

DR. WESLEY GRANT SR. CENTER EXPANSION

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DESIGNER

CLARK NEXSEN

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SEALS



SUBMITTAL

3.12.2021

CONSTRUCTION DOCUMENTS

REVISIONS

NO.	DESCRIPTION

SHEET

MECHANICAL LEGEND, NOTES, DETAILS

M-001

DESIGN: JPN
DRAWN: JPN
REVIEW: RHF
CN 7904-A

GENERAL NOTES

- 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.
- 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.
- ENTIRE INSTALLATION, INCLUDING MATERIALS, EQUIPMENT, AND WORKMANSHIP, SHALL CONFORM WITH ALL APPLICABLE LAWS, CODES, AND REGULATIONS OF MUNICIPAL, STATE AND FEDERAL AUTHORITIES.
- THIS PROJECT SHALL CONFORM TO APPLICABLE ASHRAE, NFPA, AND SMACNA STANDARDS AND OTHER REGULATORY BODIES HAVING JURISDICTION OVER THE CLASS OF WORK.
- MATERIALS AND EQUIPMENT SHALL HAVE STAMPS OR SEALS OF ARI, ASME, UL, AND ASTM.
- THE CONTRACTOR SHALL MAKE TESTS FOR ACCEPTANCE AND APPROVAL AS REQUIRED BY CODE AND THE REQUIREMENTS OF APPLICABLE REGULATORY AGENCIES. REQUIRED TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE GOVERNMENT UNLESS OTHERWISE WAIVED IN WRITING.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, LICENSES, DOCUMENTS, AND SERVICES RELATED TO INSTALLATION OF THE WORK.
- 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.
- EQUIPMENT OF HIGHER ELECTRICAL CHARACTERISTICS MUST BE FURNISHED PROVIDED SUCH EQUIPMENT IS APPROVED IN WRITING AND CONNECTING ELECTRICAL SERVICE CIRCUIT BREAKERS AND CIRCUIT SIZES ARE APPROXIMATELY MODIFIED AT NO COST TO THE OWNER.
- RUN ALL HORIZONTAL PIPING AND DUCTWORK ABOVE CEILING UNLESS OTHERWISE NOTED.
- CONDUITS, AS REQUIRED, IN PRE-EXISTING CONSTRUCTION FOR THE INSTALLATION OF PIPING, DUCTWORK, AND EQUIPMENT. PATCH AND FINISH TO MATCH THE EXISTING ADJACENT CONSTRUCTION.
- MAKE DUCT PENETRATIONS OF ALL WALLS WITH SHEET METAL DUCTS. FLEXIBLE DUCT PENETRATIONS OF WALLS ARE NOT ACCEPTABLE.
- FOR THE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXH. LOCATION OF DIFFUSERS, REGISTERS, AND GRILLES. FINISH AND COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD PALETTE.
- DUCTWORK SIZES ARE INSIDE CLEAR DIMENSIONS.
- ALL ELBOWS IN DUCTWORK SHALL BE RADIUS ELBOWS UNLESS OTHERWISE NOTED. WHERE SQUARE ELBOWS ARE SHOWN, INSTALL TURNING VANES.
- DO NOT INSTALL EQUIPMENT, PIPING OR DUCTWORK OVER ANY ELECTRICAL EQUIPMENT OR ELECTRICAL SERVICE SPACE.
- LAYOUT OF PIPING AND DUCTWORK IS DIAGRAMMATIC. RUN ALL EXPOSED PIPING AND DUCTWORK AS HIGH AS POSSIBLE UNLESS OTHERWISE NOTED. ALLOW FOR RISES, DROPS AND OFFSETS AS REQUIRED.
- 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 1/4" PER FOOT.
- 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.
- 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.
- 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.
- LOCATE THERMOSTATS 48" ABOVE FINISHED FLOOR AS NOTED ON THE PLANS.
- LOCATE AND SIZE CURBS IN ACCORDANCE WITH ACTUAL EQUIPMENT PURCHASED.
- REFER TO ELECTRICAL DRAWINGS FOR VOLTAGE AND PHASE REQUIREMENTS. ALL EQUIPMENT REQUIRE AN ELECTRICAL CONNECTION.
- THE EXISTING HVAC CONTROL SYSTEM THE NEIGHBORING PHASE I BUILDING IS A JOHNSON CONTROLS, INC. SYSTEM INSTALLED UNDER A JCI CONTRACT NO. 00680190 BY THE CLARK NEXSEN. THE OPERATOR WORKSTATION IS LOCATED IN ROOM 108, MECHANICAL. THIS PROJECT SHALL ADD VARIOUS NON-PROTOCOL BACNET HVAC EQUIPMENT CONTROLLERS TO THE EXISTING SYSTEM TO SERVE THE NEW FACILITY. THIS WORK INCLUDES EXISTING WORKSTATION SOFTWARE UPDATES AND PROGRAMMING, AS NECESSARY FOR THE MONITORING, SCHEDULING, CONTROLLING, AND RELAYING OF ALARM CONDITIONS BETWEEN ADDED EQUIPMENT CONTROLLERS AND THE EXISTING CONTROL SYSTEM. ALL HVAC CONTROLLERS' INPUT AND OUTPUT DATA POINTS, SCHEDULING, AND ALARMS, REQUIRED BY THESE CONTRACT DOCUMENTS SHALL BE MADE ACCESSIBLE VIA THE EXISTING CONTROL SYSTEM. PROVIDE SOFTWARE NAVIGATION MENUS TO DISPLAY GRAPHS OF THE FLOOR PLAN AND EQUIPMENT ADDED BY THIS PROJECT, INCORPORATING THESE FEATURES INTO THE EXISTING SYSTEM. PROVIDE OWNER TRAINING FOR UP TO SIX TRAINEES OVER A MINIMUM EIGHT (8) HOUR DAY, USING COPIES OF OPERATIONS AND MAINTENANCE INSTRUCTION MANUALS AND A REAL-TIME DISPLAY OF THE ACTUAL CONTROL SYSTEM. TO TRAIN THE OWNER IN THE USE OF THE MODIFIED CONTROL SYSTEM TO EDIT SET POINTS AND SCHEDULES, DIAGNOSE AND TROUBLE-SHOOT PROBLEMS, RESPOND TO ALARMS, AND SET UP REMOTE TRANSMISSION OF ALARMS VIA TEXT AND EMAIL MESSAGES. SEE DESCRIPTIONS OF BASE BID VS. ALTERNATE NO. M-1 "OWNER PREFERRED ALTERNATE: DDC CONTROLS" IN SPECIFICATIONS.

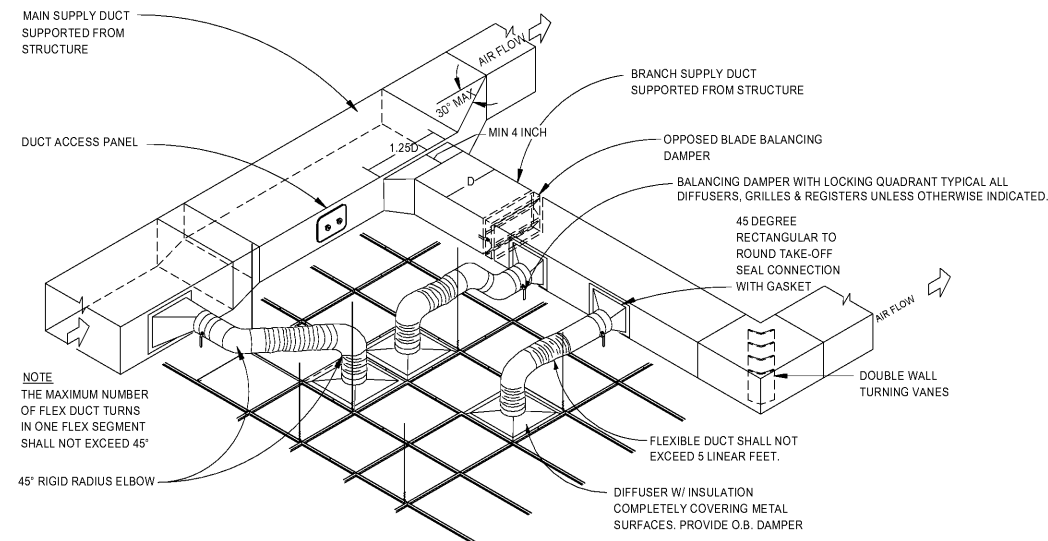
LEGEND

GENERAL

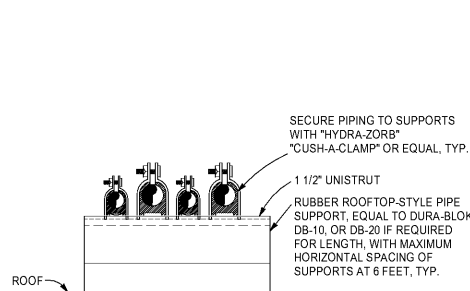
[#]	CONSTRUCTION NOTE IDENTIFICATION
[XXX]	ROOM NUMBER IDENTIFICATION
AFF	ABOVE FINISHED FLOOR
AUTO	AUTOMATIC
CNTRL	CONTROL
CLG	COOLING
CFM	CUBIC FEET PER MINUTE
DAMP	DAMPER
DMD	DEMAND
DIA	DIAMETER
DB	DRY BULB
ELEC	ELECTRIC
EAT	ENTERING AIR TEMPERATURE
EEA	ENTERING EXHAUST AIR
EOA	ENTERING OUTDOOR AIR
EA	EXHAUST AIR
EXT	EXTERNAL
ESP	EXTERNAL STATIC PRESSURE
FT	FEET
MPM	FEET PER MINUTE
HUMID	HUMIDITY
IN	INCHES
LAT	LEAVING AIR TEMPERATURE
LEA	LEAVING EXHAUST AIR
LOA	LEAVING OUTDOOR AIR
MNFR	MANUFACTURER
MAX	MAXIMUM
MIN	MINIMUM
MNTNG/MTG	MOUNTING
NO	NUMBER
OPER	OPERATING
OD	OUTDOOR
OA	OUTDOOR AIR
PD	PRESSURE DROP
RECOV	RECOVERY
RA	RETURN
RTU	ROOF TOP UNIT
RPMT	ROTATIONS PER MINUTE
SA	SUPPLY AIR
VENT	VENTILATION
WG	WATER GAUGE
WB	WET BULB
A	AIR DEVICE DESIGNATION WITH CFM INDICATED
[T]	SPACE TEMPERATURE SENSOR
[H]	SPACE HUMIDITY SENSOR
[CO2]	CARBON DIOXIDE OCCUPANCY SENSOR
[C]	DESTRATIFICATION FAN MANUAL CONTROL

DUCTWORK

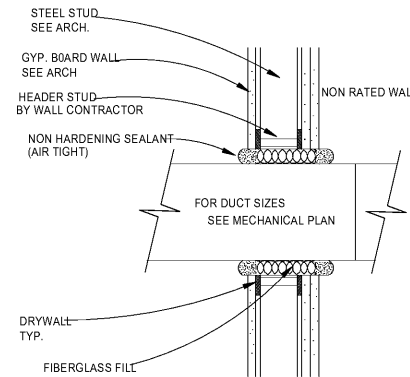
[Symbol]	SUPPLY DUCT TURNING UP (ROUND OR RECTANGULAR)
[Symbol]	SUPPLY DUCT TURNING DOWN (ROUND OR RECTANGULAR)
[Symbol]	RETURN DUCT TURNING UP
[Symbol]	RETURN DUCT TURNING DOWN
[Symbol]	EXHAUST DUCT TURNING UP
[Symbol]	EXHAUST DUCT TURNING DOWN
[Symbol]	CEILING RETURN, EXHAUST OR TRANSFER REGISTER
[Symbol]	CEILING SUPPLY DIFFUSER
[Symbol]	MITERED ELBOW WITH TURNING VANES
[Symbol]	RECTANGULAR DUCTWORK
[Symbol]	FLEXIBLE DUCT CONNECTION
[Symbol]	VOLUME DAMPER
[M]	MOTORIZED CONTROL DAMPER
[Symbol]	INDICATES ROUND DUCTWORK
[Symbol]	RETURN, EXHAUST OR TRANSFER AIR FLOW
[Symbol]	SUPPLY AIR FLOW
[Symbol]	DUCT SMOKE DETECTOR



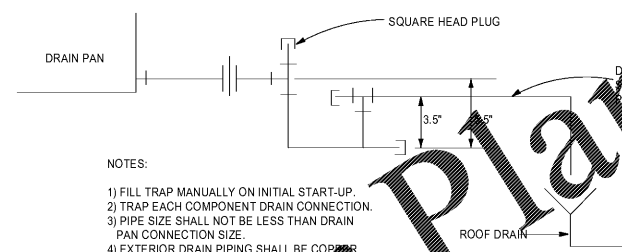
TYPICAL SYSTEM AND MATERIAL INSTALLATION
SCALE: NONE



ROOF PIPE SUPPORT
SCALE: NONE



DUCT PENETRATION DETAIL
SCALE: NONE



CONDENSATE DRAIN PIPING DETAIL
SCALE: NONE

Order Plans @