SPECIFIC MECHANICAL NOTES

1. MAIN BANK OF THERMOSTATS SHALL BE LOCATED IN THIS AREA. CONTRACTOR SHALL PROVIDE WALL MOUNTED LABEL BENEATH EACH THERMOSTAT WHICH INDICATE THE FOLLOWING:
   AHU #1 THERMOSTAT: "RIGHT SANCTUARY"
   AHU #2 THERMOSTAT: "LEFT SANCTUARY"
   AHU #3 THERMOSTAT: "CLASSROOMM AND OFFICES"
   * CONTRACTOR SHALL FULLY INSTRUCT OWNER ON HOW TO PROPERLY OPERATE INSTALLED THERMOSTATS. COORDINATE FINAL LOCATION OF ALL THERMOSTATS WITH OWNER PRIOR TO CONSTRUCTION. THERMOSTAT SHALL BE SET TO "FAN ON" DURING OCCUPIED TIMES. THERMOSTAT SHALL BE A "LENNOX" SLIMLINE DIGITAL THERMOSTAT MODEL DSL-700LX, 2 HEAT/2 COOL NON-PROGRAMMABLE THERMOSTAT. REMOTE TEMPERATURE SENSOR SHALL BE AS PER MANUFACTURERS RECOMMENDATIONS.

1A. SURFACE WALL MOUNTED REMOTE TEMPERATURE SENSOR WIRED TO CORRESPONDING AHU THERMOSTAT. MOUNT 5'-0" ABOVE FINISHED FLOOR.

2. REFRIGERANT PIPING SHALL ROUTE UP IN EXTERIOR WALL TO ATTIC SPACE, OFFSET IN ATTIC TO CORRESPONDING AHU. ALL REFRIGERATION PIPING SHALL BE SIZED AS PER MANUFACTURERS RECOMMENDATIONS BASED ON THE FINAL LENGTH OF REFRIGERANT RUNS. CONTRACTOR SHALL ROUTE ALL REFRIGERANT PIPING SO AS TO MAINTAIN THE SHORTEST POSSIBLE RUN OF PIPE.

3. 22x10 POSITIVE PRESSURE RELIEF DAMPER SHALL BE A TITS MODEL 55FL. PROVIDE PRESSURE RELIEF REGISTER WITH A BACK DRAFT DAMPER WITH AIR FLOW TOWARDS CEILING SPACE. 22X10 PRESSURE RELIEF DUCT SHALL ROUT FROM REGISTER THROUGH CEILING SPACE TO ROOF CAP.

4. ALL OUTSIDE EXPOSED DUCT SHALL BE GALVANIZED SHEET METAL WITH A BITUMINOUS (Coal Tar Epoxy) PROTECTIVE COATING.

5. (2) 2"ø COMBUSTION AIR EXHAUST PIPES SHALL ROUTE UP TO A INTAKE/VENT ROOF TERMINATION KIT AS MANUFACTURED BY THERMO PRIDE.

6. ARCHITECTURAL WOOD RETURN AIR LOUVER, REFER TO PART. SECTION THRU SANCTUARTY ON SHEET M-3.

NOTE
CONTRACTOR IS RESPONSIBLE TO FULLY COORDINATE ALL CLEARANCES AND CONDITIONS OF THE STRUCTURAL SYSTEM PRIOR TO ANY DUCT FABRICATION OR UNIT PLACEMENT. CEILING HEIGHTS AND DROPPED AREAS SHALL BE PROVIDED AS REQUIRED TO FIT THE DUCTWORK IN ALL AREAS. CONTRACTOR SHALL COORDINATE PROVIDED EQUIPMENT SERVICE REQUIREMENTS WITH ALL SYSTEMS TO INSURE ADEQUATE SERVICE AND ACCESS IS PROVIDED AS PER INSTALLATION INSTRUCTIONS. PROVIDE ACCESS DOORS, RATED IF REQUIRED, TO PROVIDE ACCESS TO SERVICE UNITS IF REQUIRED BY INSTALLATION REQUIREMENTS.

SUPPLY DIFFUSER SCHEDULE

(A/100) DESIGNATES LABEL FOR DIFFUSER TYPE
DESIGNATES CFM QUANTITY FOR DIFFUSER
ALL DIFFUSERS ARE TO BE PROVIDED WITH OPPOSED BLADE DAMPERS UNLESS OTHERWISE SPECIFIED ON PLANS.

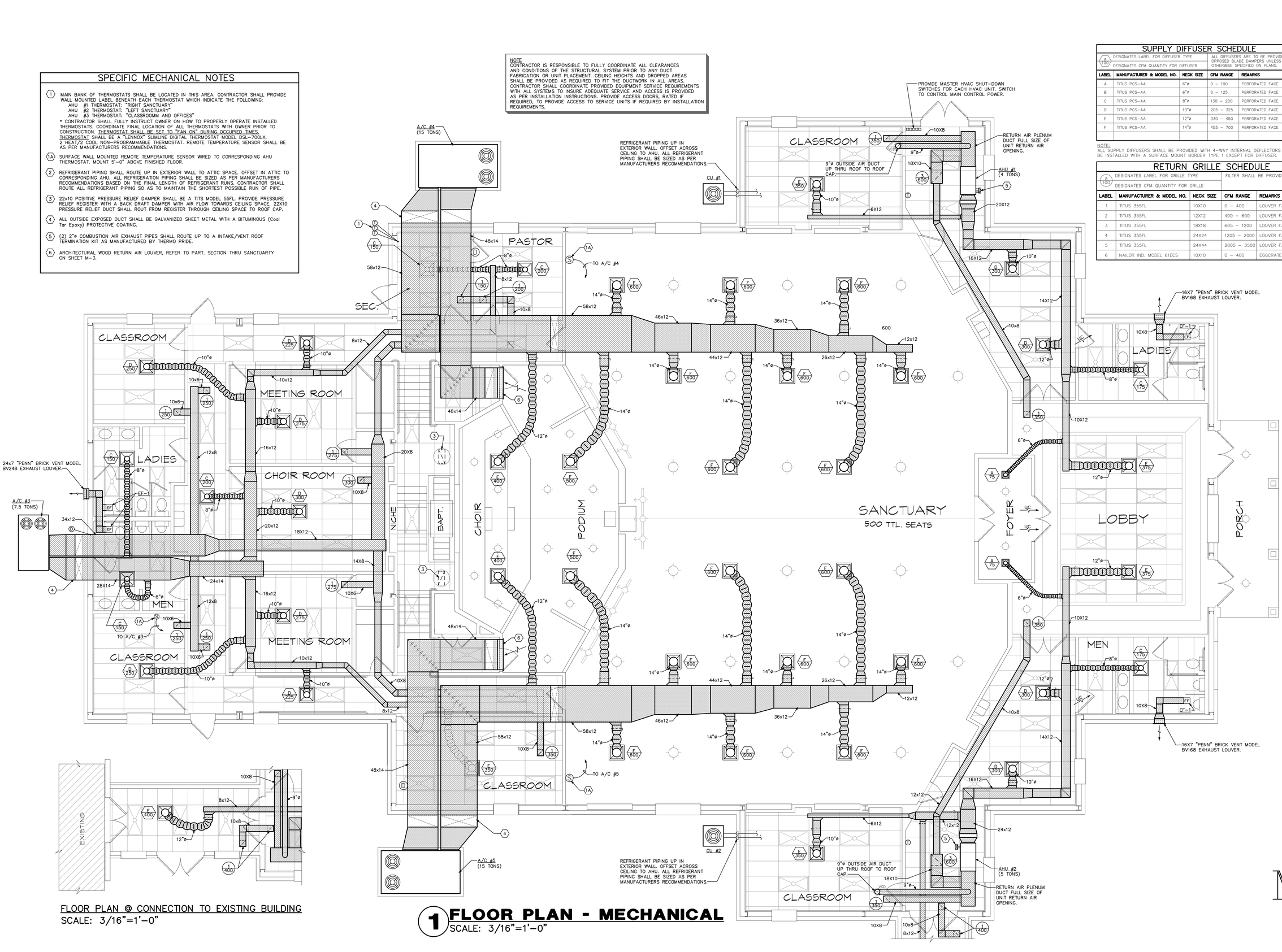
LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
A	TITUS PCS-AA	6"ø	0 - 100	PERFORATED FACE
B	TITUS PCS-AA	6"ø	0 - 125	PERFORATED FACE
C	TITUS PCS-AA	8"ø	130 - 200	PERFORATED FACE
D	TITUS PCS-AA	10"ø	205 - 325	PERFORATED FACE
E	TITUS PCS-AA	12"ø	330 - 450	PERFORATED FACE
F	TITUS PCS-AA	14"ø	455 - 700	PERFORATED FACE

NOTE:
ALL SUPPLY DIFFUSERS SHALL BE PROVIDED WITH 4-WAY INTERNAL DEFLECTORS AND SHALL BE INSTALLED WITH A SURFACE MOUNT BORDER TYPE 1 EXCEPT FOR DIFFUSER.

RETURN GRILLE SCHEDULE

(A/100) DESIGNATES LABEL FOR GRILLE TYPE
DESIGNATES CFM QUANTITY FOR GRILLE
FILTER SHALL BE PROVIDED AT UNIT.

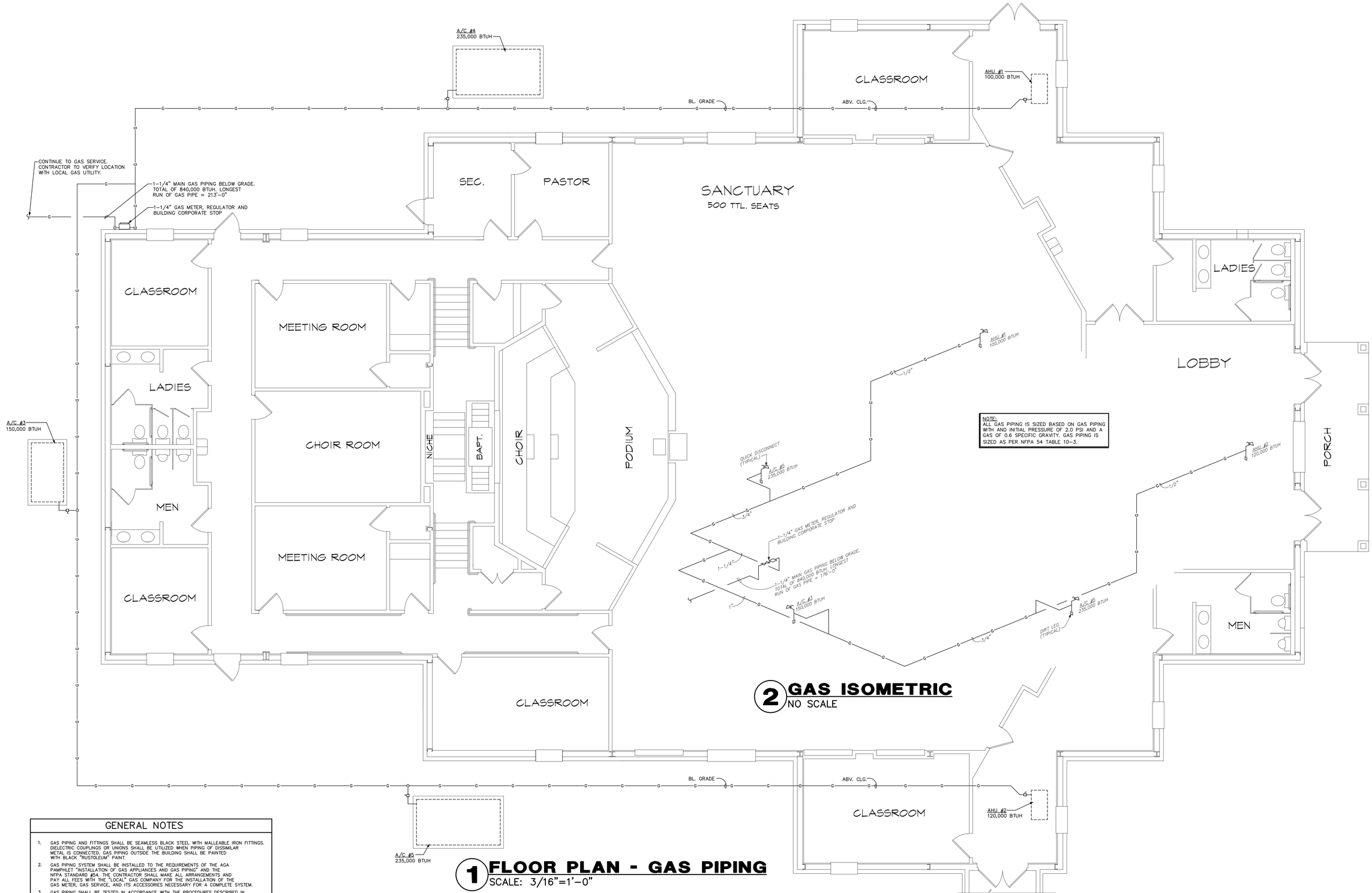
LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
1	TITUS 355FL	10X10	0 - 400	LOUVER FACE
2	TITUS 355FL	12X12	400 - 600	LOUVER FACE
3	TITUS 355FL	18X18	605 - 1200	LOUVER FACE
4	TITUS 355FL	24X24	1205 - 2000	LOUVER FACE
5	TITUS 355FL	24X44	2005 - 3500	LOUVER FACE
6	NAILOR IND. MODEL 61ECS	10X10	0 - 400	EGGCRATE FACE W/FIRE DAMPER



FLOOR PLAN @ CONNECTION TO EXISTING BUILDING
SCALE: 3/16"=1'-0"

1 FLOOR PLAN - MECHANICAL
SCALE: 3/16"=1'-0"

M1



NOTE:
ALL GAS PIPING IS SIZED BASED ON GAS PIPING WITH AND INITIAL PRESSURE OF 2.0 PSI AND A GAS OF 0.6 SPECIFIC GRAVITY. GAS PIPING IS SIZED AS PER NFPA 54 TABLE 10-3.

2 GAS ISOMETRIC
NO SCALE

1 FLOOR PLAN - GAS PIPING
SCALE: 3/16"=1'-0"

GENERAL NOTES

1. GAS PIPING AND FITTINGS SHALL BE SEAMLESS BLACK STEEL WITH MALLEABLE IRON FITTINGS. DIELECTRIC COUPLINGS OR UNIONS SHALL BE UTILIZED WHEN PIPING OF DISSIMILAR METAL IS CONNECTED. GAS PIPING OUTSIDE THE BUILDING SHALL BE PAINTED WITH BLACK "RUSTOLEUM" PAINT.
2. GAS PIPING SYSTEM SHALL BE INSTALLED TO THE REQUIREMENTS OF THE AGA PAMPHLET "INSTALLATION OF GAS APPLIANCES AND GAS PIPING" AND THE NFPA STANDARD #54. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS AND PAY ALL FEES WITH THE "LOCAL" GAS COMPANY FOR THE INSTALLATION OF THE GAS METER, GAS SERVICE, AND ITS ACCESSORIES NECESSARY FOR A COMPLETE SYSTEM.
3. GAS PIPING SHALL BE TESTED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN NFPA #54, AND ANY OTHER TESTS REQUIRED BY THE LOCAL BUILDING DEPARTMENT AND/OR THE LOCAL GAS UTILITY COMPANY.
4. THE INSTALLING SUBCONTRACTOR SHALL BE LICENSED BY THE STATE FOR THE INSTALLATION OF GAS PIPING.
5. RUNOUT PIPING, FROM THE MAIN PIPING TO APPLIANCES, SHALL BE WITH AN INVERTED TRAP CONNECTION AT THE MAIN.
6. A 12" DIRT LEG, AND A GAS COCK, SHALL BE PROVIDED AT ALL GAS APPLIANCES.

HORIZONTAL–FLOW GAS FURNACE W/SPLIT SYSTEM AIR CONDITIONING SYSTEM SCHEDULE

CONDENSING UNIT

CU LABEL(S)	MANUFACTURER & MODEL NO.	TOTAL CAPACITY	SENSIBLE CAPACITY	COMP. RLA	FAN FLA	VOLTAGE	MOCP	EER/SEER
CU #1	LENNOX HS29–048	47,000	33,300	13.5	1.9	208V/3ø	30	10.0
CU #2	LENNOX HS29–060	58,000	39,300	17.3	1.9	208V/3ø	40	10.0

GENERAL NOTES:

* ALL RATINGS ARE AT ARI ENTERING CONDITIONS UNLESS OTHERWISE NOTED.
* PROVIDE VIBRATION ISOLATION FOR UNITS.
* EXTERNAL STATIC PRESSURE DOES NOT INCLUDE COIL OR FILTER PRESSURE DROP.
* CONTRACTOR MAY SUBSTITUTE MANUFACTURER FOR APPROVED EQUAL. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT ANY CLEARANCE REQUIREMENTS ARE MET FOR ANY SUBSTITUTIONS.

EVAPORATOR COIL UNIT

MANUFACTURER & MODEL NO.
LENNOX CH23–51
LENNOX CH23–65

ABBREVIATION LEGEND:

O/A – OUTSIDE AIR
HP – HORSE POWER
RLA – RUNNING LOAD AMPS
FLA – FULL LOAD AMPS
MOCP – MAX. OVERCURRENT PROTECTION (DUAL ELEMENT TYPE FUSE)
E.S.P. – EXTERNAL STATIC PRESSURE
EER – ENERGY EFFICIENCY RATIO
SEER – SEASONAL ENERGY EFF. RATIO

GAS FURNACE

AHU LABEL(S)	MANUFACTURER & MODEL NO.	TOTAL CFM	E.S.P.	BLOWER SPEED	FAN HP	VOLTAGE	INPUT BTUH	OUTPUT BTUH	FLUE SIZE	NOTES
AHU #1	LENNOX GHR26Q3/4–100	1,600	.30"	MED.–HIGH	1/2	120V/1ø	100,000	92,000	2"	1 THRU 4
AHU #2	LENNOX GHR26Q4/5–120	2,000	.30"	MEDIUM	3/4	120V/1ø	120,000	111,000	2"	1 THRU 4

SPECIFIC NOTES:

1) SIZE AND RUN REFRIGERANT PIPING AS PER MANUFACTURERS PUBLISHED RECOMMENDATIONS.
2) INSULATE REFRIGERANT SUCTION LINE WITH 2/4" ARMAFLEX OR APPROVED EQUAL.
3) PROVIDE 5 YEAR WARRANTY ON COMPRESSOR AND 1YEAR WARRANTY ON ALL PARTS AND LABOR.
4) FURNACE SHALL BE PROVIDED WITH CONCENTRIC VENT/INTAKE AIR ROOF TERMINATION KIT.

PACKAGE UNIT W/GAS HEAT SCHEDULE (MOUNTING ON GRADE WITH SIDE DISCHARGE)

SYS. LABEL	MANUFACTURER	MODEL NO.	TOTAL CAPACITY	SENSIBLE CAPACITY	TOTAL CFM	O/A CFM	E.S.P.	FAN SPEED	COMP. RLA	OUTDOOR FAN FLA	INDOOR FAN HP	HEATER BTU OUTPUT	VOLTAGE	MOCP	EER	NOTES	HEATER BTU INPUT
A/C #3	LENNOX	GCS16–090–160	90,800	76,272	3,000	SEE SCH.	.4"	880 RPM	18.8	2.4	2 HP	128,000	208V/3ø	50A	9.0	1 THRU 11	160,000
A/C #4	LENNOX	GCS16–180–235	178,100	147,823	6,000	SEE SCH.	.4"	585 RPM	(3) 16.7	(2) 7.4	3 HP	188,000	208V/3ø	80A	9.0	1 THRU 11	235,000
A/C #5	LENNOX	GCS16–180–235	178,100	147,823	6,000	SEE SCH.	.4"	585 RPM	(3) 16.7	(2) 7.4	3 HP	188,000	208V/3ø	80A	9.0	1 THRU 11	235,000

GENERAL NOTES:

* ALL RATINGS ARE AT ARI ENTERING CONDITIONS UNLESS OTHERWISE NOTED.
* PROVIDE VIBRATION ISOLATION FOR UNIT.
* EXTERNAL STATIC PRESSURE DOES NOT INCLUDE COIL OR FILTER PRESSURE DROP.
* APPROVED EQUALS SHALL BE TRANE, LENNOX AND YORK. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT ANY CLEARANCE REQUIREMENTS ARE MET FOR ANY SUBSTITUTIONS.

ABBREVIATION LEGEND:

O/A – OUTSIDE AIR
HP – HORSE POWER
RLA – RUNNING LOAD AMPS
FLA – FULL LOAD AMPS
MOCP – MAX. OVERCURRENT PROTECTION (DUAL ELEMENT TYPE FUSE)
E.S.P. – EXTERNAL STATIC PRESSURE
EER – ENERGY EFFICIENCY RATIO
SEER – SEASONAL ENERGY EFF. RATIO

SPECIFIC NOTES:

1) FACTORY ROOF CURB WITH THRU THE CURB SERVICE CONNECTION.
2) OUTDOOR AIR MANUAL 0% TO 30% DAMPER.
3) ELECTRONIC PROGRAMMABLE THERMOSTAT.
4) COMPRESSOR TIME DELAY.
5) HEAD PRESSURE CONTROL.
6) FILTER DOOR ACCESS PANEL KIT.
8) PROVIDE (1) YEAR WARRANTY ON ALL PARTS AND LABOR AND (5) YEAR WARRANTY ON COMPRESSOR.
9) PROVIDE 1" FARR 30/30 THROWAWAY FILTERS. (1) SET DURING CONSTRUCTION AND (1) SET AFTER FINAL INSPECTION.
10) INSULATE CONDENSATE DRAIN LINE WITH 1/2" ARMAFLEX.
11) PROVIDE ALL NECESSARY CONTACTORS, RELAYS, MOTOR STARTERS, ETC. FOR A COMPLETE OPERATING UNIT.

MECHANICAL SYSTEMS, SERVICE SYSTEMS, AND EQUIPMENT
METHOD OF COMPLIANCE:
Prescriptive [X] Performance [ ] Energy Cost Budget [ ]

Exterior Design Conditions
winter dry bulb 20° F
summer dry bulb 97° F

Interior Design Conditions
winter dry bulb 68° F
summer dry bulb 74° F
relative humidity 52.9%

Building Heating Load 688,000 BTU
Building Cooling Load 541,000 BTU

Mechanical Spacing Conditioning System
Unitary
Description of unit REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
heating efficiency REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
cooling efficiency REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
heat output of unit REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
cooling output of unit REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.

Boiler N/A
total boiler output. If oversized, state reason.

Chiller N/A
total chiller capacity. If oversized, state reason.

List equipment efficiencies

Equipment schedules with motors (mechanical systems)
REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
motor horsepower REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
number of phases REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
minimum efficiency REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
motor type REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.
# of poles REFER TO EQUIPMENT SCHEDULES ON THIS SHEET.

DESIGNER STATEMENT: [1]

To the best of my knoledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of the applicable ASHRAE energy standards.

SIGNED:
NAME: TODD W. CAREY
TITLE: ENGINEER

GENERAL MECHANICAL NOTES

1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE SYSTEM IN ACCORDANCE WITH THESE DRAWINGS, THE APPLICABLE BUILDING CODE AND ALL OTHER APPLICABLE STATE, COUNTY AND LOCAL ORDINANCES AND THE LATEST ADDITION OF THE FOLLOWING PUBLICATIONS; SMACNA, ASHRAE, NFPA 90A, 90B, 91 & ANSI B–9.1 MECHANICAL REFRIGERATION. ALL DUCTWORK SHALL BE FABRICATED, INSTALLED AND SUPPORTED AS PER SMACNA STANDARDS.
2. THE CONTRACTOR SHALL PAY ALL COSTS OF PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTAL TO THE COMPLETION AND TESTING OF THIS WORK.
3. THE CONTRACTOR SHALL VISIT THE SITE AND COORDINATE WORK WITH OTHER TRADES. TO INSURE AN ORDERLY PROGRESS OF THIS WORK.
4. THE CONTRACTOR SHALL SUPPLY THE ARCHITECT WITH "AS–BUILT" DRAWINGS UPON COMPLETION OF THIS PROJECT.
5. CONTRACTOR SHALL SUBMIT, FOR APPROVAL FIVE [5] COPIES OF MANUFACTURER'S DRAWINGS FOR EACH PIECE OF EQUIPMENT AND CONTROLS INCLUDED IN CONTRACT.
6. ALL MATERIAL SHALL BE NEW OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER BY SKILLED WORKMAN.
7. ALL SUPPLY AND RETURN AIR DUCTWORK SHALL BE GALVANIZED SHEET STEEL EXTERNALLY WRAPPED WITH 1" INSULATION WITH A 4.2 R VALUE OR HIGHER.
8. ALL EXHAUST DUCTS AND OUTSIDE AIR DUCTS SHALL BE GALVANIZED SHEET METAL WITH SEALED SEAMS AND JOINTS.
9. DUCT SIZES SHOWN ARE INSIDE DIMENSIONS.
10. ALL AIR DEVICES (DIFFUSERS, REGISTERS AND GRILLES) SHALL BE ALL ALUMINUM CONSTRUCTION WITH EXPOSED SURFACE OFF WHITE BAKED ENAMEL FINISH OR AS SPECIFIED BY ARCHITECT. DEVICES SHALL BE TITUS, METALAIRE, AIRGUIDE. PROVIDE OPPOSED BLADE DAMPERS AT ALL DIFFUSERS AND REGISTERS.
11. THERMOSTAT SHALL BE COMBINATION COOLING/HEATING, WITH SYSTEM "COOL–AUTO–HEAT–OFF" AND FAN "ON–AUTO" SELECTOR SWITCHES. PROVIDE PROGRAMMABLE TYPE, HONEYWELL OR EQUAL.
12. REFRIGERANT LINES SHALL BE COPPER, TYPE "L" HARD DRAWN WITH WROUGHT COPPER SOLDER–JOINT TYPE FITTINGS, USE 95/5 SOLDER. REFRIGERANT LINES SHALL SIZED AS PER MANUFACTURER RECOMMENDATIONS.
13. ARMAFLEX 3/4" INSULATION SHALL BE USED FOR SUCTION LINES, FILTER/DRYER AND SIGHT GLASS SHALL BE PROVIDED AT LIQUID LINES.
14. ALL BRANCH TAKE–OFFS TO BE PROVIDED W/MANUAL VOLUME DAMPERS. ALL ELBOWS AND TEE'S MUST BE FURNISHED W/TURNING VANES. PROVIDE 45° BRANCH TAKE–OFF AS PER BRANCH DUCT TAKE–OFF DETAIL.
15. PROVIDE NEW FILTERS FOR ALL AIR CONDITIONING EQUIPMENT BEFORE STARTING THEM. REPLACE THEM PRIOR TO FINAL ACCEPTANCE BY OWNER.
16. PROVIDE SMOKE DETECTORS WITH ACCESS DOORS IN ALL SUPPLY AIR DUCTS FOR FANS AND AHU'S SERVING A COMMON PLENUM OF 2000 CFM OR ABOVE. ALL SMOKE DETECTORS SHALL BE BY ONE MANUFACTURER, COORDINATE VOLTAGE ETC. WITH ELECTRICAL CONTRACTOR AND FIRE ALARM SYSTEM BEFORE ORDERING. UPON DETECTION, SMOKE DETECTORS SHUT DOWN ASSOCIATED AIR MOVING EQUIPMENT AND ALL AIR MOVING EQUIPMENT SERVING THAT COMMON PLENUM.
17. PROVIDE TYPE "B" FIRE DAMPERS IN ALL DUCTS OR OPENINGS PENETRATING FIRE RATED WALLS, MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS, TENANT SEPARATION, PARTITIONS, FLOOR OR ROOF SLABS AND AT O/A INTAKES. PROVIDE RADIATION RADIATION DAMPERS IN RATED CEILINGS FOR ALL CEILING OPENINGS, CEILING FANS, DIFFUSERS OR GRILLES RATED FOR USE IN THE CEILING ASSEMBLY.
18. HVAC CONTRACTOR SHALL PROVIDE AN INDEPENDENT TEST AND BALANCE REPORT FOR ALL MECHANICAL EQUIPMENT, AIR DEVICES, DAMPERS, AHU'S AND FANS. THE T & B SHALL BE IN ACCORDANCE WITH THE AIR BALANCE COUNCIL STANDARDS, AND SHALL INCLUDE AIR QUANTITIES FOR ALL SUPPLY GRILLS, RETURN GRILLS, AND EXHAUST GRILLS, AND THE LEAVING AND ENTERING AIR TEMPERATURE (°F) FROM SUPPLY GRILLS AND EVAPORATORS.
19. THERMOSTAT LOCATION SHALL BE APPROVED BY OWNER AND ENGINEERS BEFORE INSTALLATION.
20. ALL INSULATION WILL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
21. MECHANICAL PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCH. PLUMBING, ELECTRICAL AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT AND PIPING OFFSETS, BENDS AND TRANSITIONS WILL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
22. NO COMBUSTIBLE MATERIALS ARE ALLOWED IN RETURN AIR PLENUMS OR ABOVE CEILINGS USED AS RETURN AIR PLENUM. IF SPACE WITH RETURN AIR PLENUM HAS ANY DECK TO DECK PARTITIONS, AIR TRANSFER DUCTS MUST BE INSTALLED.
23. REFER TO PLUMBING PLANS FOR ALL CONDENSATE PIPING.
24. IF PROJECT IS A REMODEL OF AN EXISTING BUILDING, THE CONTRACTOR SHALL VISIT JOB SITE PRIOR TO CONSTRUCTION AND COORDINATE ALL EXISTING FIELD CONDITIONS. ARCHITECT AND/OR ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.
25. CONTRACTOR SHALL INSTALL ALL OUTDOOR EQUIPMENT TO WITHSTAND A SUSTAINED 120 MPH WIND WITH A GUST FACTOR OF 30% PROVIDE A LISTED PRE–ENGINEERED ASSEMBLY, OR THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CERTIFICATION OF ROOF MOUNTING.
26. PROVIDE ALL NECESSARY CONTACTORS, RELAYS, ETC., FOR A COMPLETE OPERATING A/C UNIT.
27. THROUGHOUT THE COURSE OF THE WORK, MINOR CHANGES AND ADJUSTMENTS TO THE PLANS AND SPECIFICATIONS MAY BE REQUESTED BY THE TENANT. THE CONTRACTOR SHALL MAKE SUCH ADJUSTMENTS WITHOUT ADDITIONAL COST TO THE TENANT, WHERE SUCH ADJUSTMENTS ARE NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE SYSTEMS, AND WITHIN THE INTENT OF THE CONTRACT DOCUMENTS.
28. IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO FORM A GUIDE FOR A COMPLETE INSTALLATION. EVERYTHING NECESSARY FOR THE COMPLETION AND SUCCESSFUL OPERATION OF THE WORK, WHETHER OR NOT HEREIN DEFINITELY SPECIFIED OR INDICATED ON THE DRAWINGS SHALL BE FURNISHED AND INSTALLED AS WELL AND AS FAITHFULLY AS IF SO SPECIFIED OR INDICATED WITHOUT ADDITIONAL COST TO THE TENANT. THE MECHANICAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LENGTHS PRIOR TO INSTALLATION.
29. NOTWITHSTANDING ANY OTHER PROVISIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR BEARS ULTIMATE RESPONSIBILITY FOR COMPLIANCE OF THE INSTALLATION WITH THE REQUIREMENTS OF THE LANDLORD AND OF THE LOCAL AUTHORITY HAVING JURISDICTION.
30. IF ANY ERRORS, DISCREPANCIES OR OMISSIONS APPEAR IN THE DRAWINGS, SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF SUCH ERROR OR OMISSION. IN THE EVENT OF THE CONTRACTOR FAILING TO GIVE SUCH NOTICE BEFORE CONSTRUCTION AND/OR FABRICATION OF THE WORK, HE WILL BE HELD RESPONSIBLE FOR THE RESULTS OF ANY SUCH ERRORS, DISCREPANCIES OR OMISSIONS AND THE COST OF RECTIFYING SAME.

FAN SCHEDULE

LABEL	TYPE OF UNIT – AREA SERVED	MANUFACTURER & MODEL NO.	CFM	SP	MOUNTING ARRANGEMENT	MOTOR H.P.	ENCLOSURE TYPE	RPM	VOLTAGE	NOTES
EF–1	CABINET FAN – REFER TO PLANS	PENN ZEPHYR Z81	200	.125"	CEILING MOUNTED	124 WATTS	OPEN DRIP PROOF	1115	115V/1ø	1

NOTES: 1.) REFER TO ELECTRICAL PLANS FOR CONTROL.

OUTSIDE AIR CALCULATIONS

THE FOLLOWING IS BASED ON ASHRAE STANDARD 62 FOR OUTSIDE AIR REQUIREMENTS:
OUTDOOR AIR REQUIREMENTS ARE BASED ON "LOBBY" CATEGORY = 30 PEOPLE PER 1,000 SQ. FT. & 15 CFM PER PERSON

UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)
AHU #1	1,175	1,175 / 1000 X 30 = 36	36 X 15 = 540/2=270
AHU #2	1,175	1,175 / 1000 X 30 = 36	36 X 15 = 540/2=270

OUTSIDE AIR CALCULATIONS FOR AHU #1

THE FOLLOWING IS BASED ON ASHRAE STANDARD 62 FOR OUTSIDE AIR REQUIREMENTS:
OUTDOOR AIR REQUIREMENTS ARE BASED ON "SANCTUARY" CATEGORY = 500 PEOPLE AS PER ARCHITECTURAL PLANS & 15 CFM PER PERSON

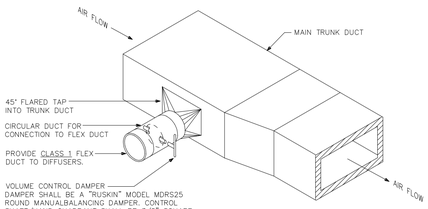
UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)
SANCTUARY A/C #3&4	4,639	– / 1000 X – = –	500 X 15 = 7,500/2=3,750

THE OCCUPANCY OF THIS FACILITY DOES NOT EXCEED THREE HOURS AT ANY TIME, THEREFORE THE FACILITY QUALIFIES FOR REDUCTION OF OUTSIDE AIR IN ACCORDANCE WITH THE ASHRAE STANDARD 62 SECTION 6.1.3.4. THE AVERAGE OCCUPANCY IS LESS THAN 1/2 THE MAXIMUM CALCULATED OCCUPANCY, SO THE FRESH AIR PROVIDED WILL BE 1/2 THE CALCULATED IN ACCORDANCE WITH SECTION 6.1.3.4.

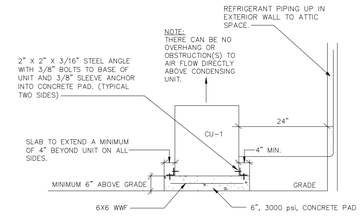
OUTSIDE AIR CALCULATIONS

THE FOLLOWING IS BASED ON ASHRAE STANDARD 62 FOR OUTSIDE AIR REQUIREMENTS:
OUTDOOR AIR REQUIREMENTS ARE BASED ON "OFFICE" CATEGORY = 7 PEOPLE PER 1,000 SQ. FT. & 20 CFM PER PERSON

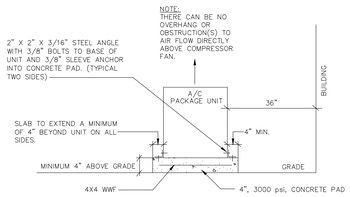
UNIT LABEL	AREA SERVED (SQ. FT.)	ESTIMATED MAX. OCCUPANCY	OUTSIDE AIR REQUIRED (CFM)
A/C #3	2,560	2,560 / 1000 X 7 = 18	18 X 20 = 360



2 BRANCH DUCT DETAIL
NO SCALE

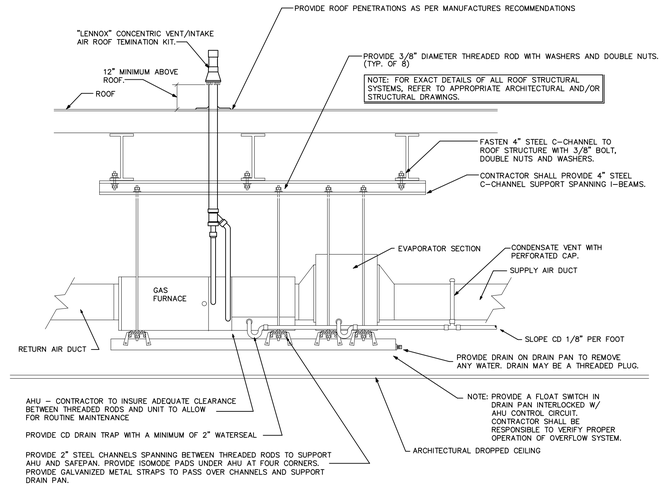


3 COND. UNIT MOUNTING DETAIL
NO SCALE

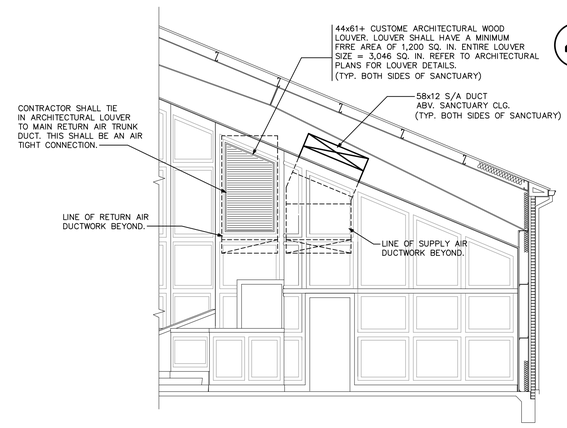


(A/C #3,4,5)

4 A/C PACKAGE UNIT MOUNTING DETAIL
NO SCALE



1 GAS FURNACE/AHU MOUNTING DETAIL
NO SCALE



5 PART. SECTION THRU SANCTUARY
NO SCALE

M3

PLUMBING SYMBOLS LEGEND

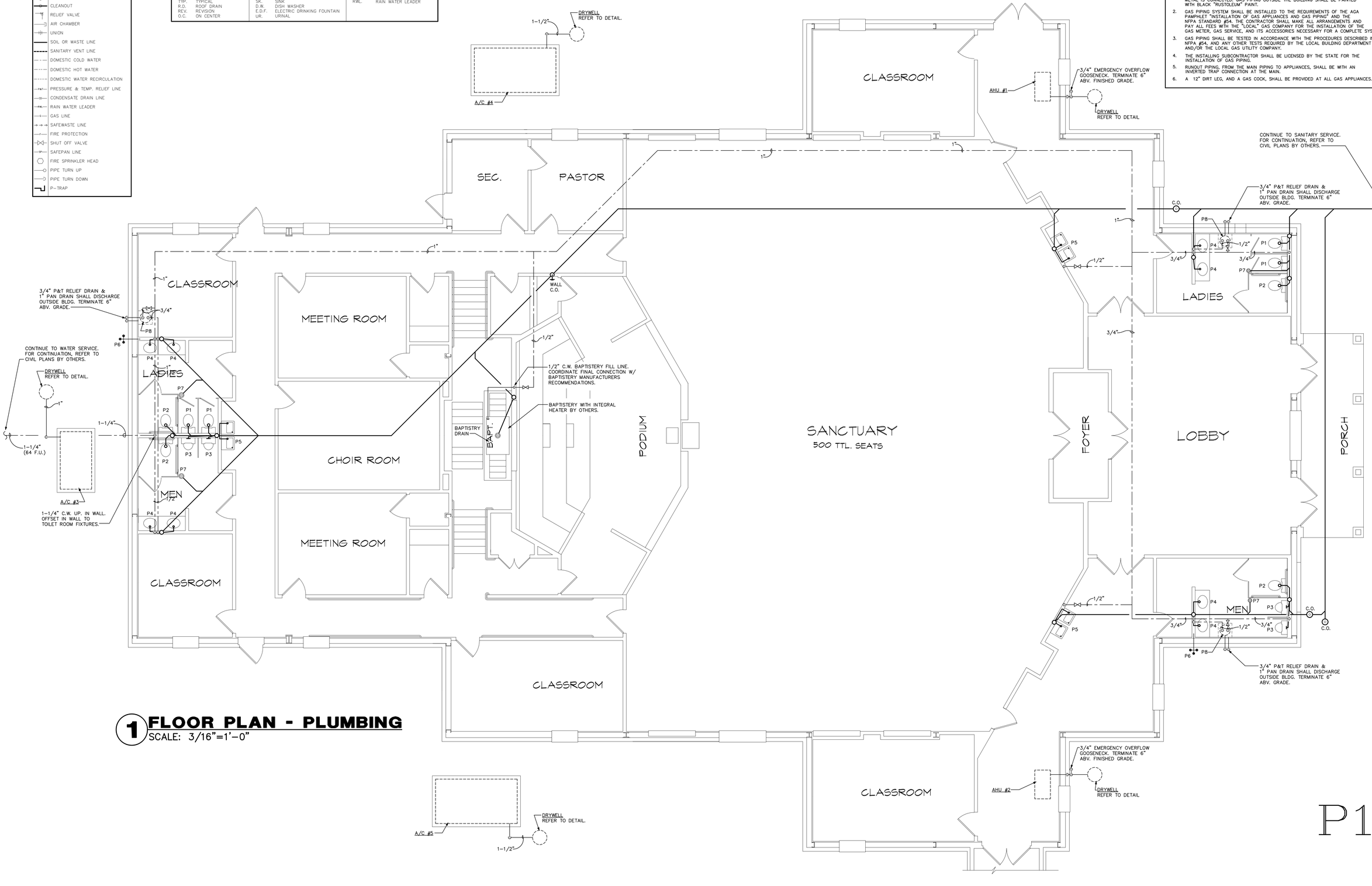
- FLOOR DRAIN
- HOSE BIBB
- CLEANOUT
- RELIEF VALVE
- AIR CHAMBER
- UNION
- SOIL OR WASTE LINE
- SANITARY VENT LINE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC WATER RECIRCULATION
- PRESSURE & TEMP. RELIEF LINE
- CONDENSATE DRAIN LINE
- RAIN WATER LEADER
- GAS LINE
- SAFEWASTE LINE
- FIRE PROTECTION
- SHUT OFF VALVE
- SAFEPAN LINE
- FIRE SPRINKLER HEAD
- PIPE TURN UP
- PIPE TURN DOWN
- P-TRAP

PLUMBING ABBREVIATION LEGEND

DN.	DOWN	C.C.	CENTER TO CENTER	F.U.	FIXTURE UNITS
EXT.	EXTERIOR	N.T.S.	NOT TO SCALE	H.B.	HOSE BIBBS
F.D.	FLOOR DRAIN	MFGR.	MANUFACTURER	C.O.	CLEANOUT
F.F.	FINISH FLOOR	S.O.V.	SHUT OFF VALVE	E.W.H.	ELECTRIC WATER HEATER
A.F.F.	ABOVE FINISH FLOOR	W.C.	WATER CLOSET	JAN.SK.	JANITOR SINK
V.T.R.	VENT THRU ROOF	LAV.	LAVORATORY	P. & T.	PRESSURE & TEMPERATURE
TYP.	TYPICAL	SK.	SINK	RWL.	RAIN WATER LEADER
R.D.	ROOF DRAIN	D.W.	DISH WASHER		
REV.	REVISION	E.D.F.	ELECTRIC DRINKING FOUNTAIN		
O.C.	ON CENTER	UR.	URINAL		

GENERAL NOTES

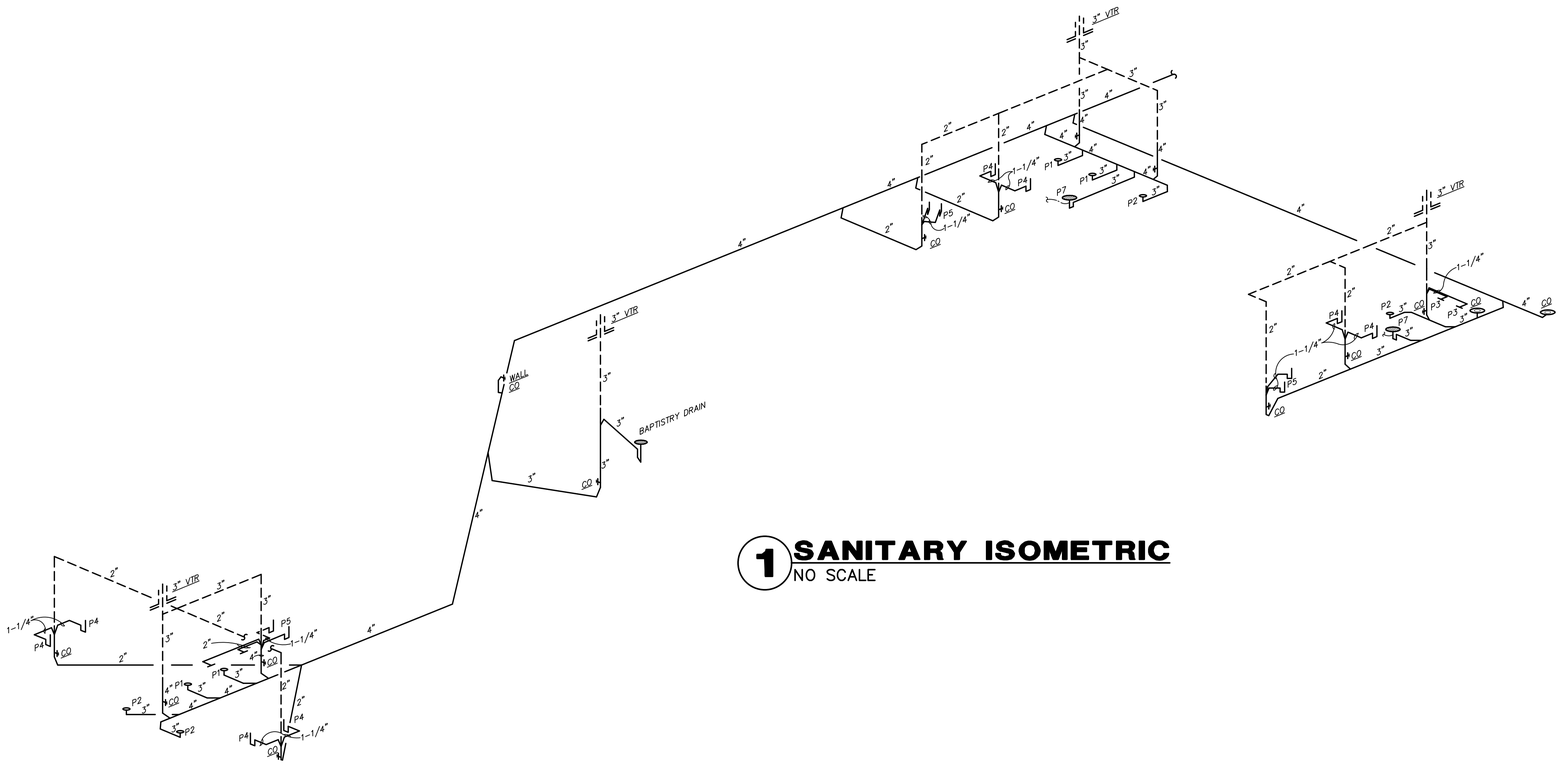
1. GAS PIPING AND FITTINGS SHALL BE SEAMLESS BLACK STEEL WITH MALLEABLE IRON FITTINGS. DIELECTRIC COUPLINGS OR UNIONS SHALL BE UTILIZED WHEN PIPING OF DISSIMILAR METAL IS CONNECTED. GAS PIPING OUTSIDE THE BUILDING SHALL BE PAINTED WITH BLACK "RUSTOLEUM" PAINT.
2. GAS PIPING SYSTEM SHALL BE INSTALLED TO THE REQUIREMENTS OF THE AGA PAMPHLET "INSTALLATION OF GAS APPLIANCES AND GAS PIPING" AND THE NFPA STANDARD #54. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS AND PAY ALL FEES WITH THE "LOCAL" GAS COMPANY FOR THE INSTALLATION OF THE GAS METER, GAS SERVICE, AND ITS ACCESSORIES NECESSARY FOR A COMPLETE SYSTEM.
3. GAS PIPING SHALL BE TESTED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN NFPA #54, AND ANY OTHER TESTS REQUIRED BY THE LOCAL BUILDING DEPARTMENT AND/OR THE LOCAL GAS UTILITY COMPANY.
4. THE INSTALLING SUBCONTRACTOR SHALL BE LICENSED BY THE STATE FOR THE INSTALLATION OF GAS PIPING.
5. RUNOUT PIPING, FROM THE MAIN PIPING TO APPLIANCES, SHALL BE WITH AN INVERTED TRAP CONNECTION AT THE MAIN.
6. A 12" DIRT LEG, AND A GAS COCK, SHALL BE PROVIDED AT ALL GAS APPLIANCES.



1 FLOOR PLAN - PLUMBING

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

P1



1 SANITARY ISOMETRIC
NO SCALE

GENERAL PLUMBING NOTES

1. Drawings are diagrammatic and shall not be scaled. Refer to architectural plans and elevations for exact location of all plumbing fixtures, equipment, etc.. Plumbing contractor shall furnish and install all items required for a complete and acceptable working installation.
2. All work and materials shall comply with the latest edition of the National, State, and all local codes and Ordinances having jurisdiction.
3. The plumbing contractor shall visit the site and thoroughly familiarize himself with all existing conditions. All execution and backfill as required for this phase of construction shall be a part of this contract.
4. All material shall be new.
5. All work shall be performed by a licensed plumbing contractor in a first class workmanlike manner. The completed system shall be fully operative and accepted by engineer/architect.
6. All required insurance shall be provided for protection against public liability or property damage for the duration of the work.
7. The plumbing contractor shall secure and pay all permit fees, inspections, and tests.
8. All work shall be coordinated with other trades to avoid interference with the progress of construction.
9. The plumbing contractor shall guarantee all materials and workmanship free from defects for a period of not less than (1) one year from date of acceptance. Correction of any defects shall be completed without additional charge and shall include replacement or repair of any other phase of the installation which may have been damaged thereby.
10. Verify location, size and inverts of all existing utilities prior to start of construction. Advise architect/engineer of any discrepancies.
11. All fixtures shall be provided with readily accessible stops.
12. Water piping shall be type "L" copper for up to and including 2" and shall be type "K" for 2 1/2" and larger.
13. Soil, wastes and vent piping shall be PVC #40 DMV. Waste and vent piping above slab shall be PVC, if approved by local authorities having jurisdiction, otherwise cast iron. PVC shall not be installed in A/C return air plenum or penetrate fire rated walls or floors.
14. Air conditioning condensate drain piping shall be PVC #40 or copper drain waste and bent pipe and fittings. Insulate all condensate piping except exterior piping.
    Install all condensate piping for air conditioning units as required per local codes.
15. Furnish and install approved air chambers at each plumbing fixture and PDI approved shock arresters on main lines and risers.
16. Provide chrome plated combination covered plate and cleanout plug for all wall cleanouts, Josam 58890.
17. Insulate lines as follows:
    a) Hot & Cold water piping: 1" thick fiberglass.
    b) Condensate piping: 1/2" thick armaflex preformed.
18. There shall be no taps, piping branches, unapproved bypass piping, hydrants, fire dept. connection points, or other water-using appurtenances connected to the supply line between any water meter and its CMUD-required backflow preventer.
19. Each CMUD-required BPA is required to be tested by a CMUD-approved Certified Tester prior to placing the water system in service.
20. 1" Reduced Pressure Principle Backflow Prevention Assembly Installed above-ground within insulated enclosure per CMUD requirements. Enclosure to include drain ports for discharge water per CMUD requirements.

PLUMBING FIXTURE SCHEDULE

P-1 (WATER CLOSET)
SHALL BE AN AMERICAN STANDARD MODEL CADET 2898.014 ELONGATED 1.6 GPF, VITREOUS CHINA, SIPHON ACTION BOWL, CLOSE-COUPLED TANK, SPEED CONNECT TANK/BOWL COUPLING SYSTEM TOILET AND AN OLSONITE # 95 OPEN FRONT SEAT LESS COVER.

P-2 (HANDICAPPED WATER CLOSET)
SHALL BE AN AMERICAN STANDARD MODEL CADET II 2216.143 ELONGATED 18" HIGH, 1.6 GPF, VITREOUS CHINA, SIPHON ACTION BOWL, CLOSE-COUPLED TANK, SPEED CONNECT TANK/BOWL COUPLING SYSTEM TOILET AND AN OLSONITE # 95 OPEN FRONT SEAT LESS COVER.

P-3 (URINAL)
WALL MOUNTED BLOWOUT, VITREOUS CHINA WATER SAVER WITH WALL HANGERS 1-1/4" TOP SPUD AND PRIVACY SHIELDS. AMERICAN STANDARD #6531.019 LYNBROOK. FLUSH VALVE: EXPOSED CHROME PLATED METAL OSCILLATING HANDLE ESCUTCHEON, SEAT BUMPER, INTEGRAL SCREWDRIVER STOP AND VACUUM BREAKER. SLOAN ROYAL 180-YB.

P-4 (HANDICAPPED COUNTER TOP LAVATORY)
SHALL BE AN AMERICAN STANDARD MODEL RONDALYN 0491.019 VITREOUS CHINA SELF-RIMMING STYLE CLASSIC ROUND SHAPE. PROVIDE A 5401.172H HERITAGE CENTERSET FAUCET WITH 4" WRIST BLADE HANDLES TO INCLUDE AN OMNI PRESSURE COMPENSATING 0.5 GPM FLOW RESTRICTOR AQUASEAL VALVES AND CHROME FINISH. GRID DRAIN: OFFSET PERFORATED WHEELCHAIR LAVATORY DRAIN ASSEMBLY WITH 1-1/2" TAILPIECE. MCGUIRE #155WC.

P-5 (HANICAPPED COMBINATION HI/LO ELECTRIC WATER COOLER)
OASIS MODELS PLF8WMGSL, HI/LO COMBONATION, SELF CONTAINED, WALL-HUNG ELECTRIC REFRIGERATED WATER COOLERS. ACCEPTABLE ALTERNATE MANUFACTURERS - ELKAY AND HALSEY TAYLOR.

P-6 (EXTERIOR HOSE BIBB W/HANDWHEEL)
SHALL BE A "NIBCO" SERIES 63LS, GRAINGER STOCK NO. 5E407, 3/4" SOLID BRONZE HOSE BIBB WITH ALUMINUM HANDWHEEL.

P-7 (FLOOR DRAIN WITH TRAP PRIMER)
SHALL BE A JOSAM 30000-A-50 SERIES COATED CAST IRON FLOOR DRAIN. TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEJLOC INVERTIBLE NON-PUNCTURING FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET, INSIDE CAULK CONNECTION AND ADJUSTABLE SATIN NIKALOY ROUND SUPER-FLO STRAINER.

P-8 (JUNIOR WATER HEATER)
WATER HEATER SHALL BE A LOCHINVAR MODEL JRC006E, 6 GALLON GLASSLINED STORAGE TANK, JUNIOR TYPE WATER HEATER WITH (1) - 1.5 KW ELECTRIC ELEMENT AT 115 VOLTS, SINGLE PHASE INCOMING POWER. 5 YEAR LIMITED WARRANTY ON STORAGE TANK AGAINST TANK FAILURE. WATER HEATER SHALL MEET OR EXCEED ALL APPLICABLE SECTIONS OF ASHRAE STANDARD 90-80A AND NAECA REQUIREMENTS FOR ENERGY CONSERVATION.

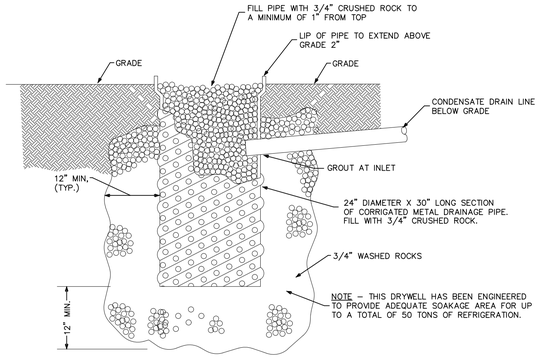
NOTES:

1.) ALL PLUMBING FIXTURES SHALL BE AS SPECIFIED OR APPROVED EQUAL.

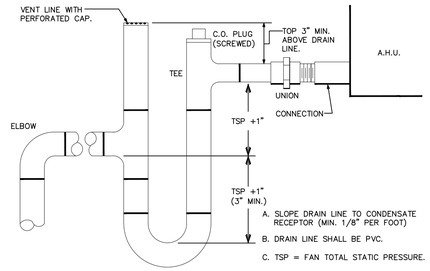
2.) PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.

3.) ALL HANDICAP PLUMBING FIXTURES SHALL BE INSTALLED AS PER LATEST A.D.A. REQUIREMENTS.

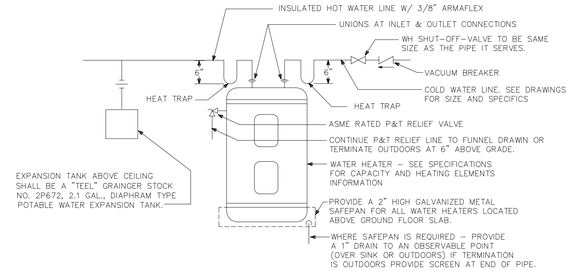
4.) ALL PLUMBING FIXTURES SHALL COMPLY WITH SFBC TABLE 46-R2.



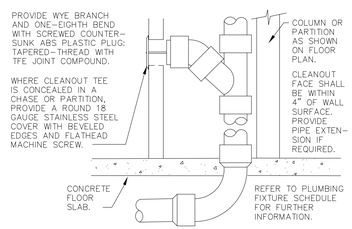
2 CONDENSATE DRYWELL DETAIL
NO SCALE



3 CONDENSATE P-TRAP DETAIL
NO SCALE

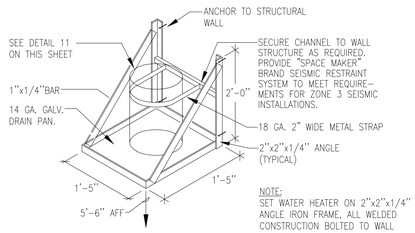


4 WATER HEATER DETAIL
NO SCALE



PROVIDE WCO WHERE SHOWN ON PLAN, AND ON SANITARY WASTE BRANCHES NOT SERVED WITH A FLOOR CLEANOUT; LOCATE ABOVE FIXTURE FLOOD RIM WITHIN 4' OF FLOOR. CONSULT LOCAL CODES FOR OTHER WCO REQUIREMENTS.

5 WALL CLEANOUT DETAIL
NO SCALE



6 WATER HEATER MOUNTING DETAIL
NO SCALE

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE

PRESCRIPTIVE ☐ PERFORMANCE ☑ ENERGY COST BUDGET ☐

PROVIDE A STANDARD RISER DIAGRAM WHICH INDICATES DESIGNATED POINTS FOR CHECK METERING. PROVIDE A STANDARD PANEL SCHEDULE DESCRIPTION WHICH IDENTIFIES DIFFERENT ENDUSE LOADS.

LIGHTING SCHEDULE

LAMP TYPE REQUIRED IN FIXTURE	SEE SCHEDULE ON DRAWINGS
NUMBER OF LAMPS IN FIXTURE	SEE SCHEDULE ON DRAWINGS
BALLAST TYPE USED IN FIXTURE	SEE SCHEDULE ON DRAWINGS
NUMBER OF BALLASTS IN FIXTURE	SEE SCHEDULE ON DRAWINGS
TOTAL WATTAGE PER FIXTURE	SEE SCHEDULE ON DRAWINGS
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED	2.36 VS 2.50
TOTAL EXTERIOR WATTAGE SPECIFIED VS ALLOWED	N/A

EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS)

MOTOR HORSEPOWER	N/A
NUMBER OF PHASES	N/A
MINIMUM EFFICIENCY	N/A
MOTOR TYPE	N/A
NUMBER OF POLES	N/A

DESIGNER STATEMENT:

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENTS OF THE NORTH CAROLINA STATE BUILDING CODE, VOLUME X–ENERGY.

SIGNED: _____

NAME: _____

TITLE: _____

ELECTRICAL SYMBOLS LEGEND

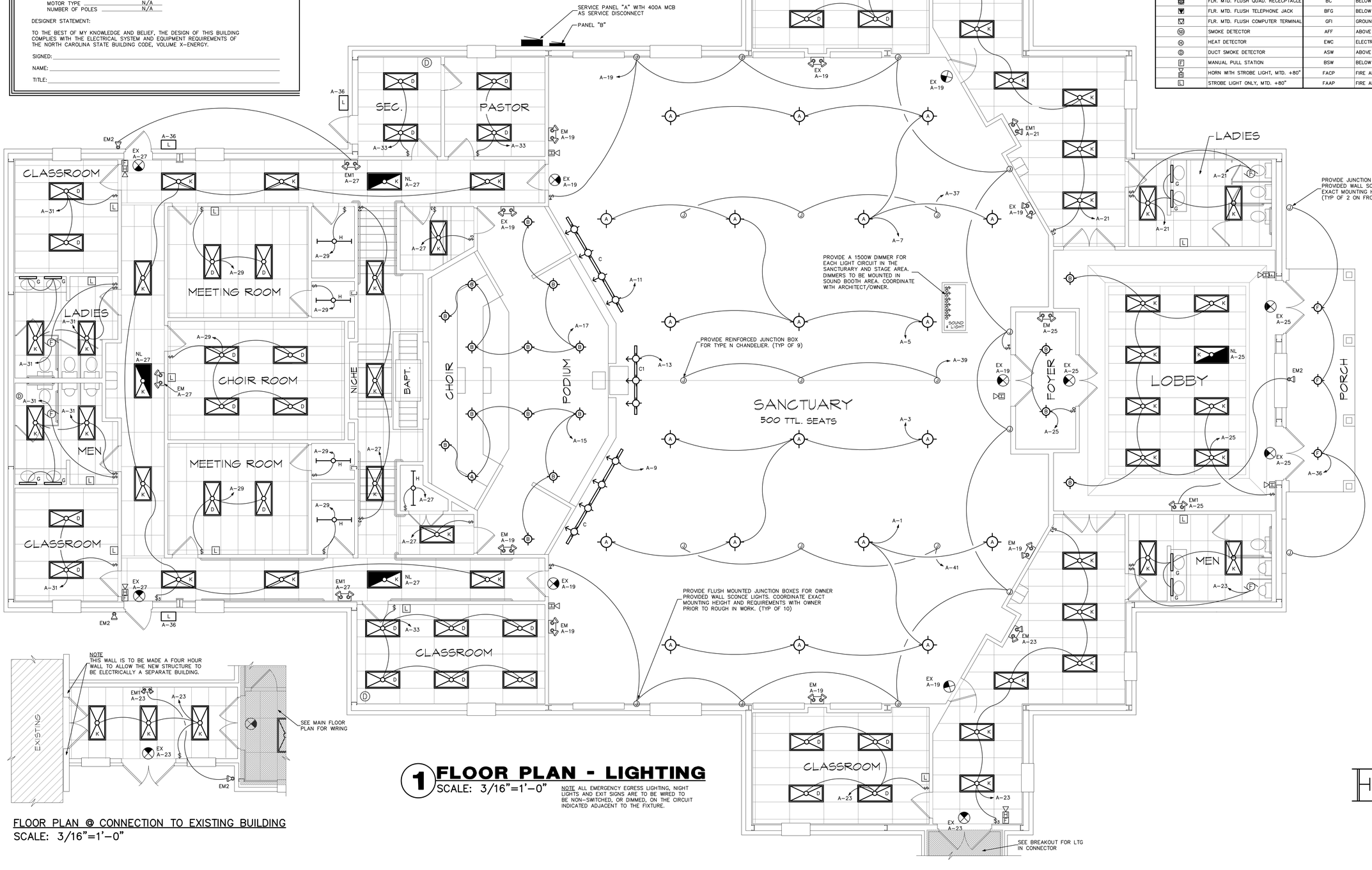
NOTE – NOT ALL SYMBOLS MAY BE USED ON PROJECT

SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
	DUPLEX RECEPTACLE, MTD. +18" AFF	T	TRANSFORMER – SIZE AS NOTED
	240 VOLT RECEPTACLE (HT. AS REQ.)		PANEL – SIZE AS NOTED
	QUADRUPLEX RECEPTACLE, MTD. +18"		MOMENTARY CONTACT PUSH BUTTON
	COUNTERTOP HT. RECEPTACLE +42"	F	F–FAN; M–MOTOR; P–PUMP
$	SINGLE POLE SWITCH		SPECIAL OUTLET – AS REQUIRED
$3	THREE–WAY SWITCH	B–2	CKT. HOMERUN (B INDICATES PANEL) "2" DESIGNATES CIRCUIT NUMBER
$M	MANUAL STARTER SWITCH		EXIT SIGN; ONE SIDED, OR TWO SIDED
$D	DIMMER SWITCH		EMERGENCY LIGHTING
$L	SWITCH W/ ILLUMINATION WHEN ON	B	RECESSED MOUNTED LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
J	JUNCTION BOX	B	HIGHBAY HID LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
	TELEPHONE JACK	B	FLUORESCENT LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
	COMPUTER DATA TERMINAL OUTLET	B	FLUORESCENT LIGHTING NIGHT LIGHT B DESIGNATES FIXTURE TYPE
	DISCONNECT SWITCH W/ STARTER	B	FLUORESCENT STRIP LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
	DISCONNECT SWITCH	IG	ISOLATED GROUND
	FLR. MTD. FLUSH DUPLEX RECEPTACLE	WP	WEATHER–PROOF
	FLR. MTD. FLUSH QUAD. RECEPTACLE	BC	BELOW COUNTER
	FLR. MTD. FLUSH TELEPHONE JACK	BFG	BELOW FINISH GRADE
	FLR. MTD. FLUSH COMPUTER TERMINAL	GFI	GROUND FAULT INTERRUPTER
SD	SMOKE DETECTOR	AFF	ABOVE FINISHED FLOOR
H	HEAT DETECTOR	EWC	ELECTRIC WATER COOLER
D	DUCT SMOKE DETECTOR	ASW	ABOVE SHOW WINDOW
F	MANUAL PULL STATION	BSW	BELOW SHOW WINDOW
	HORN WITH STROBE LIGHT, MTD. +80"	FACP	FIRE ALARM CONTROL PANEL
L	STROBE LIGHT ONLY, MTD. +80"	FAAP	FIRE ALARM ANNUNCIATOR PANEL

PROVIDE (4) TYPE J FIXTURES MOUNTED BEHIND STAINED GLASS FOR BACKLIGHTING. COORDINATE EXACT MOUNTING AND REQUIREMENTS WITH ARCHITECTURAL PLANS AND OWNER.

A–35

2 STEEPLE LIGHTING
NO SCALE



FLOOR PLAN @ CONNECTION TO EXISTING BUILDING
SCALE: 3/16"=1'–0"

1 FLOOR PLAN - LIGHTING
SCALE: 3/16"=1'–0"

NOTE ALL EMERGENCY EGRESS LIGHTING, NIGHT LIGHTS AND EXIT SIGNS ARE TO BE WIRED TO BE NON–SWITCHED, OR DIMMED, ON THE CIRCUIT INDICATED ADJACENT TO THE FIXTURE.

E1

A/C #4
2" E.C. RUN UNDERGROUND TO LOCAL PHONE SERVICE. CONTRACTOR TO FIELD COORDINATE ALL REQUIREMENTS WITH LOCAL SERVICE REP PRIOR TO CONSTRUCTION
A-24,26,28
A-2,4,6
CU #1
24"x24"x3/4" PLYWOOD BACKBOARD WITH OUTLET ABOVE CEILING FOR PHONE SERVICE. ALL PHONE WIRING TO BE BY OTHERS.
400A FEED THRU METER IN A NEMA3R ENCLOSURE
SERVICE PANEL "A" WITH 400A MCB AS SERVICE DISCONNECT
PANEL "B"
CLASSROOM
20A/1P/NF A-8
AHU #1
SEC.
PASTOR
WP,GFI B-15
WATER HEATER MOUNTED ABOVE CEILING
GFI B-11
20A/1P/NF B-8
LADIES
WP,GFI B-11
CLASSROOM
20A/1P/NF B-10
WATER HEATER MOUNTED ABOVE CEILING
GFI B-37
LADIES
WP,GFI B-37
60A/3P/NEMA3R NF/ A-18,20,22
A/C #3 (7.5 TONS)
MEETING ROOM
CHOIR ROOM
NICHE
BAPT.
CHOIR
PODIUM
PROVIDE A 2" E.C. BETWEEN THE SOUNG BOOTH AND THE PODIUM FOR FUTURE SOUND WIRING. ALL SOUND WIRING TO BE BY OTHERS.
PROVIDE A 2" E.C. BETWEEN THE SOUNG BOOTH AND THE CLG SPACE FOR FUTURE SOUND WIRING. ALL SOUND WIRING TO BE BY OTHERS.
SOUND & LIGHT
SANCTUARY
500 TTL. SEATS
FOYER
LOBBY
PORCH
RECEPTACLE ON FRONT VERTICAL OF PODIUM
IN VERTICAL WALL OF STEP. (TYP)
NOTE
COORDINATE EXACT LOCATION OF ALL RECEPTACLES WITH OWNERS AGENT PRIOR TO ROUGH IN WORK.
MEN
FIRE ALARM REMOTE ANNUNCIATOR PANEL
GFI B-7
20A/1P/NF B-6
WATER HEATER MOUNTED ABOVE CEILING
MEETING ROOM
CLASSROOM
CLASSROOM
NOTE
THIS WALL IS TO BE MADE A FOUR HOUR WALL TO ALLOW THE NEW STRUCTURE TO BE ELECTRICALLY A SEPARATE BUILDING.
EXISTING
SEE MAIN FLOOR PLAN FOR WIRING
100A/3P/NEMA3R NF/ A-30,32,34
A/C #5
WP,GFI B-3
CU #2
60A/3P/NEMA3R NF/ A-10,12,14
CLASSROOM
20A/1P/NF A-16
AHU #2

FLOOR PLAN @ CONNECTION TO EXISTING BUILDING
SCALE: 3/16"=1'-0"

1 FLOOR PLAN - POWER
SCALE: 3/16"=1'-0"

E2

CIRCUIT BREAKER PANEL SCHEDULE A

SQAURE D TYPE 'NQOD' OR APPROVED EQUAL

400 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, 400A. M.C.B., 42000 AMPS MINIMUM A.I.C. BRACING, SURFACE MOUNTED, TYPE NEMA 3R ENCLOSURE

##	BKR.	WIRE AND CONDUIT COND.	NEUTRAL	GND	C.	KEYS	LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LINE C	LOAD DESCRIPTION	WIRE AND CONDUIT KEYS	C.	GND	NEUTRAL	COND.	BKR.	##
1	20/1	#12	#12	#12	1/2	CHAL	SANCTUARY LIGHTING *	1250	1250	------	------								2
								0	1848	------	------								
3	20/1	#12	#12	#12	1/2	CHAL	SANCTUARY LIGHTING *	1250	------	1250	------								4
								0	------	1848	------								
5	20/1	#12	#12	#12	1/2	CHAL	SANCTUARY LIGHTING *	1250	------	------	1250								6
								0	------	------	1848								
7	20/1	#12	#12	#12	1/2	CHAL	SANCTUARY LIGHTING *	1250	1250	------	------	CONDENSING UNIT #1	CHAL	1/2	#10	---	#10	30/3	8
9	20/1	#12	#12	#12	1/2	CHAL	STAGE TRACK LIGHTING *	1123	1123	------	------	AIR HANDLING UNIT #1	CHAL	1/2	#12	#12	#12	20/1	10
								1200	------	1200	------								
11	20/1	#12	#12	#12	1/2	CHAL	STAGE TRACK LIGHTING *	0	------	2304	------								12
								1200	------	------	1200								
13	20/1	#12	#12	#12	1/2	CHAL	STAGE TRACK LIGHTING *	0	------	------	2304								14
								600	600	------	------								
15	20/1	#12	#12	#12	1/2	CHAL	STAGE DOWN LIGHTING *	0	2304	------	------	CONDENSING UNIT #2	CHAL	3/4	#10	---	#8	40/3	16
17	20/1	#12	#12	#12	1/2	CHAL	STAGE DOWN LIGHTING *	1500	------	1500	------								18
								1581	------	1581	------	AIR HANDLING UNIT #2	CHAL	1/2	#12	#12	#12	20/1	20
19	20/1	#12	#12	#12	1/2	CHAL	SANCTUARY SCONCE LIGHTS	1500	------	------	1500								22
								0	------	------	3444								
21	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	900	900	------	------								24
								0	3444	------	------								
23	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	1430	------	1430	------	PACKAGE HVAC UNIT #3	CHAL	3/4	#10	---	#8	50/3	26
25	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	0	------	3444	------								28
								1640	------	------	1640								
27	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	0	------	------	9060								30
								1200	1200	------	------								
29	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	0	9060	------	------	PACKAGE HVAC UNIT #4	CHAL	1	#8	---	#4	80/3	32
31	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	1120	------	1120	------								34
								0	------	9060	------								
33	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	1400	------	------	1400	PACKAGE HVAC UNIT #5	CHAL	1	#8	---	#4	80/3	36
35	20/1	#12	#12	#12	1/2	CHAL	STEEPLE LIGHTS VIA TC	0	------	------	9060								38
								1400	1400	------	------								
37	20/1	#12	#12	#12	1/2	CHAL	SANCTUARY CHAN LIGHTING *	0	9060	------	------								40
								1400	------	1400	------								
39	20/1	#12	#12	#12	1/2	CHAL	SANCTUARY CHAN LIGHTING *	0	------	9060	------								42
								300	------	------	300								
41	20/1	#12	#12	#12	1/2	CHAL	SANCTUARY CHAN LIGHTING *	800	------	------	800	EXTERIOR LTG VIA T.C.	CHAL	1/2	#12	#12	#12	20/1	
								1500	1500	------	------								
								9720	12008	------	------								
								1500	------	1500	------								
								8460	------	10748	------	PANELBOARD 'B'	CHAL	1-1/4	#8	#3	#3	100/3	
								1500	------	------	1500								
								7800	------	------	7800								

WIRE/CONDUIT KEY 1234	WIRING TYPE C-CU WIRE	INSULATION H-THWN	CONDUIT TYPE A-EMT	TEMP RATING L-78-86 Deg. F.
1=TEMP RATING, 2=CONDUIT TYPE, 3=INSULATION, 4=WIRING TYPE				

46947	47445	43106
137,498		

PEAK PHASE (B) UNBALANCED NEUTRAL LOAD AMPS = 162. AMPS
NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 381.9 AMPS

PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
REGISTERED TO - TODD W. CAREY AND ASSOCIATES OF THE CAROLINAS, PA

PANEL NOTES:
* - PROVIDE A 1500W DIMMER FOR CONTROL OF THIS CIRCUIT

CIRCUIT BREAKER PANEL SCHEDULE B

SQAURE D TYPE 'NQOD' OR APPROVED EQUAL

100 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.O., 22000 AMPS MINIMUM A.I.C. BRACING, SURFACE MOUNTED, TYPE NEMA 3R ENCLOSURE

##	BKR.	WIRE AND CONDUIT COND.	NEUTRAL	GND	C.	KEYS	LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LINE C	LOAD DESCRIPTION	WIRE AND CONDUIT KEYS	C.	GND	NEUTRAL	COND.	BKR.	##
1	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	1080	1080	------	------								2
								0	2288	------	------								
3	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	1080	------	1080	------	BAPISTRY UNIT (GFI)	CHAL	1/2	#10	---	#10	30/2	4
								0	------	2288	------								
5	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	900	------	------	900								6
7	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	1500	------	------	1500	WATER HEATER	CHAL	1/2	#12	#12	#12	20/1	8
9	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	1080	1080	------	------								10
								1500	1500	------	------	WATER HEATER	CHAL	1/2	#12	#12	#12	20/1	12
11	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	1080	------	1080	------								14
								1500	------	1500	------	WATER HEATER	CHAL	1/2	#12	#12	#12	20/1	16
13	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	720	------	------	720								18
								180	------	------	180	TELEPHONE BOARD	CHAL	1/2	#12	#12	#12	20/1	20
15	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	1080	1080	------	------								22
								1200	1200	------	------	SOUND BOOTH EQUIP	CHAL	1/2	#12	#12	#12	20/1	24
17	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	1080	------	1080	------								26
								1200	------	1200	------	SOUND BOOTH EQUIP	CHAL	1/2	#12	#12	#12	20/1	28
19	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	1080	------	------	1080								30
								0	------	------	0	SPACE							32
21	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	900	900	------	------								34
								0	0	------	------	SPACE							36
23	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	1080	------	1080	------								38
								0	------	0	------	SPACE							40
25	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	1260	------	------	1260								42
								0	------	------	0	SPACE							
27	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	900	900	------	------								
								0	0	------	------	SPACE							
29	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	720	------	720	------								
								0	------	0	------	SPACE							
31	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	1080	------	------	1080								
								0	------	------	0	SPACE							
33	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	720	720	------	------								
								0	0	------	------	SPACE							
35	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	720	------	720	------								
								0	------	0	------	SPACE							
37	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLES	1080	------	------	1080								
								0	------	------	0	SPACE							
39							SPACE	1260	1260	------	------								
								0	0	------	------	SPACE							
41							SPACE	0	------	0	------								
								0	------	0	------	SPACE							
								0	------	------	0	SPACE							

WIRE/CONDUIT KEY 1234	WIRING TYPE C-CU WIRE	INSULATION H-THWN	CONDUIT TYPE A-EMT	TEMP RATING L-78-86 Deg. F.
1=TEMP RATING, 2=CONDUIT TYPE, 3=INSULATION, 4=WIRING TYPE				

12008	10748	7800
30,556		

PEAK PHASE (A) UNBALANCED NEUTRAL LOAD AMPS = 81. AMPS
NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 84.9 AMPS

PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
REGISTERED TO - TODD W. CAREY AND ASSOCIATES OF THE CAROLINAS, PA

LIGHTING FIXTURE SCHEDULE

LABEL	TYPE OF FIXTURE	FINISH	LENS TYPE	VOLTAGE	LAMP	MANUFACTURER & MODEL NO.	REMARKS
A	RECESSED INCANDESCENT	WHITE		120	(1) 250W HALOGEN	LITHONIA R-6MB	W/ DEEP SET BLACK MICROGROOVE
B	RECESSED INCANDESCENT	WHITE		120	(1) 95W HALOGEN	LITHONIA R-6MB	W/ DEEP SET BLACK MICROGROOVE
C	SINGLE CIRCUIT 8' TRACK LT	WHITE		120	(5) 150W HALOGEN	LITHONIA LT8-WH	W/ (5) LITHONIA PRSP HEADS
C1	SINGLE CIRCUIT 4' TRACK LT	WHITE		120	(3) 150W HALOGEN	LITHONIA LT3-WH	W/ (3) LITHONIA PRSP HEADS
D	RECESSED 2'X4' TROFFER	WHITE	PRISMATIC	120	(4) 32W T8	LITHONIA 2SPG-432-FWA12-120	
EM	EMERGENCY EGRESS	WHITE		120	INCLUDED	LITHONIA ELM2	W/ BATTERY BACKUP
EM1	EMERG EGRESS w/ REMOTE LT	WHITE		120	INCLUDED	LITHONIA 6ELM2	W/ BATTERY BACKUP & REMOTE LIGHT CAPABILITY
EM2	REMOTE EMERGENCY LT HEAD	WHITE		N/A	INCLUDED	LITHONIA NX	CONNECT TO NEAREST 6ELM2 UNIT
EX	EXIT SIGN	WHITE	RED	120	INCLUDED	LITHONIA LE-SW2R-120/277-ELN	W/ BATTERY BACKUP
F	RECESSED HID	WHITE	FLAT FRESNEL	120	(1) 100W MH	LITHONIA	WET LOCATION LISTED
G	FLUORESCENT WALL LIGHT	WHITE	PRISMATIC	120	(2) 17W T8	LITHONIA WC-217-A12-120	
H	4' FLUORESCENT STRIP	WHITE		120	(2) 32W T8	LITHONIA C-232-120	PROVIDE ELECTRONIC BALLAST
K	RECESSED 2'X4' TROFFER	WHITE	PRISMATIC	120	(2) 32W T8	LITHONIA 2SPG-232-FWA12-120	
L	HID WALL PACK	BRONZE	POLYCARBONATE	120	(1) 100W MH	LITHONIA TWP-100M-120	
M	WALL SCONCE	BRASS		120	(2) 60W CAND.	PROGRESS P2980-10	W/ CANDELABRA LAMPS
N	DECORATIVE CHANDELIER	BRASS		120	(20) 25W CAND.	LAMPSPLUS.COM SKU#51587	W/ CANDELABRA LAMPS PHONE (800) 782-1967

PANEL A DIVERSIFICATION CALCULATIONS	
RECEPTACLES (106) - 19080 VA TOTAL	
FIRST 10 KVA AT 100% -	10000
REMAINDER AT 50% -	4540
LIGHTING - 26410 X 125% -	33013
HVAC LOAD AT 100% -	79852
MOTOR LOADS AT 100% -	680
PLUS 25% OF THE LARGEST MOTOR -	1692
MISC NON-CONTINUOUS LOADS AT 100% -	11476
TOTAL DIVERSIFIED PANEL LOAD -	141253
LOAD AT 120/208V/3-PHASE/4-WIRE -	392.4A

PANEL B DIVERSIFICATION CALCULATIONS	
RECEPTACLES (106) - 19080 VA TOTAL	
FIRST 10 KVA AT 100% -	10000
REMAINDER AT 50% -	4540
MISC NON-CONTINUOUS LOADS AT 100% -	11476
TOTAL DIVERSIFIED PANEL LOAD -	26016
LOAD AT 120/208V/3-PHASE/4-WIRE -	72.3A

ELECTRICAL NOTES:

1. GENERAL: ALL WORK SHALL CONFORM TO THE LATEST APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL JURISDICTIONAL CODES.

   THE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE DRAWINGS AND ANY APPLICABLE SPECIFICATIONS. IF A PROBLEM IS ENCOUNTERED IN COMPLYING WITH THIS REQUIREMENT, THE CONTRACTOR SHALL NOTIFY THE OWNER OR HIS REPRESENTATIVE AS SOON AS POSSIBLE AFTER DISCOVERY OF THE PROBLEM, AND SHALL NOT PROCEED WITH THAT PORTION OF THE WORK UNTIL THE OWNER HAS DIRECTED THE CORRECTIVE ACTION TO BE TAKEN.

   THE CONTRACTOR SHALL COORDINATE THE PROPOSED LOCATIONS OF ALL ELECTRICAL MATERIALS AND EQUIPMENT WITH THE REPRESENTATIVES OF THE OTHER TRADES INVOLVED BEFORE STARTING INSTALLATION OF THOSE ITEMS.

   COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES, CONDUIT, AND SLEEVES TO BE SET IN CAST-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED.

   UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL SPECS ARE NOT INTENDED TO BE PROPRIETARY, SUBSTITUTIONS WILL BE ACCEPTABLE FOR EQUAL RATED AND LISTED UNITS.

2. SCOPE: EXCEPT WHERE OTHERWISE SPECIFICALLY INDICATED ON THE DRAWINGS BY "FUTURE", "BY OTHERS", OR BY A SIMILAR NOTATION, IT IS THE INTENT THAT THE CONTRACTOR FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TOOLS NECESSARY TO PROVIDE ALL SYSTEMS IN COMPLETE AND OPERATING CONDITION.

3. EXCAVATE AS NECESSARY FOR THE INSTALLATION OF ELECTRICAL MATERIALS AND EQUIPMENT. VERIFY THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES OR STRUCTURES BEFORE EXCAVATING AND EXERCISE CARE TO AVOID DAMAGE TO SUCH ITEMS DURING EXCAVATION. BACKFILL WITH EARTH FREE OF LARGE CLODS, LARGE STONES AND FOREIGN DEBRIS, DEPOSITED IN 6" LAYERS AND COMPACTED TO A DENSITY OF NOT LESS THAN THAT OF THE SURROUNDING UNDISTURBED MATERIAL.

4. MATERIALS: THE MATERIALS AND EQUIPMENT FURNISHED SHALL BE AS INDICATED ON THE DRAWINGS; SUBSTITUTIONS SHALL NOT BE MADE EXCEPT WHERE EXPRESSLY APPROVED BY THE OWNER OR HIS REPRESENTATIVE PRIOR TO STARTING INSTALLATION OF THE ITEMS. THE ELECTRICAL MATERIALS AND EQUIPMENT FURNISHED SHALL BE LISTED OR LABELED BY UNDERWRITERS LABORATORIES OR OTHER RECOGNIZED TESTING ORGANIZATION, AND SHALL BE ACCEPTABLE TO THE LOCAL BUILDING AUTHORITY.

5. GROUNDING: GROUNDING SHALL BE IN ACCORDANCE WITH ARTICLE 250, NEC.

6. CONDUITS: PROVIDE CONDUITS WHERE CALLED FOR ON PANEL SCHEDULES: ELECTRICAL METALLIC TUBING (EMT) SHALL BE INSTALLED ONLY IN DRY LOCATIONS, IN CONCRETE ABOVE GRADE, AND WHERE NOT SUBJECT TO PHYSICAL DAMAGE.

   CONDUITS INSTALLED UNDERGROUND SHALL BE POLYVINYLCHLORIDE (PVC) AND SHALL NOT BE SMALLER THAN 3/4" TRADE SIZE. WHERE PVC CONDUIT IS INSTALLED UNDERGROUND, ELBOWS TURNING UP AND CONDUIT EMERGING ABOVE GRADE SHALL BE RSC. THE TOPS OF CONDUITS SHALL NOT BE LESS THAN 24" BELOW FINISHED GRADE. PVC CONDUIT INSTALLED ABOVE GRADE OR DIRECT-BURIED IN EARTH SHALL BE NEMA TC2 TYPE EPC-40-PVC (SCHEDULE 40) EXCEPT THAT WHERE UNDER AREAS SUBJECT TO HEAVY VEHICULAR TRAFFIC, IT SHALL BE NEMA TC2 TYPE EPC-80-PVC (SCHEDULE 80).

   ALL ARMOR CLAD CABLE (AC CABLE) WIRING SHALL MEET OR EXCEED ALL NEC, OSHA AND HUD STANDARDS.

7. CONDUCTORS: CONDUCTORS SHALL BE AS SCHEDULED ON PANEL SCHEDULES. ALL POWER CONDUCTORS SHALL NOT BE SMALLER THAN #14 AWG (CU), OR #12 AWG (AL), CONTROL CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #18 AWG CU. CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET WITHOUT SPLICES EXCEPT WITHIN WIREWAY OR JUNCTION BOXES. MARK CONDUCTORS IN PANELS, PULL BOXES OR WIREWAYS AND TERMINAL STRIP TERMINALS FOR IDENTIFICATION OF CIRCUITS.

   CONDUCTORS SHALL BE JOINED USING COMPRESSION SPLICES, EXCEPT THAT CONDUCTORS #10 AND SMALLER MAY BE JOINED USING WIRE NUT TYPE CONNECTORS. CONDUCTORS SHALL BE TERMINATED USING COMPRESSION OR PRESSURE TYPE TERMINAL LUGS, OR IN PRESSURE TERMINALS. COMPRESSION SPLICES USED ON CONDUCTORS #10 AWG. AND SMALLER, SHALL BE THE SELF-INSULATED TYPE; OTHER SPLICES SHALL BE INSULATED USING 3M #33+ OR #88 PLASTIC TAPE. SPLICES IN WET LOCATIONS SHALL BE INSULATED WITH ELECTRICAL TAPE AND ENCAPSULATED WITH SCOTCHCAST OR EQUAL POTTING COMPOUND.

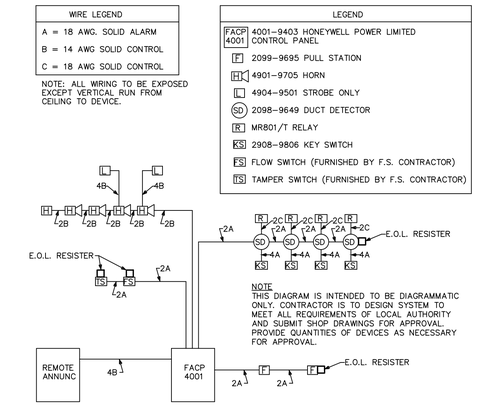
8. PROVIDE AND INSTALL JUNCTION AND PULL BOXES WHERE INDICATED AND WHERE NECESSARY TO TERMINATE, TAP OFF, OR REDIRECT MULTIPLE CONDUIT RUNS, OF SIZE INDICATED OR AS REQUIRED BY NEC. WHERE FEEDER SPLICES ARE TO BE MADE, INSTALL BOXES LARGE ENOUGH TO PROVIDE AMPLE WORK SPACE.

9. LIGHTING FIXTURES: LIGHTING FIXTURES SHALL BE AS INDICATED ON THE DRAWINGS, AND SHALL BE INSTALLED COMPLETE WITH LAMPS.

   FIXTURES WITH ADJUSTMENTS AFFECTING LIGHT DISTRIBUTION SHALL BE SET TO PROVIDE THE REQUIRED LIGHT PATTERNS PRIOR TO THE FINAL DEMONSTRATION TEST.

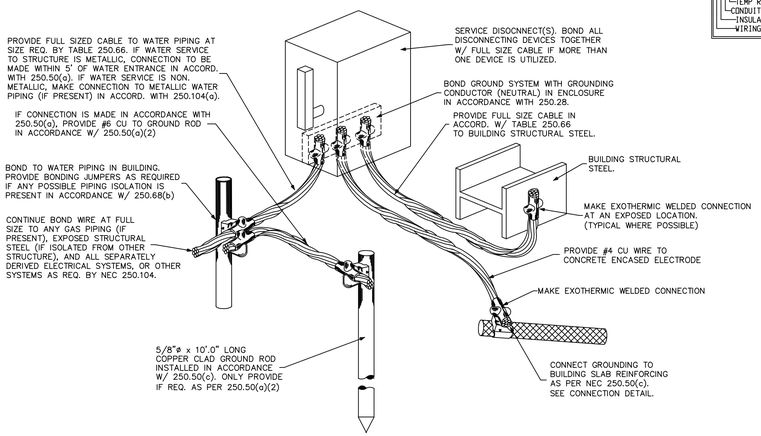
10. TESTS: AFTER EACH SYSTEM HAS BEEN COMPLETED, A FUNCTIONAL TEST SHALL BE PERFORMED TO DEMONSTRATE THAT THE SYSTEM OPERATES IN ACCORDANCE WITH THE REQUIREMENTS OF THE DRAWINGS. THE TEST SHALL BE PERFORMED BY THE CONTRACTOR IN THE PRESENCE OF THE OWNER OR HIS REPRESENTATIVE.

11. TERMINALS: ALL ELECTRICAL EQUIPMENT FURNISHED ON THIS PROJECT IS TO HAVE TERMINALS RATED FOR 75° C. OPERATION.

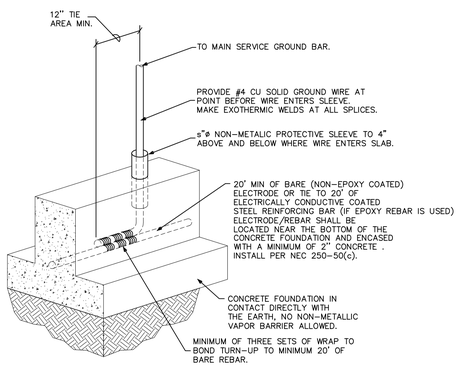


4 FIRE ALARM RISER DIAGRAM
NO SCALE

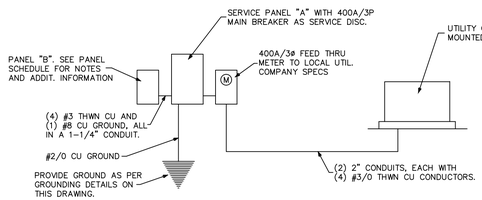
NOTE
PROVIDE ALARM CONNECTION TO UL APPROVED CENTRAL STATION AND TAMPER SWITCHES ON BOTH OS&Y VALVES OF BACK FLOW PREVENTION DEVICE.



3 GROUNDING DETAIL
NO SCALE



2 GROUNDING DETAIL
NO SCALE



1 ELECTRICAL SERVICE RISER DIAGRAM
NO SCALE

AIC BRACING CALCULATIONS

150 KVA TRANSFORMER WITH 1.4% INPEDANCE 120/208V/3ø

TRANSFORMER FLA = 150,000 / 360 = 416.66 A.
IMPEDANCE MULTIPLIER 100/1.4 = 71.428
AVAILABLE FAULT CURRNET = 416.6 X 71.428 = 29,756 A

FEEDER OF (2) SET OF #3/0 CU IN A PVC CONDUIT WITH AN EXPECTED LENGTH OF 75 FEET.

$f = \frac{1.73 \times 75 \times 29{,}756}{27{,}846 \times 208} = 0.675316$

$M = \frac{1}{1 + 0.675316} = 0.5969$

AIC = 0.5969 X 29,756 = 17,761 AMPS

CONTRACTOR TO NOFIFY ENGINEER IF TRANSFORMER PROVIDED IS LARGER THAN 150 KVA, OR IF FEEDER LENGTH IS LESS THAN 75 FEET, SO AIC CAN BE REVIEWED.