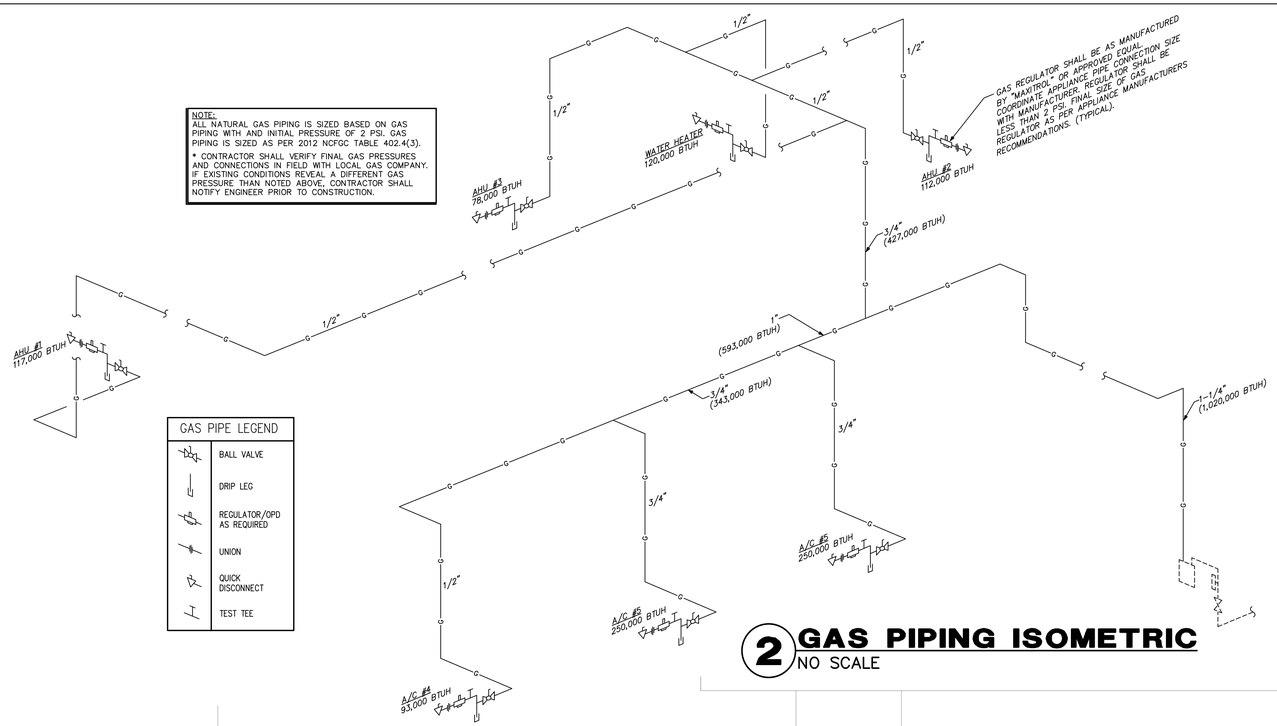
NOTE:
ALL NATURAL GAS PIPING IS SIZED BASED ON GAS PIPING WITH AND INITIAL PRESSURE OF 2 PSI. GAS PIPING IS SIZED AS PER 2012 NCFGC TABLE 402.4(3).

* CONTRACTOR SHALL VERIFY FINAL GAS PRESSURES AND CONNECTIONS IN FIELD WITH LOCAL GAS COMPANY. IF EXISTING CONDITIONS REVEAL A DIFFERENT GAS PRESSURE THAN NOTED ABOVE, CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO CONSTRUCTION.

GAS PIPE LEGEND	
	BALL VALVE
	DRIP LEG
	REGULATOR/OPD AS REQUIRED
	UNION
	QUICK DISCONNECT
	TEST TEE



2 GAS PIPING ISOMETRIC
NO SCALE

H.V.A.C. ABBREVIATION LEGEND

A/C	AIR CONDITIONER	REV.	REVISION	A.H.U.	AIR HANDLING UNIT
DN.	DOWN	N.T.S.	NOT TO SCALE	D.G.	DOOR GRILLE
EXH.	EXHAUST	MFGR.	MANUFACTURER	F.I.D.	FIRE DAMPER
EXT.	EXTERIOR	R/A	RETURN AIR	DISP.	DISPOSABLE
E.F.	EXHAUST FAN	GR.	GRILLE	V.C.D.	VOLUME CONTROL DAMPER
A.F.F.	ABOVE FINISH FLOOR	C.D.	CEILING DIFFUSER	F/A	FRESH AIR
F.F.	FINISH FLOOR	REG.	REGISTER	S.P.	SAFE PAN
TYP.	TYPICAL	C.U.	CONDENSING UNIT	CD.	CONDENSATE DRAIN

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 TDC-AA	6"ø	0 – 125	12X12 LOUVERED FACE
B	TITUS TDC-AA	6"ø	0 – 125	24X24 LOUVERED FACE
C	TITUS TDC-AA	8"ø	130 – 200	24X24 LOUVERED FACE
D	TITUS TDC-AA	10"ø	205 – 325	24X24 LOUVERED FACE
E	TITUS TDC-AA	12"ø	330 – 475	24X24 LOUVERED FACE
F	TITUS 300RL	14X6	205 – 300	SIDEWALL REGISTER
G	TITUS 300RL	18X6	305 – 500	SIDEWALL REGISTER
H	TITUS 250-AA	8X6	0 – 100	CEILING REGISTER *
I	TITUS 250-AA	10X6	105 – 200	CEILING REGISTER *

* SUPPLY REGISTER SHALL BE PROVIDED WITH A SURFACE MOUNT BORDER TYPE 1.

RETURN GRILLE SCHEDULE

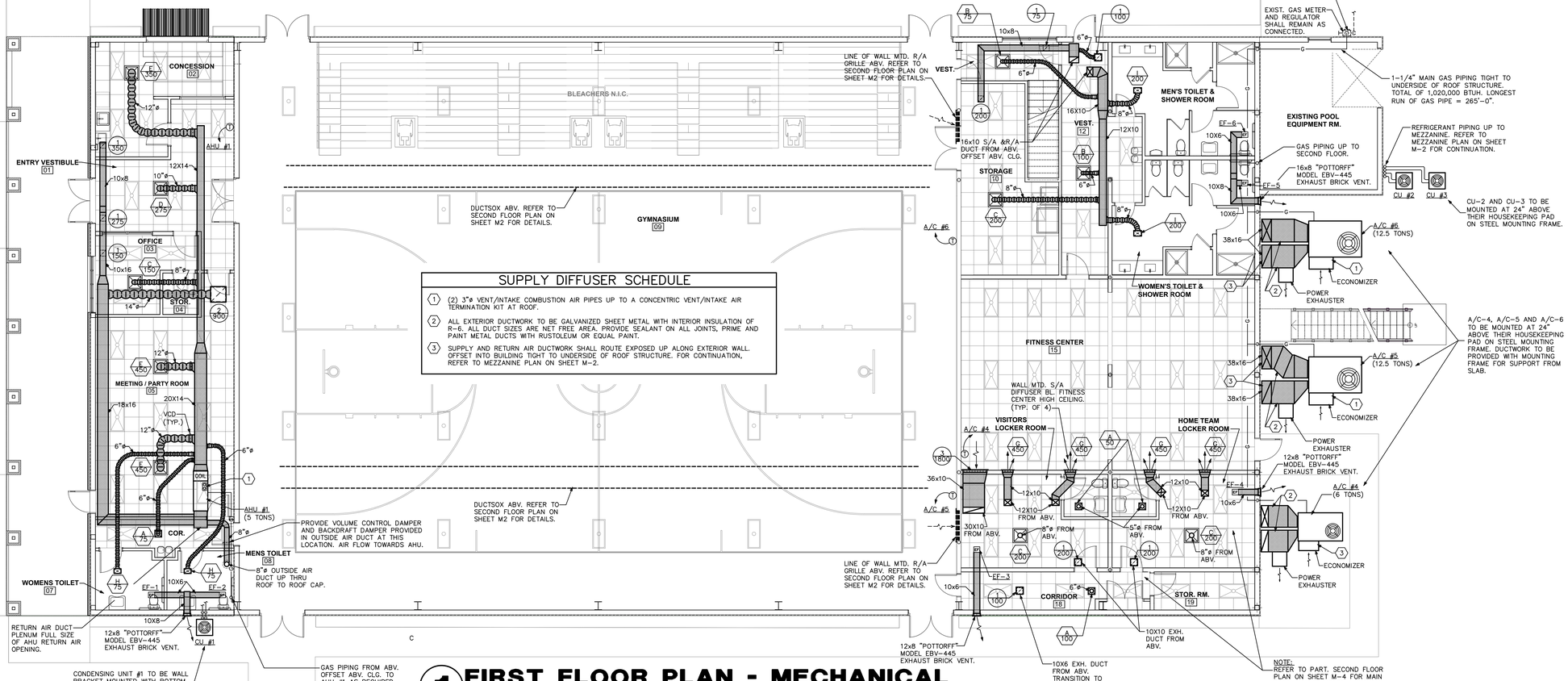
(1 / 100) DESIGNATES LABEL FOR GRILLE TYPE
DESIGNATES CFM QUANTITY FOR GRILLE

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	24X24	1205 – 1450	LOUVER FACE
3	TITUS 355FL	48x12	1455 – 2200	LOUVER FACE

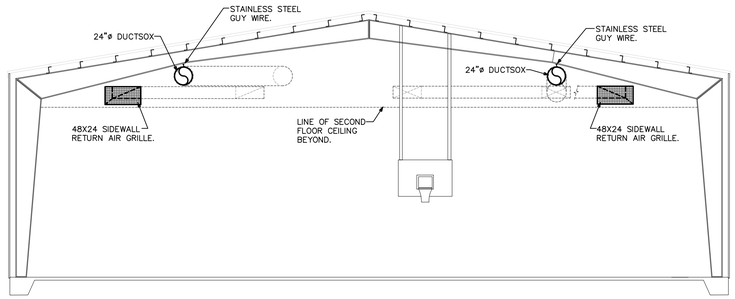
HVAC SYMBOLS LEGEND

T	THERMOSTAT, MTD +47" AFF
	EXHAUST FAN
	SECTION "A"–"A"
B	REMOTE BULB SENSOR
D	DUCT SMOKE DETECTOR
	TRANSITION
	TURNING VANE
	45° BRANCH DUCT TAKE-OFF
	FIRE DAMPER
	VOLUME CONTROL DAMPER
	RETURN REGISTER
	SUPPLY DIFFUSER
	RETURN AIR GRILLE
	SUPPLY REGISTER
	DUCTWORK TRANSITION
	ROOF MTD. EXH. FAN
	DUCT TURN DOWN
	DUCT TURN UP
	FLEXIBLE DUCT



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

M1



2 SECTION 'A' - MECHANICAL
SCALE: 1/8"=1'-0"

OUTSIDE AIR CALCULATIONS

THE FOLLOWING IS BASED ON ASHRAE STANDARD 62.1-2012 FOR OUTSIDE AIR REQUIREMENTS

UNIT LABEL	OCCUPANCY CATAGORY	AREA	ESTIMATED MAX. OCCUPANCY	PEOPLE + AREA CALC	E_z *	TOTAL	
AHU #1	MEETING ROOM	515	50 PEOPLE PER 1,000 S.F./5 CFM PER PERSON	(26 X 5) + (515 X .06) = 161 (PEOPLE / AREA / TOTAL)			
AHU #1	MAIN ENTRY LOBBY	275	10 PEOPLE PER 1,000 S.F./5 CFM PER PERSON	(3 X 5) + (275 X .06) = 32 (PEOPLE / AREA / TOTAL)			
				AHU #1 TOTAL = 193	1.0	193/1.0 = 193	
AHU #2	STORAGE	1990	0.12 CFM PER SQ. FT.	(N/A) + (1990 X .06) = 120 (PEOPLE / AREA / TOTAL)			
AHU #2	CORRIDOR	300	0.06 CFM PER SQ. FT.	(N/A) + (300 X .06) = 18 (PEOPLE / AREA / TOTAL)			
				AHU #2 TOTAL = 138	1.0	138/1.0 = 138	
AHU #3	OFFICE	1150	5 PEOPLE PER 1,000 S.F./5 CFM PER PERSON	(6 X 5) + (1150 X .06) = 99 (PEOPLE / AREA / TOTAL)	1.0	99/1.0 = 99	
AHU #4	HEALTH CLUB/WEIGHT RM.	1000	10 PEOPLE PER 1,000 S.F./20 CFM PER PERSON	(10 X 20) + (1000 X .06) = 269 (PEOPLE / AREA / TOTAL)			
AHU #4	LOCKER/DRESSING RM.	400	0.25 CFM PER SQ. FT.	(N/A) + (400 X .25) = 100 (PEOPLE / AREA / TOTAL)			
AHU #4	CORRIDOR	150	0.06 CFM PER SQ. FT.	(N/A) + (150 X .06) = 9 (PEOPLE / AREA / TOTAL)			
				AHU #4 TOTAL = 169	1.0	169/1.0 = 169	
AHU #3	GYMNASIUM	7890	0.30 CFM PER SQ. FT.	(N/A) + (7890 X .06) = 2367 (PEOPLE / AREA / TOTAL)	1.0	2367/1.0 = 2367	←1183 CFM PER UNIT

*E_z (SYSTEM VENTILATION EFFICIENCY) AS PER 2012 NCMC TABLE 403.3.2.3.2

SUPPLY DIFFUSER SCHEDULE

1. (2) 3"ø VENT/INTAKE COMBUSTION AIR PIPES TO A CONCENTRIC VENT/INTAKE AIR TERMINATION KIT ON THE EXTERIOR WALL.
2. PROVIDE VOLUME CONTROL DAMPER AND BACKDRAFT DAMPER PROVIDED IN OUTSIDE AIR DUCT AT THIS LOCATION. AIR FLOW TOWARDS AHU.
3. RETURN AIR DUCT PLENUM SHALL BE FULL SIZE OF AHU RETURN AIR OPENING.

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.

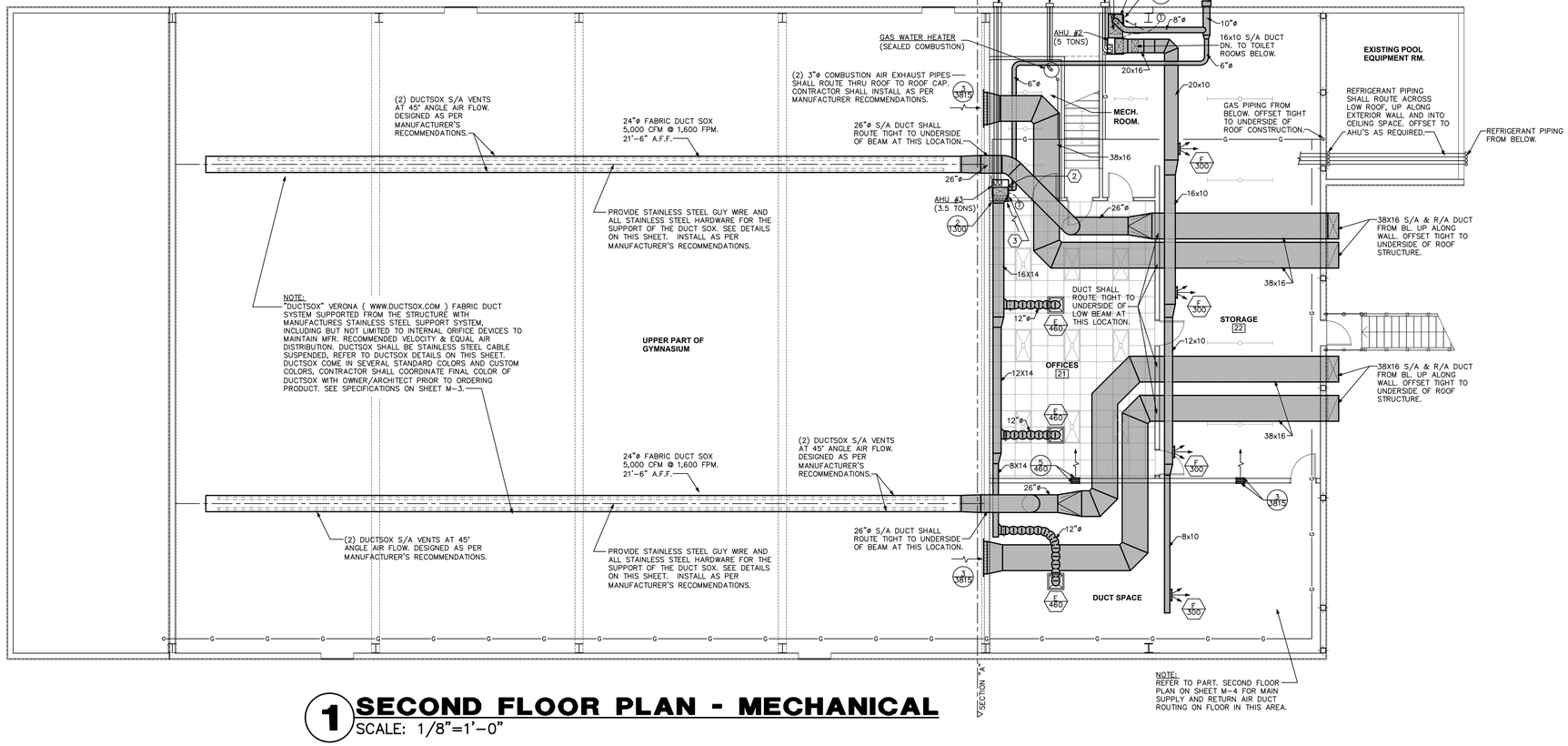
LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
A	TITUS TDC-AA	6"ø	0 - 125	12X12 LOUVERED FACE
B	TITUS TDC-AA	6"ø	0 - 125	24X24 LOUVERED FACE
C	TITUS TDC-AA	8"ø	130 - 200	24X24 LOUVERED FACE
D	TITUS TDC-AA	10"ø	205 - 325	24X24 LOUVERED FACE
E	TITUS TDC-AA	12"ø	330 - 475	24X24 LOUVERED FACE
F	TITUS 300RL	14X6	205 - 300	SIDEWALL REGISTER

RETURN GRILLE SCHEDULE

/ 100 — DESIGNATES LABEL FOR GRILLE TYPE; DESIGNATES CFM QUANTITY FOR GRILLE

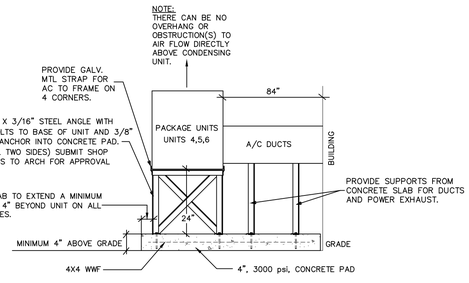
FILTER SHALL BE PROVIDED AT UNIT.

LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
1	TITUS 355FL	10X10	0 - 400	LOUVER FACE
2	TITUS 355FL	24X24	1205 - 1450	LOUVER FACE
3	TITUS 50FF	24X48	2300 - 4000	EGGCRATE FACE
4	TITUS 50FF	14X18	0 - 1200	EGGCRATE FACE
5	TITUS 50FF	12X12	405 - 600	EGGCRATE FACE

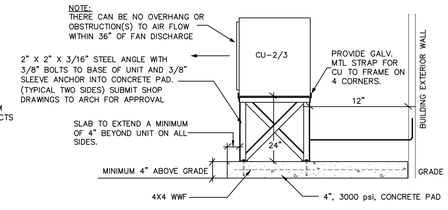


1 SECOND FLOOR PLAN - MECHANICAL
SCALE: 1/8"=1'-0"

M2

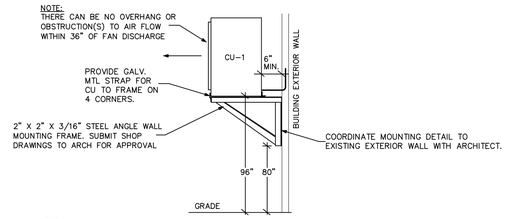


1 A/C MOUNTING DETAIL
NO SCALE



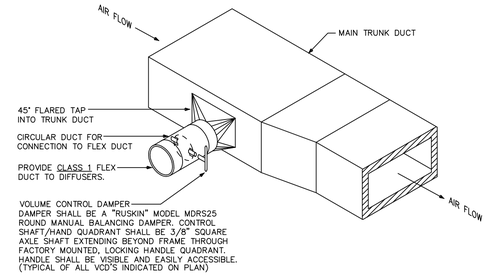
2 COND. UNIT MTG. DTL.
NO SCALE

NOTE THIS DETAIL APPLIES TO CU-2 AND CU-3 ONLY.



2 COND. UNIT MTG. DTL.
NO SCALE

NOTE THIS DETAIL APPLIES TO CU-1 ONLY.



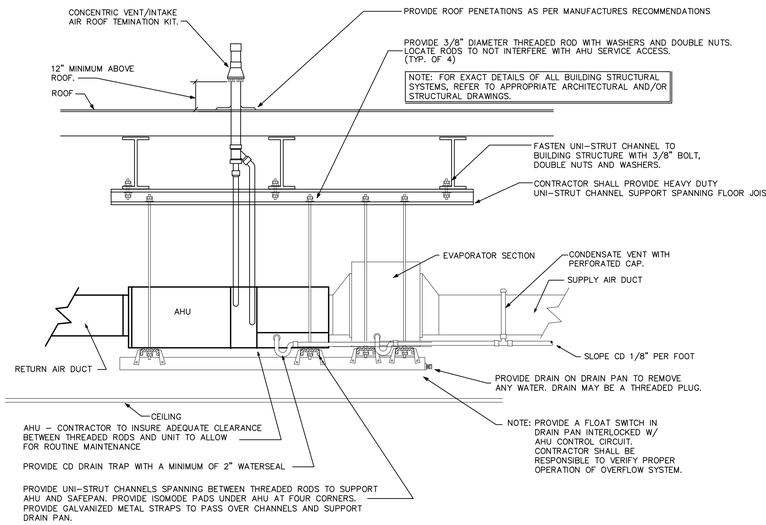
3 BRANCH DUCT DETAIL
NO SCALE

GENERAL GAS PIPING 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. EXTERIOR GAS PIPING ON ROOF SHALL BE PAINTED WITH YELLOW "RUSTOLEUM" PAINT. EXPOSED GAS PIPING ON BACK WALL SHALL BE "RUSTOLEUM", PAINTED TO MATCH BUILDING. GAS PIPING CONNECTIONS SHALL BE THREADED UNLESS OTHERWISE REQUIRED BY CODE.
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.
7. ALL EXPOSED GAS PIPING SHALL BE IDENTIFIED BY A YELLOW LABEL MARKED "GAS" IN BLACK LETTERS. THE MARKERS SHALL BE AT INTERVALS NOT EXCEEDING 5'.
8. ALL GAS BURNING EQUIPMENT SHALL BE INSTALLED PER NFPA #58, NFPA #54 (L.P.G.) OR NFPA #96 (COMMERCIAL COOKING EQUIPMENT).
9. GAS PIPE SIZES 2-1/2" AND GREATER SHALL BE WELDED, IF REQUIRED BY CODE.
10. GAS CONNECTIONS PER ANSI Z21.69

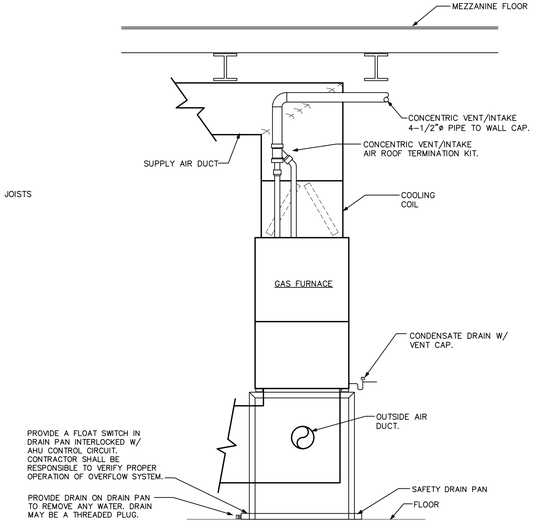
GENERAL MECHANICAL NOTES

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 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 OWNER WITH ONE SET OF "AS-BUILT" DRAWINGS UPON COMPLETION OF THIS PROJECT. CONTRACTOR SHALL ALSO LEAVE FOR ONE AT LEAST ONE SET OF THE MANUFACTURER'S INSTALLATION AND OPERATIONS MANUALS FOR ALL EQUIPMENT PROVIDED ON THE PROJECT.
5. ALL PROVIDED MATERIALS SHALL BE NEW OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER BY SKILLED WORKMAN.
6. CONTRACTOR SHALL SUBMIT, FOR APPROVAL FIVE [5] COPIES OF MANUFACTURER'S DRAWINGS FOR EACH PIECE OF EQUIPMENT AND CONTROLS INCLUDED IN CONTRACT. IT IS STRONGLY PREFERRED THAT THE SUBMITTALS BE MADE IN THE FORM OF AN ELECTRONIC SUBMITTAL IN A PDF TYPE FORMAT.
7. ALL SUPPLY AND RETURN AIR DUCTWORK SHALL BE GALVANIZED SHEET STEEL EXTERNALLY WRAPPED WITH WITH A MIN. OF R5 INSULATION OR R8 IF DUCTWORK IS LOCATED EXTERIOR TO BLDG INSULATION ENVELOPE. ALL FLEX DUCT SHALL BE "THERMOFLEX" WITH A MINIMUM 4.2 R VALUE. OR APPROVED EQUAL AND SHALL HAVE EQUIVALENT INSULATION.
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 THERMOSTAT. * CONTRACTOR SHALL FULLY INSTRUCT OWNER ON HOW TO PROPERLY PROGRAM INSTALLED THERMOSTATS. * PROGRAMMABLE THERMOSTAT SHALL BE BY MANUFACTURER OF INSTALLED AIR HANDLING UNIT. IT IS RECOMMENDED THAT DURING OCCUPIED HOURS, THE FANS BE SET TO "ON" IN LIEU OF "AUTO". * THERMOSTATS SHALL BE MOUNTED A MAX. OF 48" A.F.F.
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. SPLIT SYSTEMS (IF APPLICABLE) SHALL HAVE A MINIMUM OF 1-1/2" ARMAFLEX INSULATION (OR APPROVED EQUAL) USED FOR SUCTION LINES. INSTALLATION SHALL BE AS PER MANUFACTURERS INSTRUCTIONS. PRE-INSULATED LINES SETS ARE ACCEPTABLE.
14. ALL BRANCH TAKE-OFFS TO BE PROVIDED W/MANUAL VOLUME DAMPERS AND TAPS AS PER PLANS REQUIREMENTS.
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 RETURN AIR DUCTS FOR FANS AND AHU'S SERVING A COMMON DESIGN SUPPLY OR RETURN PLENUM OF ABOVE 2000 CFM. 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. HVAC CONTRACTOR SHALL PROVIDE A 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.
18. THERMOSTAT LOCATION SHALL BE APPROVED BY OWNER BEFORE INSTALLATION.
19. ALL INSULATION SHALL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
20. 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.
21. CONTRACTOR SHALL INSTALL ALL OUTDOOR EQUIPMENT TO WITHSTAND WIND LOADING FORCES AS REQUIRED BY LOCAL CODES. REFER TO STRUCTURAL PLANS BY OTHERS FOR STRUCTURAL DETAILS.
22. PROVIDE ALL NECESSARY CONTACTORS, RELAYS, ETC., FOR A COMPLETE OPERATING SYSTEM.
23. 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.
24. NOTWITHSTANDING ANY OTHER PROVISIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR BEARS ULTIMATE RESPONSIBILITY FOR COMPLIANCE OF THE INSTALLATION WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
25. 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.



(AHU #1)

4 AIR HANDLING UNIT MOUNTING DETAIL
NO SCALE



(AHU #2 & 3)

5 AHU MOUNTING DETAIL
NO SCALE

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: 810,000 BTU
Building Cooling Load: 532,140 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:
To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of IECC (International Energy Conservation Code) 2012.

SIGNED:
NAME: TODD W. CAREY
TITLE: ENGINEER

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 - 4	CABINET FAN - REFER TO PLANS	PENN ZEPHYR Z6	90	.125"	CEILING MOUNTED	50 WATTS	OPEN DRIP PROOF	1055	115V/1ø	1
EF-5 & 6	CABINET FAN - REFER TO PLANS	PENN ZEPHYR Z7	190	.125"	CEILING MOUNTED	68 WATTS	OPEN DRIP PROOF	1640	115V/1ø	1

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

GAS FURNACE W/SPLIT SYSTEM AIR CONDITIONING SYSTEM SCHEDULE

CONDENSING UNIT									EVAPORATOR COIL UNIT	GAS FURNACE									
CU LABEL(S)	MANUFACTURER & MODEL NO.	TOTAL CAPACITY	SENSIBLE CAPACITY	UNIT WEIGHT	COMP. RLA	FAN FLA	VOLTAGE	MOCP	EER/SEER	MANUFACTURER & MODEL NO.	AHU LABEL(S)	MANUFACTURER & MODEL NO.	TOTAL CFM	E.S.P.	BLOWER SPEED	FAN HP	VOLTAGE	INPUT BTUH	OUTPUT BTUH	FLUE SIZE	NOTES
CU #1	CARRIER 24AHA460A005	57,200	42,970	275 LBS.	15.9	1.45	208V/3ø	35A	14.0	CARRIER CNPHP6124ALA (HORIZONTAL COIL)	AHU #1	CARRIER 59TP6A120E24--22	2,000	.40"	HIGH	1	120V/1ø	120,000	117,000	(2)Ø3"ø	1 THRU 4
CU #2	CARRIER 24AHA460A005	57,200	42,970	275 LBS.	15.9	1.45	208V/3ø	35A	14.0	CARRIER CNPVP6124ALA (VERTICAL COIL)	AHU #2	CARRIER 59TP6A120E24--22	2,000	.40"	HIGH	1	120V/1ø	120,000	112,000	(2)Ø3"ø	1 THRU 4
CU #3	CARRIER 24AHA448A005	45,190	33,990	243 LBS.	13.7	1.2	208V/3ø	30A	14.0	CARRIER CNPVP4821ALA (VERTICAL COIL)	AHU #3	CARRIER 59SP5A080E21--20	1,380	.40"	HIGH	1	120V/1ø	80,000	78,000	(2)Ø3"ø	1 THRU 4

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.

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) 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 A 2-PIPE SYSTEM AND SHALL BE PROVIDED WITH CONCENTRIC VENT/INTAKE AIR ROOF TERMINATION KIT.

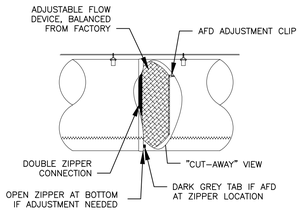
PACKAGE UNIT W/GAS HEAT SCHEDULE

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	UNIT WEIGHT
A/C #4	CARRIER	48TCEA07A2A5-0A0A0	75,210	58,110	2,400	SEE SCH.	.7"	1402	19.0	1.5	3.0	93,000	208V/3ø	50	11.0	1 THRU 12	115,000	896 LBS.
A/C #5,6	CARRIER	48TCFD14A3A5-0A0A0	148,670	105,370	5,000	SEE SCH.	.9"	1147	(1)Ø19.0 (1)Ø22.4	6.2	5.0	205,000	208V/3ø	80	10.8	1 THRU 12	250,000	1525 LBS.

GENERAL NOTES:
- * ALL RATINGS ARE AT ARI ENTERING CONDITIONS UNLESS OTHERWISE NOTED.
- * 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.

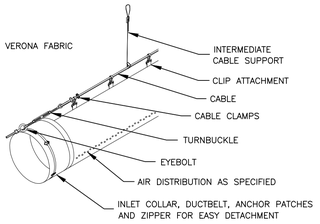
ABBREVIATION LEGEND:
- **O/A** - OUTSIDE AIR
- **HP** - HORSE POWER
- **RLA** - RUNNING LOAD AMPS
- **FLA** - FULL LOAD AMPS
- **MOCP** - MAX. OVERCURRENT PROTECTION (DUAL ELEMENT TYPE FUSE)
- **E.S.P.** - EXTERNAL STATIC PRESSURE
- **EER** - ENERGY EFFICIENCY RATIO
- **SEER** - SEASONAL ENERGY EFF.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

SPECIFIC NOTES:
1) FACTORY ROOF CURB WITH THRU THE CURB SERVICE CONNECTION.
2) UNIT PROVIDED POWER EXHAUSTER AND FACTORY INSTALLED ECONOMIZER. REFER TO NOTES ON PLAN.
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.
12) UNIT SHALL BE PROVIDED WITH FACTORY INSTALLED ECONOMIZER. MOTORIZED OUTSIDE AIR DAMPER SHALL AUTOMATICALLY SHUT WHEN THE SYSTEMS OR SPACES SERVED ARE NOT IN USE. VENTILATION OUTSIDE AIR DAMPERS SHALL BE CAPABLE OF AUTOMATICALLY SHUTTING OFF DURING PRECOCCUPANCY BUILDING WARMUP, COOLDOWN, AND SETBACK.



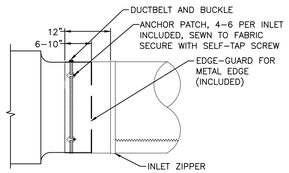
ADJUSTABLE FLOW DEVICE (AFD)

INSTALLED AT ZIPPER LOCATION AT INLET OR AS SPECIFIED IN OTHER LOCAITONS. ZIPPER TO ZIPPER CONNECTION AS SHOWN. EXTERNAL LABEL IDENTIFIES LOCATION



SUSPENSION DETAIL

1 ROW CABLE SUSPENSION AT 12 O'CLOCK



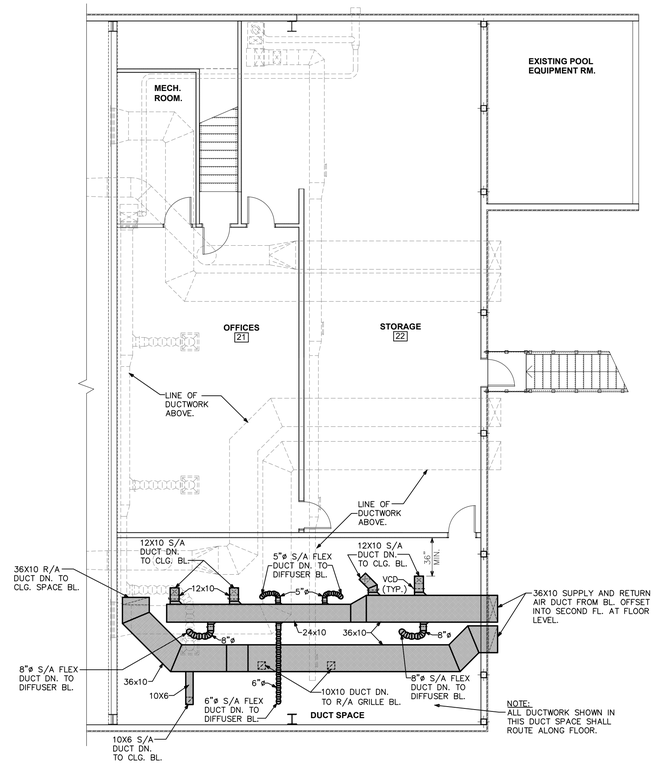
INLET ATTACHMENT DETAIL

VERONA TYPE WITH ZIPPER AND OVERLAP

* INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS AT: http://www.ductsox.com

2 DUCTSOX MOUNTING DETAILS

NO SCALE



1 PART. SECOND FLOOR PLAN - MECHANICAL

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

VERONA DUCTSOX SPECIFICATIONS

PART 1-GENERAL
1.01 DESCRIPTION OF WORK:
A. Extent of non-metal ductwork is indicated on drawings and by requirements of this section.
B. Types of non-metal ductwork required for this project include the following:
1. Fabric Air Dispersion Products.

1.02 QUALITY ASSURANCE:
A. Building Codes and Standards:
1. Product must be Classified by Underwriters Laboratories in accordance with the 25/50 flame spread / smoke developed requirements of NFPA 90-A and are also classified in accordance with ICC Evaluation Service AC167 and UL 2518. Product must meet UL-C (Canada), BS 5867, part 2, 1980 and GB8624-2006 B-s1, d0, t1 level.
2. All product sections must be labeled with the logo and classification marking of Underwriters Laboratories.
B. Design & Quality Control
1. Manufacturer must have documented design support information including duct sizing, vent and orifice location, vent and orifice sizing, length, and suspension. Parameters for design, including maximum air temperature, velocity, pressure and fabric permeability, shall be considered and documented.

1.03 SUBMITTALS:
A. Product Data: Submit manufacturer s specifications on materials and manufactured products used for work of this section.
B. Building Code Data: Submit UL file number under which product is Classified by Underwriter?s Laboratories NFPA 90, ICC AC167 and UL 2518.

1.04 WARRANTY
A. Manufacturer must provide a 5 Year Product Warranty for products supplied for the fabric portion of this system as well as a Design and Performance Warranty.

1.05 DELIVERY, STORAGE AND HANDLING:
A. Protect fabric air dispersion systems from damage during shipping, storage and handling.
B. Where possible, store products inside and protect from weather. Where necessary to store outside, store above grade and enclose with a vented waterproof wrapping.

PART 2 - PRODUCTS
2.01 MANUFACTURER:
Subject to compliance with requirements, choose one of the following:
A. DuctSox Corporation
Phone: (866) DUCTSOX or (563) 589-2777
FAX: (866) 398-1646 or (563) 589-2754
www.DuctSox.com

2.02 FABRIC AIR DISPERSION SYSTEM:
A. Verona Fabric: Air diffusers shall be constructed of a woven fire retardant fabric complying with the following physical characteristics:
1. Fabric Construction: 100% Flame Retardant
2. Weight: 6.2 oz. /yd2 per ASTM D3776
3. Color: (MUST SPECIFY- red, white, blue, green,gray, tan or black)
4. Fabric Porosity: 2 (+2,/-1) cfm/ft2 per ASTM D737, Frazier. Custom Porosity 6, 13 & 29 CFM cfm/ft2 available.
5. Temperature Range: 0 degrees F to 180 degrees F
6. Fire Retardancy: Classified by Underwriters Laboratories in accordance with the requirements of NFPA 90-A and AC-167 (noted above).

B. SYSTEMS FABRICATION REQUIREMENTS:
1. Air dispersion accomplished by linear vent and permeable fabric. Linear vents must be sized in 1 CFM per linear foot increments (based on .5SP), starting a 1 CFM through 90 CFM per linear foot. Linear vent is to consist of an array of open orifices rather than a mesh style vent to reduce maintenance requirements of mesh style vents. Linear vents should also be designed to minimize dusting on fabric surface.
2. Size of and location of linear vents to be specified and approved by manufacturer.
3. Inlet connection to metal duct via fabric draw band with anchor patches as supplied by manufacturer. Anchor patches to be secured to metal duct via zip screw fastener supplied by contractor.
4. Inlet connection includes zipper for easy removal / maintenance.
5. Lengths to include required zippers as specified by manufacturer.
6. System to include Adjustable Flow Devices to balance turbulence, airflow and distribution as needed. Flow restriction device shall include ability to adjust the airflow resistance from 0.06 to 0.60 in w.g. static pressure.
7. Fabric system shall include connectors to accommodate suspension system listed below.
8. Any deviation from a straight run shall be made using a gored elbow or an efficiency tee. Normal 90 degree elbows are 5 gores and the radius of the elbow is 1.5 times the diameter of the DuctSox.

C. DESIGN PARAMETERS:
1. Fabric air diffusers shall be designed from 0.25" water gage minimum to 3.0" maximum, with 0.5"as the standard.
2. Fabric air diffusers shall be limited to design temperatures between 0 degrees F and 180 degrees F (-17.8 degrees C and 82 degrees C).
3. Design CFM, static pressure and diffuser length shall be designed or approved by the manufacturer.
4. Do not use fabric diffusers in concealed locations.
5. Use fabric diffusers only for positive pressure air distribution components of the mechanical ventilation system.

D. SUSPENSION HARDWARE: (include applicable components only)
1. Tension Cable: System shall be installed using a tension cable system including a single (1 Row) or double strands (2 Row) of cable located 3"above top-dead-center (1 Row) or 3"above the 10 and 2 o'clock locations of the DuctSox system. 2 Row supports are required for systems of 32" diameter and larger. Hardware to include cable, eye bolts, thimbles, cable clamps and turnbuckle(s) as required. System attachment shall be made using nylon cable clips spaced 24 inches.

Component options include (must specify per area if multiple on same project):
a. Galvanized Steel Cable
b. Stainless Steel Cable
c. Plastic Coated Stainless Steel Cable
d. Adjustable Gripple Mid-Supports Available lengths: 5", 10", 15", 20"and 30"

2. 3x1 Suspension: (Available for duct diameters from 10"to 48") System shall include a 3 Row connection to fabric system at 10, 12, and 2 o clock locations. The powder-coated aluminum hangers are secured and connected to a single (1 Row) tension cable every 3'-0"and connect to the fabric system at the 10 and 2 o clock locations with detachable D-Clasps. The fabric system will also have intermediate cable clips located at 12 o clock and between the hangers to attach directly to the single tension cable system located 3"above top-dead-center location of the fabric system. Tension cable hardware to include cable, eye bolts, thimbles, cable clamps, and turnbuckles as required.

Component options include:
a. Galvanized Steel Cable
b. Stainless Steel Cable
c. Adjustable Gripple Mid-Supports Available lengths: 5", 10", 15", 20"and 30"

3. 4x2 Suspension: (Available for duct diameters from 50"to 60") System shall include a 4 Row connection to fabric system at 10, 11, 1 and 2 o clock locations. The powder-coated aluminum hangers are secured and connected to a double (2 Row) tension cable every 3'-0" and connect to the fabric system at the 10 and 2clock locations with detachable D-Clasps. The fabric system will also have intermediate cable clips located at 11 and 1 o clock and between the hangers to attach directly to the double tension cable system located 1"above top-dead-center location of the fabric system. Tension cable hardware to include cable, eye bolts, thimbles, cable clamps, and turnbuckles as required.

Component options include:
a. Galvanized Steel Cable
b. Stainless Steel Cable
c. Adjustable Gripple Mid-Supports Available lengths: 5", 10", 15", 20"and 30"

4. Suspended H-Track: System shall include a single (1 Row) or double (2 Row) runs of aluminum H-Track system located 1.5"above top-dead-center (1 Row) or 1.5"above the 10 and 2 o clock (2 Row) locations of DuctSox system. 2 Row supports are required for systems of 32"diameter and larger. Hardware to include 10"sections of track, splice connectors, track endcaps and vertical cable support kits consisting of a length of cable with a locking stud end and Gripple quick cable connectors. Radius aluminum track must be included for all radius sections.

Fabric / Track attachment
a. Cord In continuous supporting cord (not suggested for systems >24"Dia.)
b. Track tabs are a detachable tab positioned every 24"along the length of the system (all diameters).

Hardware components (optional)
a. Provide 316 Stainless Steel components including coupler assembly, vertical cable support and Gripple quick cable connector.

5. 3x1 H-Track Suspension: (Available for duct diameters from 10"to 48") System shall consist of a 3x1 hanger used in conjunction with an H-track suspension system. System shall include a 3 Row connection to fabric system at 10, 12, and 2 o clock locations. The powder-coated aluminum hangers are secured and connected to a single (1 Row) aluminum H-track every 3'-0"and connect to the fabric system at the 10 and 2 o clock locations with detachable D-Clasps. The fabric system will also have intermediate track tabs located at 12 o clock and between the hangers to attach directly to the H-track suspension system located 3"above top-dead-center location of the fabric system. Hardware to include Hardware to include 10" sections of track, splice connectors, track endcaps and vertical cable support kits consisting of a length of cable with a locking stud end and Gripple quick cable connectors. Radius aluminum track must be included for all radius sections.

6. 4x2 H-Track Suspension: (Available for duct diameters from 50"to 60") System shall consist of a 4x2 hanger used in conjunction with an H-track suspension system. System shall include a 4 Row connection to fabric system at 10, 11, 1, and 2 o clock locations. The powder-coated aluminum hangers are secured and connected to a double (2 Row) aluminum H-track every 3'-0"and connect to the fabric system at the 10 and 2 o clock locations with detachable D-Clasps. The fabric system will also have intermediate track tabs located at 11 and 1clock and between the hangers to attach directly to the H-track suspension system located 1.5"above top-dead-center location of the fabric system. Hardware to include Hardware to include 10" sections of track, splice connectors, track endcaps and vertical cable support kits consisting of a length of cable with a locking stud end and Gripple quick cable connectors. Radius aluminum track must be included for all radius sections.

7. Flush-Mount Track: System shall include aluminum Flush-Mount system located 1.5"above top-dead-center of DuctSox system. Hardware to include 12"section of track, track tabs, splice connections and end caps as required. Track tabs must promote easy sliding movement through aluminum track and must be detachable from the fabric. Radius aluminum track for support of the elbows through the corners using either Track tabs or Cord-In.

Fabric / Track attachment
a. Cord In continuous supporting cord (not suggested for systems >24"Dia.)
b. Track tabs are a detachable sliding tab positioned every 24" along the length of the system (all diameters).

8. Surface Mount: System shall include aluminum Flush-Mount system located flush with the top of DuctSox system. Width between mounting points (of the track to the ceiling) shall be 2"wider than the specified diameter of the D-Shape DuctSox. Hardware to include 12" of track, splice connections and end caps as required. System attachment shall be made by cord sewn into top side flaps of DuctSox system supported entire length.

****END OF SECTION****

PART 3 - INSTALLATION
3.01 INSTALLATION OF FABRIC AIR DISPERSION SYSTEM:
A. Install chosen suspension system in accordance with the requirements of the manufacturer. Instructions for installation shall be provided by the manufacturer with product.

3.02 CLEANING AND PROTECTION:
A. Clean air handling unit and ductwork prior to the DuctSox system unit-by-unit as it is installed. Clean external surfaces of foreign substance which may cause corrosive deterioration of facing.
B. Temporary Closure: At ends of ducts which are not connected to equipment or distribution devices at time of ductwork installation, cover with polyethylene film or other covering which will keep the system clean until installation is completed.
C. If DuctSox systems become soiled during installation, they should be removed and cleaned following the manufacturers standard terms of laundry.

****END OF SECTION****

M4

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		

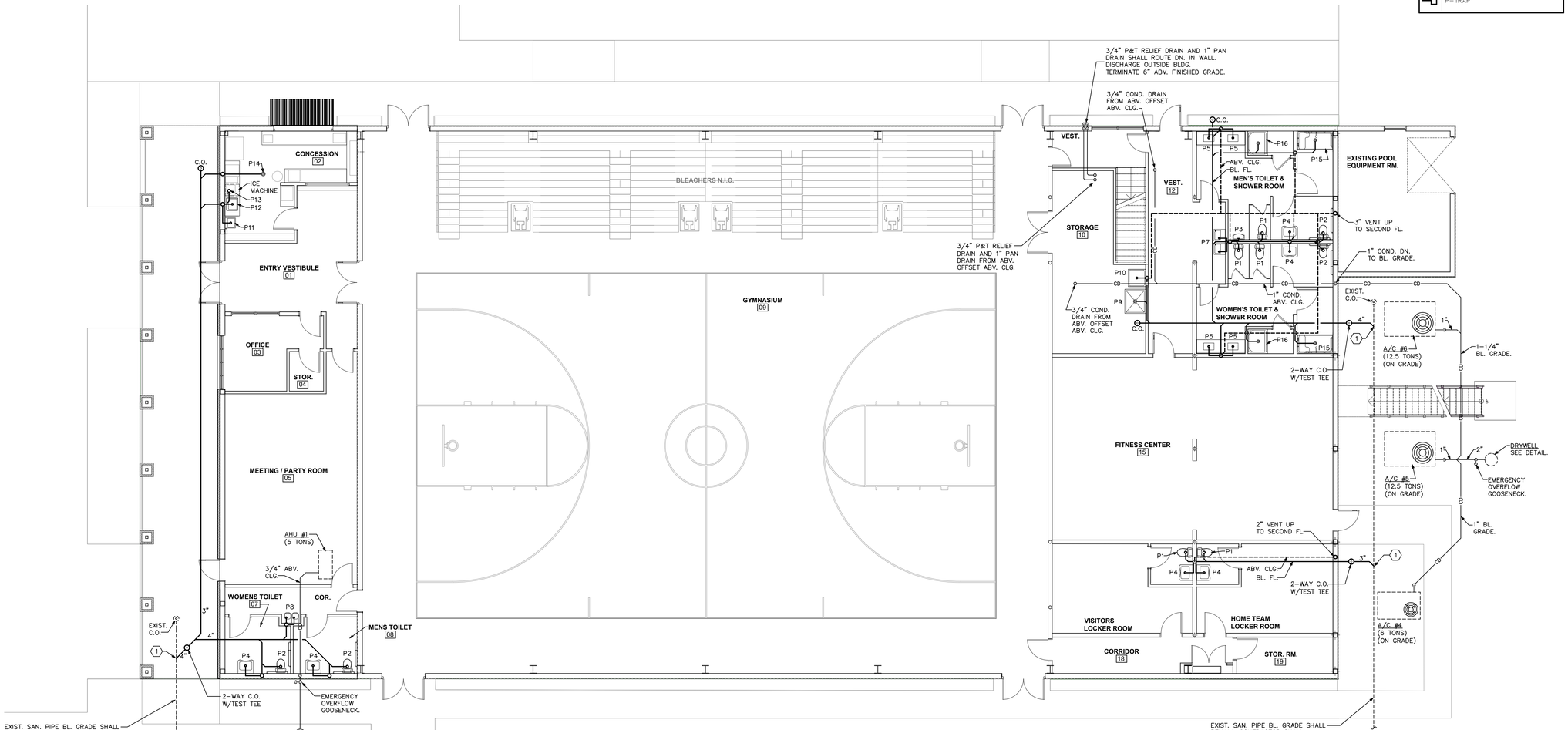
SPECIFIC PLUMBING NOTES

(1) CONNECT TO EXISTING SANITARY PIPING BELOW GRADE IN THIS AREA. CONTRACTOR SHALL VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION.

NOTE THIS IS AN EXISTING FACILITY WHICH HAS EXISTING SANITARY AND WATER DISTRIBUTION SYSTEMS. ALTERATIONS TO EXISTING WORK BEING OF SUCH NATURE THAT ALL FACETS OF THE WORK ARE IMPOSSIBLE TO DETAIL AND SPECIFY, IT IS THEREFORE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE EXISTING BUILDING AND FAMILIARIZE HIMSELF WITH THE CONDITIONS AND RELATE THESE CONDITIONS TO THE SCOPE OF THE PROPOSED NEW WORK. ALL BIDS ARE EXPECTED TO ENCOMPASS THE TOTAL WORK SCOPE NEEDED TO PLACE THE COMPLETED SYSTEM IN WORKING CONDITION.

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

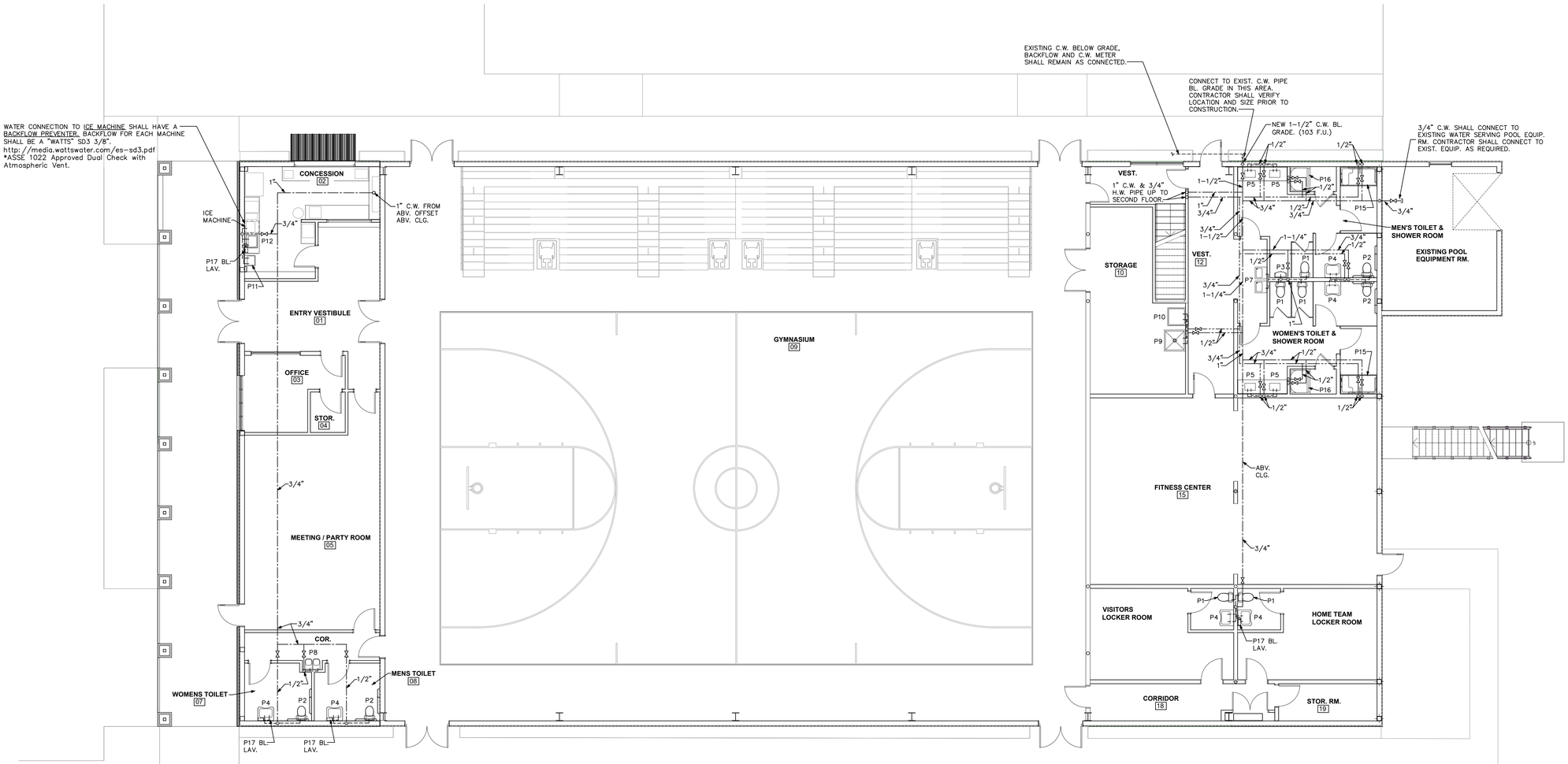


(SANITARY PIPING)

1 FIRST FLOOR PLAN - PLUMBING

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

P1

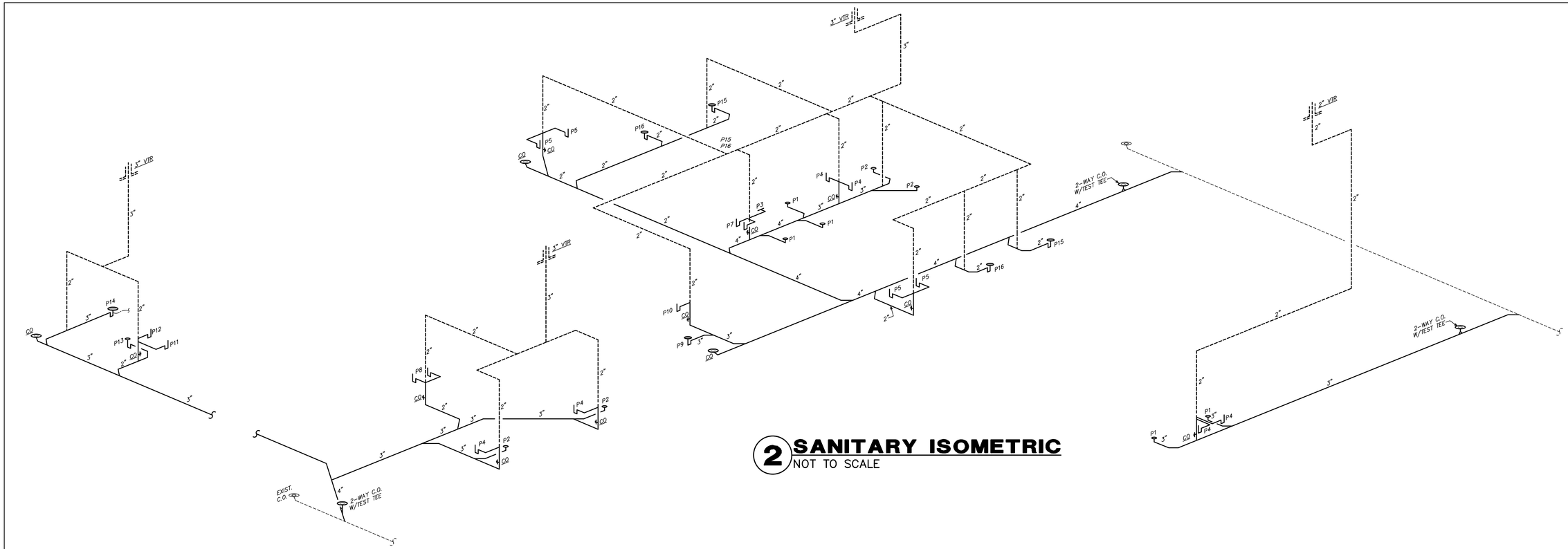


(WATER PIPING)

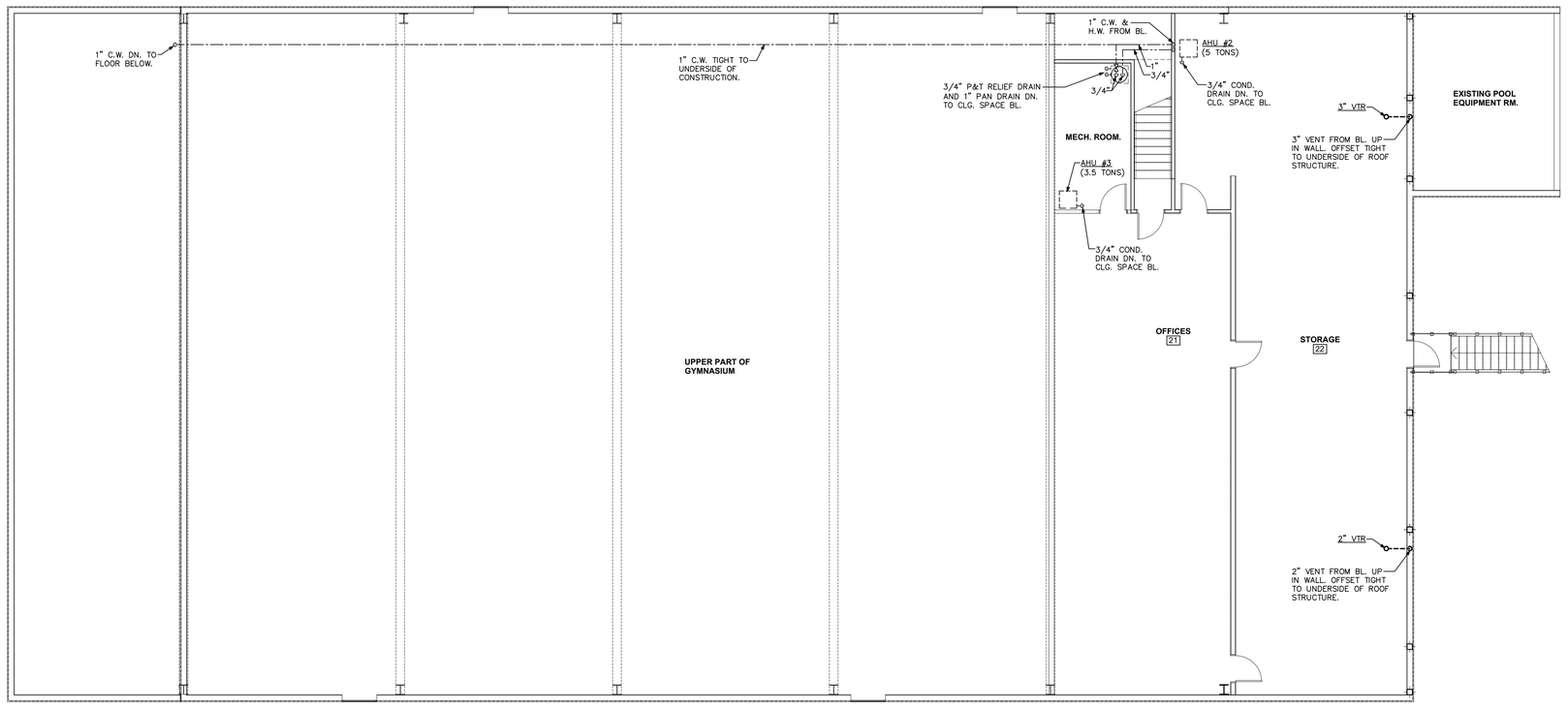
1 FIRST FLOOR PLAN - PLUMBING

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

P2



2 SANITARY ISOMETRIC
NOT TO SCALE



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

P3

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. CONTRACTOR IS RESPONSIBLE TO INSTALL ALL FIXTURES AND EQUIPMENT IN STRICT COMPLIANCE WITH THE MANUFACTURES INSTALLATION INSTRUCTIONS. THIS REQUIREMENT IS TO SUPERSEDE ANY DETAILS OR INFORMATION CONTAINED ON THESE DRAWINGS.

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.) ALL BELOW FLOOR SLAB WATER PIPING SHALL BE FLEXIBLE "TEMPRITE PEX (CROSS-LINKED POLYETHYLENE)" INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS FOUND HERE: WWW.LUBRIZOL.COM. ALL ABOVE SLAB WATER PIPING SHALL BE "FLOWGUARD GOLD CPVC" INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS FOUND HERE: WWW.FLOWGUARDGOLD.COM. ALL WATER PIPING AS SPECIFIED OR APPROVED EQUAL. ALL 2" WATER PIPING SHALL BE TYPE "L" COPPER AND TYPE "K" COPPER FOR 2 1/2" AND LARGER. (OR APPROVED EQUAL)

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 WATER HAMMER ARRESTORS AT EACH GROUP OF FIXTURES. INSTALLATION OF WATER HAMMER ARRESTORS SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE AND INSTALL AN APPROVED WATER HAMMER ARRESTOR AT EACH FIXTURE OR DEVICE THAT HAS A SOLENOID WATER CONTROL VALVE.

16.) PROVIDE CHROME PLATED COMBINATION COVERED PLATE AND CLEANOUT PLUG FOR ALL WALL CLEANOUTS, JOSAM 58890.

17.) INSULATE LINES AS FOLLOWS:

A.) 1-1/2" THICK ARMAFLEX PREFORMED INSULATION SHALL BE PROVIDED ON BOTH C.W. & H.W. WHEN PIPING IS LOCATED OUTSIDE OF THE INSULATED BUILDING ENVELOPE.

B.) 1-1/2" THICK ARMAFLEX PREFORMED INSULATION SHALL BE PROVIDED ON HW PIPING & H.W. RECIRC. PIPING, ONLY WHEN THERE IS A H.W. RECIRCULATING PIPING SYSTEM.

C.) CONDENSATE PIPING: 1/2" THICK ARMAFLEX PREFORMED OR APPROVED EQUAL.

PLUMBING FIXTURE SCHEDULE

P-1 (FLOOR MOUNTED FLUSH TANK WATER CLOSET)
SHALL BE AN AMERICAN STANDARD MODEL 270CA.001 CADET 3 ELONGATED 1.6 GPF TOILET, VITREOUS CHINA, CADET FLUSHING SYSTEM, TANK TYPE, FLOOR MOUNTED, FLOOR OUTLET, WITH AMERICAN STANDARD OPEN FRONT HEAVY-DUTY COMMERCIAL SEAT MODEL 5901.100.

WATER CLOSET: https://goo.gl/rZTofA	TOILET SEAT: https://goo.gl/I2Oeyk

P-2 (HANDICAPPED FLOOR MOUNTED FLUSH TANK WATER CLOSET)
SHALL BE AN AMERICAN STANDARD MODEL 270AA.001 CADET 3 RIGHT HEIGHT ELONGATED 1.6 GPF TOILET, VITREOUS CHINA, CADET FLUSHING SYSTEM, TANK TYPE, FLOOR MOUNTED, FLOOR OUTLET, WITH AMERICAN STANDARD OPEN FRONT HEAVY-DUTY COMMERCIAL SEAT MODEL 5901.100.
* TOILET LEVER HANDLE SHALL BE LOCATED ON ACCESSIBLE SIDE OF TOILET.

WATER CLOSET: https://goo.gl/kP4ISI	TOILET SEAT: https://goo.gl/I2Oeyk

P-3 (HANDICAPPED URINAL AND FLUSH VALVE)
SHALL BE AN AMERICAN STANDARD WASHBROOK MODEL 6501.511 3/4" TOP SPUD. 0.125 TO 1.0 GPF. URINAL INCLUDES AMERICAN STANDARD MANUAL FLUSH VALVE MODEL 6590.001 3/4" TOP SPUD.

URINAL & VALVE: https://goo.gl/yIaTAf	

P-4 (HANDICAPPED WALL HUNG LAVATORY)
SHALL BE AN AMERICAN STANDARD REGALYN LAVATORY MODEL 4869.004 (CENTER HOLE ONLY), VITREOUS CHINA, WALL MOUNT WITH CONCEALED ARMS SUPPORT. FAUCET SHALL BE A "CHICAGO" MODEL 333-665PRABCP METERING FAUCET. UNIT IS ADA COMPLIANT, ADJUSTABLE RUN TIME FROM 2 TO 15 SECONDS, OPENS WITH PUSH, 0.20 MAX GALLON/CYCLE . WATER PIPING AND P-TRAP SHALL BE COVERED WITH AN UNDER-SINK PROTECTIVE PIPE COVER KIT BY TRUEBRO (HTTP://WWW.TRUEBRO.COM) OR APPROVED EQUAL.

LAVATORY: https://goo.gl/LLwx4I	FAUCET: https://goo.gl/69DjOw

P-5 (HANDICAPPED COUNTER TOP LAVATORY)
SHALL BE AN AMERICAN STANDARD MODEL RONALYN MODEL 0491.019 VITREOUS CHINA SELF-RIMMING, FAUCET SHALL BE A "CHICAGO" MODEL 333-665PRABCP METERING FAUCET. UNIT IS ADA COMPLIANT, ADJUSTABLE RUN TIME FROM 2 TO 15 SECONDS, OPENS WITH PUSH, 0.20 MAX GALLON/CYCLE . WATER PIPING AND P-TRAP SHALL BE COVERED WITH AN UNDER-SINK PROTECTIVE PIPE COVER KIT BY TRUEBRO (HTTP://WWW.TRUEBRO.COM) OR APPROVED EQUAL.

LAVATORY: https://goo.gl/S5bYhx	FAUCET: https://goo.gl/69DjOw

P-6 (WALL HUNG LAVATORY)
SHALL BE AN AMERICAN STANDARD REGALYN LAVATORY MODEL 4869.004 (CENTER HOLE ONLY), VITREOUS CHINA, WALL MOUNT WITH CONCEALED ARMS SUPPORT. FAUCET SHALL BE A "CHICAGO" MODEL 333-665PRABCP METERING FAUCET. UNIT IS ADA COMPLIANT, ADJUSTABLE RUN TIME FROM 2 TO 15 SECONDS, OPENS WITH PUSH, 0.20 MAX GALLON/CYCLE.

LAVATORY: https://goo.gl/LLwx4I	FAUCET: https://goo.gl/69DjOw

P-7 (HANDICAPPED HI/LO ELECTRIC WATER COOLER COMBINATION & WALL BRACKET)
SHALL BE AN "OASIS" MODEL PGF8ACSL, SPLIT LEVEL TWO STATION WATER COOLER WITH BARRIER FREE ACCESS. BI-LEVEL VERSACOOLER® III WITH VERSAFILTER. 8.0 GPM, 4.4 FLA, 115V/1ø

WATER COOLER: https://goo.gl/xbN9q3	

P-8 (HANDICAPPED HI/LO ELECTRIC WATER COOLER COMB. W/BOTTLE FILLER & WALL BRACKET)
SHALL BE AN "OASIS" MODEL PGF8EBFSL, SPLIT LEVEL TWO STATION WATER COOLER WITH BARRIER FREE ACCESS. UNIVERSAL BARRIER-FREE VERSACOOLER II WITH VERSAFILTER & HANDS FREE VERSAFILLER. 8.0 GPM, 4.4 FLA, 115V/1ø

WATER COOLER: https://goo.gl/Oc0WmF	

P-9 (FLOOR MOUNTED UTILITY SINK)
SHALL BE A FLORESTONE #50 36X36X6" MOLDED MOP BASIN WITH 3" OUTLET. PROVIDE WITH MR-371 THREADED FAUCET WITH WALL BRACE, PAIL HOOK AND APPROVED VACUUM BREAKER, MR-370 HOSE & HOSE BRACKET, MR-372 MOP HANGER, MR-373 BUMBER GUARDS AND MR-377 STAINLESS TEEL WALL GUARD.

SINK: https://goo.gl/NNh75Y	FAUCET/ACCESSORIES: https://goo.gl/IwcWM7

P-10 (WALL MOUNT UTILITY SINK)
SHALL BE AN "AMERICAN STANDARD" LAKEWELL SERVICE SINK MODEL 7692.008, ENAMELED CAST IRON AND RIM GUARD. FAUCET SHALL BE AN "AMERICAN STANDARD" MODEL 8351.076 EXPOSED YOKE WALL-MOUNT UTILITY FAUCET W/VACUUM BREAKER

SINK: https://goo.gl/79UiJt	FAUCET: https://goo.gl/TMfzmq

P-11 (STAINLESS STEEL WALL HUNG HAND SINK)
SHALL BE A "JUST" MODEL A-544-912-T WALL HUNG STAINLESS STEEL HAND SINK. FABRICATED OF 20 GAUGE TYPE 304 STAINLESS STEEL. EXPOSED SURFACES POLISHED WITH A HAND-BLENDED JUST FINISH. INTEGRAL SUPPORT BRACKET AT REAR. INCLUDES ONE 14 GAUGE STAINLESS STEEL WALL CLIP. FAUCET SHALL BE A "JUST" MODEL A-544-912.

SINK & FAUCET: https://goo.gl/1F6k5d	

P-12 (STAINLESS STEEL SINK W/FAUCET)
SHALL BE A "JUST" MODEL SLF-2125-A-GR, 21"X25"X8", SINGLE BOWL, STAINLESS STEEL. (3) HOLES ON 4" CENTERS. SELF-RIMMING TOP MOUNT GRIP-RIM PLUS WITH STAINLESS STEEL MOUNTING CHANNELS. FAUCET SHALL BE A "JUST" MODEL J-1174-KS WITH 4" WRIST BLADE HANDLES.

SINK: https://goo.gl/sDDnnM	FAUCET: https://goo.gl/hgV6fh

P-13 (HUB DRAIN - INDIRECT WASTE FUNNEL)
SHALL BE A "ZURN" Z326, 2" PIPE CONNECTION, DURA-COATED CAST IRON BODY AND BOTTOM OUTLET. CONTRACTOR SHALL VERIFY FINAL HEIGHT OF FUNNEL WITH EQUIPMENT THAT IS UTILIZING FUNNEL DRAIN AND VERIFY PROPER CLEARANCE PRIOR TO CONSTRUCTION. COORDINATE WITH EQUIPMENT MANUFACTURER.

DRAIN: https://goo.gl/fA5eeA	

P-14 (FLOOR DRAIN WITH TRAP PRIMER)
SHALL BE A JOSAM 30003-A-50 SERIES COATED CAST IRON FLOOR DRAIN WITH 1/2" TRAP PRIMER. 3"ø PIPE CONNECTION, 6"ø DRAIN TOP, STRAINER TYPE 6A. TWO-PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEJLOC INVERTIBLE NON-PUNCTURING FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET AND ADJUSTABLE SATIN NIKALOY ROUND SUPER-FLO STRAINER.

DRAIN: https://goo.gl/OG5lIy	

P-15 (HANDICAPPED SHOWER STALL AND MIXING VALVE)
SHOWER STALL SHALL BE A "FLOORSTONE" MODEL 3 PC 35-62H. (O.D. = 62" X 34" X 80"). ONE-PIECE GEL-COATED FIBERGLASS SHOWER STALL DESIGNED FOR BARRIER-FREE USE AS MANUFACTURED BY FLORESTONE PRODUCTS COMPANY. BASIC SHOWER WILL CONFORM TO ANSI-Z-124.2 AND THE ACCESSORIZED MODULE TO ANSI-A-117.1. UNIT TO INCLUDE STAINLESS STEEL CURTAIN ROD; SYMMONS®PRESSURE BALANCE MIXING VALVE WITH CONCEALED CHECK STOPS; MOEN®HAND-HELD SHOWER HEAD WITH HOSE AND STAINLESS STEEL SLIDE BAR/GRAB BAR; STAINLESS STEEL CORNER GRAB BAR; STAINLESS STEEL RECESSED SOAP DISH; WHITE NAUGAHYDE FOLDING WHEELCHAIR TRANSFER SEAT.

SHOWER, MIXING VALVE & HEAD: https://goo.gl/2yVnAM	

P-16 (NON-HANDICAPPED SHOWER STALL AND MIXING VALVE)
SHOWER STALL SHALL BE A "FLOORSTONE" MODEL 3 PC 35-62H. (O.D. = 42" X 35" X 73"). ONE PIECE SHOWER UNIT MODEL 42-3W AS MANUFACTURED BY FLORESTONE PRODUCTS COMPANY. UNIT TO BE MANUFACTURED OF GEL-COATED FIBERGLASS. SHOWER HEAD AND MIXING VALVE SHALL BE A SPEAKMAN MODEL #SM-5010. SPEAKMAN SENTINELPRO CONCEALED ANTI-SCALD THERMOSTATIC/PRESSURE BALANCED SHOWER VALVE COMBINATION. CHROME PLATED BRASS WALL PLATE WITH METAL INDEX. CHROME PLATED METAL LEVER HANDLE. ADJUSTABLE TEMPERATURE LIMIT STOP (TLS) FACTORY SET @ 110 F°. BRASS BODY WITH INTEGRAL SPRING CHECK STOPS. DUAL ELEMENT THERMOSTATIC/PRESSURE BALANCING CARTRIDGE.

SHOWER STALL: https://goo.gl/OU2yhQ	MIXING VALVE: https://goo.gl/9Y5GtB

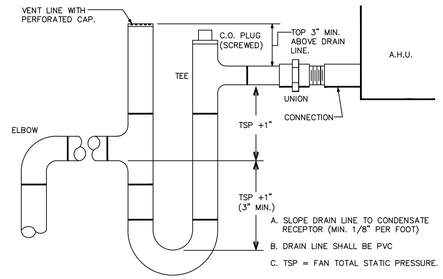
P-17 (INSTA-HOT WATER HEATER BELOW LAVATORY)
WATER HEATER SHALL BE A "CHRONOMITE" MODEL SR-20L/208 , 4.1 KW TANKLESS WATER HEATER @ 208V/1ø, 20 AMPS.
* http://www.chronomite.com/uploads/fileLibrary/InstantFlowSRLowFlow-IFSRLF.PDF

WATER HEATER: https://goo.gl/4uOlsc	

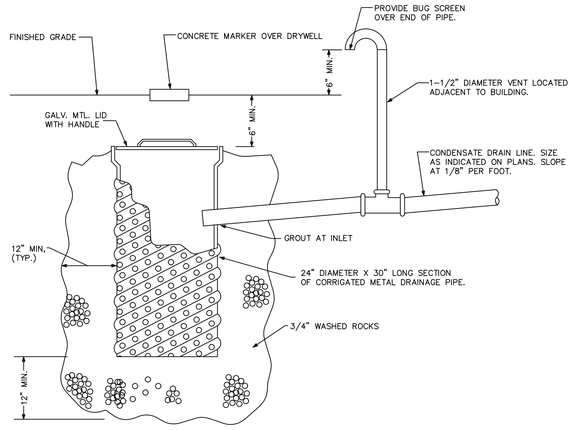
P-18 (GAS WATER HEATER - DIRECT VENT - SEALED COMBUSTION)
SHALL BE A STATE "ULTRA FORCE" MODEL SUF60-120NE(A) GAS FIRED COMMERCIAL WATER HEATER. 120,000 BTU INPUT TO PRODUCE 138 GALLONS PER HOUR OF HOT WATER AT 100 DEGREE RISE. INSULATED GLASSLINED 60 GALLON STORAGE TANK. WATER HEATER SHALL MEET OR EXCEED ALL APPLICABLE SECTIONS OF ASHRAE SECTIONS 90-80A AND NAECA REQUIREMENTS FOR ENERGY CONSERVATION. * HEATER SHALL BE PROVIDED WITH OPTIONAL CONCENTRIC VENT KIT.

WATER HEATER: https://goo.gl/cgFv9d	

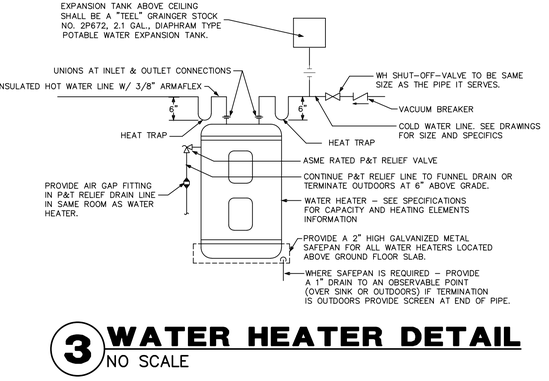
NOTES:
1.) ALL PLUMBING FIXTURES SHALL BE AS SPECIFIED OR APPROVED EQUAL.
2.) PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.



1 CONDENSATE P-TRAP DETAIL
NOT TO SCALE



2 DRYWELL DETAIL
NO SCALE



3 WATER HEATER DETAIL
NO SCALE

P-4

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, MTD +47"		SPECIAL OUTLET – AS REQUIRED
$3	THREE–WAY SWITCH, MTD +47"	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, MTD +47"		EMERGENCY LIGHTING
$L	SWITCH W/ ILLUM WHEN ON MTD +47"	B	RECESSED MOUNTED LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
$O3	THREE–WAY SWITCH W/ OCCU SENSOR MTD. +47"	M	OVERHEAD OCCUPANCY SENSOR
$O	SWITCH W/ OCCU SENSOR. MTD. +47"	B	HIGHBAY HID LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
J	JUNCTION BOX, FLUSH IF POSSIBLE	B	FLUORESCENT LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
T	TELEPHONE / DATA OUTLET +18"	B NL	FLUORESCENT LIGHTING NIGHT LIGHT B DESIGNATES FIXTURE TYPE
	DED. COMPUTER TERM. OUTLET +18"	B	FLUORESCENT STRIP LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
DSC	DISCONNECT SWITCH W/ STARTER	B	LED LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
	DISCONNECT SWITCH	IG	ISOLATED GROUND
WP	FLR. MTD. FLUSH DUPLEX RECEPTACLE	WP	WEATHER–PROOF
BC	FLR. MTD. FLUSH QUAD. RECEPTACLE	BC	BELOW COUNTER
TC	FLR. MTD. FLUSH PHONE/DATA OUTLET	TC	TIME CLOCK – 24 HOUR
GFI	FLR. MTD. FLUSH COMPUTER OUTLET	GFI	GROUND FAULT INTERRUPTER
SD	AREA SMOKE DETECTOR	AFF	ABOVE FINISHED FLOOR
H	HEAT DETECTOR	EWC	ELECTRIC WATER COOLER
D	DUCT SMOKE DETECTOR	ASW	ABOVE SHOW WINDOW
F	FIRE ALARM MAN. PULL STATION +47"	BSW	BELOW SHOW WINDOW
30	HORN WITH STROBE LIGHT, MTD. +80" # BESIDE DEVICE IS CANDELLA RATING	FACP	FIRE ALARM CONTROL PANEL
L 30	STROBE LIGHT ONLY, MTD. +80" # BESIDE DEVICE IS CANDELLA RATING	FAAP	FIRE ALARM ANNUNCIATOR PANEL

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE

PRESCRIPTIVE [X] 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 7140.00 VS 15496.19
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 ENERGY CODE 2012, CHAPTER 5.

SIGNED:

NAME: TODD W. CAREY, P.E.

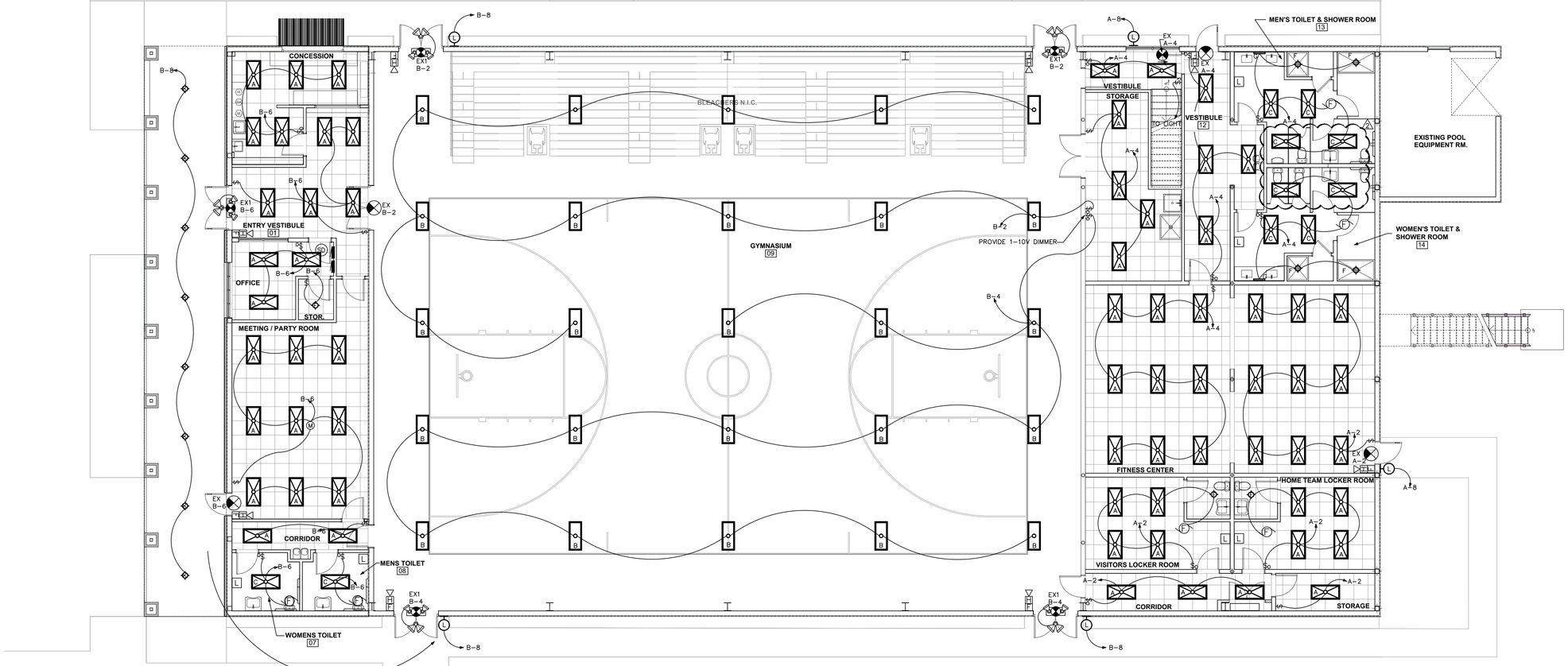
TITLE: GEORGIA PROFESSIONAL ENGINEER #016927

LIGHTING FIXTURE SCHEDULE

LABEL	TYPE OF FIXTURE	FINISH	LENS TYPE	VOLTAGE	LAMP	MANUFACTURER & MODEL NO.	REMARKS
A	RECESSED 2'X4' TROFFER	WHITE	PRISMATIC	120	(2) LED T8 BULBS	LITHONIA 2SP8G–332–FWA12–MVOLT	W/ NEW LITETRONICS LED RETOFIT KIT
B	HIGH BAY LED	WHITE	ACRYLIC	120	146W	LITHONIA IBH–18000LM–SD080–MD–MVOLT–0Z10–40K–80CRI–WGX–WH	XPW DIMMING RELAY
C	RECESSED 2'X4' SURFACE MTD	WHITE		120	(2) LED T8 BULBS	LITHONIA 2M 232 A12 MVOLT	W / NEW LITETRONICS LED RETOFIT KIT
D	8' STRIP LIGHT	WHITE		120	(4) LED T8 BULBS	LITHONIA C–432–MVOLT	W / NEW LITETRONICS LED RETOFIT KIT
EM	EMERGENCY EGRESS	WHITE		120	INCLUDED	LITHONIA ELM2 LED	W/ BATTERY BACKUP
EX1	EXIT SIGN w/ REM HEAD	WHITE		120	INCLUDED	LITHONIA LHQM–LED	W/ MODEL ELALEDTWP DUAL REMOTE HEAD. 90 MIN BATTERY
EX	EXIT SIGN	WHITE	RED	120	INCLUDED	LITHONIA LQM S W 3 R 120/277 ELN	W/ BATTERY BACKUP
F	6' DOWNLIGHT LED	SPECULAR	CLEAR	120	18W	LITHONIA LDN6–35/10–L06AR–120–OS	
G	VANITY LED	NICKEL	ACRYLIC	120	18W	LITHONIA FMVTSL–24IN–MVOLT–30K–90CRI–BN	
H	4' STRIP LIGHT	WHITE		120	(2) LED T8 BULBS	LITHONIA C–232–MVOLT	W / NEW LITETRONICS LED RETOFIT KIT
K	5" LED DOWNLIGHT	WHITE	CLEAR	120	11W	LITHONIA 5BPMW–LED–L5LEDT24	
L	WALL PACK LED	BRONZE	ACRYLIC	120	32W	LITHONIA OLW–23	PHOTOCELL

NOTE:
COMPLIANCE TO NC ENERGY SECTION 506 IS MADE BY LIGHTING LEVEL REDUCTION.

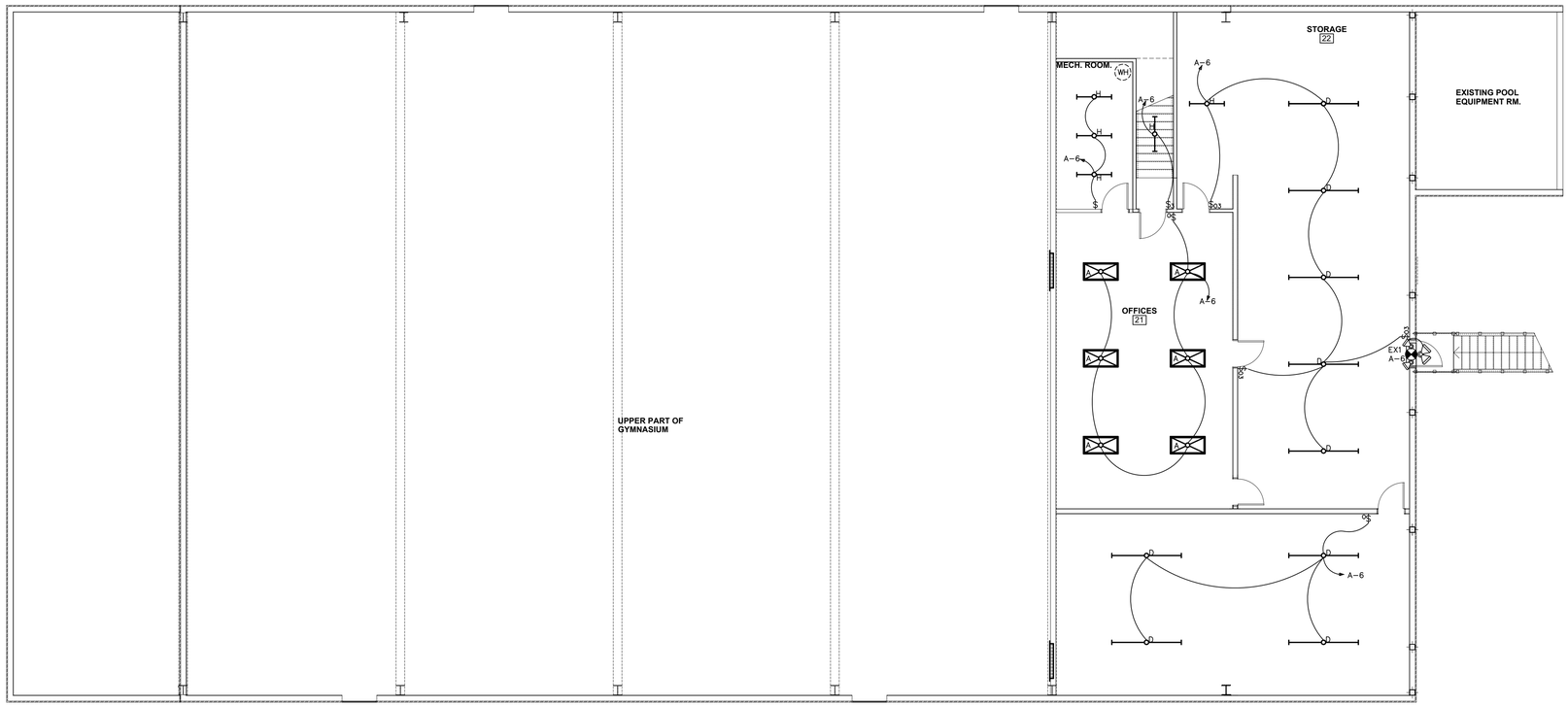
EXISTING POOL - NO CHANGE



1 FIRST FLOOR PLAN - LIGHTING

SCALE: 1/8"=1'–0"

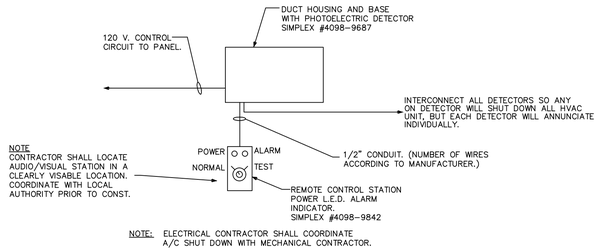
E1



1 SECOND FLOOR PLAN - LIGHTING

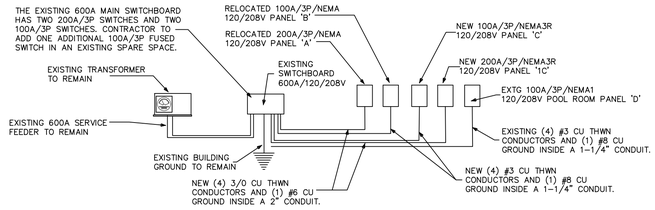
SCALE: 1/8"=1'-0"

E2



NOTE: ELECTRICAL CONTRACTOR SHALL COORDINATE A/C SHUT DOWN WITH MECHANICAL CONTRACTOR.

3 DUCT SMOKE DETECTOR WIRING
NO SCALE



2 ELECTRICAL SERVICE RISER
NO SCALE

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. SHARED NEUTRAL CONDUCTORS SHALL NOT BE ALLOWED UNLESS INSTALLED IN ACCORDANCE WITH NEC-210.4

7. 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.

8. 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.

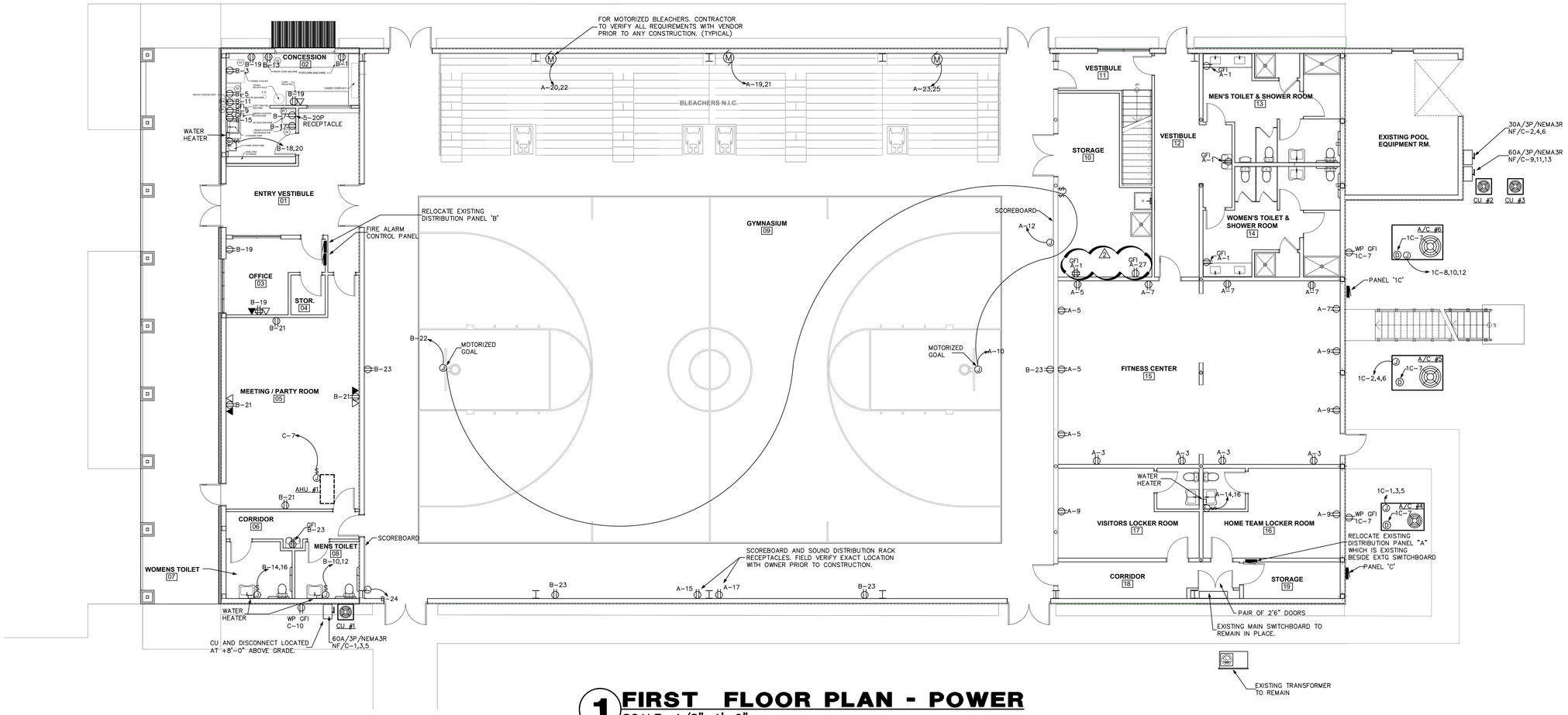
9. PROVIDE AND INSTALL JUNCTION AND PULL BOXES WHERE INDICATED AND WHERE NECESSARY TO TERMINATE, TAP OFF, OR REDIRECT MULTIPLE CONDUIT RUNS, OF SIZE INDICATED OR AS REQUIRED BY NEC. WHERE FEEDER SPLICES ARE TO BE MADE, INSTALL BOXES LARGE ENOUGH TO PROVIDE AMPLE WORK SPACE.

10. 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.

11. 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.

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



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

E3

PANEL SCHEDULE C

NEW PANELBOARD

100 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.O., 10000 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								0	2082	------	------								
3	35/3	#12	---	#12	1/2	CHAL	CONDENSING UNIT #1	0	------	2082	------								2
5								0	------	1788	------	CONDENSING UNIT #3	CHAL	1/2	#12	---	#12	30/3	4
7	20/1	#12	#12	#12	1/2	CHAL	AIR HANDLING UNIT #1	0	------	------	2082								6
9								1920	1920	------	1788								
11	35/3	#12	---	#12	1/2	CHAL	CONDENSING UNIT #2	1920	1920	------	------	AIR HANDLING UNIT #3	CHAL	1/2	#12	#12	#12	20/1	8
13								0	------	2082	------								
15	20/1	#12	#12	#12	1/2	CHAL	AIR HANDLING UNIT #2	180	------	180	------	SERVICE RECEPTACLE	CHAL	1/2	#12	#12	#12	20/1	10
								0	------	------	2082								
								0	2082	------	------	SPACE							12
								0	0	------	------	SPACE							14
								1920	------	1920	------	SPACE							16
								0	------	0	------								

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

9792	8052	5952
23,796		

PEAK PHASE (A) UNBALANCED NEUTRAL LOAD AMPS = 32. AMPS
NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 66.1 AMPS

PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
REGISTERED TO - TODD W. CAREY AND ASSOCIATES

PANEL C DIVERSIFICATION CALCULATIONS

RECEPTACLES (1) - 180 VA TOTAL FIRST 10 KVA AT 100%	-	180
HVAC LOAD AT 100%	-	23616
PLUS 25% OF THE LARGEST MOTOR	-	1431
TOTAL DIVERSIFIED PANEL LOAD	-	25227
LOAD AT 120/208V/3-PHASE/4-WIRE	-	70.1A

PANEL SCHEDULE 1C

NEW PANELBOARD

200 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.O., 10000 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								0	3732	------	------								
3	50/3	#8	---	#10	3/4	CHAL	A/C UNIT #4	0	7716	------	------								2
5								0	------	3732	------	A/C UNIT #5	CHAL	1	#8	---	#4	80/3	4
7	20/1	#12	#12	#12	1/2	CHAL	SERVICE RECEPTACLE	0	------	7716	------								6
9							SPACE	0	------	------	3732								
11							SPACE	0	------	------	7716								
13							SPACE	180	180	------	------								
15							SPACE	0	7716	------	------								8
								0	------	0	------								
								0	------	7716	------	A/C UNIT #6	CHAL	1	#8	---	#4	80/3	10
								0	------	------	0								
								0	------	------	7716								12
								0	0	------	------	SPACE							14
								0	------	0	------								
								0	------	------	0	SPACE							16

WIRE/CONDUIT KEY 1234	WIRING TYPE	INSULATION	CONDUIT TYPE	TEMP RATING
1—TEMP RATING, 2—CONDUIT TYPE, 3—INSULATION, 4—WIRING TYPE			- NO CONDUIT	

19344	19164	19164
57,672		

PEAK PHASE (A) UNBALANCED NEUTRAL LOAD AMPS = 1.5 AMPS
NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 160.2 AMPS

PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
REGISTERED TO - TODD W. CAREY AND ASSOCIATES

PANEL 1C DIVERSIFICATION CALCULATIONS

RECEPTACLES (1) - 180 VA TOTAL FIRST 10 KVA AT 100%	-	180
HVAC LOAD AT 100%	-	57492
PLUS 25% OF THE LARGEST MOTOR	-	2016
TOTAL DIVERSIFIED PANEL LOAD	-	59688
LOAD AT 120/208V/3-PHASE/4-WIRE	-	165.8A

PANEL SCHEDULE B

RELOCATED EXTG PANELBOARD

100 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.O., 10000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 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	15/1	#12	#12	#12	1/2	CHAL	POPCORN MACHINE	1800	1800	------	------								
3	15/1	#12	#12	#12	1/2	CHAL	DRINK REFRIGERATOR	1898	1898	------	------								2
5	15/1	#12	#12	#12	1/2	CHAL	NACHO CHIP WARMER	499	------	499	------	GYM LIGHTS	CHAL	1/2	#12	#12	#12	20/1	4
7	15/1	#12	#12	#12	1/2	CHAL	HOTDOG MACHINE	1752	------	1752	------	GYM LIGHTS	CHAL	1/2	#12	#12	#12	20/1	6
9	15/1	#12	#12	#12	1/2	CHAL	PRETZEL MACHINE	1245	------	------	1245								8
11	15/1	#12	#12	#12	1/2	CHAL	CHEESE MACHINE	934	------	------	934	LIGHTS	CHAL	1/2	#12	#12	#12	20/1	10
13	15/1	#12	#12	#12	1/2	CHAL	SNOW CONE MACHINE	1730	1730	------	------	OUTSIDE LIGHT *	CHAL	1/2	#12	#12	#12	20/1	12
15	15/1	#12	#12	#12	1/2	CHAL	UNDER COUNTER ICE MACHINE	88	88	------	------								14
17	15/1	#12	#12	#12	1/2	CHAL	UNDERCOUNTER REFRIGERATOR	290	------	290	------								16
19	20/1	#12	#12	#12	1/2	CHAL	OFFICE RECEPTACLE	2050	------	2050	------								18
21	20/1	#12	#12	#12	1/2	CHAL	MEETING/PARTY RECEPTACLE	840	------	------	840	INSTA-HOT WATER HEATER	CHAL	1/2	#12	---	#12	20/2	20
23	20/1	#12	#12	#12	1/2	CHAL	GYM RECEPTACLE	2050	------	------	2050								22
25							SPACE	635	635	------	------								24
27							SPACE	0	------	1200	------	INSTA-HOT WATER HEATER	CHAL	1/2	#12	---	#12	20/2	26
29							SPACE	2050	------	------	1200								28
								396	------	------	396								30
								2050	------	------	2050								32
								540	540	------	------	INSTA-HOT WATER HEATER	CHAL	1/2	#12	---	#12	20/2	34
								2050	------	------	2050								36
								720	------	720	------	MOTORIZED GDAL	CHAL	1/2	#12	#12	#12	20/1	38
								720	------	720	------								40
								900	------	------	900	SCOREBOARD	CHAL	1/2	#12	#12	#12	20/1	42
								1000	------	------	1000								
								0	0	------	------	SPACE							
								0	0	------	------								
								0	------	0	------	SPACE							
								0	------	0	------								
								0	------	------	0	SPACE							

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

10791	9281	9415
29,487		

PEAK PHASE (A) UNBALANCED NEUTRAL LOAD AMPS = 55.8 AMPS
NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 81.9 AMPS

PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
REGISTERED TO - TODD W. CAREY AND ASSOCIATES

PANEL NOTES:
* - THIS CIRCUIT IS TIME CLOCK CONTROL

PANEL SCHEDULE MSB

EXISTING TO REMAIN

600 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.O., 42000 AMPS MINIMUM A.I.C. BRACING, SURFACE MOUNTED, TYPE NEMA 1 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.	SW / FUSE	##
1								2992	5042	------	------								
3	200A / 200A	#3/0	#3/0	#6	2	CHAL	RELOCATED PANELBOARD 'A'	180	19344	------	------								2
5								4388	------	6438	------								4
7								0	------	19164	------	NEW PANELBOARD '1C'	CHAL	2	#6	#3/0	#3/0	200A / 200A	6
9	100A / 100A	#3	#3	#8	1-1/4	CHAL	RELOCATED PANELBOARD 'B'	5188	------	------	5188								8
11								6691	10791	------	------								10
13								0	5335	------	------	EXTG PANELBOARD 'D'	CHAL	1-1/4	#8	#3	#3	100A / 100A	12
15	100A / 100A	#3	#3	#8	1-1/4	CHAL	NEW PANELBOARD 'C'	5183	------	9281	------								14
17								0	------	5335	------								16
								5315	------	------	5315								18
								3840	9792	------	------	SPACE							
								0	0	------	------								
								2100	------	8052	------	SPACE							
								0	------	0	------								
								0	------	------	5952	SPACE							

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

50304	48270	45054
143,628		

PEAK PHASE (A) UNBALANCED NEUTRAL LOAD AMPS = 114.2 AMPS
NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 399. AMPS

PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
REGISTERED TO - TODD W. CAREY AND ASSOCIATES

PANEL SCHEDULE A

200 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.O., 10000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 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	SHOWER RECEPTACLE	720	720	------	------								
3	20/1	#12	#12	#12	1/2	CHAL	FITNESS ROOM RECEPTACLE	916	916	------	------	FITNESS/LOCKER LIGHTS	CHAL	1/2	#12	#12	#12	20/1	2
5	20/1	#12	#12	#12	1/2	CHAL	FITNESS ROOM RECEPTACLE	720	------	720	------								4
7	20/1	#12	#12	#12	1/2	CHAL	FITNESS ROOM RECEPTACLE	1028	------	1028	------	SHOWER/FITNESS LIGHT	CHAL	1/2	#12	#12	#12	20/1	6
9	20/1	#12	#12	#12	1/2	CHAL	FITNESS ROOM RECEPTACLE	720	------	------	720								8
11	20/1	#12	#12	#12	1/2	CHAL	FITNESS ROOM RECEPTACLE	948	------	------	948	UPSTAIR LIGHT	CHAL	1/2	#12	#12	#12	20/1	10
13	20/1	#12	#12	#12	1/2	CHAL	FITNESS ROOM RECEPTACLE	720	720	------	------								12
15	20/1	#12	#12	#12	1/2	CHAL	FITNESS/LOCKER RECEPTACLE	96	96	------	------	WALL PACK LIGHTS *	CHAL	1/2	#12	#12	#12	20/1	14
17	20/1	#12	#12	#12	1/2	CHAL	SECOND FLOOR RECEPTACLE	720	------	720	------								16
19	20/1	#12	#12	#12	1/2	CHAL	SECOND FLOOR RECEPTACLE	720	------	720	------	MOTORIZED GDAL	CHAL	1/2	#12	#12	#12	20/1	18
21	20/1	#12	#12	#12	1/2	CHAL	SECOND FLOOR RECEPTACLE	720	------	------	720								20
23	20/1	#12	#12	#12	1/2	CHAL	SECOND FLOOR RECEPTACLE	1000	------	------	1000	SCOREBOARD	CHAL	1/2	#12	#12	#12	20/1	22
25	20/1	#12	#12	#12	1/2	CHAL	SCOREBOARD/SD RACK	720	720	------	------								24
27	20/1	#12	#12	#12	1/2	CHAL	SCOREBOARD/SD RACK	0	2050	------	------								26
29							SPACE	1200	------	1200	------	INSTA-HOT WATER HEATER	CHAL	1/2	#12	---	#12	20/2	28
31							SPACE	0	------	2050	------								30
33							SPACE	1200	------	------	1200								32
35							SPACE	600	------	------	600	GAS WATER HEATER	CHAL	1/2	#12	#12	#12	20/1	34
37							SPACE	504	504	------	------	MOTORIZED BLEACHERS-2	CHAL	1/2	#12	#12	#12	20/1	36
39							SPACE	504	504	------	------								38
41							SPACE	0	------	2400	------	MOTORIZED BLEACHERS-1	CHAL	1/2	#12	#12	#12	20/1	40
								2400	------	2400	------								42
								2400	2400	------	------	POWER SUPPLY FOR BLEACHES	CHAL	1/2	#12	#12	#12	20/1	
								504	------	------	504								
								0	------	------	0	SPACE							
								2400	2400	------	------	POWER SUPPLY FOR BLEACHES	CHAL	1/2	#12	#12	#12	20/1	
								0	0	------	------	SPACE							
								1200	------	1200	------								
								0	------	0	------	SPACE							
								0	0	------	------								
								0	------	------	0	SPACE							
								0	------	0	------								
								0	------	------	0	SPACE							
								0	0	------	------								
								0	------	0	------	SPACE							
								0	------	------	0								
								0	------	0	------	SPACE							
								0	------	------	0								
								0	------	0	------	SPACE							
								0	------	------	0								
								0	------	0	------	SPACE							
								0	------	------	0								

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

8630	12438	5692
26,760		

PEAK PHASE (B) UNBALANCED NEUTRAL LOAD AMPS = 86.6 AMPS
NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 74.3 AMPS

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

PANEL NOTES:
* - THESE LIGHT ARE PHOTOCELL CONTROL

PANEL MSB DIVERSIFICATION CALCULATIONS

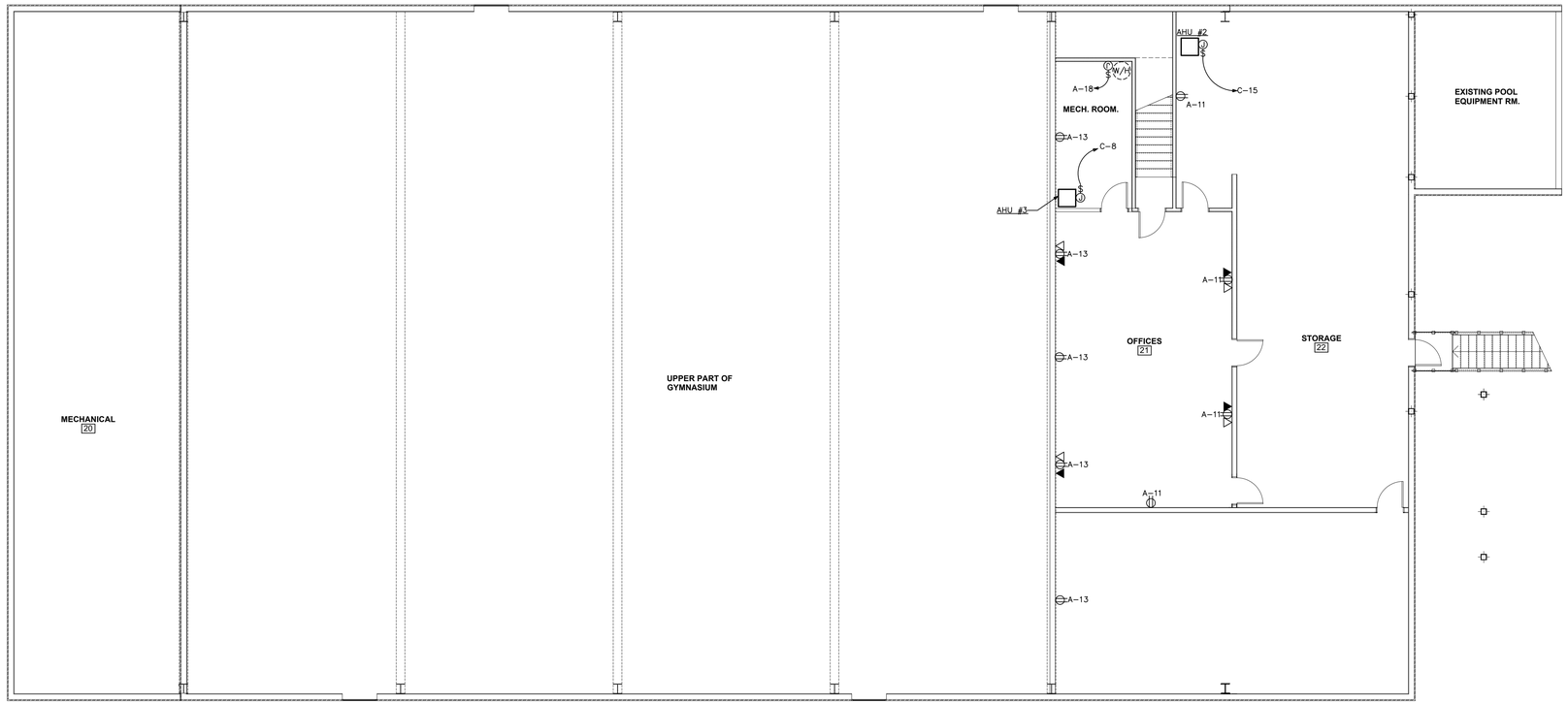
RECEPTACLES (47) - 8460 VA TOTAL FIRST 10 KVA AT 100%	-	8460
LIGHTING - 7860 X 125%	-	9825
HVAC LOAD AT 100%	-	81108
MOTOR LOADS AT 100%	-	16164
MISC APPLIANCE LOADS AT 100%	-	8635
MISC NON-CONTINUOUS LOADS AT 100%	-	21400
TOTAL DIVERSIFIED PANEL LOAD	-	145592
LOAD AT 120/208V/3-PHASE/4-WIRE	-	404.4A

PANEL B DIVERSIFICATION CALCULATIONS

RECEPTACLES (12) - 2160 VA TOTAL FIRST 10 KVA AT 100%	-	2160
LIGHTING - 4672 X 125%	-	5840
MOTOR LOADS AT 100%	-	720
PLUS 25% OF THE LARGEST MOTOR	-	180
MISC APPLIANCE LOADS AT 100%	-	8635
MISC NON-CONTINUOUS LOADS AT 100%	-	13300
TOTAL DIVERSIFIED PANEL LOAD	-	30835
LOAD AT 120/208V/3-PHASE/4-WIRE	-	85.7A

PANEL A DIVERSIFICATION CALCULATIONS

RECEPTACLES (35) - 6240 VA TOTAL FIRST 10 KVA AT 100%	-	6240
LIGHTING - 2988 X 125%	-	3735
MOTOR LOADS AT 100%	-	2232
PLUS 25% OF THE LARGEST MOTOR	-	180
MISC NON-CONTINUOUS LOADS AT 100%	-	15300
TOTAL DIVERSIFIED PANEL LOAD	-	27687
LOAD AT 120/208V/3-PHASE/4-WIRE	-	76.9A



1 SECOND FLOOR PLAN - POWER

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

E4