A1 SIZE – 594mm x 841mm

HEATING, VENTILATING, AND AIR CONDITIONING PIPE AND FITTING SYMBOLS

SEE PROCESS LEGEND SHEET

HVAC ABBREVIATIONS

ACU	AIR CONDITIONING UNIT
ACD	ACCESS DOOR
AHU	AIR HANDLING UNIT
BD	BUTTERFLY DAMPER BALANCING DAMPER
BDD	BACKDRAFT DAMPER
BLR	BOILER
BOD	BOTTOM OF DUCT
BOG	BOTTOM OF GRILLE
BOP	BOTTOM OF PLENUM
CA	COMBUSTION AIR
CF	CEILING FAN
CT	COOLING TOWER
CU	AIR-COOLED CONDENSING UNIT
DG	DOOR GRILLE
DN	DOWN
EA	EXHAUST AIR
EF	EXHAUST FAN
FC	FAIL IN CLOSED POSITION
FD	FIRE DAMPER
FO	FAIL IN OPEN POSITION
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FSD	COMBINATION FIRE AND SMOKE DAMPER
HE	HEAT EXCHANGER
HUM	HUMIDIFIER
MAU	MAKE-UP AIR UNIT
MD	MOTORIZED DAMPER
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OED	OPEN END DUCT
RA	RETURN AIR
R	REFRIGERANT PIPE
SA	SUPPLY AIR
SF	SUPPLY FAN
SD	SLOT DIFFUSER
TU	TERMINAL UNIT
UH	UNIT HEATER
VD	VOLUME DAMPER

VALVE SYMBOLS

SINGLE LINE / DOUBLE LINE

GATE
BUTTERFLY
GLOBE
BALL
SEATING PORT
ECCENTRIC PLUG
PLUG OR COCK
NEEDLE
SWING CHECK
BALL CHECK

OR

B — BALANCING FITTING

F B — COMBINATION FLOWMETER AND BALANCING FITTING

F B S.O. — COMBINATION FLOWMETER, BALANCING FITTING AND SHUT-OFF VALVE

PRESSURE RELIEF

AIR VENT (AUTO)

AIR VENT (MANUAL)

REGULATED SIDE PRESSURE CONTROL

M — MOTORIZED VALVE – 3 WAY

M — MOTORIZED VALVE – 2 WAY

MISCELLANEOUS PIPING SYMBOLS

X — STEAM TRAP X = NO. IN SPECS

FS — FLOW SWITCH

FIT — FLOW METER

PS H — PRESSURE SWITCH

STRAINER

H — GAUGE WITH COCK

T — THERMOMETER

VALVE DESIGNATIONS

MANUAL VALVES AND CHECK VALVES

CV-G201A

- ASSOCIATED TO PUMP P-G201
- PROCESS AREA 'G'
- CHECK VALVE

CONTROL VALVES

- ACTUATOR SYMBOL
- FLOW DIRECTION
- VALVE SYMBOL
- FLOW DIRECTION

HEATING, VENTILATING, AND AIR CONDITIONING SYMBOLS

WALL REGISTER OR GRILLE (SUPPLY)

CEILING DIFFUSER OR REGISTER (SUPPLY)

CEILING REGISTER OR GRILLE (RETURN AND EXHAUST)

WALL REGISTER OR GRILLE (RETURN AND EXHAUST)

TURNING VANES

45 DEGREE ENTRY

CONICAL TEE

BELLMOUTH

SD — SMOKE DAMPER

FD — FIRE DAMPER

MANUAL OPPOSED-BLADE DAMPER

MANUAL BUTTERFLY DAMPER

M — MOTORIZED DAMPER

SOUND ATTENUATED DUCT

FLEXIBLE CONNECTION

FLEXIBLE DUCTWORK

R — INCLINED RISE IN DUCT

D — INCLINED DROP IN DUCT

SUPPLY DUCT (SECTION)

INTAKE, RETURN, OR EXHAUST DUCT (SECTION)

CGD — COMBUSTIBLE GAS DETECTOR

KS — TIMER

TS — ROOM THERMOSTAT

TT — ROOM TEMPERATURE TRANSMITTER

PT — ROOM PRESSURE TRANSMITTER

MT — ROOM MOISTURE TRANSMITTER

CP — HVAC CONTROL PANEL

(200 L/s) — 200 L/s

I — SMOKE DETECTOR

PDT — DIFFERENTIAL PRESSURE TRANSMITTER

U — UNDERCUT DOOR

L — LOUVERED DOOR

CO — CARBON MONOXIDE

H2S — HYDROGEN SULFIDE

TSH — HIGH TEMP ALARM

NG — NATURAL GAS SENSOR

SUPPLY, RETURN, EXHAUST, OR TRANSFER GRILLE/REGISTER IDENTIFICATION

550x550 GR-K610-1

- COMPONENT NUMBER
- PROCESS AREA HVAC NUMBER
- SPECIFICATION DESCRIPTION
- DIMENSIONS IN MILLIMETERS

SUPPLY DIFFUSER IDENTIFICATION

250 GR-K610-1

- COMPONENT NUMBER
- PROCESS AREA HVAC NUMBER
- SPECIFICATION DESCRIPTION
- NECK DIMENSIONS IN MILLIMETERS

HVAC DUCT IDENTIFICATION

600x300 – EA

- SERVICE
- SIZE

HVAC EQUIPMENT IDENTIFICATION

SF-K610

- PROCESS AREA HVAC NUMBER
- HVAC EQUIPMENT IDENTIFICATION

HVAC GENERAL NOTES:

1. THIS IS A STANDARD LEGEND. THEREFORE SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE DRAWINGS.
2. DUCT AND PIPING ELEVATIONS SHOWN ARE APPROXIMATE. FIELD VERIFY ELEVATIONS PRIOR TO INSTALLATION. EXCEPT WHERE DIMENSIONS ARE SPECIFICALLY INDICATED, MECHANICAL DRAWINGS ARE GENERALLY DIAGRAMMATIC AND SHALL NOT BE SCALED. SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO SCALE WHERE POSSIBLE. DRAWINGS INDICATE THE REQUIRED SIZE AND ROUTES OF SYSTEM ELEMENTS. IT IS NOT INTENDED TO INDICATE ALL OFFSETS, RISERS, OR FITTINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL SYSTEM ELEMENTS IN A MANNER TO CONFORM TO BUILDING STRUCTURE AND TO AVOID OBSTRUCTIONS.
3. THE CONTRACTOR SHALL PROVIDE OFFSETS IN THE PIPING AND DUCT RUNS WHERE REQUIRED TO CLEAR EXISTING AND NEW DUCT, STRUCTURE AND OTHER PIPING SYSTEMS.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF LOUVERS AND ROOF OPENINGS.
5. COORDINATE FINAL LOCATIONS OF FLOOR AND HUB DRAINS THAT RECEIVE CONDENSATE DRAINAGE FROM HVAC EQUIPMENT.
6. TRANSITIONS TO ALL EQUIPMENT SHALL BE VERIFIED AND PROVIDED FOR EQUIPMENT FURNISHED.
7. ARRANGE EQUIPMENT INTO THE AVAILABLE SPACE IN A MANNER TO MAKE ALL WORKING PARTS ACCESSIBLE FOR MAINTENANCE AND SERVICE.
8. REFER TO DRAWING(S) 1-0102-MDTL-A005 TO A007 FOR STANDARD DETAILS OF HVAC SYSTEM EXCEPT AS NOTED.
9. REFER TO DRAWING(S) 1-0102-PPID-A001 AND 1-0102-DDTL-A008 FOR HVAC EQUIPMENT DENTIFICATIONS AND PIPING IDENTIFICATIONS.
10. ITEMS SHOWN AS EXISTING ARE BASED ON AVAILABLE DOCUMENTATION AND MAY NOT ACTUALLY BE REPRESENTATIVE OF THE EXISTING INFRASTRUCTURE. THE DESIGN ENGINEER IS ONLY RESPONSIBLE FOR INFRASTRUCTURE THAT IS SHOWN AS A NEW INSTALLATION. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE STATE OF THE EXISTING INFRASTRUCTURE THAT MAY HAVE AN IMPACT ON THE INSTALLATION OF NEW EQUIPMENT.

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No. 1441

NO.	REVISIONS	DATE	DESIGN	CHECK
03	ISSUED FOR CONSTRUCTION – 976-2016	2017/04/05	K.F.	J.C.
02	ISSUED FOR CONSTRUCTION	10/2015	K.F.	J.C.
01	ISSUED FOR 60% PRELIMINARY REVIEW	09/2015	K.F.	J.C.
00	ISSUED FOR TENDER	08/2015	A.M.	J.C.

CH2MHILL. SNC·LAVALIN KGS GROUP

DESIGNED BY: T. TRAN
CHECKED BY: D. CUDDINGTON
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APPROVED BY: H.T. FREIHAMMER
SCALE: NTS
ISSUED FOR CONSTRUCTION BY: J. SHUMKA
DATE: 2017/04/05
DATE: 2017/04/05
CONSULTANT NO.: 474248

ENGINEER'S SEAL
PROVINCE OF MANITOBA — T.T. TRAN Member 40578 — REGISTERED PROFESSIONAL ENGINEER
T.T. Tran 2017/04/31

Winnipeg
THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

SOUTH END WATER POLLUTION CONTROL CENTRE
SEWPCC UPGRADING/EXPANSION PROJECT
MECHANICAL
LEGEND AND GENERAL NOTES (1)

CITY DRAWING NUMBER	SHEET	REV.	SIZE
1-0102-MAAA-A001	001	03	A1

PLOT DATE: 2017\03\31
FILE NAME: 1-0102-MAAA-A001-001.dgn