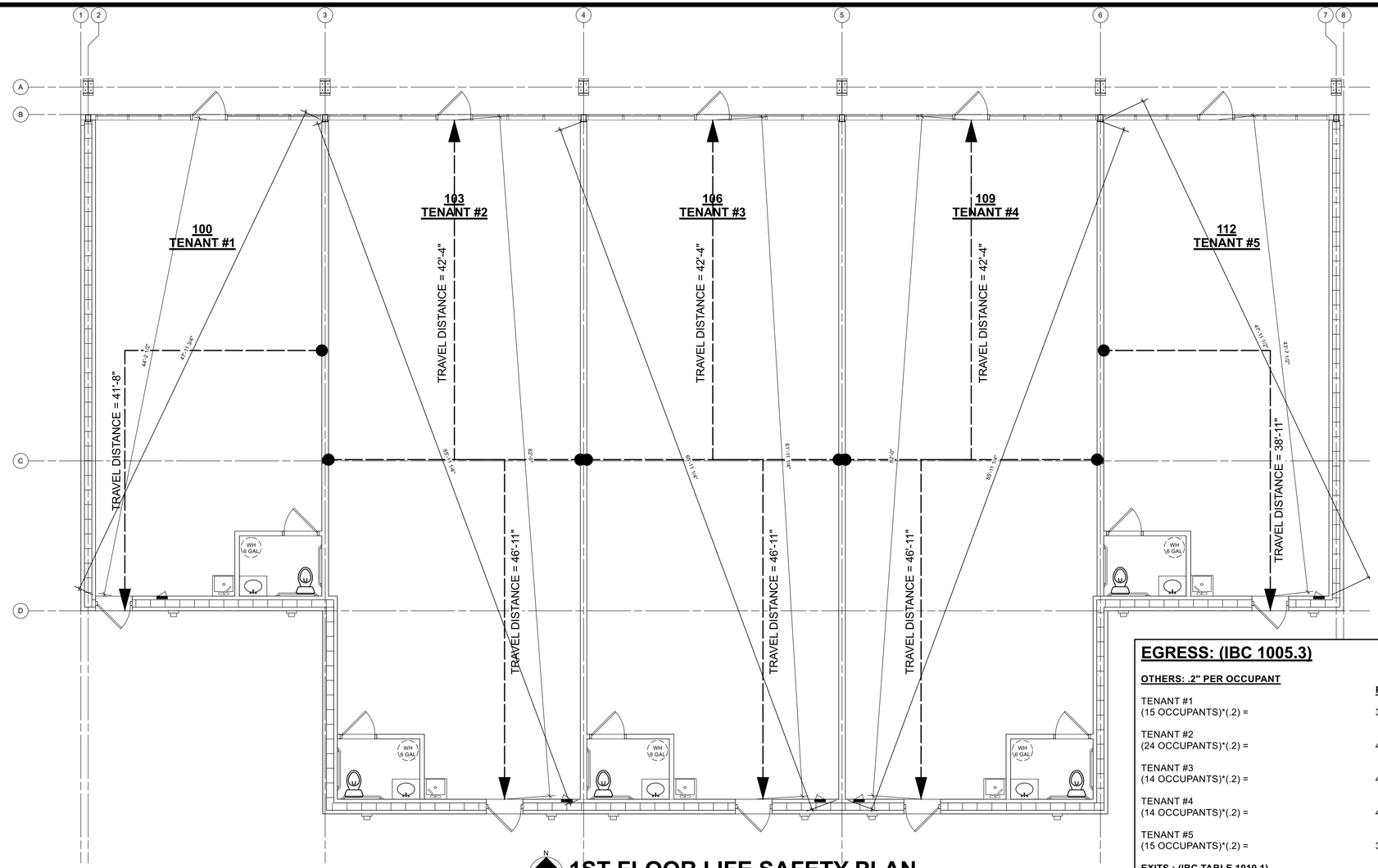


1ST FLOOR LIFE SAFETY PLAN

SCALE: 3/16" = 1'-0"

LEGEND:

SYMBOL	DESCRIPTION	UL LISTING
	1 HR RATED WALLS	U425
	2 HR RATED WALLS	U419
	3 HR RATED WALLS	U912
	EGRESS PATH	

EXITS:

DOOR DIRECTION OF SWING

DOORS SHALL SWING IN THE DIRECTION OF EGRESS TRAVEL WHERE SERVING AN OCCUPANT LOAD OF 50 OR MORE PERSONS. THE OPENING FORCE INTERIOR SIDE-SWINGING DOORS WITHOUT CLOSERS SHALL NOT EXCEED A 5 LB (22 N) FORCE. FOR OTHER SIDE SWINGING, SLIDING, AND FOLDING DOORS, THE LATCH SHALL RELEASE WHEN SUBJECT TO A 15 LB (67 N) FORCE. THE DOOR SHALL BE SET IN MOTION WHEN SUBJECT TO A 30 LB (133 N) FORCE. THE DOOR SHALL SWING TO A FULL OPEN POSITION WHEN SUBJECTED TO A 15 LB (67 N) FORCE. FORCES SHALL BE APPLIED TO THE LATCH SIDE (B 1003.3.1.2).

OCCUPANCY (IBC 303.3): MERCANTILE

FLOOR	ROOM NUMBER	ROOM NAME	AREA (SF)	OCCUPANCY	PERSONS / SF	TOTAL PERSONS
TENANT #1	100	TENANT #1	846	B	60	15
	101	TOILET ROOM	42	-	-	0
					TOTAL OCCUPANTS:	15
TENANT #2	102	TENANT #2	1,355	B	60	23
	103	TOILET ROOM	42	-	-	0
					TOTAL OCCUPANTS:	23
TENANT #3	104	TENANT #3	1,370	B	60	23
	105	TOILET ROOM	42	-	-	0
					TOTAL OCCUPANTS:	23
TENANT #4	106	TENANT #4	1,363	B	60	23
	107	TOILET ROOM	42	-	-	0
					TOTAL OCCUPANTS:	23
TENANT #5	108	TENANT #5	841	B	60	15
	109	TOILET ROOM	42	-	-	0
					TOTAL OCCUPANTS:	15

EGRESS: (IBC 1005.3)

OTHERS: .2" PER OCCUPANT

	REQUIRED:	PROPOSED:
TENANT #1 (15 OCCUPANTS)*(.2) =	3" TOTAL	(2) 36" DOORS
TENANT #2 (24 OCCUPANTS)*(.2) =	4.6" TOTAL	(2) 36" DOORS
TENANT #3 (14 OCCUPANTS)*(.2) =	4.6" TOTAL	(2) 36" DOORS
TENANT #4 (14 OCCUPANTS)*(.2) =	4.6" TOTAL	(2) 36" DOORS
TENANT #5 (15 OCCUPANTS)*(.2) =	3" TOTAL	(2) 36" DOORS

EXITS : (IBC TABLE 1019.1)

TENANT #1:	2	4
TENANT #2:	2	2
TENANT #3:	2	2
TENANT #4:	2	2
TENANT #5:	2	2

EXIT DOORWAY ARRANGEMENT (IBC 1015)

SEPARATION DISTANCE OF EXIT DOORS SHALL NOT BE LESS THAN 1/32OF LENGTH OF MAX. OVERALL DIAGONAL DIMENSION OF AREA SERVED.

FLOOR:	DIAGONAL DIMENSION:	1/2 DISTANCE:	PROVIDED:
TENANT #1:	47'-11 3/4"	23'-11 7/8"	44'-2 1/2"
TENANT #2:	65'-11 1/4"	32'-11 3/4"	62'-0"
TENANT #3:	65'-11 1/4"	32'-11 3/4"	62'-0"
TENANT #4:	65'-11 1/4"	32'-11 3/4"	62'-0"
TENANT #5:	47'-11 1/2"	23'-11 3/4"	43'-7 1/2"

MAXIMUM EXIT TRAVEL DISTANCE: (IBC 1016.2) W/ SPRINKLER

FLOOR:	REQUIRED:	PROVIDED:
TENANT #1:	200'	41'-8"
TENANT #2:	200'	46'-11"
TENANT #3:	200'	46'-11"
TENANT #4:	200'	46'-11"
TENANT #5:	200'	38'-11"

0 5 10 15 20 FT

SCALE 3/16" = 1'-0"

REVISIONS	BY
Bidding Only	05/14/25

STATE OF INDIANA
MICHAEL E. STANULA
LIC. NO. AR10300117
LICENSED ARCHITECT

MICHAEL E. STANULA
architect
31800 STATELINE RD.
BEECHER, IL 60401
stanula.arch@gmail.com

NEW 1 STORY VE
TENANT
BUILDING

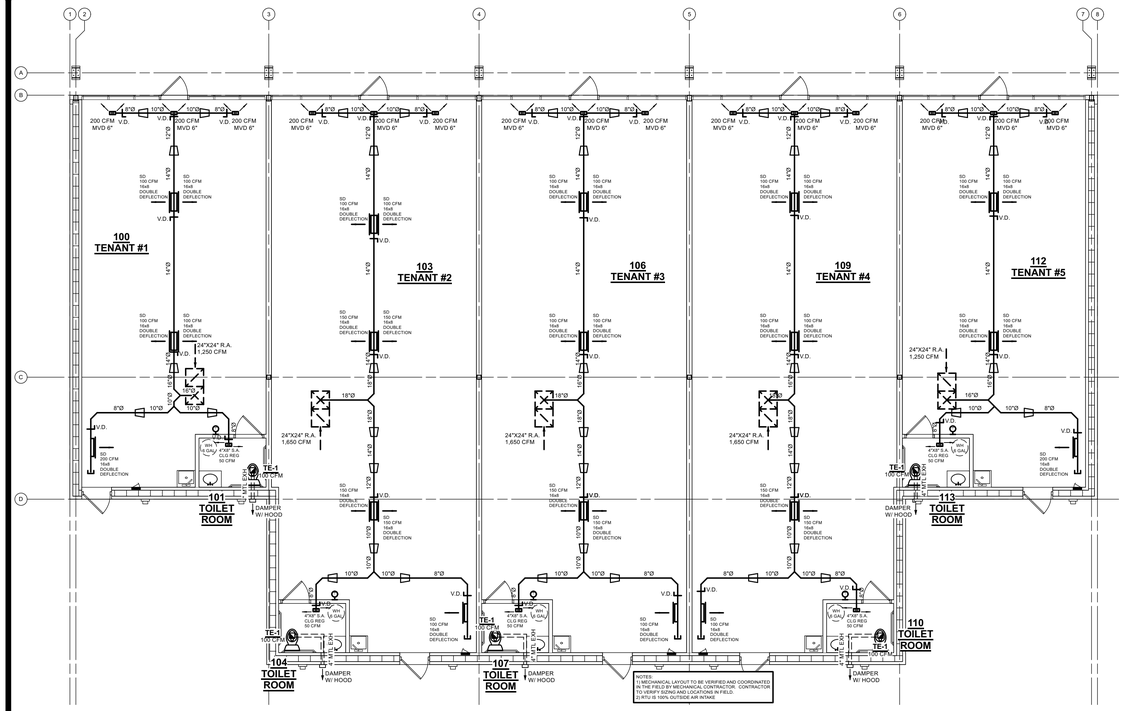
DATE: 04/20/2025

SCALE: AS NOTED

JOB NO. 25015

SHEET LS-1

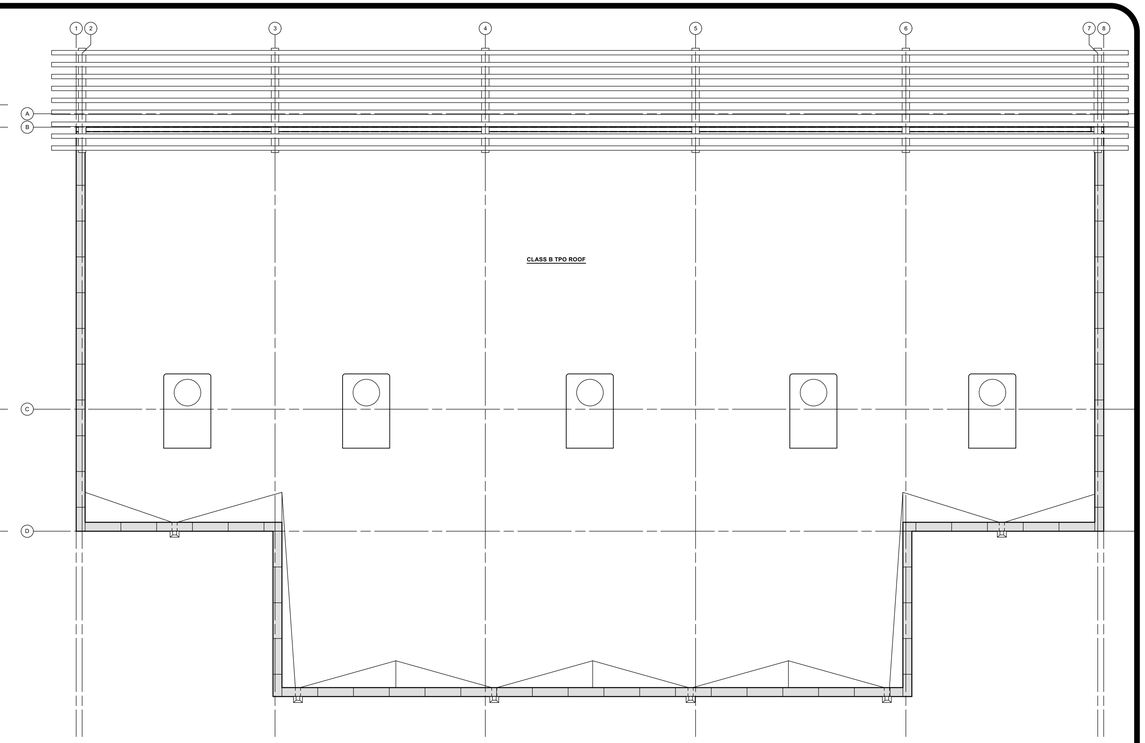
22 OF 30 SHEETS



N

1ST FLOOR HVAC PLAN

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



N

ROOF HVAC PLAN

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

MECHANICAL SPECIFICATION NOTES

1. IT IS THE PURPOSE AND INTENT OF THIS DOCUMENT THAT THE CONTRACTOR SHALL FURNISH AND INSTALL ALL LABOR AND MATERIALS NECESSARY TO PROVIDE A COMPLETE INSTALLATION OF MECHANICAL SERVICES AS INDICATED ON THE DRAWINGS AND AS HEREINAFTER SPECIFIED COMPLETE IN ALL DETAILS INCLUDING ALL PARTS AUXILIARY TO THE WORK AND SUCH MATERIALS AND FITTINGS AS MAY BE REQUIRED TO MAKE THE WORK COMPLETE FOR THE PURPOSE INTENDED.

2. THE DRAWINGS PERTAINING TO THIS INSTALLATION INDICATE GENERALLY THE LOCATION OF ALL EQUIPMENT WITH DETAILS NECESSARY FOR THE COMPLETE INSTALLATION OF THE WORK. BIDDERS SHALL ACQUAINT THEMSELVES WITH THE WORKING CONDITIONS AND REQUIREMENTS OF THE ENTIRE PROJECT, AS ANY CONTRACTS FOR THIS WORK WILL BE BASED UPON FURNISHING ALL LABOR AND MATERIALS REQUIRED TO ENTIRELY COMPLETE WORK READY FOR USE.

3. ANY MINOR CHANGES IN LOCATION OF DUCTWORK, AIR OUTLETS AND EQUIPMENT FROM THOSE SHOWN ON THE DRAWINGS SHALL BE MADE WITHOUT CHARGE IF SO DIRECT BY THE ENGINEER BEFORE INSTALLATION.

4. THIS CONTRACTOR SHALL CONFER WITH THE OTHER CONTRACTORS REGARDING THE LOCATION AND SIZES OF PIPING AND EQUIPMENT IN ORDER THAT THERE MAY BE NO INTERFERENCE'S BETWEEN INSTALLATIONS OR THE PROGRESS OF THE WORK FOR ANY CONTRACTOR ON THE BUILDING.

5. ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES.

6. LAYOUT IS DIAGRAMMATIC AND CONTRACTOR SHALL INSTALL EQUIPMENT AND DUCTWORK TO MEET FIELD CONDITIONS.

7. REMOVE ALL DEBRIS FROM JOB SITE AND LEAVE ALL MECHANICAL EQUIPMENT CLEAN.

8. INSTRUCT OWNER IN THE PROPER OPERATION, MAINTENANCE AND SERVICING OF ALL SYSTEMS. PROVIDE IN A BOUND FORM THREE (3) SETS OF OPERATIONS, MAINTENANCE AND INSTRUCTION MANUALS, INCLUDING INFORMATION ON SPARE PARTS, LUBRICATION SCHEDULE, WIRING DIAGRAMS, ETC., FOR ALL FIXTURES AND EQUIPMENT.

9. THE CONTRACTOR SHALL PROVIDE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ALL EQUIPMENT ON SITE FOR REVIEW BY INSPECTORS. ALL EQUIPMENT MUST BEAR THE LABEL OF AN APPROVED INSPECTION AGENCY. THE CONTRACTOR SHALL SUBMIT MANUFACTURER'S INSTALLATION INSTRUCTIONS TO THE LOCAL AUTHORITIES AS REQUIRED.

10. CONTRACTOR SHALL GUARANTEE ALL MATERIALS OR REPAIR, WITHOUT COST TO THE OWNER, ANY SUCH DEFECTS WITHIN ONE (1) YEAR TO DATE, AFTER FINAL ACCEPTANCE OF THE BUILDING BY THE OWNER AND ENGINEER. HE SHALL ALSO GUARANTEE THAT THE WORKMANSHIP IS OF HIGH QUALITY AND THAT ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT FULFILLS THE REQUIREMENTS OF THE SPECIFICATIONS.

11. HVAC EQUIPMENT:

11.1. PROVIDE ALL HVAC EQUIPMENT OF THE TYPE, QUALITY, FINISH AND MANUFACTURER SHOWN ON THE DRAWINGS.
11.2. UNITS SHALL BE TESTED, RATED AND CERTIFIED AS COMPLETE UNITS IN ACCORDANCE WITH A.R.I. FOR CAPACITIES AND AMCA FOR SOUND RATINGS AND BE U.L. LISTED.
11.3. VERIFICATION THAT ALL EQUIPMENT HAS BEEN TESTED TO THE APPROPRIATE STANDARDS REFERENCED IN THE CODES MUST BE SUBMITTED.

12. TESTING AND BALANCING SHALL BE PERFORMED BY A CERTIFIED TEST AND BALANCE COMPANY OTHER THAN THE INSTALLING CONTRACTOR:

12.1. AIR SIDE:

12.1.1. THE CONTRACTOR SHALL REGULATE AND ADJUST ALL DEFLECTORS AND DAMPERS FOR THE REQUIRED AIR QUANTITIES AT THE RESPECTIVE OPENINGS.
12.1.2. THE CONTRACTOR SHALL FURNISH ALL INSTRUMENTS, TESTING EQUIPMENT AND QUALIFIED PERSONNEL THAT MAY BE REQUIRED FOR THE TESTS. INSTRUMENTS TO BE RECENTLY TESTED AND CALIBRATED.
12.1.3. THE CONTRACTOR SHALL ADJUST ALL MOTOR SHEAVES AND BELTS AS REQUIRED TO BALANCE SYSTEMS.
12.1.4. THE CONTRACTOR SHALL SUBMIT TO THE OWNER TWO (2) COPIES OF HIS CERTIFIED TEST READINGS WITH THE FOLLOWING INFORMATION:
12.1.5. THE QUANTITIES OF AIR AT EACH INLET AND/OR OUTLET, FOR ALL RETURN AND SUPPLY SYSTEMS.
12.1.6. STATIC RESISTANCE, IN INCHES OF WATER, AT THE INTAKE AND DISCHARGE FOR EACH SYSTEM.
12.1.7. THE RPM OF EACH FAN UNIT.
12.1.8. THE VOLUME OF AIR HANDLED BY EACH FAN OR UNIT..
12.1.9. THE CONTRACTOR SHALL REPEAT THE TEST AND BALANCE PROCEDURE UNTIL ALL AIRFLOWS ARE +/−10% OF THE DESIGN AIRFLOWS.

13. IT IS INTENDED THAT MATERIALS OR PRODUCTS SPECIFIED BY THE NAME OF THE MANUFACTURER OR THE BRAND OR TRADE NAME OR THE CATALOG REFERENCE, SHALL BE THE BASIS OF THE BID AND FURNISHED UNDER THE CONTRACT UNLESS CHANGED BY MUTUAL WRITTEN AGREEMENT.

14. ALL OF THE MATERIALS AND EQUIPMENT REQUIRED FOR THE PERFORMANCE OF THE WORK SHALL BE NEW AND THE BEST OF THEIR RESPECTIVE KINDS AND OF UNIFORM PATTERN THROUGHOUT THE WORK.

15. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND DETAILS.

16. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.

17. OUTDOOR AIR INTAKES SHALL BE LOCATED A MINIMUM OF 15 FEET FROM ANY VENTS, EXHAUST, FLUES, PLUMBING VENTS OR ANY OTHER NOXIOUS FUMES.

18. ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE FIRE STOPPED PER THE BUILDING CODE.

19. ALL EQUIPMENT SUPPORT STEEL SHALL BE STANDARD STRUCTURAL SHAPES. ALL NEW STEEL REQUIRED FOR THIS WORK SHALL BE PAINTED WITH STD. INDUSTRIAL GRAY PRIMER. CONTRACTOR SHALL DESIGN, FABRICATE AND INSTALL SUPPORT STEEL AS REQUIRED BY FIELD CONDITIONS. CONTRACTORS SHALL FURNISH AND INSTALL ADDITIONAL SUPPORTS AS REQUIRED BY EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. ALL PIPING AND DUCTWORK SHALL BE SUPPORTED AS REQUIRED BY ALL APPLICABLE CODES.

20. CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPORTS AND HANGERS NECESSARY TO PROPERLY SUPPORT PIPING AND DUCTWORK PER CODE REQUIREMENTS.

21. CONTRACTOR SHALL FURNISH AND INSTALL ALL STARTERS, CONTROLS, RELAYS, DEVICES, ETC. FOR A COMPLETELY OPERATIONAL SYSTEM.

22. PROVIDE CONDENSATE DRAIN FOR ROOFTOP UNIT. TRAP AND SIZE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. ROUTE TO DRAIN.

23. DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA, LATEST EDITION, AS SHOWN ON THE DRAWINGS AND AS REQUIRED BY FIELD CONDITIONS.

24. ALL DUCTS SHALL BE SEALED IN ACCORDANCE WITH THE INTERNATIONAL ENERGY CONSERVATION CODE.

25. VERIFY ALL EXISTING FIELD CONDITIONS. FURNISH AND INSTALL ALL NECESSARY DUCTWORK OFFSETS AND TRANSITIONS. WHEN ALTERING A DUCT SIZE FROM THE DESIGN DRAWINGS MAINTAIN THE SAME CROSS SECTIONAL AREA.

26. PROVIDE LONG RADIUS ROUND ELBOWS OR SQUARE ELBOW WITH TURNING VANES FOR ALL DUCTWORK UNLESS OTHERWISE SPECIFIED ON THE DRAWING.

27. ALL BRANCH DUCTWORK TO HAVE A MANUAL VOLUME DAMPER AND LOW PRESSURE LOSS TAKEOFFS.

28. MAXIMUM FLEXIBLE DUCT LENGTH OF 5'−0". SUSPEND FLEXIBLE DUCTWORK SO THAT THERE ARE NO KINKS OR SAGS. SEAL END CONNECTIONS.

29. ALL INSULATION, DUCT LININGS, INSULATION COVERINGS AND ACCESSORIES INCLUDING ADHESIVES SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE−DEVELOPED INDEX OF NOT MORE THAN 50.

30. ALL SUPPLY AIR DUCTWORK SHALL BE INSULATED WITH 1−1/2" THICK, MINIMUM 3/4 LB PER CU.FT. DENSITY MANVILLE R−SERIES MICROLITE FIBERGLASS DUCT WRAP, WITH AN AVERAGE THERMAL CONDUCTIVITY NOT TO EXCEED 0.31 BTU−IN PER SQUARE FT PER DEG. F. PER HOUR AT A MEAN TEMPERATURE OF 75 DEG. F. PROVIDE A REINFORCED ALUMINUM FOIL VAPOR SEAL JACKET.

31. COORDINATE ACTUAL LOCATIONS OF DIFFUSERS, REGISTERS, AND GRILLES WITH ARCHITECT'S REFLECTED CEILING PLAN TO AVOID CONFLICT WITH LIGHTS.

32. CLOTHES DRYER DUCTS
32.1. THIS CONTRACTOR SHALL INSTRUCT OWNER THAT DRYER VENTS SHALL BE CLEANED OUT EVERY 3−6 MONTHS BASED ON USAGE. INSTRUCT OWNER AS TO PROPER METHOD OF CLEANING SYSTEM.
32.2. DUCTS SHALL BE SHEET METAL WITH SMOOTH INTERIOR FINISH, LABELED AND LISTED.
32.3. OVERLAP JOINT MALE END SHALL BE IN DIRECTION OF AIRFLOW.
32.4. NO SHEET METAL SCREWS ALLOWED.
32.5. SEAL ALL JOINTS.
32.6. DRYER VENT CAP SHALL HAVE BACKDRAFT DAMPER. NO SCREEN ALLOWED.

VENTILATION SCHEDULE

ROOM NAME	ROOM NUMBER	ROOM PURPOSE	ORDINANCE REQUIRED					PLAN REQUIRED			REMARKS
			AREA (SF)	PEOPLE PER 1,000 SF	TOTAL PEOPLE	OAI CFM	EXHAUST CFM	SUPPLY CFM	EXHAUST CFM	OAI CFM	
TENANT #1	100	RETAIL	846	--	--	102	RETAIL	1,200	--	1,200	---
TOILET ROOM	101	TOILET ROOM	42	--	--	-	70 (INT)	50	100	50	---
TENANT #2	103	RETAIL	1,355	--	--	163	RETAIL	1,200	--	1,500	---
TOILET ROOM	104	TOILET ROOM	42	--	--	-	70 (INT)	50	100	50	---
TENANT #3	106	RETAIL	1,370	--	--	165	RETAIL	1,200	--	1,500	---
TOILET ROOM	107	TOILET ROOM	42	--	--	-	70 (INT)	50	100	50	---
TENANT #4	109	RETAIL	1,331	--	--	164	RETAIL	1,200	--	1,500	---
TOILET ROOM	110	TOILET ROOM	42	--	--	-	70 (INT)	50	100	50	---
TENANT #5	112	RETAIL	841	--	--	101	RETAIL	1,200	--	1,200	---
TOILET ROOM	113	TOILET ROOM	42	--	--	-	70 (INT)	50	100	50	---

RTU SCHEDULE

TAG	MANUFACTURER	SEER	SA CFM	E.S.P. IN.	FAN RPM	SUPPLY FAN H.P.	EVAP COOL BTU/H		NATURAL GAS HEATING		WEIGHT (LBS)	ELECTRICAL					REMARKS
							TOTAL	SENSIBLE	INPUT BTU / H	OUTPUT BTU / H		VOLT	PH	HZ	MCA	MOCP	
RTU-1	AAON	13.5	1,600	0.6	898	1.5	48,000	36,000	36,000	99,000	730	208	3	60	35.1	45	1, 2, 3, 4

NOTES:
1. PREFABRICATED 14" HIGH ROOF CURBS
2. DISCONNECT SWITCH, STARTER AND RELAYS
3. ELECTRONIC 7-DAYS PROGRAMMABLE THERMOSTAT
4. TOTAL ENTHALPY ECONOMISER

EXHAUST FAN SCHEDULE

TAG	MANUFACTURER	CFM	E.S.P.	RPM	WATTS	ELECTRICAL						REMARKS
						VOLT	PH	HZ	FLA	MCA	MOCP	
TE-1	BROAN (OR EQUAL)	100	0.3"	1,280	40	208	3	60	.9	2	10	1, 2 WIRE TO OCC. SENSOR. WALL CAP AND DAMPER

NOTES:
1. DISCONNECT SWITCH & BACKDRAFT DAMPER
2. RAIN CAP
* OR EQUAL

NOTES:
EXHAUSTS FOR TOILET ROOMS SHALL CONNECT TO THE EXTERIOR OF THE BUILDING AT A POINT WHERE IT WILL NOT CAUSE A NUISSANCE AND AT LEAST 3'-0" FROM ANY OPENING INTO THE BUILDING AND 10'-0" FROM MECHANICAL AIR INTAKES

0 5 10 15 20 FT
SCALE 1/8" = 1'-0"

REVISIONS	BY
Bidding Only	05/14/25

STATE OF INDIANA
MICHAEL E. STANULA
LIC. NO. AR10400117
LICENSED ARCHITECT

MICHAEL E. STANULA
architect
31800 STATELINE RD.
BEECHER, IL 60401
stanula.arch@gmail.com

NEW 1 STORY VE
TENANT BUILDING

DATE: 04/20/2025
SCALE: AS NOTED
JOB NO. 25015
SHEET M-1
29 OF 30 SHEETS

GENERAL PLUMBING NOTES

GENERAL

1. IT IS THE PURPOSE AND INTENT OF THE SPECIFICATION, NOTES, AND DRAWINGS, THAT THE CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIAL NECESSARY TO PROVIDE A COMPLETE INSTALLATION OF PLUMBING SERVICES AS INDICATED ON THE PLANS AND AS HEREINAFTER SPECIFIED COMPLETE IN MATERIALS AND FITTINGS AS MAY BE REQUIRED TO MAKE THE WORK COMPLETE FOR THE PURPOSE INTENDED.
2. THE DRAWINGS PERTAINING TO THE INSTALLATION GENERALLY INDICATE THE LOCATION OF EQUIPMENT AND OTHER DETAILS NECESSARY TO THE COMPLETE INSTALLATION. BIDDERS SHALL ACQUAINT THEMSELVES WITH THE WORKING CONDITIONS AND MATERIALS REQUIRED TO ENTIRELY COMPLETE THE WORK READY FOR USE.
3. ANY CHANGES IN THE LOCATION OF THE EQUIPMENT, ETC., FROM THOSE SHOWN ON THE DRAWINGS SHALL BE MADE WITHOUT CHARGE IF SO DIRECTED BY THE ARCHITECT/OWNER BEFORE INSTALLATION.
4. ALL PLUMBING WORK SHALL BE PERFORMED IN A WORKABLE MANNER BY A FULLY LICENSED PLUMBER AND IN FULL ACCORDANCE WITH LOCAL, STATE, AND NATIONAL CODES AND REQUIREMENTS.
5. THIS CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LICENSES, PERMITS AND INSPECTIONS FOR ALL WORK COVERED BY THE CONTRACT. ALL CERTIFICATES OF INSPECTION SHALL BE DELIVERED TO THE OWNER.
6. ALL CUTTING AND PATCHING WHICH MUST BE DONE, IN ORDER TO THAT THE PLUMBING WORK MAY BE PROPERLY INSTALLED, SHALL BE DONE BY APPROPRIATE TRADESMEN. ALL DISTURBED CONSTRUCTION, SURFACES OR FINISHES MUST BE REPLACED OR REPAIRED TO THE ARCHITECT'S SATISFACTION AT THIS CONTRACTOR'S EXPENSE. UNDER NO CONDITION SHALL STRUCTURAL WORK BE CUT EXCEPT UPON APPROVAL OF THE ARCHITECT.
7. PLUMBING CONTRACTOR SHALL FIELD VISIT SITE PRIOR TO BID AND VERIFY ALL EXISTING CONDITIONS AND PLUMBING SYSTEMS TO DETERMINE EXTENT OF WORK. ANY ITEMS NOT SPECIFICALLY INDICATED ON DRAWINGS OR IN SPECIFICATIONS THAT ARE IN CONFLICT WITH CONTRACT WORK SHALL BE BROUGHT TO THE ATTENTION OF ARCHITECT/ENGINEER PRIOR TO BID FOR A DECISION. NO EXTRAS WILL BE ALLOWED FOR LACK OF KNOWLEDGE OF EXISTING CONDITIONS.
8. PLUMBING CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OTHER TRADES AND VERIFY DIMENSIONS AND LOCATIONS FROM THE ARCHITECTURAL DRAWINGS, FIELD MEASUREMENTS AND SUPPLIER SHOP DRAWINGS.
9. LAYOUT IS DIAGRAMMATIC AND CONTRACTOR SHALL INSTALL EQUIPMENT TO MEET THE FIELD CONDITIONS.
10. THIS CONTRACTOR IS RESPONSIBLE FOR THE CONDITION AND PROTECTION FROM DAMAGE OF HIS EQUIPMENT AND SYSTEMS. CONTRACTOR SHALL REPLACE ANY DAMAGED EQUIPMENT AT HIS EXPENSE PRIOR TO FINAL ACCEPTANCE REGARDLESS OF WHO CAUSED THE DAMAGE.
11. CONTRACTOR SHALL REMOVE ALL DEBRIS FROM JOB SITE AND LEAVE ALL WORK AND EQUIPMENT IN CLEAN WORKING CONDITION.
12. THE PLUMBING CONTRACTOR SHALL NOTE THAT THE ELECTRICAL DESIGN AND DRAWINGS ARE BASED ON THE EQUIPMENT SCHEDULED AND SHOWN ON THESE DRAWINGS. IF THE PLUMBING CONTRACTOR SHOULD SUBMIT FOR REVIEW EQUIPMENT REQUIRING CHANGES TO THE ELECTRICAL DESIGN FOR WHICH THE ELECTRICAL CONTRACTOR WILL REQUEST AN EXTRA, THIS EXTRA WILL BE PAID BY THE PLUMBING CONTRACTOR
13. ALL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH THE CURRENT CODE REQUIREMENTS.
14. CONTRACTOR SHALL THOROUGHLY SEAL WALL AND FLOOR PENETRATIONS WITH THE APPROPRIATE MATERIAL TO MEET THE FIRE RATING.
15. SUBMIT SHOP DRAWINGS ON ALL EQUIPMENT AND MATERIALS.
16. PREPARE AND PROVIDE OWNER WITH A SET OF 1/4" PER FOOT AS-BUILT DRAWINGS.
17. FURNISH TO OWNER A SET OF OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT.
18. PERFORM ALL EXCAVATING AND BACK FILLING REQUIRED FOR PLUMBING WORK.

WARANTIE/GUARANTEE

1. PLUMBING CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
2. ALL WARRANTIES FOR BUT NOT LIMITED TO FIXTURES, PIPING AND FAUCETS ARE TO BE HONORED BY CONTRACTOR.

TESTING

1. ALL BACKFLOW DEVICES ARE TO BE TESTED AND CERTIFIED PRIOR TO FINAL INSPECTION OR OCCUPANCY.
2. A BACKFLOW TESTING OR ANY REQUIRED REPAIRS ON BACKFLOW DEVICES SHALL BE CONDUCTED BY A STATE CERTIFIED INSPECTOR.
3. TEST AND SANITIZE ALL PIPING AND EQUIPMENT AS REQUIRED BY THE STATE AND LOCAL AUTHORITY AND GET THEIR WRITTEN APPROVAL PRIOR TO CONCEALMENT.

WATER SERVICE

1. PROVIDE WATER METER(S) AS APPROVED BY THE WATER PROVIDER.
2. PROVIDE 1/2" CONDUIT(S) FROM THE WATER METER(S) TO THE BUILDING EXTERIOR FOR THE REMOTE WATER READING DEVICE(S).
3. PROVIDE REDUCED PRESSURE ZONE BACKFLOW PREVENTER(S) WITH AIR GAP DRAIN PIPED TO FLOOR DRAIN.
4. PROVIDE AN EXTERIOR SHUTOFF VALVE AND VALVE BOX APPROVED BY THE LOCAL AUTHORITY ON THE INCOMING DOMESTIC WATER SERVICE.

PLUMBING FIXTURES

1. FURNISH AND INSTALL PLUMBING FIXTURES SPECIFIED IN THESE DOCUMENTS.
2. INSTALL PLUMBING FIXTURES FURNISHED BY OTHERS.
3. ROUGH-IN ALL REQUIRED PIPING AND MAKE FINAL CONNECTION TO ALL FIXTURES. PROVIDE ALL NECESSARY ITEMS REQUIRED TO MAKE CONNECTIONS INCLUDING TRAPS, SUPPLIES, STOPS, ETC.
4. ALL EXPOSED TRIM, PIPE, STOPS, SUPPLIES, TRAPS, ETC., SHALL BE BRASS, POLISHED CHROME PLATE.
5. INSTALL FIXTURES PER MANUFACTURERS INSTALLATION INSTRUCTIONS AND PER APPLICABLE CODES.
6. ALL HANDICAPPED ACCESSIBLE FIXTURES SHALL BE INSTALLED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT.
7. FIXTURES SHALL BE INSTALLED LEVEL AND PLUMB AND SECURELY FASTENED TO WALLS, FLOORS, COUNTERTOPS OR CARRIERS.
8. ALL FIXTURES WITH HOSE CONNECTIONS SHALL BE EQUIPPED WITH A CODE APPROVED ANTI-SIPHON DEVICE.
9. CAULK BETWEEN ALL FIXTURES AND WALLS WITH WHITE SILICON SEALANT, DOW NO. 786 OR EQUAL.
10. FURNISH AND INSTALL ALL REQUIRED POWER TRANSFORMERS AND NON-POWER WIRING FOR ELECTRIC FAUCETS AND FLUSH DEVICES.
11. SET SHOWER MIXING VALVES AND OTHER ANTI-SCALD DEVICES TO A MAXIMUM 105°F.

PIPING

1. PROVIDE SHUT OFF VALVES AT ALL FIXTURES.
2. PROVIDE DIELECTRIC FITTINGS WHERE COPPER TUBING JOINS FERROUS METAL.
3. ALL WATER PIPE BELOW GRADE SHALL BE TYPE 'K' HARD DRAWN COPPER.
4. ALL WATER PIPE ABOVE GRADE SHALL BE TYPE 'L' HARD DRAWN COPPER.
5. EACH HOT AND COLD WATER FIXTURE CONNECTION SHALL HAVE A 12 INCH AIR CHAMBER.
6. UTILIZE LEAD FREE SOLDER FOR ALL SOLDER JOINTS IN THE WATER DISTRIBUTION AND DWV SYSTEM.
7. ALL ABOVE GRADE SOIL, WASTE, STORM AND VENT PIPING SHALL BE:
   SERVICE WEIGHT CAST IRON – ASTM A74, FITTINGS ASTM C564 COMPRESSION OR CISPI 301 HUBLESS
   PVC – ASTM D 2665, FITTINGS ASTM D 2949
   2" AND SMALLER MAY BE SCH 40 GALVANIZED STEEL WITH THREADED CAST IRON DRAINAGE FITTINGS
8. ALL UNDERGROUND SOIL, WASTE, STORM AND VENT PIPING TO 5'-0" OUTSIDE THE BUILDING SHALL BE:
   SERVICE WEIGHT CAST IRON – ASTM A74, FITTINGS ASTM C564 COMPRESSION OR CISPI 301 HUBLESS
   PVC – ASTM D 2665, FITTINGS ASTM D 2949.
9. PIPING MINIMUM SLOPE:
   SANITARY, WASTE AND DRAIN LESS THAN 3" – 1/4" PER FOOT.
   SANITARY, WASTE AND DRAIN 3" AND ABOVE – 1/8" PER FOOT.
   STORM – 1/8" PER FOOT.
10. PIPE HANGERS FOR SUSPENDED PIPE SHALL BE ADJUSTABLE.
11. COPPER PIPE SHALL BE PROTECTED FROM DISSIMILAR METAL HANGERS.
12. HANGERS:
    SWIVEL RING HANGERS – GRINNEL FIG. 69 OR EQUAL.
    CLEVIS HANGERS – GRINNEL FIG 260 OR EQUAL.
    PIPE ROLLS – GRINNEL FIG 181 OR EQUAL.
    TRAPEZE HANGERS – UNISTRUT PG OR EQUAL.
13. HANGER ROD SIZE MINIMUMS:

PIPE SIZE	HANGER ROD SIZE
2" AND SMALLER	3/8"
2-1/2" AND 3"	1/2"
4" AND 5"	5/8"
6"	3/4"
8" THROUGH 12"	7/8"

14. ALL VENTS SHALL BE A MINIMUM OF 15'-0" FROM ANY OUTDOOR AIR INTAKE.
15. PROVIDE A CLEANOUT AT, OR NO MORE THAN 4'-0" ABOVE THE BASE OF EACH VERTICAL WASTE, SOIL OR STORM STACK.
16. TRAP ALL DRAINS CONNECTED TO SANITARY SOIL OR WASTE SYSTEM.
17. PROVIDE CLEANOUTS WHETHER SHOWN OR NOT FOR THE PROPER CLEANING OF THE ENTIRE DRAINAGE SYSTEM AS DESCRIBED IN THE PLUMBING CODE.
18. ALL PLUMBING FIXTURES INCLUDING FLOOR DRAINS SHALL BE VENTED TO ATMOSPHERE.
19. PROVIDE CHROME PLATED STEEL ESCUTCHEONS ON PIPES PASSING THROUGH WALLS, FLOORS AND CEILINGS OF FINISHED AREAS.
20. PROVIDE CODE APPROVED FIRE STOPPING ON ALL PIPES OR EQUIPMENT PASSING THROUGH FIRE RATED ASSEMBLIES.
21. PAINT ALL PIPING AND SUPPORTS EXPOSED TO THE ELEMENTS WITH A PRIME COAT AND TWO COATS OF RUSTOLEUM PAINT.
22. ALL EXTERIOR BURIED PIPING SHALL BE BELOW THE FROST LINE DEPTH.
23. ALL JOINTS AND CONNECTIONS SHALL BE GAS-TIGHT AND WATER-TIGHT AND FULLY COMPLY WITH THE PLUMBING CODE.
24. ALL FLOOR DRAINS AND OPEN HUB DRAINS SHALL HAVE DEEP SEAL TRAPS OR AN AUTOMATIC TRAP PRIMER.
25. GAS AND OIL INTERCEPTORS SHALL BE VENTED INDEPENDENTLY OF OTHER VENT SYSTEMS.

NATURAL GAS SYSTEM

1. PROVIDE A COMPLETE NATURAL GAS SERVICE OF ADEQUATE SIZE INCLUDING REGULATORS, SHUTOFF, METER(S), UNIONS, AND PIPING. ALL GAS PIPING TO BE SCHEDULE 40 BLACK STEEL OR COPPER. ALL PIPING AND FITTINGS AND INSTALLATION SHALL BE PER THE INTERNATIONAL FUEL GAS CODE. INSPECT, TEST AND PURGE NATURAL GAS SYSTEM PER INTERNATIONAL FUEL GAS CODE.
2. GAS PIPING LOCATED ON ROOF SHALL BE MOUNTED ON E-Z SLEEPERS. SECURE GAS PIPING TO E-Z SLEEPER WITH HORSESHOE CLAMP PER MANUFACTURERS INSTRUCTIONS. PIPING SHALL BE SUPPORTED AS FOLLOWS:

SIZE	SPACING OF SUPPORTS
1/2"	EVERY 6 FEET ON CENTER
3/4" OR 1"	EVERY 8 FEET ON CENTER
1-1/4" OR LARGER	EVERY 10 FEET ON CENTER

3. PROVIDE DIRT LEG, SHUTOFF, AND UNION AT CONNECTION TO EACH GAS FIRED APPLIANCE.
4. PLUMBING CONTRACTOR SHALL INCLUDE ALL GAS PIPING AND SHALL SUBMIT FOR APPROVAL GAS PIPING PLANS SHOWING PIPING LOCATIONS AND SIZES, VALVES, HANGERS, SUPPORTS, ETC. TO VERIFY CONFORMANCE TO THE CURRENT CODE.

INSULATION

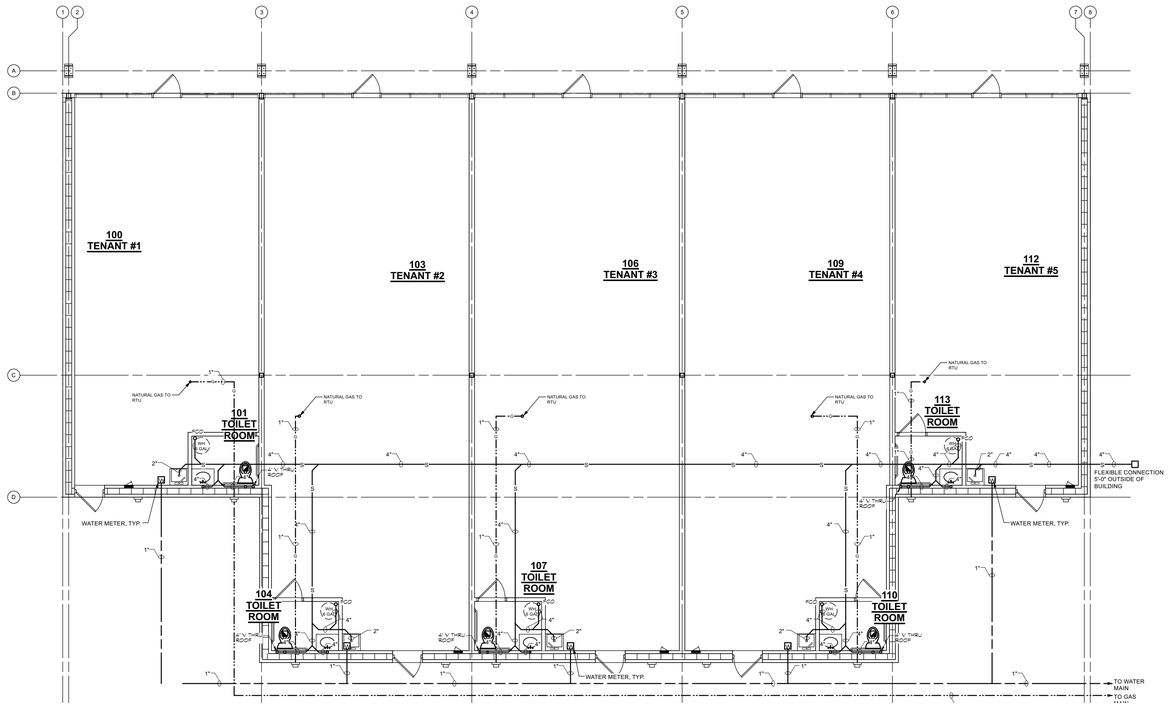
1. TYPE A: FIBERGLASS WITH VAPOR BARRIER JACKET, JOHNS MANVILLE MICRO-LOK AP OR EQUAL.
   TYPE B: ELASTOMERIC FOAM WITH VAPOR BARRIER JACKET, ARMSTRONG AP ARMAFLEX OR EQUAL.

SERVICE	TYPE	INSULATION THICKNESS
COLD WATER UP TO 2"	A OR B	1/2"
COLD WATER OVER 2"	A	1"
HOT WATER UP TO 1"	A OR B	1/2"
HOT WATER 1-1/4" TO 2"	A	1"
HOT WATER OVER 2"	A	1-1/2"
HOT WATER RETURN ALL SIZES	A	1"
STORM HORIZONTAL ALL SIZES	A	1/2"
STORM VERTICAL ALL SIZES	A	1/2"
STORM ROOF DRAIN BODIES	A	1/2"

2. INSULATE ALL FITTINGS AND VALVES FOR THE ABOVE LISTED SERVICES.
3. ALL INSULATION MATERIALS, JACKETS, ADHESIVES AND SEALERS SHALL HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 450 WHEN TESTED IN ACCORDANCE WITH ASTM E84, NFPA 255 AND UL 723.
4. PROVIDE A.D.A. APPROVED INSULATING WRAP SYSTEM AT HC DESIGNATED FIXTURES.

PLUMBING FIXTURE SCHEDULE

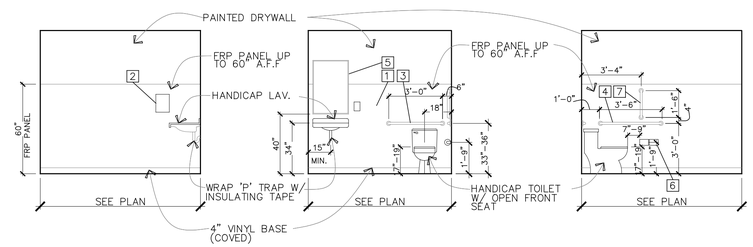
ET1	EXPANSION TANK – WATTS #DETA-12, 5 GALLON TANK VOLUME, 3.1 GALLON ACCEPTANCE VOLUME, 3/4" NPT CONNECTION, FIXED BUTYL BLADDER, CHARGE ON-SITE TO REQUIRED PRESSURE, 28 LBS.
EWC1	ELECTRIC WATER COOLER – ELKAY #EBFATLBC, TWO LEVEL, BARRIER FREE, VANDAL RESISTANT, PUSH-BUTTON OPERATED STAINLESS STEEL CABINET, HIGHER UNIT ON LEFT. PROVIDES 8 GPH AT 50°F IN 90°F AMBIENT, 120V/1PH/60HZ. INSTALL FOR A.D.A. COMPLIANCE.
FCO	FLOOR CLEAN OUT – ZURN #ZN1444 WITH DURA-COATED CAST IRON BODY, GAS & WATER TIGHT ABS TAPERED THREAD PLUG, POLISHED NICKEL-BRONZE ACCESS COVER & FRAME.
FD1	FLOOR DRAIN- ZURN #ZN415-8B, 6" TYPE "B" ROUND ADJUSTABLE LIGHT DUTY NICKEL BRONZE STRAINER TOP WITH SQUARE HEEL PROOF OPENINGS, CAST IRON BODY ASSEMBLY WITH 4" BOTTOM OUTLET. ZURN #Z1000 DEEP SEAL TRAP.
GB1	GUT GRAY BOX – MODEL #BB200TS FOR 2" DRAIN WITH FITTINGS AND VALVES, TOP SUPPLY.
GCO	GRADE CLEAN OUT – ZURN #ZB1400, LEVEL-TROL, ADJUSTABLE CLEANOUT, DURA-COATED CAST IRON BODY, GAS & WATER TIGHT ABS TAPERED THREAD PLUG, ROUND SCORIATED ACCESS COVER WITH FRAME.
LT1	LAUNDRY TRAY – FLORESTONE "POLY TRAY" #PT UTILITY SINK, 22-3/4"x25-1/4"x32", 20 GALLON CAPACITY, 1-1/2" DRAIN OPENING. AMERICAN STANDARD "COLONY SOFT" #2475.550, CENTERSET LAUNDRY SINK FAUCET, QUARTER TURN METAL WASHERLESS CERAMIC DISC VALVE CARTRIDGE, MOUNTS ON 2 FAUCET HOLES WITH 4" CENTERS. McGUIRE #171, 1/2" CHROME PLATED COPPER SWEAT x 1/2" O.D. COMPRESSION CHROME PLATED FLEXIBLE SUPPLY WITH WHEEL HANDLE ANGLE STOPS. McGUIRE #8903, 1-1/2"x2" CHROME PLATED CAST BRASS BODY P-TRAP WITH CLEANOUT.
LV1	LAVATORY – AMERICAN STANDARD "CADET OVAL" #0419.444, 21"W x 17-5/8"L, COUNTER MOUNTED, VITREOUS CHINA, 34" RIM HEIGHT, FRONT OVERFLOW, FAUCET HOLES ON 4" CENTERS. AMERICAN STANDARD "MONTERREY" #7501.170, CENTERSET LAVATORY FAUCET, GOOSENECK SPOUT, WRISTBLADE HANDLES, GRID STRAINER DRAIN, WASHERLESS CERAMIC DISC VALVE CARTRIDGE, MOUNTS ON 4" CENTERS. McGUIRE #170, 1/2" CHROME PLATED COPPER SWEAT x 3/8" O.D. COMPRESSION CHROME PLATED FLEXIBLE SUPPLY WITH WHEEL HANDLE ANGLE STOPS. McGUIRE #8902, 1-1/4"x1-1/2" CHROME PLATED CAST BRASS BODY P-TRAP WITH CLEANOUT. TRUEBRO LAV GUARD 2 UNDERGROUND PIPING COVERS. POWERS HYDROGUARD 1/P SERIES #480, UNDER-THE-COUNTER TEMPERING VALVE, SET TO 105°F. INSTALL FOR A.D.A. COMPLIANCE.
RPZ1	DOMESTIC WATER REDUCED PRESSURE ZONE BACKFLOW PREVENTER – WATTS SERIES #909M1QT-S, 1-1/2" WITH QUARTER-TURN FULL PORT BALL VALVES, BRONZE STRAINER, COMPLETE WITH WATTS #AG-F AIR GAP.
RPZ2	DOMESTIC WATER REDUCED PRESSURE ZONE BACKFLOW PREVENTER – WATTS SERIES #909QT-S, 1" WITH QUARTER-TURN FULL PORT BALL VALVES, BRONZE STRAINER, COMPLETE WITH WATTS #AG-C AIR GAP.
RPZ3	DOMESTIC WATER REDUCED PRESSURE ZONE BACKFLOW PREVENTER – WATTS SERIES #909QT-S, 1" WITH QUARTER-TURN FULL PORT BALL VALVES, BRONZE STRAINER, COMPLETE WITH WATTS #AG-C AIR GAP.
SC1	SILL COCK – ZURN #Z1310, EXPOSED ECOLOTROL ANTI-SIPHON AUTOMATIC DRAINING WALL HYDRANT, COMPLETE WITH NON-FREEZE TYPE INTEGRAL BACKFLOW PREVENTER, BRONZE CASING, ALL BRONZE INTERIOR PARTS, NON-TURNING OPERATING ROD WITH FREE FLOATING COMPRESSION CLOSURE VALVE, REPLACEABLE BRONZE SEAT AND SEAT WASHER, COMBINATION 3/4" FEMALE OR 1" MALE INLET, STAINLESS STEEL FACE WITH OPERATING KEY.
SH1	BUILT-IN SHOWER – ENCLOSURE BY OTHERS, BRADLEY #N3000-HD-AST-SF, EQUA-FLO HD PRESSURE BALANCING VALVE, AIR METERING VALVE, DELUXE SHOWERHEAD WITH BALL JOINT, HAND HELD SHOWER SPRAY WITH BRACKET, 1/2" NPT STAINLESS STEEL HOSE TO BE 60" WITH ELEVATED LINE BACKFLOW PREVENTER & QUICK DISCONNECT, 18 GAUGE S.S. WALL-MOUNTED L-SHAPED GRAB BAR SYSTEM, MOLDED PLASTIC BARRIER FREE FOLDING SEAT, HEAVY-DUTY SHOWER CURTAIN ROD, FLANGES & HEAVY-GAUGE VINYL CURTAIN WITH HOOKS. ZURN #ZN4538, DEEP SEAL TRAP SHOWER DRAIN, DURA-COATED CAST IRON BODY WITH UNIFORM DIAMETER INTEGRAL TRAP, 4" SIDE OUTLET, SEEPAGE PAN, ADJUSTABLE 5" TYPE "B" POLISHED NICKEL BRONZE STRAINER. INSTALL FOR A.D.A. COMPLIANCE.
SH2	BUILT-IN SHOWER – ENCLOSURE BY OTHERS, BRADLEY #1C-HD-SF-DV-AST, EQUA-FLO HD PRESSURE BALANCING VALVE, AIR METERING VALVE, DELUXE SHOWERHEAD WITH BALL JOINT, IN-WALL DIVERTER VALVE. ZURN #ZN4538, DEEP SEAL TRAP SHOWER DRAIN, DURA-COATED CAST IRON BODY WITH UNIFORM DIAMETER INTEGRAL TRAP, 4" SIDE OUTLET, SEEPAGE PAN, ADJUSTABLE 5" TYPE "B" POLISHED NICKEL BRONZE STRAINER.
UR1	URINAL – AMERICAN STANDARD "WASHBROOK" #6501.010, VITREOUS CHINA, 1.0 GPF, 3/4" TOP SPUD. 15-1/4" RIM HEIGHT, STAINLESS STEEL STRAINER #047068-0070A, ZURN #Z6003AV-WS1 AQUAVANTAGE FLUSH VALVE. INSTALL FOR A.D.A. COMPLIANCE.
WCO	WALL CLEAN OUT – ZURN #ZN1441 WITH DURA-COATED CAST IRON BODY, GAS & WATER TIGHT ABS TAPERED THREAD PLUG, ROUND SMOOTH STAINLESS STEEL WALL ACCESS COVER WITH SECURING SCREW.
WC1	WATER CLOSET – AMERICAN STANDARD "CADET 3" #2383.012, FLOOR MOUNTED, VITREOUS CHINA, EVERCLEAN ANTI-MICROBIAL CERAMIC GLAZE, 16-1/2" RIM HEIGHT, ELONGATED SIPHON ACTION JETTED BOWL, 12" ROUGH-IN, 1.6 GPF, #3016.016 RIGHT HEIGHT ELONGATED BOWL, #4021.016 TANK, OLSONITE #95C OPEN FRONT SEAT LESS COVER, McGUIRE #172, 1/2" CHROME PLATED COPPER SWEAT x 3/8" O.D. COMPRESSION CHROME PLATED FLEXIBLE SUPPLY WITH WHEEL HANDLE ANGLE STOP. INSTALL FOR A.D.A. COMPLIANCE.
WC2	WATER CLOSET – AMERICAN STANDARD "CADET 3" #2383.012, FLOOR MOUNTED, VITREOUS CHINA, EVERCLEAN ANTI-MICROBIAL CERAMIC GLAZE, 15" RIM HEIGHT, ELONGATED SIPHON ACTION JETTED BOWL, 12" ROUGH-IN, 1.6 GPF, #3014.016 ELONGATED BOWL, #4021.016 TANK, OLSONITE #95C OPEN FRONT SEAT LESS COVER, McGUIRE #172, 1/2" CHROME PLATED COPPER SWEAT x 3/8" O.D. COMPRESSION CHROME PLATED FLEXIBLE SUPPLY WITH WHEEL HANDLE ANGLE STOP.
WH1	WATER HEATER – A.O. SMITH "CYCLONE XI" #BTH-120, 120,000 BTUH, 60 GALLON CAPACITY, 154 GPH AT 90°F RISE, 96% THERMAL EFFICIENCY, SEALED COMBUSTION POWER DIRECT VENTING, 500 LBS LESS WATER.



N

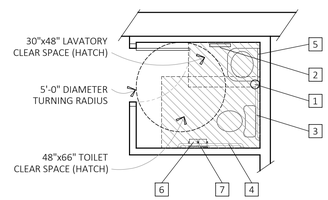
PLUMBING PLAN

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



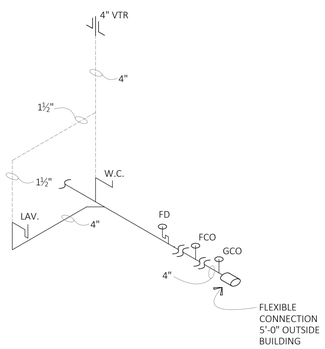
TOILET ROOM ELEVATIONS

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



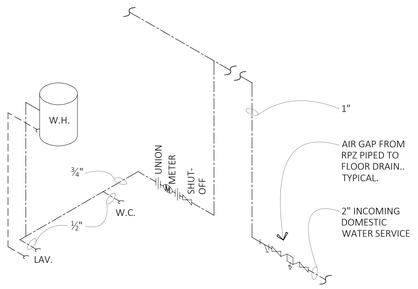
PARTIAL FLOOR PLAN: RESTROOM

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



SANITARY WASTE & VENT PIPING RISER DIAGRAM

TYPICAL @ EACH UNIT



POTABLE HOT & COLD WATER PIPING RISER DIAGRAM

TYPICAL @ EACH UNIT

PLUMBING FIXTURE SCHEDULE
OR EQUAL

LAV – LAVATORY ADA
AMERICAN STANDARD SINK "LUCERNE" HDCP, HDCP HT. "31"-34", HERITAGE INS. TAIL PIPE W/ SENSOR OPERATED AUTOMATIC FAUCET ELECTRONICS PACKAGE BY MOEN OR EQUAL

WC – WATER CLOSET ADA
WATER CLOSET, AMERICAN STANDARD HDCP, W/ ELONGATED WHITE SEAT, OPEN FRONT SENSOR OPERATED AUTOMATIC FLUSH.

W.H. – WATER HEATER
6 GAL. ELECTRICAL WATER HEATER

FD – FLOOR DRAIN
ZURN 4" W/ BRASS STRAINER ADJUSTABLE STRAINER

WCO – WALL CLEAN OUT
CHROME COVER WALL MOUNT

FCO – FLOOR CLEAN OUT
ZURN BRONZE ROUND FRAME & FLUSH COVER.

TOILET ACCESSORY SCHEDULE

ITEM No.	DESCRIPTION
1	SOAP DISPENSER SURFACE MOUNTED
2	PAPER TOWEL DISPENSER SURFACE MOUNTED
3	1-1/2" DIA. STAINLESS STEEL GRAB BAR 36" LONG
4	1-1/2" DIA. STAINLESS STEEL GRAB BAR 42" LONG
5	WALL MIRROR W/ STAINLESS STEEL FRAME 24"X36"
6	TOILET TISSUE PAPER HOLDER, SURFACE MOUNTED
7	1-1/2" DIA. STAINLESS STEEL GRAB BAR 18" LONG

– ALL LAVATORY & HAND SINK FAUCETS SHALL BE PROVIDED WITH AN AUTOMATIC SAFETY WATER-MIXING DEVICE. THE DEVICE SHALL BE EITHER A THERMOSTATIC PRESSURE BALANCE OR COMBINATION CONTROLS WHICH SHALL BE ADJUSTED TO A MAXIMUM SETTING OF 100 DEGREES AT THE TIME OF INSTALLATION.

TOILETS MAY BE WALL-HUNG OR PEDESTAL STYLE. THE HEIGHT MUST BE BETWEEN 17" & 19" MEASURED FROM THE FLOOR TO THE TOP OF THE TOILET SEAT.

NOTES:
– 1/2" WATER RESISTANT D.W. @ TOILET WALLS

– PROVIDE 3/4" PLYWOOD BEHIND ALL GRAB BARS & TOILET ACCESSORIES

0 5 10 15 20 FT
SCALE 1/8" = 1'-0"

REVISIONS	BY
Bidding Only	05/14/25

STATE OF INDIANA
MICHAEL E. STANULA
LICENSE NO. AR10400117
LICENSED ARCHITECT

MICHAEL E. STANULA
architect
31800 STATELINE RD.
BEECHER, IL 60401
stanula.arch@gmail.com

NEW 1 STORY VE
TENANT BUILDING

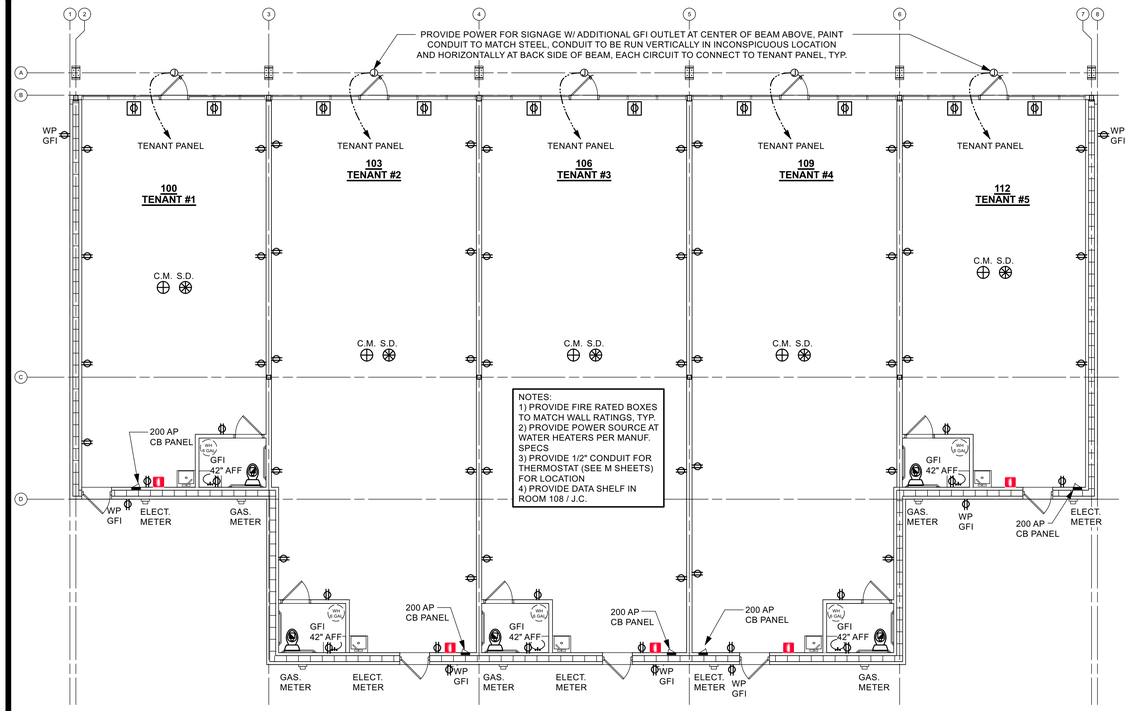
DATE: 04/20/2025

SCALE: AS NOTED

JOB NO. 25015

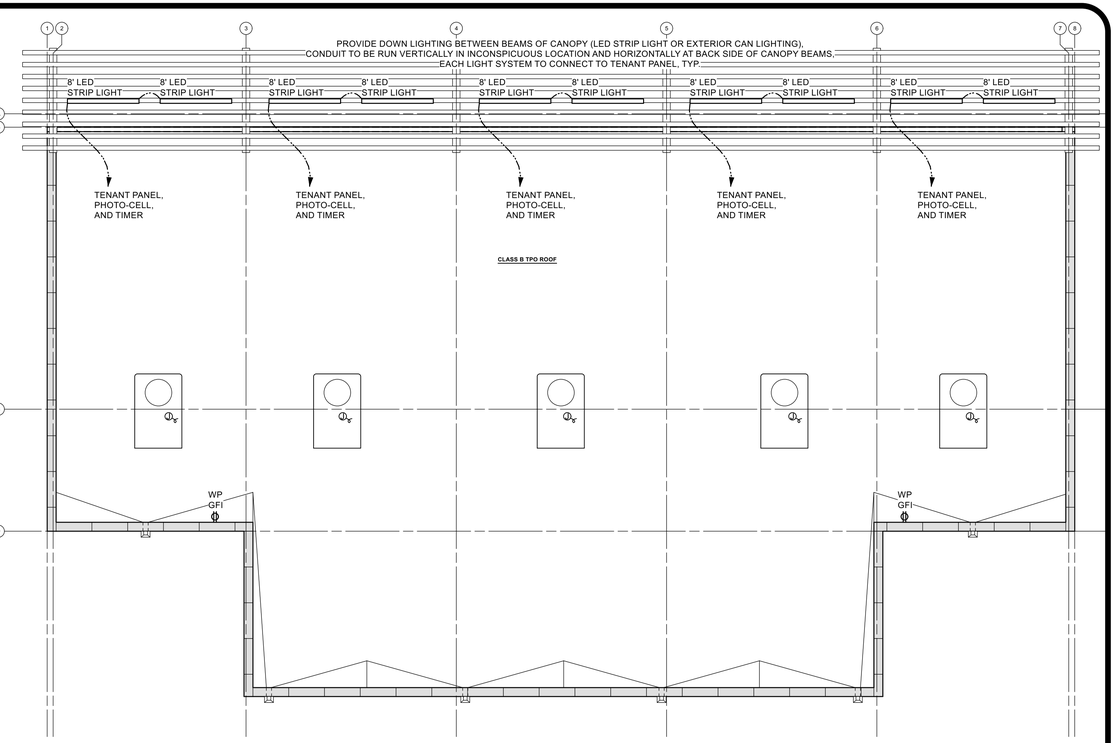
SHEET P-1

30 OF 30 SHEETS



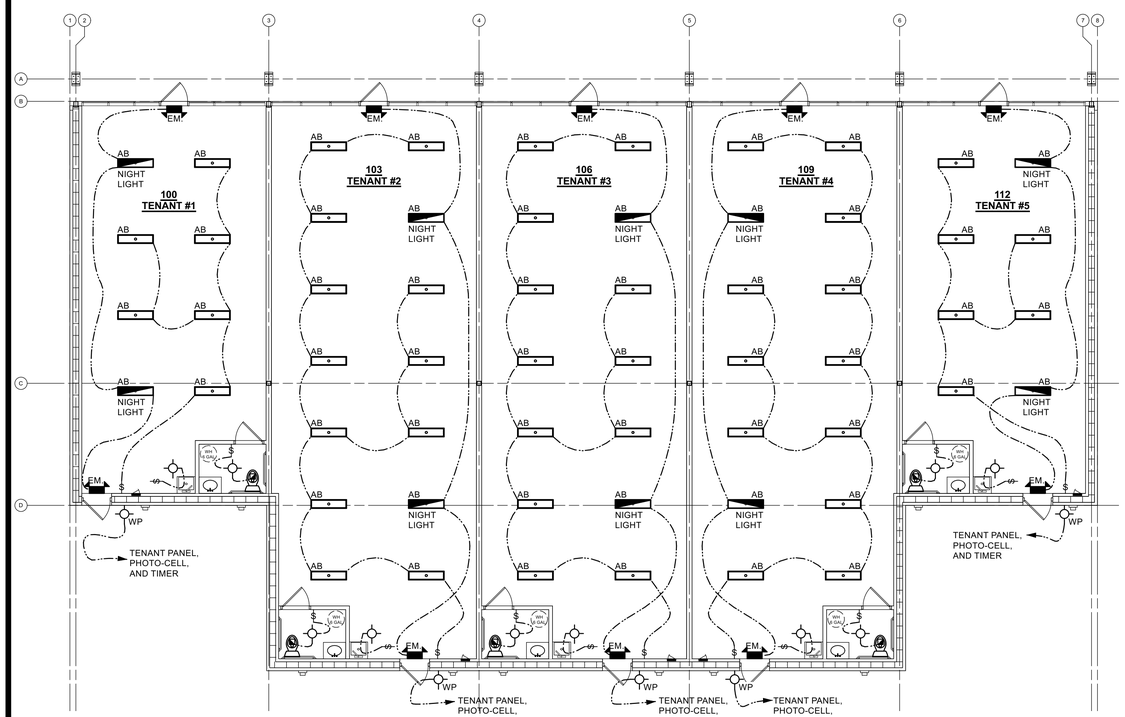
1ST FLOOR POWER PLAN

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



ROOF ELECTRICAL PLAN

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

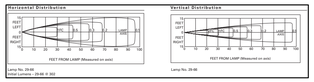


1ST FLOOR LIGHTING PLAN

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

EMERGENCY FIXTURE LEGEND

COOPER LIGHTING - SURE-LITES				
	MODEL #	LAMP	QTY.	WATTS
	CHX71	LED #29-66	1	3-watts ea.
	CHX71AR	LED #29-66	1	3-watts ea.
	CHX71AL	LED #29-66	2	3-watts ea.
	CXH72ARL	LED #29-66	3	3-watts ea.



NOTES:

1) SEE SHT E-2 FOR ELECTRICAL NOTES AND SCHEDULES
2) LIGHT SWITCHES, THERMOSTAT CONTROLS AND OTHER ENVIRONMENTAL CONTROLS TO BE IN ACCESSIBLE LOCATIONS AT ACCESSIBLE HEIGHTS (44"-48" AFF TO TOP) OUTLET RECEPTACLES TO BE MOUNTED 15" AFF TO BOTTOM

ELECTRICAL LEGEND

- DUPLEX OUTLET
- HALF SWITCHED OUTLET
- 42" H GFI — GROUND FAULT INTERRUPTER DUPLEX OUTLET
- WP GFI — WEATHER PROOF & GFI DUPLEX OUTLET
- QUAD OUTLET
- FLOOR MOUNTED DUPLEX OUTLET
- SPECIALTY OUTLET
- 44" WALL SWITCH
- PHONE
- DATA, NUMBER OF CIRCUITS
- EXHAUST FAN
- EXHAUST FAN WITH LIGHT FIXTURE
- DOOR RELEASE/INTERCOM/CHIME
- S.D. — 110V SMOKE DETECTOR
- C.M. — CARBON MONOXIDE DETECTOR W/ BATT. BACKUP
- WALL MTD LED (SCONCE)
- FOUR WAY SWITCH
- THREE WAY SWITCH
- TRACK LIGHT FIXTURE
- SUSPENDED LED LIGHT FIXTURE
- 2X2 / 2X4 / 1X4 CEILING GRID LED LIGHT FIXTURE
- TV — CABLE TV
- T — THERMOSTAT
- CEILING MTD LED LIGHT
- RECESS LED LIGHT FIXTURE
- UNDER CABINET LIGHTS
- EM — EMERGENCY BATTERY LIGHTS MODEL # XR6-C "SURE LITE"
- FIRE EXTINGUISHER A/B/C W/ RECESSED CABINET

0 5 10 15 20 FT

SCALE 1/8" = 1'-0"

REVISIONS	BY
Bidding Only	05/14/25

STATE OF INDIANA — MICHAEL E. STANULA — LIC. NO. AR10300117 — LICENSED ARCHITECT

MICHAEL E. STANULA architect
31800 STATELINE RD.
BEECHER, IL 60401
stanula.arch@gmail.com

NEW 1 STORY VET TENANT BUILDING

DATE: 04/20/2025

SCALE: AS NOTED

JOB NO. 25015

SHEET E-1

27 OF 30 SHEETS

SPECIFICATIONS

GENERAL:
1. THE CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS NECESSARY TO PROVIDE A COMPLETE INSTALLATION OF THE SYSTEMS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS.
2. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER AND COMPLY WITH ALL APPLICABLE LOCAL, STATE AND NATIONAL CODES AND ORDINANCES AND THE REQUIREMENTS OF THE LOCAL UTILITY COMPANY. ALL EQUIPMENT SHALL BE U.L. (OR OTHER NATIONALLY RECOGNIZED TESTING COMPANY) LISTED.
3. ALL DRAWINGS ARE DIAGRAMMATIC IN NATURE. CONTRACTOR SHALL INSTALL SYSTEMS TO MEET FIELD CONDITIONS. CONTRACTOR SHALL COORDINATE ALL WORK WITH RESPECTIVE TRADES, AND VERIFY LOCATIONS FROM THE ARCHITECTURAL DRAWINGS, SUPPLIER DRAWINGS, AND FIELD DIMENSIONS.
4. CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE FULL EXTENT OF THE WORK AND THE WORKING CONDITIONS.
5. THE DRAWINGS AND SPECIFICATIONS HAVE BEEN DEVELOPED FOR ONE (1) PRIME CONTRACTOR. THEY ARE NOT INTENDED TO DIVIDE THE WORK BETWEEN CONTRACTORS. COORDINATE INTERFACES WITH GENERAL CONTRACTOR.
6. ARRANGE AND PAY FOR ALL COST CHARGEABLE TO THE OWNER BY UTILITY COMPANIES FOR ELECTRICAL SERVICES FOR THE PROJECT INCLUDING TELEPHONE AND ELECTRICAL SERVICE.
7. CONTRACTOR SHALL VERIFY ALL ELECTRICAL REQUIREMENTS FOR THE FOLLOWING EQUIPMENT WITH THE ASSOCIATED VENDOR AND/OR CONTRACTOR AND THE AUTHORITY HAVING JURISDICTION (AHJ) PRIOR TO ORDERING EQUIPMENT AND ROUGH-IN:
   MECHANICAL EQUIPMENT
   PLUMBING EQUIPMENT

PERMITS:
OBTAIN AND PAY FOR ALL LICENSES, PERMITS AND INSPECTIONS FOR ALL WORK COVERED BY THIS CONTRACT. ALL CERTIFICATES OF INSPECTION SHALL BE DELIVERED TO THE OWNER.

CONSTRUCTION POWER:
PROVIDE TEMPORARY POWER AND LIGHTING FOR THE JOB SITE DURING CONSTRUCTION.

ELECTRIC UTILITY COMPANY:
1. COORDINATE WITH THE ELECTRIC UTILITY COMPANY FOR THE FURNISHING OF ELECTRICAL SERVICE TO THE BUILDING.
2. PROVIDE ALL REQUIRED PADS, POSTS, CONDUIT, GROUNDING, ETC. AS REQUIRED FOR A COMPLETE AND OPERATIONAL UTILITY SERVICE.
3. ALL EQUIPMENT SHALL BE SIZED TO MEET OR EXCEED THE AVAILABLE SHORT CIRCUIT CURRENT. VERIFY WITH UTILITY COMPANY. FOR BASE BID, ALL DISTRIBUTION EQUIPMENT SHALL BE RATED AS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL VERIFY THIS VALUE WITH UTILITY COMPANY PRIOR TO ORDERING EQUIPMENT.
4. VERIFY VOLTAGE AVAILABILITY AND SERVICE ENTRANCE CONFIGURATION WITH UTILITY COMPANY PRIOR TO ORDERING EQUIPMENT.

ELECTRICAL TIE-INS:
COORDINATE WITH THE BUILDING OWNER FOR THE FURNISHING OF ELECTRICAL POWER FOR THE PROJECT

TELEPHONE SERVICE:
1. PROVIDE TELEPHONE SERVICE CONDUIT AS DIRECTED BY OWNER'S SERVICE PROVIDER.
2. CONNECT 120VAC POWER TO TELEPHONE EQUIPMENT AS REQUIRED.

OPENINGS:
1. PROVIDE ALL REQUIRED OPENINGS THROUGH WALLS, CEILINGS AND FLOORS. ALL DISTURBED SURFACES OR FINISHES MUST BE REPLACED OR REPAIRED TO THE ARCHITECT'S SATISFACTION.
2. FIRE SEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS.

CONDUIT:
1. ALL ELECTRICAL WORK SHALL BE INSTALLED IN A METAL CONDUIT SYSTEM, INCLUDING LOW VOLTAGE WIRING.
2. SERVICE CONDUIT AND CONDUIT EXPOSED TO WEATHER SHALL BE RIGID GALVANIZED STEEL. UNDERGROUND FEEDER AND BRANCH CONDUITS SHALL BE RIGID GALVANIZED STEEL OR SCHEDULE 40 PVC AS PERMITTED BY CODE. ALL CONDUIT IN DRY LOCATIONS SHALL BE EMT.
3. MINIMUM SIZE CONDUIT ABOVE GRADE SHALL BE 1/2". MINIMUM SIZE CONDUIT BELOW GRADE SHALL BE 3/4".
4. ALL CONDUITS SHALL BE INDEPENDENTLY SUPPORTED. CONDUITS SHALL NOT BE SUPPORTED FROM MECHANICAL SYSTEMS OR CEILING SUSPENSION WIRES.
5. CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. WHERE EXPOSED, IT SHALL BE RUN IN STRAIGHT LINES PARALLEL AND/OR PERPENDICULAR TO BUILDING CONSTRUCTION.

BRANCH WIRING:
1. CONDUITS AND BOXES SHALL BE CONCEALED WHEREVER POSSIBLE.
2. CONNECT EQUIPMENT AND DEVICES TO THE CIRCUITS AND SWITCH LEGS SHOWN.
3. ARCS SHOWN ON DRAWINGS REPRESENT SWITCH ARRANGEMENT ONLY, AND ARE NOT INTENDED TO SHOW CONDUIT ROUTINGS.
4. EACH CIRCUIT SHALL HAVE AN INDEPENDENT NEUTRAL.
5. AMPACITIES OF CONDUCTORS WHEN MORE THAN THREE (3) CURRENT -CARRYING CONDUCTORS ARE PLACED IN A RACEWAY SHALL BE DERATED PER CODE.
6. WHERE WIRE SIZES MUST BE INCREASED TO LIMIT VOLTAGE DROP, CONTRACTOR SHALL COORDINATE TERMINAL SIZES AT TERMINATIONS.

WIRE (120V AND ABOVE):
1. ALL WIRE SHALL BE COPPER WITH 600V THWN INSULATION.
2. MINIMUM SIZE SHALL BE #12. RUNS OVER 75' SHALL BE MINIMUM #10 UNLESS NOTED OTHERWISE.

WIRING DEVICES:
1. WIRING DEVICES SHALL BE 20 AMPERE, UL/FED SPEC LISTED, BACK AND SIDE WIRED, WITH COLOR AS SELECTED AND APPROVED BY THE ARCHITECT.
2. COVER PLATES IN FINISHED AREAS SHALL BE NYLON WITH COLOR AS SELECTED AND APPROVED BY THE ARCHITECT. PROVIDE COMMON COVER PLATE FOR GANGED DEVICES. COVERS FOR SURFACE MOUNTED BOXES SHALL BE APPROPRIATE FOR THE BOX TYPE.
3. MOUNTING HEIGHTS SHALL BE AS FOLLOWS: RECEPTACLES 18" AFF, SWITCHES 48" AFF, TELEPHONE OUTLETS 18" AFF, RECEPTACLES ALONG COUNTER TOP 6" ABOVE COUNTER. VERIFY ALL MOUNTING HEIGHTS WITH ARCHITECT & LATEST ADA REQUIREMENTS PRIOR TO INSTALLATION.
4. CONDUCTORS SHALL BE ATTACHED TO DEVICES BY MEANS OF SCREW TERMINALS OR SCREW CLAMPS.
5. WIRING DEVICES SHALL BE HUBBELL OR PASS & SEYMOUR CONSTRUCTION SERIES.

MECHANICAL EQUIPMENT, BUILT-IN EQUIPMENT AND CASEWORK:
COORDINATE ALL CONNECTION REQUIREMENTS PRIOR TO ORDERING EQUIPMENT AND ROUGH-IN. THIS SHALL INCLUDE LOCATION, VOLTAGE, CIRCUIT BREAKER, FUSE AND WIRE SIZE, PHASE, CONTROL, MOUNTING HEIGHT, ETC.

TEMPERATURE CONTROL WIRING:
FURNISH AND INSTALL ALL CONTROL WIRING.

LIGHTING FIXTURES:
1. FURNISH FIXTURES AND LAMPS AS SPECIFIED IN THE FIXTURE SCHEDULE. LAMPS SHALL BE 3500 DEG K WITH A MINIMUM CRI OF 82.
2. PROVIDE ADEQUATE SUPPORT FOR ALL FIXTURES.
3. EXIT SIGNS SHALL NOT BE SUPPORTED FROM CEILING TILES. SUPPORT FROM STRUCTURE.
4. VERIFY MOUNTING HEIGHT OF ALL WALL MOUNTED FIXTURES WITH ARCHITECT PRIOR TO INSTALLATION.
6. EACH INDOOR FLUORESCENT FIXTURE THAT USE DOUBLE-ENDED LAMPS AND CANTAIN BALLAST(S) SHALL HAVE A DISCONNECTING MEANS EITHER INTERNAL OR EXTERNAL TO EACH FIXTURE WHICH DISCONNECTS ALL SUPPLY CONDUCTORS, AS WELL AS THE GROUNDED CONDUCTOR, SIMULTANEOUSLY.

EXIT AND EMERGENCY LIGHTS:
1. EXIT AND EMERGENCY FIXTURES SHALL BE UNIT EQUIPMENT TYPE, CONNECTED AS REQUIRED BY CODE. BATTERIES SHALL BE OF SUITABLE RATING AND CAPACITY TO SUPPLY AND MAINTAIN THE TOTAL LOAD FOR A PERIOD OF 1.5 HOURS MINIMUM, WITHOUT THE VOLTAGE APPLIED TO THE LOAD FALLING BELOW 87.5 % OF NORMAL.
2. ALL EXIT AND EMERGENCY FIXTURES SHALL BE UL LISTED, AND COMPLY WITH NFPA, NEC, LIFE SAFETY CODE, OSHA, AND LOCAL CODES.
3. THE BRANCH CIRCUIT THAT FEEDS UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL.

TIMER:
1. TIMER SHALL BE ASTRONOMIC, FULL YEAR, WITH NUMBER OF CHANNELS AND VOLTAGE RATINGS AS INDICATED ON THE DRAWINGS.
2. TIMER SHALL BE ENCLOSED IN A LOCKABLE NEMA 1 ENCLOSURE FOR INDOOR APPLICATIONS AND NEMA 3R ENCLOSURE FOR OUTDOOR APPLICATIONS.
3. TIMER SHALL BE INTERMATIC SERIES ET70000C OR EQUAL.

SIGN OUTLETS:
VERIFY CONNECTION REQUIREMENTS AND LOCATION WITH SIGN VENDOR AND ARCHITECT.

METER CENTER (MC):
1. MAINS AND BRANCHES SHALL BE RATED AS SHOWN. ARRANGEMENT SHALL BE MODIFIED TO SUIT MANUFACTURER AND FIELD CONDITIONS.
2. MC SHALL MEET ALL REQUIREMENTS OF THE LOCAL UTILITY COMPANY.
3. NEUTRAL SHALL BE FULL CAPACITY.
4. ALL SECTIONS SHALL BE BUS CONNECTED.
5. ENCLOSURE SHALL BE FRONT ACCESSIBLE, RATED NEMA 3R.
6. PROVIDE NAMEPLATES FOR EACH BRANCH
7. MC SHALL BE AS MANUFACTURED BY ERICKSON ELECTRICAL EQUIPMENT OR EQUAL.

PANELBOARDS:
1. ALL BUSSES SHALL BE COPPER.
2. BRANCH BREAKERS SHALL BE PLUG-IN TYPE, OR BOLT-ON IF REQUIRED BY LOCAL CODES.
3. PROVIDE NAMEPLATE FOR PANEL AND TYPEWRITTEN DIRECTORY FOR EACH PANELBOARD.
4. PANELBOARDS SHALL BE MANUFACTURED BY CHICAGO SWITCHBOARD, CUTLER HAMMER, SIEMENS, SQUARE D OR EQUAL. LOAD CENTERS ARE NOT ACCEPTABLE.

MOTOR CONTROLS:
1. FURNISH AND/OR INSTALL ALL DISCONNECT SWITCHES, STARTERS AND CONTROLS AS REQUIRED FOR A COMPLETE SYSTEM(S).
2. HORSEPOWER RATED SWITCHES SHALL BE PROVIDED WITH INTEGRAL OVERLOAD PROTECTION IF MOTOR DOES NOT CONTAIN INTERNAL OVERLOAD PROTECTION.

LIGHTING CONTROL PANELS (LCP):
1. PROVIDE VOLTAGE, RELAYS, AND DIMMERS AS SHOWN ON THE DRAWINGS.
2. BUILT-IN LCD PROGRAMMING DISPLAY.
3. INDIVIDUAL DAILY SCHEDULING, 7 DAY REPEAT, WITH HOLIDAY SCHEDULE PROVISIONS.
4. ASTRONOMIC CLOCK WITH AUTOMATIC DAYLIGHT SAVINGS TIME. ALL EXTERIOR LIGHTING SHALL BE CONTROLLED USING ASTRONOMIC CLOCK.
5. WARN-BEFORE-OFF FEATURE.
6. OVERRIDE SWITCH ON COVER.
7. INPUT AND LOAD TERMINALS SHALL ACCOMMODATE LARGER WIRE SIZES WHERE WIRE SIZES ARE INCREASED TO LIMIT VOLTAGE DROP.
8. MULTIPLE PANELS IF REQUIRED TO SUPPLY QUANTITY OF RELAYS AND DIMMERS INDICATED.
8. LCP, WALL STATIONS, SENSORS, ETC SHALL BE SAME MFR.
10. ULTRASONIC SENSORS FOR RESTROOMS AND CORRIDORS.
11. PIR SENSORS FOR SMALL CONFERENCE ROOMS.
12. DUAL TECH SENSORS IN CLASSROOMS, OFFICES AND LARGE CONFERENCE ROOMS.
13. CONTRACTOR SHALL VERIFY TIME SCHEDULES WITH OWNER AND PROGRAM SYSTEM ACCORDINGLY.
14. SYSTEM SHALL BE LUTRON XPS (FOR RELAYS) OR LCP (FOR RELAYS AND DIMMING) OR EQUAL.

GROUNDING:
GROUNDING SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL INSPECTION AUTHORITY, WITH CONDUIT AND CABLE CONNECTION TO BUILDING STEEL, METAL PIPING SYSTEMS AND GROUND ROD.

WATER METER CONDUIT:
PROVIDE EMPTY CONDUIT FROM WATER METER TO REMOTE READOUT AS DIRECTED BY LOCAL UTILITY COMPANY.

TELEPHONE/DATA RACEWAY SYSTEM:
1. OUTLET SHALL CONSIST OF RECESSED 4" X 4" X 2-1/8"D OUTLET BOX AND SINGLE DEVICE COVER WITH ONE (1) 1" EMT CONDUIT EXTENDING UP INTO THE DROPPED CEILING SPACE.
2. FOR DEVICES LOCATED IN FREE STANDING HALF HEIGHT WALLS, RUN CONDUIT DOWN FROM BOX, UNDER FLOOR, TO NEAREST FULL HEIGHT WALL AND UP INTO THE DROPPED CEILING SPACE.
3. END OF CONDUIT ABOVE CEILING SPACE SHALL HAVE PLASTIC BUSHING. PROVIDE NYLON PULL CORD IN EACH CONDUIT.

BUILDING FIRE ALARM SYSTEM - PERFORMANCE SPEC:
1. PROVIDE A 24VDC, ELECTRICALLY SUPERVISED, AUTOMATIC FIRE DETECTION ADDRESSABLE FIRE ALARM CONTROL SYSTEM, TOGETHER WITH ALL MISCELLANEOUS ITEMS OF LABOR, FIRE PROTECTION ENGINEERING, DESIGN AND MATERIALS NECESSARY FOR PROPER OPERATION, TESTING AND CONTROL OF A COMPLETE OPERABLE SYSTEM.
2. SYSTEM SHALL MEET OR EXCEED THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION (AHJ).
3. ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND SHALL BE THE LATEST STANDARD PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE MANUFACTURE OF SUCH PRODUCTS.
4. SYSTEM SHALL INCLUDE (BUT NOT LIMITED TO) CONTROL PANEL (FACP), ANNUNCIATOR (FAAP), PULL STATIONS, SMOKE DETECTORS, HEAT DETECTORS, DUCT SMOKE DETECTORS, FIRE/SMOKE DAMPERS (INCLUDING POWER) AUDIBLE/VISUAL SIGNALS, TELEPHONE DIALER, WATER-FLOW SWITCHES, TAMPER SWITCHES, ELEVATOR RECALL (WHERE APPLICABLE) ETC.
5. VERIFY LOCATION OF FACP AND FAAP WITH AHJ.
6. ALL EQUIPMENT, DEVICES, WIRE AND CABLE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
7. PREPARE AND SUBMIT ALL DOCUMENTATION REQUIRED BY THE AHJ.
8. SYSTEM SHALL BE EDWARDS SYSTEMS TECHNOLOGY, NOTIFIER, FIRE CONTROL INSTRUMENTS, OR APPROVED EQUAL.

EQUIPMENT IDENTIFICATION:
1 THE CONTRACTOR SHALL LABEL EQUIPMENT WITH 1/2" DYMO TAPE.
2. ALL MAJOR ELECTRICAL EQUIPMENT SHALL BE IDENTIFIED WHICH SHALL INCLUDE PANELBOARDS, MOTOR STARTERS, DISCONNECT SWITCHES, SWITCHES, ETC.

TESTS:
1. UPON COMPLETION OF WORK, TEST EACH SYSTEM TO BE FREE OF GROUNDS AND/OR FAULTS. TEST FOR PROPER OPERATION. IF ANY DEFECTS ARE FOUND, TAKE IMMEDIATE ACTION TO REMEDY.
2. CHECK ALL FIXTURES FOR BURNT OUT OR DAMAGED LAMPS AND REPLACE.

GUARANTEE:
CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT AND WIRING TO BE FREE FROM MECHANICAL AND ELECTRICAL DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE.

SHOP DRAWINGS:
SUBMIT SEVEN COPIES OF SHOP DRAWINGS FOR THE FOLLOWING EQUIPMENT FOR APPROVAL BY THE ARCHITECT:
1. METERING CABINET
2. PANELBOARDS
3. WIRING DEVICES
4. LIGHT FIXTURES
5. EXTERIOR LIGHTING CONTROLLER
6. PARKING LOT POLES
12. FIRE ALARM SYSTEM

LIGHTING FIXTURES

TYPE AB
4FT, LED, MULTIVOLT,
SUSPENDED OR SURFACE MOUNT AS REQUIRED.
COLUMBIA #CS4-232-EBBLHUNV
LITHONIA #C232 MVOLT GEB10IS

TYPE EN
DUAL HEAD BATTERY PACK, FINISH AS SELECTED BY ARCHITECT.
DUAL-LITE #LZ2
LITHONIA #ELM2 COLOR

TYPE ER
REMOTE HEAD. NEMA 4X, SEALED AND GASKETED. 6V, 6W. FINISH AS SELECTED BY ARCHITECT.
DUAL-LITE #OMSS COLOR 0605
LITHONIA #ELA AFNR EXT

TYPE EX
LED RED EXIT SIGN, UNIVERSAL, BATTERY BACK-UP, FINISH AS SELECTED BY ARCHITECT.
DUAL-LITE # LX U R COLOR E
LITHONIA #LQM S COLOR 3 R 120/277 ELN

TYPE EY
LED RED EXIT SIGN WITH TWO EMERGENCY HEADS, UNIVERSAL, FINISH AS SELECTED BY ARCHITECT. 6W REMOTE CAPACITY.
DUAL-LITE #LT U R COLOR 3
LITHONIA #LHQM S COLOR 3 R 120/277 HO

TYPE SA
PROVIDE DECORATIVE SCONCE AS SELECTED BY ARCHITECT. PROVIDE $500 EACH MATERIAL AND LABOR ALLOWANCE.

TYPE WA
WALLPACK, WDGE2 LED, 10W, 4000K, 120V

TYPICAL

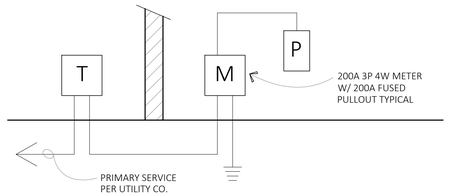
PANELBOARD:
VOLTAGE: 208/120V, 3 PHASE, 4 WIRE
MAINS: 200A MCB
65KAIC SERIES RATED AS A SYSTEM
MOUNTING: SURFACE
FEEDER: 2"C-4#3/0+1#6 GRD

CKT NO.	LOAD DESCRIPTION	C/B	LOAD VA A	B	C
1	LIGHTS	20A/1P	480		
3	LTS:	20A/1P		-	
5	LTS:	20A/1P			-
7	LTS:	20A/1P	-		
9	LTS:	20A/1P		-	
11	LTS:	20A/1P			-
13	LTS:	20A/1P	-		
15	LTS:	20A/1P		-	
17	LTS:	20A/1P			-
19	LTS:	20A/1P	-		
21	LTS:	20A/1P		-	
23	LTS:	20A/1P			-
25	LTS:	20A/1P	-		
27	LTS:	20A/1P		-	
29	LTS:	20A/1P			-
31	LTS:	20A/1P	-		
33	LTS:	20A/1P		-	
35	LTS:	20A/1P			-
37	LTS:	20A/1P	-		
39	SIGN	20A/1P		1000	
41	TIMER	20A/1P			500
2	REC: PANELBOARD AND RTU	20A/1P	400		
4	REC:	20A/1P		-	
6	REC:	20A/1P			-
8	REC:	20A/1P	-		
10	REC:	20A/1P		-	
12	REC:	20A/1P			-
14	REC:	20A/1P	-		
16	REC:	20A/1P		-	
18	REC:	20A/1P			-
20	REC:	20A/1P	-		
22	REC:	20A/1P		-	
24	REC:	20A/1P			-
26	REC:	20A/1P	-		
28	REC:	20A/1P		-	
30	REC:	20A/1P			-
32	REC:	20A/1P	-		
34	REC:	20A/1P		-	
36	REC:	20A/1P			-
38	ROOFTOP UNIT	45A/3P	4215		
40	3/4"C-4#8			4215	
42					4215
TOTALS PER PHASE			5095	5215	4715
TOTAL (KVA)			15		
MAX AMPS			44		

METER CENTER

VOLTAGE: 208/120V, 3 PHASE, 4 WIRE
MAINS: SEE RISER DIAGRAM
65KAIC SERIES RATED AS A SYSTEM
MOUNTING: SURFACE
FEEDER: (2) 3"C - 4#500

LOAD	METER	FUSED PULLOUT	PNL	EST. LOAD VA/SQ FT	AMPS
TENANT	200A	200A/3P		16.3	62
				x5 TENANTS	
				TOTAL	310



RISER DIAGRAM
SCALE: NTS

GENERAL NOTES:

1. ALL METERED SERVICE ENTRANCES, BOTH UNDERGROUND AND OVERHEAD, MUST BE IN ALL METERED SERVICE ENTRANCES, BOTH UNDERGROUND AND OVERHEAD, MUST BE IN RIGID METAL CONDUIT OR INTERMEDIATE METALLIC CONDUIT.

2. FLEXIBLE METAL CONDUIT SHALL NOT BE PERMITTED IN EXPOSED LOCATIONS, IN FLEXIBLE METAL CONDUIT SHALL NOT BE PERMITTED IN EXPOSED LOCATIONS, IN LENGTHS OVER 3 FEET, OR IN LOCATIONS PROHIBITED BY 'NEC ARTICLE 348.12'

3. ALUMINUM CONDUCTOR MATERIAL IS PROHIBITED. ALUMINUM CONDUCTOR MATERIAL IS PROHIBITED.

4. NON-METALLIC CONDUIT IS PERMITTED ONLY IN THE FOLLOWING LOCATIONS: NON-METALLIC CONDUIT IS PERMITTED ONLY IN THE FOLLOWING LOCATIONS:
   A. IN LOCATIONS SUBJECT TO SEVERE CORROSIVE INFLUENCES AS COVERED BY 'NEC IN LOCATIONS SUBJECT TO SEVERE CORROSIVE INFLUENCES AS COVERED BY 'NEC ARTICLE 300.6'
   B. IN WET LOCATIONS WHERE WALLS ARE WASHED FREQUENTLY. IN WET LOCATIONS WHERE WALLS ARE WASHED FREQUENTLY.
   C. IN DRY AND DAMP LOCATIONS NOT PROHIBITED BY 'NEC ARTICLE 352.12'. IN DRY AND DAMP LOCATIONS NOT PROHIBITED BY ' NEC ARTICLE 352.12'.
   D. UNDERGROUND INSTALLATIONS (HORIZONTAL ONLY) UNDERGROUND INSTALLATIONS (HORIZONTAL ONLY)

5. LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL NOT BE PERMITTED FOR DIRECT BURIAL IN LIQUIDTIGHT FLEXIBLE METAL CONDUIT SHALL NOT BE PERMITTED FOR DIRECT BURIAL IN ADDITION TO USES NOT PERMITTED IN 'NEC ARTICLE 350.12.'

6. EXIT AND EMERGENCY LIGHTS SHALL BE LOCAL CODE APPROVED PRIOR TO PURCHASE AND INSTALLATION. EXIT AND EMERGENCY LIGHTS SHALL BE LOCAL CODE APPROVED PRIOR TO PURCHASE AND INSTALLATION.

7. ALL EXIT LAMPS SHALL BE ENERGY SAVING TYPE AND HAVE TEST SWITCH. ALL EXIT LAMPS SHALL BE ENERGY SAVING TYPE AND HAVE TEST SWITCH.

8. MEANS OF EGRESS LIGHTING MINIMUM INTENSITY OF 1-FOOT CANDLE. MEANS OF EGRESS LIGHTING MINIMUM INTENSITY OF 1-FOOT CANDLE.

9. SET-UP MEETING IN FIELD WITH OWNER BEFORE STARTING WIRING WORKS. REVIEW ALL SWITCH, OUTLET, AND FIXTURE LOCATIONS. MARK EXACT LOCATIONS. DO NOT SET-UP MEETING IN FIELD WITH OWNER BEFORE STARTING WIRING WORKS. REVIEW ALL SWITCH, OUTLET, AND FIXTURE LOCATIONS. MARK EXACT LOCATIONS. DO NOT INSTALL BY SCALING LOCATIONS OFF OF THE PLANS. THE OWNER MAY MAKE REASONABLE ADJUSTMENTS IN LOCATION BEFORE START OF WIRING FROM THAT SHOWN ON THE PLANS WITHOUT ADDITIONAL EXPENSE.

10. VERIFY WITH OWNER ALL COMPUTER REQUIREMENTS I.E. DEDICATED CIRCUITS, ADDITIONAL TELEPHONE LINES, CONDUIT RUNS, ETC. (IF ANY). PROVIDE WIRE MANAGEMENT VERIFY WITH OWNER ALL COMPUTER REQUIREMENTS I.E. DEDICATED CIRCUITS, ADDITIONAL TELEPHONE LINES, CONDUIT RUNS, ETC. (IF ANY). PROVIDE WIRE MANAGEMENT GROMMETS AT LOCATIONS IN COUNTER TOPS AS DIRECTED BY OWNER/INTERIOR DESIGNER.

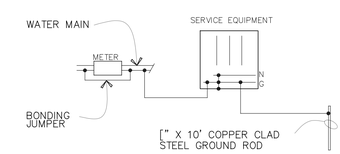
11. EMERGENCY LIGHTING AND EXIT SIGNAGE SHALL RECEIVE THEIR PRIMARY POWER FROM GENERAL LIGHTING BRANCH CIRCUITS. EMERGENCY LIGHTING AND EXIT SIGNAGE SHALL RECEIVE THEIR PRIMARY POWER FROM GENERAL LIGHTING BRANCH CIRCUITS.

12. EXACT LOCATION OF PANEL BOARDS SHALL BE AS DIRECTED BY OWNEREXACT LOCATION OF PANEL BOARDS SHALL BE AS DIRECTED BY OWNER

EMERGENCY LIGHT AND EXIT LIGHT REQUIREMENTS (ORD. 1023.1-4)

PROVIDE DUAL VOLTAGE EXIT SIGNS WITH AN ALTERNATIVE POWER SOURCE. FACE LETTERING SHALL BE RED. VERIFICATION FOR PROPER COVERAGE WILL TAKE PLACE ON SITE. PROVIDE EMERGENCY LIGHT COVERAGE AT EACH EXIT, AND IN STAIRWELLS. VERIFICATION FOR POPER COVERAGE WILL TAKE PLACE ON SITE. BREAKER LOCKS ARE REQUIRED ON EXIT, EMERGENCY LIGHTS, FIRE ALARM, AND FIRE ALARM BELL CIRCUITS.

NOTES:
- AREAS TO ACHIEVE 50% LIGHT REDUCTION THROUGH DUAL SWITCHES UNLESS THE AREA HAS AN OCCUPANCY SENSOR, HAS ONLY ONE LIGHT SWITCH OR IS A CORRIDOR, TOILET ROOM, OR STORAGE ROOM.
- FLUORESCENT FIXTURES SHALL HAVE ALTERNATE BALLASTS CONNECTED FOR TWO-LEVEL LIGHTING WHERE TWO SWITCHES ARE INDICATED.
- MOUNTING HT. OF LIGHT FIXTURES TO BE 10'-0" A.F.F. VERIFY.



GROUNDING DIAGRAM

1. ALL GROUNDING AND BONDING MUST COMPLY WITH THE NATIONAL ELECTRICAL CODE, NEC ARTICLE 250 AND/OR LOCAL ORDINANCES.

2. REFER TO NEC TABLE 250-66 AND ARTICLE 250-66 (a) TO SIZE BONDING CONDUCTORS/JUMPERS. BONDING JUMPERS MUST BE INSTALLED IN ACCORDANCE WITH NEC ARTICLE 250-64.

3. BOND GROUND ROD, WATER MAIN (THERMAL WELD CONNECTION MUST BE MADE WITHIN (5) FEET OF POINT OF ENTRANCE OF PIPE AND AHEAD OF WATER METER FITTINGS

REVISIONS	BY
Bidding Only	05/14/25

MICHAEL E. STANULA
architect
31800 STATELINE RD.
BEECHER, IL 60401
stanula.arch@gmail.com

NEW 1 STORY VE
TENANT
BUILDING

DATE:
04/20/2025

SCALE:
AS NOTED

JOB NO.
25015

SHEET
E-2