LEGEND

GENERAL

[#]	CONSTRUCTION NOTE IDENTIFICATION
.....	INDICATES EXISTING ITEM
———	INDICATES NEW ITEM
XXX	ROOM NUMBER IDENTIFICATION
AFF	ABOVE FINISHED FLOOR
TYP	TYPICAL
F10/6 (CFM)	EXHAUST GRILLE DESIGNATION WITH CFM INDICATED
A6 (CFM)	CEILING DIFFUSER DESIGNATION WITH CFM INDICATED
G20/20	RETURN GRILLE DESIGNATION

DUCTWORK

	SUPPLY DUCT TURNING UP (ROUND OR RECTANGULAR)
	SUPPLY DUCT TURNING DOWN (ROUND OR RECTANGULAR)
	RETURN DUCT TURNING UP
	RETURN DUCT TURNING DOWN
	EXHAUST DUCT TURNING UP
	EXHAUST DUCT TURNING DOWN
	CEILING RETURN, EXHAUST OR TRANSFER REGISTER
	CEILING SUPPLY DIFFUSER
	MITERED ELBOW WITH TURNING VANES
10"x10"	SQUARE OR RECTANGULAR DUCTWORK
	FLEXIBLE DUCT CONNECTION
	VERTICAL FIRE DAMPER
	VOLUME DAMPER
M	MOTORIZED CONTROL DAMPER
Ø	INDICATES ROUND DUCTWORK
	FLEXIBLE CONNECTION
	RETURN, EXHAUST OR TRANSFER AIR FLOW
	SUPPLY AIR FLOW
SD	DUCT SMOKE DETECTOR

CONTROLS

AI	ANALOG INPUT (TO PANEL)
AO	ANALOG OUTPUT (OUT OF PANEL)
DI	DIGITAL INPUT (TO PANEL)
DO	DIGITAL OUTPUT (OUT OF PANEL)
- - - -	CONTROL WIRING (SIGNAL PATH)
CO	CARBON MONOXIDE SENSOR
CO2	CARBON DIOXIDE SENSOR
CSR	CURRENT SENSING RELAY
DP	DIFFERENTIAL PRESSURE SWITCH
DPS	DIFFERENTIAL PRESSURE SENSOR
DSD	DUCT SMOKE DETECTOR
ES	DAMPER END SWITCH
F	FAN ON-OFF SWITCH
FMS	FLOW MEASURING SYSTEM
HL	HIGH LIMIT TEMPERATURE SENSOR
H	HUMIDITY SENSOR
LL	LOW LIMIT TEMPERATURE SENSOR
M	MOTOR
M	MOTORIZED CONTROL DAMPER
MS	MOTOR STARTER
NC	NORMALLY CLOSED
NO	NORMALLY OPENED
EP	POWER WIRING
S	SENSOR
P	STATIC PRESSURE SENSOR
S	SWITCH
T	ZONE TEMPERATURE SENSOR
T	THERMOSTAT
VFD	VARIABLE FREQUENCY DRIVE

GENERAL NOTES

1. GENERAL NOTES ON THIS DRAWING ARE APPLICABLE TO EACH MECHANICAL DRAWING OF THIS SET. NOTES SPECIFIC TO INDIVIDUAL MECHANICAL DRAWINGS WILL BE SHOWN ON THE RESPECTIVE MECHANICAL DRAWING.
2. THE CONTRACTOR SHALL PROVIDE A COMPLETE HVAC SYSTEM TO INCLUDE ALL LABOR, MATERIALS, TOOLS, AND EQUIPMENT FOR A COMPLETE AND FUNCTIONAL SYSTEM INCLUDING ALL NECESSARY APPURTENANCES CUSTOMARILY INCLUDED IF NOT SPECIFICALLY CALLED OUT
3. ENTIRE INSTALLATION, INCLUDING MATERIALS, EQUIPMENT, AND WORKMANSHIP, SHALL CONFORM WITH ALL APPLICABLE LAWS, CODES, AND REGULATIONS OF MUNICIPAL, STATE AND FEDERAL AUTHORITIES.
4. THIS PROJECT SHALL CONFORM TO APPLICABLE ASHRAE, NFPA, AND SMACNA STANDARDS AND OTHER REGULATORY BODIES HAVING JURISDICTION OVER THE CLASS OF WORK.
5. MATERIALS AND EQUIPMENT SHALL HAVE STAMPS OR SEALS OF ARI, ASME, UL, AND ASTM.
6. THE CONTRACTOR SHALL MAKE TESTS FOR ACCEPTANCE AND APPROVAL AS REQUIRED BY CODE AND THE REQUIREMENTS OF APPLICABLE REGULATORY AGENCIES.
7. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, LICENSES, DOCUMENTS, AND SERVICES RELATED TO INSTALLATION OF THE WORK.
8. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OTHER TRADES IN ORDER TO RESOLVE ANY CONFLICT THAT MIGHT ARISE DUE TO THE LOCATION OF EQUIPMENT OR THE USE OF SPACE.
9. EQUIPMENT OF HIGHER ELECTRICAL CHARACTERISTICS MAY BE FURNISHED PROVIDED SUCH PROPOSED EQUIPMENT IS APPROVED IN WRITING AND CONNECTING ELECTRICAL SERVICE, CIRCUIT BREAKERS, AND CONDUIT SIZES ARE APPROPRIATELY MODIFIED AT NO COST TO THE OWNER.
10. RUN ALL HORIZONTAL DUCTWORK ABOVE CEILING UNLESS OTHERWISE NOTED.
11. MAKE DUCT PENETRATIONS OF ALL WALLS WITH SHEET METAL DUCTS. FLEXIBLE DUCT PENETRATIONS OF WALLS ARE NOT ACCEPTABLE.
12. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF DIFFUSERS, REGISTERS, AND GRILLES.
13. DUCTWORK SIZES ARE INSIDE CLEAR DIMENSIONS.
14. ALL ELBOWS IN DUCTWORK SHALL BE RADIUS ELBOWS UNLESS OTHERWISE NOTED. WHERE SQUARE ELBOWS ARE SHOWN, INSTALL TURNING VANES.
15. PROVIDE DYNAMIC FIRE DAMPERS IN ACCORDANCE WITH UL LISTING AND THE REQUIREMENTS OF NFPA-90A.
16. DO NOT INSTALL EQUIPMENT, PIPING OR DUCTWORK OVER ANY ELECTRICAL EQUIPMENT OR ELECTRICAL SERVICE SPACE.
17. LAYOUT OF DUCTWORK IS DIAGRAMMATIC. RUN ALL EXPOSED DUCTWORK AS HIGH AS POSSIBLE UNLESS OTHERWISE NOTED. ALLOW FOR RISES, DROPS AND OFFSETS AS REQUIRED.
18. EXTEND DRAIN LINES TO NEAREST ROOF DRAIN OR AS INDICATED. ALL CONDENSATE DRAIN PIPING SHALL BE TRAPPED AND PITCHED DOWN IN DIRECTION OF FLOW A MINIMUM OF 1/8" PER FOOT.
19. INSTALL MECHANICAL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE, AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS. AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH A MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS. PIPING SHALL NOT INTERFERE WITH FILTER PULL.
20. MECHANICAL CONTRACTOR SHALL PROVIDE AUTOMATIC CONTROL DEVICES, SUCH AS TEMPERATURE SENSORS, RELAYS, PRESSURE SWITCHES WHICH ARE ASSOCIATED WITH MECHANICAL EQUIPMENT AND ASSOCIATED CONTROL WIRING FROM STARTER TO THE CONTROL DEVICE. ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT AND WIRING FROM POWER SOURCE TO DISCONNECT SWITCH, FROM DISCONNECT SWITCH TO STARTER, AND FROM STARTER TO THE EQUIPMENT.
21. ALL CONTROL WIRING EXCEPT IN EQUIPMENT ROOMS SHALL BE RUN CONCEALED. WIRING IN WALLS SHALL BE IN CONDUIT. ALL WIRING SHALL BE PLENUM RATED. CONTROL WIRING IN EXPOSED AREAS SHALL BE BUNDLED AND SECURED OR RUN IN CONDUIT. NO WIRING SHALL BE SURFACE MOUNTED IN FINISHED SPACES. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE.
22. LOCATE THERMOSTATS 48" ABOVE FINISHED FLOOR OR AS NOTED ON THE PLANS.
23. LOCATE AND SIZE 5 1/2" THICK CONCRETE HOUSEKEEPING PADS AND CURBS IN ACCORDANCE WITH ACTUAL EQUIPMENT PURCHASED. EXTEND PAD BEYOND EQUIPMENT FOR 6" IN ALL DIRECTIONS.
24. REFER TO ELECTRICAL DRAWINGS FOR VOLTAGE AND PHASE REQUIREMENTS FOR ALL EQUIPMENT REQUIRING AN ELECTRICAL CONNECTION.

DUCT CONSTRUCTION AND LEAKAGE SCHEDULE

SYSTEM	PRESSURE CLASS	SEAL CLASSIFICATION (PER SMACNA)	LEAKAGE CLASS		DUCT TEST PRESSURE (IN. WC)	NOTES
			RECTANGULAR	ROUND		
RANGE SUPPLY	+3	A	6	3	3.0	1,2
RANGE RETURN	-1.5	A	6	3	-2.0	1,2
RANGE EXHAUST / RELIEF	+1	A	6	3	-	1,3
MEDIUM PRESSURE SUPPLY	+2	A	6	3	+2.0	1,2
LOW PRESSURE SUPPLY	+1	A	6	3	-	1,3
RETURN AIR	-1	A	6	3	-	1,3
GENERAL EXHAUST	-1	A	6	3	-	1,3

NOTES:
1. DUCT CONSTRUCTION SHALL BE IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS.
2. DUCTWORK SHALL BE LEAKAGE TESTED IN ACCORDANCE WITH TESTING PROCEDURES IN SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL.
3. NO LEAKAGE TEST REQUIRED.

DESIGN CONDITIONS

SPACE TYPE	WINTER INDOOR		WINTER OUTDOOR		SUMMER INDOOR		SUMMER OUTDOOR		NOTES
	DB (°F)	%RH	DB (°F)	WB (°F)	DB (°F)	%RH	DB (°F)	WB (°F)	
RANGES	65	-	27.6	-	78 ±2°	50 ±5%	93.3	78.4	1
ADMINISTRATIVE SPACES	70	-	27.6	-	75 ±2°	50 ±5%	93.3	78.4	1
UTILITY SPACES	50	-	27.6	-	-	-	93.3	78.4	1,2
TELECOMMUNICATION EQPT ROOM	70	-	27.6	-	75 ±2°	50 ±5%	93.3	78.4	1

NOTES:
1. OUTDOOR DESIGN TEMPERATURES BASED ON ASHRAE WEATHER DATA FOR WILMINGTON, NC (99% HEATING, 0.4% COOLING DESIGN VALUES).
2. HEAT AND VENTILATION ONLY.

WILMINGTON, NC

HAYNES / LACEWELL POLICE AND FIRE TRAINING FACILITY

3100 JUST STREET, WILMINGTON, NC 28405

DESIGNER

CLARKNEXSEN

213 South Jefferson, Suite 1011
Roanoke, Virginia 24011
540.982.0800
www.clarknexsen.com
Clark Nexsen License Number: C-1028

SEALS

NORTH CAROLINA PROFESSIONAL SEAL 026841 ENGINEER JONATHAN L. DOVER 2018.05.10 13:39:32-04'00'

SUBMITTAL

4 MAY 2018

CONSTRUCTION DOCUMENTS

REVISIONS

SHEET

MECHANICAL LEGEND

M-001

DESIGN: JLD
DRAWN: DRL
REVIEW: EES

CN 5938

5/10/2018 11:41:03 AM
C:\Revit Projects\5938 Police Fire City Training Facility M17_deStrandreth.rvt