISTING PUMP BASED ON CORRESPONDENCE FROM 628TH CES GROUP WFSM/UTILITIES FOREMAN.
MOTOR HORSE POWER: 3 HP
MOTOR VOLTAGE/PHASE/HZ: 208V/3 PH /60 HZ
ACTUAL FLOW RATE: N/A
TOTAL DYNAMIC HEAD: N/A

INSTALLATION TO BE IN ACCORDANCE WITH MANUFACTURER PUMP SPECIFICATIONS. CONTACT MANUFACTURER FOR FURTHER PUMP INFORMATION.

DETAIL NOTES

1. LOWER PUMP ATTACHMENT FIXTURE MUST BE STAINLESS STEEL ALONG WITH THE RAIL SYSTEM, LIFTING CHAINS AND PIPE AND CONDUIT SUPPORT BRACKETS.
2. PROVIDE A WATERPROOF JUNCTION BOX BELOW THE COVER WITH OPENINGS FOR ENTRANCE POWER AND CONTROL WIRING.
3. ALL WIRING AND ELECTRICAL COMPONENTS MUST BE COMPATIBLE WITH POTENTIAL FLOODED CONDITIONS.
4. SUPPLY EACH PUMP WITH A "BREAKAWAY" MEANS TO REMOVE AND INSTALL THE PUMP IN FLOODED CONDITIONS.
5. ISOLATION VALVES WITHIN THE BASIN SHALL BE PLACED ON THE HORIZONTAL PIPING SECTION TO ALLOW FOR SURFACE ACCESS. INTERIOR WETWELL PIPING SHALL BE TYPE 316L STAINLESS STEEL. ALL FLOATS SHALL ALSO BE ACCESSIBLE FROM THE SURFACE. ISOLATION AND CHECK VALVES SHALL BE UNION STYLE TYPE 316L STAINLESS STEEL.

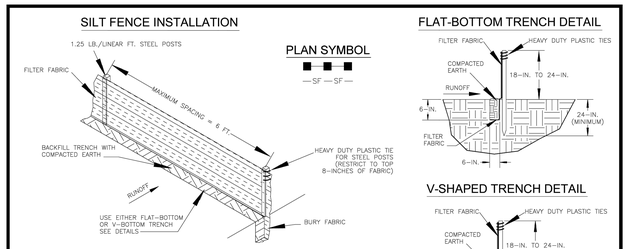


PROFILE

TOP (INTERNAL) VIEW

2 WET WELL PUMP REPLACEMENT

SCALE: NTS



SILT FENCE – GENERAL NOTES

1. Do not place silt fence across channels or in other areas subject to concentrated flows. Silt fence should not be used as a velocity control BMP. Concentrated flows are any flows greater than 0.5 cfs.
2. Maximum sheet or overland flow path length to the silt fence shall be 100–feet.
3. Maximum slope steepness (normal [perpendicular] to the fence line) shall be 2:1.
4. Silt fence joints, when necessary, shall be completed by one of the following options:
   – Wrap each fabric together at a support post with both ends fastened to the post, with a 1–foot minimum overlap;
   – Overlap silt fence by installing 3–feet passed the support post to which the new silt fence roll is attached. Attach old roll to new roll with heavy–duty plastic ties; or,
   – Overlap entire width of each silt fence roll from one support post to the next support post.
5. Attach filter fabric to the steel posts using heavy–duty plastic ties that are evenly spaced within the top 8–inches of the fabric.
6. Install the silt fence perpendicular to the direction of the stormwater flow and place the silt fence the proper distance from the toe of steep slopes to provide sediment storage and access for maintenance and cleanout.
7. Install Silt Fence Checks (Tie–Backs) every 50–100 feet, dependent on slope, along silt fence that is installed with slope and where concentrated flows are expected or are documented along the proposed/installed silt fence.

South Carolina Department of Health and Environmental Control
SILT FENCE
STANDARD DRAWING NO. SC–03 Page 1 of 2
NOT TO SCALE — FEBRUARY 2014 DATE

SILT FENCE – POST REQUIREMENTS

1. Silt Fence posts must be 48–inch long steel posts that meet, at a minimum, the following physical characteristics.
   – Composed of a high strength steel with a minimum yield strength of 50,000 psi.
   – Include a standard "T" section with a nominal face width of 1.38–inches and a nominal "T" length of 1.48–inches.
   – Weigh 1.25 pounds per foot (± 8%)
2. Posts shall be equipped with projections to aid in fastening of filter fabric.
3. Steel posts may need to have a metal soil stabilization plate welded near the bottom when installed along steep slopes or installed in loose soils. The plate should have a minimum cross section of 17–square inches and be composed of 15 gauge steel, at a minimum. The metal soil stabilization plate should be completely buried.
4. Install posts to a minimum of 24–inches. A minimum height of 1– to 2–inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained above the ground.
5. Post spacing shall be at a maximum of 6–feet on center.

SILT FENCE – FABRIC REQUIREMENTS

1. Silt fence must be composed of woven geotextile filter fabric that consists of the following requirements:
   – Composed of fibers consisting of long chain synthetic polymers of at least 85% by weight of polyolefins, polyesters, or polyamides that are formed into a network such that the filaments or yarns retain dimensional stability relative to each other;
   – Free of any treatment or coating which might adversely alter its physical properties after installation;
   – Free of any defects or flaws that significantly affect its physical and/or filtering properties; and,
   – Have a minimum width of 36–inches.
2. Use only fabric appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #34, meeting the requirements of the most current edition of the SC DOT Standard Specifications for Highway Construction.
3. 12–inches of the fabric should be placed within excavated trench and toed in when the trench is backfilled.
4. Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier to avoid joints.
5. Filter Fabric shall be installed at a minimum of 24–inches above the ground.

SILT FENCE – INSPECTION & MAINTENANCE

1. The key to functional silt fence is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of silt fence shall be conducted once every calendar week and, as recommended, within 24–hours after each rainfall even that produces 1/2–inch or more of precipitation.
3. Attention to sediment accumulations along the silt fence is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when it reaches 1/3 the height of the silt fence.
5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
6. Check for areas where stormwater runoff has eroded a channel beneath the silt fence, or where the fence has sagged or collapsed due to runoff overtapping the silt fence. Install checks/tie–backs and/or reinstall silt fence, as necessary.
7. Check for tears within the silt fence, areas where silt fence has begun to decompose, and for any other circumstance that may render the silt fence ineffective. Removed damaged silt fence and reinstall new silt fence immediately.
8. Silt fence should be removed within 30 days after final stabilization is achieved and once it is removed, the resulting disturbed area shall be permanently stabilized.

South Carolina Department of Health and Environmental Control
SILT FENCE
STANDARD DRAWING NO. SC–03 PAGE 2 of 2
GENERAL NOTES — FEBRUARY 2014 DATE

1 SILT FENCE DETAIL

SCALE: NTS

Temporary Seeding – Coastal

Species	Lbs/Ac	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sandy, Droughty Sites													
Browntop Millet	40 lbs./ac.												
Rye, Grain	56 lbs./ac.												
Ryegrass	50 lbs./ac.												
Well drained, clayey/loamey Sites													
Browntop Millet or Japanese Millet	40 lbs./ac.												
Rye, Grain or Oats	56 lbs./ac. 75 lbs./ac.												
Ryegrass	50 lbs./ac.												

3 TEMPORARY SEEDING - COASTAL

SCALE: NTS

Permanent Seeding - Coastal

Species	Lbs/Ac	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sandy, Droughty Sites													
Browntop Millet Bahiagrass	10 lbs./ac. 40 lbs./ac.												
Browntop Millet Bahiagrass Sericea Lespedeza	10 lbs./ac. 30 lbs./ac. 40 lbs./ac.												
Browntop Millet Atlantic Coastal Panicgrass	10 lbs./ac. 15 lbs./ac. PLS												
Browntop Millet Switchgrass (Alamo) Little Bluestem Sericea Lespedeza Browntop Millet Weeping Lovegrass	10 lbs./ac. 8 lbs./ac. PLS 4 lbs./ac. 20 lbs./ac. 10 lbs./ac. 8 lbs./ac.												
Well drained, clayey/loamey Sites													
Browntop Millet Bahiagrass	10 lbs./ac. 40 lbs./ac.												
Rye, Grain Bahiagrass Clover, Crimson (Annual)	10 lbs./ac. 40 lbs./ac. 5 lbs./ac.												
Browntop Millet Bahiagrass Sericea lespedeza	10 lbs./ac. 30 lbs./ac. 40 lbs./ac.												
Browntop Millet Bermuda, Common Sericea lespedeza	10 lbs./ac. 10 lbs./ac. 40 lbs./ac.												
Browntop Millet Bermuda, Common Kobe Lespedeza (Annual)	10 lbs./ac. 12 lbs./ac. 10 lbs./ac.												
Browntop Millet Bahiagrass Bermuda, Common Sericea lespedeza	10 lbs./ac. 20 lbs./ac. 6 lbs./ac. 40 lbs./ac.												
Browntop Millet Switchgrass Little Bluestem Indiangrass	10 lbs./ac. 8 lbs./ac. PLS 3 lbs./ac. PLS 3 lbs./ac. PLS												

4 PERMANENT SEEDING - COASTAL

SCALE: NTS

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: D.PULLEN
DRAWN BY: J.BATTLE
CHK BY: H.MCARTHUR
SUPV
CHK ENGR
DATE OCTOBER 2025

SEAL AREA

SOUTH CAROLINA 10/06/2025 No. 38880 DONAVON PULLEN

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

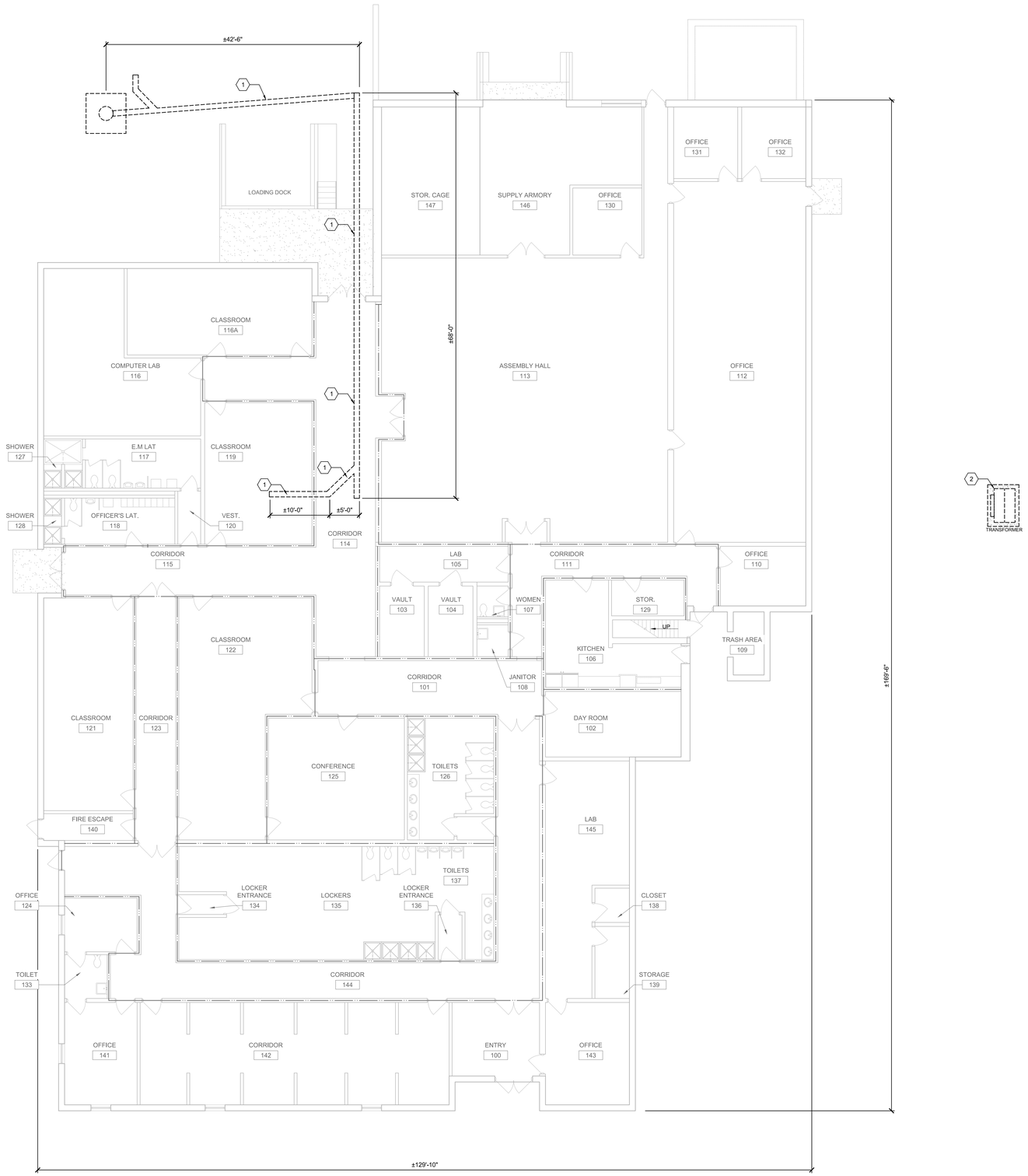
JOINT BASE CHARLESTON - WEAPONS
DEPARTMENT OF THE AIR FORCE — AIR MOBILITY COMMAND
CHARLESTON, SC
NAVAL RESERVE CENTER B3370
CIVIL DETAILS

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE

SHEET 6 OF 37
C-501

100% DESIGN SUBMITTAL - ISSUE FOR CONSTRUCTION

Thursday, October 02, 2025



1 DEMOLITION FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

TRUE NORTH

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING DEMOLITION AND NOTIFY THE CONTRACTING OFFICER'S REPRESENTATIVE OF ANY DISCREPANCIES.
2. THE DEMOLITION PLANS AND THE DEMOLITION NOTES ARE INTENDED TO GUIDE THE CONTRACTOR, BUT NOT ALL INCLUSIVE. PERFORM ALL DEMOLITION WORK REQUIRED TO ACCOMMODATE NEW CONSTRUCTION WORK INDICATED IN THESE DOCUMENTS.
3. REFER TO STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL SHEETS FOR DEMOLITION REQUIREMENTS WITHIN THOSE DISCIPLINES.

KEYED NOTES

1. SAWCUT EXISTING CONCRETE SLAB TO DEMOLISH EXISTING SANITARY PIPE. CONTRACTOR TO VERIFY EXACT LOCATION IN FIELD. SEE PLUMBING AND CIVIL DRAWINGS FOR MORE INFORMATION.
2. TRANSFORMER TO BE REMOVED AND RETURNED TO THE GOVERNMENT. CONCRETE PAD TO BE DEMOLISHED. REFER TO SHEET C-501 FOR GRASS SEEDING INFORMATION SHOULD ANY AREA BE DISTURBED OUTSIDE OF THE TRANSFORMER PAD. SEE ELECTRICAL SHEETS FOR TRANSFORMER DEMOLITION INFORMATION.

LEGEND

NAME ###	ROOM NAME / ROOM NUMBER
#	KEY NOTE
– – –	ITEM TO BE DEMOLISHED
—·—·—	2HR FIRE RATED WALLS

SCALE

GRAPHIC SCALE
1/8" = 1'-0"
0 4' 8' 16'

ZAPATA ENGINEERING OF NORTH CAROLINA, INC.
REGISTERED ARCHITECTURAL CORPORATION
52842
NORTH CAROLINA
CHARLOTTE, NC

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: MJP
DRAWN BY: RLP
CHK BY: MJP
SUPV:
CHK ENGR:
DATE: OCTOBER 2025

SEAL AREA

MARCY PELUCIO
REGISTERED ARCHITECT
CERT. NO. 13309
10/06/2025
NORTH CAROLINA
CHARLOTTE, N.C.

DRAWING REVISIONS

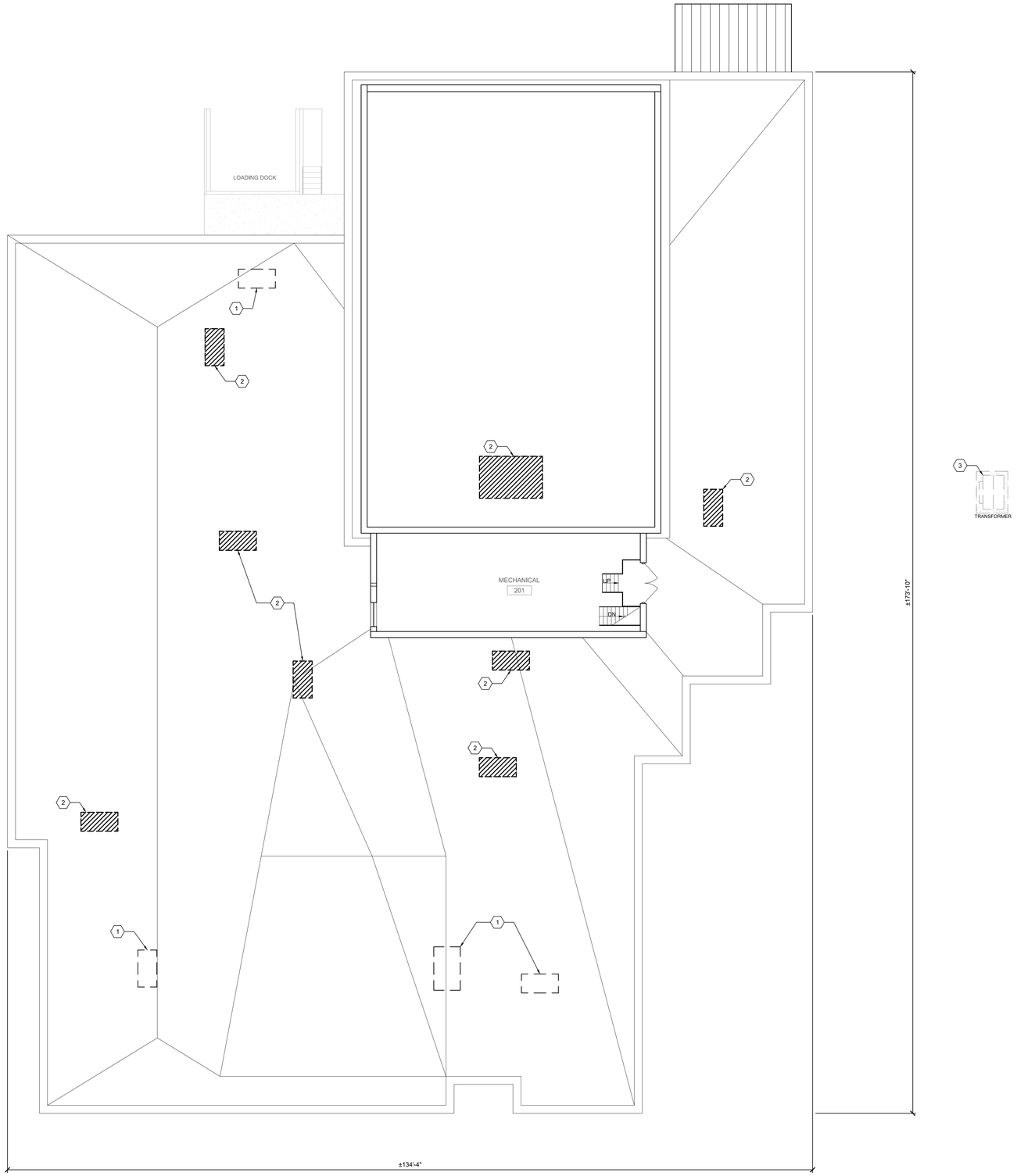
REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
DEMOLITION FIRST FLOOR PLAN

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 7 OF 37
AD101

100% DESIGN SUBMITTAL - ISSUE FOR CONSTRUCTION

Monday, December 01, 2025



1 DEMOLITION ROOF PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

TRUE NORTH

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING DEMOLITION AND NOTIFY THE CONTRACTING OFFICER'S REPRESENTATIVE OF ANY DISCREPANCIES.
2. THE DEMOLITION PLANS AND THE DEMOLITION NOTES ARE INTENDED TO GUIDE THE CONTRACTOR, BUT NOT ALL INCLUSIVE. PERFORM ALL DEMOLITION WORK REQUIRED TO ACCOMMODATE NEW CONSTRUCTION WORK INDICATED IN THESE DOCUMENTS.
3. REFER TO STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL SHEETS FOR DEMOLITION REQUIREMENTS WITHIN THOSE DISCIPLINES.

KEYED NOTES

1. MECHANICAL RTU'S ARE TO BE DEMOLISHED. SEE MECHANICAL DRAWINGS. PREPARE EXISTING ROOF CURB FOR NEW CAP.
2. MECHANICAL RTU'S TO BE DEMOLISHED. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION. PREPARE EXISTING ROOF CURB FOR NEW RTU INSTALLATION AND ROOF DECK FOR NEW EQUIPMENT CURB ADAPTERS AS SHOWN HATCHED. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION.
3. TRANSFORMER TO BE REMOVED AND RETURNED TO THE GOVERNMENT. CONCRETE PAD TO BE DEMOLISHED. REFER TO SHEET C-501 FOR GRASS SEEDING INFORMATION SHOULD ANY AREA BE DISTURBED OUTSIDE OF THE TRANSFORMER PAD. SEE ELECTRICAL SHEETS FOR TRANSFORMER DEMOLITION INFORMATION.

LEGEND

NAME	ROOM NAME
###	ROOM NUMBER
#	KEY NOTE
- - - - -	ITEM TO BE DEMOLISHED
	NEW RTU LOCATION
	NEW ROOF CAP

SCALE

GRAPHIC SCALE
1/8" = 1'-0"
0 4' 8' 16'

ZAPATA ENGINEERING OF NORTH CAROLINA, INC.
REGISTERED ARCHITECTURAL CORPORATION
52842
NORTH CAROLINA
CHARLOTTE, NC

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: MJP
DRAWN BY: RLP
CHK BY: MJP
SUPV:
CHK ENGR
DATE OCTOBER 2025

SEAL AREA

MARCY PELUCIO
REGISTERED ARCHITECT
CERT. NO. 13309
10/06/2025
NORTH CAROLINA
CHARLOTTE, N.C.

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON
FAMULUS OMNIS

DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
NAVAL RESERVE CENTER B3370

DEMOLITION ROOF PLAN

BUILDING GLOBAL STRENGTH
628th CIVIL ENGINEER SQUADRON

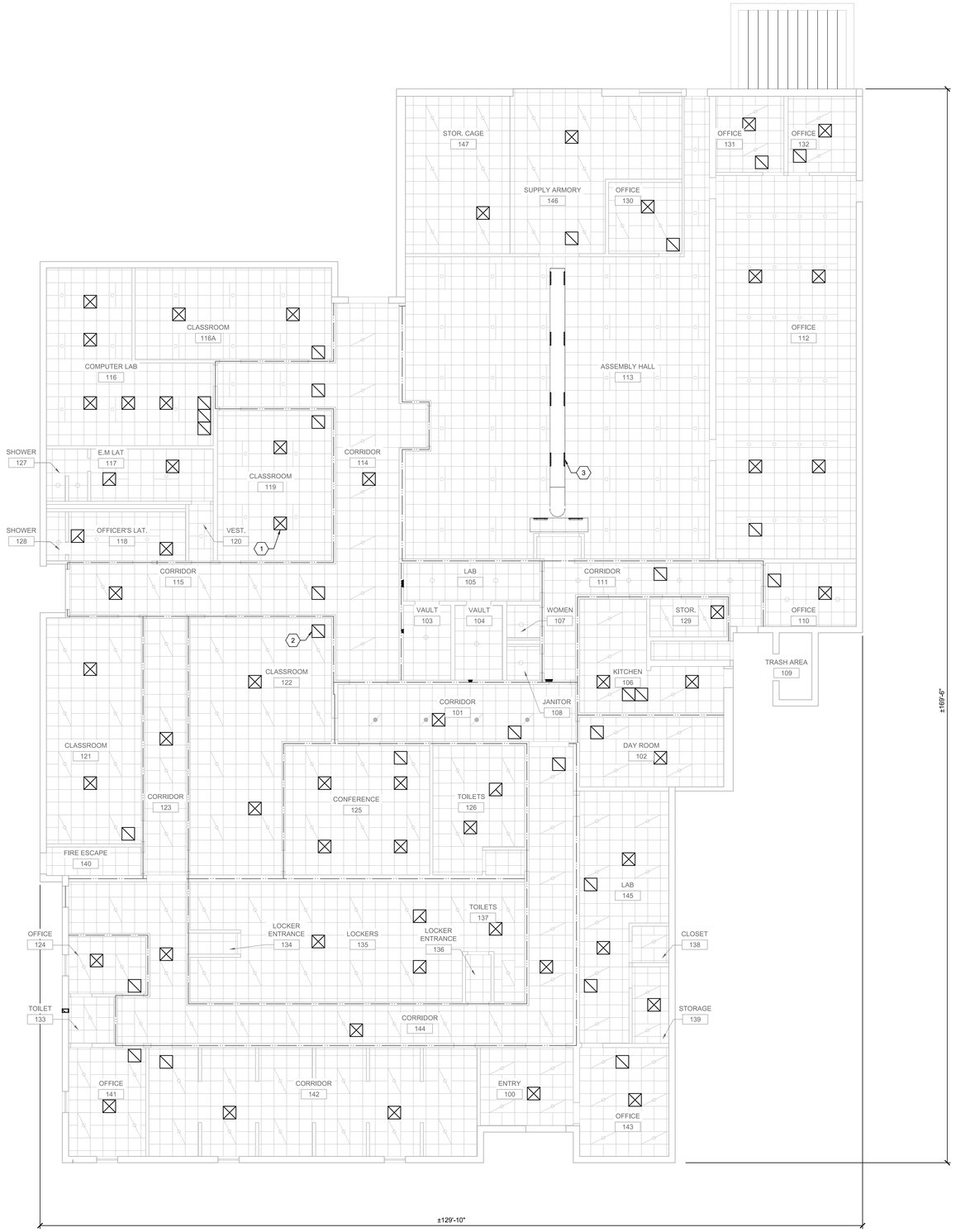
DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE

SHEET 8 OF 37

AD102

100% DESIGN SUBMITTAL - ISSUE FOR CONSTRUCTION

Monday, December 01, 2025



1 DEMOLITION FIRST FLOOR REFLECTED CEILING PLAN

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

PLAN NORTH

TRUE NORTH

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING DEMOLITION AND NOTIFY THE CONTRACTING OFFICER'S REPRESENTATIVE OF ANY DISCREPANCIES.
2. THE DEMOLITION PLANS AND THE DEMOLITION NOTES ARE INTENDED TO GUIDE THE CONTRACTOR, BUT NOT ALL INCLUSIVE. PERFORM ALL DEMOLITION WORK REQUIRED TO ACCOMMODATE NEW CONSTRUCTION WORK INDICATED IN THESE DOCUMENTS.
3. REFER TO STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL SHEETS FOR DEMOLITION REQUIREMENTS WITHIN THOSE DISCIPLINES.

KEYED NOTES

1. EXISTING MECHANICAL DIFFUSERS TO BE DEMOLISHED. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
2. EXISTING MECHANICAL GRILLES TO BE DEMOLISHED. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
3. EXISTING HVAC DISTRIBUTION SYSTEM TO BE DEMOLISHED. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
4. CONTRACTOR TO REPLACE ANY CEILING TILES DAMAGED DURING HVAC REPLACEMENTS AND TO REPLACE ANY WATER DAMAGED CEILING TILES THROUGHOUT THE BUILDING.

LEGEND

- NAME / ### — ROOM NAME
- ROOM NUMBER
- # — KEY NOTE
- ITEM TO BE DEMOLISHED
- EXISTING 2x4 LED LIGHT FIXTURE
- LIGHT FIXTURE EXISTING TO REMAIN
- LIGHT FIXTURE EXISTING TO REMAIN
- 2X2 ACOUSTICAL CEILING
- LIGHTING FIXTURE EXISTING TO REMAIN
- EXISTING SUPPLY GRILLE TO BE DEMOLISHED
- EXISTING RETURN GRILLE TO BE DEMOLISHED
- EXISTING HVAC DISTRIBUTION SYSTEM TO BE DEMOLISHED
- 2HR FIRE RATED WALLS

SCALE

GRAPHIC SCALE
1/8" = 1'-0"

0 4' 8' 16'

ZAPATA ENGINEERING OF NORTH CAROLINA, INC.
REGISTERED ARCHITECTURAL CORPORATION
52842
NORTH CAROLINA
CHARLOTTE, NC

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: MJP
DRAWN BY: RLP
CHK BY: MJP
SUPV
CHK ENGR
DATE OCTOBER 2025

SEAL AREA

MARCY PELUCIO
REGISTERED ARCHITECT
CERT. NO. 13309
10/06/2025
NORTH CAROLINA
CHARLOTTE, N.C.

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND

NAVAL RESERVE CENTER B3370

DEMOLITION FIRST FLOOR REFLECTED CEILING PLAN

DRAWING SIZE: ARCH30 E(30X42)

PROJECT NO. DKGV 1137999

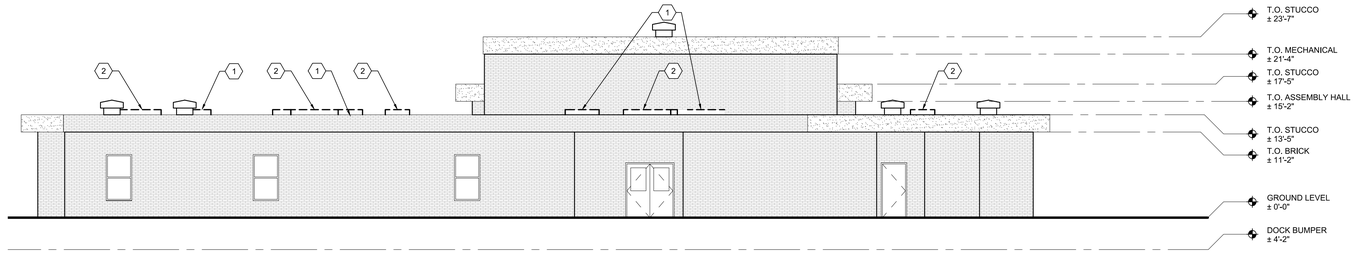
RECORD DRAWING DATE

SHEET 9 OF 37

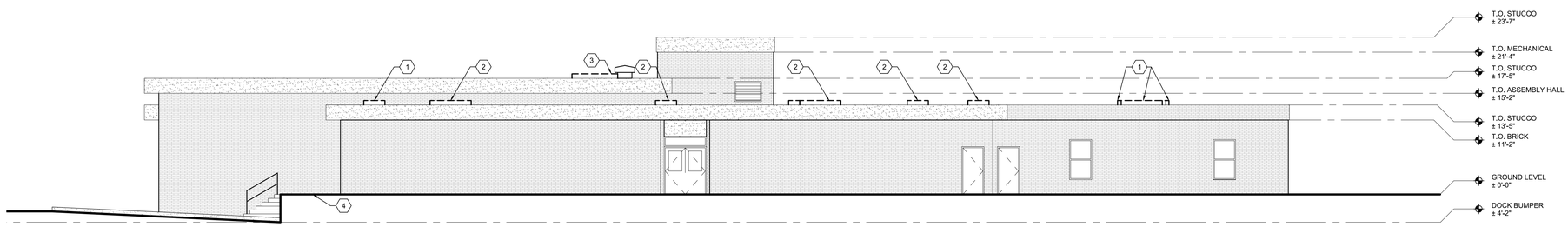
AD103

100% DESIGN SUBMITTAL - ISSUE FOR CONSTRUCTION

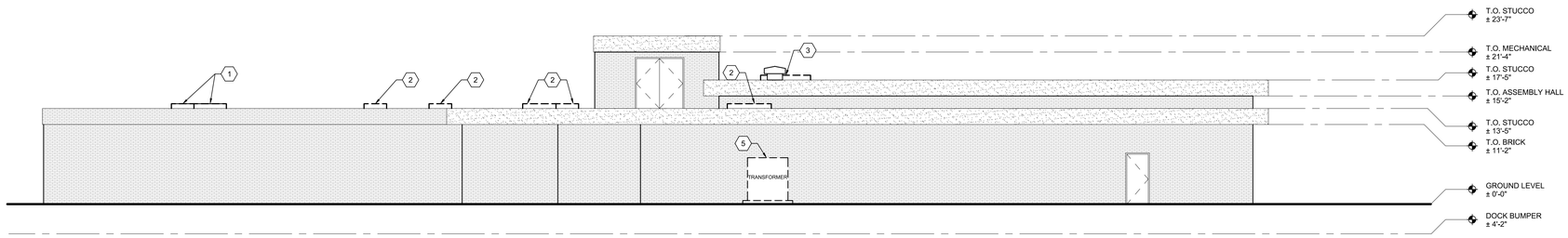
Tuesday, October 07, 2025



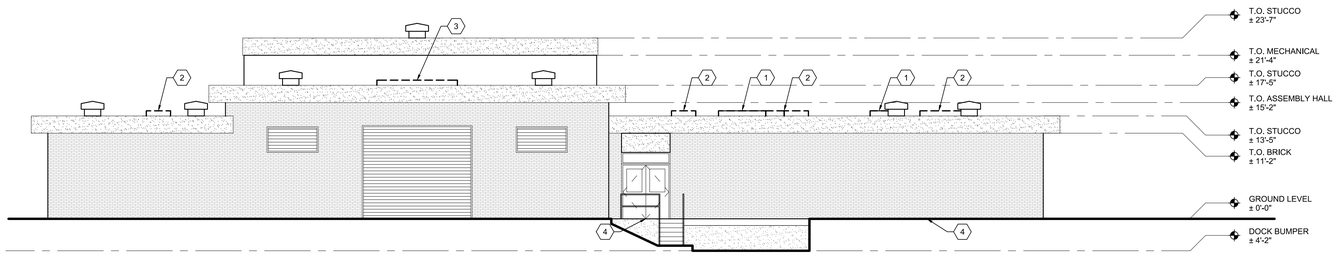
4 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



3 WEST ELEVATION
SCALE: 1/8" = 1'-0"



2 EAST ELEVATION
SCALE: 1/8" = 1'-0"



1 NORTH ELEVATION
SCALE: 1/8" = 1'-0"

ZAPATA ENGINEERING OF NORTH CAROLINA, INC.
REGISTERED ARCHITECTURAL CORPORATION
52842
NORTH CAROLINA
CHARLOTTE, NC

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING DEMOLITION AND NOTIFY THE CONTRACTING OFFICER'S REPRESENTATIVE OF ANY DISCREPANCIES.
2. THE DEMOLITION PLANS AND THE DEMOLITION NOTES ARE INTENDED TO GUIDE THE CONTRACTOR, BUT NOT ALL INCLUSIVE. PERFORM ALL DEMOLITION WORK REQUIRED TO ACCOMMODATE NEW CONSTRUCTION WORK INDICATED IN THESE DOCUMENTS.
3. REFER TO STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL SHEETS FOR DEMOLITION REQUIREMENTS WITHIN THOSE DISCIPLINES.

KEYED NOTES

1. MECHANICAL RTU'S ARE TO BE DEMOLISHED. SEE MECHANICAL DRAWINGS. PREPARE EXISTING ROOF CURB FOR NEW CAP.
2. MECHANICAL RTU'S TO BE DEMOLISHED. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION. PREPARE EXISTING ROOF CURB FOR NEW RTU INSTALLATION.
3. PREPARE ROOF DECK FOR NEW EQUIPMENT CURB ADAPTERS FOR NEW MECHANICAL RTU'S AS SHOWN HATCHED. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION SHOWING NEW RTU'S ON MECHANICAL PLANS.
4. DEMOLISH SEWER PIPING FROM LATRINE TO HALLWAY TO LOADING DOCK TO SEWER EJECTOR PIT. SEE PLUMBING DRAWINGS AND CIVIL DRAWINGS FOR MORE INFORMATION.
5. TRANSFORMER TO BE REMOVED AND RETURNED TO THE GOVERNMENT. CONCRETE PAD TO BE DEMOLISHED. REFER TO SHEET C-501 FOR GRASS SEEDING INFORMATION SHOULD ANY AREA BE DISTURBED OUTSIDE OF THE TRANSFORMER PAD. SEE ELECTRICAL DEMOLITION SHEETS FOR TRANSFORMER DEMOLITION AND CONCRETE PAD DEMOLITION.

LEGEND

- (#) KEY NOTE
- ITEM TO BE DEMOLISHED
- NEW RTU LOCATION

SCALE

GRAPHIC SCALE
1/8" = 1'-0"
0 4' 8' 16'

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: MJP
DRAWN BY: RLP
CHK BY: MJP
SUPV
CHK ENGR
DATE OCTOBER 2025

SEAL AREA

MARCY PELUCIO
REGISTERED ARCHITECT
CERT. NO. 13309
10/06/2025
NORTH CAROLINA
CHARLOTTE, N.C.

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON
FAMULUS OMNIS

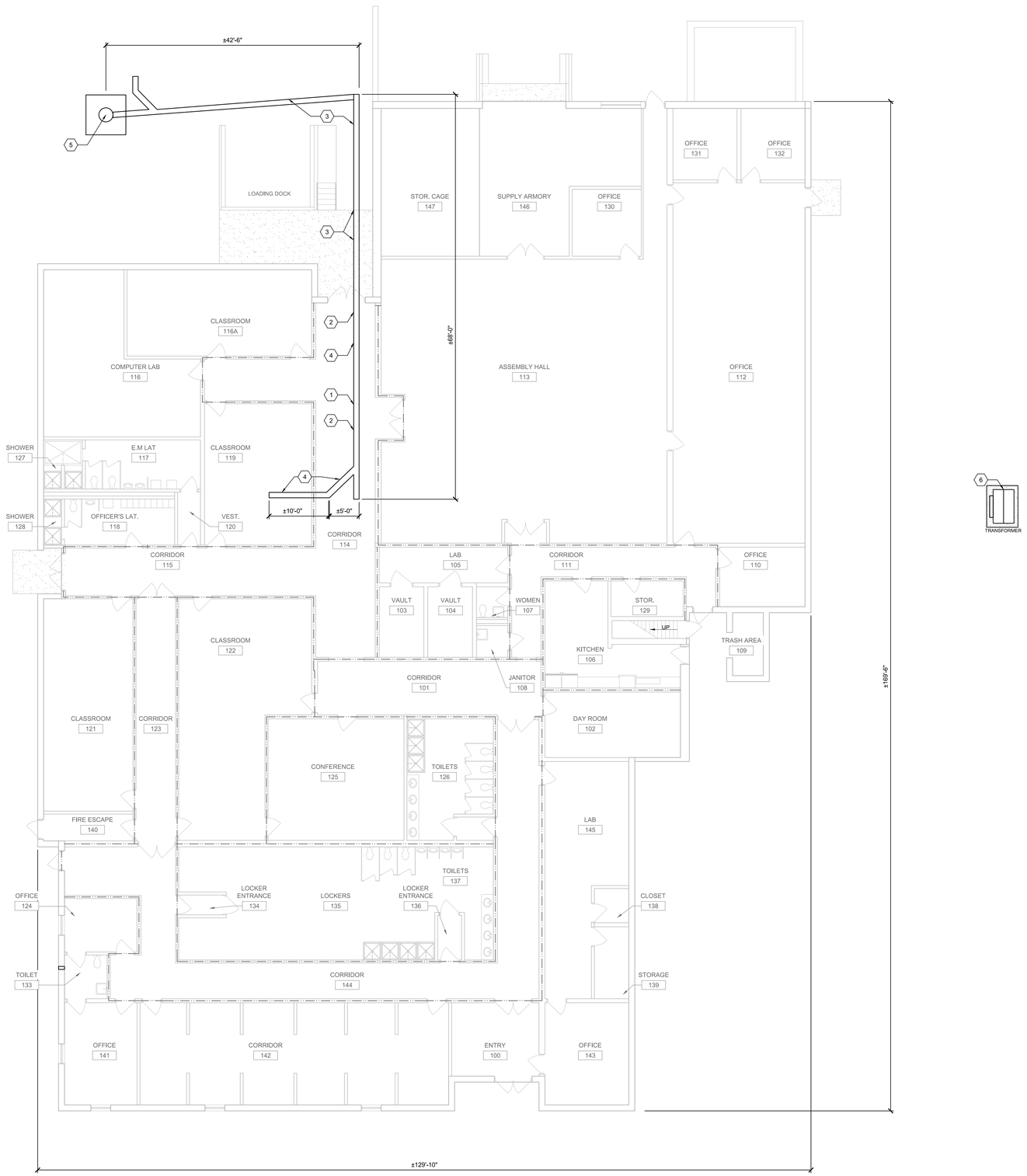
JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
DEMOLITION ELEVATIONS

BUILDING GLOBAL STRENGTH
628th CIVIL ENGINEER SQUADRON

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 10 OF 37
AD201

100% DESIGN SUBMITTAL - ISSUE FOR CONSTRUCTION

Monday, December 01, 2025



1 FIRST FLOOR PLAN - NEW WORK

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

GENERAL NOTES

1. ALL WORK TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL FROM THE SITE AND PROPER DISPOSAL OF ANY DEBRIS ACCUMULATED DURING CONSTRUCTION ON A DAILY BASIS.
3. STORED MATERIALS SHALL BE KEPT DRY AND KEPT IN AN ORDERLY FASHION IN AN AREA DESIGNATED BY THE GOVERNMENT.

KEYED NOTES

1. PROVIDE NEW SANITARY PIPE - SEE PLUMBING DRAWINGS.
2. PATCH CONCRETE SLAB AT NEW SANITARY PIPE. PROVIDE NEW VCT TILE FLOORING TO MATCH EXISTING AT PATCHED FLOOR. SEE PLUMBING DRAWINGS FOR SLAB REPAIR DETAILS. CONTRACTOR TO VERIFY IN FIELD ACTUAL PIPING LOCATIONS AND DIMENSIONS.
3. PATCH CONCRETE SLAB AND PAVING AT LOADING DOCK TO MATCH EXISTING.
4. PROVIDE NEW VCT & CARPETING IN CLASSROOM & CORRIDOR TO MATCH EXISTING FLOORING AT PATCH AREA.
5. CONTRACTOR TO INSTALL GFCI SEWER EJECTOR PIT. SEE CIVIL, PLUMBING AND ELECTRICAL DRAWINGS FOR MORE INFORMATION.
6. PROVIDE NEW CONCRETE EQUIPMENT PAD AND NEW TRANSFORMER. REFER TO SHEET C-501 FOR GRASS SEEDING INFORMATION SHOULD ANY AREA BE DISTURBED OUTSIDE OF THE NEW CONCRETE TRANSFORMER PAD. SEE ELECTRICAL DRAWINGS FOR MORE TRANSFORMER PAD INFORMATION AND DETAIL 1/E-501 FOR CONCRETE PAD INFORMATION. CONCRETE PAD SIZE SHALL BE DETERMINED BY ACTUAL SIZE OF TRANSFORMER UNIT SELECTED BY CONTRACTOR.

LEGEND

NAME	ROOM NAME
###	ROOM NUMBER
#	KEY NOTE
	2HR FIRE RATED WALLS

SCALE

GRAPHIC SCALE
1/8" = 1'-0"
0 4' 8' 16'

ZAPATA ENGINEERING OF NORTH CAROLINA, INC.
REGISTERED ARCHITECTURAL CORPORATION
52842
NORTH CAROLINA
CHARLOTTE, NC

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: MJP
DRAWN BY: RLP
CHK BY: MJP
SUPV
CHK ENGR
DATE OCTOBER 2025

SEAL AREA

MARCY PELUCIO
REGISTERED ARCHITECT
CERT. NO. 13309
10/06/2025
NORTH CAROLINA
CHARLOTTE, N.C.

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
FIRST FLOOR PLAN - NEW WORK

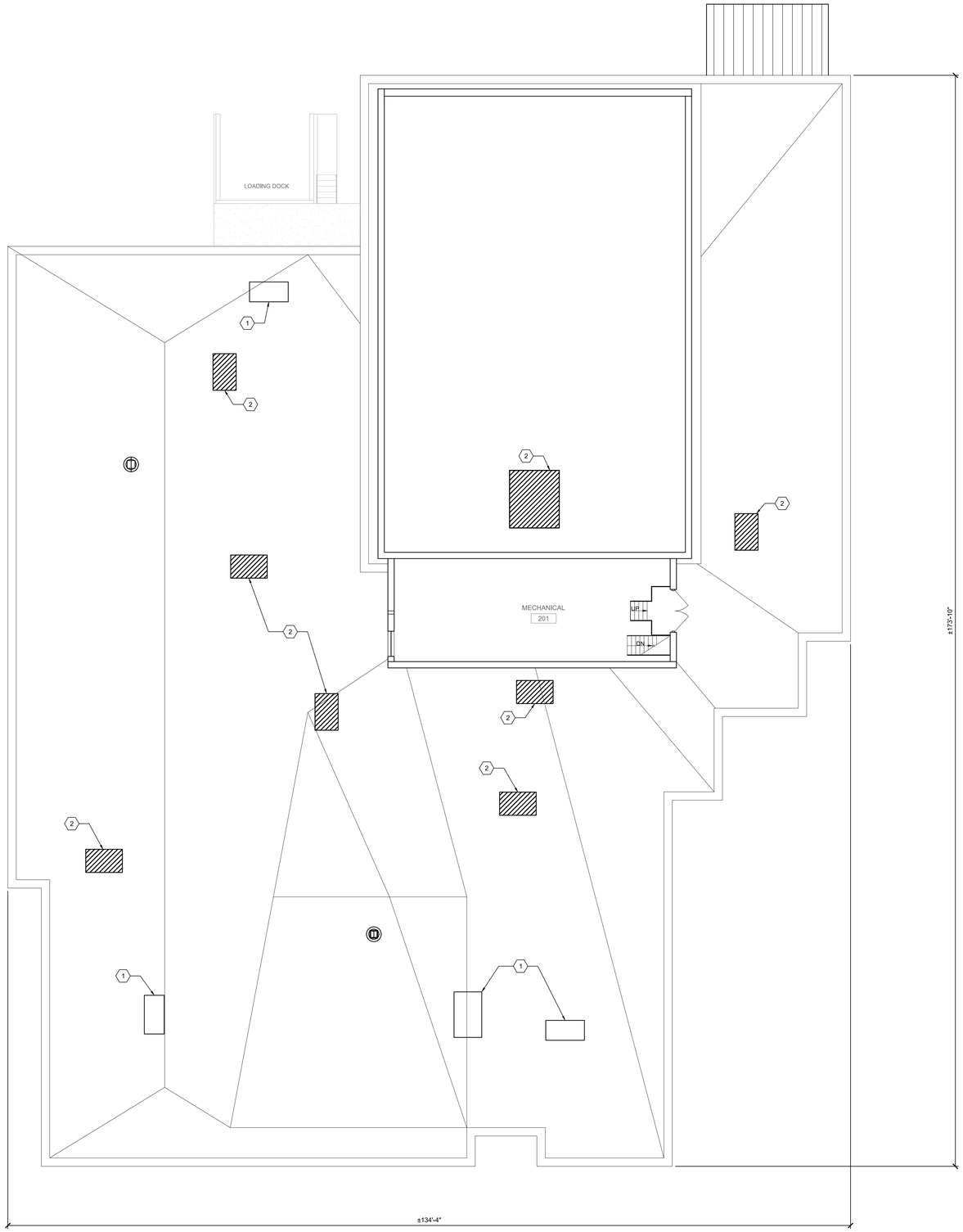
DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE

SHEET 11 OF 37

A-101

100% DESIGN SUBMITTAL - ISSUE FOR CONSTRUCTION

Monday, December 01, 2025



1 ROOF PLAN - NEW WORK
SCALE: 1/8" = 1'-0"

PLAN NORTH

TRUE NORTH

GENERAL NOTES

1. THE MAIN SCOPE OF WORK IS TO PREVENT ROOF LEAKING AND MOISTURE CONTROL THROUGHOUT THE BUILDING TO PREVENT MOLD WITHIN THE BUILDING SPACE. CONTRACTOR MUST ENSURE ALL ROOF WORK WILL BE CHECKED TO BE WATER TIGHT AND PROVIDE AN ADDITIONAL ROOF REPAIRS TO THE ROOF AS NEEDED TO PROVIDE A WATER TIGHT FINISHED ROOF AFTER MECHANICAL UNITS ARE INSTALLED ON ROOF CURBS.
2. ALL WORK TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL FROM THE SITE AND PROPER DISPOSAL OF ANY DEBRIS ACCUMULATED DURING CONSTRUCTION ON A DAILY BASIS.
4. STORED MATERIALS SHALL BE KEPT DRY AND KEPT IN AN ORDERLY FASHION IN AN AREA DESIGNATED BY THE GOVERNMENT .
5. CONTRACTOR MUST ENSURE THAT A STRUCTURAL ENGINEER VERIFIES THE INTEGRITY OF THE ROOF FOLLOWING THE REPLACEMENT OF THE ROOF-TOP UNITS (RTUS) IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (IBC) AND ASCE 7 STANDARDS. THE OBJECTIVE IS TO PROPERLY DOCUMENT THAT THE ROOF CAN SAFELY SUPPORT THE REPLACEMENT OF THE RTU UNITS IN KIND.
6. CONTRACTOR MUST ENSURE THAT THE ROOF CURBS THAT ARE TO BE REUSED ARE STRUCTURALLY SOUND TO SUPPORT THE NEW CURB ADAPTERS AND NEW RTUS FOR THE NEW MECHANICAL WORK.
7. CONTRACTOR MUST CONFIRM ALL ROOF CONNECTIONS AT THE ROOF CURBS ARE WATER TIGHT. CONTRACTOR SHALL PERFORM A WATER LEAK TEST TO NEW ROOF CURB CAPS AND ALL EXISTING ROOF CURBS TO PREVENT ANY WATER FROM LEAKING INTO THE BUILDING BELOW. THE MAIN SCOPE OF WORK IS TO PREVENT ROOF LEAKING AND MOISTURE CONTROL THROUGHOUT THE BUILDING TO PREVENT MOLD WITHIN THE BUILDING SPACE. CONTRACTOR TO PROVIDE ALL ADDITIONAL REPAIRS TO ROOF AND ROOF CURBS AS NEEDED TO ENSURE NO LEAKING FORM THE ROOF TO THE BUILDING BELOW

KEYED NOTES

1. PROVIDE NEW METAL WEATHER PROOF EQUIPMENT CURB CAP TO COVER EXISTING OPENING. SEE MECHANICAL DRAWINGS FOR CURB CAP DETAIL.
2. PROVIDE NEW RTU - SEE MECHANICAL DRAWINGS FOR MORE INFORMATION.
3. PROVIDE NEW CONCRETE EQUIPMENT PAD AND NEW TRANSFORMER. REFER TO SHEET C-501 FOR GRASS SEEDING INFORMATION SHOULD ANY AREA BE DISTURBED OUTSIDE OF THE NEW CONCRETE TRANSFORMER PAD. SEE ELECTRICAL DRAWINGS FOR MORE TRANSFORMER PAD INFORMATION AND DETAIL 1/E-501 FOR CONCRETE PAD INFORMATION. CONCRETE PAD SIZE SHALL BE DETERMINED BY ACTUAL SIZE OF TRANSFORMER UNIT SELECTED BY CONTRACTOR.

LEGEND

- NAME / ### — ROOM NAME / ROOM NUMBER
- # — KEY NOTE
- NEW RTU LOCATION
- NEW WATERPROOF CAP AT EXISTING ROOF OPENING

SCALE

GRAPHIC SCALE
1/8" = 1'-0"
0 4' 8' 16'

ZAPATA ENGINEERING OF NORTH CAROLINA, INC.
REGISTERED ARCHITECTURAL CORPORATION
52842
NORTH CAROLINA
CHARLOTTE, NC

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: MJP
DRAWN BY: RLP
CHK BY: MJP
SUPV
CHK ENGR
DATE OCTOBER 2025

SEAL AREA

MARCY PELUSO
REGISTERED ARCHITECT
CERT. NO. 13309
10/06/2025
NORTH CAROLINA
CHARLOTTE, N.C.

DRAWING REVISIONS

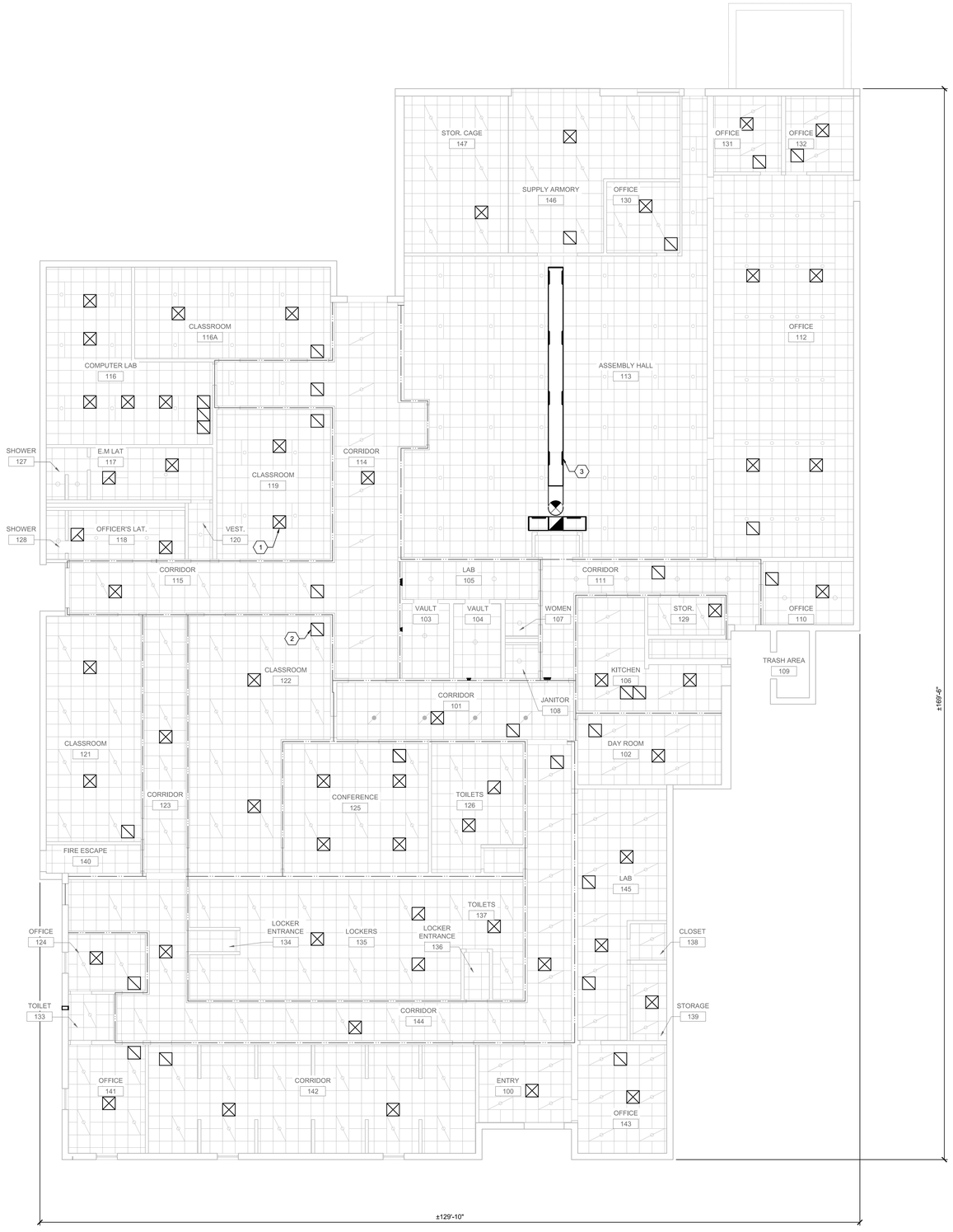
REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
ROOF PLAN - NEW WORK

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 12 OF 37
A-102

100% DESIGN SUBMITTAL - ISSUE FOR CONSTRUCTION

Monday, December 01, 2025



1 FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK

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

PLAN NORTH

TRUE NORTH

GENERAL NOTES

1. ALL WORK TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL FROM THE SITE AND PROPER DISPOSAL OF ANY DEBRIS ACCUMULATED DURING CONSTRUCTION ON A DAILY BASIS.
3. STORED MATERIALS SHALL BE KEPT DRY AND KEPT IN AN ORDERLY FASHION IN AN AREA DESIGNATED BY THE GOVERNMENT.

KEYED NOTES

1. NEW MECHANICAL DIFFUSERS. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
2. NEW MECHANICAL GRILLES. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
3. NEW HVAC DISTRIBUTION SYSTEM. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

LEGEND

- NAME / ### — ROOM NAME / ROOM NUMBER
- # — KEY NOTE
- EXISTING 2x4 LED LIGHT FIXTURE
- LIGHT FIXTURE EXISTING TO REMAIN
- LIGHT FIXTURE EXISTING TO REMAIN
- 2X2 ACOUSTICAL CEILING
- LIGHTING FIXTURE EXISTING TO REMAIN
- NEW SUPPLY DIFFUSER
- NEW RETURN GRILLE
- NEW HVAC DISTRIBUTION SYSTEM
- 2HR FIRE RATED WALLS

SCALE

GRAPHIC SCALE
1/8" = 1'-0"
0 4' 8' 16'

ZAPATA ENGINEERING OF NORTH CAROLINA, INC.
REGISTERED ARCHITECTURAL CORPORATION
52842
NORTH CAROLINA
CHARLOTTE, NC

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: MJP
DRAWN BY: RLP
CHK BY: MJP
SUPV:
CHK ENGR
DATE OCTOBER 2025

SEAL AREA

MARCY PELUCIO
REGISTERED ARCHITECT
CERT. NO. 13309
10/06/2025
NORTH CAROLINA
CHARLOTTE, N.C.

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND

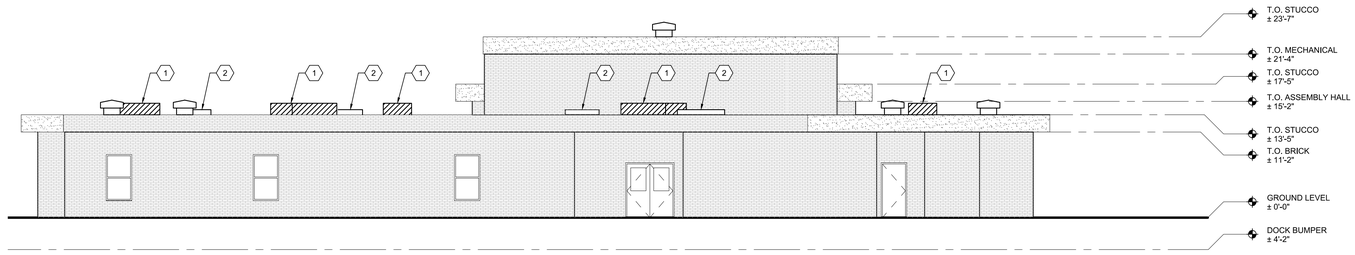
NAVAL RESERVE CENTER B3370

FIRST FLOOR REFLECTED CEILING PLAN - NEW WORK

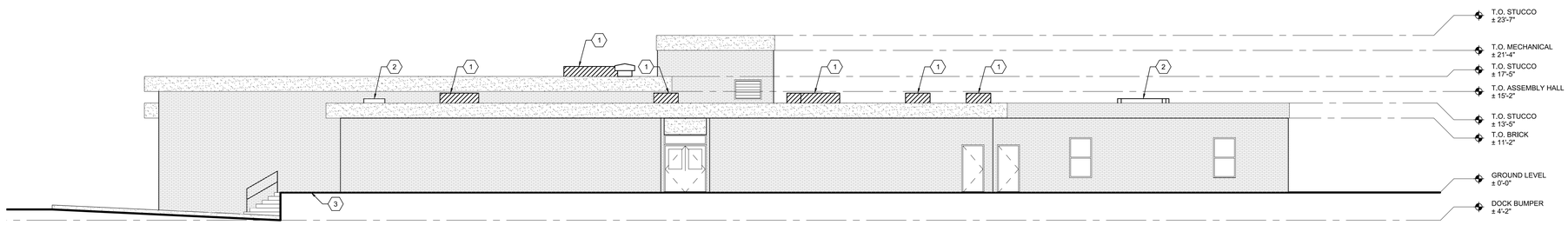
100% DESIGN SUBMITTAL - ISSUE FOR CONSTRUCTION

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 13 OF 37
A-103

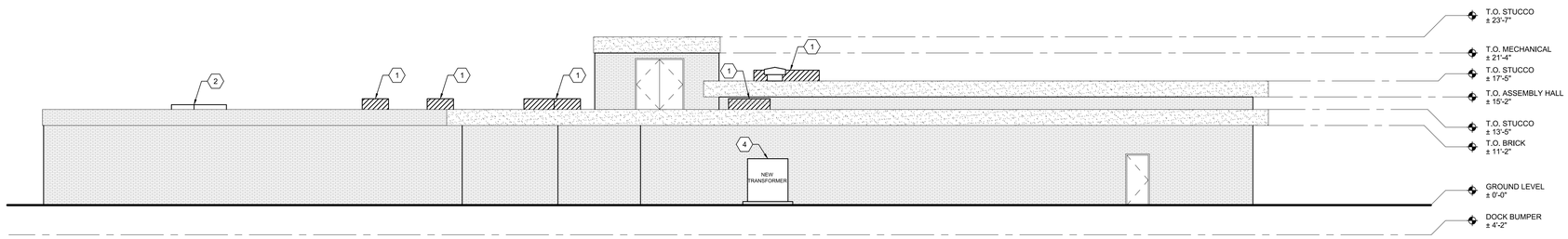
Tuesday, October 07, 2025



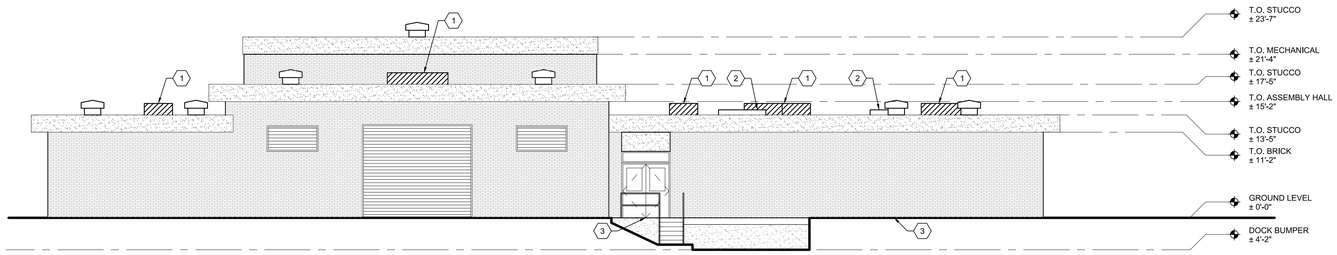
4 SOUTH ELEVATION
SCALE: 1/8"= 1'



3 WEST ELEVATION
SCALE: 1/8"= 1'



2 EAST ELEVATION
SCALE: 1/8"= 1'



1 NORTH ELEVATION
SCALE: 1/8"= 1'

ZAPATA ENGINEERING OF NORTH CAROLINA, INC.
REGISTERED ARCHITECTURAL CORPORATION
52842
NORTH CAROLINA
CHARLOTTE, NC

GENERAL NOTES

1. ALL WORK TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL FROM THE SITE AND PROPER DISPOSAL OF ANY DEBRIS ACCUMULATED DURING CONSTRUCTION ON A DAILY BASIS.
3. STORED MATERIALS SHALL BE KEPT DRY AND KEPT IN AN ORDERLY FASHION IN AN AREA DESIGNATED BY THE GOVERNMENT.

KEYED NOTES

1. PROVIDE NEW RTU ON ROOF. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION.
2. PROVIDE NEW METAL WEATHER PROOF EQUIPMENT CURB CAP TO COVER EXISTING OPENING. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION.
3. PROVIDE NEW SEWER PIPING FROM LATRINE TO HALLWAY TO LOADING DOCK TO SEWER EJECTOR PIT. SEE PLUMBING DRAWINGS AND CIVIL DRAWINGS FOR MORE INFORMATION.
4. PROVIDE NEW TRANSFORMER AND CONCRETE PAD. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.

LEGEND

- # — KEY NOTE
- NEW CURB CAP
- NEW RTU LOCATION

SCALE

GRAPHIC SCALE
1/8" = 1'-0"
0 4' 8' 16'

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DESIGN BY: MJP
DRAWN BY: RLP
CHK BY: MJP
SUPV:
CHK ENGR
DATE: OCTOBER 2025

SEAL AREA

MARCY PELUCIO
REGISTERED ARCHITECT
CERT. NO. 13309
10/06/2025
NORTH CAROLINA
CHARLOTTE, N.C.

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
DEPARTMENT OF THE AIR FORCE
CHARLESTON, SC
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
ELEVATIONS - NEW WORK

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE

SHEET 14 OF 37

A-201

100% DESIGN SUBMITTAL - ISSUE FOR CONSTRUCTION

Monday, December 01, 2025

PLUMBING LEGEND

- EXISTING TO REMAIN (HALFTONE)
- NEW WORK
- TO BE REMOVED/DEMOLISHED
- SS — SANITARY SEWER/WASTE, SS
- PIPE TURNING DOWN
- PIPE TURNING UP
- PIPE BEND/ELBOW
- PIPE TEE
- PIPE SIZE TRANSITION
- POINT OF DISCONNECTION BETWEEN EXISTING TO REMAIN AND EXISTING TO BE REMOVED
- POINT OF CONNECTION BETWEEN NEW AND EXISTING
- # — KEYNOTE
- FIRE RATED PARTITION. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATINGS.

PLUMBING ABBREVIATIONS

(E)	EXISTING
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
CO	CLEANOUT
DN	PIPE TURNING DOWN
FCO	FLOOR CLEANOUT
IAW	IN ACCORDANCE WITH
N.T.S.	NOT TO SCALE
OC	ON CENTER
P-#	PLUMBING FIXTURE DESIGNATION
SS	SANITARY SEWER / WASTE
TYP	TYPICAL
UP	PIPE TURNING UP
WWF	WELDED WIRE FABRIC

PLUMBING CODES

- 2021 INTERNATIONAL PLUMBING CODE (IPC)
- UFC 3-420-01 PLUMBING SYSTEMS (2021)

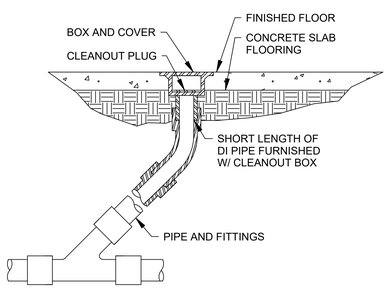
PLUMBING GENERAL NOTES

1. OBTAIN AND PAY FOR ALL REQUIRED PERMITS.
2. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL WORK DEPICTED ON THE "P" SERIES DRAWINGS MUST BE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
3. CONSTRUCTION MUST COMPLY WITH ALL LOCAL BUILDING CODE REGULATIONS, APPLICABLE INTERNATIONAL BUILDING CODE REGULATIONS, AND/OR THE MOST CURRENT REGULATIONS ENFORCED IN THE MUNICIPALITY WHERE THE WORK IS PERFORMED AND NFPA, STATE, AND UTILITY REGULATIONS.
4. CONSTRUCTION MUST COMPLY WITH THE GOVERNING EDITION OF THE AMERICANS WITH DISABILITIES ACT (ADA), PROVIDING ACCESSIBILITY AND USABILITY FOR PHYSICALLY HANDICAPPED PEOPLE AND/OR ALL OF THE APPLICABLE GOVERNING CODES AND ORDINANCES.
5. VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE BEFORE COMMENCEMENT OF WORK. REPORT ALL ERRORS, OMISSIONS, OR DISCREPANCIES TO THE ENGINEER IN WRITING PRIOR TO STARTING WORK. IN ALL CASES WHERE CONFLICTS MAY OCCUR, SUCH AS BETWEEN ITEMS INCLUDED IN THE SPECIFICATIONS AND NOTES ON THE DRAWINGS, THE ENGINEER MUST BE NOTIFIED AND WILL INTERPRET THE INTENT OF THE CONTRACT DOCUMENTS.
6. DRAWING REFERENCES ARE FOR CONVENIENCE ONLY AND DO NOT LIMIT THE APPLICATION OF THE DRAWING OR DETAIL. THE WORK SHOWN ON ONE DRAWING OR DETAIL IS APPLICABLE THROUGHOUT THE PROJECT WHETHER IDENTIFIED OR NOTED AS TYPICAL OR NOT.
7. SAFEGUARD THE OWNER'S PROPERTY AND ADJACENT PROPERTIES DURING CONSTRUCTION. REPLACE ANY DAMAGED PROPERTIES TO THE ORIGINAL CONDITION.
8. MANUFACTURER'S NAMES AND MODEL NUMBERS ARE USED TO PROVIDE AN INDICATION OF QUALITY, STYLE, AND SIZE DESIRED. OTHER MANUFACTURER'S MODELS OF EQUIVALENT QUALITY, STYLE, AND SIZE THAT ARE DETERMINED BY THE GOVERNMENT TO BE EQUAL ARE ACCEPTABLE, UNLESS NOTED OTHERWISE. REFER TO PROJECT MANUAL FOR THOSE AREAS WHERE OTHER THAN SPECIFIED PRODUCTS WILL BE CONSIDERED.
9. PROVIDE LABOR, MATERIALS, AND SUPERVISION NECESSARY TO ACCOMPLISH THE WORK AS SPECIFIED AND SHOWN ON THE DRAWINGS.
10. COORDINATE ALL PIPING INSTALLATIONS WITH OTHER TRADES. PAY PARTICULAR ATTENTION TO EQUIPMENT SYMBOLS, NOTES, DRAWING LINE WEIGHTS, AND THE WRITTEN SPECIFICATIONS FOR DELINEATION OF RESPONSIBILITIES BETWEEN THIS CONTRACT, OTHER TRADES, AND PRIME CONTRACTS.
11. CUT, CHANNEL, CHASE, AND DRILL FLOORS, WALLS, PARTITIONS, CEILINGS, AND OTHER SURFACES NECESSARY FOR INSTALLATIONS. PERFORM CUTTING BY SKILLED MECHANICS OF TRADES INVOLVED. COORDINATE REQUIREMENTS WITH THE GENERAL CONTRACTOR.
12. PROVIDE FIRESTOPPING FOR ALL "FIRE-RESISTANCE-RATED ASSEMBLIES", INCLUDING BOTH EMPTY OPENINGS AND OPENINGS CONTAINING PENETRATING ITEMS IN FLOORS, WALLS, AND PARTITIONS. FIRESTOP ALL PENETRATIONS THROUGH FLOORS AND CORRIDOR WALLS; RATED AND NON-RATED.
13. DO NOT LOCATE PIPING OVER ELECTRICAL EQUIPMENT OR IN CLEARANCE SPACE INDICATED ON PLANS.
14. ALL PIPING MUST BE FLUSHED AND TESTED. DISINFECT ALL POTABLE WATER LINES.
15. ALL SANITARY SEWER PIPING MUST BE PROVIDED WITH A MINIMUM SLOPE OF 1/4" PER FOOT.
16. ALL PIPING MUST BE CONCEALED WITHIN WALLS, PIPE SPACES, AND HUNG ABOVE CEILINGS, EXCEPT IN MECHANICAL SPACES OR WHERE NOTED.
17. REPAIR TO ORIGINAL CONDITION ANY AND ALL DAMAGES TO BUILDING SURFACES, EQUIPMENT, AND FURNISHINGS CAUSED DURING PERFORMANCE OF WORK.
18. PREPARE AND PRIME SURFACES OF ALL BARE FERROUS COMPONENTS (I.E. PIPE HANGERS AND SUPPORTS). PRIME SCRATCHED OR MARKED SURFACES OF FACTORY OR SHOP PRIMED MATERIALS. PROVIDE TOUCH UP TO SCRATCHED OR MARKED FACTORY PAINTED SURFACES.
19. ALL EQUIPMENT AND CONTROL MECHANISMS MUST BE PIPED THROUGH UNION CONNECTIONS.
20. PROVIDE ALL NECESSARY BRACING TO COMPLY WITH THE CURRENT SEISMIC CODES.
21. PROVIDE ALL OPERATION AND MAINTENANCE MANUALS TO BUILDING OWNER.
22. PROVIDE A COMPLETE SET OF AS-BUILT MARKUP DRAWINGS TO THE ENGINEER AT THE END OF THE CONSTRUCTION FOR AS-BUILT DRAWING PRODUCTION.

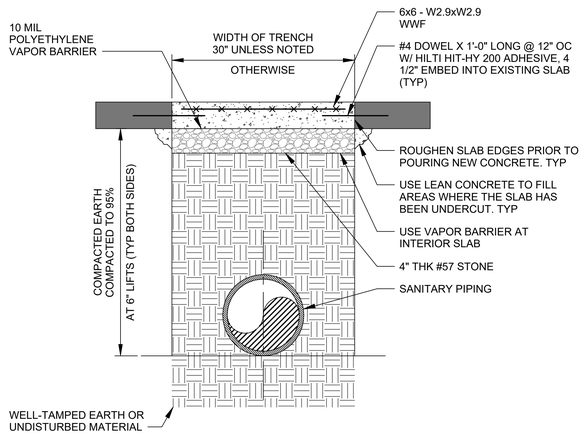
PLUMBING FIXTURE SCHEDULE

TAG	FIXTURE	MFTR	MODEL	DCW DIA	DHW DIA	SS DIA	REMARKS
FCO	FLOOR CLEANOUT	ZURN	Z1400			4"	LACQUERED CAST IRON BODY

NOTE:
1. SCHEDULED MFTR AND MODEL NUMBER ARE BASIS OF DESIGN ONLY. OTHER MANUFACTURER'S MODELS OF EQUIVALENT QUALITY, STYLE, AND SIZE THAT ARE DETERMINED BY THE GOVERNMENT TO BE EQUAL ARE ACCEPTABLE.



1 FLOOR CLEANOUT DETAIL
SCALE: NOT TO SCALE



2 BACKFILL AND SLAB REPAIR DETAIL
SCALE: NOT TO SCALE

GENERAL NOTES

1. CONCRETE OR REBAR FROM SPOILS MUST NOT BE USED FOR BACKFILL.

CONCRETE

1. CONCRETE MUST BE NORMAL WEIGHT, UNLESS OTHERWISE SPECIFIED.
2. CONCRETE COMPRESSIVE STRENGTH MUST MEET A MINIMUM OF 4,000 PSI AT 28 DAYS FOR ALL CONCRETE MEMBERS, UNLESS OTHERWISE SPECIFIED.
3. CONCRETE WATER/CEMENT RATIO MUST NOT EXCEED A VALUE OF 0.5.
4. MAXIMUM AGGREGATE SIZE MUST NOT EXCEED 3/4 INCH.
5. CONCRETE, AT THE TIME OF DELIVERY, MUST HAVE A TARGET SLUMP OF 4 INCHES +/- 1 INCH.
6. WITH ENGINEER APPROVAL, SUPERPLASTICIZER MAY BE ADDED ON SITE TO CONCRETE TO INCREASE SLUMP AND AID IN CONCRETE WORKABILITY.
7. CONCRETE IS TO BE MECHANICALLY VIBRATED IN ACCORDANCE WITH ACI-309R.
8. MINIMUM CLEAR COVER FOR REINFORCEMENT IN SLABS, BEAMS, WALLS, AND COLUMNS MUST BE 1 INCH, UNLESS OTHERWISE SPECIFIED.
9. MINIMUM CLEAR COVER FOR REINFORCEMENT CAST AGAINST EARTH IN FOOTINGS, SLABS ON GRADE, AND DEEP FOUNDATIONS MUST BE 3 INCHES, UNLESS OTHERWISE SPECIFIED.
10. GROUT USED MUST BE A CEMENTITIOUS, NON-SHRINK GROUT WITH A MINIMUM COMPRESSIVE STRENGTH EQUAL TO DOUBLE THAT OF THE UNDERLYING CONCRETE COMPRESSIVE STRENGTH.
11. CONTROL JOINTS MUST BE 1/4 DEPTH OF SLAB OR 1" MIN AND LOCATED AT THE POSITIONS INDICATED ON THE DRAWINGS. CONTROL JOINTS IN PATCHED CONCRETE SLAB MUST MATCH THE EXISTING CONTROL JOINTS.

REINFORCING STEEL

1. REINFORCING STEEL MATERIALS MUST CONFORM TO ASTM A615 GRADE 60.
2. LAP CONTINUOUS REINFORCING STEEL 40 BAR DIAMETERS, UNLESS OTHERWISE NOTED.

LBE Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

SOUTH CAROLINA LBE INC No. 5392 CERTIFICATE OF AUTHORITY

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY:	DRAWN BY:	CHK BY:	DATE
ATH	ATH	HCG	OCTOBER 2025
SUPV	PROJ ENGR		
NJP	JP/JB		

SEAL AREA

STATE OF SOUTH CAROLINA No. 22384 10/06/2025 HOWARD C. GIGGS, JR.

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
PLUMBING GENERAL NOTES

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION

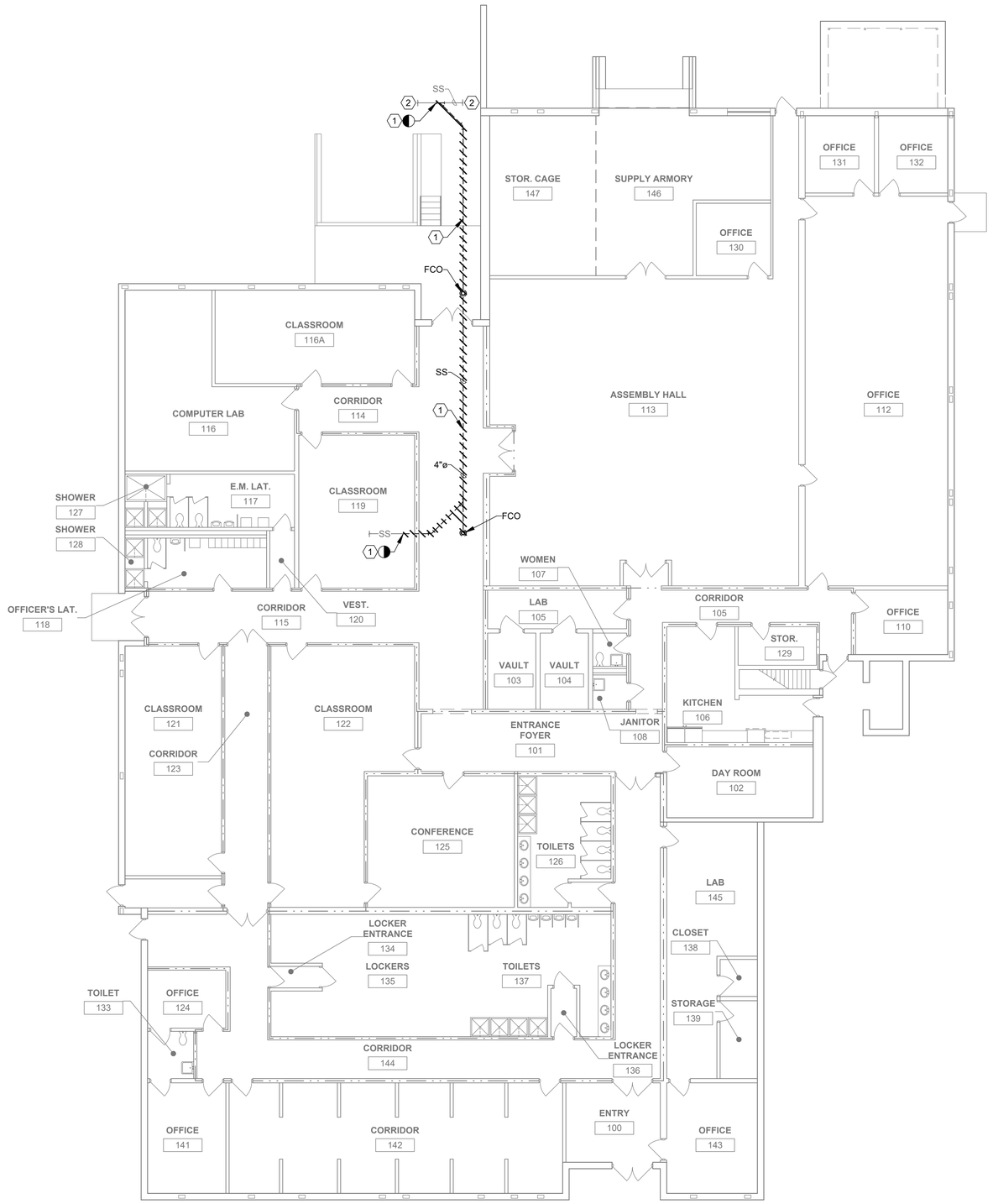
GENERAL NOTES

1. ALL PLAN DATA BASED ON SITE SURVEY AND GOVERNMENT PROVIDED DRAWINGS. CONTRACTOR MUST VERIFY AND BECOME TOTALLY FAMILIAR WITH ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK.

KEYNOTES

1 DEMOLISH SECTION OF SANITARY PIPE. CONTRACTOR TO VERIFY EXACT LOCATION.

2 SEE CIVIL DRAWINGS FOR CONTINUATION.



1 FIRST FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

0' 4' 8' 16'
SCALE: 1/8"=1'-0
GRAPHIC SCALE

LBE Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: ATH
DRAWN BY: ATH
CHK'D BY: HCG
SUPV: MJP
PROJ ENGR: JPJ&B
DATE: OCTOBER 2025

SEAL AREA

STATE OF NORTH CAROLINA
No. 22384
10/06/2025
PROFESSIONAL ENGINEER
HOWARD C. GIGGER, JR.

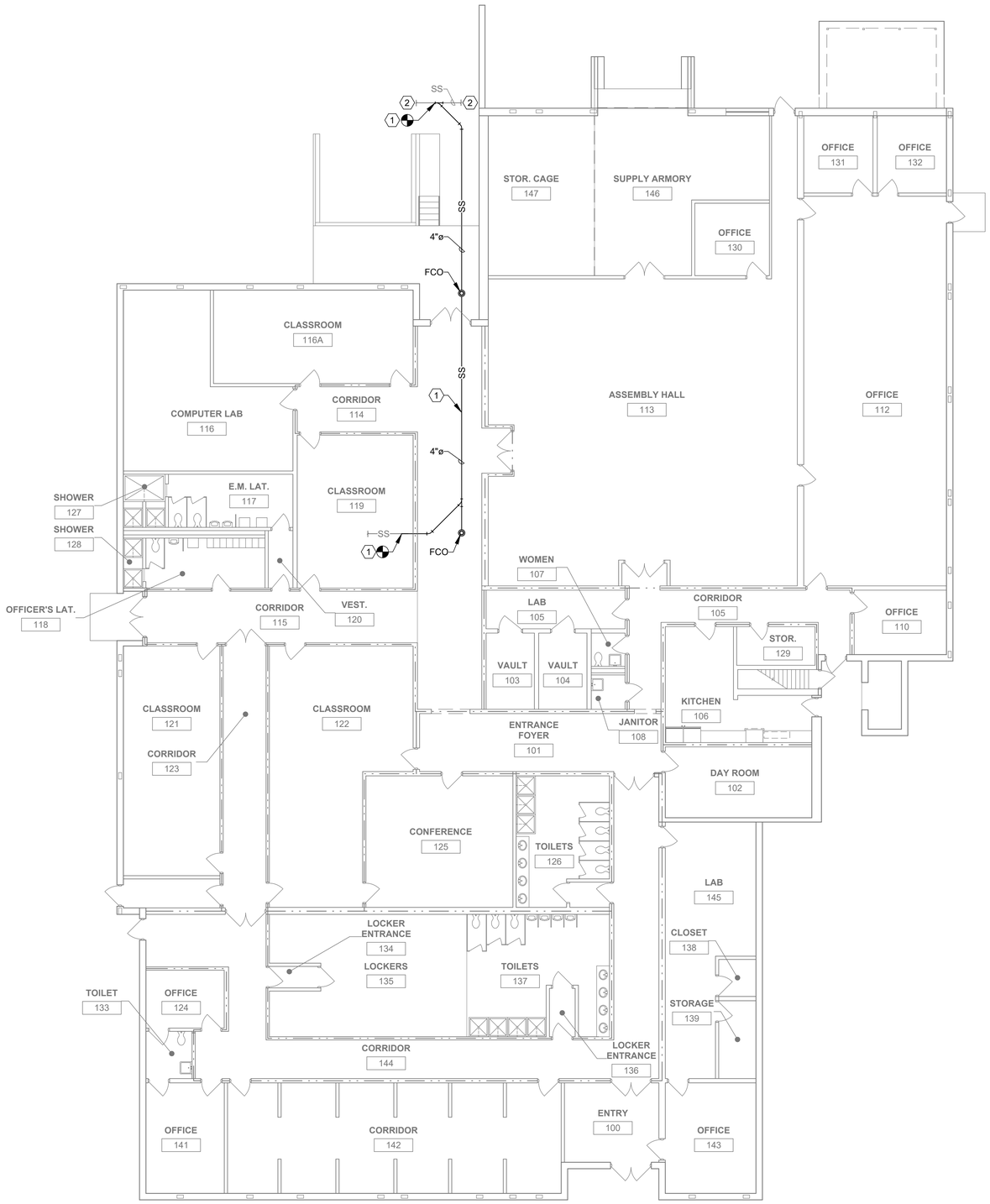
DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
FIRST FLOOR PLUMBING DEMOLITION PLAN

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 16 OF 37
PD101

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION



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

GENERAL NOTES

1. ALL PLAN DATA BASED ON SITE SURVEY AND GOVERNMENT PROVIDED DRAWINGS. CONTRACTOR MUST VERIFY AND BECOME TOTALLY FAMILIAR WITH ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK.

KEYNOTES

1 PROVIDE SANITARY PIPING AS SHOWN. TRENCH INFILL MUST MATCH FILL OF ADJACENT AREAS. SEE BACKFILL AND SLAB REPAIR DETAIL ON P-001.

2 SEE CIVIL DRAWINGS FOR CONTINUATION.

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DESIGN BY: ATH
DRAWN BY: ATH
CHK BY: HCG
SUPV: NJP
PROJ ENGR: JPJ&B
DATE: OCTOBER 2025

SEAL AREA

No. 22384
10/06/2025

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
FIRST FLOOR PLUMBING PLAN

LBE INC
No. 5392

PLAN NORTH

0' 4' 8' 16'
SCALE: 1/8"=1'-0
GRAPHIC SCALE

LBE
Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 17 OF 37
P-101

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION

MECHANICAL LEGEND

- EXISTING MECHANICAL (HALFTONE)
- NEW WORK
- W"xD" — RECTANGULAR DUCTWORK, WIDTH x DEPTH
- D"Ø — ROUND DUCTWORK, DIAMETER
- TO BE REMOVED/DEMOLISHED
- SUPPLY DIFFUSER
- RETURN GRILLE
- EXHAUST GRILLE
- SUPPLY DUCT, UP OR DOWN
- RETURN DUCT, UP OR DOWN
- EXHAUST DUCT, UP OR DOWN
- FLEXIBLE DUCT - MAX 5' LONG. SEE AIR DISTRIBUTION SCHEDULE FOR SIZES
- SINGLE THICKNESS TURNING VANES ELBOW, TURNING VANES
- MANUAL VOLUME DAMPER
- DUCT TRANSITION
- X|### — AIR DISTRIBUTION CALLOUT. SEE AIR DISTRIBUTION SCHEDULE.
- POINT OF DISCONNECTION BETWEEN EXISTING TO REMAIN AND EXISTING TO BE REMOVED
- POINT OF CONNECTION BETWEEN NEW AND EXISTING
- # — KEYNOTE
- (E) ROOF DRAIN
- FIRE RATED PARTITION. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATINGS.
- FIRE DAMPER

MECHANICAL CODES

- 2021 INTERNATIONAL MECHANICAL CODE (IMC)
- UFC 3-400-02 DESIGN: ENGINEERING WEATHER DATA, WITH CHANGE 2
- UFC 3-401-01 MECHANICAL ENGINEERING, WITH CHANGE 1
- UFC 3-410-01 HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS, WITH CHANGE 9
- UFC 3-410-02 DIRECT DIGITAL CONTROL FOR HVAC AND OTHER BUILDING CONTROL SYSTEMS, WITH CHANGE 2

MECHANICAL ABBREVIATIONS

(E)	EXISTING
AABC	ASSOCIATED AIR BALANCE COUNCIL
ADJ	ADJUSTABLE
ADPI	AIRFLOW DIFFUSION PERFORMANCE INDEX
AFMS	AIRFLOW MEASURING STATION
AHU	AIR HANDLING UNIT
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS
ASJ	ALL SERVICE JACKET
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATFP	ANTITERRORISM FORCE PROTECTION
AWS	AMERICAN WELDING SOCIETY
Btu/h	BRITISH THERMAL UNITS PER HOUR
BV	BALL VALVE
CD	CONDENSATE
CFM	CUBIC FEET PER MINUTE
DB	DRY BULB
DCW	DOMESTIC COLD WATER
DEG	DEGREE
DN	DOWN
DP	DIFFERENTIAL PRESSURE
DS	DISCONNECT SWITCH
DSA	DUCT SOUND ATTENUATOR
DT	TEMPERATURE DIFFERENTIAL
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFECTIVE
ESP	EXTERNAL STATIC PRESSURE
EST	ESTIMATED
F	FAHRENHEIT
FD	FLOOR DRAIN
FD	FIRE DAMPER
FPS	FEET PER SECOND
FT	FOOT/FEET
HP	HORSEPOWER
HP	HEAT PUMP
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
IAW	IN ACCORDANCE WITH
IN	INCH
IPLV	INTEGRATED PART LOAD VALUE
IV	ISOLATION VALVE
LAT	LEAVING AIR TEMPERATURE
MAX	MAXIMUM
MBH	THOUSANDS BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MDP	MAIN DISTRIBUTION PANEL
MFTR	MANUFACTURER
MIN	MINIMUM
MOD	MOTOR OPERATED DAMPER
MOP	MAXIMUM OVERCURRENT PROTECTION
NA	NOT APPLICABLE
NC	NOISE CRITERIA
NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
OA	OUTDOOR AIR
OAT	OUTDOOR AIR TEMPERATURE
OBD	OPPOSED BLADE DAMPER
P.D.	PRESSURE DIFFERENTIAL
PA	PASCAL
PCF	POUNDS PER CUBIC FOOT
PNL	PANEL
PSI	PRESSURE PER SQUARE INCH
PSIA	ABSOLUTE PRESSURE
PSIG	GAUGE PRESSURE
RA	RETURN AIR
RPM	ROTATIONS PER MINUTE
S&D	SLIP AND DRIVE
SA	SUPPLY AIR
SENS	SENSIBLE
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION
SP	STATIC PRESSURE
T-STAT	THERMOSTAT
TAB	TEST AND BALANCE
TEMP	TEMPERATURE
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
V/Ø/HZ	VOLTAGE/PHASE/HERTZ
VAV	VARIABLE AIR VOLUME TERMINAL UNIT
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
WB	WET BULB
WG	WATER GAUGE
WWF	WELDED WIRE FABRIC
XFMR	TRANSFORMER

MECHANICAL GENERAL NOTES

DEMOLITION NOTES

1. ALL ITEMS SHOWN WITH HATCHED DARK LINES INDICATE ITEMS TO BE DEMOLISHED. ALL ITEMS SHOWN AS HALFTONE LINES ARE EXISTING TO REMAIN. SEE DEMOLITION NOTES FOR SPECIFIC INFORMATION.
2. LOCATION OF EXISTING EQUIPMENT, DUCTWORK, AIR OUTLETS, CONTROLS, AND ALL CONCEALED WORKS, ETC. ARE APPROXIMATE. EXAMINE THE SITE PRIOR TO CONSTRUCTION AND AFTER DEMOLITION HAS EXPOSED "AS-BUILT" CONDITIONS TO VERIFY EACH AIR OUTLET AND EQUIPMENT LOCATION. MAKE ADJUSTMENTS AND/OR ALTERATIONS AS NECESSARY TO INSTALL COMPLETE AND OPERABLE SYSTEMS IN ACCORDANCE WITH THE APPLICABLE CODES.
3. ALL OPENINGS AND SURFACES MADE BARE BY DEMOLITION AND/OR REMOVAL OF AIR OUTLETS, EQUIPMENT, CONTROLS, ETC. MUST BE REPAIRED AND/OR PATCHED TO MATCH ADJACENT FINISH. ALL REPAIRS AND NEW FINISH MUST BE BY TRADES SKILLED IN FINISH WORKS UNDER EMPLOY OF THE GENERAL CONTRACTOR.
4. DURING THE LIFE OF THE CONTRACT (CONSTRUCTION AND DEMOLITION TO POINT OF BENEFICIAL OCCUPANCY BY OWNER), PROTECT ALL SYSTEMS OR PORTIONS OF SYSTEMS TO REMAIN FOR REUSE FROM DAMAGE. ALL SYSTEMS INCLUDED IN THIS CONTRACT MUST BE TESTED IN SERVICE AFTER COMPLETION OF THE CONTRACT.
5. NOT ALL CONTROL CIRCUITS AND DEVICES ARE INDICATED. FOR EACH CONTROL DEVICE, THERE IS A CIRCUIT OR FEEDER BACK TO THE POINT OF ORIGIN. WHERE WALLS, FLOORS, OR CEILINGS ARE TO BE DEMOLISHED, ALL MATERIAL, SURFACE OR FLUSH MOUNTED THEREON, MUST BE REMOVED, UNLESS INDICATED OR REQUIRED TO REMAIN TO SERVE A DEVICE.
6. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. COORDINATE ALL DEMOLITION WITH ALL TRADES INVOLVED.
7. EXISTING PIPING AND/OR CONDUIT RUN CONCEALED IN FLOOR SLAB OR UNDERGROUND AND NOT INDICATED OR SPECIFIED FOR REUSE IN NEW WORK MUST BE ABANDONED, UNLESS NOTED OTHERWISE. CUT PIPING AND/OR CONDUIT AT FLOOR AND MINIMUM 12" BELOW GRADE.
8. CONTRACTOR MUST REMOVE/DISPOSE OF REFRIGERANT/HVAC EQUIPMENT IN ACCORDANCE WITH 40 CFR PART 82, SUBPART F; CONTRACTOR RESPONSIBLE FOR REFRIGERANT CONTAINERS, RECOVERY, AND DISPOSAL COSTS AND RECORD KEEPING REQUIREMENTS; TO BE BUDGETED IN CONTRACTOR'S BID. PROVIDE COPY OF DISPOSAL RECORDS TO 628 CES/CEIE AIR PROGRAM MANAGER. (POC: SHARON BUNCH, 843-963-1437/SHARON.BUNCH@US.AF.MIL)
9. REMOVED CLASS II ODS'S (HCFC-22) AND/OR HYDROFLUOROCARBONS (HFCS) R-410A MUST REMAIN PROPERTY OF THE GOVERNMENT AND MUST BE SHIPPED BY THE CONTRACTOR DIRECTLY TO THE DOD OZONE DEPLETING SUBSTANCES (ODS) RESERVE IN VIRGINIA. ODS RESERVE DOES NOT ACCEPT CONTAINERS FILLED WITH CROSS CONTAMINATED/MIXED REFRIGERANT TYPES; CONTRACTOR IS RESPONSIBLE FOR DISPOSAL COSTS IF SUCH CONTAINERS ARE SHIPPED/RECEIVED. CONTRACTOR MUST CONTACT THE ODS RESERVE TO CONFIRM ACCEPTANCE OF ANY OF THE LISTED CLASS II ODS AND/OR HFCS PRIOR TO SHIPMENT. ODS RESERVE CONTACT INFORMATION AND TURN-IN PROCEDURES ARE AVAILABLE VIA THE FOLLOWING LINK: HTTPS://WWW.DLA.MIL/AVIATION/OFFERS/SERVICES/AVIATIONENGINEERING/OZONEDEPRSRV.ASPX

NEW WORK NOTES

1. OBTAIN AND PAY FOR ALL REQUIRED PERMITS.
2. VERIFY CEILING IN THE FIELD FOR EXACT LAYOUT LOCATION OF ALL CEILING DIFFUSERS AND GRILLES. COORDINATE WITH ALL OTHER TRADES FOR THEIR LAYOUTS.
3. PROTECT ALL OPENINGS IN DUCTWORK DURING CONSTRUCTION.
4. COORDINATE ALL WORK AND EQUIPMENT WITH ALL OTHER TRADES.
5. COORDINATE ALL ROOF PENETRATION SIZES AND LOCATIONS WITH APPROVED EQUIPMENT SHOP DRAWINGS.
6. PROVIDE ACCESS DOORS IN INACCESSIBLE CEILINGS TO ACCESS MEP DEVICES ABOVE CEILINGS NOT OTHERWISE ACCESSIBLE.
7. THE MECHANICAL CONTRACTOR MUST COORDINATE WITH THE GENERAL CONTRACTOR AND OTHER TRADES FOR REQUIRED OPENINGS IN WALLS, FOUNDATIONS, FLOORS, AND ROOFS.
8. DO NOT ROUTE ANY WET PIPING THROUGH ELECTRICAL OR SERVER ROOMS.
9. KEEP MECHANICAL SYSTEMS TIGHT TO STRUCTURE AT ALL TIMES.
10. INSTALL DIELECTRIC UNIONS AT CONNECTIONS OF DISSIMILAR METALS.
11. PROVIDE ALL OPERATION AND MAINTENANCE MANUALS TO BUILDING OWNER.
12. FABRICATE ALL DUCTWORK IN ACCORDANCE WITH SMACNA STANDARDS. ALL DUCTWORK MUST BE A MINIMUM OF 26 GAUGE.
13. REFER TO AIR DEVICE SCHEDULE FOR INLET DUCT SIZES, UNLESS OTHERWISE INDICATED.
14. FLEXIBLE DUCT LENGTH MUST NOT EXCEED FIVE (5) FEET. FLEX DUCT MUST NOT BE USED AS AN ELBOW.
15. AVOID ROUTING DUCTWORK OVER LIGHTS WHEREVER POSSIBLE. MAINTAIN MINIMUM 6" CLEARANCE BETWEEN DUCT INSULATION TO TOP OF LIGHTS.
16. PROVIDE MANUAL VOLUME DAMPERS AT EACH DUCT BRANCH LEADING TO AN INLET/OUTLET OPENING. INSTALL DAMPERS AS FAR AS POSSIBLE AWAY FROM THE DIFFUSER.
17. ALL 90 AND 45 DEGREE ELBOWS MUST HAVE TURNING VANES (DO NOT INCLUDE AT RADIUS TURNS OFF THE DISCHARGE OF AIR HANDLING UNITS).
18. DUCT PRESSURE CLASSIFICATION MUST BE AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS. IF NOT INDICATED, IT MUST BE AS FOLLOWS:
    A. SUPPLY DUCTS: 2" POSITIVE
    B. RETURN DUCTS: 2" NEGATIVE
    C. EXHAUST DUCTS: 2" NEGATIVE
19. ALL DUCTWORK JOINTS AND SEAMS MUST BE SEALED WITH GRAY WATER-BASED DUCT SEALANT.
20. PROVIDE WATERPROOF SEALING OF PIPE AND DUCT PENETRATIONS OF EXTERIOR WALLS, FLOORS, AND/OR ROOF.
21. RUN ALL PIPING CONCEALED ABOVE CEILING, UNLESS NOTED OTHERWISE.
22. PROVIDE INSULATED TRAPPED CONDENSATION DRAIN PIPING, WITH AIR GAPS, FROM COOLING COIL DRAIN PANS TO NEAREST ROOF DRAIN.
23. OUTSIDE AIR INLETS MUST BE LOCATED A MINIMUM OF 10 FT FROM ANY EXHAUST AIR OUTLET OR PLUMBING VENT STACK. COORDINATE WITH THE PLUMBING AND THE GENERAL CONTRACTORS IN THE FIELD. OUTSIDE AIR INTAKES FOR BUILDING VENTILATION MUST BE LOCATED A MINIMUM OF 10 FT ABOVE GRADE. OUTSIDE AIR INLETS MUST HAVE MOTORIZED DAMPERS CONNECTED TO THE DDC SYSTEM PER AT/FP REQUIREMENTS.
24. COORDINATE FINAL EQUIPMENT/FIXTURE LOCATIONS WITH THE GENERAL CONTRACTOR. THE LOCATION AS INDICATED ON THE DRAWING IS APPROXIMATE. INSTALL ALL MECHANICAL EQUIPMENT SUCH THAT MANUFACTURER'S MAINTENANCE AREA IS CLEAR.
25. THE MECHANICAL CONTRACTOR MUST VERIFY MECHANICAL EQUIPMENT LOCATIONS AND BE RESPONSIBLE FOR ALL RELATED CLEARANCES IN THE FIELD. PROVIDE ADEQUATE MAINTENANCE CLEARANCE AROUND EACH PIECE OF EQUIPMENT PER THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE CLEARANCE IN FRONT OF ELECTRICAL PANELS AND OTHER ELECTRICAL EQUIPMENT PER THE NATIONAL ELECTRICAL CODE REQUIREMENTS. COORDINATE WITH THE ELECTRICAL AND GENERAL CONTRACTORS IN THE FIELD.
26. PROVIDE VFDS, STARTERS, AND DISCONNECT SWITCHES FOR ALL MECHANICAL EQUIPMENT WHICH COMPLY WITH SPECIFICATIONS FOR MANUFACTURER, QUALITY, CONFORMANCE, AND OPTIONS.
27. REFER TO ELECTRICAL DRAWINGS FOR ALL ELECTRICAL REQUIREMENTS FOR EQUIPMENT.
28. PROVIDE FLEXIBLE DUCT FLEXIBLE CONNECTION BETWEEN EACH DUCT FAN CONNECTION.
29. VERIFY COLLAR SIZES ON ALL EQUIPMENT INLETS AND OUTLETS. TRANSITION DUCTWORK AS NECESSARY. EXTERNALLY INSULATE ALL TRANSITIONS AT EQUIPMENT CONNECTIONS.
30. PROVIDE FLEXIBLE DUCT, PIPE CONNECTIONS, AND VIBRATION ISOLATORS FOR INTERNALLY ISOLATED UNITS.
31. DO NOT MOUNT DISCONNECT SWITCHES ON HVAC EQUIPMENT EXCEPT AS RECOMMENDED BY MANUFACTURER.
32. PRIOR TO STARTUP OF AIR HANDLING SYSTEMS, INSTALL AND MAINTAIN TEMPORARY FILTERS OVER ALL RETURN, EXHAUST, AND RELIEF GRILLES AND OPENINGS. FILTRATION MEDIUM MUST HAVE A RATING OF MERV 8 OR BETTER.
33. PROVIDE FIRE/SMOKE DAMPERS AT ALL DUCT PENETRATIONS OF ALL FIRE/SMOKE RATED ASSEMBLIES TO MAINTAIN THE INTEGRITY OF THE ASSOCIATED FIRE/SMOKE ASSEMBLY. FIRE DAMPERS MUST BE INSTALLED IN STRICT ACCORDANCE WITH UL LISTED MANUFACTURER WRITTEN INSTALLATION INSTRUCTIONS.
34. FIRESTOP/SMOKESTOP AND SLEEVE ALL PENETRATIONS THROUGH FIRE/SMOKE RATED ASSEMBLIES. REFER TO ARCHITECTURAL DRAWINGS FOR RATED ASSEMBLIES AND LOCATIONS.
35. ALL DUCTWORK AND PIPING PENETRATING THROUGH RATED WALLS MUST BE FIRESTOPPED.
36. PENETRATIONS THROUGH FIRE RATED FLOORS AND WALLS MUST BE FIRE-SEALED TO MAINTAIN FLOOR OR WALL INTEGRITY IN THE EVENT OF A FIRE.
37. PROVIDE ALL NECESSARY MECHANICAL EQUIPMENT BRACING TO COMPLY WITH THE CURRENT SEISMIC CODES FOR THIS GEOGRAPHIC AREA.
38. PROVIDE A COMPLETE SET OF AS-BUILT MARKUP DRAWINGS AT THE END OF THE CONSTRUCTION FOR AS-BUILT DRAWING PRODUCTION.

LBE
Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

SOUTH CAROLINA
LBE INC
No. 5392
CERTIFICATE OF AUTHORITY

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY:	DRAWN BY:	CHK BY:	DATE
ATH	ATH	HCG	OCTOBER 2025
SLP		PROJ ENGR	
MJP		JPJ&B	

SEAL AREA

STATE OF SOUTH CAROLINA
No. 22384
10/06/2025
MICHAEL J. PIERCE
REGISTERED PROFESSIONAL ENGINEER

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON
FAMULUS OMNIS

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
MECHANICAL GENERAL NOTES

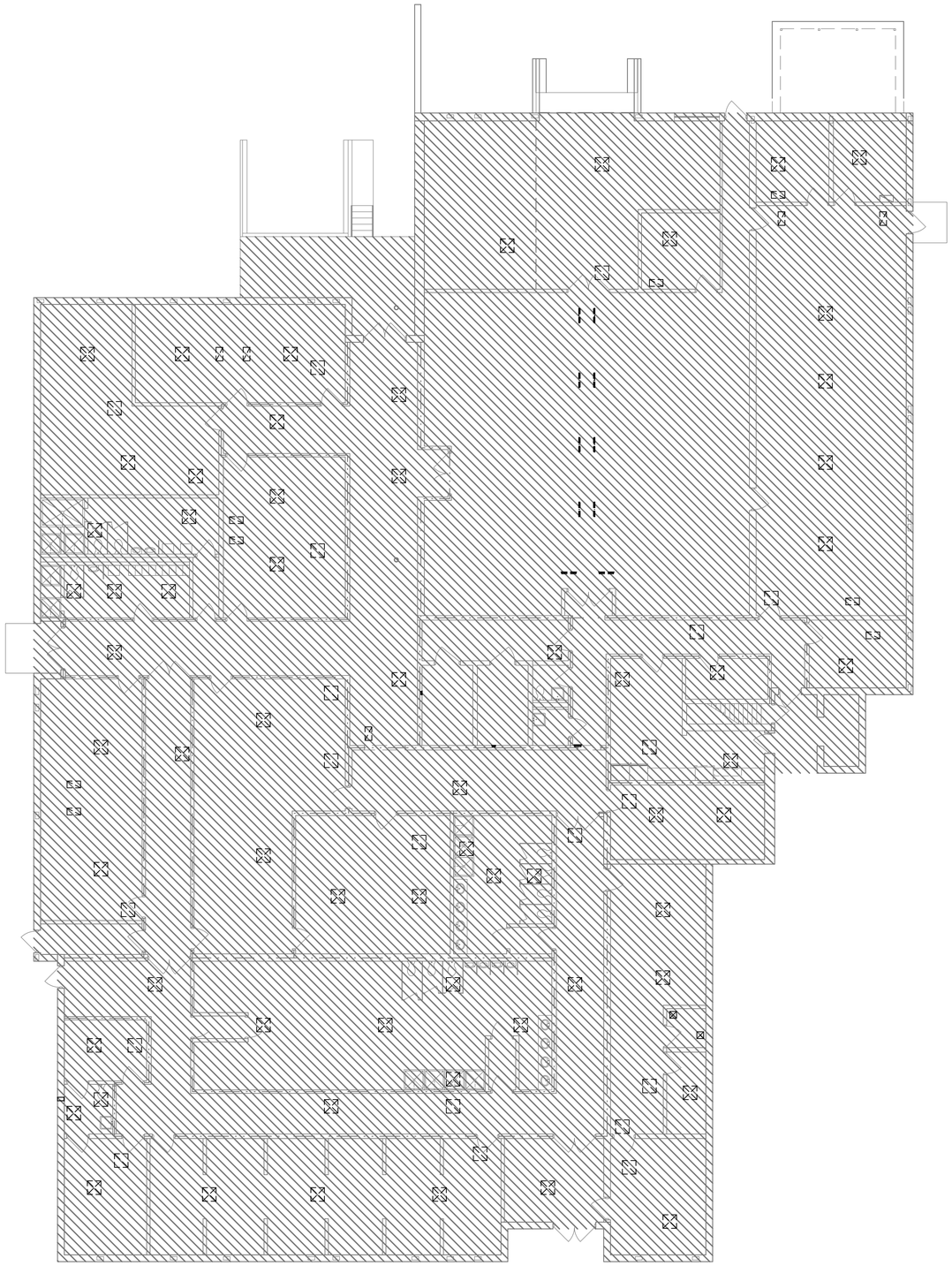
BUILDING GLOBAL STRENGTH
628th CIVIL ENGINEER SQUADRON

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 18 OF 37
M-001

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION

GENERAL NOTES

1. ALL PLAN DATA BASED ON SITE SURVEY AND GOVERNMENT PROVIDED DRAWINGS. CONTRACTOR MUST VERIFY AND BECOME TOTALLY FAMILIAR WITH ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK.
2. DEMOLISH ALL INTERIOR MECHANICAL EQUIPMENT, PIPING, DUCTWORK, INSULATION, AND ASSOCIATED CONTROLS WITHIN THE BUILDING COMPLETE. INTERIOR DEMOLITION TO INCLUDE APPROXIMATELY 68 SUPPLY DIFFUSERS, 36 RETURN GRILLES, AND 9 EXHAUST GRILLES.



1 FIRST FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

0' 4' 8' 16'
SCALE: 1/8"=1'-0
GRAPHIC SCALE

LBE Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY:	DRAWN BY:	CHK BY:	DATE
ATH	ATH	HCG	OCTOBER 2025
RJP	PROJ ENGR		
NJP	JPJB		

SEAL AREA

STATE OF SOUTH CAROLINA
No. 22384
10/06/2025
JOHN P. GIGGEY, JR.

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND

NAVAL RESERVE CENTER B3370

FIRST FLOOR MECHANICAL DEMOLITION PLAN

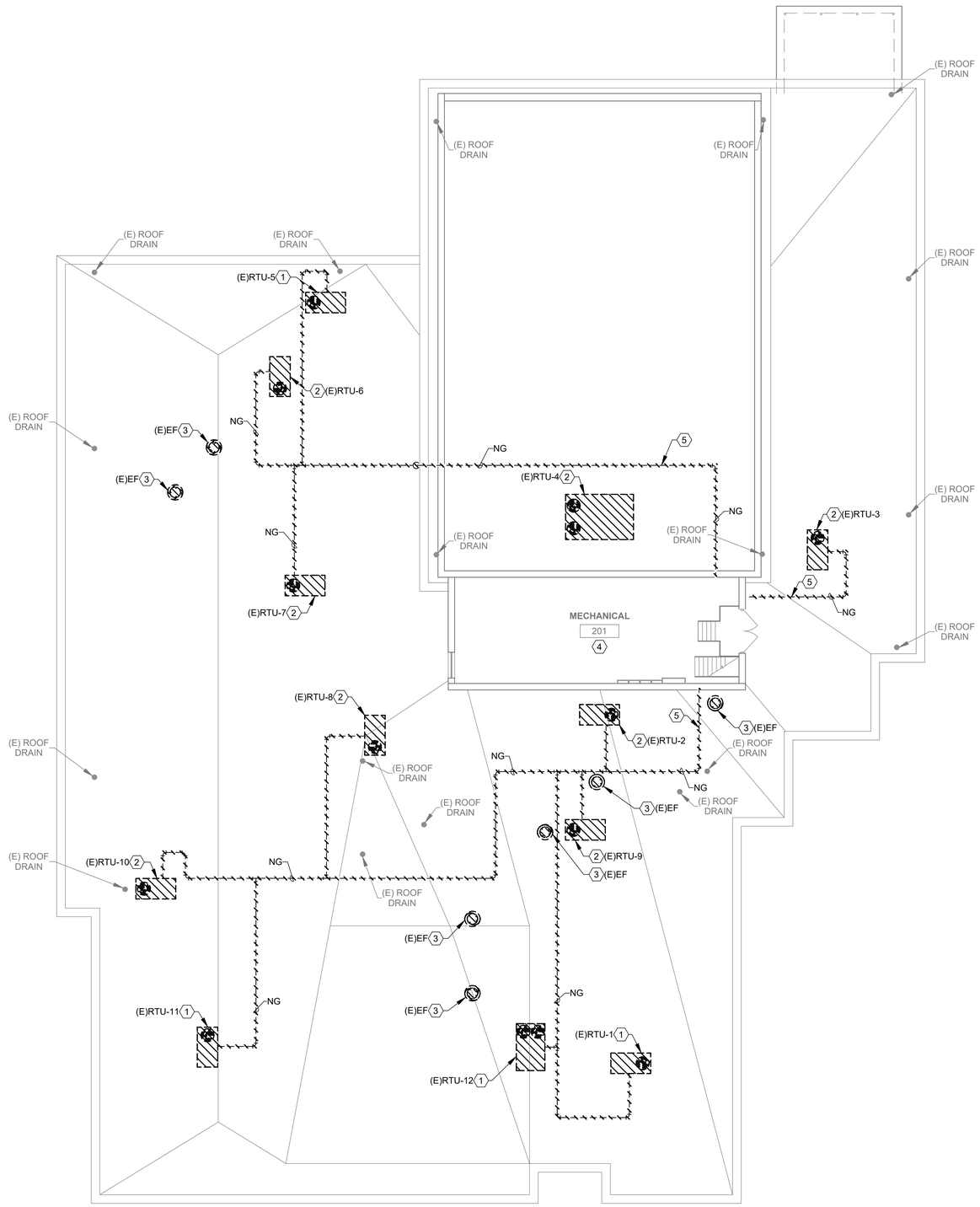
STATE OF SOUTH CAROLINA
LBE INC
No. 5392
CERTIFICATE OF AUTHORIZATION

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE

SHEET 19 OF 37

MD101

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION



1 ROOF DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. ALL PLAN DATA BASED ON SITE SURVEY AND GOVERNMENT PROVIDED DRAWINGS. CONTRACTOR MUST VERIFY AND BECOME TOTALLY FAMILIAR WITH ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK.

KEYNOTES

1 DEMOLISH ROOFTOP PACKAGED UNIT AND ALL ASSOCIATED CONTROLS, DUCTWORK, AND PIPING. CAP AND SEAL EXISTING CURBS AND PENETRATIONS WATER-TIGHT. SEE VIEW 9/M-501.

2 DEMOLISH ROOFTOP PACKAGED UNIT AND ALL ASSOCIATED CONTROLS, DUCTWORK, AND PIPING. PROTECT EXISTING CURB TO BE REUSED IN NEW WORK. CONTRACTOR MUST FIELD VERIFY DIMENSIONS AND DUCT CONNECTION ARRANGEMENTS PRIOR TO MANUFACTURING THE CURB ADAPTERS FOR THE NEW ROOFTOP UNITS.

3 DEMOLISH EXHAUST FAN. CAP AND SEAL PENETRATION WATERTIGHT.

4 MECHANICAL SPACE IS BELOW THE ROOF LEVEL. ADDITIONAL EQUIPMENT IN SPACE IS OMITTED FOR CLARITY.

5 DEMOLISH NATURAL GAS PIPING BACK TO MECHANICAL SPACE AND CAP AIRTIGHT. EXISTING NATURAL GAS PIPING TO WATER HEATERS TO REMAIN.

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: ATH
DRAWN BY: ATH
CHK BY: HCG
SUPV: MJP
PROJ ENGR: JPJ&B
DATE: OCTOBER 2025

SEAL AREA

STATE OF NORTH CAROLINA
No. 22384
10/06/2025
HOWARD C. GIGGER, JR.

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND

NAVAL RESERVE CENTER B3370

ROOF MECHANICAL DEMOLITION PLAN

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION

LBE
Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

SOUTH CAROLINA
LBE INC
No. 5392
CERTIFICATE OF AUTHORIZATION

PLAN NORTH

0' 4' 8' 16'
SCALE: 1/8"=1'-0
GRAPHIC SCALE

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE

SHEET 20 OF 37

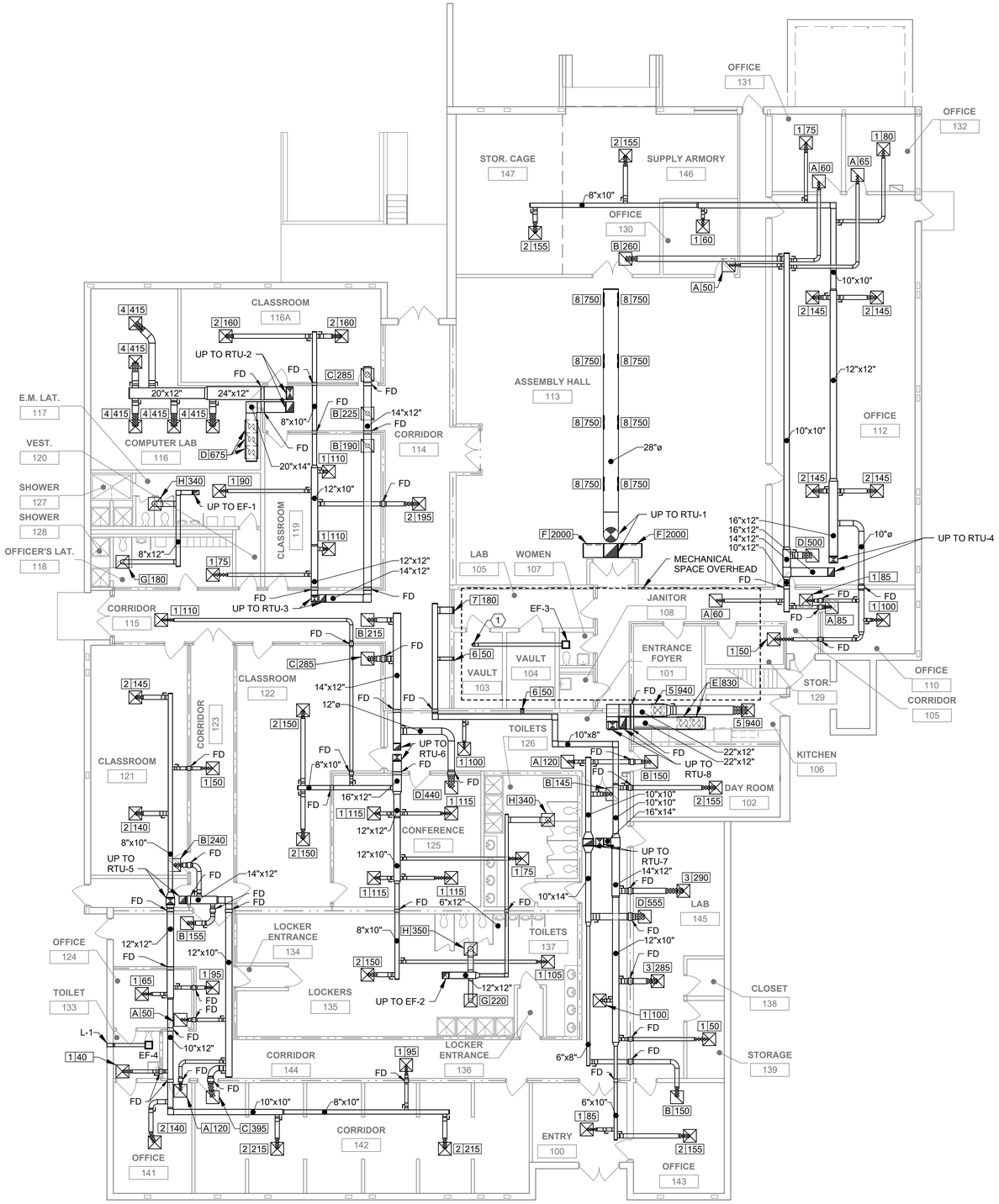
MD102

GENERAL NOTES

1. ALL PLAN DATA BASED ON SITE SURVEY AND GOVERNMENT PROVIDED DRAWINGS. CONTRACTOR MUST VERIFY AND BECOME TOTALLY FAMILIAR WITH ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK.

KEYNOTES

1 REFER TO SHEET M-102 FOR CONTINUATION.



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

PLAN NORTH

0' 4' 8' 16'
SCALE: 1/8"=1'-0
GRAPHIC SCALE

LBE Engineers ■ Architects
LBE, Inc.
105 N. Highway 52,
Moncks Corner, SC 29461

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY:	DRAWN BY:	CHK BY:	DATE
ATH	ATH	HCG	OCTOBER 2025
SUPV	PROJ ENGR		
MJP	JPJ&B		

SEAL AREA

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

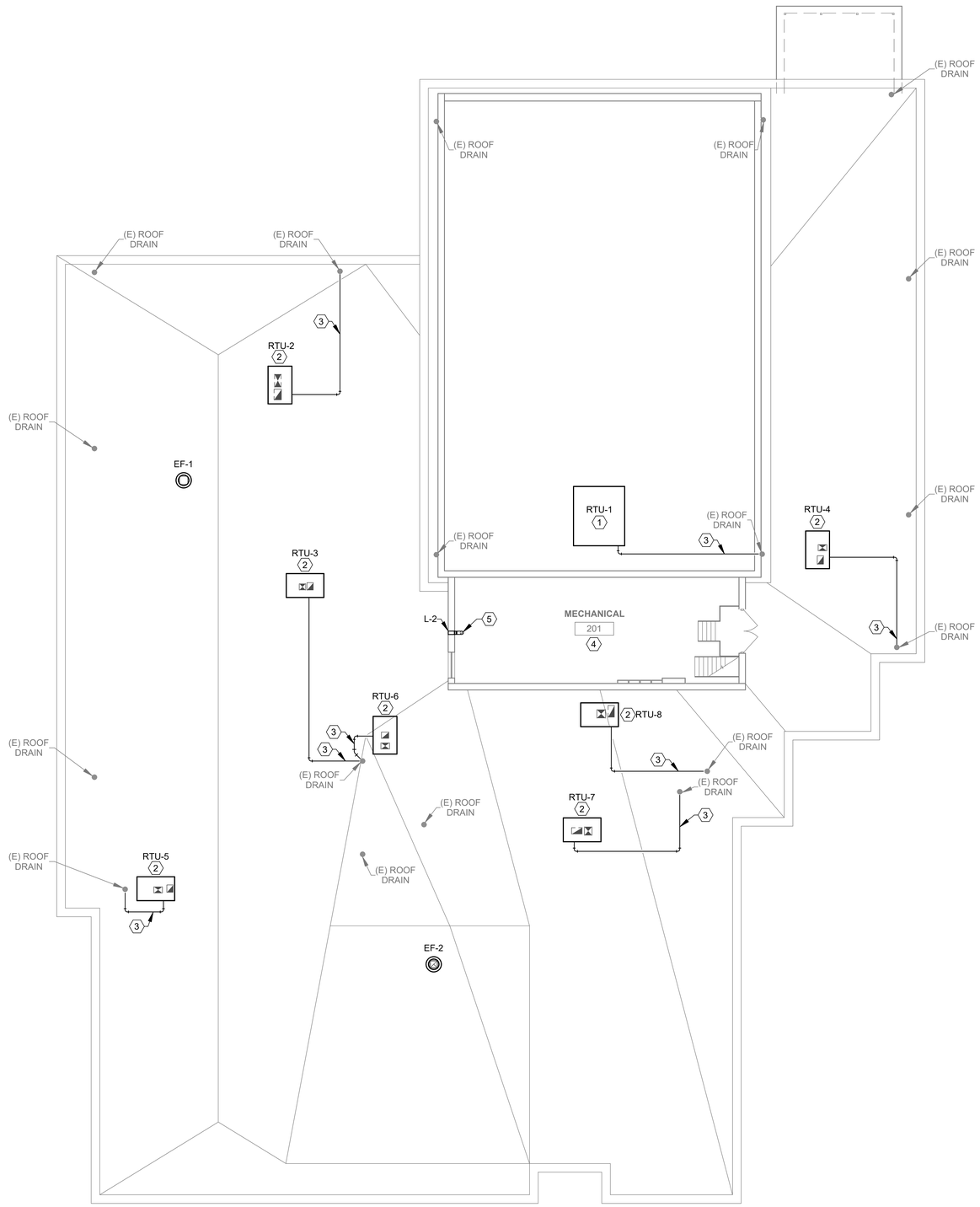
JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE — AIR MOBILITY COMMAND

NAVAL RESERVE CENTER B3370

FIRST FLOOR MECHANICAL PLAN

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 21 OF 37
M-101

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION



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

GENERAL NOTES

1. ALL PLAN DATA BASED ON SITE SURVEY AND GOVERNMENT PROVIDED DRAWINGS. CONTRACTOR MUST VERIFY AND BECOME TOTALLY FAMILIAR WITH ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK.

KEYNOTES

1 PROVIDE SINGLE ZONE VARIABLE AIR VOLUME ROOFTOP DX PACKAGED HEAT PUMP UNIT AND ASSOCIATED SUPPLY AND RETURN DUCTWORK TO SERVE THE ASSEMBLY HALL.

2 PROVIDE SINGLE ZONE VARIABLE AIR VOLUME ROOFTOP DX PACKAGED HEAT PUMP UNIT AND ASSOCIATED SUPPLY AND RETURN DUCTWORK, DIFFUSERS, AND ASSOCIATED CONTROLS.

3 ROUTE UNIT CONDENSATE PIPING TO THE NEAREST ROOF STORM DRAIN AND PROVIDE WITH AIR GAP.

4 MECHANICAL SPACE IS BELOW THE ROOF LEVEL. ADDITIONAL EQUIPMENT IN SPACE IS OMITTED FOR CLARITY.

5 REFER TO SHEET M-101 FOR CONTINUATION.

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY:	DRAWN BY:	CHK BY:	DATE
ATH	ATH	HCG	OCTOBER 2025
SUPV	PROJ ENGR		
MJP	JPJ&B		

SEAL AREA

STATE OF NORTH CAROLINA
No. 22384
10/06/2025
MICHAEL J. PIGGOTT, CHAD

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

DRAWING REVISIONS

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
ROOF MECHANICAL PLAN

LBE
Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

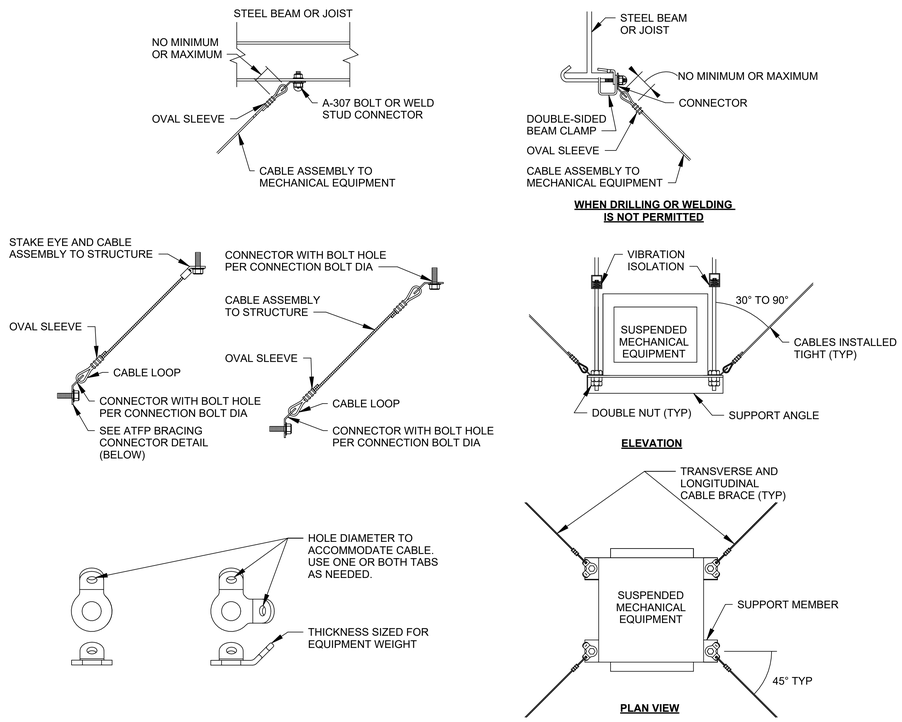
STATE OF NORTH CAROLINA
LBE INC
No. 5392
CERTIFICATE OF AUTHORIZATION

PLAN NORTH

0' 4' 8' 16'
SCALE: 1/8"=1'-0
GRAPHIC SCALE

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 22 OF 37
M-102

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION

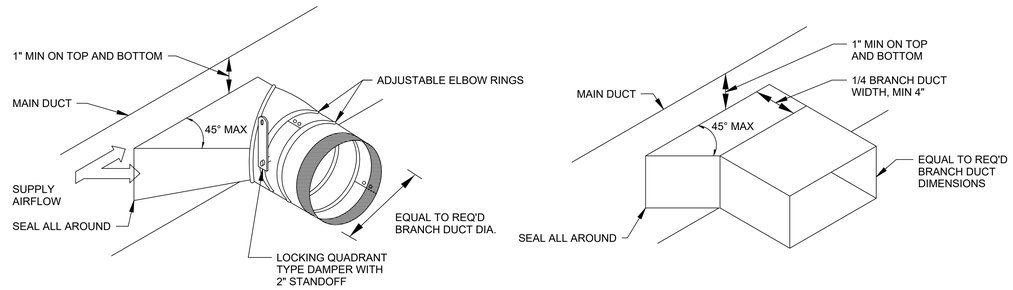


SUSPENDED EQUIPMENT BRACING NOTES:

1. ALL SUSPENDED MECHANICAL EQUIPMENT WEIGHING OVER 31 POUNDS MUST BE INSTALLED TO RESIST FORCES OF 0.5 TIMES THE EQUIPMENT WEIGHT IN ANY DIRECTION AND 1.5 TIMES THE EQUIPMENT WEIGHT IN THE DOWNWARD DIRECTION.
2. THESE DETAILS ARE PROVIDED AS GUIDANCE FOR THE SUPPORT OF SUSPENDED MECHANICAL EQUIPMENT WEIGHING OVER 31 POUNDS.

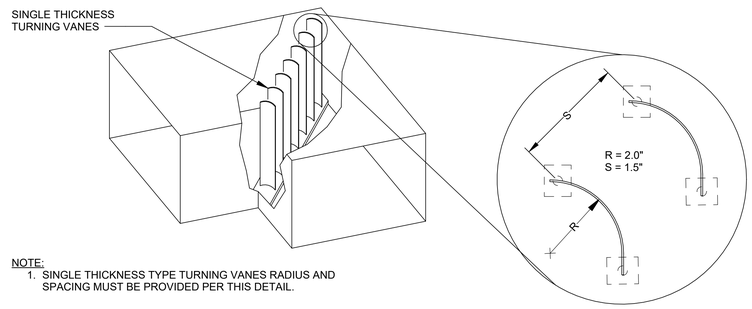
2 SUSPENDED EQUIPMENT BRACING DETAIL

SCALE: NOT TO SCALE



1 TYPICAL BRANCH TAKE-OFF DETAIL

SCALE: NOT TO SCALE

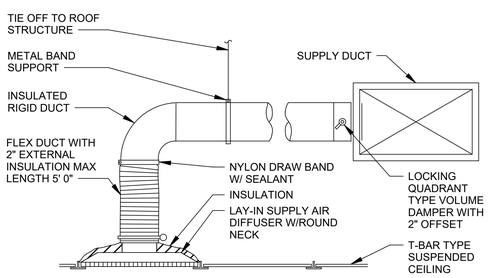


NOTE:

1. SINGLE THICKNESS TYPE TURNING VANES RADIUS AND SPACING MUST BE PROVIDED PER THIS DETAIL.

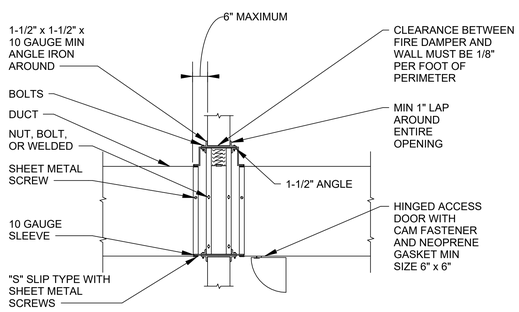
3 RECTANGULAR DUCT ELBOW W TURNING VANES DETAIL

SCALE: NOT TO SCALE



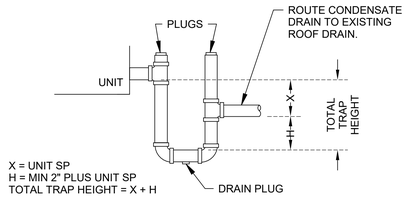
5 SUPPLY AIR DIFFUSER DETAIL

SCALE: NOT TO SCALE



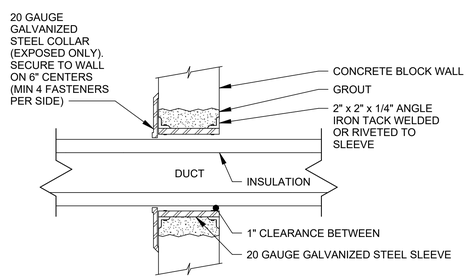
6 VERTICAL FIRE DAMPER DETAIL

SCALE: NOT TO SCALE



4 CONDENSATE DRAIN TRAP DETAIL

SCALE: NOT TO SCALE

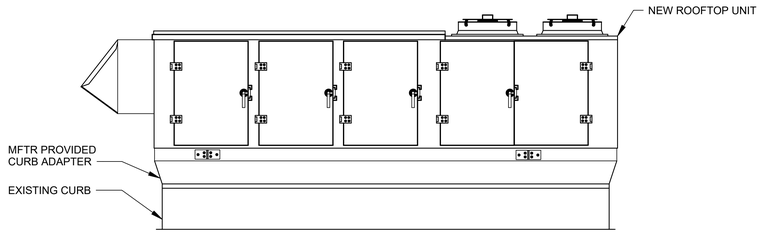


NOTE:

1. FOR GYPSUM BOARD WALLS, PROVIDE MIN 16 GAUGE GALV STEEL SLEEVE W/ LOCK-TYPE LONGITUDINAL SEAM.

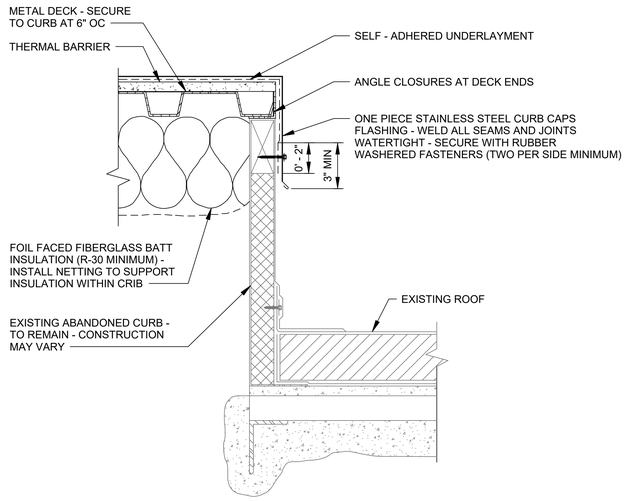
7 DUCT PENETRATION DETAIL

SCALE: NOT TO SCALE



8 RTU CURB ADAPTER DETAIL

SCALE: NOT TO SCALE



9 RTU CURB CAP DETAIL

SCALE: NOT TO SCALE

LBE
Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DESIGN BY:	DRAWN BY:	CHK BY:	DATE
ATH	ATH	HCG	OCTOBER 2025
SUPV	CHK ENGR		
NJP	JPJB		

SEAL AREA

STATE OF NORTH CAROLINA
No. 22384
10/06/2025
JOSEPH P. GIGGEY, JR.

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND

NAVAL RESERVE CENTER B3370

MECHANICAL DETAILS

DRAWING SIZE: ARCH30 E(30X42)

PROJECT NO. DKGV 1137999

RECORD DRAWING DATE

SHEET 23 OF 37

M-501

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION

ROOFTOP UNIT SCHEDULE

TAG	MFTR	MODEL	REFRIGERANT TYPE	OA CFM	SUPPLY FAN			EAT		LAT		COOLING @ 95°F AMBIENT			HEATING @ 27 °F AMBIENT		HOT GAS REHEAT CAPACITY	ELECTRIC HEAT	ELECTRICAL		
								COOLING		COOLING											
					SA CFM	ESP IWG	HP	DB	WB	DB	WB	TOTAL	SENSIBLE	EER	HEATING TYPE	CAPACITY			MCA	MOP	V/Ø/HZ
RTU-1	TRANE	OADG025	R-454B	2,000	6,000	1.0	5.0	82 °F	68 °F	52 °F	52 °F	286,100 Btu/h	184,500 Btu/h	10.9	AIR-SOURCE HEAT PUMP	244,100 Btu/h	200,360 Btu/h	28 kW	205 A	225 A	208/3/60
RTU-2	TRANE	WSK060	R-454B	50	2,075	0.8	1.5	75 °F	63 °F	56 °F	54 °F	56,580 Btu/h	48,060 Btu/h	12.0	AIR-SOURCE HEAT PUMP	36,870 Btu/h	22,770 Btu/h	6 kW	53 A	60 A	208/3/60
RTU-3	TRANE	WSK036	R-454B	200	900	0.9	0.8	79 °F	66 °F	56 °F	54 °F	35,450 Btu/h	24,400 Btu/h	12.0	AIR-SOURCE HEAT PUMP	22,830 Btu/h	17,990 Btu/h	6 kW	41 A	45 A	208/3/60
RTU-4	TRANE	WSK048	R-454B	255	1,340	1.0	1.0	79 °F	66 °F	56 °F	55 °F	48,280 Btu/h	35,180 Btu/h	12.0	AIR-SOURCE HEAT PUMP	31,970 Btu/h	22,090 Btu/h	6 kW	45 A	50 A	208/3/60
RTU-5	TRANE	WSK048	R-454B	240	1,200	1.0	1.0	79 °F	66 °F	55 °F	53 °F	47,370 Btu/h	33,090 Btu/h	12.0	AIR-SOURCE HEAT PUMP	32,010 Btu/h	21,150 Btu/h	6 kW	45 A	50 A	208/3/60
RTU-6	TRANE	WSK048	R-454B	260	1,200	1.0	1.0	79 °F	66 °F	56 °F	54 °F	47,620 Btu/h	33,150 Btu/h	12.0	AIR-SOURCE HEAT PUMP	32,090 Btu/h	21,140 Btu/h	6 kW	45 A	50 A	208/3/60
RTU-7	TRANE	WSK060	R-454B	380	1,500	1.0	1.0	80 °F	67 °F	57 °F	55 °F	57,670 Btu/h	40,770 Btu/h	12.0	AIR-SOURCE HEAT PUMP	38,210 Btu/h	20,230 Btu/h	6 kW	53 A	60 A	208/3/60
RTU-8	TRANE	WSK060	R-454B	220	1,880	1.1	1.0	77 °F	65 °F	56 °F	55 °F	57,380 Btu/h	45,720 Btu/h	12.0	AIR-SOURCE HEAT PUMP	37,700 Btu/h	22,010 Btu/h	6 kW	53 A	60 A	208/3/60

NOTES:
1. SCHEDULED MFTR AND MODEL NUMBER ARE BASIS OF DESIGN ONLY.
2. PROVIDE WITH 0-100% MODULATING ECONOMIZER CAPABLE MOTORIZED OA DAMPER WITH COMPARATIVE ENTHALPY CONTROL AND BAROMETRIC RELIEF.

EXHAUST FAN SCHEDULE

TAG	CFM	ESP IWG	FAN HP	TYPE	DRIVE	CONTROL	V/Ø/HZ
EF-1	520	0.5	1/8	ROOF MOUNTED	DIRECT DRIVE	DDC	120/1/60
EF-2	910	0.5	1/4	ROOF MOUNTED	DIRECT DRIVE	DDC	120/1/60
EF-3	50	0.25	16W	CEILING MOUNTED	DIRECT DRIVE	ROOM SWITCH	120/1/60
EF-4	50	0.25	16W	CEILING MOUNTED	DIRECT DRIVE	ROOM SWITCH	120/1/60

SIDEWALL LOUVER SCHEDULE

TAG	AIRSTREAM	SIZE	CFM	MAX VELOCITY	MAX PRESSURE DROP	MIN FREE AREA
L-1	EXHAUST AIR	6"x4"	50	600 FPM	0.10 in-wg	0.08 SF
L-2	EXHUAST AIR	6"x4"	50	600 FPM	0.10 in-wg	0.08 SF

NOTE:
1. LOUVERS ARE SIZED AT 50% FREE AREA. WHERE SUBMITTED LOUVERS HAVE LESS FREE AREA PERCENTAGE, LOUVER SIZE WILL NEED TO BE INCREASED AND COORDINATED WITH ARCHITECTURAL.

AIR DISTRIBUTION SCHEDULE

TAG	SYSTEM TYPE	FACE STYLE	FACE SIZE	NECK SIZE	MAX NC	MOUNTING	NOTES
1	SUPPLY	SQUARE	24" x 24"	06"	30	LAY-IN	2,3
2	SUPPLY	SQUARE	24" x 24"	08"	30	LAY-IN	2,3
3	SUPPLY	SQUARE	24" x 24"	10"	30	LAY-IN	2,3
4	SUPPLY	SQUARE	24" x 24"	12"	30	LAY-IN	2,3
5	SUPPLY	SQUARE	24" x 24"	16"	30	LAY-IN	2,3
6	SUPPLY	RECTANGULAR	08" x 08"	06" x 06"	30	DUCT MOUNTED	1,3
7	SUPPLY	RECTANGULAR	14" x 08"	12" x 06"	30	DUCT MOUNTED	1,3
8	SUPPLY	RECTANGULAR	26" x 12"	24" x 10"	30	DUCT MOUNTED	3
A	RETURN	SQUARE	24" x 24"	06"	30	LAY-IN	2,3
B	RETURN	SQUARE	24" x 24"	08"	30	LAY-IN	2,3
C	RETURN	SQUARE	24" x 24"	10"	30	LAY-IN	2,3
D	RETURN	SQUARE	24" x 24"	12"	30	LAY-IN	2,3
E	RETURN	SQUARE	24" x 24"	16"	30	LAY-IN	2,3
F	RETURN	RECTANGULAR	28" x 28"	26" x 26"	30	DUCT MOUNTED	3
G	EXHAUST	SQUARE	24" x 24"	8"	30	LAY-IN	2,3
H	EXHAUST	SQUARE	24" x 24"	10"	30	LAY-IN	2,3

NOTES:
1. PROVIDE SIDEWALL GRILLE WITH INTEGRAL FIRE DAMPER. ACCESS TO DAMPER MUST BE THROUGH GRILLE FACE.
2. A LIMITED AMOUNT OF AVAILABLE CEILING AREA MAY REQUIRE CUTTING TO ACCOMMODATE AIR TERMINAL.
3. AIR DISTRIBUTION CALLOUT X/###
   TAG CFM

MECHANICAL DESIGN CONDITIONS

DESIGN CONDITIONS LOCATION	
CHARLESTON INTL, SC, USA	
LATITUDE = 32.895 N	STATION ID = 722080
LONGITUDE = 80.027 W	ELEVATION = 47 FEET
PERIOD OF RECORD = 1994 TO 2019	AVERAGE PRESSURE = 406.47 IWG

OUTDOOR DESIGN CONDITIONS

DRY BULB TEMPERATURE	DESIGN VALUE (°F)	WET BULB TEMPERATURE (°F)	HUMIDITY RATIO (gr/lb)
0.4% OCCURRENCE	94.4	77.8	117.7
1.0% OCCURRENCE	92.3	77.4	118.5
2.0% OCCURRENCE	90.3	76.9	118.6
99.0% OCCURRENCE	30.6	-	-
99.6% OCCURRENCE	27.2	-	-
WET BULB TEMPERATURE	**DESIGN VALUE (°F)**	**DRY BULB TEMPERATURE (°F)**	**HUMIDITY RATIO (gr/lb)**
0.4% OCCURRENCE	80.5	88.8	145.2
1.0% OCCURRENCE	79.7	87.8	141.3
2.0% OCCURRENCE	78.7	86.4	136.8
HUMIDITY RATIO (HR)	**DESIGN VALUE (gr/lb)**	**DRY BULB TEMPERATURE (°F)**	**VAPOR PRESSURE (in. Hg)**
0.4% OCCURRENCE	148.1	84.1	0.980
1.0% OCCURRENCE	143.1	83.2	0.948
2.0% OCCURRENCE	139.2	82.6	0.923

INDOOR DESIGN CONDITIONS

SPACE TYPE	SEASON	OCCUPIED	UNOCCUPIED
ALL	COOLING	75°F/50% RH	85°F
	HEATING	70°F	60°F

DUCTWORK CONSTRUCTION AND LEAKAGE TESTING

DUCT SYSTEM	DUCT PRESSURE CLASS				SUPPLY AIR				RETURN / EXHAUST / OUTSIDE AIR		DUCT TEST PRESSURE: INCHES OF WATER COLUMN	NOTES
	INCHES OF WATER COLUMN				ROUND/OVAL		RECTANGULAR					
	SUPPLY	RETURN	EXHAUST	OUTDOOR AIR	SEAL CLASS	LEAKAGE CLASS	SEAL CLASS	LEAKAGE CLASS	SEAL CLASS	LEAKAGE CLASS		
RTU	1.0	-	-	-	A	3	A	6	-	-	1.0	1,2
	-	-1.0	-	-	-	-	-	-	A	6	1.0	1,2
	-	-	-	-1.0	-	-	-	-	A	6	1.0	1,2
EF	-	-	-1.0	-	-	-	-	-	A	6	1.0	1,2

NOTES:
1. TEST IN ACCORDANCE WITH SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL. DUCT AIR LEAKAGE TESTING MUST BE CONDUCTED ON DUCT SYSTEMS INDICATED - MAXIMUM REQUIREMENT MUST BE 20% OF TOTAL MEASURED LINEAR FOOTAGE OF EACH DUCT SYSTEM.
2. ONLY NEW DUCT IS REQUIRED TO BE TESTED.

LBE
Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

SOUTH CAROLINA
LBE INC
No. 5392
CERTIFICATE OF AUTHORITY

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DESIGN BY: ATH
DRAWN BY: ATH
CHK BY: HCG
PROJ ENGR: JPJ&B
SUPV: NJP
DATE: OCTOBER 2025

SEAL AREA

STATE OF SOUTH CAROLINA
No. 22384
10/06/2025
HOWARD C. GIGGS, JR.

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON
FAMULUS OMNIS

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
MECHANICAL SCHEDULES

BUILDING GLOBAL STRENGTH
628TH CIVIL ENGINEER SQUADRON

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE

SHEET 24 OF 37

M-601

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION

CONTROL SCHEMATIC SYMBOLS LEGEND

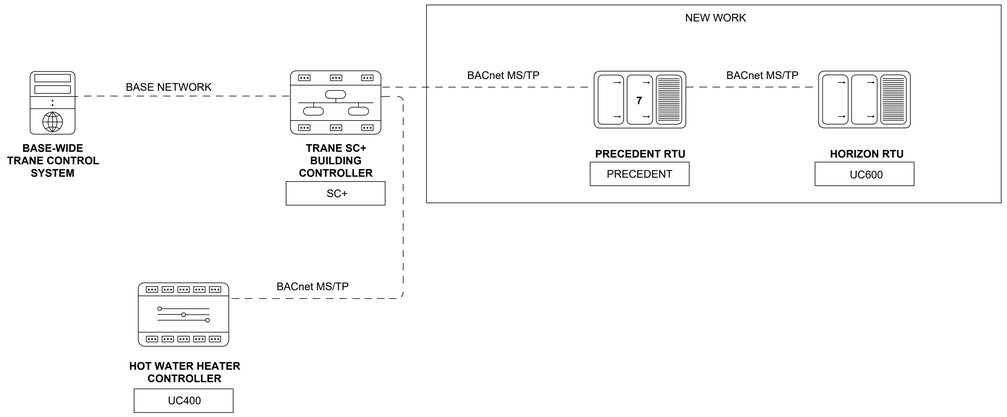
W-X-Y-Z ##	GENERIC DEVICE SYMBOL
----------	CONTROL SIGNAL LINE, LOW VOLTAGE
T-STAT	THERMOSTAT
H-STAT	HUMIDISTAT
T	TEMPERATURE SENSOR
RH	RELATIVE HUMIDITY SENSOR
XX-CFM-C	AIRFLOW MEASUREMENT ARRAY, WITH FLOW TRANSMITTER
	CENTRIFUGAL FAN
NC / M#	NORMALLY CLOSED MOTOR OPERATED DAMPER
NO / M#	NORMALLY OPENED MOTOR OPERATED DAMPER
TH N	THERMOSTAT AND HUMIDISTAT, N DENOTES UNIT TAG
RA-CO2	CO2 MONITOR
DP (H, L, P)	DIFFERENTIAL PRESSURE SENSOR
W-X-Y-Z ## (P)	STATIC PRESSURE SENSOR
SD	SMOKE DETECTOR
M#	MOTOR
MS-#	MOTOR STARTER
C / H	COOLING/HEATING COILS
DX	DIRECT EXPANSION COILS
RH	HOT GAS REHEAT COILS
VFD	VARIABLE FREQUENCY DRIVE
	FILTER
ESS	EMERGENCY SHUTDOWN SWITCH
R-PPM	DUCT REFRIGERANT MONITOR

CONTROLS ABBREVIATIONS

2P	TWO-POSITION (CONTROL SIGNAL)
ADJ.	ADJUSTABLE
AFMA	AIRFLOW MEASUREMENT ARRAY
AFMS	AIRFLOW MEASUREMENT STATION
ALM	ALARM
ASC	APPLICATION SPECIFIC CONTROLLER
AV	ANALOG VARIABLE
BA	BYPASS AIR
BAS	BUILDING AUTOMATION SYSTEM
BLDG	BUILDING
BMFM	BI-DIRECTION MAGNETIC FLOW METER
BUT	BUTTON
BV	BINARY VARIABLE
C	COMMAND (MODULATING CONTROL SIGNAL)
CD	COLD DECK
CF	CONDENSER FAN
CHLR	CHILLER
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	COOLING
CO2	CARBON DIOXIDE
COM	COMMON
COMP	COMPARATOR
CP	CONFIGURATION PROPERTY
CT	CURRENT TRANSFORMER/SWITCH
D	DAMPER
DA	DISCHARGE AIR
DB	DEADBAND
DCV	DEMAND CONTROLLED VENTILATION
DDC	DIRECT DIGITAL CONTROL(LER)
DIFF	DIFFERENCE
DIR	DIRECT (CONTROL ACTION)
DIS	DISABLE
DISP	DISPLAY
DP	DIFFERENTIAL PRESSURE
DT	DUAL TEMP
DX	DIRECT EXPANSION (UNIT)
EA	EXHAUST AIR
EF	EXHAUST FAN
ENA	ENABLE
ESW	END SWITCH
EW	ENTHALPY WHEEL
F	FLOW
FAP	FIRE ALARM PANEL
FLT	FILTER
FRD	FIRE DAMPER
HD	HOT DECK
HL	HIGH LIMIT
HTG	HEATING
HUM	HUMIDIFIER
I/O	INPUT/OUTPUT
IAW	IN ACCORDANCE WITH
LDP	LOCAL DISPLAY PANEL
LL	LOW LIMIT
M & C	MONITORING & CONTROL (SOFTWARE)
MA	MIXED AIR
MC	MOTOR CONTROL
MFM	MAGNETIC FLOW METER
MINOA	MINIMUM OUTSIDE AIR
MOD	MOTOR OPERATED DAMPER
MOV	MOTOR OPERATED VALVE
MS	MOTOR STARTER
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NCI	NETWORK CONFIGURATION INPUT
NO	NORMALLY OPEN
OA	OUTDOOR AIR
OATS	OUTDOOR AIR SENSOR
OCC	OCCUPIED
ODT	ON DELAY TIMER
OWS	OPERATOR WORKSTATION
P	PRESSURE
PCM	PROGRAMMABLE CONTROL MODULE
PIU	POWERED INDUCTION UNIT
PMP	PUMP
PP	POSITIVE POSITIONER
PPM	PARTS PER MILLION
R	RELAY
RA	RETURN AIR
REV	REVERSE (CONTROL ACTION)
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RLA	RELIEF AIR
RM	ROOM
RST	RESET
RT	RATE
S	STATUS
SA	SUPPLY AIR
SCHD	SCHEDULER
SD	SMOKE DETECTOR
SEC	SECONDARY
SF	SUPPLY FAN
SMK	SMOKE
SMV	SOURCE MOTORIZED VALVE
SNVT	STANDARD NETWORK VARIABLE TYPE
SP	STATIC PRESSURE
SPT	SETPOINT
SS	START/STOP COMMAND
ST	MOTOR STARTER
STAT	THERMOSTAT
SYS	SYSTEM
T	TEMPERATURE
TS	TEMPERATURE SENSOR (PIPE MOUNT)
UNOCC	UNOCCUPIED
V	VALVE
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
VP	VELOCITY PRESSURE
WB	WET BULB (TEMPERATURE)
ZN	ZONE

GENERAL DDC SYSTEM NOTES

1. DIRECT DIGITAL CONTROLS (DDC) SYSTEM MUST BE PROVIDED TO OPERATE BUILDING MECHANICAL SYSTEMS AS DESCRIBED IN THE SEQUENCE OF OPERATION. ALL SOFTWARE MUST BE BACNET COMPATIBLE.
2. ALL CONTROL DEVICES MUST BE ELECTRICALLY OR ELECTRONICALLY OPERATED. PNEUMATIC CONTROL DEVICES MUST NOT BE USED.
3. INDIVIDUAL CONTROLLERS MUST BE PROVIDED FOR EACH PIECE OF EQUIPMENT OR SYSTEM. ALL CONTROLLERS MUST COMMUNICATE WITH THE DDC PANEL. THE DDC PANEL MUST BE CAPABLE OF INTERFACING WITH ALL EQUIPMENT AND SYSTEMS CONTROLLERS THROUGHOUT THE DDC SYSTEM. ALL SETPOINTS AND PARAMETERS MUST BE ACCESSIBLE THROUGH THE DDC PANEL.
4. THE DDC SYSTEM MUST COMMUNICATE WITH THE BASE WIDE ENERGY MANAGEMENT CONTROLS SYSTEM (EMCS).
5. EMERGENCY HVAC SHUT-DOWN SWITCHES ARE PROVIDED AND INSTALLED BY THE DDC CONTROLS CONTRACTOR. ALL HVAC SHUT-DOWN SWITCHES MUST SHUT DOWN MECHANICAL EQUIPMENT AS INDICATED ON SEQUENCE INCLUDING EQUIPMENT WHICH IS IN THE "HAND" OR "BY-PASS" MODES. SHUTDOWN MUST BE ACCOMPLISHED VIA A HARDWIRE INTERLOCK AND A DDC COMMAND.
6. ALL OUTSIDE AIR AND EXHAUST AIR DAMPERS MUST BE LOW LEAKAGE TYPE WITH AUTOMATIC MOTOR OPERATORS TO AUTOMATICALLY CLOSE UPON EMERGENCY HVAC SHUTDOWN. PROVIDE ALL OUTSIDE AIR INTAKES, RELIEF AIR, AND EXHAUST OPENINGS WITH LOW LEAKAGE DAMPERS THAT ARE AUTOMATICALLY CLOSED WHEN THE EMERGENCY AIR DISTRIBUTION SHUTOFF SWITCH IS ACTIVATED. THE LOW LEAKAGE DAMPERS WILL HAVE MAXIMUM LEAKAGE RATES OF 3 CFM/SQUARE FOOT (15 LITERS/SECOND/SQUARE METER) WITH A DIFFERENTIAL PRESSURE OF ONE INCH OF WATER GAUGE (250 PA) ACROSS THE DAMPER.
7. DDC CONTRACTOR MUST COORDINATE WITH MECHANICAL CONTRACTOR TO DETERMINE THE NUMBER OF POINTS REQUIRED FOR CONTROLS PROVIDED BY MANUFACTURER.



1 CONTROL SYSTEM NETWORK ARCHITECTURE
SCALE: NOT TO SCALE

LBE Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: ATH | DRAWN BY: ATH | CHK BY: HCG | PROJ ENGR: JPJ&B | SUPV: NJP | DATE: OCTOBER 2025

SEAL AREA

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 22384 10/06/2025 T. G. GIGER, CHAD

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
MECHANICAL CONTROLS GENERAL SHEET

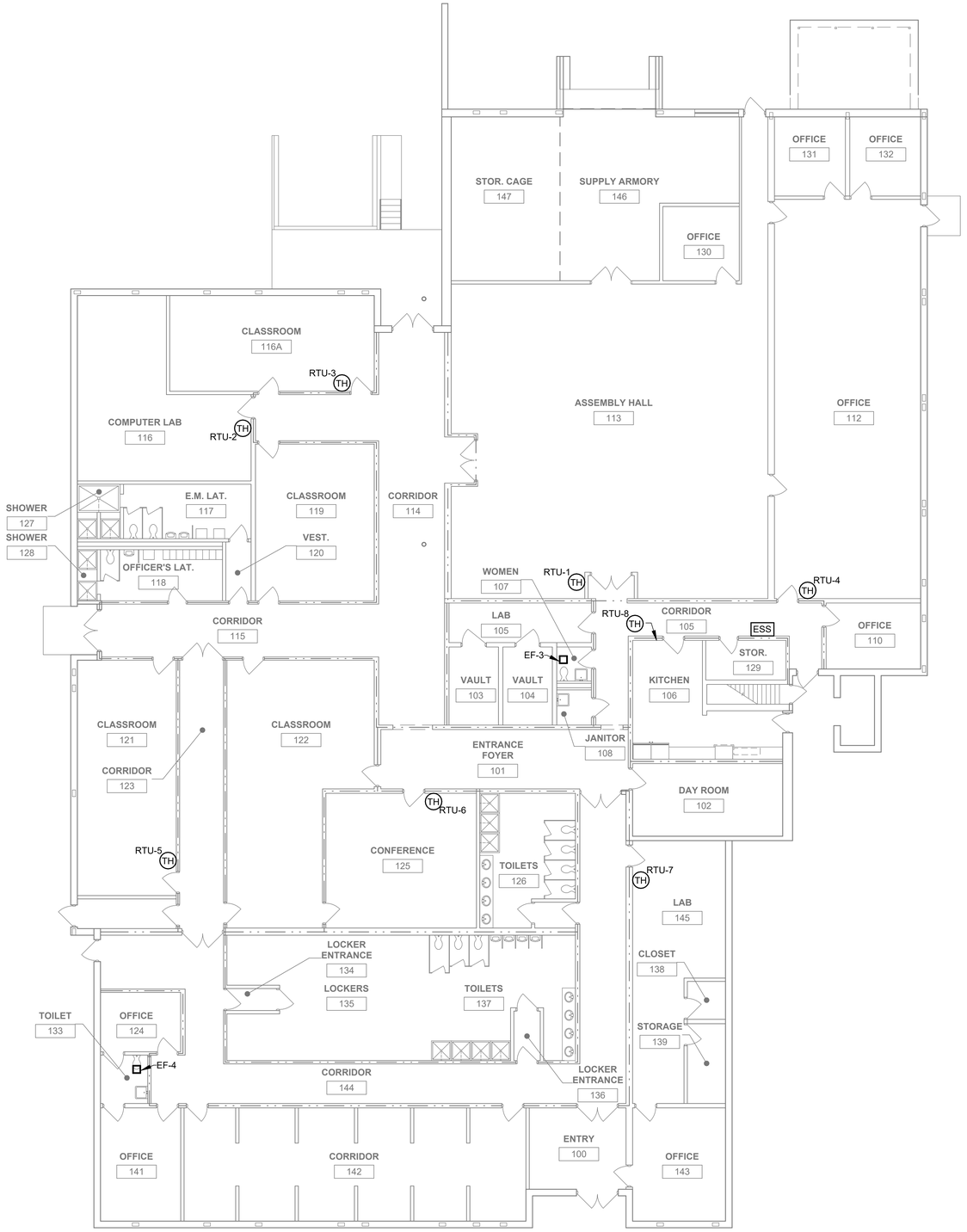
SOUTH CAROLINA LBE INC No. 5392 CERTIFICATE OF AUTHORITY

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 25 OF 37
MI001

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION

GENERAL NOTES

1. ALL PLAN DATA BASED ON SITE SURVEY AND GOVERNMENT PROVIDED DRAWINGS. CONTRACTOR MUST VERIFY AND BECOME TOTALLY FAMILIAR WITH ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK.



1 FIRST FLOOR CONTROLS PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

0' 4' 8' 16'
SCALE: 1/8"=1'-0
GRAPHIC SCALE

LBE Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: ATH
DRAWN BY: ATH
CHK BY: HCG
PROJ ENGR: JPJ&B
SUPV: NJP
DATE: OCTOBER 2025

SEAL AREA

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 22384 10/06/2025 NICHOLAS P. GIGGEY

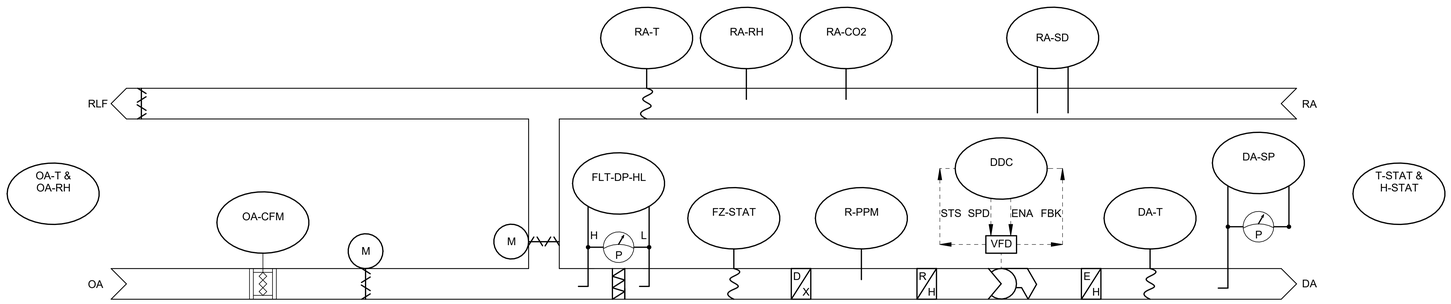
DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
DEPARTMENT OF THE AIR FORCE — AIR MOBILITY COMMAND
CHARLESTON, SC
NAVAL RESERVE CENTER B3370
FIRST FLOOR MECHANICAL CONTROLS PLAN

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 26 OF 37
MI101

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION



1 RTU-1 CONTROL DIAGRAM

SCALE: NOT TO SCALE

RTU-1 POINTS LIST

POINT NAME	DESCRIPTION	HARDWARE				SOFTWARE						FAILURE MODE	SHOW ON GRAPHIC
		AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM		
DA-SP	DISCHARGE AIR STATIC PRESSURE	•								•	•		•
DA-T	DISCHARGE AIR TEMP	•								•			•
FLT-DP-HL	FILTER DIFFERENTIAL PRESSURE	•								•	•		•
FLT-DP-HL-SPT	FILTER DIFFERENTIAL PRESSURE HIGH LIMIT SETPOINT					•							•
FZ-STAT	DX COIL FREEZE STAT			•									•
H-STAT	SPACE RELATIVE HUMIDITY	•				•				•			•
H-STAT-STP	SPACE RELATIVE HUMIDITY SETPOINT					•				•			•
OA-CFM	OUTSIDE AIR AIRFLOW	•								•	•		•
OA-D-C	OUTSIDE AIR DAMPER CONTROL				•								•
OA-D-P	OUTSIDE AIR DAMPER POSITION			•								FAN OFF	•
OA-RH	OUTSIDE AIR RELATIVE HUMIDITY	•				•				•			•
OA-T	OUTSIDE AIR TEMPERATURE	•								•			•
R-PPM	DUCT REFRIGERANT MONITOR	•								•	•		•
R-PPM	DUCT REFRIGERANT MONITOR	•								•	•		•
RA-CO2	RETURN AIR CO2	•								•	•		•
RA-CO2	RETURN AIR CO2	•								•	•		•
RA-D-C	RETURN AIR DAMPER CONTROL				•								•
RA-D-P	RETURN AIR DAMPER POSITION			•								FAN OFF	•
RA-RH	RETURN AIR RELATIVE HUMIDITY	•								•	•		•
RA-SD	RETURN AIR SMOKE DETECTOR			•							•	FAN OFF	•
RA-T	RETURN AIR TEMP	•								•			•
SF-ENB	SUPPLY FAN ENABLE				•								•
SF-FB	SUPPLY FAN FEEDBACK	•								•			•
SF-S	SUPPLY FAN SPEED		•							•			•
SF-STS	SUPPLY FAN STATUS			•						•	•	FAN OFF	•
T-STAT	SPACE TEMPERATURE	•								•			•
T-STAT-STP	SPACE TEMPERATURE SETPOINT					•				•			•

ROOFTOP UNIT (RTU-1) SEQUENCE OF OPERATION:

BUILDING AUTOMATION SYSTEM INTERFACE: BUILDING AUTOMATION SEQUENCE (BAS) MUST SEND THE CONTROLLER OCCUPIED BYPASS, MORNING WARM-UP/PRE-COOL, OCCUPIED/UNOCCUPIED AND HEAT/COOL MODES. IF A BAS IS NOT PRESENT, OR COMMUNICATION IS LOST WITH THE BAS THE CONTROLLER MUST OPERATE USING DEFAULT MODES AND SETPOINTS.

OCCUPIED: DURING OCCUPIED PERIODS, THE SUPPLY FAN MUST RUN CONTINUOUSLY AND THE MIXED AIR DAMPERS MUST OPEN TO MAINTAIN MINIMUM VENTILATION REQUIREMENTS. UPON A CALL FOR DX HEATING OR COOLING, THE UNIT CONTROLLER MUST ENABLE THE VARIABLE SPEED COMPRESSOR. IF THE VARIABLE SPEED COMPRESSOR CANNOT SATISFY THE LOAD CONDITIONS, THE UNIT CONTROLLER MUST START A FIXED SPEED COMPRESSOR. THE VARIABLE SPEED COMPRESSOR MUST MODULATE TO MAINTAIN THE ACTIVE SPACE TEMPERATURE SETPOINT. THIS PROCESS MUST REPEAT UNTIL ALL OF THE FIXED SPEED COMPRESSORS HAVE BEEN STARTED OR UNTIL THE LOAD CONDITIONS CAN BE SATISFIED. DURING THE DX HEATING CYCLE, THE ELECTRIC HEAT MUST BE ENABLED AND USED TO HELP MAINTAIN THE ACTIVE SPACE TEMPERATURE SETPOINT. IF ECONOMIZING IS ENABLED, THE OUTDOOR AIR OR MIXED AIR DAMPERS MUST MODULATE TO MAINTAIN THE DISCHARGE AIR SETPOINT AND THE RELIEF AIR DAMPER MUST TRACK THE MIXED AIR DAMPERS. THE DISCHARGE AIR TEMPERATURE SETPOINT MUST BE DYNAMICALLY RESET BASED ON THE DEVIATION OF ACTUAL SPACE TEMPERATURE FROM THE ACTIVE SPACE TEMPERATURE SETPOINT.

UNOCCUPIED: WHEN THE SPACE TEMPERATURE IS BELOW THE UNOCCUPIED HEATING SETPOINT OF 60° F (ADJ.) THE SUPPLY FAN MUST BE COMMANDED ON, THE OUTSIDE AIR DAMPER MUST REMAIN CLOSED, AND THE ELECTRIC HEAT MUST BE ENABLED. WHEN THE SPACE TEMPERATURE RISES ABOVE THE UNOCCUPIED HEATING SETPOINT OF 60° F (ADJ.) PLUS THE UNOCCUPIED DIFFERENTIAL OF 4° F (ADJ.) THE SUPPLY FAN MUST STOP AND THE ELECTRIC HEAT MUST BE DISABLED.

OPTIMAL START: THE BAS MUST MONITOR THE SCHEDULED OCCUPIED TIME, OCCUPIED SPACE SETPOINTS, AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL START OCCURS.

OPTIMAL STOP: THE BAS MUST MONITOR THE SCHEDULED OCCUPIED TIME, OCCUPIED SETPOINTS, AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL STOP OCCURS. WHEN THE OPTIMAL STOP MODE IS ACTIVE, THE UNIT CONTROLLER MUST MAINTAIN THE SPACE TEMPERATURE TO THE SPACE TEMPERATURE OFFSET SETPOINT. OUTSIDE AIR DAMPER MUST REMAIN ENABLED TO PROVIDE MINIMUM AIRFLOW.

MORNING WARM-UP MODE: DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT, A MORNING WARM-UP MODE MUST BE ACTIVATED. WHEN MORNING WARM-UP IS INITIATED, THE UNIT MUST ENABLE THE HEATING AND FAN(S). THE OUTSIDE AIR DAMPER MUST REMAIN CLOSED. WHEN THE SPACE TEMPERATURE REACHES THE OCCUPIED HEATING SETPOINT OF 70° F (ADJ.), THE UNIT MUST TRANSITION TO THE OCCUPIED MODE.

PRE-COOL MODE: DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING SETPOINT, PRE-COOL MODE MUST BE ACTIVATED. WHEN PRE-COOL IS INITIATED, THE UNIT MUST ENABLE THE FAN AND COOLING OR ECONOMIZER. THE OUTSIDE AIR DAMPER MUST REMAIN CLOSED, UNLESS ECONOMIZING. WHEN THE SPACE TEMPERATURE REACHES OCCUPIED COOLING SETPOINT OF 75° F (ADJ.), THE UNIT MUST TRANSITION TO THE OCCUPIED MODE.

OCCUPIED BYPASS: THE BAS MUST MONITOR THE STATUS OF THE ON AND CANCEL BUTTONS OF THE SPACE TEMPERATURE SENSOR. WHEN AN OCCUPIED BYPASS REQUEST IS RECEIVED FROM A SPACE SENSOR, THE UNIT MUST TRANSITION FROM ITS CURRENT OCCUPANCY MODE TO OCCUPIED BYPASS MODE, AND THE UNIT MUST MAINTAIN THE SPACE TEMPERATURE TO THE OCCUPIED SETPOINTS.

HEAT/COOL MODE: WHEN THE SPACE TEMPERATURE RISES ABOVE THE OCCUPIED COOLING SETPOINT, THE MODE MUST TRANSITION TO COOLING. WHEN THE SPACE TEMPERATURE FALLS BELOW THE OCCUPIED HEATING SETPOINT, THE MODE MUST TRANSITION TO HEATING. WHEN THE SPACE IS ABOVE THE OCCUPIED COOLING SETPOINT OR BELOW THE OCCUPIED HEATING SETPOINT, THE MODE MUST REMAIN IN ITS LAST STATE. IF THE SPACE TEMPERATURE SENSOR FAILS, THE MODE MUST BE REMAIN IN ITS LAST STATE AND AN ALARM MUST BE ANNUNCIATE AT THE BAS. IF THE LOCAL AND COMMUNICATED SETPOINTS FAIL, THE CONTROLLER MUST DISABLE THE SUPPLY FAN AND AN ALARM MUST ANNUNCIATE AT THE BAS.

SUPPLEMENTAL HEAT FOR HEAT PUMP CONFIGURATION: THE SUPPLEMENTAL ELECTRIC HEAT MUST BE CYCLED ON AS THE LAST STAGE OF HEATING. SUPPLEMENTAL HEAT ELECTRIC HEAT MUST OPERATE CONCURRENTLY WITH THE DX HEATING, AS NEEDED, TO MAINTAIN SPACE TEMPERATURE.

DEHUMIDIFICATION: THE UNIT MUST BE IN DEHUMIDIFICATION MODE IF THE SPACE HUMIDITY IS ABOVE THE DEHUMIDIFICATION SETPOINT. IN THE DEHUMIDIFICATION MODE, THE SUPPLY AIR FAN MUST BE ENABLED, THE OUTSIDE AIR DAMPER MUST BE COMMANDED TO MINIMUM POSITION, AND THE UNIT CONTROLLER MUST ENERGIZE MECHANICAL COOLING AND THE HOT GAS REHEAT COIL MUST MODULATE.

DURING DEHUMIDIFICATION MODE, THE OUTSIDE AIR TEMPERATURE MUST BE MONITORED. IF THIS TEMPERATURE RISES ABOVE THE REHEAT CAPACITY LIMIT SETPOINT OR FALLS BELOW THE REHEAT CAPACITY LIMIT SETPOINT BY 3° F (ADJ.), THE UNIT MUST STAGE DOWN OR STAGE UP THE COMPRESSORS RESPECTIVELY TO MEET FULL OR PART LOAD CAPACITY REQUIREMENTS BASED ON AMBIENT TEMPERATURE. FACTORY INSTALLED HOT GAS REHEAT MUST ALLOW APPLICATION OF DEHUMIDIFICATION. DEHUMIDIFICATION MUST BE ALLOWED ONLY WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE 40° F AND BELOW 100° F. THE ECONOMIZER OUTSIDE AIR DAMPER MUST DRIVE TO MINIMUM POSITION DURING DEHUMIDIFICATION.

ON A CALL FOR DEHUMIDIFICATION, THE HOT GAS REHEAT VALVE IN CIRCUIT 1 MUST ENERGIZE AND THE COMPRESSOR(S) MUST ENABLE. WHEN THE HUMIDITY CONTROL SETPOINT IS SATISFIED, THE VALVE MUST BE DE-ENERGIZED AND THE COMPRESSOR(S) IN CIRCUIT 1 MUST BE DISABLED. IF THERE IS A CALL FOR 1ST STAGE COOLING WHILE IN THE DEHUMIDIFICATION MODE, NO ACTION MUST TAKE PLACE. IF THERE IS A CALL FOR 2ND STAGE COOLING, THE HOT GAS REHEAT VALVE MUST BE DE-ENERGIZED, AND THE UNIT MUST REVERT TO THE COOLING MODE. IF 2ND STAGE COOLING IS SATISFIED AND THERE IS STILL A CALL FOR DEHUMIDIFICATION, THE HOT GAS REHEAT VALVE MUST ONCE AGAIN BE ENERGIZED.

ECONOMIZER: OUTSIDE AIR (OA) ENTHALPY MUST BE COMPARED WITH RETURN AIR (RA) ENTHALPY POINT. THE ECONOMIZER MUST ENABLE WHEN OA ENTHALPY IS LESS THAN RA ENTHALPY BY 2 BTU/LB. THE ECONOMIZER MUST DISABLE WHEN OA ENTHALPY IS GREATER THAN RA ENTHALPY.

THE SUPPLY AIR SENSOR MUST MEASURE THE DRY BULB TEMPERATURE OF THE AIR LEAVING THE EVAPORATOR COIL WHILE ECONOMIZING. WHEN ECONOMIZING IS ENABLED AND THE UNIT IS OPERATING IN THE COOLING MODE, THE ECONOMIZER DAMPER MUST MODULATE BETWEEN ITS MINIMUM POSITION AND 100% TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. MINIMUM POSITION MUST BE CALCULATED BASED ON SUPPLY FAN SPEED. IF THE SUPPLY AIR TEMPERATURE STARTS TO FALL BELOW SUPPLY AIR TEMPERATURE SETPOINT, THE OUTDOOR DAMPER MUST BE AT MINIMUM POSITION. COMPRESSORS MUST BE DELAYED FROM OPERATING UNTIL THE ECONOMIZER HAS OPENED TO 100% FOR 5 MINUTES.

VENTILATION CONTROL: WHEN THE SPACE CO2 LEVEL IS GREATER THAN OR EQUAL TO THE DESIGN MINIMUM C02 SETPOINT, THE OUTDOOR AIR DAMPER MUST OPEN TO THE DESIGN MINIMUM OUTDOOR AIR DAMPER SETPOINT. WHEN THE SPACE CO2 LEVEL IS LESS THAN OR EQUAL TO THE DCV MINIMUM CO2 SETPOINT, THE OUTDOOR AIR DAMPER MUST CLOSE TO THE DCV MINIMUM OUTDOOR AIR DAMPER SETPOINT. IF THERE IS A CALL FOR ECONOMIZER COOLING, THE DAMPER MUST BE OPENED FURTHER TO SATISFY THE COOLING REQUEST.

SUPPLY FAN: THE UNIT CONTROLLER MUST VARY THE SUPPLY FAN SPEED TO OPTIMIZE MINIMUM FAN SPEED IN ALL COOLING AND HEATING MODES.

SUPPLY DUCT STATIC PRESSURE CONTROL: THE UNIT CONTROLLER MUST MODULATE THE SUPPLY DAN OUTPUT AS REQUIRED TO MAINTAIN THE SUPPLY DUCT STATIC PRESSURE SETPOINT. IF THE SUPPLY DUCT STATIC PRESSURE FALLS BELOW THE SUPPLY AIR STATIC PRESSURE SETPOINT + DEADBAND, THE UNIT CONTROLLER MUST INCREASE THE OUTPUT TO THE SUPPLY FAN TO MAINTAIN SETPOINT. IF THE SUPPLY DUCT STATIC PRESSURE RISES ABOVE THE SUPPLY AIR STATIC PRESSURE SETPOINT + DEADBAND, THE UNIT CONTROLLER MUST DECREASE THE OUTPUT TO THE SUPPLY FAN TO MAINTAIN SETPOINT.

RELIEF AIR AND BUILDING PRESSURE CONTROL: THE BAROMETRIC RELIEF DAMPERS MUST OPEN WITH INCREASED BUILDING PRESSURE. AS THE BUILDING PRESSURE INCREASES, THE PRESSURE IN THE UNIT RETURN SECTION ALSO INCREASES, OPENING THE DAMPERS AND RELIEVING AIR.

FILTER STATUS: A DIFFERENTIAL PRESSURE SWITCH MUST MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER(S) WHEN THE FAN IS RUNNING. IF THE SWITCH CLOSES DURING NORMAL OPERATION, A DIRTY FILTER ALARM MUST ANNUNCIATE AT THE BAS.

EMERGENCY SHUTDOWN: IF THE HVAC EMERGENCY SHUTDOWN SIGNAL IS RECEIVED, THE UNIT MUST BE DE-ENERGIZED AND AN ALARM MUST BE SENT TO THE DDC SYSTEM. THE EMERGENCY SHUTDOWN SWITCH MUST BE LOCATED PER CONTROLS SHOP DRAWINGS.

SMOKE DETECTOR SHUTDOWN: THE UNIT MUST SHUT DOWN IN RESPONSE TO A SIGNAL FROM THE SMOKE DETECTOR INDICATING THE PRESENCE OF SMOKE AND AN ALARM MUST ANNUNCIATE AT THE BAS. THE SMOKE DETECTOR MUST BE INTERLOCKED TO THE UNIT THROUGH THE DRY CONTACTS OF THE SMOKE DETECTOR. A MANUAL RESET OF THE SMOKE DETECTOR MUST BE REQUIRED TO RESTART THE UNIT.

CONDENSATE OVERFLOW SHUTDOWN: THE UNIT MUST SHUT DOWN IN RESPONSE TO A SIGNAL FROM THE CONDENSATE OVERFLOW SENSOR. THE SENSOR MUST BE INTERLOCKED TO THE UNIT COOLING CONTROLLER FOR IMMEDIATE SHUTDOWN OF COOLING.

REFRIGERANT MITIGATION MODE: THE UNIT CONTROLLER WILL MONITOR THE LEAK DETECTION SYSTEM EVERY 5 SECONDS, WHEN A LEAK IS DETECTED, MITIGATION WILL BE ACTIVATED.

IN OCCUPIED MODE, THE SUPPLY FAN WILL REMAIN OPERATIONAL, AND THE COMPRESSOR(S), ELECTRIC HEATING, FUEL-FIRED HEATING, ELECTROSTATIC DEVICES, AND ANY OTHER IGNITION DEVICE STARTERS MUST BE DISABLED, AND ACTIVATE MECHANICAL VENTILATION (IF ITS REQUIRED BY SECTION 7.6.4 OF THE ASHRAE STANDARD) FOR THE DURATION OF THE MITIGATION PROCESS PLUS AN ADDITIONAL 5 MINUTES.

IN UNOCCUPIED MODE, THE SUPPLY FAN WILL REMAIN OPERATIONAL, AND THE COMPRESSOR(S), ELECTRIC HEATING, FUEL-FIRED HEATING, ELECTROSTATIC DEVICES, AND ANY OTHER IGNITION DEVICE STARTERS MUST BE DISABLED, AND ACTIVATE MECHANICAL VENTILATION (IF ITS REQUIRED BY SECTION 7.6.4 OF THE ASHRAE STANDARD) FOR THE DURATION OF THE MITIGATION PROCESS PLUS AN ADDITIONAL 5 MINUTES.

LBE Engineers ■ Architects

LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

SOUTH CAROLINA LBE INC No. 5392 CERTIFICATE OF AUTHORIZATION

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DESIGN BY:	DRAWN BY:	CHK BY:	DATE
ATH	ATH	HCG	OCTOBER 2025
SUPV	PROJ ENGR		
MJP	JP/JB		

SEAL AREA

STATE OF SOUTH CAROLINA No. 22384 10/06/2025 MICHAEL J. PAGE GIGLIO, CHAIR

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
RTU-1 CONTROLS AND OPERATION

BUILDING GLOBAL STRENGTH 628TH CIVIL ENGINEER SQUADRON

DRAWING SIZE: ARCH30 E(30X42)

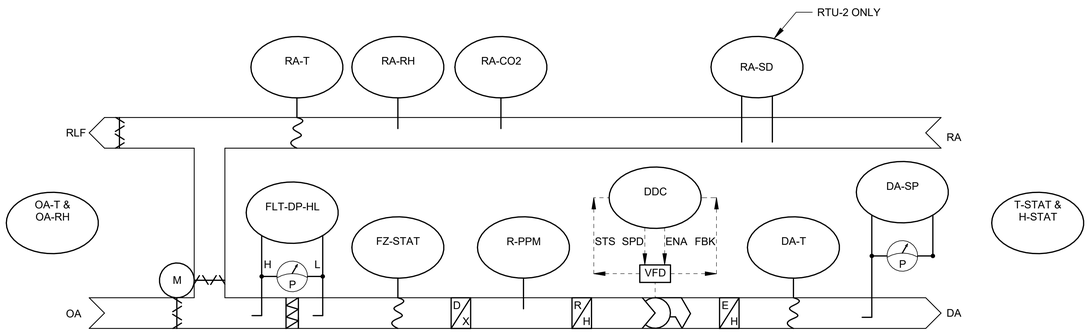
PROJECT NO. DKGV 1137999

RECORD DRAWING DATE

SHEET 27 OF 37

MI801

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION



1 RTU-2-8 CONTROL DIAGRAM

SCALE: NOT TO SCALE

RTU-2-8 POINTS LIST

POINT NAME	DESCRIPTION	HARDWARE AI	HARDWARE AO	HARDWARE BI	HARDWARE BO	SOFTWARE AV	SOFTWARE BV	SOFTWARE LOOP	SOFTWARE SCHED	SOFTWARE TREND	SOFTWARE ALARM	FAILURE MODE	SHOW ON GRAPHIC
DA-SP	DISCHARGE AIR STATIC PRESSURE	•								•	•		•
DA-SP-STP	DISCHARGE AIR STATIC PRESSURE SETPOINT					•							•
DA-T	DISCHARGE AIR TEMP	•								•			•
FLT-DP-HL	FILTER DIFFERENTIAL PRESSURE	•								•	•		•
FLT-DP-HL-SPT	FILTER DIFFERENTIAL PRESSURE HIGH LIMIT SETPOINT					•							•
FZ-STAT	DX COIL FREEZE STAT			•									•
H-STAT	SPACE RELATIVE HUMIDITY	•				•				•			•
H-STAT-STP	SPACE RELATIVE HUMIDITY SETPOINT					•				•			•
MA-D-C	MIXED AIR DAMPER CONTROL				•								•
MA-D-P	MIXED AIR DAMPER POSITION			•								FAN OFF	•
OA-RH	OUTSIDE AIR RELATIVE HUMIDITY	•				•				•			•
OA-T	OUTSIDE AIR TEMPERATURE	•								•			•
R-PPM	DUCT REFRIGERANT MONITOR	•								•	•		•
RA-CO2	RETURN AIR CO2	•								•	•		•
RA-RH	RETRUN AIR RELATIVE HUMIDITY	•								•	•		•
RA-SD	RETURN AIR SMOKE DETECTOR			•							•	FAN OFF	•
RA-T	RETURN AIR TEMP	•								•			•
SF-ENB	SUPPLY FAN ENABLE				•								•
SF-FB	SUPPLY FAN FEEDBACK	•								•			•
SF-S	SUPPLY FAN SPEED		•							•			•
SF-STS	SUPPLY FAN STATUS			•						•	•	FAN OFF	•
T-STAT	SPACE TEMPERATURE	•								•			•
T-STAT-STP	SPACE TEMPERATURE SETPOINT					•				•			•

ROOFTOP UNIT (RTU-2-8) SEQUENCE OF OPERATION:

BUILDING AUTOMATION SYSTEM INTERFACE: THE BUILDING AUTOMATION SYSTEM (BAS) MUST SEND THE CONTROLLER OCCUPIED BYPASS, MORNING WARM-UP/PRE-COOL, OCCUPIED/UNOCCUPIED, AND HEAT/COOL MODES. IF A BAS IS NOT PRESENT OR COMMUNICATION IS LOST WITH THE BAS, THE CONTROLLER MUST OPERATE USING DEFAULT MODES AND SETPOINTS.

OCCUPIED: DURING OCCUPIED PERIODS, THE SUPPLY FAN MUST RUN CONTINUOUSLY AND THE MIXED AIR DAMPERS MUST OPEN TO MAINTAIN MINIMUM VENTILATION REQUIREMENTS. UPON A CALL FOR DX HEATING OR COOLING, THE UNIT CONTROLLER MUST ENABLE THE 1ST FIXED SPEED COMPRESSOR. IF THE FIXED SPEED COMPRESSOR CANNOT SATISFY THE LOAD CONDITIONS, THE UNIT CONTROLLER MUST START THE NEXT FIXED SPEED COMPRESSOR IN SEQUENCE TO ADD TO THE TOTAL UNIT HEATING OR COOLING LOAD PERCENTAGE. THIS PROCESS MUST REPEAT UNTIL ALL OF THE FIXED SPEED COMPRESSORS HAVE BEEN STARTED OR UNTIL THE ACTIVE SPACE TEMPERATURE SETPOINT IS SATISFIED. DURING THE DX HEATING CYCLE, THE ELECTRIC HEAT MUST BE ENABLED AND USED TO HELP MAINTAIN THE ACTIVE SPACE TEMPERATURE SETPOINT. IF ECONOMIZING IS ENABLED, THE OUTDOOR AIR OR MIXED AIR DAMPERS MUST MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT AND THE RELIEF AIR DAMPER MUST TRACK THE MIXED AIR DAMPERS. THE DISCHARGE AIR TEMPERATURE SETPOINT MUST BE DYNAMICALLY RESET BASED ON THE DEVIATION OF ACTUAL SPACE TEMPERATURE FROM THE ACTIVE SPACE TEMPERATURE SETPOINT.

UNOCCUPIED: WHEN THE SPACE TEMPERATURE IS BELOW THE UNOCCUPIED HEATING SETPOINT OF 60° F (ADJ.), THE SUPPLY FAN MUST BE COMMANDED ON, THE OUTSIDE AIR DAMPER MUST REMAIN CLOSED, AND THE ELECTRIC HEAT MUST BE ENABLED. WHEN THE SPACE TEMPERATURE RISES ABOVE THE UNOCCUPIED HEATING SETPOINT OF 60° F (ADJ.) PLUS THE UNOCCUPIED DIFFERENTIAL OF 4° F (ADJ.), THE SUPPLY FAN MUST STOP AND THE ELECTRIC HEAT MUST BE DISABLED.

OPTIMAL START: THE BAS MUST MONITOR THE SCHEDULED OCCUPIED TIME, OCCUPIED SPACE SETPOINTS, AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL START OCCURS.

OPTIMAL STOP: THE BAS MUST MONITOR THE SCHEDULED UNOCCUPIED TIME, OCCUPIED SPACE SETPOINTS, AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL STOP OCCURS. WHEN THE OPTIMAL STOP MODE IS ACTIVE, THE UNIT CONTROLLER MUST MAINTAIN THE SPACE TEMPERATURE TO THE SPACE TEMPERATURE OFFSET SETPOINT. OUTSIDE AIR DAMPER MUST REMAIN ENABLED TO PROVIDE MINIMUM VENTILATION.

MORNING WARM-UP MODE: DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT A MORNING WARM-UP MODE MUST BE ACTIVATED. WHEN MORNING WARM-UP IS INITIATED, THE UNIT MUST ENABLE THE HEATING AND FAN(S). THE OUTSIDE AIR DAMPER MUST REMAIN CLOSED. WHEN THE SPACE TEMPERATURE REACHES THE OCCUPIED HEATING SETPOINT OF 70° F (ADJ.), THE UNIT MUST TRANSITION TO THE OCCUPIED MODE.

PRE-COOL MODE: DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING SETPOINT, PRE-COOL MODE MUST BE ACTIVATED. WHEN PRE-COOL IS INITIATED, THE UNIT MUST ENABLE THE FAN AND COOLING OR ECONOMIZER. THE OUTSIDE AIR DAMPER MUST REMAIN CLOSED, UNLESS ECONOMIZING. WHEN THE SPACE TEMPERATURE REACHES OCCUPIED COOLING SETPOINT OF 75° F (ADJ.), THE UNIT MUST TRANSITION TO THE OCCUPIED MODE.

OCCUPIED BYPASS: THE BAS MUST MONITOR THE STATUS OF THE ON AND CANCEL BUTTONS OF THE SPACE TEMPERATURE SENSOR. WHEN AN OCCUPIED BYPASS REQUEST IS RECEIVED FROM A SPACE SENSOR, THE UNIT MUST TRANSITION FROM ITS CURRENT OCCUPANCY MODE TO OCCUPIED BYPASS MODE AND THE UNIT MUST MAINTAIN THE SPACE TEMPERATURE TO THE OCCUPIED SETPOINTS.

HEAT/COOL MODE: WHEN THE SPACE TEMPERATURE RISES ABOVE THE OCCUPIED COOLING SETPOINT, THE MODE MUST TRANSITION TO COOLING. WHEN THE SPACE TEMPERATURE FALLS BELOW THE OCCUPIED COOLING HEATING SETPOINT THE MODE MUST TRANSITION TO HEATING. WHEN THE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING SETPOINT OR BELOW THE OCCUPIED HEATING SETPOINT, THE MODE MUST REMAIN IN ITS LAST STATE AND AN ALARM MUST ANNUNCIATE AT THE BAS. IF THE LOCAL AND COMMUNICATED SETPOINTS FAIL, THE CONTROLLER MUST DISABLE THE SUPPLY FAN AND AN ALARM MUST ANNUNCIATE AT THE BAS.

SUPPLEMENTAL HEAT FOR HEAT PUMP CONFIGURATION: THE SUPPLEMENTAL ELECTRIC HEAT MUST BE CYCLED ON AS THE LAST STAGE OF HEATING. SUPPLEMENTAL ELECTRIC HEAT MUST OPERATE CONCURRENTLY WITH THE DX HEATING, AS NEEDED, TO MAINTAIN SPACE TEMPERATURE.

DEHUMIDIFICATION: THE UNIT MUST BE IN DEHUMIDIFICATION MODE IF THE SPACE HUMIDITY IS ABOVE THE DEHUMIDIFICATION SETPOINT. IN THE DEHUMIDIFICATION MODE, THE SUPPLY AIR FAN MUST BE ENABLED, THE OUTSIDE AIR DAMPER MUST BE COMMANDED TO MINIMUM POSITION, AND THE UNIT CONTROLLER MUST ENERGIZE MECHANICAL COOLING AND THE HOT GAS REHEAT COIL MUST MODULATE.

DURING DEHUMIDIFICATION MODE, THE OUTSIDE AIR TEMPERATURE MUST BE MONITORED. IF THIS TEMPERATURE RISES ABOVE THE REHEAT CAPACITY LIMIT SETPOINT OR FALLS BELOW THE REHEAT CAPACITY LIMIT SETPOINT BY 3° F (ADJ.), THE UNIT MUST STAGE DOWN OR STAGE UP THE COMPRESSORS RESPECTIVELY TO MEET FULL OR PART LOAD CAPACITY REQUIREMENTS BASED ON AMBIENT TEMPERATURE. FACTORY INSTALLED HOT GAS REHEAT MUST ALLOW APPLICATION OF DEHUMIDIFICATION. DEHUMIDIFICATION MUST BE ALLOWED ONLY WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE 40° F AND BELOW 100° F. THE ECONOMIZER OUTSIDE AIR DAMPER MUST DRIVE TO MINIMUM POSITION DURING DEHUMIDIFICATION.

ON A CALL FOR DEHUMIDIFICATION, THE HOT GAS REHEAT VALVE IN CIRCUIT 1 MUST ENERGIZE AND THE COMPRESSOR(S) MUST ENABLE. WHEN THE HUMIDITY CONTROL SETPOINT IS SATISFIED, THE VALVE MUST BE DE-ENERGIZED AND THE COMPRESSOR(S) IN CIRCUIT 1 MUST BE DISABLED. IF THERE IS A CALL FOR 1ST STAGE COOLING WHILE IN THE DEHUMIDIFICATION MODE, NO ACTION MUST TAKE PLACE. IF THERE IS A CALL FOR 2ND STAGE COOLING, THE HOT GAS REHEAT VALVE MUST BE DE-ENERGIZED, AND THE UNIT MUST REVERT TO COOLING MODE. IF 2ND STAGE COOLING IS SATISFIED AND THERE IS STILL A CALL FOR DEHUMIDIFICATION, THE HOT GAS REHEAT VALVE MUST ONCE AGAIN BE ENERGIZED.

ECONOMIZER: OUTSIDE AIR (OA) ENTHALPY MUST BE COMPARED WITH RETURN AIR (RA) ENTHALPY POINT. THE ECONOMIZER MUST ENABLE WHEN OA ENTHALPY IS LESS THAN RA ENTHALPY BY 2 BTU/LB. THE ECONOMIZER MUST DISABLE WHEN OA ENTHALPY IS GREATER THAN RA ENTHALPY.

THE SUPPLY AIR SENSOR MUST MEASURE THE DRY BULB TEMPERATURE OF THE AIR LEAVING THE EVAPORATOR COIL WHILE ECONOMIZING. WHEN ECONOMIZING IS ENABLED AND THE UNIT IS OPERATING IN THE COOLING MODE, THE ECONOMIZER DAMPER MUST MODULATE BETWEEN ITS MINIMUM POSITION AND 100% TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. MINIMUM POSITION MUST BE CALCULATED BASED ON SUPPLY FAN SPEED. IF THE SUPPLY AIR TEMPERATURE STARTS TO FALL BELOW SUPPLY AIR TEMPERATURE SETPOINT, THE OUTDOOR DAMPER MUST BE AT MINIMUM POSITION. COMPRESSORS MUST BE DELAYED FROM OPERATING UNTIL THE ECONOMIZER HAS OPENED TO 100% FOR 5 MINUTES.

DEMAND CONTROL VENTILATION (DCV): IF THE RETURN AIR CO2 LEVEL IS GREATER THAN OR EQUAL TO THE DESIGN MINIMUM CO2 SETPOINT, THE OUTDOOR AIR DAMPER MUST OPEN TO THE DESIGN MINIMUM OUTDOOR AIR DAMPER SETPOINT. IF THERE IS A CALL FOR ECONOMIZER COOLING, THE DAMPER MUST BE OPENED FURTHER TO SATISFY THE COOLING REQUEST.

IF THE RETURN AIR CO2 LEVEL IS LESS THAN OR EQUAL TO THE DCV MINIMUM CO2 SETPOINT, THE OUTDOOR AIR DAMPER MUST CLOSE TO THE DCV MINIMUM OUTDOOR AIR DAMPER SETPOINT. IF THERE IS A CALL FOR ECONOMIZER COOLING, THE DAMPER MUST BE OPENED FURTHER TO SATISFY THE COOLING REQUEST.

IF THE RETURN AIR CO2 LEVEL IS GREATER THAN THE DCV MINIMUM CO2 SETPOINT AND LESS THAN THE DESIGN MINIMUM CO2 SETPOINT, THE OUTDOOR AIR DAMPER POSITION MUST BE MODULATED PROPORTIONALLY TO THE RETURN CO2 LEVEL RELATIVE TO A TARGET POSITION BETWEEN THE DCV MINIMUM CO2 SETPOINT AND THE DESIGN MINIMUM CO2 SETPOINT. IF THERE IS A CALL FOR ECONOMIZER COOLING, THE DAMPER MUST BE OPENED FURTHER TO SATISFY THE COOLING REQUEST.

SUPPLY FAN: THE UNIT CONTROLLER MUST VARY THE SUPPLY FAN SPEED TO OPTIMIZE MINIMUM FAN SPEED IN ALL COOLING AND HEATING MODES.

SUPPLY DUCT STATIC PRESSURE CONTROL: THE UNIT CONTROLLER MUST MODULATE THE SUPPLY FAN OUTPUT AS REQUIRED TO MAINTAIN THE SUPPLY DUCT STATIC PRESSURE SETPOINT. IF THE SUPPLY DUCT STATIC PRESSURE FALLS BELOW THE SUPPLY AIR STATIC SETPOINT + DEADBAND, THE UNIT CONTROLLER MUST INCREASE THE OUTPUT TO THE SUPPLY FAN TO MAINTAIN SETPOINT. IF THE SUPPLY DUCT STATIC PRESSURE RISES ABOVE THE SUPPLY AIR STATIC SETPOINT + DEADBAND, THE UNIT CONTROLLER MUST DECREASE THE OUTPUT TO THE SUPPLY FAN TO MAINTAIN SETPOINT.

RELIEF AIR AND BUILDING PRESSURE CONTROL: THE BAROMETRIC RELIEF DAMPERS MUST OPEN WITH INCREASED BUILDING PRESSURE. AS THE BUILDING PRESSURE INCREASES, THE PRESSURE IN THE UNIT RETURN SECTION ALSO INCREASES, OPENING THE DAMPERS AND RELIEVING AIR.

FILTER STATUS: A DIFFERENTIAL PRESSURE SWITCH MUST MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER(S) WHEN THE FAN IS RUNNING. IF THE SWITCH CLOSES DURING NORMAL OPERATION, A DIRTY FILTER ALARM MUST ANNUNCIATE AT THE BAS.

EMERGENCY SHUTDOWN: IF THE HVAC EMERGENCY SHUTDOWN SIGNAL IS RECEIVED, THE UNIT MUST BE DE-ENERGIZED AND AN ALARM MUST BE SENT TO THE DDC SYSTEM. THE EMERGENCY SHUTDOWN SWITCH MUST BE LOCATED PER CONTROLS SHOP DRAWINGS.

SMOKE DETECTOR SHUTDOWN: THE UNIT MUST SHUT DOWN IN RESPONSE TO A SIGNAL FROM THE SMOKE DETECTOR INDICATING THE PRESENCE OF SMOKE AND AN ALARM MUST ANNUNCIATE AT THE BAS. THE SMOKE DETECTOR MUST BE INTERLOCKED TO THE UNIT THROUGH THE DRY CONTACTS OF THE SMOKE DETECTOR. A MANUAL RESET OF THE SMOKE DETECTOR MUST BE REQUIRED TO RESTART THE UNIT.

CONDENSATE OVERFLOW SHUTDOWN: THE UNIT MUST SHUT DOWN IN RESPONSE TO A SIGNAL FROM THE CONDENSATE OVERFLOW SENSOR. THE SENSOR MUST BE INTERLOCKED TO THE UNIT COOLING CONTROLLER FOR IMMEDIATE SHUTDOWN OF COOLING.

REFRIGERANT MITIGATION MODE: THE UNIT CONTROLLER WILL MONITOR THE LEAK DETECTION SYSTEM EVERY 5 SECONDS, WHEN A LEAK IS DETECTED, MITIGATION WILL BE ACTIVATED.

IN OCCUPIED MODE, THE SUPPLY FAN WILL REMAIN OPERATIONAL, AND THE COMPRESSOR(S), ELECTRIC HEATING, FUEL-FIRED HEATING, ELECTROSTATIC DEVICES, AND ANY OTHER IGNITION DEVICE STARTERS MUST BE DISABLED, AND ACTIVATE MECHANICAL VENTILATION (IF ITS REQUIRED BY SECTION 7.6.4 OF THE ASHRAE STANDARD) FOR THE DURATION OF THE MITIGATION PROCESS PLUS AN ADDITIONAL 5 MINUTES.

IN UNOCCUPIED MODE, THE SUPPLY FAN WILL REMAIN OPERATIONAL, AND THE COMPRESSOR(S), ELECTRIC HEATING, FUEL-FIRED HEATING, ELECTROSTATIC DEVICES, AND ANY OTHER IGNITION DEVICE STARTERS MUST BE DISABLED, AND ACTIVATE MECHANICAL VENTILATION (IF ITS REQUIRED BY SECTION 7.6.4 OF THE ASHRAE STANDARD) FOR THE DURATION OF THE MITIGATION PROCESS PLUS AN ADDITIONAL 5 MINUTES.

LBE
Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

SOUTH CAROLINA PROFESSIONAL ENGINEER
LBE INC
No. 5392
CERTIFICATE OF AUTHORIZATION

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY:	DRAWN BY:	CHK BY:	DATE
ATH	ATH	HCG	OCTOBER 2025
SUPV	PROJ ENGR		
NJP	JP/JB		

SEAL AREA

STATE OF NORTH CAROLINA
No. 22384
10/06/2025
NICHOLAS J. PAPPAS
GIGGEY

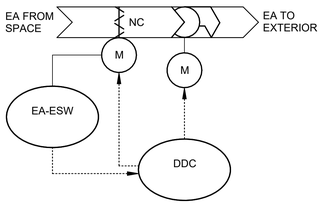
DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
RTU-2-8 CONTROLS AND OPERATION

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 28 OF 37
MI802



1 EF-1,2 CONTROL DIAGRAM

SCALE: NOT TO SCALE

EF-1,2 POINTS LIST

POINT NAME	DESCRIPTION	HARDWARE				SOFTWARE						FAILURE MODE	SHOW ON GRAPHIC
		AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM		
EA-D-C	EXHAUST AIR DAMPER CONTROL		•										•
EA-D-P	EXHAUST AIR DAMPER POSITION	•										FAN OFF	•
EF-C	FAN ENABLE				•								•
EF-S	FAN STATUS			•							•	FAN OFF	•

BUILDING EXHAUST FAN SYSTEM (EF-1,2):

GENERAL: THESE SYSTEMS CONSIST OF EXHAUST FANS THAT OPERATE CONTINUOUSLY WHILE THE BUILDING IS OCCUPIED.

OCCUPANCY MODE: DURING OCCUPIED MODE, THE EXHAUST FAN MUST ENERGIZE. PROVIDE DAMPERS THAT ARE AUTOMATICALLY CLOSED WHEN THE EMERGENCY AIR DISTRIBUTION SHUTOFF SWITCH IS ACTIVATED. THE LOW LEAKAGE DAMPERS MUST HAVE MAXIMUM LEAKAGE RATES OF 3 CFM/SQUARE FOOT (15 LITERS/SECOND/SQUARE METER) WITH A DIFFERENTIAL PRESSURE OF ONE INCH OF WATER GAGE (250 PA) ACROSS THE DAMPER.

EMERGENCY SHUTDOWN: IF THE HVAC EMERGENCY SHUTDOWN SIGNAL IS RECEIVED, THE EXHAUST FAN MUST BE DE-ENERGIZED, THE DAMPER MUST BE FULLY CLOSED, AND AN ALARM MUST BE SENT TO THE DDC SYSTEM. THE EMERGENCY SHUTDOWN SWITCH MUST BE LOCATED PER CONTROLS SHOP DRAWINGS.

BUILDING EXHAUST FAN SYSTEM (EF-3,4):

GENERAL: THESE SYSTEMS CONSIST OF CEILING EXHAUST FANS THAT OPERATE BASED ON INPUT FROM A ROOM SWITCH.

OPERATION: CEILING EXHAUST FANS MUST OPERATE BASED ON INPUT FROM A ROOM SWITCH. WHEN THE EXHAUST FAN IS COMMANDED ON BY THE SWITCH, THE EXHAUST FAN MUST ENERGIZE. EXHAUST FANS MUST BE PROVIDED WITH A SPRING LOADED ALUMINUM BACKDRAFT DAMPER THAT CLOSES WHEN THE UNIT IS OFF.

LBE Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

SOUTH CAROLINA LBE INC No. 5392 CERTIFICATE OF AUTHORITY

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY:	DRAWN BY:	CHK BY:	
ATH	ATH	HCG	
SUPV:	PROJ ENGR:		DATE:
MJP	JPJ&B		OCTOBER 2025

SEAL AREA

STATE OF SOUTH CAROLINA No. 22384 10/06/2025 HOWARD C. GIGGS, JR. PE

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
DEPARTMENT OF THE AIR FORCE
CHARLESTON, SC
AIR MOBILITY COMMAND

NAVAL RESERVE CENTER B3370

EF CONTROLS AND OPERATION

DRAWING SIZE: ARCH30 E(30X42)

PROJECT NO.
DKGV 1137999

RECORD DRAWING DATE

SHEET 29 OF 37

MI803

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION

ELECTRICAL LEGEND

- EXISTING TO REMAIN (HALFTONE)
- NEW WORK
- TO BE REMOVED/DEMOLISHED
- PANELBOARD SURFACE MOUNTED
- DISCONNECT SWITCH
- ABC (#) — HOME-RUN CONDUCTOR DESIGNATION. TEXT INDICATES PANEL NAME. NUMBER INDICATES CIRCUIT DESIGNATION.
- # — KEYNOTE
- ## — FEEDER ID, SEE FEEDER SCHEDULE ON SHEET E-601.
- TRANSFORMER
- ## AA — 125V, 20A, NEMA 5-20R, DUPLEX RECEPTACLE; ## INDICATES INCHES MOUNTED ABOVE FINISHED FLOOR, "G" INDICATES GFI, "W" INDICATES WEATHERPROOF WHILE IN USE.
- FIRE RATED PARTITION. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATINGS.

ELECTRICAL ABBREVIATIONS

(E)	EXISTING	MDP	MAIN DISTRIBUTION PANEL
1PH	SINGLE-PHASE	MFTR	MANUFACTURER
3PH	THREE-PHASE	MIN	MINIMUM
A	AMPERE	MISC	MISCELLANEOUS
AC	ALTERNATING CURRENT	MLO	MAIN LUGS ONLY
AFF	ABOVE FINISHED FLOOR	MMS	MANUAL MOTOR STARTER
AFG	ABOVE FINISHED GRADE	MOL	MAGNETIC OIL LEVEL
AH	AIR HANDLER	MOP	MAXIMUM OVERCURRENT PROTECTION
AHJ	AUTHORITY HAVING JURISDICTION	MSS	MOTOR STARTING SWITCH
AIC	AMPERE INTERRUPTING CAPACITY	MTD	MOUNTED
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	NEC	NATIONAL ELECTRICAL CODE (NFPA 70)
AT	AMPERE TRIP RATING	NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION
AWG	AMERICAN WIRE GAUGE	NESC	NATIONAL ELECTRICAL SAFETY CODE
BFG	BELOW FINISHED GRADE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
BOD	BASIS OF DESIGN	NTS	NOT TO SCALE
CKT	CIRCUIT	OC	ON CENTER
CL	CURRENT LIMITING	P	POLE
CND	CONDUIT	PF	POWER FACTOR
CTS	CURRENT TRANSFORMERS	PH	PHASE
CU	CONDENSING UNIT	PKG	PACKAGE
Cw\	CONDUIT WITH	PNL	PANEL
DS	DISCONNECT SWITCH	PWR	POWER
EF	EXHAUST FAN	RECEPT	RECEPTACLE
EGC	EQUIPMENT GROUNDING CONDUCTOR	ROHS	RESTRICTION OF HAZARDOUS SUBSTANCES
FT	FOOT	RTU	ROOFTOP UNIT
GC	GENERAL CONTRACTOR	SPD	SURGE PROTECTIVE DEVICE
GFI	GROUND FAULT CIRCUIT INTERRUPTER	SS	STAINLESS STEEL
GND	GROUND	STR	STRANDED
HP	HORSEPOWER OR HEAT PUMP	SW	SWITCH
HV	HIGH VOLTAGE	TELECOM	TELECOMMUNICATIONS
IAW	IN ACCORDANCE WITH	TYP	TYPICAL
JB	JUNCTION BOX	UFC	UNIFIED FACILITIES CRITERIA
KCMIL	THOUSAND CIRCULAR MILS	UGC	UNDERGROUND COMMUNICATION
KVA	KILOVOLT AMPERES	UGE	UNDERGROUND ELECTRICAL
KW	KILOWATT	UL	UNDERWRITERS LABORATORIES
LBS	POUNDS	UNO	UNLESS NOTED OTHERWISE
LOC	LOCAL OPERATING CONSOLE	V	VOLTS
LSC	LIFT STATION CONTROLLER	VA	VOLT AMPERES
LV	LOW VOLTAGE	VAV	VARIABLE AIR VOLUME TERMINAL UNIT
M	METER	VIF	VERIFY IN FIELD
MCA	MINIMUM CIRCUIT AMPACITY	W/	WITH
MCB	MAIN CIRCUIT BREAKER	WH	WATER HEATER
MCC	MOTOR CONTROL CENTER	WP	WATERPROOF/WEATHERPROOF
MCM	SEE KCMIL	XFMR	TRANSFORMER

ELECTRICAL CODES

- 2023 NFPA 70 NATIONAL ELECTRICAL CODE (NEC)
- UFC 3-501-01 ELECTRICAL ENGINEERING, WITH CHANGE 2
- UFC 3-520-01 INTERIOR ELECTRICAL SYSTEMS, WITH CHANGE 2
- UFC 3-560-01 OPERATION AND MAINTENANCE: ELECTRICAL SAFETY, WITH CHANGE 3

ELECTRICAL GENERAL NOTES

DEMOLITION NOTES:

1. ALL ITEMS SHOWN WITH HATCHED DARK LINES INDICATE ITEMS TO BE DEMOLISHED. ALL ITEMS SHOWN AS HALFTONE LINES ARE EXISTING TO REMAIN. SEE CODED DEMOLITION NOTES FOR SPECIFIC INFORMATION.
2. LOCATIONS OF EXISTING EQUIPMENT ARE APPROXIMATE. THE CONTRACTOR MUST EXAMINE THE SITE PRIOR TO CONSTRUCTION AND AFTER DEMOLITION HAS EXPOSED "AS-BUILT" CONDITIONS TO VERIFY EACH ITEM. THE CONTRACTOR MUST MAKE ADJUSTMENTS AND/OR ALTERATIONS AS NECESSARY TO INSTALL COMPLETE AND OPERABLE SYSTEMS IN ACCORDANCE WITH THE APPLICABLE CODES AT NO ADDITIONAL COST TO THE GOVERNMENT.
3. ALL OPENINGS AND SURFACES MADE BARE BY DEMOLITION AND/OR REMOVAL OF EQUIPMENT, CONTROLS, ETC. MUST BE REPAIRED AND/OR PATCHED TO MATCH ADJACENT FINISH. PREPARE SURFACES TO RECEIVE NEW FINISH. ALL REPAIRS AND NEW FINISH MUST BE BY TRADES SKILLED IN FINISH WORKS UNDER EMPLOY OF THE GENERAL CONTRACTOR.
4. DURING THE LIFE OF THE CONTRACT (CONSTRUCTION AND DEMOLITION TO POINT OF BENEFICIAL OCCUPANCY BY OWNER), THE CONTRACTOR MUST PROTECT ALL SYSTEMS OR PORTIONS OF SYSTEMS TO REMAIN FOR REUSE FROM DAMAGE. ALL SYSTEMS INCLUDED IN THIS CONTRACT MUST BE TESTED IN SERVICE AFTER COMPLETION OF THE CONTRACT AND MADE COMPLETE AND OPERABLE AT NO ADDITIONAL COST TO THE GOVERNMENT.
5. NOT ALL CONTROL CIRCUITS AND DEVICES ARE INDICATED. FOR EACH CONTROL DEVICE THERE IS A CIRCUIT OR FEEDER BACK TO THE POINT OF ORIGIN. WHERE WALLS, FLOORS, OR CEILINGS ARE TO BE DEMOLISHED, ALL MATERIAL, SURFACE OR FLUSH MOUNTED THEREON MUST BE REMOVED UNLESS INDICATED OR REQUIRED TO REMAIN TO SERVE A DEVICE. SEE MECHANICAL DRAWINGS FOR MECHANICAL CONTROL SYSTEMS MODIFICATIONS AND/OR ADDITIONS.
6. COORDINATE DEMOLITION WITH ALL TRADES INVOLVED.
7. EXISTING CONDUIT RUN CONCEALED IN FLOOR SLAB OR UNDERGROUND AND NOT INDICATED OR SPECIFIED FOR REUSE IN NEW WORK MUST BE ABANDONED UNLESS NOTED OTHERWISE. CUT CONDUIT FLUSH IN UNFINISHED AREAS AND AT LEAST 2" BELOW SURFACE IN FINISHED AREAS. PATCH AS NOTED IN PARAGRAPH 3 ABOVE.

NEW WORK NOTES:

1. THE CONTRACTOR MUST COORDINATE ALL REQUIRED SHUTDOWNS ON EXISTING UTILITIES WITH UTILITY PROVIDER.
2. ALL WORK MUST COMPLY WITH THE LATEST ADOPTED EDITION OF THE NESC, NEC, AND NFPA.
3. ALL WIRING MUST BE IN CONDUIT. MINIMUM CONDUIT SIZE MUST BE 3/4". MINIMUM CONDUCTOR SIZE MUST BE 12 AWG. ALL CIRCUITS MUST BE PROVIDED WITH AN INDIVIDUAL NEUTRAL AND GROUNDING CONDUCTOR WITH THE PHASE CONDUCTOR. PROVIDE A NEUTRAL CONDUCTOR ONLY IF REQUIRED BY THE CIRCUIT.
4. THE ELECTRICAL DRAWINGS ARE SCHEMATIC IN NATURE. BEFORE STARTING THE WORK, THE CONTRACTOR MUST REVIEW ALL OTHER DISCIPLINE DRAWINGS, VERIFY FIELD CONDITIONS, AND MAKE ANY REQUIRED MINOR ADJUSTMENTS. ANY MAJOR DISCREPANCIES FOUND MUST BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR.
5. ALL CONDUITS USED FOR POWER AND TELECOMMUNICATION SYSTEMS MUST BE RATED FOR THE AREA SERVED. SUPPORT ALL CONDUITS WITH ZINC COATED CONDUIT STRAPS AND SLOTTED STRUT CHANNELS FOR INDOOR LOCATIONS, IF ON THE EXTERIOR, ALL HARDWARE MUST BE STAINLESS STEEL. IN ALL EXPOSED AREAS, INSTALLATION MUST BE IN A WORKMANLIKE MANNER.
6. ALL CONDUITS MUST BE INSTALLED IN A CONCEALED MANNER WHEN POSSIBLE. IN EXPOSED AREAS, CONDUIT MUST BE RUN IN A WORKMANLIKE MANNER.
7. ALL CONDUCTORS MUST BE COPPER. CONDUCTORS 10 AWG AND SMALLER MUST BE SOLID. UNLESS NOTED OTHERWISE, CONDUCTOR INSULATION MUST BE THHN/THWN-2 OR XHHW-2.
8. ALL DEVICES, EQUIPMENT, MATERIAL, AND LABOR MUST BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE.
9. ALL ELECTRICAL EQUIPMENT AND DEVICES MUST BE MOUNTED AS PER EQUIPMENT AND DEVICE MANUFACTURER RECOMMENDATIONS.
10. CONTRACTOR MUST PROVIDE SUBMITTALS TO GENERAL CONTRACTOR FOR REVIEW AND APPROVAL OF ALL ELECTRICAL EQUIPMENT AND DEVICES DESCRIBED IN THE DRAWINGS. SUBMITTALS MUST INCLUDE CUT SHEETS, DIMENSIONS, WIRING DIAGRAMS, ACCESSORIES, OPERATION MANUALS, AND ALL NECESSARY INFORMATION FOR REVIEWER TO MAKE A SOUND EVALUATION.
11. ALL MATERIALS AND EQUIPMENT TO BE INSTALLED MUST BE NEW AND FREE OF DEFECTS. ALL ELECTRICAL EQUIPMENT MUST COMPLY WITH NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA) STANDARDS AND MUST BE NRTL LISTED AND LABELED. ALL ELECTRICAL EQUIPMENT AND MATERIALS MUST BE INSTALLED IN A WORKMANLIKE MANNER.
12. ALL EQUIPMENT, ACCESSORIES, AND ASSOCIATED INSTALLATIONS MUST MEET OR EXCEED THE MINIMUM SEISMIC RATINGS AS REQUIRED BY THE AHJ.
13. COORDINATE ALL REQUIRED FINAL CONNECTIONS TO EQUIPMENT WITH APPROVED VENDOR SHOP DRAWINGS.
14. COORDINATE FINAL EQUIPMENT/FIXTURE LOCATIONS WITH THE GENERAL CONTRACTOR. THE LOCATION AS INDICATED ON THE DRAWING IS APPROXIMATE.
15. COORDINATE ALL ELECTRICAL WORK AND EQUIPMENT WITH STRUCTURAL MEMBERS, FIXTURES, AND ALL OTHER TRADES.
16. ALL EQUIPMENT, DEVICES, AND FIXTURES SPECIFIED ARE PERFORMANCE BASED. EQUALS ARE ALLOWED AS LONG AS THEY MEET THE PERFORMANCE REQUIREMENTS OF THE SPECIFIED EQUIPMENT, DEVICES, AND FIXTURES.
17. AIC RATING OF ALL EQUIPMENT MUST MEET OR EXCEED THE UTILITY AVAILABLE FAULT CURRENT.
18. UPDATE EXISTING PANEL SCHEDULES ACCORDINGLY.
19. ALL TRANSFORMERS REMOVED MUST BE TESTED FOR PCBS BEFORE THEY LEAVE THE BASE. THE PROJECT MUST COVER THE COST OF TESTING AND DISPOSING OF THE TRANSFORMER(S). ALL PCB WASTE PRODUCED MUST BE MANAGED THROUGH 628 CES/CEIE FOR DISPOSAL WITHIN 90 DAYS OF REMOVAL. WASTE DISPOSAL MUST BE ARRANGED THROUGH THE 628 CES/CEIE HW SECTION, AND THE WASTE PROFILE AND MANIFESTS MUST BE SIGNED BY AUTHORIZED PERSONNEL.

    POC:
    MCKINZIE CAMPBELL
    MCKINZIE.CAMPBELL@US.AF.MIL
    843-963-1485
    843-794-4244

20. THE CONTRACTOR MUST VERIFY IF THE PAD-MOUNT TRANSFORMER INSTALLED HOLDS MORE THAN 55 GALLONS OF OIL. IF IT DOES, TRANSFORMER IDENTIFICATION DETAILS, SIZE, AND LOCATION MUST BE NOTED AND SUBMITTED TO THE GOVERNMENT AND BASE ENVIRONMENTAL SECTION (628TH CES/CEIE) FOR INCLUSION IN THE JB CHS-WEAPONS STATION SPCC PLAN.

    POC:
    KYLE GARRETT
    KYLE.GARRETT.1@US.AF.MIL
    843-963-1472

21. PROVIDE A COMPLETE SET OF AS-BUILT MARKUP DRAWINGS AT THE END OF THE CONSTRUCTION FOR AS-BUILT DRAWING PRODUCTION.

LBE
Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

SOUTH CAROLINA REGISTERED LBE INC. No. 5302 CERTIFICATE OF AUTHORIZATION

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DESIGN BY:	DRAWN BY:	CHK BY:	DATE
BBB	WCM	LMC	OCTOBER 2025
SUPV	PROJ ENGR		
MJP	JPJ&B		

SEAL AREA

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 21979 10/06/2025 LAURA M. MOYER

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
DEPARTMENT OF THE AIR FORCE — AIR MOBILITY COMMAND
CHARLESTON, SC
NAVAL RESERVE CENTER B3370
ELECTRICAL GENERAL NOTES

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 30 OF 37
E-001

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION

1 FIRST FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. ALL PLAN DATA BASED ON SITE SURVEY AND GOVERNMENT PROVIDED DRAWINGS. CONTRACTOR MUST VERIFY AND BECOME TOTALLY FAMILIAR WITH ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK.

KEYNOTES

1 DEMOLISH DISCONNECT FOR EXHAUST FAN(S) (BELOW THE ROOF LEVEL, ACCESSIBLE FROM THE CEILING SPACE), INCLUDING CONDUIT AND CONDUCTORS BACK TO THE SOURCE PANEL.

2 DISCONNECT AND REMOVE EXISTING TRANSFORMER (E)T3370, RETURN TO GOVERNMENT. DEMOLISH EXISTING PAD AND GROUNDING SYSTEM COMPLETE. PROTECT AND EVALUATE PRIMARY AND SECONDARY CIRCUITS INCLUDING CONDUIT AND CONDUCTORS FOR REUSE IN NEW WORK. REMOVE AND SAVE EXISTING METER AND COMMUNICATIONS FOR REUSE IN NEW WORK, DEMOLISH EXISTING 200A CTS.

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: BBB
DRAWN BY: WCM
CHK BY: LMC
SUPV: KJP
PROJ ENGR: JPJ&B
DATE: OCTOBER 2025

SEAL AREA

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 21979 10/06/2025 ANDREW M. JOYCE

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

LBE
Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

SOUTH CAROLINA PROFESSIONAL ENGINEERING LICENSURE LBE INC No. 5392 CERTIFICATE OF AUTHORIZATION

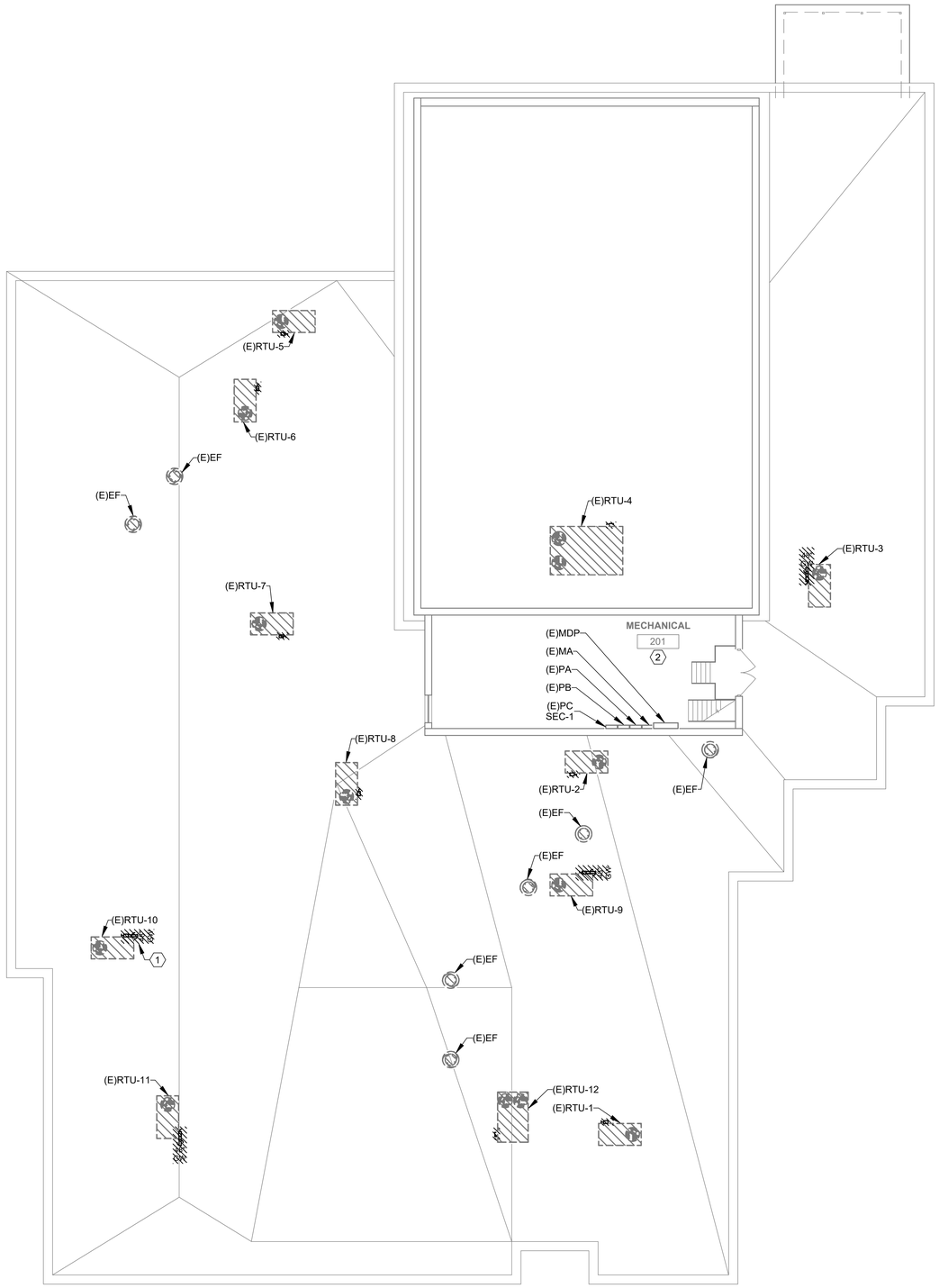
PLAN NORTH

0' 4' 8' 16'
SCALE: 1/8"=1'-0
GRAPHIC SCALE

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
FIRST FLOOR DEMOLITION PLAN

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 31 OF 37
ED101

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION



1 ROOF ELECTRICAL DEMOLITION PLAN

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

GENERAL NOTES

1. ALL PLAN DATA BASED ON SITE SURVEY AND GOVERNMENT PROVIDED DRAWINGS. CONTRACTOR MUST VERIFY AND BECOME TOTALLY FAMILIAR WITH ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK.
2. DISCONNECT MECHANICAL EQUIPMENT, DEMOLISH CIRCUIT INCLUDING FEED BREAKER, CONDUIT, CONDUCTORS, AND DISCONNECT SWITCH BACK TO SOURCE PANEL. LABEL BREAKERS NOT BEING REMOVED AS SPARE.
3. DISCONNECT RECEPTACLES, DEMOLISH CIRCUIT INCLUDING CONDUIT AND CONDUCTORS BACK TO NEAREST JUNCTION BOX.
4. DEMOLISH DISCONNECT FOR EXHAUST FAN(S). PROTECT CONDUCTORS FOR REUSE IN NEW WORK. WHERE EQUIPMENT IS NOT BEING REINSTALLED, DEMOLISH CIRCUIT INCLUDING CONDUIT AND CONDUCTORS COMPLETELY, LABEL THE CIRCUIT BREAKER AS SPARE.

KEYNOTES

1 DISCONNECT RECEPTACLE CIRCUIT, EVALUATE AND PROTECT CIRCUIT INCLUDING CONDUIT AND CONDUCTORS FOR REUSE IN NEW WORK.

2 MECHANICAL 201 IS BELOW THE ROOF LEVEL. ADDITIONAL EQUIPMENT IN MECHANICAL ROOM OMITTED FOR CLARITY.

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY:	DRAWN BY:	CHK BY:	DATE
BBB	WCM	LMC	OCTOBER 2025
SUPV	PROJ ENGR		
MJP	JPJ&B		

SEAL AREA

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 21979 10/06/2025 ANDREW M. JOYCE

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
DEPARTMENT OF THE AIR FORCE — AIR MOBILITY COMMAND
CHARLESTON, SC
NAVAL RESERVE CENTER B3370
ROOF ELECTRICAL DEMOLITION PLAN

SOUTH CAROLINA PROFESSIONAL ENGINEERING CERTIFICATE OF AUTHORIZATION LBE INC No. 5392

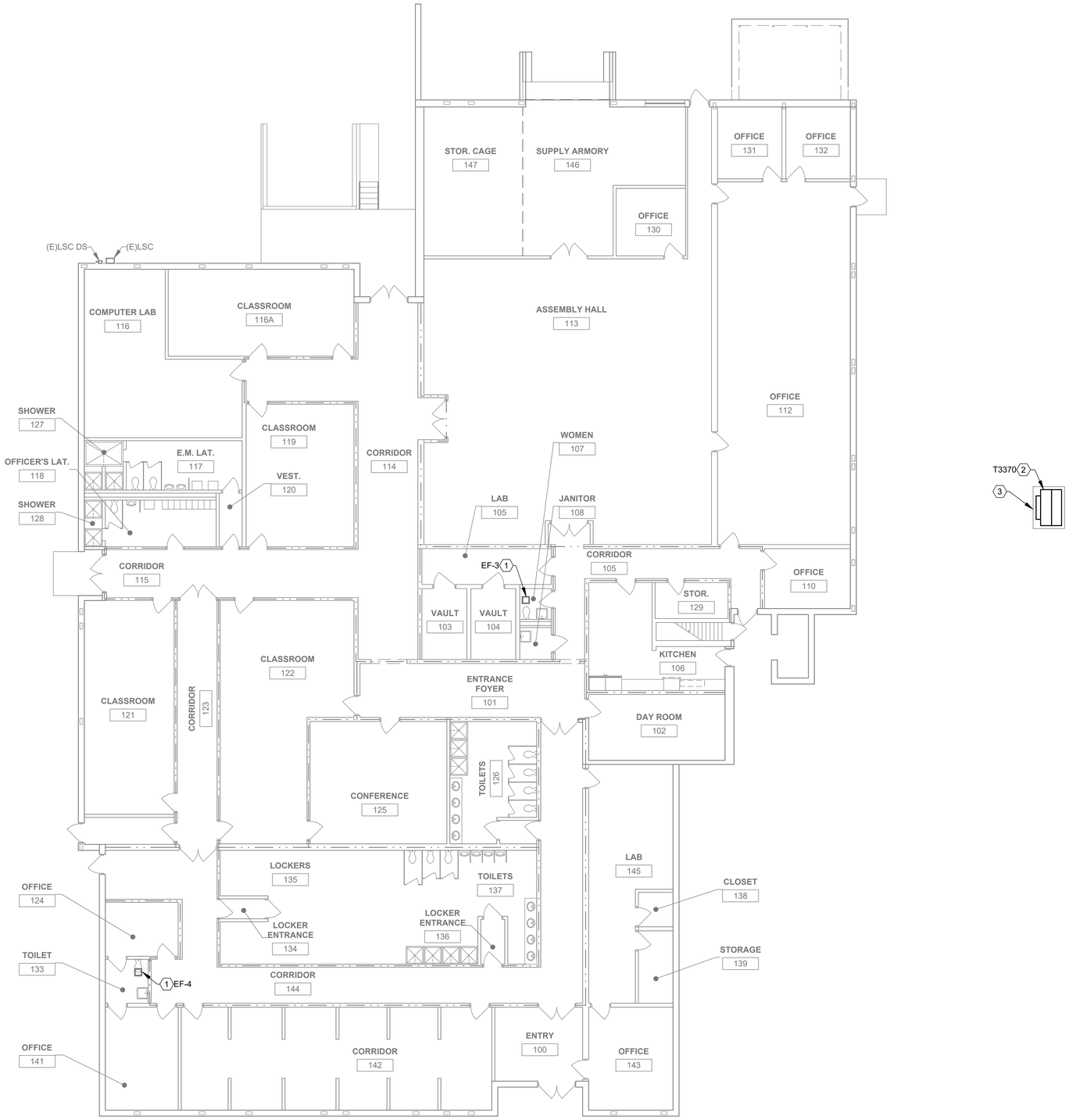
PLAN NORTH

0' 4' 8' 16'
SCALE: 1/8"=1'-0
GRAPHIC SCALE

Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 32 OF 37
ED102

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION



1 FIRST FLOOR ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. ALL PLAN DATA BASED ON SITE SURVEY AND GOVERNMENT PROVIDED DRAWINGS. CONTRACTOR MUST VERIFY AND BECOME TOTALLY FAMILIAR WITH ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK.

KEYNOTES

1 CONNECT EXHAUST FAN TO EXISTING CIRCUIT, MODIFY/EXTEND CIRCUIT AS NEEDED FOR A COMPLETE INSTALLATION. THE ROOM LIGHT SWITCH WILL SERVE AS THE DISCONNECTING MEANS.

2 PROVIDE 300KVA TRANSFORMER. CONNECT TO EXISTING CIRCUITS, MINIMUM SECONDARY CIRCUIT SIZING PROVIDED ON SHEET E-601, EXTEND/MODIFY EXISTING CIRCUITS AS NEEDED TO PROVIDE A COMPLETE INSTALLATION. REINSTALL EXISTING METER ON NEW TRANSFORMER. PROVIDE 800A CTS AND ADJUST METER MULTIPLIER FOR COMPLETE METER INSTALLATION.

3 PROVIDE TRANSFORMER PAD AS SHOWN ON SHEET E-501. IF GRASS RESEEDING IS NECESSARY, SEE SHEET C-501.

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY: BBB
DRAWN BY: WCM
CHK BY: LMC
SUPV: KJP
PROJ ENGR: JPJ&B
DATE: OCTOBER 2025

SEAL AREA

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 21979 10/06/2025 LARRY M. MOYER

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE — AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
FIRST FLOOR ELECTRICAL PLAN

SOUTH CAROLINA PROFESSIONAL ENGINEER LBE INC No. 5392 LICENSED TO OFFER ENGINEERING SERVICES

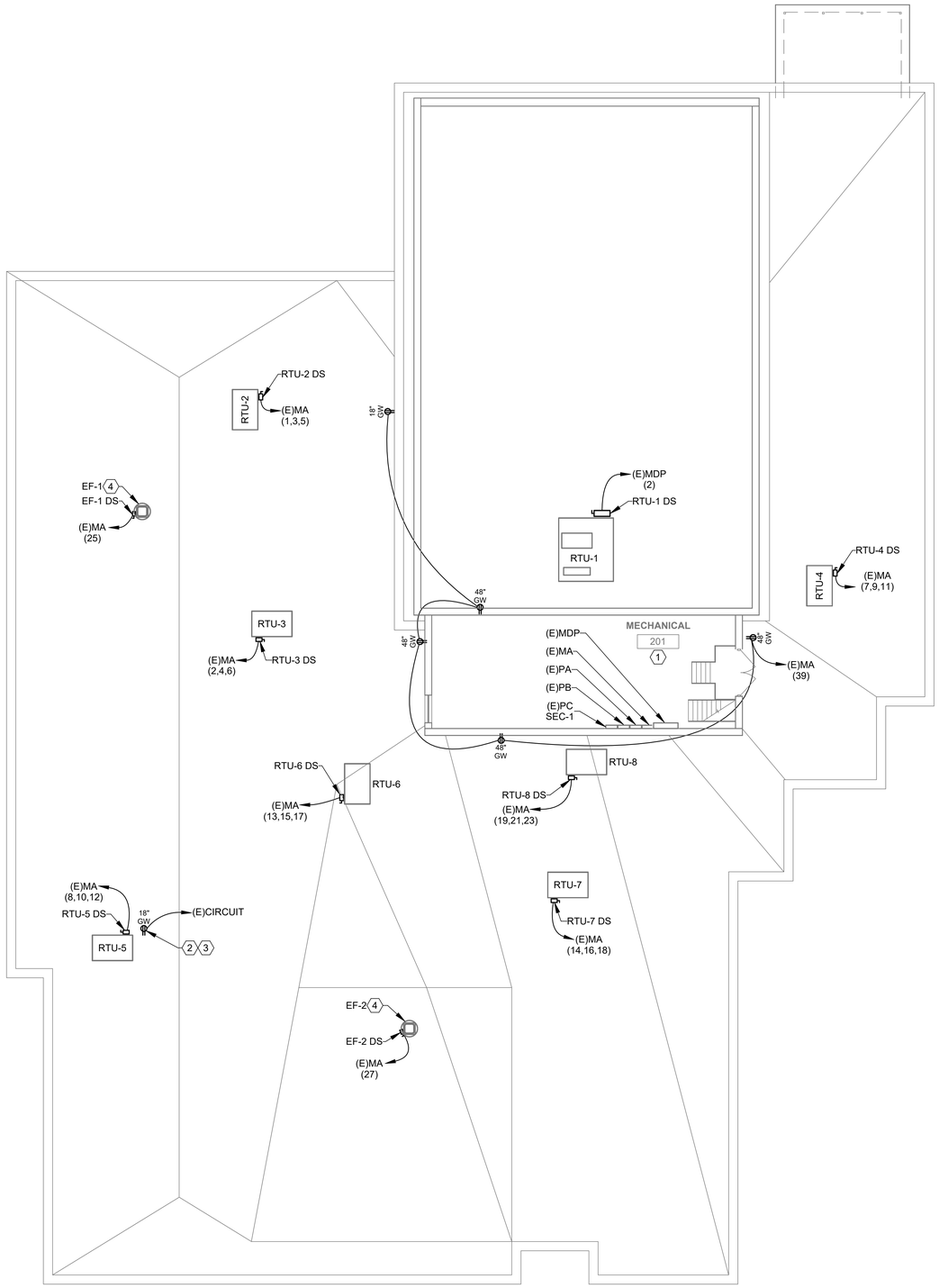
PLAN NORTH

0' 4' 8' 16'
SCALE: 1/8"=1'-0
GRAPHIC SCALE

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 33 OF 37
EP101

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION

LBE Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461



1 ROOF ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. ALL PLAN DATA BASED ON SITE SURVEY AND GOVERNMENT PROVIDED DRAWINGS. CONTRACTOR MUST VERIFY AND BECOME TOTALLY FAMILIAR WITH ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK.

KEYNOTES

1 MECHANICAL 201 IS BELOW THE ROOF LEVEL. ADDITIONAL EQUIPMENT IN MECHANICAL ROOM OMITTED FOR CLARITY.

2 PROVIDE SELF-SUPPORTED, FIELD-CONSTRUCTED STAINLESS STEEL SUPPORT FOR THE MAINTENANCE RECEPTACLE. MOUNT THE SUPPORT TO THE CURB FOR THE MECHANICAL EQUIPMENT WITHOUT IMPEDING MAINTENANCE CLEARANCE.

3 CONNECT RECEPTACLE TO EXISTING CIRCUIT.

4 PROVIDE CIRCUIT FOR EXHAUST FAN INCLUDING CONDUIT, CONDUCTORS, AND DISCONNECT SWITCH BACK TO PANEL AS INDICATED.

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DSGN BY:	DRAWN BY:	CHK BY:	
BBB	WCM	LMC	
SUPV	PROJ ENGR		DATE
MJP	JPJ&B		OCTOBER 2025

SEAL AREA

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 21979 10/06/2025 LARRY M. MOYER

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
ROOF ELECTRICAL PLAN

SOUTH CAROLINA LBE INC No. 5392 LICENSE OF AUTHORITY

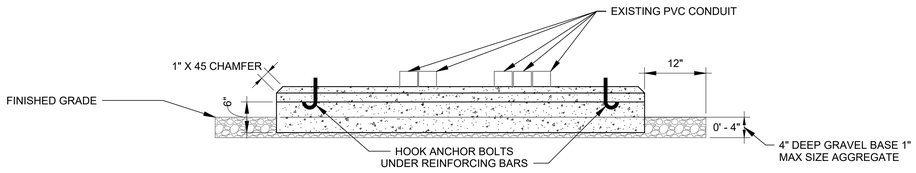
PLAN NORTH

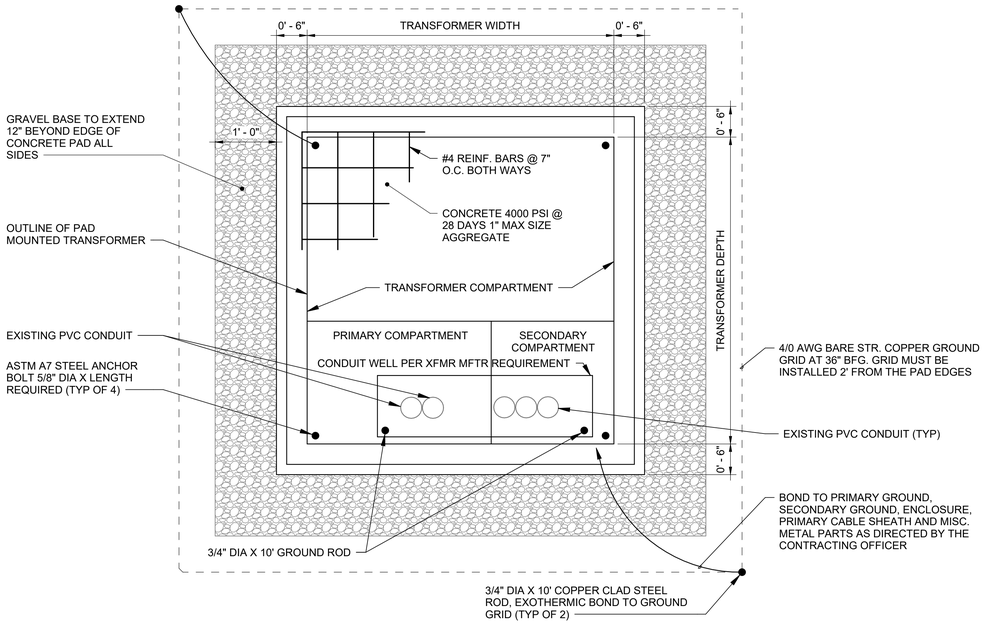
0' 4' 8' 16'
SCALE: 1/8"=1'-0
GRAPHIC SCALE

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 34 OF 37
EP102

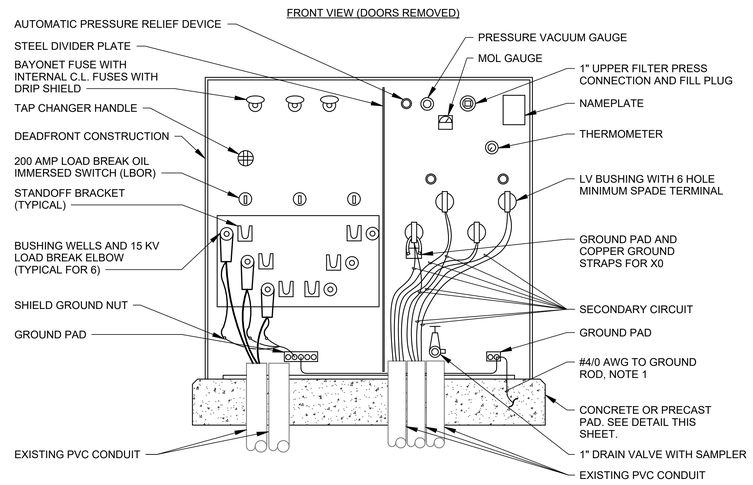
100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION

LBE Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461





1 TRANSFORMER PAD DETAIL
SCALE: NOT TO SCALE



NOTES:
1. INSTALL GROUND RODS AS REQUIRED TO OBTAIN MIN. RESISTANCE OF 5 OHMS BETWEEN NEUTRAL AND EARTH. EXOTHERMICALLY WELD CONNECTIONS.
2. LOOP FED TRANSFORMER SHOWN.
3. SEE GROUNDING GRID, SEE DETAIL THIS SHEET.
4. PROVIDE LIGHTNING ARRESTORS ON ALL END OF LINE TRANSFORMERS. CONNECTION TO EXISTING GROUNDING SYSTEM MUST BE MADE USING HYDRAULIC CRIMPING. SPLIT BOLT CONNECTIONS MUST NOT BE PERMITTED.
5. SEE SHEET E-601 FOR ADDITIONAL INFORMATION.

2 PAD MOUNTED TRANSFORMER
SCALE: NOT TO SCALE

LBE
Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

SOUTH CAROLINA
LBE INC
No. 5392
CERTIFICATE OF AUTHORITY NO.

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DESIGN BY:	DRAWN BY:	CHK BY:	
BBB	WCM	LMC	
SUPV	PROJ ENGR		DATE
MJP	JPJ&B		OCTOBER 2025

SEAL AREA

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 21979
10/06/2025
LARRY M. MOKES

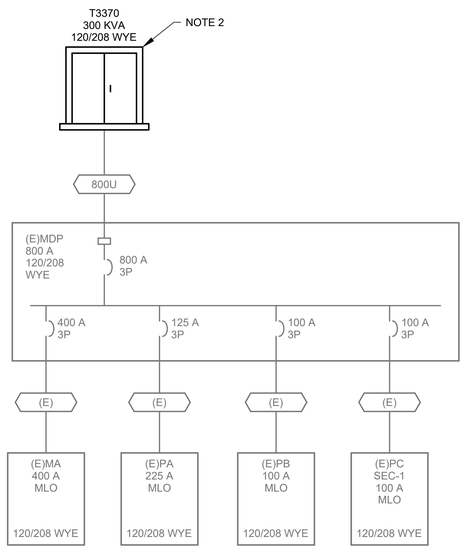
DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
DEPARTMENT OF THE AIR FORCE
CHARLESTON, SC
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
ELECTRICAL DETAILS

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 35 OF 37
E-501

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION



NOTES:
1. ELECTRICAL DISTRIBUTION SYSTEM DOWN STREAM OF THE TRANSFORMER IS NOT BEING MODIFIED IN THIS CONTRACT. PARTIAL ONE-LINE PROVIDED FOR REFERENCE ONLY.
2. BASED ON RESPONSE TO RFI-009, THE EXISTING 150KVA TRANSFORMER WILL BE UPGRADED TO A 300KVA TRANSFORMER. REUSE THE EXISTING CIRCUIT VERIFIED ON 8/12/2025 AS PARALLEL 600 KCMIL CONDUCTORS.

1 PARTIAL ONE-LINE DIAGRAM

SCALE: NOT TO SCALE

DISCONNECT SWITCH SCHEDULE

TAG	AMPERE RATING	VOLTAGE RATING (V)	POLES	FUSIBLE TYPE	NEMA RATING	NOTES
EF-1 DS	30 A	240	2	NON-FUSIBLE	NEMA 4X	--
EF-2 DS	30 A	240	2	NON-FUSIBLE	NEMA 4X	--
RTU-1 DS	400 A	240	3	NON-FUSIBLE	NEMA 4X	1
RTU-2 DS	60 A	240	3	NON-FUSIBLE	NEMA 4X	1
RTU-3 DS	60 A	240	3	NON-FUSIBLE	NEMA 4X	1
RTU-4 DS	60 A	240	3	NON-FUSIBLE	NEMA 4X	1
RTU-5 DS	60 A	240	3	NON-FUSIBLE	NEMA 4X	1
RTU-6 DS	60 A	240	3	NON-FUSIBLE	NEMA 4X	1
RTU-7 DS	60 A	240	3	NON-FUSIBLE	NEMA 4X	1
RTU-8 DS	60 A	240	3	NON-FUSIBLE	NEMA 4X	1

NOTE:
1. IF RTU IS PROVIDED WITH INTEGRAL DISCONNECTING MEANS MEETING THE REQUIREMENTS OF THE NEC, A SEPARATE DISCONNECT SWITCH IS NOT REQUIRED.

FEEDER SCHEDULE

FEEDER ID	CIRCUIT SIZE	CONDUIT FILL
(E)	EXISTING	0%
15/1	3/4" C,1#12,#12N,#12G	7%
45D	3/4" C,3#6,#10G	32%
60D	1" C,3#4,#10G	31%
225D	2" C,3-4/0,#4G	31%
800U	(2)3-1/2" C,3-600kcmil,600kcmil N	30%

VOLTAGE DROP SCHEDULE

DEVICE	FEEDER VOLTAGE DROP	BRANCH CIRCUIT MAX VOLTAGE DROP	BRANCH CIRCUIT CIRCUIT NUMBER	BRANCH CIRCUIT WIRE SIZE	TOTAL VOLTAGE DROP
T3370	0.00%				0.00%
(E)MDP	0.67%	0.40%	2	4/0	1.07%
(E)MA	0.77%	1.63%	39	#12	2.40%
(E)PC SEC-1	0.79%				0.79%

NOTE:
1. BRANCH CIRCUIT WITH THE HIGHEST VOLTAGE DROP IS SHOWN PER DEVICE.

MECHANICAL EQUIPMENT FAULT CURRENT SCHEDULE

LOAD NAME	FAULT AT DEVICE	SOURCE PANEL
RTU-1	14,479 A	(E)MDP
RTU-8	11,802 A	(E)MA
RTU-7	7,486 A	(E)MA
RTU-4	4,311 A	(E)MA
RTU-6	3,985 A	(E)MA
RTU-2	3,305 A	(E)MA
RTU-3	3,192 A	(E)MA
RTU-5	2,177 A	(E)MA
EF-2	742 A	(E)MA
EF-1	561 A	(E)MA

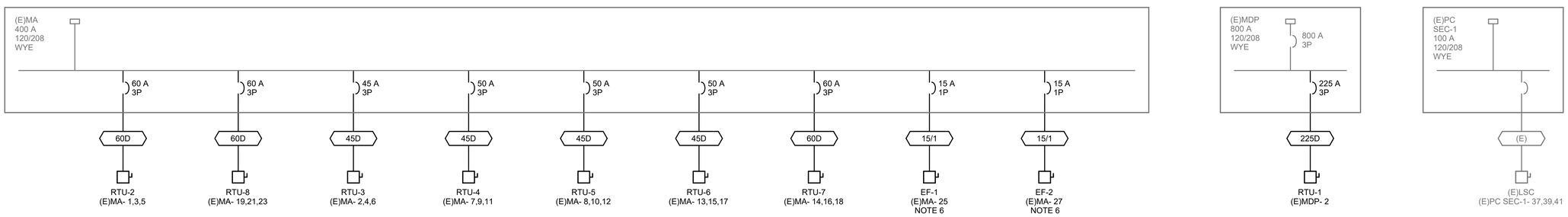
TRANSFORMER SCHEDULE

TAG	MFTR	TYPE	VOLTAGE	RATING	NOTES
T3370	LARSON ELECTRONICS	MT-PML-R7-3P-GMP-300KVA-YT-LT-DF-C6-FM-CS-1B4-M1	7970/13800 WYE - 120/208 WYE	300 kVA	1, 2, 3, 4, 5

NOTES:
1. CONNECTION TO EXISTING GROUNDING SYSTEM MUST BE MADE USING HYDRAULIC CRIMPING. SPLIT BOLT CONNECTIONS WILL NOT BE PERMITTED.
2. SEE SHEET E-501 FOR ADDITIONAL DETAIL.
3. PROVIDE WITH THE FOLLOWING STANDARD FEATURES:
   A. PROVISIONS FOR BUSHING MOUNTED CTS
   B. LASER-SCRIBED ANODIZED NAMEPLATE
   C. STAINLESS STEEL GROUNDING PADS, ONE EACH IN HV AND LV COMPARTMENTS
   D. CAPTIVE PENTAHEAD BOLT
4. PROVIDE WITH THE FOLLOWING OPTIONS/ACCESSORIES:
   A. ALL STAINLESS STEEL ENCLOSURE
   B. 1-INCH FILL PLUG
   C. 1-INCH DRAIN VALVE W/SAMPLING DEVICE IN LV COMPARTMENT
   D. REMOVABLE NEUTRAL GROUND STRAP
   E. DIAL TYPE THERMOMETER
   F. LIQUID LEVEL GAUGE
   G. PRESSURE VACUUM GAUGE
   H. PRESSURE RELIEF VALVE
   I. HV WARNING SIGNS
   J. PHENOLIC TAG TO IDENTIFY
      a. TRANSFORMER # (FEATURE ID)
      b. FACILITY NAME
      c. ASSET #
      d. CIRCUIT # AND SEGMENT DESIGNATION
5. BOD MANUFACTURER AND MODEL PROVIDED FOR REFERENCE ONLY. THE CONTRACTOR IS NOT REQUIRED OR OBLIGATED TO PROVIDE THIS PRODUCT. IT IS ONLY USED AS A REFERENCE FOR A COMMERCIALLY AVAILABLE PRODUCT MEETING DESIGN INTENT.

TRANSFORMER SPECIFICATIONS:

TEMP RISE	65 DEG. C RISE
IMPEDANCE	1.2-6.0% TYPICAL
PRIMARY VOLTAGE	13800Y/7970-WYE - 95KV BIL
WINDINGS	PRIMARY/SECONDARY MUST BE COPPER
TAPS	2@2 1/2% ABOVE AND 2@ 2 1/2% BELOW
CONFIGURATION	DEAD FRONT LOOP FEED
PRIMARY BUSHINGS	SIX (6) 1 PIECE 15KV 200AMP LOAD BREAK
SECONDARY VOLTS	208Y-120V
SEC. BUSHINGS	6 HOLE MINIMUM SPADE TERMINALS
FUSING	BAY-O-NET OIL-IMMERSED, FAULT SENSING IN SERIES W/CURRENT LIMITING INSULATING FLUID
PRIMARY SWITCH	1 EA. TWO POSITION, 200AMP.
SECONDARY SWITCH	1 EA. MUST ISOLATE SECONDARY WINDINGS
CABINET	20 INCH DEEP 304 STAINLESS STEEL
TANK MATERIAL	304 STAINLESS STEEL
PAINT COLOR	BELL GREEN (#7GY 3.29/1.5)



NOTES:
1. SCHEMATIC PROVIDED BASED ON BOD EQUIPMENT AND DESIGN INFORMATION. ALL SIZING MUST BE IAW THE NEC AND FINAL EQUIPMENT SELECTIONS.
2. WIRE SIZES ARE BASED ON ANTICIPATED DESIGN CONDITIONS. VERIFICATION OF FINAL INSTALLED EQUIPMENT MUST BE PERFORMED AND AMPACITY ADJUSTMENTS MUST BE MADE IF TERMINAL RATINGS DIFFER FROM DESIGN.
3. DIAGRAMS SHOWN ARE ANTICIPATED CONDITIONS. ACTUAL WIRING CONFIGURATIONS IN FIELD MAY VARY. PERFORM ALL WIRING IAW MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE NEC.
4. SEE DISCONNECT SWITCH SCHEDULE ON THIS SHEET INDICATING RATINGS. CIRCUIT SIZING IS BASED ON BASIS OF DESIGN EQUIPMENT. DETERMINE FINAL CIRCUIT SIZING FROM NAMEPLATE RATINGS OF ANY EQUIPMENT PROVIDED WITH AN MCA AND MOP AT TIME OF INSTALLATION PER NEC 440.4(B).
5. SEE FEEDER SCHEDULE ON THIS SHEET FOR CIRCUIT SIZING.
6. CIRCUIT DESIGNATION ONLY APPLIES IF EXISTING CIRCUITS ARE NOT USED. IF EXISTING CIRCUITS ARE REUSED CIRCUIT DESIGNATION IS UNKNOWN AND MUST BE IDENTIFIED DURING CONSTRUCTION.
7. NO WORK IS ASSOCIATED WITH THE CURRENT LIFT STATION CONTROLLER.

2 MECHANICAL EQUIPMENT SCHEMATIC

SCALE: NOT TO SCALE

LBE
Engineers ■ Architects
LBE, Inc
105 N. Highway 52,
Moncks Corner, SC 29461

SOUTH CAROLINA PROFESSIONAL ENGINEER CERTIFICATE OF AUTHENTICITY
LBE INC
No. 5392

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DESIGN BY: BBB
DRAWN BY: WCM
CHK BY: LMC
SUPV: MJP
PROJ ENGR: JPJ&B
DATE: OCTOBER 2025

SEAL AREA

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 21979 10/06/2025 LARRY M. JOYCE

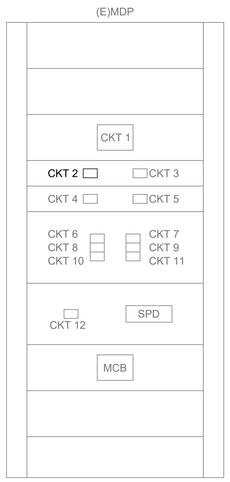
DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
CHARLESTON, SC
DEPARTMENT OF THE AIR FORCE
AIR MOBILITY COMMAND
NAVAL RESERVE CENTER B3370
PARTIAL ONE-LINE DIAGRAM, MECHANICAL EQUIPMENT SCHEMATIC, AND ELECTRICAL SCHEDULES

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 36 OF 37
E-601

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION



1 (E)MDP ELEVATION
SCALE: NOT TO SCALE

SWITCHBOARD: (E)MDP

LOCATION: MECHANICAL 201
SUPPLY FROM: T3370
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 120/208 WYE
PHASES: 3
WIRES: 4

MINIMUM INTERRUPTING CAPACITY: EXISTING A
PANEL RATING: 800 A
PANEL TYPE AND BREAKER RATING: MCB 800A

NOTES:
N/A

CKT	CIRCUIT DESCRIPTION	# OF POLES	FRAME SIZE	TRIP RATING	LOAD	REMARKS
1	(E)MA	3	400 A	400 A	92071 VA	--
2	RTU-1	3	225 A	225 A	63191 VA	--
3	(E)PA	3	125 A	125 A	17000 VA	--
4	(E)CIRCUIT	3	200 A	200 A	17000 VA	--
5	(E)SPACE	1	--	--	--	--
6	(E)PB	3	100 A	100 A	17000 VA	--
7	(E)PC SEC-1	3	100 A	100 A	16987 VA	--
8	(E)SPACE	3	--	--	--	--
9	(E)CIRCUIT	3	100 A	100 A	17000 VA	--
10	(E)SPACE	3	--	--	--	--
11	(E)SPACE	3	--	--	--	--
12	(E)SPD	3	30 A	30 A	0 VA	--
				TOTAL CONNECTED LOAD:	240248 VA	
				TOTAL AMPS:	667 A	

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
HVAC	153438 VA	85.00%	130422 VA		
RECEPTACLE	1080 VA	100.00%	1080 VA	**TOTAL CONNECTED LOAD:**	240248 VA
Spare	84987 VA	100.00%	84987 VA	**TOTAL ESTIMATED DEMAND:**	217233 VA
POWER	744 VA	100.00%	744 VA	**TOTAL CONNECTED CURRENT:**	667 A
				TOTAL ESTIMATED DEMAND CURRENT:	603 A

NOTES:
1. "Spare" LOAD CLASSIFICATION IS THE ESTIMATED EXISTING LOAD BASED ON SITE INVESTIGATION AND AS-BUILT DATA. CONTRACTOR TO VERIFY LOADS AS REQUIRED.
2. HVAC LOAD DEMAND FACTOR IS DETERMINED BY UFC 3-501-01, APPENDIX C, TABLE C-1, NAVY CODE 171 40, DRILL HALL.
3. CIRCUITS WITH AN (E) ARE NOT MODIFIED IN THIS CONTRACT.

BRANCH PANEL: (E)MA

LOCATION: MECHANICAL 201
SUPPLY FROM: (E)MDP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 120/208 WYE
PHASES: 3
WIRES: 4

MINIMUM INTERRUPTING CAPACITY: EXISTING A
PANEL RATING: 400 A
PANEL TYPE AND BREAKER RATING: MLO

NOTES:
N/A

CKT	CIRCUIT DESCRIPTION	CKT TYPE	CIRCUIT SIZE	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT SIZE	CKT TYPE	CIRCUIT DESCRIPTION	CKT
1						4479 VA	3819 VA										2
3	RTU-2	--	1" C,3#4,#10G	60 A	3			4479 VA	3819 VA			3	45 A	3/4" C,3#6,#10G	--	RTU-3	4
5										4479 VA	3819 VA						6
7						4275 VA	4275 VA										8
9	RTU-4	--	3/4" C,3#6,#10G	50 A	3			4275 VA	4275 VA			3	50 A	3/4" C,3#6,#10G	--	RTU-5	10
11										4275 VA	4275 VA						12
13						4275 VA	4479 VA										14
15	RTU-6	--	3/4" C,3#6,#10G	50 A	3			4275 VA	4479 VA			3	60 A	1" C,3#4,#10G	--	RTU-7	16
17										4275 VA	4479 VA						18
19						4479 VA	0 VA										20
21	RTU-8	--	1" C,3#4,#10G	60 A	3			4479 VA	0 VA			3	35 A	--	--	SPARE	22
23										4479 VA	0 VA						24
25	EF-1		3/4" C,1#12,#12N,#12G	15 A	1	372 VA	0 VA										26
27	EF-2		3/4" C,1#12,#12N,#12G	15 A	1			372 VA	0 VA			3	45 A	--	--	SPARE	28
29	SPARE		--	20 A	1					0 VA	0 VA						30
31						0 VA	0 VA										32
33	SPARE	--	--	35 A	3			0 VA	0 VA			3	40 A	--	--	(E)SPARE	34
35										0 VA	0 VA						36
37	(E)CIRCUIT	--	--	20 A	1	0 VA	0 VA					1	20 A	--	--	(E)ROOF TOP RECEPTACLE	38
39	ROOF TOP RECEPTACLE	GFI	3/4" C,1#12,#12N,#12G	20 A	1			1080 VA	0 VA			1	20 A	--	--	(E)ROOF TOP RECEPTACLE	40
41	(E)SPACE		--	--	1					--	--	1	--	--	--	(E)SPACE	42
				TOTAL LOAD:		30454 VA		31534 VA		30082 VA							
				TOTAL AMPS:		254 A		263 A		251 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
HVAC	90247 VA	85.00%	76710 VA		
RECEPTACLE	1080 VA	100.00%	1080 VA	**TOTAL CONNECTED LOAD:**	92071 VA
POWER	744 VA	100.00%	744 VA	**TOTAL ESTIMATED DEMAND:**	78534 VA
				TOTAL CONNECTED CURRENT:	256 A
				TOTAL ESTIMATED DEMAND CURRENT:	218 A

NOTES:
1. HVAC LOAD DEMAND FACTOR IS DETERMINED BY UFC 3-501-01, APPENDIX C, TABLE C-1, NAVY CODE 171 40, DRILL HALL.
2. CIRCUITS WITH AN (E) ARE NOT MODIFIED IN THIS CONTRACT.

BRANCH PANEL: (E)PC SEC-1

LOCATION: MECHANICAL 201
SUPPLY FROM: (E)MDP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 120/208 WYE
PHASES: 3
WIRES: 4

MINIMUM INTERRUPTING CAPACITY: EXISTING A
PANEL RATING: 100 A
PANEL TYPE AND BREAKER RATING: MLO

NOTES:
N/A

CKT	CIRCUIT DESCRIPTION	CKT TYPE	CIRCUIT SIZE	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT SIZE	CKT TYPE	CIRCUIT DESCRIPTION	CKT
1	(E)RECEPTACLE RM 112	--	--	20 A	1	447 VA	447 VA					1	20 A	--	--	(E)RECEPTACLE RM 144	2
3	(E)RECEPTACLE RM 122	--	--	20 A	1			447 VA	447 VA			1	20 A	--	--	(E)CIRCUIT	4
5	(E)RECEPTACLE RM 122	--	--	20 A	1					447 VA	447 VA	1	20 A	--	--	(E)RECEPTACLE RM 144	6
7	(E)RECEPTACLE RM 144	--	--	20 A	1	447 VA	447 VA					1	20 A	--	--	(E)RECEPTACLE RM 146	8
9	(E)RECEPTACLE RM 122	--	--	20 A	1			447 VA	447 VA			1	20 A	--	--	(E)RECEPTACLE RM 147	10
11	(E)RECEPTACLE RM 122	--	--	20 A	1					447 VA	447 VA	1	20 A	--	--	(E)RECEPTACLE RM 148 ENTRY	12
13	(E)RECEPTACLE RM 116	--	--	20 A	1	447 VA	447 VA					1	20 A	--	--	(E)RECEPTACLE RM 140	14
15	(E)RECEPTACLE RM 116	--	--	20 A	1			447 VA	447 VA			1	20 A	--	--	(E)RECEPTACLE RM 140	16
17	(E)RECEPTACLE RM 116	--	--	20 A	1					447 VA	447 VA	1	20 A	--	--	(E)RECEPTACLE RM 140	18
19	(E)RECEPTACLE RM 143	--	--	20 A	1	447 VA	447 VA					1	20 A	--	--	(E)RECEPTACLE RM 140	20
21	(E)RECEPTACLE RM 142	--	--	20 A	1			447 VA	447 VA			1	20 A	--	--	(E)RECEPTACLE RM 140	22
23	(E)RECEPTACLE RM 142	--	--	20 A	1					447 VA	447 VA	1	20 A	--	--	(E)RECEPTACLE RM 140	24
25	(E)RECEPTACLE RM 141	--	--	20 A	1	447 VA	447 VA					1	20 A	--	--	(E)RECEPTACLE RM 140	26
27	(E)RECEPTACLE RM 137	--	--	20 A	1			447 VA	447 VA			1	20 A	--	--	(E)RECEPTACLE RM 138-140	28
29	(E)CIRCUIT	--	--	20 A	1					447 VA	447 VA	1	20 A	--	--	(E)RECEPTACLE RM 139	30
31	(E)RECEPTACLE TELE BOARD	--	--	20 A	1	447 VA	447 VA					1	20 A	--	--	(E)FIRE ALARM	32
33	(E)CIRCUIT	--	--	20 A	1			447 VA	447 VA			1	20 A	--	--	(E)DATA	34
35	(E)CIRCUIT	--	--	20 A	1					447 VA	447 VA	1	20 A	--	--	(E)DATA	36
37						0 VA	447 VA					1	20 A	--	--	(E)DATA	38
39	(E)LSC		EXISTING	40 A	3			0 VA	447 VA			1	20 A	--	--	(E)DATA	40
41										0 VA	--	1	--	--		(E)SPACE	42
				TOTAL LOAD:		5812 VA		5811 VA		5364 VA							
				TOTAL AMPS:		49 A		49 A		45 A							

Load Classification Abbreviation	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
	0 VA	0.00%	0 VA		
SPARE	16987 VA	100.00%	16987 VA	**TOTAL CONNECTED LOAD:**	16987 VA
				TOTAL ESTIMATED DEMAND:	16987 VA
				TOTAL CONNECTED CURRENT:	47 A
				TOTAL ESTIMATED DEMAND CURRENT:	47 A

NOTES:
1. CIRCUITS WITH AN (E) ARE NOT MODIFIED IN THIS CONTRACT.
2. "Spare" LOAD CLASSIFICATION IS THE ESTIMATED EXISTING LOAD BASED ON SITE INVESTIGATION AN AS-BUILT DATA. CONTRACTOR TO VERIFY LOADS AS REQUIRED.

GENERAL NOTES

1. TURN ALL REMOVED EXISTING CIRCUIT BREAKERS NOT SLATED FOR REUSE OVER TO THE GOVERNMENT.

PANEL LOCATION LEGEND

(E)MDP

(E)MA

(E)PC SEC-1

ZAPATA GROUP, INC
6302 FAIRVIEW ROAD, SUITE 600, CHARLOTTE, NC 28210
(704) 358-8240

DESIGN BY: BBB | DRAWN BY: WCM | CHK BY: LMC | SUPV: MJP | PROJ ENGR: JPJ&B | DATE: OCTOBER 2025

SEAL AREA

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL No. 21979 10/06/2025 LAURA M. MOYER

DRAWING REVISIONS

REV.	DESCRIPTION	PREP BY	DATE	APPR'D

JOINT BASE CHARLESTON - WEAPONS
DEPARTMENT OF THE AIR FORCE — AIR MOBILITY COMMAND
CHARLESTON, SC
NAVAL RESERVE CENTER B3370
(E)MDP ELEVATION AND PANEL SCHEDULES

LBE Engineers ■ Architects
LBE, Inc.
105 N. Highway 52,
Moncks Corner, SC 29461

NORTH CAROLINA PROFESSIONAL ENGINEERING FIRM CERTIFICATE OF AUTHORIZATION LBE INC No. 5392

DRAWING SIZE: ARCH30 E(30X42)
PROJECT NO. DKGV 1137999
RECORD DRAWING DATE
SHEET 37 OF 37
E-602

100% DESIGN SUBMITTAL - ISSUED FOR CONSTRUCTION