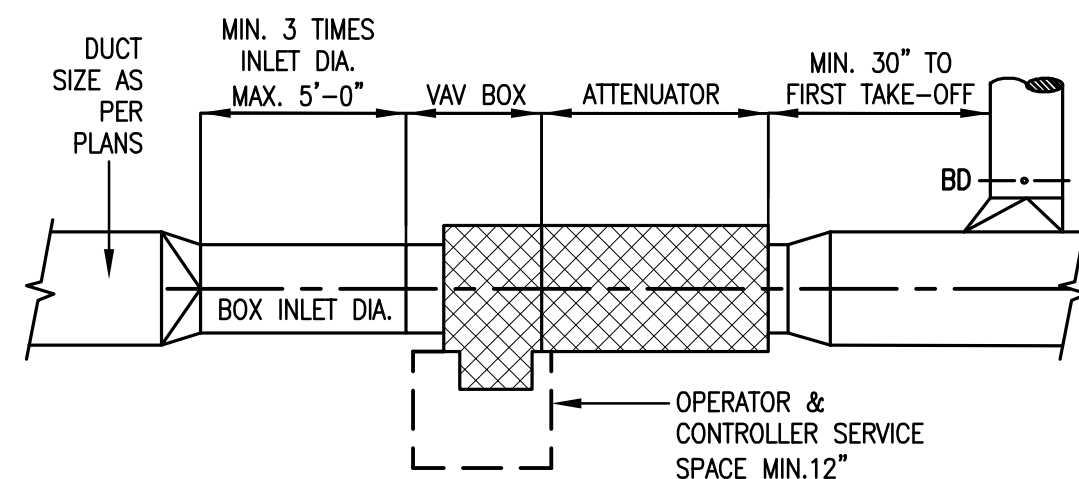
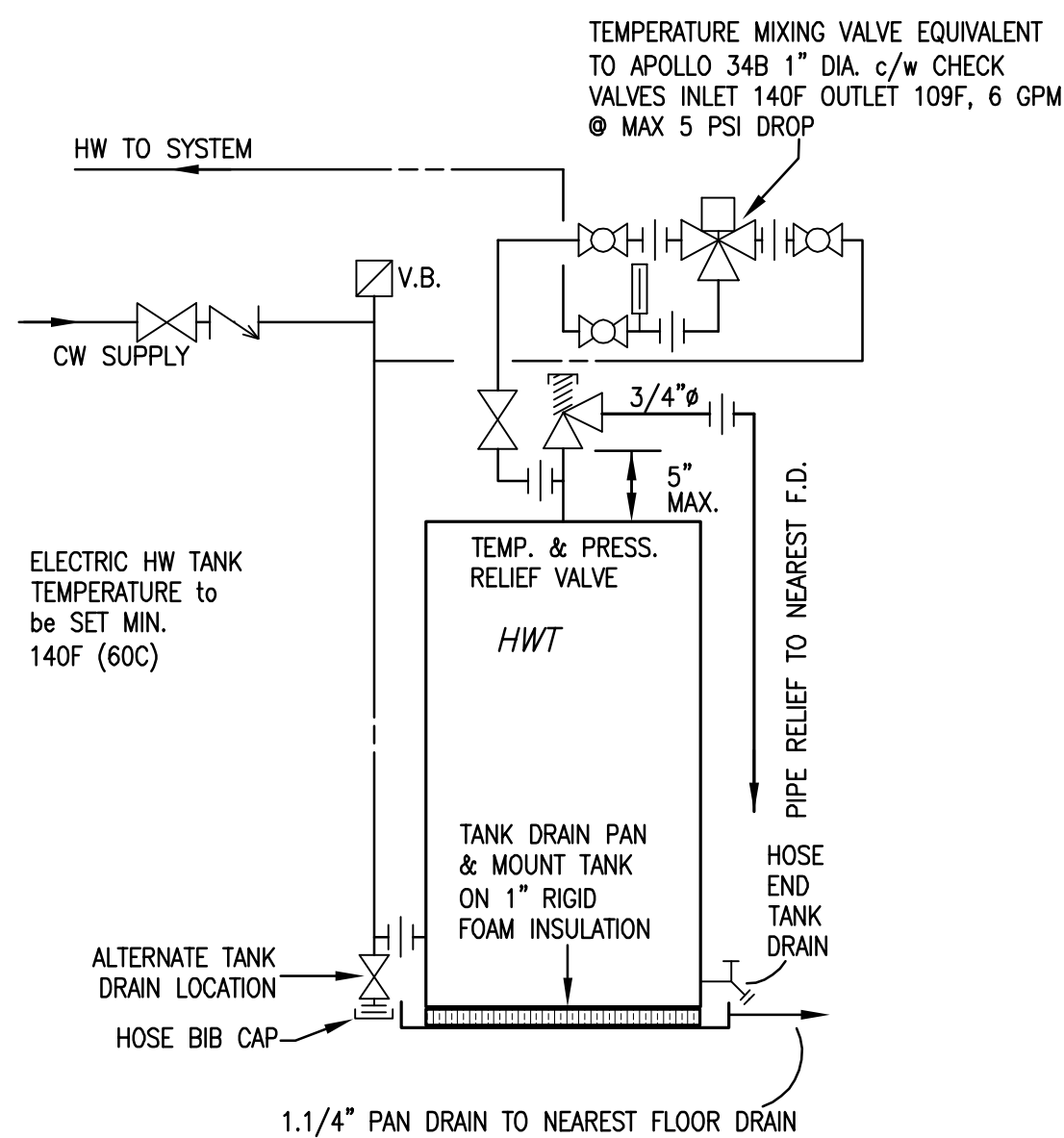


## TYPICAL VAV BOX



1 TYPICAL VAV BOX (TYPICAL)  
H17 N.T.S.

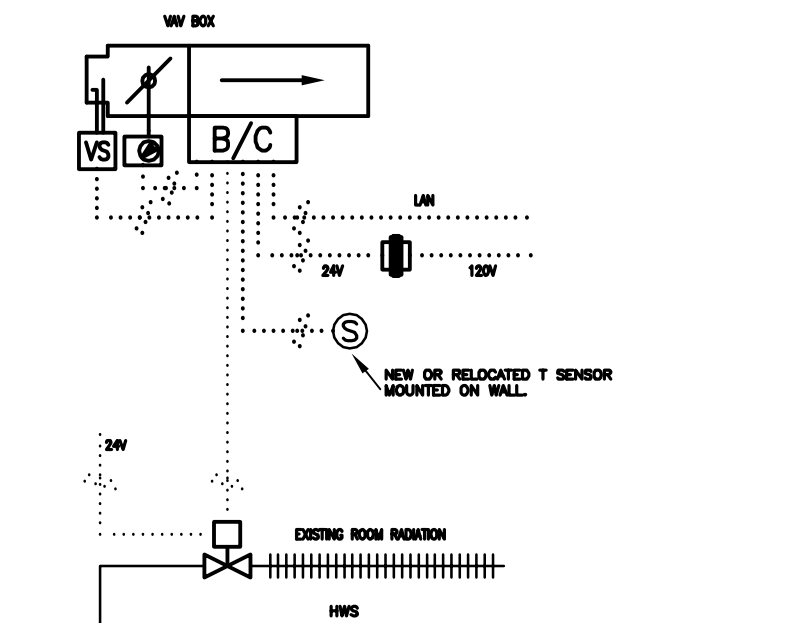


2 ELECTRIC HOT WATER HEATER (TYPICAL)  
H17 N.T.S.

## LEGEND

| SYMBOL | POWER | DESCRIPTION   |
|--------|-------|---|
| ---    | -     | NEW HEATING SUPPLY PIPE   |
| -H-    | -     | EXISTING ELECTRICAL WIRING (2 WIRE)                               |
| -H-    | -     | NEW ELECTRICAL WIRING (2 WIRE)                                    |
| ⊗      | 24V   | EXISTING ELECTRICAL SHUTTER MOTOR                                 |
| ⊗      | 120V  | EXISTING ELECTRICAL TRANSFORMER 120V-24V                          |
| VS     | LV    | EXISTING AIR FLOW VELOCITY SENSOR                                 |
| B/C    | 24V   | EXISTING VAV BOX CONTROLLER                                       |
| ⊗      | 24V   | EXISTING 2-WIRE FILL PUMP, 2 FORMAL, PUL-SAT, MOUNT CONTROL, WIRE |
| ⊗      | 24V   | NEW OR RELOCATED TEMPERATURE SENSOR                               |

## SCHEMATIC



## SEQUENCE

VAV BOX CONTROLLER WILL VARY AIR FLOW RATE TO SPACE TO MAINTAIN TEMPERATURE ADJUSTABLE SET POINT ON THERMOSTAT (INITIALLY SET AT 20C) IF TEMPERATURE CONTINUES TO FALL BELOW SET POINT SIGNAL TO BE SENT TO TWO CONTROL VALVE TO OPEN AS TEMPERATURE RISES TO SET POINT AND VALVE IS TO CLOSE.

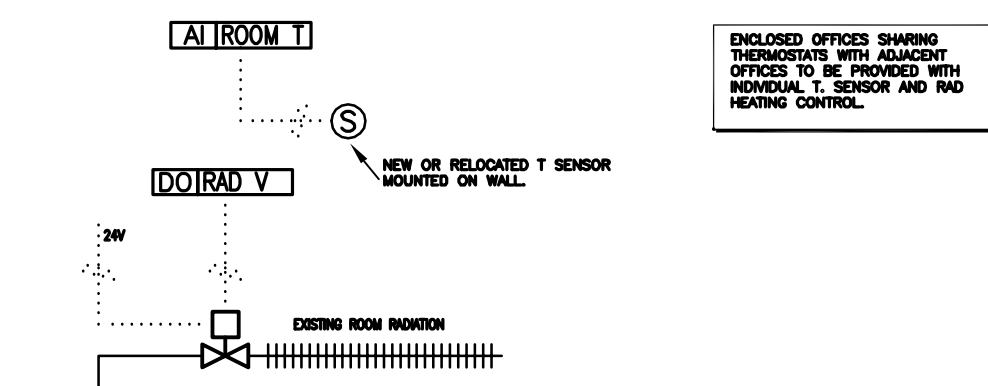
NOTES:  
COMMUNICATIONS NETWORK IS TO BE RUN IN A SEPARATE CONDUIT FROM POWER SUPPLY.  
CONTROLS CONTRACTOR TO SUPPLY ELECTRICAL WIRING, TRANSFORMER AND EMT CONDUITS.  
REMOVE EXISTING BRANCH LINE PNEUMATIC TUBING (CONTROL AIR SUPPLY), PNEUMATIC RAD CONTROL VALVE AND V/P RELIEF.

3 ROOM VAV AND HOT WATER HEATING RAD CONTROL (TYPICAL)  
H17 N.T.S.

## LEGEND

| SYMBOL    | POWER | DESCRIPTION                         |
|-----------|-------|-------------------------------------|
| ---       | -     | NEW HEATING SUPPLY PIPE             |
| -H-       | -     | EXISTING ELECTRICAL WIRING (2 WIRE) |
| -H-       | -     | NEW ELECTRICAL WIRING (2 WIRE)      |
| ⊗         | 24V   | NEW OR RELOCATED TEMPERATURE SENSOR |
| AI/ROOM T | LV    | CONTROL PUMP (VALVES AS)            |
| DO/RAD V  | LV    | CONTROL PUMP (RADIAL RAD)           |

## SCHEMATIC

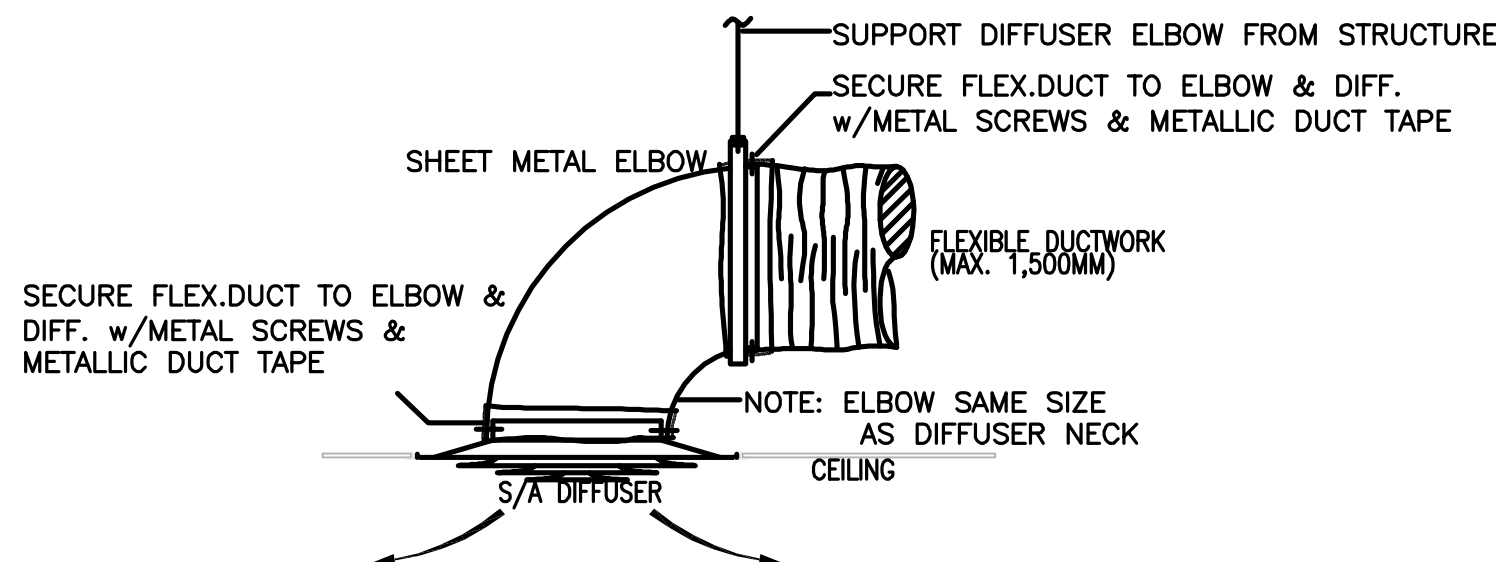


## SEQUENCE

WHEN THE ROOM TEMPERATURE FALLS BELOW THE SETPOINT, THE MOTORIZED VALVE(S) IS OPENED.

NOTES:  
COMMUNICATIONS NETWORK IS TO BE RUN IN A SEPARATE CONDUIT FROM POWER SUPPLY.  
CONTROLS CONTRACTOR TO SUPPLY ELECTRICAL WIRING, TRANSFORMER AND EMT CONDUITS.  
REMOVE EXISTING BRANCH LINE PNEUMATIC TUBING (CONTROL AIR SUPPLY), PNEUMATIC RAD CONTROL VALVE AND V/P RELIEF.

4 ROOM HOT WATER HEATING RAD CONTROL (TYPICAL)  
H17 N.T.S.



5 DIFF. FLEX CONNECTION (TYPICAL)  
H17 N.T.S.

## SERVICE WATER HEATING EQUIPMENT

| TAG   | DESCRIPTION   |
|-------|---|
| HWT-1 | ELECTRIC WATER HEATER; HEATING INPUT 2 KW; STORAGE CAPACITY 37.9 L; DIAMETER 400mm; |
| HWT-2 | HEIGHT 581mm. 208/1/60;   |

## PLUMBING FIXTURE SCHEDULE

| ITEM  | DESCRIPTION                 | WATER |    |    | SAN | VENT | NOTES  |
|---|-----------------------------|-------|----|----|-----|------|--|
|   |                             | CW    | HW | TW |     |      |  |
| S1  | KITCHEN SINK (BARRIER FREE) | 13    | 13 | -  | 38  | 32   | 20 GAUGE, TYPE 302 STAINLESS STEEL SINGLE COMPARTMENT SINK. OVERALL SIZE 520x510. 3.38" HOLE WITH 200 CENTER. LESS OVERFLOW C/W CRUMB CUP OFFSET WASTE ASSEMBLY. CHROME PLATED CAST BRASS. 150 RADIUS GOOSENECK SPOUT. 75mm METAL BLADE HANDLES. 0.03L/s VANDAL PROOF AERATOR C/W QUARTER TURN SHUT OFF VALVES, TRAP C/W CLEANOUT. |
| ABBREVIATIONS :<br>CW - DOMESTIC COLD WATER TW - TEMPERED WATER<br>HW - DOMESTIC HOT WATER SAN - SANITARY |                             |       |    |    |     |      |  |

## KITCHEN UV PURIFIER SCHEDULE

| TAG  | DESCRIPTION  |
|------|--|
| UV-1 | ELECTRIC RECESSED CEILING MOUNT UV AIR PURIFIER, 610 X 610 X 229 MM, 120V 16W, 71 CFM, |
| UV-2 | NRTL/C, CSA CERTIFIED  |
| UV-3 | INLET FILTER: 355 X 203 MM POLYPROPYLENE   |
| UV-4 | OUTLET FILTER: 355 X 203 MM ACTIVATED CARBON   |
|      | AIR EXPOSURE (PER PASS) TO UV: 160 MILLISECONDS  |

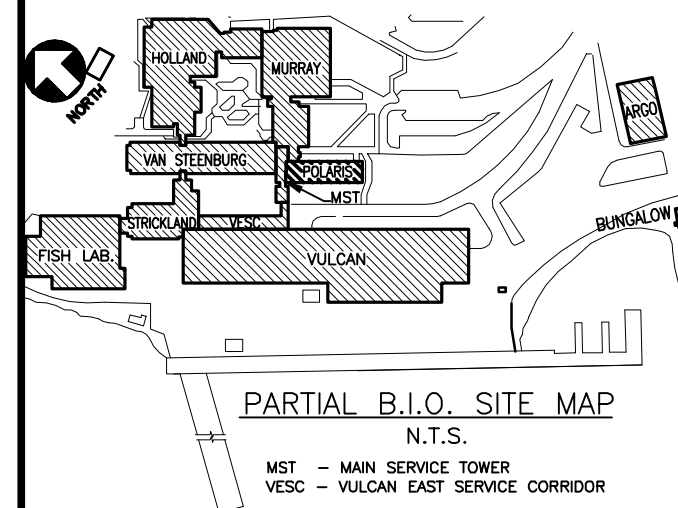
## DIFFUSER / GRILLE SCHEDULE

| DESIGNATION   | NECK (MM) | FACE (MM) | PANEL (MM) | NOTES                                  |
|---|-----------|-----------|------------|--|
| A   | 100       | 300 X 300 | 600 X 600  | T-BAR LAY-IN, FINISH TO MATCH EXISTING |
| B   | 150       | 600 X 600 | 600 X 600  | T-BAR LAY-IN, FINISH TO MATCH EXISTING |
| C   | 200       | 600 X 600 | 600 X 600  | T-BAR LAY-IN, FINISH TO MATCH EXISTING |
| R   | -         | -         | 600 X 600  | T-BAR LAY-IN, EGGRATE                  |
| S/A DESIGNATION: A14 AIR PATTERN R/A DESIGNATION: R AIR CAPACITY: 100 |           |           |            |  |

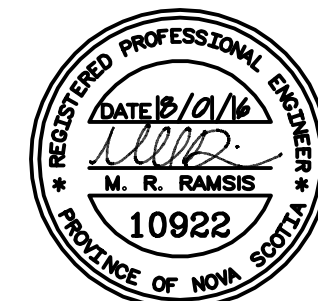
## VAV BOX SCHEDULE

| TAG    | ROOM                  | MIN (L/S) | MAX (L/S) | NOTES                 |
|--------|-----------------------|-----------|-----------|-----------------------|
| VAV117 | OFFICE 106            | 30        | 45        | SEE NOTES 1 THROUGH 9 |
| VAV218 | OFFICE 214            | 45        | 145       | SEE NOTES 1 THROUGH 9 |
| VAV219 | QUIET ROOM 206        | 30        | 90        | SEE NOTES 1 THROUGH 9 |
| VAV319 | WORKSTATION AREA 314  | 45        | 155       | SEE NOTES 1 THROUGH 9 |
| VAV320 | QUIET ROOMS 307 & 309 | 30        | 50        | SEE NOTES 1 THROUGH 9 |
| VAV421 | OFFICE 407            | 30        | 90        | SEE NOTES 1 THROUGH 9 |

NOTES:  
1. MULTI-POINT CROSSFLOW INLET TOTAL FLOW SENSOR C/W GAUGE TAPS (NO OUTLET SENSOR).  
2. PRESSURE INDEPENDENT.  
3. DDC CONTROLLER BY CONTROLS CONTRACTOR.  
4. INTEGRAL MIXING BAFFLES.  
5. 22 GAUGE GALVANIZED STEEL CONSTRUCTION.  
6. ARI CERTIFIED.  
7. 19mm FIBRE-FREE FOAM INSULATION (INTERNAL TO UNIT).  
8. NEMA 1 PROTECTIVE METAL SHROUD FOR CONTROLLER.  
9. CSA CERTIFIED.



consultant:



|   |                        |            |
|---|------------------------|------------|
| B | ISSUED FOR TENDER      | 01/18 2016 |
| A | ISSUED FOR 100% REVIEW | 01/14 2016 |

| revisions |  | date |
|-----------|--|------|
|-----------|--|------|

project POLARIS BUILDING FLOOR PLAN UPGRADES

BEDFORD INSTITUTE OCEANOGRAPHY  
DARTMOUTH - NS

drawing dessin

## MECHANICAL DETAILS & SCHEDULES

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date JAN 2016

approved MR approuvé

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Tender Soumission

PWGSC Project Manager Administrateur de projets TPSGC

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