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ARCHITECT'S PROJECT # 11235

Project Description
DOLLAR GENERAL
FOR
PRIMAX PROPERTIES
YORK HIGHWAY INC HIGHWAY 3211
GASTONIA, NC
Based on Dollar General
2010 Prototype Criteria Set Plan 'C'

HVAC SPECIFICATIONS

HVAC WORK SHALL BE AS INDICATED ON THE PLANS AND AS HEREIN SPECIFIED. THE WORK SHALL CONSIST OF PROVIDING COMPLETE OPERATIONAL HVAC SYSTEMS AS INDICATED ON THE DRAWINGS. THE SYSTEM SHALL BE TESTED AND BALANCED. CAPACITIES SHALL BE AS SHOWN ON THE DRAWINGS. ADJUSTMENTS AS REQUIRED SHALL BE MADE BY THE CONTRACTOR TO INSTALL THE WORK WITHIN THE INTENT OF THE DRAWINGS AND SPECIFICATIONS AND TO PROVIDE AN ACCEPTABLE SYSTEM IN ACCORDANCE WITH STATE CODES, LOCAL CODES, ASHRAE, AND SMACNA RECOMMENDATIONS.

WHenever a material, article, or piece of equipment is identified on the drawings by reference to manufacturer's or vendor's names, trade names, catalog numbers, or the like, it is so identified for the purpose of establishing a standard, and any material, article, or piece of equipment of other manufacturer or vendor which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or piece of equipment so proposed is of equal substance, appearance, and function.

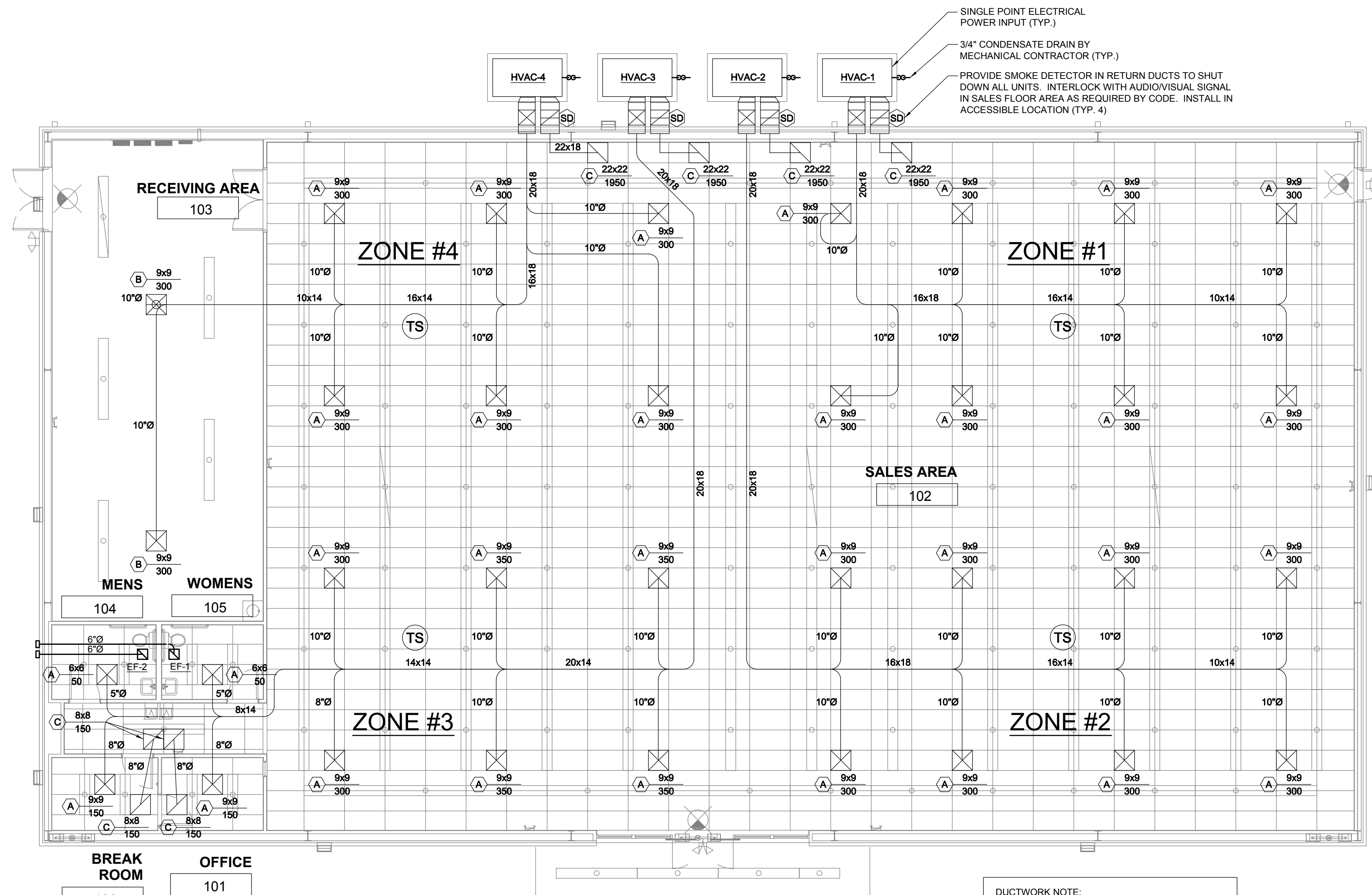
DUCTWORK:
DUCTWORK SHALL BE OF THE SIZE AS INDICATED ON THE PLANS WITH INTERNAL OR EXTERNAL (SEE FLOOR PLAN) INSULATION PROVIDED ON ALL RECTANGULAR SUPPLY AND RETURN DUCTWORK. INSULATION SHALL BE 1" THICK 1-1/2" PCF FIBERGLASS, NEOPRENE COATED, AND ADHERED WITH AN APPROVED ADHESIVE WITH 100% COVERAGE AND STICK CLIPS ON 12" CENTERS. ROUND DUCTWORK, BOTH METAL AND FLEXIBLE, SHALL BE INSULATED WITH 1" THICK 1-1/2" PCF FIBERGLASS INSULATION. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA RECOMMENDATIONS. ALL DUCTWORK SIZES INDICATED ARE NET SIZES. WHERE APPLICABLE, DUCTWORK SHALL BE INCREASED TO ALLOW FOR INTERNAL INSULATION. ALL SQUARE ELBOWS SHALL INCLUDE SINGLE THICKNESS TURNING VANES.

EQUIPMENT:
ALL AIR HANDLING EQUIPMENT, DIFFUSERS, GRILLES, REGISTERS, FANS, REFRIGERATION UNITS, ETC., SHALL BE PROVIDED AS SCHEDULED ON THE DRAWINGS. CONTROLS SHALL BE PROVIDED AS REQUIRED AND DESCRIBED ON THE DRAWINGS AND IN COMPLIANCE WITH LOCAL ENERGY CODES. ALL CONTROL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH NEC REQUIREMENTS. ALL RELAYS, INTERLOCKS, ETC. SHALL BE PROVIDED AS REQUIRED. POWER WIRING SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UP TO AND INCLUDING FINAL CONNECTION. THE MECHANICAL CONTRACTOR SHALL FURNISH WIRING FOR THE ELECTRICIAN TO INSTALL. ELECTRICIAN SHALL FURNISH AND INSTALL ALL EQUIPMENT DISCONNECTS REQUIRED BY LOCAL CODE. THE MECHANICAL CONTRACTOR SHALL MOUNT ALL DEVICES, ETC., AND THE ELECTRICAL CONTRACTOR SHALL WIRE THEM AS REQUIRED. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NEC. REFRIGERANT PIPING WHERE REQUIRED SHALL BE OF THE PRECHARGED TYPE AS SUPPLIED BY THE REFRIGERATION EQUIPMENT MANUFACTURER, PROPERLY SIZED AND INSULATED OR FIELD FABRICATED AT THE CONTRACTOR'S OPTION. FIELD FABRICATED REFRIGERANT PIPING SHALL BE TYPE "L" A.R.I. COPPER, SOLDERED WITH 95/5 SOLDER, INSULATED WITH 1" ARMAFLEX AND WEATHERPROOFED. PIPING SHALL BE ARRANGED AND PIPED IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND SHALL INCLUDE SIGHT GLASSES, SERVICE VALVES, AND FILTER DRYERS WITH BY-PASS WHEN INDICATED OR AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER FOR PROPER EQUIPMENT OPERATION. ALL PIPING ARRANGEMENTS SHALL BE APPROVED BY BOTH THE EQUIPMENT MANUFACTURER AND THE ENGINEER PRIOR TO INSTALLATION.

THE CONTRACTOR SHALL TEST PIPING SYSTEMS FOR LEAKAGE, BALANCE AIR AS INDICATED, CHARGE REFRIGERATION EQUIPMENT, PROVIDE CLEAN FILTERS, START SYSTEMS, AND INSTRUCT THE OWNER IN OPERATION OF THE SYSTEM AFTER ALL TEST AND BALANCING HAS BEEN ACCOMPLISHED. ALL LEAKS OBSERVED IN THE SYSTEM SHALL BE REPAIRED BY EITHER REPLACING OR REPAIRING THE DEFECTIVE MATERIAL OR EQUIPMENT IN A MANNER APPROVED BY THE ENGINEER. THE ENTIRE HVAC SYSTEM SHALL BE UNCONDITIONALLY GUARANTEED FOR ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. ALL DEFECTIVE EQUIPMENT AND/OR MATERIAL SHALL BE REPLACED AT NO EXPENSE TO THE OWNER. ALL REFRIGERATION COMPRESSORS SHALL HAVE AN EXTENDED WARRANTY FOR FOUR ADDITIONAL YEARS. ALL WARRANTIES SHALL BE WRITTEN, DATED, AND FORWARDED TO THE OWNER. ALL EQUIPMENT SHALL BE PROVIDED WITH ISOLATORS. FLEXIBLE CONNECTORS ARE REQUIRED AT ALL EQUIPMENT CONNECTIONS.

MECHANICAL GENERAL NOTES

- DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLAN FOR EXACT LOCATION OF DOORS, WINDOWS, CEILING DIFFUSERS, ETC.
- ALL MECHANICAL WORK SHALL BE COORDINATED WITH THE WORK PERFORMED UNDER OTHER DIVISIONS TO AVOID INTERFERENCE.
- HVAC CONTRACTOR SHALL REPAIR, REPLACE AND REPAINT TO MATCH EXISTING SURFACES DAMAGED DURING INSTALLATION OF MECHANICAL EQUIPMENT.
- HVAC CONTRACTOR SHALL PROVIDE AND INSTALL MANUAL VOLUME DAMPERS IN DUCTWORK FOR BALANCING DIFFUSER AIR VALUES SHOWN ON PLANS.
- DUCTWORK SHALL BE GALVANIZED SHEET METAL CONSTRUCTED IN ACCORDANCE WITH THE LATEST SMACNA STANDARDS. FIBERGLASS DUCTWORK IS UNACCEPTABLE.
- ALL PIPING, DUCTS, VENTS, ETC. EXTENDING THROUGH THE WALL AND/OR ROOF SHALL BE FLASHED AND COUNTERFLASHED IN A WATERPROOF MANNER.
- ALL PIPING INSULATION SHALL RUN CONTINUOUSLY THROUGH FLOOR, WALLS, AND PARTITIONS.
- ALL PIPING SHALL BE SUPPORTED ADJACENT TO EQUIPMENT, TO PREVENT WEIGHT OF PIPING BEING PLACED ON EQUIPMENT.
- VERIFY ROUTING OF ALL WORK ON JOBSITE.
- GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPORTING ANGLES AND EXTRA SUPPORT BEAMS FOR AIR HANDLING UNITS, EXHAUST FANS, ETC.
- ALL EQUIPMENT, DUCTWORK AND PIPING SHALL BE SEISMICALLY RESTRAINED IN ACCORDANCE WITH LOCAL CODE.
- HVAC CONTRACTOR SHALL CHANGE OUT THE EQUIPMENT FILTERS AT THE TIME OF POSSESSION OF THE PROJECT BY THE OWNER, USING ONLY NEW FILTERS OF THE PROPER SIZE AND TYPE.
- THE HVAC CONTRACTOR SHALL LEAVE HIS WORK IN PERFECT WORKING CONDITION AND SHALL GUARANTEE SAME FOR A PERIOD OF TWELVE (12) MONTHS FROM DATE OF FINAL ACCEPTANCE.



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

UNIT NO.	SUPPLY - FAN DATA				HEATING CAPACITY		COOLING CAPACITY		ELECTRICAL DATA			CONTROL SCHEME	MANUFACTURER & MODEL	NOTES		
	TOTAL CFM	O/A CFM	MIN. EXT. S.P. (IN.W.G)	FAN RPM	MOTOR H.P.	KW @208V	TOTAL MBH	SENSIBLE MBH	EER/SEER	VOLT/PH	MCA				MAX FUSE	
HVAC-1,2,3,4	2400	400	0.8	1255	1.5 (BELT)	15.9	54.3	68.8	50.4	11.2 EER	208/30	61.7	70	EMS	YORK ZP072	1 2 3 4 5 6 7 8

- NOTES:**
- COOLING CAPACITIES ARE RATED IN ACCORDANCE WITH ARI STANDARD 210/290 AT 95°F AMBIENT OUTDOOR AIR TEMP., 80°F DRY BULB, 67° WET BULB ENTRANCE AIR TEMP., AND NOMINAL AIR QUANTITY LISTED.
 - PROVIDE NEW FILTERS FOR EACH UNIT.
 - PROVIDE ENTHALPY ECONOMIZER WITH 100% RELIEF CAPABILITY.
 - ONE YEAR WARRANTY ON PARTS AND LABOR. FOUR YEAR EXTENDED WARRANTY ON COMPRESSORS.
 - PROVIDE LOW AMBIENT CONTROLS AS RECOMMENDED FOR AREA.
 - NOT USED.
 - CONTACT YORK NATIONAL ACCOUNTS @ (800) 481-9738 OR EMAIL YORK-DOLLARGENERAL-BE@JCI.COM FOR PRICING AND ORDERING INFORMATION. (THIS IS A CLOSED SPECIFICATION. UNITS MUST BE PURCHASED THROUGH YORK NATIONAL ACCOUNTS)
 - TESTING OF HVAC UNITS THRU EMS PANEL IS ACCOMPLISHED BY SIMPLY WARMING UP OR COOLING DOWN A SPACE TEMPERATURE SENSOR AND WATCH THE FAN, HEAT AND COOL STAGES CYCLE ON AND OFF. THIS REQUIRES TWO PEOPLE AT ALL TIMES. ONE TO WATCH THE SCREEN AND THE OTHER TO WATCH OPERATION OF THE AHU. WHEN COMPLETE, PRESS THE HOME BUTTON TO RETURN TO THE MAIN SCREEN.

AIR DISTRIBUTION SCHEDULE											
MARK	SERVICE	CFM	NECK SIZE	FRAME TYPE	PATTERN	DAMPER	MATERIAL	FINISH	MANUFACTURER / MODEL NO.	TYPE	NOTES
(A)	SUPPLY	SEE PLANS	SEE PLANS	LAY-IN	4-WAY	YES	STEEL	OFF-WHITE	METAL-AIRE 5500	CEILING DIFFUSER LOUVERED FACE	1
(B)	SUPPLY	SEE PLANS	SEE PLANS	SURFACE	4-WAY	YES	STEEL	OFF-WHITE	METAL-AIRE 5500	CEILING DIFFUSER LOUVERED FACE	1
(C)	RETURN	SEE PLANS	SEE PLANS	LAY-IN	NA	NO	STEEL	OFF-WHITE	METAL-AIRE 7550R	CEILING DIFFUSER PERFORATED FACE	1

1. DIFFUSER DESIGNATIONS ON PLANS AS FOLLOWS:
- DIFFUSER OR NECK SIZE: 8x4
- AIR QUANTITY: 75
- DIFFUSER TYPE AS NOTED ABOVE

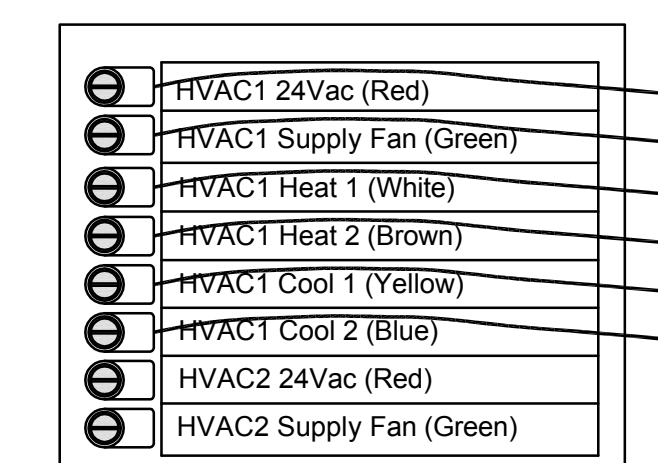
FAN SCHEDULE											
MARK	SERVICE	AREA SERVED	VOLUME (CFM)	SP (in. WC)	DRIVE TYPE	ELECTRICAL DATA SIZE (HP)	VOLT/PH	MANUFACTURER / MODEL NO.	FAN TYPE & ARRANGEMENT	CONTROL SCHEME	NOTES
EF-1,2	EXHAUST	RESTROOMS	75	0.25	DIRECT	80 W	120/1	GREENHECK SP-7	CEILING CABINET	B	1 2 3 4

- NOTES:**
- MOTOR WITH THERMAL OVERLOADS
 - INTEGRAL BACKDRAFT DAMPER
 - SPEED CONTROLLER MOUNTED AT FAN HOUSING
 - WC-6 HOODED WALL CAP WITH BACKDRAFT DAMPER. PAINT TO MATCH EXTERIOR.
- CONTROL SCHEME**
A. CONTROL WITH SEPARATE SWITCH BY E.C.
B. CONTROL WITH ROOM LIGHTS

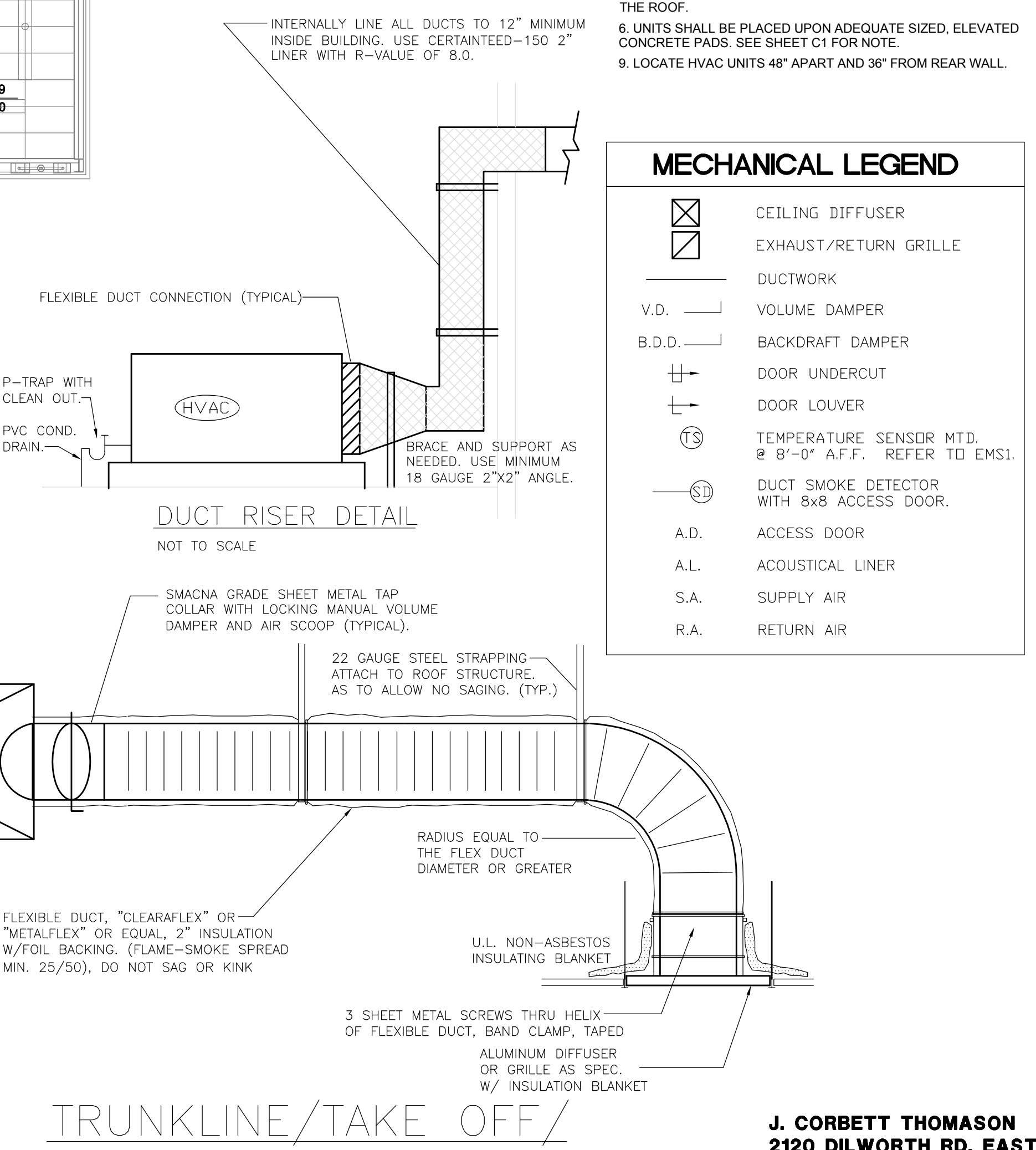
- SINGLE POINT ELECTRICAL POWER INPUT (TYP.)
- 3/4" CONDENSATE DRAIN BY MECHANICAL CONTRACTOR (TYP.)
- PROVIDE SMOKE DETECTOR IN RETURN DUCTS TO SHUT DOWN ALL UNITS. INTERLOCK WITH AUDIO/VISUAL SIGNAL IN SALES FLOOR AREA AS REQUIRED BY CODE. INSTALL IN ACCESSIBLE LOCATION (TYP. 4)

DUCTWORK NOTE:
ROUND DUCTWORK OF EQUIVALENT OR LARGER AREA MAY BE USED AT CONTRACTOR'S OPTION IN LIEU OF RECTANGULAR DUCTWORK.

SHEETMETAL TRUNKLINE INSTALLED ACCORDING TO LATEST SMACNA STANDARDS. DIMENSIONS SHOWN ON FLOOR PLAN ARE NET, INSIDE DIMENSIONS.



EMS HVAC CONTROL WIRING DIAGRAM
NOT TO SCALE



TRUNKLINE/TAKE OFF/RUN OUT DETAIL
NOT TO SCALE

ENERGY REQUIREMENTS:	
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT	
METHOD OF COMPLIANCE	PREScriptive <input type="checkbox"/> ENERGY COST BUDGET <input type="checkbox"/>
THERMAL ZONE	3A
EXTERIOR DESIGN CONDITIONS	INTERIOR DRY BULB 80° F SUMMER DRY BULB 93° F
INTERIOR DESIGN CONDITIONS	INTERIOR DRY BULB 70° F SUMMER DRY BULB 74° F RELATIVE HUMIDITY 50%
BUILDING HEATING LOAD	364.0 MBH
BUILDING COOLING LOAD	273.0 MBH
MECHANICAL SPACING CONDITIONING SYSTEM UNITARY	DESCRIPTION OF UNIT SEE SCHEDULES HEATING EFFICIENCY SEE SCHEDULES COOLING EFFICIENCY SEE SCHEDULES HEAT OUTPUT OF UNIT SEE SCHEDULES COOLING OUTPUT OF UNIT SEE SCHEDULES
BOILER	TOTAL BOILER OUTPUT NA CHILLER NA
CHILLER	TOTAL CHILLER OUTPUT NA
LIST EQUIPMENT EFFICIENCIES	SEE SCHEDULES
EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)	MOTOR HORSEPOWER SEE SCHEDULES NUMBER OF PHASES SEE SCHEDULES MINIMUM EFFICIENCY SEE SCHEDULES MOTOR TYPE SEE SCHEDULES NUMBER OF POLES SEE SCHEDULES
DESIGNER'S STATEMENT:	TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE MECHANICAL SYSTEM, SERVICE SYSTEM AND EQUIPMENT REQUIREMENTS OF THE 2009 NORTH CAROLINA ENERGY CODE.
SIGNED:	J. Corbett Thomason
NAME:	J. CORBETT THOMASON, P.E.
TITLE:	MECHANICAL ENGINEER

HVAC SPECIFICATIONS

- REAR GROUND MOUNTED HVAC SYSTEM, WITH COMPLETE DUCTWORK, CONFORMING TO ASHRAE SPECIFICATIONS IN SALES FLOOR, OFFICES, REST ROOM, AND RECEIVING AREAS.
- ALL DUCTWORK MUST BE INSTALLED ABOVE 10'-6" A.F.F. NO HVAC DUCT TRUNKLINE TO BE INSTALLED ABOVE CEILING WITHIN 48" RADIUS OF REGISTERICE CREAM POWER POLES. POWER POLES EXTEND ABOVE CEILING 2'-0". REFER TO SHEET E1 FOR EXACT LOCATION OF POWER POLES.
- FOR HVAC SENSOR LOCATIONS SEE EMS1 SHEET
- YORK PACKAGED H.V.A.C. SYSTEMS ARE REQUIRED.
- PROVIDE INLINE EXHAUST FAN FOR RESTROOMS, INTERLOCK WITH RESTROOM LIGHTS. VENT THRU SIDE WALL, NOT THRU THE ROOF.
- UNITS SHALL BE PLACED UPON ADEQUATE SIZED, ELEVATED CONCRETE PADS. SEE SHEET C1 FOR NOTE.
- LOCATE HVAC UNITS 48" APART AND 36" FROM REAR WALL.

MECHANICAL LEGEND

- CEILING DIFFUSER
- EXHAUST/RETURN GRILLE
- DUCTWORK
- V.D. VOLUME DAMPER
- B.D.D. BACKDRAFT DAMPER
- DOOR UNDERCUT
- DOOR LOUVER
- TEMPERATURE SENSOR MTD. @ 8'-0" A.F.F. REFER TO EMS1.
- DUCT SMOKE DETECTOR WITH 8x8 ACCESS DOOR.
- A.D. ACCESS DOOR
- A.L. ACOUSTICAL LINER
- S.A. SUPPLY AIR
- R.A. RETURN AIR

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Drawn By :
C. THOMASON

Checked By :
C. THOMASON

- Revisions :
- 1
 - 2
 - 3
 - 4

Seal
Date : 12/8/11
Sheet No. M1
of 1

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