

### ROOF TOP UNITS

UNIT NUMBER	LOCATION	MANUFACTURER	MODEL	NOMINAL TONS	SUPPLY FAN MOTOR (kW)	S/A FLOW @ E.S.P. (L/S @ kPA)	MAXIMUM O/A FLOW (L/S)	MINIMUM O/A FLOW (L/S)	HEATING INPUT (kW)	HEATING OUTPUT (kW)	EFFICIENCY
RTU-1	ROOF	TRANE	YZD180F3RVB	15	2.2	2820 @ 249	767	378	41-102 MODULATING	33-84 MODULATING	12.5 EER
RTU-2	ROOF	TRANE	YZD180F3RVB	15	2.2	2820 @ 249	865	305	41-102 MODULATING	33-84 MODULATING	12.5 EER
RTU-3	ROOF	TRANE	YZC060E3RZA	5	0.47	940 @ 249	219	43	38	30.5	12.9 EER/19.4 SEER

RTU-1,2 - DIRECT DRIVE BLOWER WITH 100% MODULATING ENTHALPY ECONOMIZER, WITH BAROMETRIC RELIEF DAMPER, CUSTOM 914MM HIGH CDI CURB WITH 700mmx700mm SIDE SUPPLY AND RETURN OPENINGS, DIGITAL DISPLAY WIRELESS TEMPERATURE SENSOR WIRED TO BAS SYSTEM, NIGHT SETBACK MODE, RETURN AIR TEMPERATURE LIMIT CONTROL, STAINLESS STEEL HEAT EXCHANGER, CONDENSATE DRIP PAN, WARM UP MODE DELAY, DUCT-MOUNTED (RETURN AIR DUCT) CO2 CONTROL WITH DEMAND VENTILATION CONTROLS, VAV STANDARD MOTOR, STANDARD MERV 8 PLEATED FILTERS, MODULATING GAS HEAT, ULTRA HIGH EFFICIENCY COOLING, CRANKCASE HEATERS.

RTU-3 - ULTRA HIGH EFFICIENCY, HIGH GAS HEAT, STAINLESS STEEL HEAT EXCHANGER, 100% MODULATING ENTHALPY ECONOMIZER BAROMETRIC RELIEF, SINGLE ZONE VAV, STANDARD PANEL/50mm PLEATED MERV 8 FILTERS, DUCT-MOUNTED (RETURN AIR DUCT) CO2 SENSOR WITH DEMAND VENTILATION CONTROL, DIGITAL DISPLAY WIRELESS TEMPERATURE SENSOR WIRED TO BAS SYSTEM.

### AIR HANDLING UNIT AND CONDENSING UNIT

UNIT NUMBER	LOCATION	MANUFACTURER	MODEL	NOMINAL TONS	SUPPLY FAN MOTOR (kW)	S/A FLOW @ E.S.P. (L/S @ kPA)	O/A FLOW (L/S)	HEATING INPUT (kW)	EFFICIENCY	REMARK
AHU-1	MECH/ELEC ROOM 107	TRANE	SPV28040J3P5AA	-	373	272 @ 249	76	7.6/11.7	96 AFUE	
CU-1	OUTDOOR ON WALL	TRANE	4TTR6018JI	1.5	-	-	-	-	14.0 EER/17 SEER	O/A TEMPERATURE SENSOR, CRANKCASE HEATER, EVAPORATOR, DEFROST CONTROL

### FANS

UNIT NUMBER	LOCATION	MANUFACTURER	MODEL	FLOW (L/S)	E.S.P. (PA)	POWER (W)	REMARK
EF-1	HIGH LEVEL IN PROGRAM ROOM STORAGE 114	GREENHECK	CSP-A700	265	124	315	C/W SPRING VIBRATION ISOLATION, BACK DRAFT DAMPER, STEEL WALL CAP.
EF-2	CEILING OF STAFF ROOM 105	GREENHECK	CSP-A290	106	124	92	C/W ROUND DUCT CONNECTOR, SPRING VIBRATION ISOLATION, BACK DRAFT DAMPER, STEEL WALL CAP.
EF-3	MECH/ELEC ROOM 107	GREENHECK	CSP-A1410	536	124	661	C/W DEHUMIDISTAT, MOTORIZED DAMPERS ON INLET AND OUTLET, OUTDOOR TEMPERATURE SENSOR, SPRING VIBRATION ISOLATION KIT.
SF-1	VESTIBULE MAIN ENTRANCE 101	GREENHECK	SQ-100-A	400	124	186	C/W SPRING VIBRATION ISOLATION, FILTER BOX.

### HUMIDIFIERS

UNIT NUMBER	LOCATION	MANUFACTURER	MODEL	CAPACITY (KG/HR)	POWER (KW)
H-1	MECH/ELEC ROOM 107	CAREL	UE035XW0U1	35	26.25
H-2	MECH/ELEC ROOM 107	CAREL	UE035XW0U1	35	26.25

### SUBMERSIBLE EFFLUENT PUMPS

UNIT NUMBER	LOCATION	MANUFACTURER	MODEL	FLOW (LPM)	HEAD (M WC)	POWER (W)	REMARKS
SP-1A/B AND SP-2A/B	CRAWLSPACE	ZOELLER	E57	130	3.0	224	15m POWER CORD, 13PM SPHERICAL SOLIDS HANDLING, VARIABLE LEVEL CONTROL SYSTEMS, CUSTOM ZOELLER DUPLEX CONTROL PANEL C/W MAGNETIC STARTER, ALARM BEACON AND AUDIBLE ALARM, HORN RATED TO 83 DBA AT 3M WITH ALARM RESET, HORN SILENCE AND ALARM TEST TOGGLE SWITCHES, 9V BATTERY BACKUP, AUXILIARY DRY CONTACTS FOR REMOTE ALARM AND PUMP STATUS FOR LEAD AND LAG PUMPS, FOUR (4) 15m FLOAT SWITCHES WITH 4 VARIABLE LEVEL CONTROL OPERATION AND ALTERNATING MECHANISM, HIGH LEVEL ALARM MONITORED BY BMS.

### DOMESTIC WATER HEATERS

UNIT NUMBER	LOCATION	MANUFACTURER	MODEL	HEATING CAPACITY (kW)	WATER CAPACITY (L)
DWH-1	MECH/ELEC 107	BRADFORD WHITE	LE23053-3	6	114
DWH-2	CEILING OF UNIVERSAL TOILET ROOM 116	BRADFORD WHITE	LE23053-3	6	114

### ELECTRIC HEATING COIL

UNIT NUMBER	LOCATION	MANUFACTURER	MODEL	DIMENSIONS WxHxD (mm)	HEATING CAPACITY (kW)	REMARK
EH-1	VESTIBULE DUCT	EH PRICE	DF CF00H	350x350x125	8.0	STCB-13 THERMOSTAT

C/W AUTOMATIC THERMAL CUTOUT, MAGNETIC CONTACTOR, MANUAL THERMAL CUTOUT, TRANSFORMER, NEPTRONIC CONTROLLER, ELECTRONIC AIRFLOW SENSORS, SCR CONTROLLER, CONTROL PANEL NEMA 1, ROUND ADAPTER.

### GRILLES, REGISTERS, DIFFUSERS - SUPPLIED AND INSTALLED BY MECHANICAL SUBCONTRACTOR

TAG	MANUFACTURER	MODEL	DESCRIPTION/REMARKS
S-1	E.H. PRICE (TITUS/NAILOB)	SDA / SDS75	TYPE 2 (CONCEALED SURFACE MOUNT) FRAME, MIDDLE SECTIONS TYPE Y OPEN END, END SECTIONS TYPE Z FLUSH END CAP (ONE SIDE), BLACK ANODIZED FINISH, PLENUMS SUSPENDED FROM STRUCTURE WITH CABLES, GRILLE MOUNTED TO PLENUMS WITH MOUNTING BRACKETS. REFER TO DRAWING FOR NUMBER OF SLOTS.
S-2	E.H. PRICE (TITUS/NAILOB)	SDA / SDS100	TYPE 2 (CONCEALED SURFACE MOUNT) FRAME, MIDDLE SECTIONS TYPE Y OPEN END, END SECTIONS TYPE Z FLUSH END CAP (ONE SIDE), BLACK ANODIZED FINISH, REFER TO DRAWING FOR NUMBER OF SLOTS.
S-3	E.H. PRICE (TITUS/NAILOB)	SDA / SDS50	TYPE 14 (T-BAR LAY-IN). REFER TO DRAWING FOR NUMBER OF SLOTS.
S-4	E.H. PRICE (TITUS/NAILOB)	SPD	
S-5	E.H. PRICE (TITUS/NAILOB)	SDA / SDS50	TYPE 2 (CONCEALED SURFACE MOUNT) FRAME, MIDDLE SECTIONS TYPE Y OPEN END, END SECTIONS TYPE Z FLUSH END CAP (ONE SIDE), BLACK ANODIZED FINISH, PLENUMS SUSPENDED FROM STRUCTURE WITH CABLES, GRILLE MOUNTED TO PLENUMS WITH MOUNTING BRACKETS. REFER TO DRAWING FOR NUMBER OF SLOTS.
S-6	E.H. PRICE (TITUS/NAILOB)	SDA / SDS50	TYPE 2 (CONVEALED SURFACE MOUNT) FRAME, C/W TYPE X MITERED END FLANGE (BOTH SIDES), BLACK ANODIZED FINISH. REFER TO DRAWING FOR NUMBER OF SLOTS.
R-1	E.H. PRICE (TITUS/NAILOB)	80	
R-2	E.H. PRICE (TITUS/NAILOB)	SDR100	TYPE 2 (CONCEALED SURFACE MOUNT) FRAME, MIDDLE SECTIONS TYPE Y OPEN END, END SECTIONS TYPE Z FLUSH END CAP (ONE SIDE), GRILLES SUSPENDED FROM STRUCTURE WITH CABLES. REFER TO DRAWING FOR NUMBER OF SLOTS.
E-1	E.H. PRICE (TITUS/NAILOB)	80	

### VENTILATION SUMMARY (BASED ON ASHRAE 62.1-13)

UNIT	ROOM	ROOM AREA (SQ.M)	AREA RATE (L/S/SQ.M)	OCCUPANT	OCC RATE (L/S/OCC)	VENTILATION EFFECTIVENESS	O/A (L/S)
	102 LIBRARY SERVICES COUNTER	34	0.60	6	2.5	0.8	44
	103 LIBRARY SERVICES WORKROOM	77	0.60	15	2.5	0.8	105
	105 STAFF ROOM	20	0.60	4	2.5	0.8	28
	106 CORRIDOR	14	0.30	0	0	0.8	5
	109 TUTORIAL ROOM	12	0.30	4	2.5	0.8	17
	110 TUTORIAL ROOM	12	0.30	4	2.5	0.8	17
	111 BRANCH HEAD OFFICE	14	0.30	2	2.5	0.8	12
	112 MAIN LIBRARY AREA NORTH EXTERIOR	111	0.60	22	2.5	0.8	152
	112 MAIN LIBRARY AREA NORTH CORE	288	0.60	56	2.5	0.8	391
	112 MAIN LIBRARY AREA SOUTH CORE	288	0.60	56	2.5	0.8	391
	112 MAIN LIBRARY AREA SOUTH EXTERIOR	119	0.60	22	2.5	0.8	158
	113 MULTIPURPOSE PROGRAM ROOM	95	0.30	60	2.5	0.8	223
	114 PROGRAM ROOM STORAGE	15	0.30	0	2.5	0.8	6
						TOTAL	1548
						TOTAL SUPPLY REQUIRED	1548
						TOTAL SUPPLY DESIGN	1851
						TOTAL EXHAUST DESIGN	371

### GAS SUMMARY

ITEM	INPUT (KW)
RTU-1	103.00
RTU-2	103.00
RTU-3	38.00
AHU-1	12.00
TOTAL	256.00

A 19mm GAS SERVICE IS REQUIRED DOWNSTREAM OF GAS METER BASED ON A PRESSURE OF 34 KPA AND A TOTAL EQUIVALENT LENGTH OF 67 METERS.

1 2017.02.21 ISSUED FOR CONSTRUCTION

No. DATE REVISION / ISSUANCE

Seal



ENGINEERS  
GEO-SCIENTISTS  
MANITOBA  
Certificate of Authorization  
CGM Engineering Ltd.  
No. 6241

Consultant

**CGM** 2-472 STRADBROOK AVENUE  
WINNIPEG, MB R3L 0J9  
(204) 272-3255  
ENGINEERING LTD. | J O B : 1 6 1 1 2

Architect

**Cibinel**  
Architecture Ltd

560 ACADEMY ROAD, WINNIPEG, MB R3N 0E3  
T. 204 989 8910 F. 204 989 8920

Project

**TRANSCONA LIBRARY**  
1500 PLESSIS ROAD, WINNIPEG, MANITOBA

Sheet Title

**MECHANICAL  
SCHEDULES**

Project No.

1487

Sheet

**M-301**