

# 1W FIT-UP AND M&E UPGRADE

## 240 SPARKS STREET, OTTAWA, ONTARIO

### MECHANICAL

DRAWING LIST	
SYMBOL	DESCRIPTION
M1	MECHANICAL DRAWING LIST, LEGEND, DETAILS & SCHEDULES
M2	MECHANICAL FIRE PROTECTION & PLUMBING DEMOLITION
M3	MECHANICAL FIRE PROTECTION & PLUMBING NEW WORK
M4	MECHANICAL HVAC DEMOLITION
M5	MECHANICAL HVAC NEW WORK
M6	MECHANICAL CONTROLS NEW WORK

GENERAL LEGEND	
SYMBOL	DESCRIPTION
—	EXISTING PIPING/DUCTWORK/EQUIPMENT
----	EXISTING PIPING/DUCTWORK/EQUIPMENT TO BE REMOVED/RELOCATED
----	NEW/RELOCATED PIPING/DUCTWORK/EQUIPMENT
(E)	DEMOTES EXISTING EQUIPMENT
(R)	DEMOTES RELOCATED EQUIPMENT
(N)	DEMOTES NEW EQUIPMENT
(X)	DEMOTES EQUIPMENT TO BE REMOVED

FIRE PROTECTION LEGEND	
SYMBOL	DESCRIPTION
—F—	FIRE STANDPIPE
—S—	SPRINKLER PIPE
○	SEMI-RECESSED SPRINKLER
○ C	CONCEALED SPRINKLER
○ D	DRY SPRINKLER
⊗	UPRIGHT SPRINKLER
⊗	HIGH TEMPERATURE UPRIGHT SPRINKLER
D	WINDOW SPRINKLER
K1	SIDEWALL SPRINKLER
○ FE1	FIRE EXTINGUISHER
FHC	FIRE HOSE CABINET
FS	FLOW SENSOR
SV	SUPERVISED VALVE
ITS	INSPECTOR TEST STATION

PLUMBING/UTILITIES LEGEND	
SYMBOL	DESCRIPTION
----	PIPING BELOW GRADE/SLAB
—DCW—	DOMESTIC COLD WATER PIPING
—DHW—	DOMESTIC HOT WATER PIPING
—DHW—	DOMESTIC HOT WATER RECIRCULATION PIPING
—SAN—	SANITARY PIPING
—ST—	STORM PIPING
—COND—	CONDENSATE PIPING
—V—	VENT PIPING
—HWS—	HEATING WATER SUPPLY
—HWR—	HEATING WATER RETURN
—S—	SPRINKLER PIPING
—F—	FIRE STANDPIPE PIPING
—RL—	REFRIGERANT LIQUID
—RS—	REFRIGERANT SUCTION
—CGS—	CHILLED GLYCOL SUPPLY PIPING
—CGR—	CHILLED GLYCOL RETURN PIPING
—CHWS—	CHILLED WATER SUPPLY PIPING
—CHWR—	CHILLED WATER RETURN PIPING
⊗ FD1	FLOOR DRAIN (TYPE)
—	PIPING OFFSET
—	BRANCH PIPING DOWN
—	PIPING DOWN
—	PIPING UP
—	CAP
—	P-TRAP
—	CLEAN OUT
—BICO	FLOOR CLEAN OUT
—	ISOLATION VALVES
—	CIRCUIT BALANCING VALVE
—	BACK FLOW PREVENTER
—	PRESSURE REGULATING VALVE
—	SCREWED UNION
—	AUTOMATIC AIR VENT C/W VALVE
—	THERMOMETER
—	PRESSURE GAUGE C/W VALVE
—	PUMP (P)
—	A/C UNIT
—	CONDENSER UNIT (CU)
—	REHEAT COIL (RH)
—	STRAINER
—	CHECK VALVE
—	CONTROL VALVE
—	RELIEF VALVES

HVAC LEGEND	
SYMBOL	DESCRIPTION
—	RECTANGULAR DUCTWORK
—	ROUND DUCTWORK
—	ACOUSTICALLY LINED DUCTWORK (RETURN OR SUPPLY)
—	SILENCER (SL)
—	ROUND DUCTWORK OFFSET
—	RECTANGULAR DUCTWORK OFFSET
—	DUCTWORK UP
—	DUCTWORK DOWN
—	RECTANGULAR TO ROUND TRANSITION
—	TAKE-OFF C/W BALANCING DAMPER
—	TAKE-OFF
—	ANNULAR JET DIFFUSER
—	SQUARE SUPPLY DIFFUSER (TYPE)
—	LINEAR SUPPLY DIFFUSER (TYPE)
—	SUPPLY GRILLE (SG)
—	RETURN GRILLE (RG)
—	EXHAUST GRILLE (EG)
—	TRANSFER GRILLE (TG)
—	TRANSFER OPENING (TO)
—	ACOUSTICALLY LINED TRANSFER DUCT (TD)
—	BALANCE DAMPER (BD)
—	MOTORIZED DAMPER
—	FIRE DAMPER (FD)
—	FLEXIBLE CONNECTION
—	VARIABLE AIR VOLUME BOX (VAV)
—	MULTI-OUTLET ATTENUATOR
—	TURNING VANES
—	INLINE CABINET FAN (TYPE)
—	REFUSER TAG
—	DIFFUSER TYPE
—	NECK SIZE

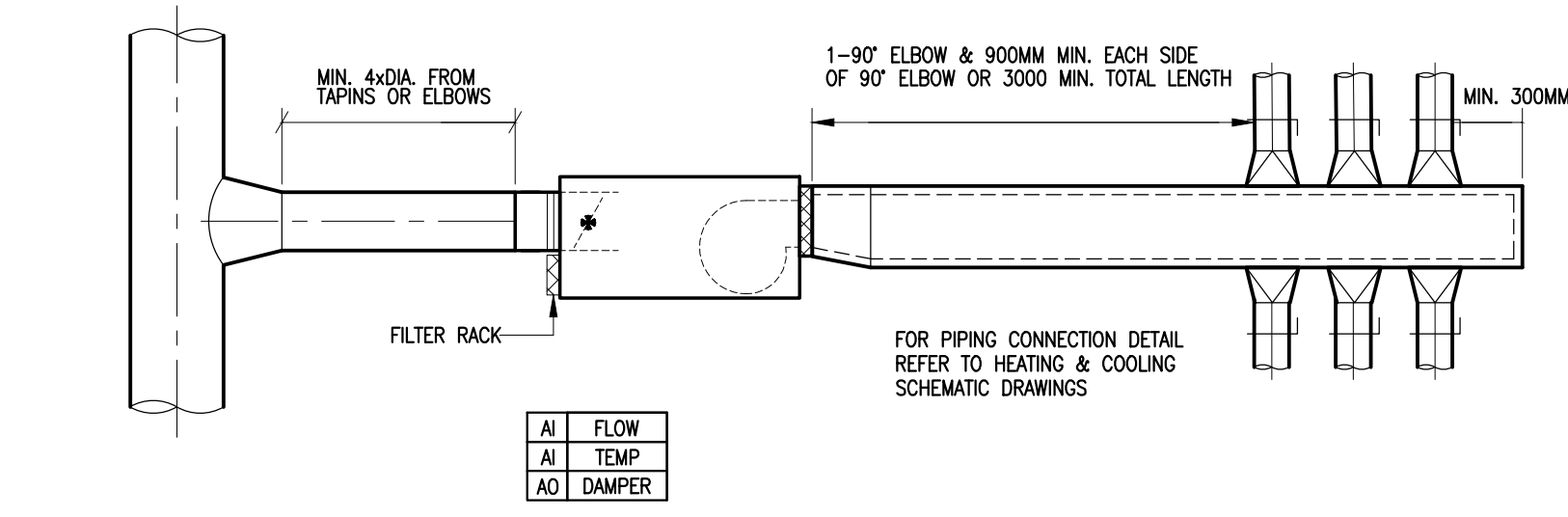
CONTROLS LEGEND	
SYMBOL	DESCRIPTION
—	LOW VOLTAGE CONTROL WIRING
—	THERMOSTAT
—	THERMOSTAT (CEILING MOUNTED)
—	SPEED CONTROLLER
—	LIGHTING AND INTEGRATED CONTROL (LIC) MODULE
—	SOLAR SENSOR
—	DDC CONTROL POINT

ELEVATION TYP. PERIMETER BULKHEAD	
7	N.T.S.

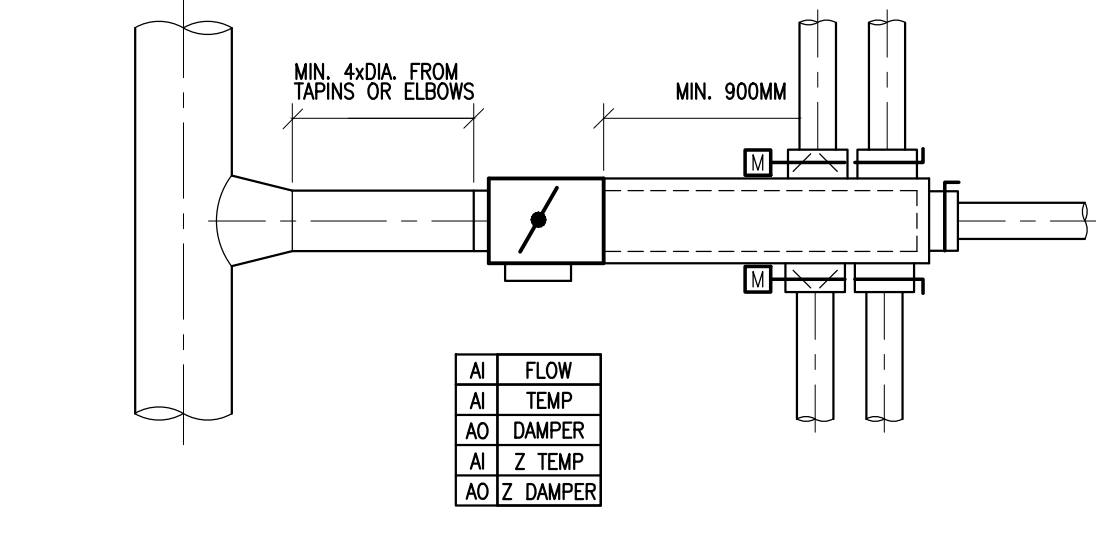
TRANSFER DUCT SCHEDULE			
UNIT NO.	WIDTH (mm)	HEIGHT (mm)	REMARKS
TD1/T.01	200	200	—
TD2/T.02	300	250	—
TD3/T.03	450	250	—

VAV TERMINAL UNIT SCHEDULE			
UNIT NO.	INLET (mm)	MAX. AIR FLOW (L/s)	OUTLET (mm x mm)
VAV-6	150	150	300 x 200
VAV-8	200	350	300 x 250
VAV-10	250	500	350 x 300
VAV-12	300	750	400 x 350

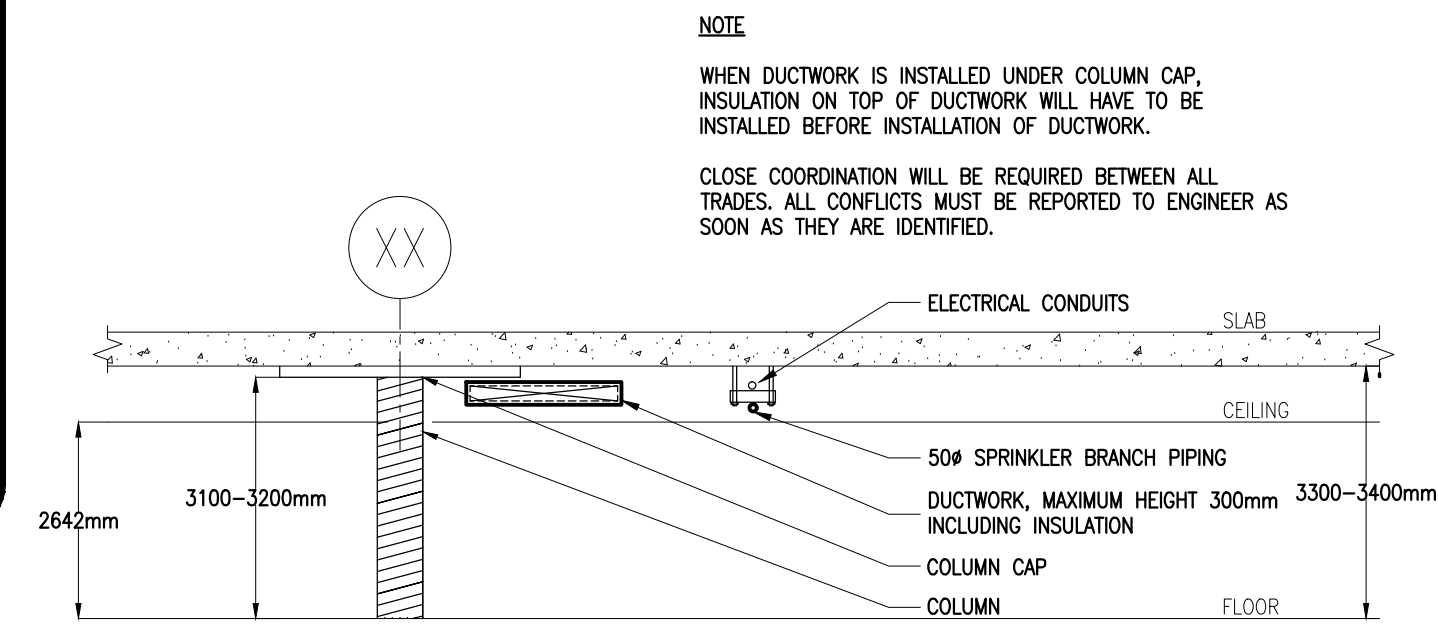
NOTES: 1. BALANCE VAV BOX MAXIMUM FLOWS TO TOTAL OF CONNECTED DIFFUSERS.  
2. BALANCE VAV BOX MINIMUM TO 25% OF MAXIMUM.



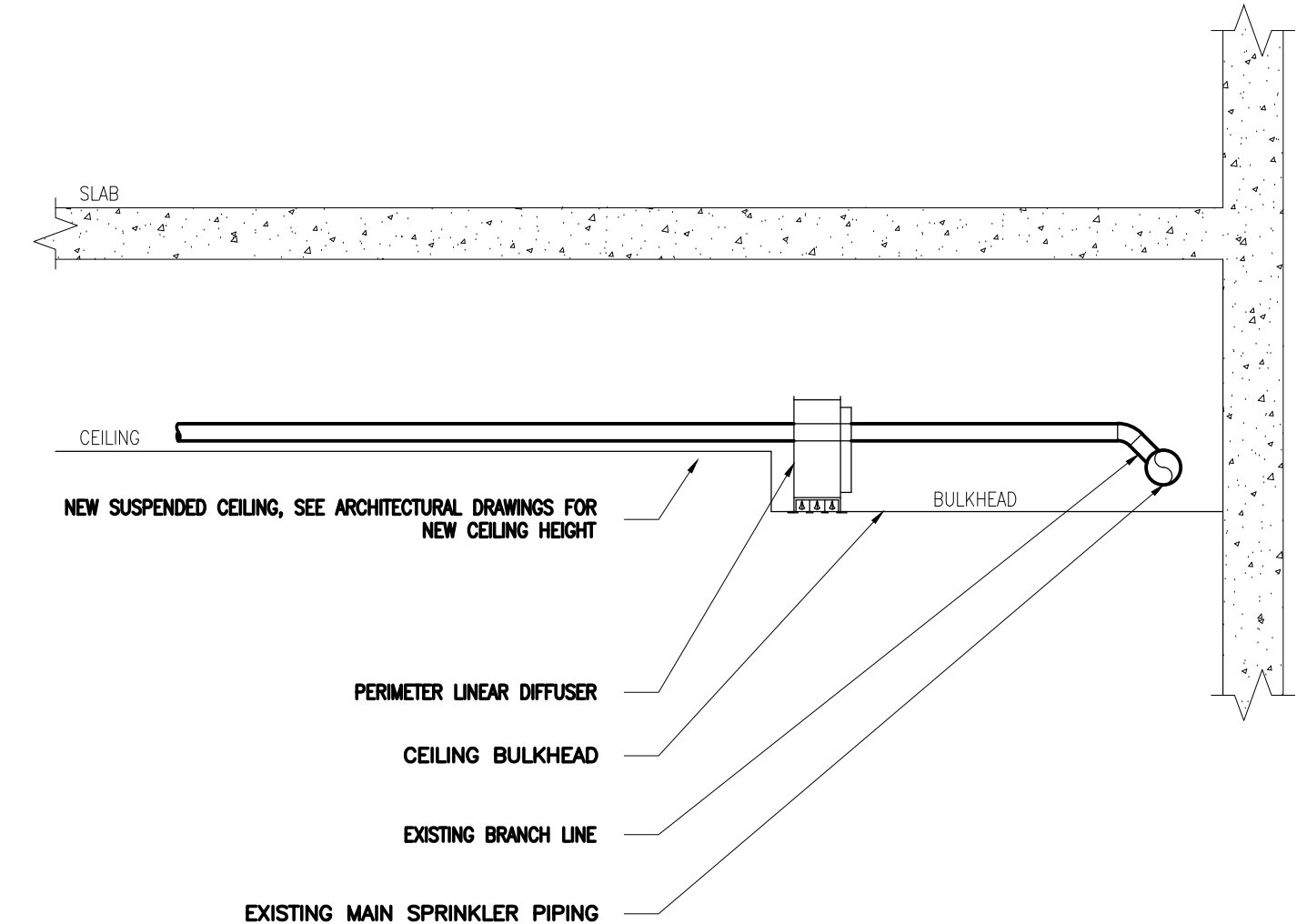
1  
M1  
N.T.S.



4  
M1  
N.T.S.

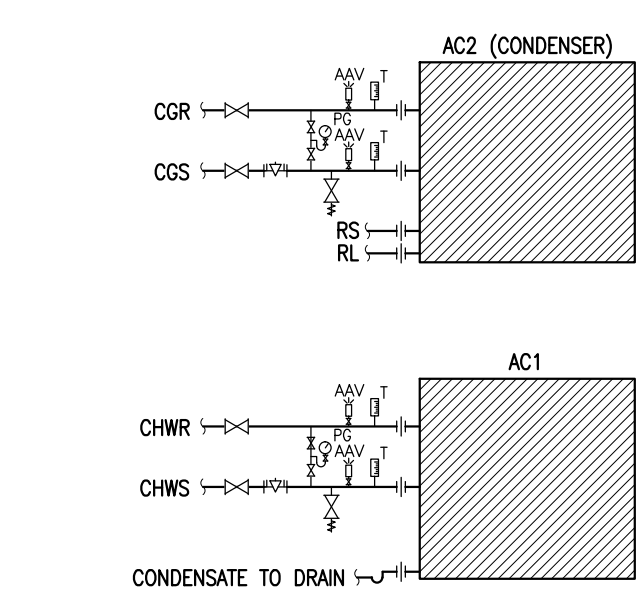


6  
M1  
1:100

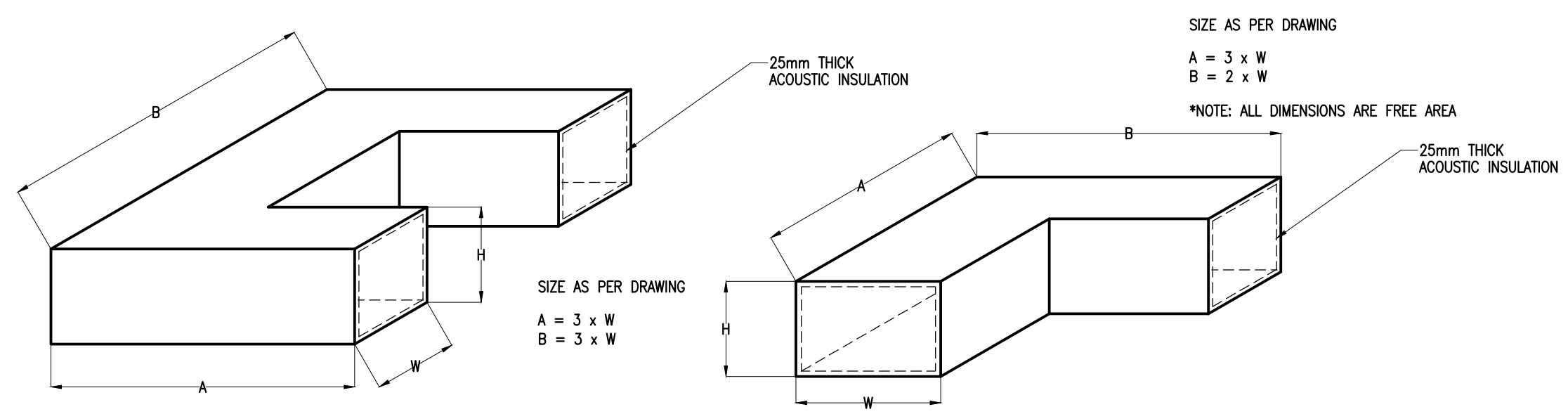


7  
M1  
1:20

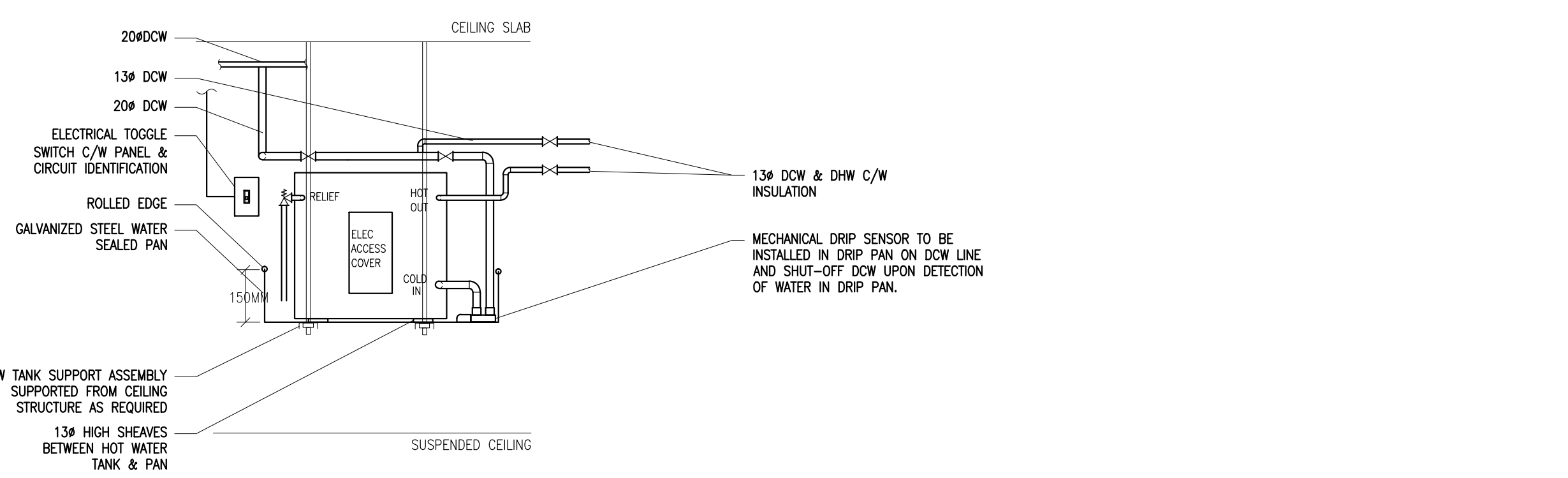
NOTE: WHEN DUCTWORK IS INSTALLED UNDER COLUMN CAP, INSULATION ON TOP OF DUCTWORK WILL HAVE TO BE INSTALLED BEFORE INSTALLATION OF DUCTWORK.  
CLOSE COORDINATION WILL BE REQUIRED BETWEEN ALL TRADES. ALL CONDUITS MUST BE REPORTED TO ENGINEER AS SOON AS THEY ARE IDENTIFIED.



8  
M1  
N.T.S.



2  
M1  
N.T.S.



5  
M1  
N.T.S.

ELECTRIC DOMESTIC WATER HEATER SCHEDULE						
UNIT NO.	LOCATION	INPUT (kW)	STORAGE CAPACITY (LITRES)	RECOVERY RATE (L/s) @ 38°CΔT	ELECTRICAL DATA V/PH/Hz AMPS	REMARKS
DHWT1	KITCHENETTE 1W 122	1.5	25	—	120/1/60	—

NOTES: 1. FOR DETAILS REFER TO SPECIFICATIONS.

A/C UNIT SCHEDULE										
UNIT NO.	LOCATION	TOTAL CAPACITY (kW)	SENSIBLE CAPACITY (kW)	ENTERING WATER TEMP. (°C)	CHILLED WATER FLOW RATE (L/s)	SUPPLY AIR (L/s)	SUPPLY FAN ESP (Pa)	HUM. CAPACITY (kg/hr)	FAN MOTOR (HP)	ELECTRICAL DATA V/PH/Hz MCA/MOP
AC1	ELECTRICAL ROOM	7.1	6.5	5.5	0.33	590 (100%)	75	—	1/2	208/1/60
AC2	TELECOM ROOM 1W 126	17.0	14.6	—	1.03 (GLYCOL)	1180	125	3.6	1.5	208/3/60
AC3	ELECTRICAL ROOM	7.9	5.5	5.5	0.24	345	75	—	1/5	208/1/60

NOTES: 1. FOR DETAILS REFER TO SPECIFICATIONS.  
2. ALL AC UNITS TO HAVE BACNET INTERFACE.  
3. ALL AC UNITS TO HAVE WALL MOUNTED THERMOSTAT/CONTROLLER.

PUMP SCHEDULE									
LOCATION	FUNCTION	TYPE	PUMP DATA				ELECTRICAL DATA		
UNIT NO.	KITCHENETTE 1W 122	DRAIN PUMP	DESIGN FLOW (L/s)	DESIGN HEAD (kPa)	2nd FLOW POINT (L/s)	2nd HEAD POINT (kPa)	RPM	MIN. EFFICIENCY (%)	HP
1	1	1	1.0	45	1.5	30	3450	—	1/3

NOTES: 1. FOR DETAILS REFER TO SPECIFICATIONS.

FAN POWERED TERMINAL UNIT SCHEDULE										
UNIT NO.	LOCATION	MAX. PRIMARY AIR (L/s)	MIN. PRIMARY AIR (L/s)	MAX. RETURN AIR (L/s)	TOTAL SUPPLY AIR (L/s)	INLET DIAMETER (mm)	MOTOR SIZE (HP)	FILTERS	ELECTRICAL DATA V/PH/Hz FLA	CONTROL TYPE (PNEU/EL/DDC)
FPB01A&B	ROOM 1W 117B	250	50	250	300	200	1/2	25mm THICK	120/1/60 5.8	DDC
FPB02	ROOM 1W 130	250	50	250	300	200	1/2	25mm THICK	120/1/60 5.8	DDC
FPB03	ROOM 1W 142	250	50	250	300	200	1/2	25mm THICK	120/1/60 5.8	DDC
FPB04	ROOM 1W 151	250	50	250	300	200	1/2	25mm THICK	120/1/60 5.8	DDC

NOTES: 1. FOR DETAILS REFER TO SPECIFICATIONS.  
2. ALL FPB SHALL HAVE A SINGLE POINT POWER SUPPLY.

FAN SCHEDULE									
UNIT NO.	LOCATION	FUNCTION	FAN DATA				ELECTRICAL DATA		
UNIT NO.	KITCHENETTE 1W 122	EXHAUST	TYPE	DRIVE (BELT/DIRECT)	AIR FLOW (L/s)	ESP (Pa)	FAN SPEED (RPM)	SONES	V/PH/Hz MOTOR (WATTS)
TF1	1	1	CEILING	DIRECT	100	125	1000	2.5	120/1/60 83.1

NOTES: 1. FOR DETAILS REFER TO SPECIFICATIONS.  
2. DISCONNECT SWITCH BY DIV. 16.

Public Works and Government Services Canada  
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L'ENTREPRENEUR DEVRA VÉRIFIER TOUTES LES DIMENSIONS ET LES CONDITIONS SUR LE CHANTIER ET AVISER SANS DÉLAI L'INGÉNIEUR DE TOUTE ANOMALIE.

Contractor to verify all dimensions & conditions on site and immediately notify the engineer of all discrepancies.

revisions	description	date
7	ISSUED FOR ADDENDUM 1	2015/01/07
6	RE-ISSUED FOR TENDER	2014/11/04
5	ISSUED FOR TENDER	2014/10/20
4	ISSUED FOR 100% REVIEW	2014/10/01
3	ISSUED FOR 99% REVIEW	2014/08/15
2	ISSUED FOR COORDINATION	2014/08/05
1	ISSUED FOR 66% REVIEW	2014/07/09

project

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OTTAWA, ONTARIO

drawing

dessin

MECHANICAL  
DRAWING LIST, LEGENDS,  
DETAILS & SCHEDULE

Designed By S.HAMILTON Conçu par  
Date 2014/05 (yyyy/mm/dd)

Drawn By S.VALLIER Dessiné par  
Date 2014/05 (yyyy/mm/dd)

Reviewed By S.HAMILTON Examiné par  
Date 2014/05 (yyyy/mm/dd)

Approved By S.HAMILTON Approuvé par  
Date 2014/05 (yyyy/mm/dd)

Tender Soumission

STEPHANIE CORMIER  
Project Manager Administrateur de projets  
Project No. No. du projet  
R.064703.002

Drawing No. No. du dessin  
M1