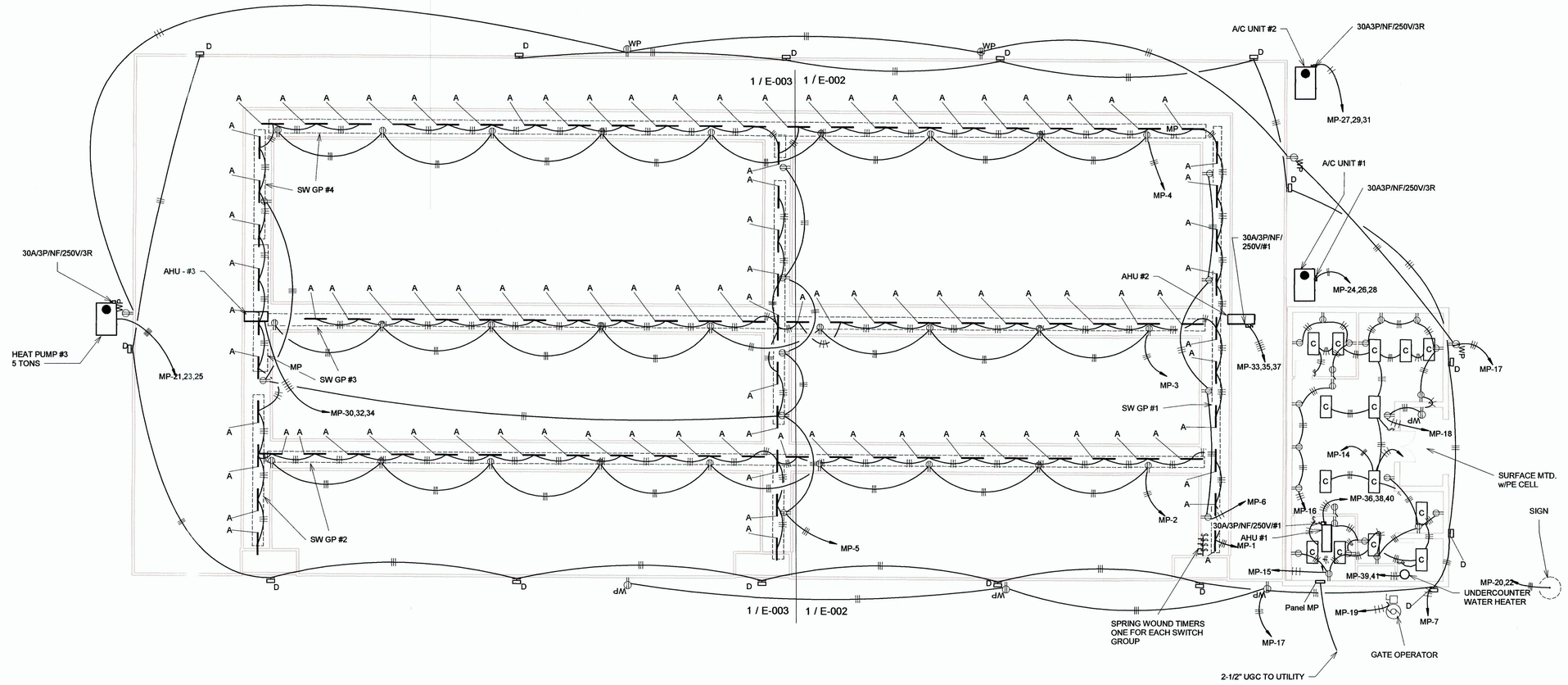

1 - Lighting
3/32" = 1'-0"

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NORTH CAROLINA PROFESSIONAL SEAL 036949 ENGINEER PETERSON J. TRAYLOR

Project:

BUILDING RENOVATIONS FOR:
STONEGATE STORAGE

Revisions

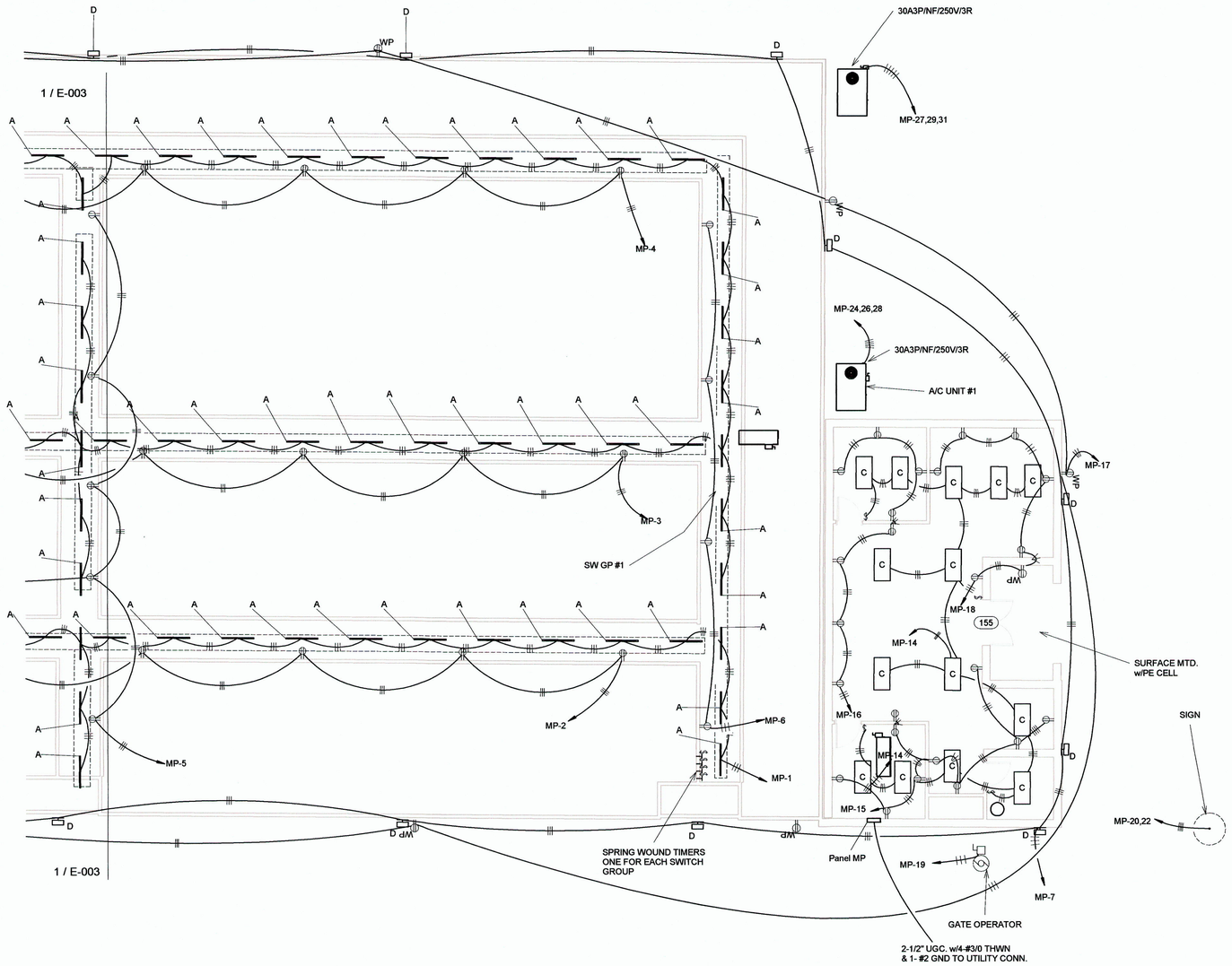
No.	Date	Description
X	X	X

Key Plan:

Sheet Title:
LIGHTING & POWER BUILDING A

Project #: 22014
Date: 10/07/2022
Designed by: JJT,ERC Drawn by: ERC, JJT Approved by: JT
Scale:
Sheet #:

E001



1 - Lighting Copy 1
1/8" = 1'-0"

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Project:
BUILDING RENOVATIONS FOR:
STONEGATE STORAGE

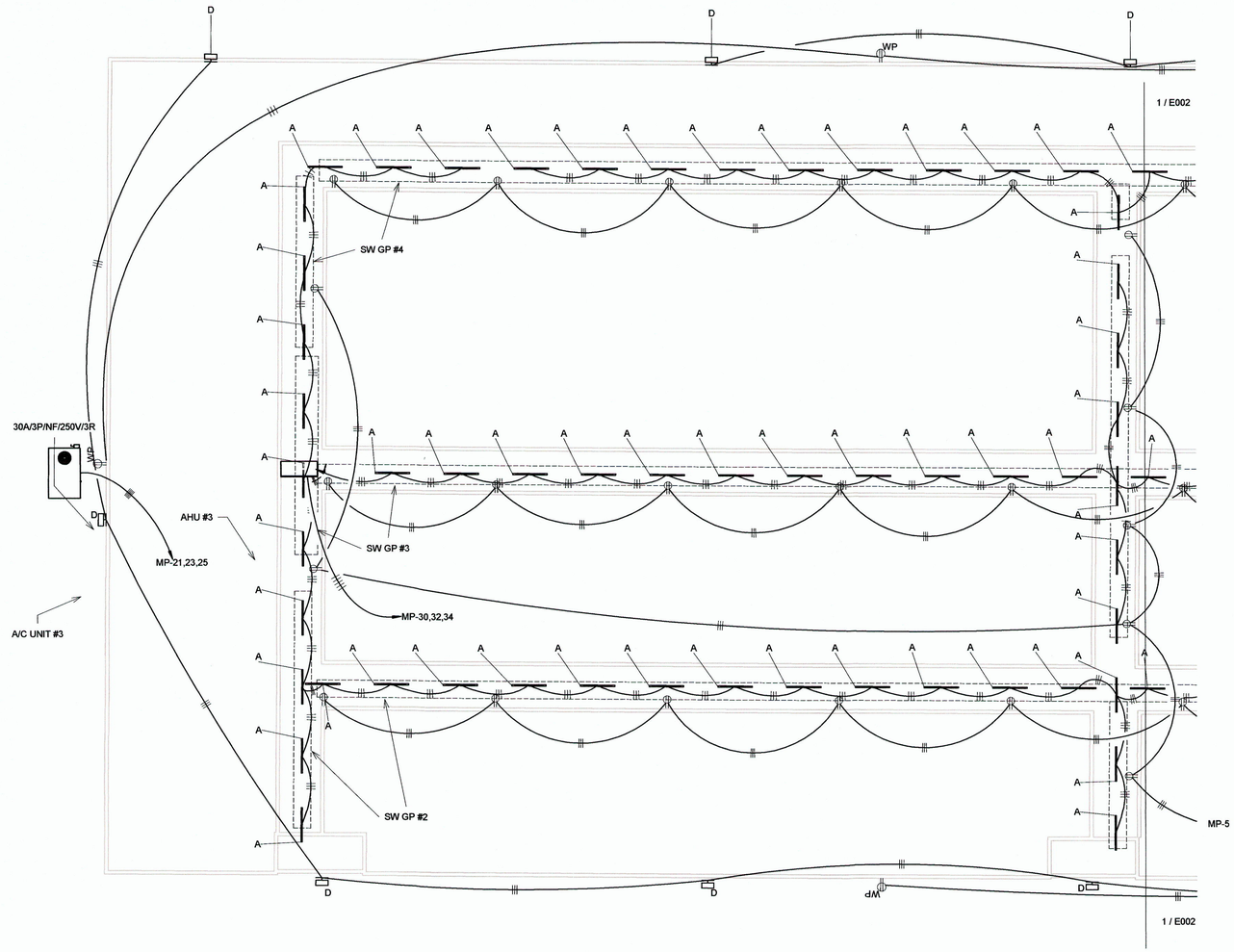
Revisions

No.	Date	Description
X	X	X

Key Plan:

Sheet Title:
BUILDING A - FRONT SECTION

Project #: 22014
Date: 10/07/2022
Designed by: JJT,ERC Drawn by: ERC, JJT Approved by: JT
Scale:
Sheet #:
E002



1 - Lighting Copy 2
1/8" = 1'-0"

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036948 JEFFERSON J. TAYLOR IV

Project:

BUILDING RENOVATIONS FOR:
STONEGATE STORAGE

Revisions

No.	Date	Description
X	X	X

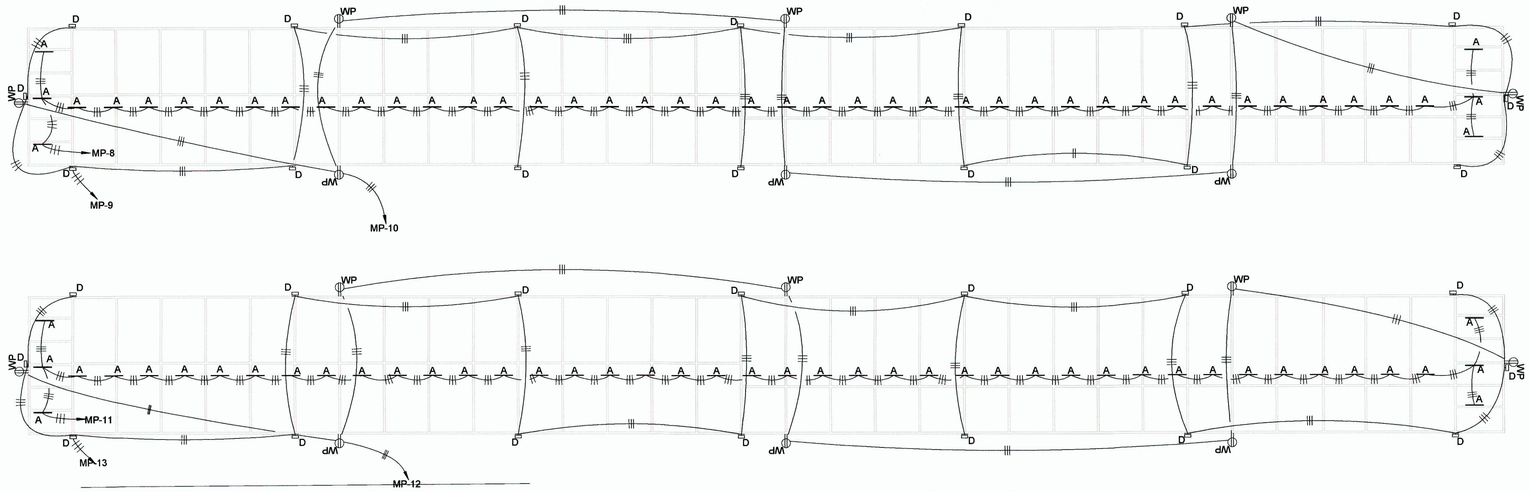
Key Plan:

Sheet Title:

BUILDING A - REAR SECTION

Project #: 22014
Date: 10/07/2022
Designed by: JJT,ERC Drawn by: ERC, JJT Approved by: JT
Scale:
Sheet #:

E003



1 2 - Lighting
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Project:
BUILDING RENOVATIONS FOR:
STONEGATE STORAGE

Revisions

No.	Date	Description
X	X	X

Key Plan:

Sheet Title:
LIGHTING & POWER
BUILDINGS B & C

Project #: 22014
Date: 10/07/2022
Designed by: JJT,ERC Drawn by: ERC, JJT Approved by: JT
Scale:
Sheet #:
E004

Branch Panel: MP

Location:
Supply From:
Mounting: Recessed
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22kAIC
Mains Type:
Mains Rating: 225 A
MCB Rating: 225 A

Notes:

CKT	Circuit Description	Trip	Poles	Wire Size	A		B		C		Wire Size	Poles	Trip	Circuit Description	CKT
1	Lighting	20 A	1	#12	1056...	1620...					#12	1	20 A	Receptacle	2
3	Receptacle	20 A	1	#12			1620...	1620...			#12	1	20 A	Receptacle	4
5	Receptacle	20 A	1	#12					1260...	720 VA	#12	1	20 A	Receptacle	6
7	Lighting - Exterior	20 A	1	#12	1050...	495 VA					#12	1	20 A	Lighting	8
9	Lighting - Exterior	20 A	1	#12			1120...	1440...			#12	1	20 A	Receptacle	10
11	Lighting	20 A	1	#12					495 VA	1440...	#12	1	20 A	Receptacle	12
13	Lighting - Exterior	20 A	1	#12	1120...	1344...					#12	1	20 A	Lighting	14
15	Receptacle	20 A	1	#12			1620...	1440...			#12	1	20 A	Receptacle	16
17	Receptacle	20 A	1	#12					1440...	1260...	#12	1	20 A	Receptacle	18
19	Motor	20 A	1	#12	1012...	0 VA					#12	2	20 A	Sign	20
21	A/C Unit #3	20 A	3	#10			2033...	0 VA			--	--	--	--	22
23	--	--	--	--					2033...	2033...	#12	3	20 A	A/C Unit #1	24
25	--	--	--	--	2033...	2033...					--	--	--	--	26
27	A/C Unit #2	30 A	3	#10			2733...	2033...			--	--	--	--	28
29	--	--	--	--					2733...	172 VA		3	20 A	AHU #3	30
31	--	--	--	--	2733...	172 VA					--	--	--	--	32
33	AHU #2	20 A	3				1333...	172 VA			--	--	--	--	34
35	--	--	--	--					1333...	1333...		3	20 A	AHU #1	36
37	--	--	--	--	1333...	1333...					--	--	--	--	38
39	Under Counter Water Heater	20 A	2	#12			1750...	1333...			--	--	--	--	40
41	--	--	--	--					1750...	0 VA	--	1	20 A	Spare	42
		Total Load:			16714 VA		19301 VA		17146 VA						
		Total Amps:			139 A		161 A		143 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Appliance - Dwelling Unit	3500 VA	100.00%	3500 VA		
Cooling	28916 VA	100.00%	28916 VA	**Total Conn. Load:**	53153 VA
Lighting - Dwelling Unit	1344 VA	100.00%	1344 VA	**Total Est. Demand:**	51694 VA
Lighting - Exterior	3290 VA	125.00%	4113 VA	**Total Conn.:**	148 A
Motor	1012 VA	125.00%	1265 VA	**Total Est. Demand:**	143 A
Receptacle	15480 VA	82.30%	12740 VA		
Lighting	2046 VA	100.00%	2046 VA		

Notes:

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NORTH CAROLINA PROFESSIONAL SEAL 036949 ENGINEER JEFFERSON J. TRAN, JR.

Project:
BUILDING RENOVATIONS FOR:
STONEGATE STORAGE

Revisions

No.	Date	Description
X	X	X

Key Plan:

Sheet Title:
SCHEDULES & DETAILS

Project #: 22014
Date: 10/07/2022
Designed by: JJT,ERC Drawn by: ERC, JJT Approved by: JT
Scale:
Sheet #:
E005

1. GENERAL CONDITIONS

A. DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY ELECTRICAL EQUIPMENT NECESSARY TO FULFILL APPLICABLE CODES, REGULATIONS, BUILDING STANDARDS AND THE BEST PRACTICES OF THE TRADE FOR INSTALLATION OF ELECTRICAL WORK.

B. ALL ELECTRICAL WORK, MATERIALS AND EQUIPMENT SHALL CONFORM WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, UNDERWRITERS LABORATORIES, BOARD OF UNDERWRITERS, OSHA, NEMA, NFPA, ALL STANDARDS AND ALL AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL PAY FOR AND OBTAIN ALL REQUIRED PERMITS AND CERTIFICATES OF REQUIRED ORDINANCES, AND DELIVER THEM TO THE OWNER'S REPRESENTATIVE.

C. UPON REVIEW OF THE DRAWINGS PRIOR TO SUBMITTING HIS PROPOSAL, THE ELECTRICAL CONTRACTOR SHALL INFORM THE ENGINEER AND/OR ENGINEER OF ANY DISCREPANCIES WITHIN THE DRAWINGS AND REQUEST CLARIFICATION CONCERNING THE DISCREPANCIES. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS SHOULD SUCH PROCEDURE NOT BE FOLLOWED.

D. THE CONTRACTOR SHALL COORDINATE THIS WORK WITH OTHER CONTRACTORS WHOSE WORK MIGHT AFFECT THIS INSTALLATION. THE CONTRACTOR SHALL ARRANGE ALL PARTS OF THIS WORK AND EQUIPMENT IN PROPER RELATION TO THE WORK AND EQUIPMENT OF OTHERS.

E. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONDUIT, OUTLET BOXES, POKE-THRU SERVICE FITTINGS REQUIRED TO FACILITATE THE INSTALLATION OF COMMUNICATION WIRING AND DEVICES.

F. THE DRAWINGS INDICATE THE SIZE AND GENERAL LOCATION OF WORK. SCALED DIMENSIONS SHALL NOT BE USED. VERIFY SCALE WITH ENGINEERURAL DRAWINGS. THE EXACT LOCATION AND ELEVATION OF ALL LIGHTING FIXTURES, SWITCHES, RECEPTACLES, ETC. SHALL BE DETERMINED FROM THE ENGINEERS DRAWINGS.

G. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION" AIA DOCUMENT A201 AND THE ENGINEER'S SPECIFICATIONS, AS APPLICABLE, ARE PART OF THE CONTRACT.

2. SCOPE OF WORK

THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, TOOLS, SUPERVISION, ETC. REQUIRED TO INSTALL COMPLETE OPERATIONAL ELECTRICAL SYSTEMS AS DESCRIBED IN THESE PLANS AND SPECIFICATIONS. SUCH INSTALLATIONS SHALL INCLUDE, BUT ARE NOT SPECIFICALLY LIMITED TO THE FOLLOWING:

A. INSTALLATION OF LIGHT FIXTURES AND LAMPS.

B. INSTALLATION OF WALL SWITCHES, OCCUPANCY SENSORS, RECEPTACLES, TELEPHONE OUTLETS, ETC.

C. INSTALLATION OF RACEWAY AND CIRCUIT WIRING.

D. CUTTING, CHANNELLING, CORING AND CHASING REQUIRED TO ACCOMMODATE THE INSTALLATION OF ELECTRICAL WORK AND ROUGH PATCHING.

E. INSTALLATION OF ELECTRICAL DISTRIBUTION EQUIPMENT.

F. INSTALLATION OF HVAC POWER WIRING AND FINAL CONNECTIONS TO HVAC EQUIPMENT.

G. INSTALLATION OF CONDUIT. JUNCTION BOXES, PULL BOXES, ETC. REQUIRED FOR THE AFOREMENTIONED EQUIPMENT.

3. PANELBOARDS

A. A TYPEWRITTEN DIRECTORY OF CIRCUITS SHALL BE INSTALLED INSIDE OF EACH PANELBOARD DOOR. THE LIST SHALL INCLUDE AS-BUILT CONDITIONS INCLUDING ALL TYPES OF DEVICES SERVED BY EACH CIRCUIT. EACH PANEL SHALL BE EXTERNALLY TAGGED WITH PERMANENT PHENOLIC PLATE INDICATING PANEL IDENTIFICATION AND VOLTAGE.

B. PHASE LEGS OF PANELS SHALL BE BALANCED. ANY PANEL FOUND WITH UNBALANCED LOADS SHALL HAVE ITS CIRCUITS REARRANGED AS REQUIRED TO BALANCE PHASE LEGS.

C. THE SHORT CIRCUIT RATING OF A PANEL SHALL APPLY TO ALL BRANCH DEVICES. SERIES CONNECTED SHORT CIRCUIT RATING OF BRANCH DEVICES WILL NOT BE ACCEPTED.

4. CIRCUIT BREAKERS AND FUSES

A. CIRCUIT BREAKERS SHALL BE BOLT-IN TYPE. CIRCUIT BREAKERS SHALL BE OF THE SAME MANUFACTURER AND BE COMPATIBLE WITH THE PANELBOARD.

B. CIRCUIT BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK COMPENSATED FOR AMBIENT TEMPERATURES AND SHALL HAVE A MINIMUM SHORT CIRCUIT RATING OF 10,000 AMPERES SYMMETRICAL OR HIGHER WHERE NOTED ON PANEL SCHEDULE.

C. CIRCUIT BREAKERS SHALL BE OF THE "THERMAL-MAGNETIC" TYPE HAVING BIMETALLIC ELEMENT FOR TIME DELAY OVER LOAD PROTECTION AND MAGNETIC ELEMENT FOR SHORT CIRCUIT PROTECTION.

D. ALL CIRCUIT BREAKERS FEEDING HVAC EQUIPMENT SHALL BE HVACR RATED.

E. ALL CIRCUIT BREAKERS FEEDING LIGHTING BRANCH CIRCUITS SHALL BE APPROVED FOR THAT USE AND MARKED "SWD".

F. FUSES SHALL BE CURRENT LIMITING DUAL ELEMENT TYPE WITH A MINIMUM INTERRUPTING CAPACITY OF 200,000 RMS AMPERES AND OF THE CONTINUOUS CURRENT RATINGS AS SHOWN ON THE DRAWINGS.

G. FUSES SHALL HAVE AN AVERAGE MELTING TIME-CURRENT CHARACTERISTICS TO MEET THE UNDERWRITERS' LABORATORIES' REQUIREMENTS FOR "CLASS K" 0-600 AMPERE FUSES.

H. CIRCUIT BREAKERS AND FUSES SHALL BE SIZED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EQUIPMENT BEING SERVED. VERIFY EQUIPMENT EQUIREMENTS AS NECESSARY PRIOR TO INSTALLATION OF BRANCH CIRCUIT OVERCURRENT PROTECTION.

I. COORDINATE WITH ALL CONTRACTORS FOR THE ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT TO BE INSTALLED. DO NOT RUN CONDUIT AND CONDUCTORS PRIOR TO THE CONFIRMATION OF THE EQUIPMENT REQUIREMENTS.

5. DISCONNECT SWITCHES

A. THE CONTRACTOR SHALL SUPPLY AND INSTALL DISCONNECT SWITCHES AS SHOWN ON THE PLANS, OR AS OTHERWISE REQUIRED BY CODE, WHETHER SHOWN ON PLANS OR NOT.

B. ALL SWITCHES SHALL BE HEAVY DUTY QUICK-MAKE QUICK- BREAK TYPE, RATED AS REQUIRED. EACH SWITCH SHALL HAVE A SUFFICIENT NUMBER OF POLES TO INTERRUPT ALL UNGROUNDED CONDUCTORS. DISCONNECT SWITCHES SERVING MOTOR LOADS SHALL BE HORSEPOWER RATED.

C. FUSES SHALL BE INSTALLED IN ALL FUSED SWITCHES, SIZED AS INDICATED ON PLANS.

D. UNLESS OTHERWISE NOTED, INDOOR SWITCHES SHALL BE PROVIDED WITH NEMA 1 ENCLOSURES; OUTDOOR SWITCHES WITH NEMA 3R ENCLOSURES.

6. RACEWAYS

A. WHERE CONDUIT IS USED, 3/4" MINIMUM CONDUIT SHALL BE PROVIDED.

B. ALL CONDUITS TO BE SUPPORTED BY STANDOFFS. CONNECTION TO CEILING SUPPORTS SHALL NOT BE PERMITTED. ALL CONDUIT SHALL BE RUN CONCEALED.

C. EMPTY CONDUIT FOR NEW TELEPHONE OUTLETS IN PARTITIONS SHALL BE 1" THIN WALL RUN CONCEALED IN WALLS, TERMINATED AND BUSHED 6" IN ACCESSIBLE HUNG CEILING AND DIRECTED TOWARDS CLOSET. ALL EMPTY CONDUIT SHALL BE FURNISHED WITH A PULL STRING.

D. ALL CONDUITS INSTALLED OUTDOORS SHALL BE RIGID GALVANIZED WITH THREADED CONNECTIONS. ALL CONDUITS INSTALLED UNDERGROUND OR IN CONCRETE SLABS SHALL BE RIGID PVC WITH A SEPARATE GROUNDING CONDUCTOR AND CONCRETE ENCASEMENT WHERE REQUIRED.

E. WHEREVER CONDUITS PASS THROUGH FLOORS OR FIRE RATED PARTITIONS, SLEEVES SHALL BE INSTALLED. SLEEVES SHALL BE GROUTED IN PLACE IN THE SUPPORTING WALL OR FLOOR. THE SPACE BETWEEN THE SLEEVE AND CONDUIT SHALL BE PACKED WITH AN APPROVED, NONCOMBUSTIBLE, FIRE STOPPING MATERIAL. ALL NEW HOLES SHALL BE CORE DRILLED. NO CHOPPING SHALL BE PERMITTED, EXCEPT AS APPROVED BY THE PROJECT MANAGER.

F. FLEXIBLE CONDUIT SHALL BE USED TO MAKE FINAL CONNECTIONS TO MOTORS, TRANSFORMERS, RECESSED LIGHTING FIXTURES, EXPANSION JOINTS OR WHERE THE INSTALLATION OF RIGID CONDUIT IS IMPRACTICAL.

G. WIRING SHALL BE RUN CONCEALED IN WALLS, ABOVE CEILING OR BELOW FLOOR WHERE POSSIBLE. INSTALL CONDUITS PARALLEL TO BUILDING LINES. CLEAR ALL OPENINGS, PIPES, DUCTS, STRUCTURAL COMPONENTS, ETC.

H. INSTALL CONDUIT CONTINUOUS BETWEEN BOXES AND CABINETS WITH NO MORE THAN FOUR 90 DEGREE BENDS. SECURELY FASTEN IN PLACE WITH STRAPS, HANGERS, AND STEEL SUPPORTS AS REQUIRED.

I. DO NOT SUPPORT CONDUIT FROM SUSPENDED CEILING GRID OR SUSPENSION WIRES. REAM AND THOROUGHLY CLEAN CONDUIT ENDS BEFORE INSTALLATION. OPENINGS SHALL BE PLUGGED OR COVERED TO KEEP CONDUIT CLEAN.

J. RACEWAY ROOF PENETRATIONS SHALL BE FINISHED BY THE APPROVED ROOF CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PAY FOR ROOFING SERVICES.

7. WIRE AND CABLE

A. FOR CONCEALED BRANCH CIRCUIT WIRING, TYPE EMT CONDUIT SHALL BE USED WHERE PERMITTED BY CODE. TYPE AC FLEXIBLE METAL CONDUIT AND ROMEX SHALL NOT BE USED.

B. ALL CONDUCTORS SHALL BE SOFT ANNEALED 98% PURE INSULATED COPPER. ALL CONDUCTORS SHALL HAVE 600 VOLT RATED INSULATION AND RATED 90 DEGREE CELSIUS UNLESS OTHERWISE NOTED. SERVICE ENTRANCE CONDUCTORS SHALL BE TYPE USE-2, RHW-2 OR XHHW-2.

C. CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED, # 10 AND SMALLER SHALL BE SOLID.

D. THE MINIMUM WIRE SIZE FOR BRANCH CIRCUITS SHALL BE #12 AWG. LAYOUT OF BRANCH CIRCUIT WIRING AND ARRANGEMENT OF HOME RUNS SHALL BE FOR MAXIMUM ECONOMY AND EFFICIENCY.

E. RECESSED LIGHTING FIXTURES IN HUNG CEILINGS SHALL BE SUPPLIED WITH TYPE MC CABLE IN LENGTHS NOT TO EXCEED 6 FEET FROM ADJACENT JUNCTION BOXES.

F. FACTORY COLOR CODING SHALL CONFORM TO THE BUILDING STANDARD OR AS REQUIRED BY THE UTILITY COMPANY.

G. TAG ALL FEEDERS IN ALL PULL BOXES AND IN ALL GUTTER SPACE AND WIREWAYS THROUGH WHICH THEY PASS.

H. MAKE SPLICES IN FEEDER TAPS IN PANEL BOX GUTTERS WITH PRESSURE TYPE CONNECTORS.

I. SPLICES IN CIRCUITS SHALL BE TWISTED AND MADE MECHANICALLY TIGHT. SECURE WITH SCOTCHLOCK OR PIGTAIL CONNECTORS. CRIMP TYPE CONNECTORS SHALL NOT BE USED.

8. WIRING DEVICES

A. WIRING DEVICES SHALL BE OF THE SPECIFICATION GRADE UNLESS OTHERWISE SPECIFIED. ALL DEVICES SHALL BE FLUSH MOUNTED UNLESS OTHERWISE NOTED. SWITCHES SHALL BE MANUFACTURED BY HUBBELL OR APPROVED EQUAL.

B. SINGLE POLE SWITCHES SHALL BE 120 VOLTS, RATED AT 20 AMPERES, QUIET OPERATION TYPE, COLOR OF SWITCH AND DEVICE PLATE AS DIRECTED BY ENGINEER.

C. THREE WAY SWITCHES SHALL BE 120 VOLT 20 AMPERES.

D. SWITCH AND RECEPTACLE PLATES SHALL BE PLUMB AND SHALL FIT FLAT AGAINST WALL. FINISH SHALL BE AS SPECIFIED.

E. ALL SWITCH AND RECEPTACLE MOUNTING HEIGHTS AND LOCATIONS SHALL BE TAKEN FROM THE DRAWINGS UNLESS OTHERWISE NOTED.

F. MULTIPLE DEVICES AT A COMMON LOCATION SHALL BE INSTALLED IN A COMMON MULTI-GANG DEVICE PLATE.

G. STANDARD DUPLEX RECEPTACLES SHALL BE NEMA 5-20 R, BACK AND SIDE WIRED. OTHER DEVICES SHALL BE AS INDICATED ON THE DRAWINGS.

H. ALL OUTDOOR RECEPTACLES SHALL BE WEATHERPROOF RATED WHEN THE ATTACHMENT PLUG IS INSERTED.

9. PULL BOXES, JUNCTION BOXES AND OUTLET BOXES

A. PULL BOXES, JUNCTION BOXES AND OUTLET BOXES SHALL BE MANUFACTURED FROM GALVANIZED INDUSTRY STANDARD GAUGE SHEET STEEL.

B. PROVIDE PULL BOXES AND JUNCTION BOXES IN RACEWAYS TO ASSURE THAT CABLES ARE NOT DAMAGED WHEN THEY ARE PULLED AND TO FULFILL MINIMUM CODE REQUIREMENTS.

C. PULL BOXES AND JUNCTION BOXES SHALL BE SIZED SO THAT THE MINIMUM BENDING RADIUS CRITERIA SPECIFIED FOR THE WIRES AND CABLE ARE MAINTAINED.

D. PROVIDE AND INSTALL ALL REQUIRED JUNCTION AND PULL BOXES REGARDLESS WHETHER INDICATED ON DRAWINGS OR NOT.

10. GROUNDING

A. ALL ELECTRICAL SYSTEMS SHALL BE GROUNDED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE, THE LOCAL UTILITY COMPANY AND ALL OTHER LOCAL AUTHORITIES HAVING JURISDICTION. PERMANENTLY AND EFFECTIVELY GROUND ALL METALLIC CONDUITS, SUPPORTS, CABINETS, PANELBOARDS AND SYSTEM GROUNDING NEUTRAL.

B. A SEPARATE GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FLEXIBLE AND NONMETALLIC CONDUITS SIZED IN ACCORDANCE WITH THE EQUIPMENT GROUNDING CONDUCTOR TABLE OF THE NATIONAL ELECTRICAL CODE.

C. GROUND CLAMPS SHALL BE LISTED SPECIFICALLY FOR GROUNDING. WHERE GROUNDING CONDUCTOR IS ENCLOSED IN CONDUIT, GROUND CLAMP SHALL GROUND BOTH CONDUCTOR AND CONDUIT.

11. TEMPORARY LIGHTING AND POWER

A. FURNISH AND INSTALL WIRING FOR ADEQUATE TEMPORARY LIGHT AND POWER FOR THE PROJECT.

B. MAINTAIN THE SYSTEM IN GOOD AND ADEQUATE WORKING CONDITIONS AT ALL TIMES.

C. FURNISH AND INSTALL ALL LAMPS, BREAKERS, AND FUSING, AS IS NECESSARY.

D. REPLACE BURNED OUT LAMPS, DEFECTIVE BREAKERS OR BLOWN FUSES.

E. MAINTENANCE FOR THE ABOVE SHALL BE BASED ON OPERATION 1/2 HOUR BEFORE THE START OF THE FIRST TRADE THROUGH 1/2 HOUR AFTER THE END OF THE LAST TRADE.

F. SYSTEM SHALL BE NOMINALLY 120/208 VOLT, 3 PHASE, 4 WIRE ADEQUATE FOR ALL CONSTRUCTION NEEDS.

13. LIGHTING FIXTURES

A. ALL FIXTURES, LAMPS AND BALLASTS ARE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

B. ALL LIGHT FIXTURE MOUNTING HARDWARE SHALL MATCH AND BE COORDINATED WITH THE INSTALLED CEILING SYSTEM TYPE.

C. FLUORESCENT BALLASTS SHALL BE ELECTRONIC, U.L. CLASS "P" AND SHALL CONFORM TO ANSI AND UL SPECIFICATIONS. BALLASTS FOR FLUORESCENT OR LED LAMPS SHALL BE OF THE ENERGY SAVING SUPER LOW HEAT DESIGN WITH HIGH POWER FACTOR ELECTRONIC TYPE AS MANUFACTURED BY ADVANCE, UNIVERSAL, JEFFERSON, OR GE. BALLASTS SHALL BE APPROVED FOR THE UTILITY COMPANY ENERGY REBATE PROGRAM.

D. WHERE REQUIRED PROVIDE LAMPS SUITABLE FOR LIGHTING FIXTURES IN WHICH THEY ARE USED AND AS INDICATED ON THE DRAWINGS. FLUORESCENT LAMPS SHALL BE "RAPID START" AND SHALL DELIVER NOT LESS THAN 3150 LUMENS. MINIMUM CHROMATICITY OF LAMPS SHALL BE 4100 KELVIN UNLESS OTHERWISE NOTED. MINIMUM COLOR RENDERING INDEX (CRI) OF LAMPS SHALL BE 86. INCANDESCENT LAMPS SHALL NOT BE INSTALLED EXCEPT WHERE SPECIFIED.

15. SHOP DRAWINGS

A. SUBMIT TO THE ENGINEER FIVE (5) SETS OF SHOP DRAWINGS FOR THE FOLLOWING:

f. OVERCURRENT PROTECTIVE DEVICES, CIRCUIT BREAKERS AND FUSES

g. PANELBOARDS

h. LIGHTING FIXTURES AND LAMPS

i. WIRING DEVICES INCLUDING SWITCHES AND RECEPTACLES

j. FIRE ALARM EQUIPMENT

16. SYSTEM SHUT DOWNS

A. SHOULD IT BE NECESSARY TO SHUT DOWN ANY EXISTING ELECTRICAL SYSTEM, THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER AND BUILDING MANAGEMENT, IN WRITING, AT LEAST 3 DAYS PRIOR TO THE REQUESTED DATE. ALL SHUT DOWN WORK SHALL BE DONE AFTER NORMAL BUILDING OPERATING HOURS, IF SO DIRECTED BY THE AFOREMENTIONED PARTIES, AT NO ADDITIONAL COST.

17. JOB COMPLETION

A. AT THE COMPLETION OF THE JOB THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL WORK AREA, RESTORING ANY DAMAGED OR DEFACED SURFACES OF FIXTURES OR EQUIPMENT TO THEIR ORIGINAL CONDITION. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY AND OR ABANDONED SYSTEMS INCLUDING EMPTY CONDUITS AND WIRING UNLESS THE OWNER SPECIFICALLY REQUESTS THAT THEY BE LEFT IN PLACE.

B. THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY TEST ALL NEW ELECTRICAL SYSTEMS, INCLUDING THOSE INSTALLED BY OTHERS AND WIRED BY ELECTRICAL CONTRACTOR. CORRECT ALL FAULTY CONDITIONS AT NO EXTRA COST. ALL PANELS SHALL BE BALANCED SO THAT THERE IS NO MORE THAN 10% DIFFERENCE IN PHASE CURRENTS UNDER NORMAL OPERATING CONDITIONS.MODIFY PANEL SCHEDULES AS REQUIRED.

C. THE CONTRACTOR SHALL DEMONSTRATE TO THE OWNER THAT ALL ELECTRICAL DEVICES AND SYSTEMS ARE FULLY FUNCTIONAL, AND SHALL GIVE INSTRUCTIONS IN THEIR OPERATION AS REQUESTED.

D. THE CONTRACTOR SHALL OBTAIN, AND GIVE TO THE OWNER, AN UNDERWRITER'S CERTIFICATE COVERING ALL NEW ELECTRICAL EQUIPMENT. THE CONTRACTOR SHALL CORRECT ANY DEFICIENCIES NOTED BY THE INSPECTOR, AT NO EXTRA COST, UNTIL SUCH CERTIFICATE IS RECEIVED.

E. ALL WORK SHALL BE GUARANTEED TO BE FULLY OPERATIONAL AND FREE OF DEFECTS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE.

18. SUBSTITUTIONS

A. THE CONTRACTOR IS REQUIRED TO BID ON THIS PROJECT WITH THE UNDERSTANDING THAT ALL EQUIPMENT WILL BE PROVIDED AS SPECIFIED.

B. ANY SUBSTITUTIONS FROM THE SPECIFIED ITEMS MUST BE INCLUDED WITH A NUMBER INDICATING THE SAVINGS OVER THE SPECIFIED ITEMS THAT THE OWNER WILL REALIZE.

C. THIS PROVISION IS REQUIRED FOR ALL SPECIFIED ITEMS INCLUDING BUT NOT LIMITED TO SUBSTITUTED "EQUALS", LIGHTING FIXTURES, PANELS AND FIRE ALARM EQUIPMENT.

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NORTH CAROLINA PROFESSIONAL SEAL 036319 ENGINEER JEFFERSON J. TRAYLOR

Project:

BUILDING RENOVATIONS FOR:
STONEGATE STORAGE

Revisions

No.	Date	Description
X	X	X

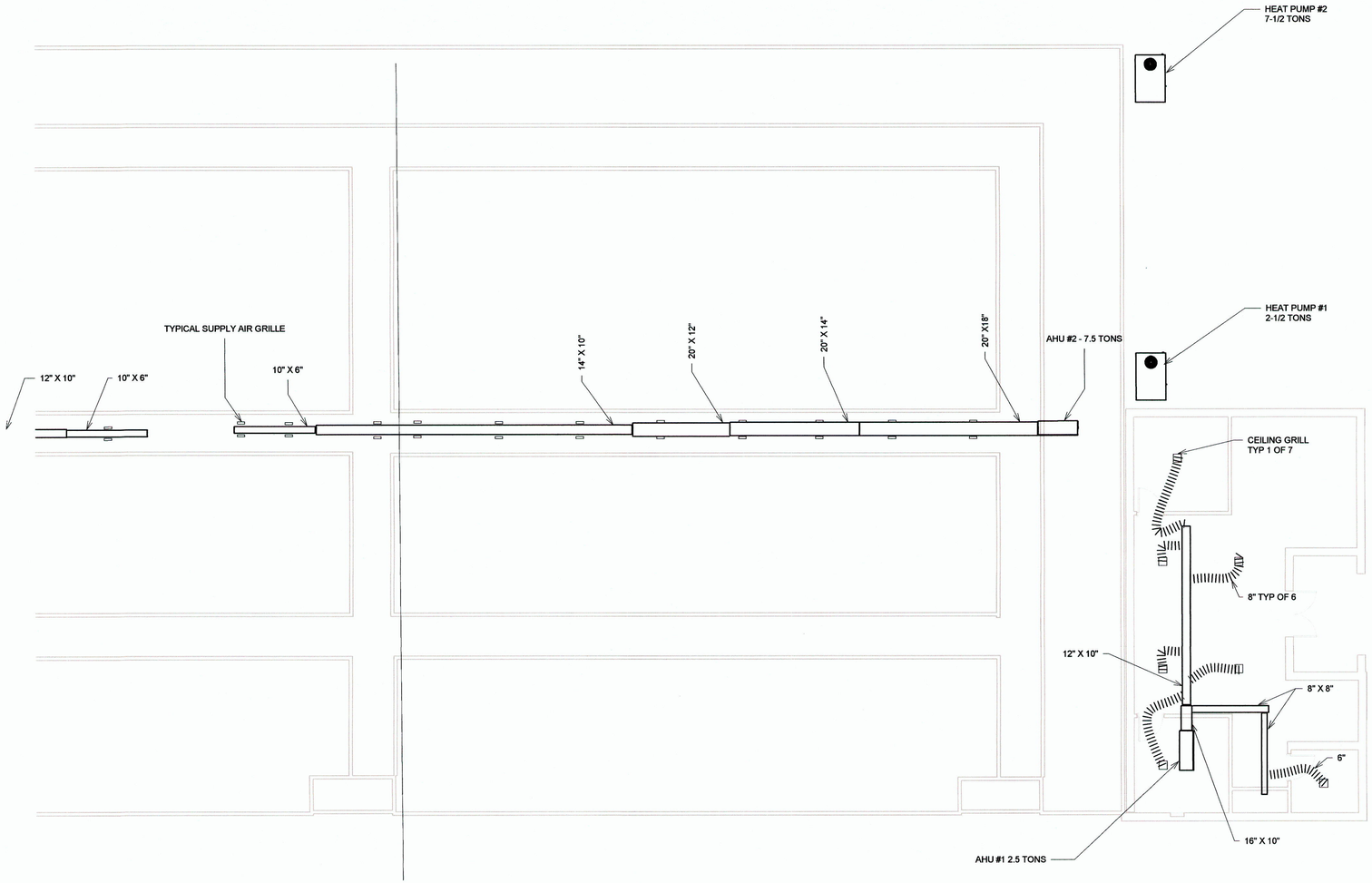
Key Plan:

Sheet Title:

ELECTRICAL SPECIFICATIONS

Project #: 22014
Date: 10/07/2022
Designed by: JJT,ERC Drawn by: ERC, JJT Approved by: JT
Scale:
Sheet #:

E006



1 MECHANICAL - FRONT SECTION
1/8" = 1'-0"

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Project:
BUILDING RENOVATIONS FOR:
STONEGATE STORAGE

Revisions

No.	Date	Description
X	X	X

Key Plan:

Sheet Title:
MECHANICAL
FRONT SECTION

Project #: 22014
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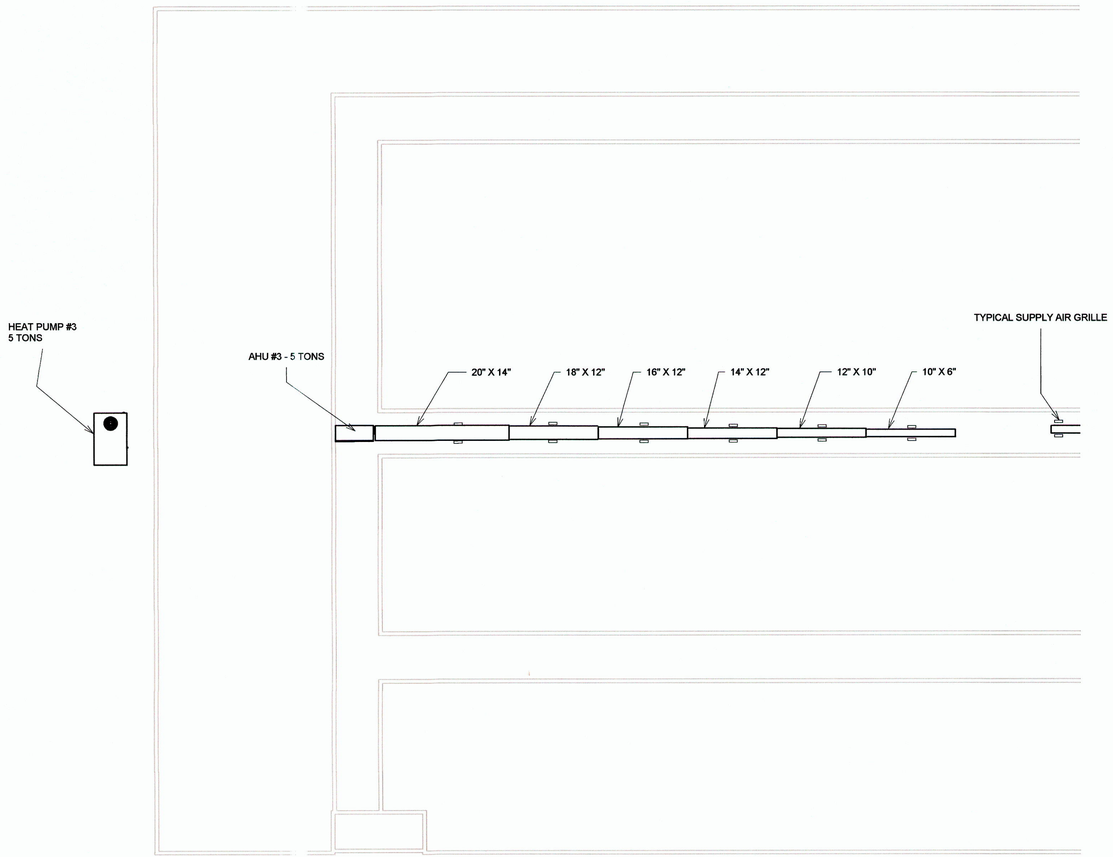
M002



1 MECHANICAL - REAR SECTION
1/8" = 1'-0"

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NORTH CAROLINA PROFESSIONAL 036949 ENGINEER JEFFERSON J. TAYLOR

Project:

BUILDING RENOVATIONS FOR:
STONEGATE STORAGE

Revisions

No.	Date	Description
X	X	X

Key Plan:

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MECHANICAL
REAR SECTION

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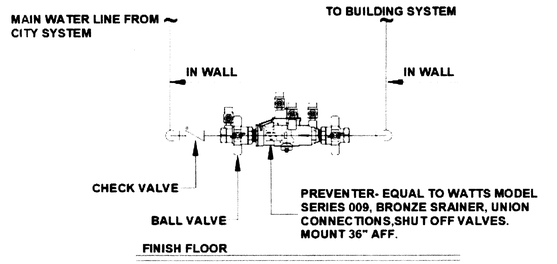
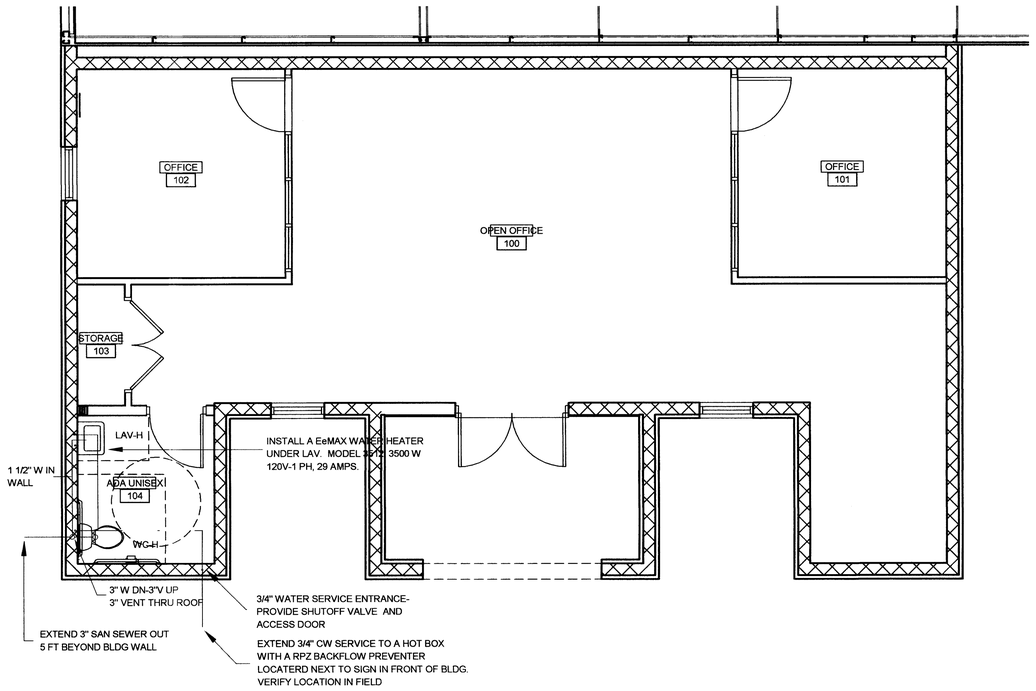
M003



BACKFLOW PREVENTER PIPING DETAIL

N.T.S.

.1 INSTALL BACKFLOW PREVENTER IN A HOT BOX VERIFY LOCATION IN FIELD.



1 Plumbing
1/4" = 1'-0"

PLUMBING SPECIFICATIONS:

1. SANITARY AND VENT PIPING SHALL BE PVC SCH 40.
2. WATER PIPING SHALL BE PEX TYPE A.
3. PLUMBING CONTRACTOR SHALL FURNISH ALL ROUGHTING IN AND MAKE THE FINAL CONNECTIONS TO ALL FIXTURES SHOWN.
4. PLUMBING CONTRACTOR SHALL INCLUDE ALL WATER SEWER TAPS TO CITY MAINS AND SHALL INCLUDE ALL TAP FEES.
5. PLUMBING CONTRACTOR SHALL PROVIDE SHOCK ARRESTORS SAME SIZE AS SUPPLY PIPING, ON BOTH HOT AND COLD WATER LINES TO EACH FIXURE NOT GREATER THAN 6 FT. MAX FROM FIXTURE. ARRESTORS SHALL BE EQUAL TO SOUIX CHIEF 660, ANSI/ASSE 1010 2004 CERTIFIED.
6. PRIOR TO BEING PLACED INTO SERVICE, THE ENTIRE SYSTEM IS TO BE TESTED FOR LEAKS AND SANITIZED IN STRICT ACCORDANCE WITH THE NORTH CAROLINA BUILDING CODE, AND LOCAL REQUIREMENTS.
7. ALL WORK SHALL COMPLY WITH THE LATEST NORTHCAROLINA BUILDING AND ACCESSIBILITY CODES.

PLUMBING SYMBOL SCHEDULE

	SANITARY SEWER
— — — —	SANITARY VENT
— · —	COLD WATER (CW)
— —	HOT WATER (HW)
— ▲ —	GATE VALVE (GV)
CSCO	COUNTERSUNK CLEANOUT
CO	CLEAN OUT
WC	WATER CLOSET
UR	URINAL
LAV	LAVATORY
FD	FLOOR DRAIN
FS	FLOOR SINK
FFE	FINISH FLOOR ELEVATION
AFF	ABOVE FINISHED FLOOR
AFH	ANTI-FREEZE HYDRANT
HB	HOSE BIBB

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Key Plan:

Sheet Title:
PLUMBING

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P001