

LEGEND — PIPING

| | | | |
|-------|--|----------|--|
| ----- | DEMOLITION | (M) | METER |
| ===== | EXISTING TO REMAIN | ↗ | CHECK VALVE |
| ===== | NEW CONSTRUCTION | ▷ | REDUCER |
| ===== | CHILLED WATER SUPPLY | ⋈ | MOTORIZED CONTROL VALVE |
| ===== | CHILLED WATER RETURN | ⊙ | PUMP |
| ===== | CONDENSER COOLING WATER SUPPLY | N.O. | VALVE DESCRIPTION—NORMALLY OPEN |
| ===== | CONDENSER COOLING WATER RETURN | N.C. | VALVE DESCRIPTION—NORMALLY CLOSED |
| ===== | REFRIGERANT PIPING (LIQUID) | TDV | TRIPLE DUTY VALVE |
| ===== | REFRIGERANT HOT GAS PIPING (DISCHARGE) | □ | TIE-POINT |
| ⊖ | BALL VALVE | TP XX | COOLING TOWER |
| Σ | STRAINER | CT-X | POT FEEDER |
| ≡ | UNION | ⊙ | ECCENTRIC REDUCER INSTALLED FLAT ON TOP |
| ⋈ | BUTTERFLY VALVE | F.O.T | |
| ⋈ | SOLENOID VALVE | | |
| ⋈ | BALANCING VALVE | | |
| ⋈ | PRESSURE REDUCING VALVE | | |
| ⋈ | PRESSURE GAUGE | | |
| ⋈ | THERMOMETER | | |

LEGEND — PLUMBING

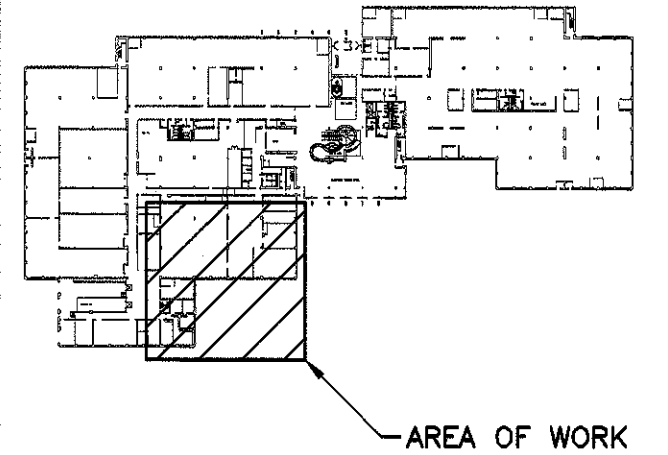
| | |
|-------|---------------------|
| ----- | DOMESTIC COLD WATER |
| ----- | SANITARY LINE |
| ⊙FD | FLOOR DRAIN |
| ⊙FFD | FUNNEL FLOOR DRAIN |
| ⊙CO | CLEAN OUT |

LEGEND — CONTROLS

| | |
|-------|-----------------------------------|
| ----- | WIRING |
| ⊙ | PUMP |
| ⊙T-x | TEMPERATURE SENSOR AND THERMOWELL |
| ⋈ | MOTORIZED CONTROL VALVE |
| ⋈ | SOLENOID |
| ⋈ | REFRIGERANT SENSOR |
| ⋈ | PNEUMATIC DAMPER |
| ⋈ | FLOW SWITCH |



KEYPLAN:



NOTES

SEQUENCE OF WORK — CHILLERS INSTALLATION

SOURCE OF AIR CONDITIONING MUST BE MAINTAINED TO SERVER ROOMS AND OTHER CRITICAL ROOMS AT ALL TIMES DURING CONSTRUCTION (THESE SPACES ARE CURRENTLY SERVED BY THE 100 TON SMARTD AND 45 TON MCQUAY CHILLERS). DURING SHUTDOWN OF COOLING SYSTEM, THE OWNER WILL PROVIDE TEMPORARY A/C FROM AN EXISTING ROOFTOP AIR HANDLING UNIT AND PORTABLE A/C UNITS. THIS SHUT DOWN TO OCCUR ON A WEEKEND WITH MAXIMUM PERMISSIBLE TIME FRAME OF 48 HOURS. CONTRACTOR TO PROVIDE 14 DAYS NOTICE PRIOR TO CHANGE OVER. THE FOLLOWING IS THE SUGGESTED ORDER OF EQUIPMENT REMOVAL AND NEW EQUIPMENT INSTALLATION TO MINIMIZE THE SHUTDOWN TIMEFRAME OF THE CHILLERS SERVING THE SERVER ROOMS AND OTHER CRITICAL SPACES. GENERAL CONSTRUCTION TO TAKE PLACE DURING THE NON-COOLING SEASON WHEN THE COOLING TOWERS AND CHILLERS SERVING THE BUILDING MAIN AHU'S ARE NORMALLY SHUTDOWN.

- DEMOLISH THE TWO (X2) 400 TON CHILLERS, COOLING TOWERS AND ASSOCIATED CHILLED WATER PUMPS, COOLING TOWER PUMPS AND PIPING.
- COORDINATE WITH OWNER FOR BACKUP A/C. SHUT DOWN THE SMARTD 60 TON AND 45 TON MCQUAY CHILLERS, DRAIN THE SERVER ROOM HEADER AND REMOVE PIPING AT TIE-IN POINT 11 AND TIE-IN POINT 12. INSTALL 150MM TAKE OFF'S WITH BUTTERFLY VALVES AT TIE-IN POINT 11 AND AT TIE-IN POINT 12. INSTALL BUTTERFLY VALVES IN EXISTING LINES AT TAKE-OFFS TO THE 60 TON SMARTD AND THE 45 TON MCQUAY. INSTALL NEW BUTTERFLY VALVES IN THE EXISTING 100MM SUPPLY AND RETURN PIPES THAT INTERCONNECT THE DATA CENTER HEADER TO THE MAIN BUILDING CHILLED WATER SYSTEM. RECHARGE THE SYSTEM WITH WATER AND START UP THE EXISTING SMARTD AND MCQUAY CHILLERS.
- DEMOLISH HEAT EXCHANGER (H/X-2), AND ASSOCIATED CHILLED WATER AND CONDENSER WATER PIPING.
- INSTALL THE NEW 100 TON SERVER ROOM CHILLERS (CH-4, CH-5), CONDENSERS, PUMPS, AND ASSOCIATED PIPING. TIE IN TO THE BUTTERFLY VALVES AT TIE-IN POINT 11 AND TIE-IN POINT 12. PERFORM WATER FILL, ELECTRICAL HOOK UP, REFRIGERANT CHARGE, ETC READY FOR START UP.
- START UP AND COMMISSION THE NEW SERVER ROOM CHILLERS (CH-4, CH-5) AND ASSOCIATED CHILLED WATER PUMPS, CONDENSER ETC. ONCE THEY ARE FULLY COMMISSIONED AND OPERATIONAL, THEN THE EXISTING 60 TON SMARTD AND 45 TON MCQUAY CAN BE SHUT DOWN AND ISOLATED FROM THE CHILLED WATER HEADER.
- DEMOLISH THE OLD SERVER ROOM EQUIPMENT INCLUDING THE SMARTD CHILLER, MCQUAY CHILLER, ALL ASSOCIATED PIPING AND PUMPS. DEMOLISH THE FLUID COOLERS, PUMPS, AND GLYCOL FEED EQUIPMENT.
- PROCEED TO INSTALL THE NEW MAIN BUILDING CHILLERS (CH-1, CH-2, CH-3), COOLING TOWERS, AND ASSOCIATED PUMPS AND PIPING.

GENERAL MECHANICAL DEMOLITION NOTES

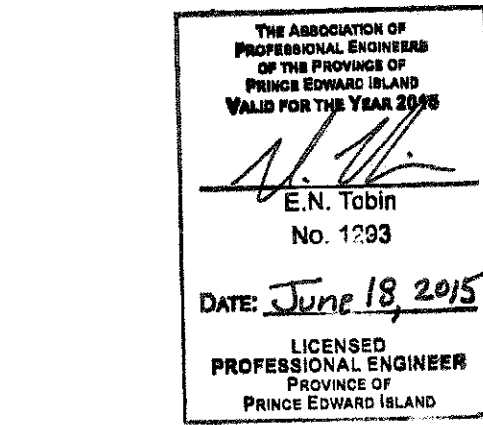
- VISIT THE SITE AND ESTABLISH CONDITIONS PRIOR TO SUBMITTING THE TENDER
- CONTRACTOR TO VERIFY SITE CONDITIONS AND OBSTRUCTIONS PRIOR TO CONSTRUCTION. NOT ALL EXISTING PIPING IS SHOWN FOR CLARITY.
- REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PLACING ORDERS AND PROCEEDING WITH THE CONSTRUCTION.
- PROVIDE ALL LIFTING, HOISTING, RIGGING, AERIAL ACCESS AND OTHER EQUIPMENT REQUIRED FOR PERFORMANCE OF WORK.
- REMOVE ALL DEMOLISHED MATERIAL FROM SITE AND PAY ALL TRANSPORTATION, TIPPING AND OTHER FEES ASSOCIATED WITH MATERIAL DISPOSAL.
- REPAIR AND MAKE GOOD DAMAGE TO ANY OTHER WORK AT NO EXTRA CHARGE.
- DO NOT ALLOW CONSTRUCTION MATERIAL TO ACCUMULATE ON SITE. CLEAN UP AT THE END OF EACH DAY AND AT THE COMPLETION OF THE JOB.
- CONTRACTOR TO COORDINATE ALL DEMOLITION WORK WITH BUILDING OPERATORS TO ENSURE HEATING SYSTEM REMAINS OPERATIONAL AT ALL TIMES.
- HEATING SYSTEM ACCESSORIES TO BE REMOVED AND RELOCATED TO ALLOW NEW CONSTRUCTION PROCESS ONLY.
- COORDINATE COOLING TOWER DEMOLITION AND CONSTRUCTION WITH UNDERGROUND FUEL LINES AND ELECTRICAL TO REMAIN.
- POT FEEDERS TO BE REMOVED WITH ASSOCIATED PUMPS. REUSE BROMINE FEEDER WITH NEW CONSTRUCTION
- CONTRACTOR TO REFERENCE SCHEMATIC DRAWING TO CONFIRM ALL ASSOCIATED ACCESSORY EQUIPMENT FOR REMOVALS AND TIE-INS.
- REMOVE ALL CONCRETE HOUSEKEEPING PADS. REINSTATE AND PAINT TO MATCH SURROUNDING.

SCHEDULES

TIE IN POINT SCHEDULE

| ID | SERVICE | LOCATION | JOINT TYPE* | PIPE SIZE* | ELEVATION | NOTES | DWG REFERENCE |
|-------|--------------------------------|----------|-------------|------------|-----------|-----------------------------------|--------------------|
| TP-1 | BLDG CHILLED WATER RETURN | MECH RM | TBD | 200 | 2.75M AFF | PROVIDE THERMOMETER (SEE DWG M-6) | M-3, M-5, M-6, |
| TP-2 | BLDG CHILLED WATER SUPPLY | MECH RM | TBD | 200 | 2.73M AFF | PROVIDE THERMOMETER (SEE DWG M-6) | M-3, M-5, M-6, |
| TP-3 | COOLING TOWER WATER, CT-3 | MECH RM | TBD | 250 | TBD | TIE IN @ ELBOW IN PIT | M-3, M-5, M-6, M-8 |
| TP-4 | COOLING TOWER WATER, CT-3 | MECH RM | TBD | 250 | 1.05M AFF | TIE IN AFTER VALVE | M-3, M-5, M-6, M-8 |
| TP-5 | COOLING TOWER WATER, CT-2 | MECH RM | TBD | 250 | TBD | TIE IN @ ELBOW IN PIT | M-3, M-5, M-6, M-8 |
| TP-6 | COOLING TOWER WATER, CT-2 | MECH RM | TBD | 250 | 1.05M AFF | TIE IN AFTER VALVE | M-3, M-5, M-6, M-8 |
| TP-11 | SERVER RM CHILLED WATER RETURN | MECH RM | TBD | 100 | 2.3M AFF | | M-3, M-5, M-6, |
| TP-12 | SERVER RM CHILLED WATER SUPPLY | MECH RM | TBD | 100 | 2.3M AFF | | M-3, M-5, M-6, |
| TP-15 | COOLING TOWER MAKEUP WATER | MECH RM | THREADED | 50 | 3.7M AFF | | M-3, M-5, M-6, M-9 |

*NOTE: JOINT TYPE TO BE CONFIRMED BY CONTRACTOR WHEN INSULATION IS REMOVED. PIPE SIZE OF EXISTING PIPE BASED ON BUILDING AS BUILT DRAWINGS. CONTRACTOR TO CONFIRM.



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|-----------|------------------------|-------------|
| P4 | ISSUED FOR TENDER | JUN 19 2015 |
| P3 | ISSUED FOR 100% REVIEW | MAY 4 2015 |
| P2 | ISSUED FOR 99% REVIEW | MAR 23 2015 |
| revisions | | date |

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|---|---------------------------------------|---|
| A | A detail no. no. du detail | A |
| C | B location drawing no. sur dessin no. | B |
| | C drawing no. dessin no. | C |

project projet
**JOSEPH A GHIZ
BUILDING CHILLER PLANT
REPLACEMENT**
SUMMERSIDE, PEI

drawing dessin
**GENERAL LEGEND
MECHANICAL NOTES
& SCHEDULES**

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|---------------------|-------------------------------|
| designedSF | concu |
| date JAN, 2015 | |
| drawn TC | dessine |
| date JAN, 2015 | |
| approvedNT | approuve |
| date JAN, 2015 | |
| Tender RYAN MCGUIRE | Soumission |
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| project number | no. du projet |
| R055258.001 | |
| drawing no. | no. du dessin |
| M-0 | |