PART 1 — GENERAL

1.1 - SUMMARY

- A. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION AND FACILITIES NECESSARY FOR, REASONABLY IMPLIED AND INCIDENTAL TO, THE FURNISHING, INSTALLATION, COMPLETION AND TESTING OF ALL THE WORK FOR THE MECHANICAL SYSTEMS AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY JOB CONDITIONS, TO INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
- 1) HVAC UNITS, EQUIPMENT, AND APPURTENANCES, AS APPLICABLE.
- 2) DUCTWORK, FITTINGS, DAMPERS, AND INSULATION.
- 3) CURBS, ROOFING, AND STEEL FRAMING FOR SUPPORT, AS APPLICABLE.
- 4) CONDENSATE PIPING SYSTEMS. AS APPLICABLE.
- 5) TEMPERATURE/LIGHTING CONTROLS.
- B. PRIMARY HEATING AND AIR CONDITIONING UNITS SHALL BE FURNISHED BY THE OWNER AS SCHEDULED UNLESS NOTED OTHERWISE. REFER TO PLANS AND SCHEDULES FOR REQUIREMENTS.
- C. ALL EQUIPMENT SHALL BE COMPLETE IN EVERY RESPECT WITH ALL DEVICES, APPURTENANCES, AND ACCESSORIES PROVIDED TO MEET THE DESIGN INTENT AND OPERATION OF THE SYSTEMS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.
- 1.2 RELEVANT CODES AND CRITERIA
- A. WORK SHALL MEET THE REQUIREMENTS OF THE FOLLOWING STANDARDS:
- 1) STANDARDS REFERENCED IN SPECIFICATION SECTION 15000.
- 2) SMACNA "HVAC DUCT CONSTRUCTION STANDARDS" OR THE MOST STRINGENT APPLICABLE CODE ENFORCED.
- 1.3 SUBMITTALS

A. SHOP DRAWINGS

- 1) NO DUCTWORK SHALL BE FABRICATED PRIOR TO JOB SITE VISIT AND APPROVAL BY THE G.C. SIGNIFICANT DEVIATIONS IN ROUTING OR SIZING OF THE DUCTWORK AND/OR PIPING SYSTEMS MUST BE CLOUDED AND NOTED ON THE SHOP DRAWINGS. THESE SIGNIFICANT DEVIATIONS MUST BE APPROVED BY THE OWNER'S ENGINEER PRIOR TO FABRICATION OR INSTALLATION.
- 2) SUBMIT MANUFACTURERS DUCT SYSTEM CATALOG DATA FOR REVIEW AND APPROVAL. SUBMITTAL SHALL INCLUDE DUCT, FITTING, AND SELF SEALING GASKET CATALOG INFORMATION.

B. SUBSTITUTIONS

- 1) ALTERNATE CONDENSATE PIPING MATERIALS ARE ACCEPTABLE AS A SUBSTITUTION WHEN THEIR USE IS PERMITTED BY THE LANDLORD, LOCAL CODES AND BUILDING DEPARTMENT OFFICIALS AND DOES NOT AFFECT OTHER TRADES.
- 2) ALL SUBSTITUTIONS MUST BE LISTED AND QUALIFIED IN BID.

1.4 - PROJECT SITE/CONDITIONS

- A. BEFORE STARTING WORK, THE CONTRACTOR SHALL VISIT THE JOBSITE AND EXAMINE THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS TO SEQUENCE, COORDINATE, AND INTEGRATE THE VARIOUS ELEMENTS OF THE HVAC SYSTEM, MATERIALS, AND EQUIPMENT WITH OTHER CONTRACTORS TO AVOID INTERFERENCES AND CONFRONTATIONS.
- B. CONTRACTOR MUST PREPARE AND SUBMIT A COMPLETE REFRIGERATION PIPING SCHEMATIC TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING INSTALLATION.
- C. PRIOR TO CONNECTION TO THE LANDLORD'S SYSTEM, CONTRACTOR SHALL OBTAIN WRITTEN CONFIRMATION FROM THE LANDLORD'S FIELD REPRESENTATIVE, THAT ALL TESTING, FLUSHING, AND PROPER FILLING OF THE TENANT'S SYSTEM HAS BEEN COMPLETED IN ACCORDANCE TO THE LANDLORD'S REQUIREMENTS AND THAT THE TENANT'S SYSTEM IS READY TO BE CONNECTED TO THE LANDLORD'S SYSTEM.

.5 – WARRANTY

A. ALL HVAC EQUIPMENT SHALL INCLUDE A FIVE (5) YEAR COMPRESSOR AND TEN (10) YEAR HEAT EXCHANGER WARRANTY.

PART 2 - PRODUCTS

2.1 - EQUIPMENT

- A. ROUND AND FLAT OVAL DUCTWORK
- 1) MATERIAL: ALL DUCT AND FITTINGS SHALL BE G-90 GALVANIZED STEEL FOR OUTDOOR INSTALLATIONS OR G-60 GALVANIZED STEEL FOR INDOOR INSTALLATIONS IN ACCORDANCE WITH ASTM A-924.
- 2) CONSTRUCTION: ALL DUCT AND FITTINGS SHALL BE CONSTRUCTED PER SMACNA'S DUCT CONSTRUCTION STANDARDS +2 IN W.G.

3) FITTINGS:

- a. ALL FITTINGS SHALL BE CONTINUOUSLY STITCH WELDED OR SHALL BE STANDING SEAM GORELOCK CONSTRUCTION AND INTERNALLY SEALED.
- b. THE RADIUS OF ALL 90° AND 45° ELBOWS SHALL BE 1.5 TIMES THE ELBOW DIAMETER. THE RADIUS OF ALL 15°, 30°AND 60° ELBOWS SHALL BE 1.0 TIMES THE ELBOW DIAMETER.
- c. ALL FITTINGS THAT ARE OF EITHER SPOT WELDED OR BUTTON PUNCHED WELDED OR BUTTON PUNCHED CONSTRUCTION SHALL BE INTERNALLY SEALED.
- d. WHEN CONTRACT DOCUMENTS REQUIRE DIVIDED FLOW FITTINGS ONLY FULL BODY FITTINGS WILL BE ACCEPTED.
- e. ALL BRANCH CONNECTIONS SHALL BE MADE AS A SEPARATE FITTING.

f. FIELD INSTALLATION OF TAPS INTO SPIRAL DUCT SHALL NOT BE ALLOWED.

- g. VOLUME DAMPERS SHALL BE SIZED TO SLIP INTO SPIRAL DUCT. DAMPER SHALL
- HAVE THE FOLLOWING FEATURES:
- i. LOCKING QUADRANT WITH BLADE POSITION INDICATOR
- ii. INTEGRAL BLADE ASSEMBLY

B. RECTANGULAR DUCTWORK

- 5) EXCEPT WHERE OTHERWISE INDICATED, CONSTRUCT DUCT SYSTEMS TO THE FOLLOWING PRESSURE CLASSIFICATIONS:
 - a. SUPPLY DUCTS: 2 INCHES W.G. POSITIVE
 - b. RETURN AND EXHAUST DUCTS: 2 INCHES W.G. NEGATIVE
- 2) EXCEPT WHERE OTHERWISE INDICATED, USE DUCT SEALANTS OF THE FOLLOWING PRESSURE CLASSIFICATIONS:
 - a. SUPPLY DUCTS: CLASS B, 3 INCHES W.G. POSITIVE

b. RETURN AND EXHAUST DUCTS: CLASS C, 2 INCHES W.G. NEGATIVE

- 3) IN ACCORDANCE WITH THE ABOVE LISTED CONSTRUCTION AND SEALANT PRESSURE CLASSIFICATIONS, MAXIMUM DUCT AIR LEAKAGE WILL NOT EXCEED 5% AS REQUIRED FOR FINAL AIR BALANCE APPROVAL.
- 4) AS A MINIMUM, CROSS BREAK ALL FLAT SURFACES OR REINFORCE WITH A BEAD APPROXIMATELY 3/8" WIDE X 3/16" DEEP ON 12" CENTERS TO PREVENT VIBRATIONS, REGARDLESS OF DUCT GAUGE.
- 5) INSTALL FACTORY MANUFACTURED DOUBLE THICKNESS TURNING VANES IN ALL 90 DEGREE ELBOWS OVER 36 INCHES IN LENGTH. INSTALL FACTORY MANUFACTURED SINGLE THICKNESS TURNING VANES IN ALL OTHER ELBOWS.
- 6) RECTANGULAR DUCTWORK 12 INCHES AND SMALLER SHALL USE DUCTMATE SLIP & DRIVE CONNECTIONS.
- 7) RECTANGULAR DUCTWORK 14 INCHES AND LARGER SHALL USE DUCTMATE 25/35 CONNECTION SYSTEM WITH DUCTMATE 440 GASKET TAPE.
- 8) DUCT TRANSITIONS SHALL NOT EXCEED 30 DEGREES SLOPE EXCEPT AS SPECIFICALLY NOTED OTHERWISE.
- 9) PROVIDE ACCESS TO ALL MOTORIZED ZONE DAMPERS, FIRE DAMPERS, CONTROLS, AND OTHER ITEMS IN DUCTWORK THAT REQUIRE SERVICE OR INSPECTION. IF THE ACCESS PANEL LOCATION IS EXPOSED TO THE SALES AREA, IT MUST BE APPROVED BY THE G.C.'S CONSTRUCTION MANAGER PRIOR TO INSTALLATION. LAY—IN SUPPLY AND RETURN AIR DIFFUSERS WITH PLASTER FRAMES MAY BE USED AS ACCESS LOCATIONS WHEN WITHIN 2'—0" OF DEVICE.
- 10) ALL DUCTWORK SHALL BE INSTALLED WITH INSIDE CLEAR DIMENSIONS AS NOTED ON DRAWINGS. WHERE DUCTWORK SIZE IS LARGER THAN CONNECTED DEVICE (I.E. DIFFUSER, REGISTER, DUCT MOUNTED EQUIPMENT, ETC.) SMOOTH DUCT TRANSITIONS ARE TO TAKE PLACE JUST PRIOR TO DEVICE CONNECTION. REFER TO DETAILS.

C. SUPPORT SYSTEMS

- 1) INSTALL RIGID ROUND AND RECTANGULAR METAL DUCT WITH SUPPORT SYSTEMS INDICATED IN SMACNA STANDARDS. SUPPORT HORIZONTAL DUCTS WITHIN 2 FEET OF EACH ELBOW AND WITHIN 4 FEET OF EACH BRANCH INTERSECTION USING DOUBLE STRAP HANGERS ON EACH SIDE OF FITTING. SUPPORT VERTICAL DUCTS AT A MAXIMUM INTERVAL OF 16 FEET AND AT EACH FLOOR. NO WOOD SHALL BE USED TO SUPPORT OR BRACE DUCTS. PROVIDE SWAY AND SEISMIC BRACING AS REQUIRED BY STATE AND LOCAL CODES OR BY LANDLORD.
- 2) WHERE DUCTS PASS THROUGH ROOFS AND FLOORS, PROVIDE WITH MINIMUM 1-1/2" x 1-1/2" x 1/8" STEEL ANGLE FRAMES AT EACH SIDE OF OPENING. THE ANNULAR SPACE BETWEEN DUCT AND ANGLE FRAMES SHALL BE CAULKED WITH SILICONE SEALANT OR FIREPROOFED AS REQUIRED BY ASSEMBLY FIRE RATING.

D. FLEXIBLE CONNECTIONS

- 1) FLEXIBLE COLLARS SHALL BE FURNISHED AND INSTALLED AT ALL CONNECTIONS BETWEEN VIBRATING EQUIPMENT (FANS, AIR HANDLERS, ROOFTOP UNITS, ETC.) AND DUCTS OR CASINGS. ALSO, FURNISH AND INSTALL FLEXIBLE CONNECTIONS WHERE DUCTS CROSS BUILDING EXPANSION JOINTS.
- 2) FLEXIBLE CONNECTIONS SHALL BE CONSTRUCTED OF NEOPRENE—COATED FLAMEPROOF FABRIC. PROVIDE ADEQUATE JOINT FLEXIBILITY TO ALLOW FOR MOVEMENT AND PREVENT THE TRANSMISSION OF VIBRATION.
- a. OUTDOOR APPLICATIONS: DURODYNE DUROLON OR APPROVED EQUAL.

b. INDOOR APPLICATIONS: DURODYNE EXCELON OR APPROVED EQUAL. E. VIBRATION ISOLATION DEVICES

- 1) VIBRATION ISOLATION DEVICES SHALL BE FURNISHED AND INSTALLED IN ALL SUPPORTS BETWEEN VIBRATING EQUIPMENT (FANS, AIR HANDLERS, ETC.) AND STRUCTURE.
- 2) VIBRATING EQUIPMENT HUNG FROM STRUCTURE SHALL BE ISOLATED WITH RUBBER AND SPRING DEVICES. VIBRATING EQUIPMENT SUPPORTED FROM FLOOR OR DECK SHALL BE ISOLATED WITH HOUSED SPRING MOUNT DEVICES.
- 3) EXAMINE DEAD LOAD AND OPERATING LOAD CONDITION WHEN SELECTING DEVICES.

 ADJUST FOR PROPER ALIGNMENT AND LOADING. AVOID "GROUNDING" THE ISOLATOR.
- 4) CHECK HANGER ROD SIZE FOR ALLOWABLE LOADS AT THE ISOLATING DEVICE AND AT THE UPPER AND LOWER ATTACHMENTS TO STRUCTURES, DUCTS, EQUIPMENT, ETC.
- 5) CONSULT MANUFACTURER FOR APPLICATION DATA.
- 6) VIBRATION ISOLATION SHALL COMPLY WITH LOCAL CODES AND SEISMIC REQUIREMENTS AS APPLICABLE.

F. FLEXIBLE DUCT

G. VOLUME DAMPERS

- 1) FLEXIBLE DUCT SHALL BE INSULATED CLASS 1 AND RATED FOR THE OPERATING PRESSURE OF THE SYSTEM.
- 2) FLEXIBLE DUCT SHALL BE THERMAFLEX M-KC OR APPROVED EQUAL.
- 3) FLEXIBLE DUCT MAY ONLY BE USED IN LOCATIONS WITH ACCESSIBLE CEILINGS.
- 4) FLEXIBLE DUCT SHALL NOT EXTEND OVER 5'-0" IN LENGTH AT ANY ONE LOCATION.
- 1) FURNISH AND INSTALL MANUAL LOCKING QUADRANT VOLUME CONTROL DAMPERS WITH
- HANDLE OPERATORS AS SHOWN ON PLANS TO FACILITATE AIR BALANCING.
- 2) RECTANGULAR VOLUME DAMPERS SHALL BE RUSKIN MD-25 OR APPROVED EQUAL.

 3) ROUND VOLUME DAMPERS SHALL BE RUSKIN MDRS-25 OR APPROVED EQUAL.

H. FIRE DAMPERS

- 1) RECTANGULAR FIRE DAMPERS SHALL BE RUSKIN DFD60.
- 2) ROUND FIRE DAMPERS SHALL BE RUSKIN FDR25.
- 3) PROVIDE FIRE DAMPERS WITH ACCESS DOORS.
- I. COMBINATION FIRE AND SMOKE DAMPERS
- 1) RECTANGULAR COMBINATION FIRE AND SMOKE DAMPERS SHALL BE RUSKIN FSD60.
- 2) ROUND COMBINATION FIRE AND SMOKE DAMPERS SHALL BE RUSKIN FSDR25.
- 3) PROVIDE COMBINATION FIRE AND SMOKE DAMPERS WITH ACCESS DOORS.

NEW STORE

SATHLETA

GAP INC.
STORE DEVELOPMENT
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SAN FRANCISCO. CA 94105

61.D.:

ON PARK

7341 STORE LOCATIO STORE LOCATION

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PROTOTYPE DATE: 1/8/2021
OPENING: 2021

ARCHITECT INFO:



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