CHILLER REPLACEMENT - WASHBURN BUILDING (06232)
SNOW COLLEGE - RICHFIELD
800 West 200 South Richfield, Utah 84701

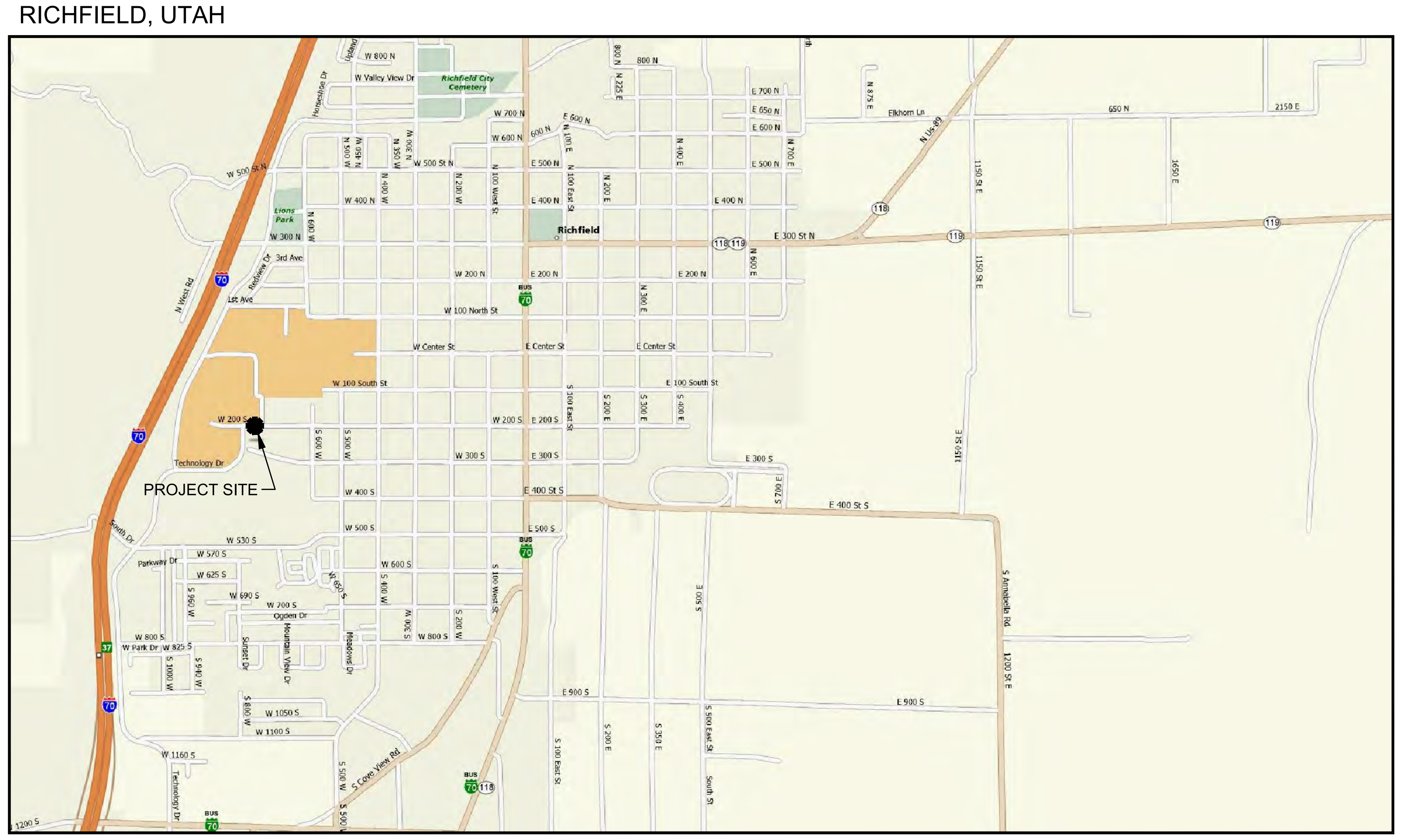
State of Utah—Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building / Salt Lake City, Utah 84114 / 538-3018

DFCM Project No. 09173710
CONSTRUCTION DRAWINGS

RICHFIELD, UTAH



NORTH

Vicinity Map

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M6.1	MECHANICAL SCHEDULES, DETAILS, SYMBOLS, & GENERAL NOTES
E1.1	ELECTRICAL DEMOLITION PLAN & NEW PLAN

CONSULTANTS

PROJECT ENGINEER: VAN BOERUM & FRANK ASSOCIATES, INC.
330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
(801) 530-3148 (Steve Shepherd)

ELECTRICAL: VAN BOERUM & FRANK ASSOCIATES, INC.
330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
(801) 530-3148 (Stan Johns)

VAN BOERUM
& FRANK
ASSOCIATES INC.
CONSULTING ENGINEERS

330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
801.530.3148 ofc
801.530.3150 fax
http://www.vbfa.com

LICENSED PROFESSIONAL ENGINEER
No. 189989
STEVEN T. SHEPHERD
STATE OF UTAH

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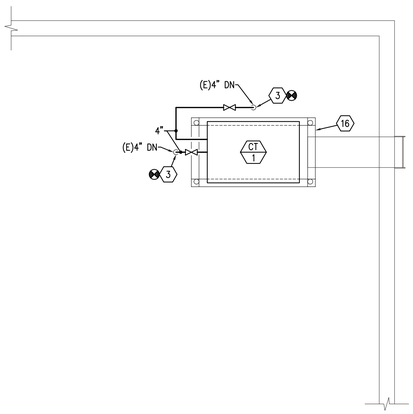
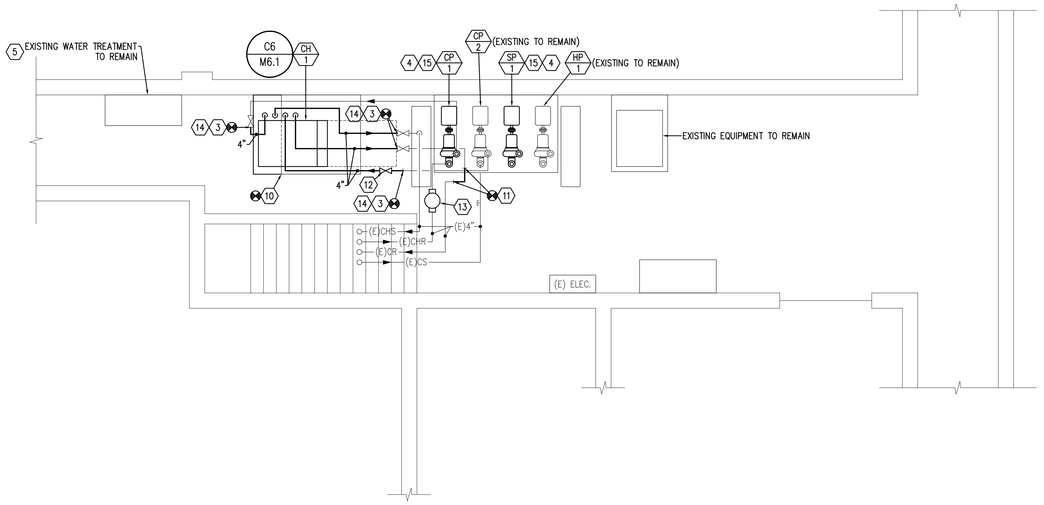
COVER SHEET

C0.0



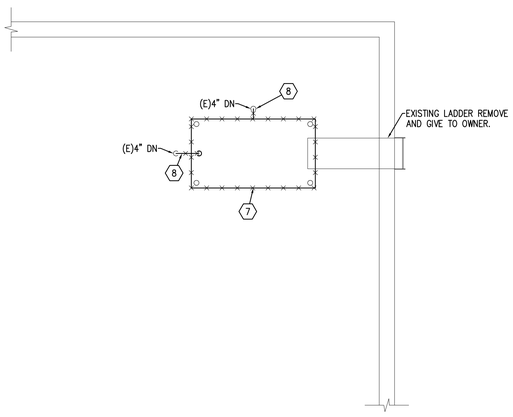
C1 NEW COOLING TOWER PLAN

SCALE: 1/4" = 1'-0"



C3 NEW CHILLER PLAN

SCALE: 1/4" = 1'-0"



A1 COOLING TOWER DEMOLITION PLAN

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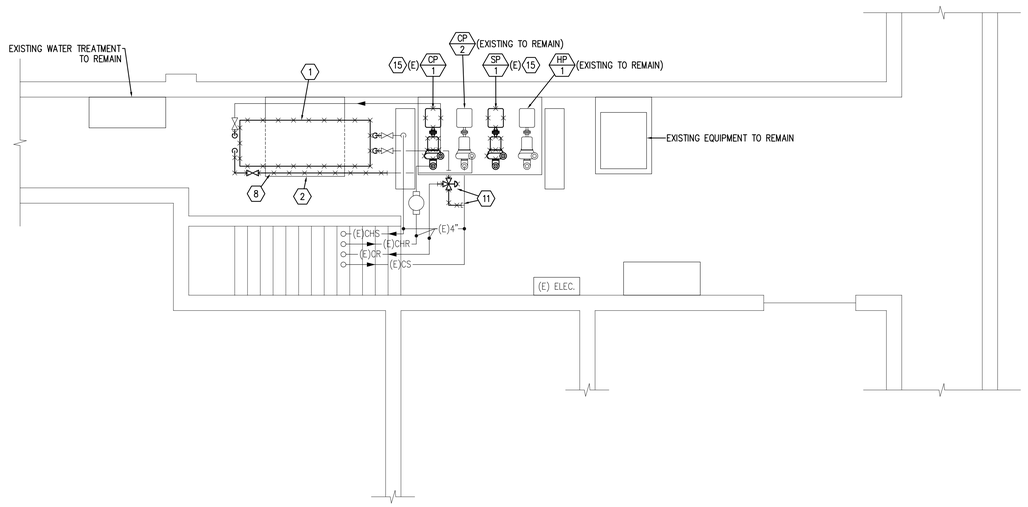

A3 CHILLER DEMOLITION PLAN

SCALE: 1/4" = 1'-0"

KEYED NOTES

1. REMOVE EXISTING CHILLER INCLUDING ALL ACCESSORIES.
2. EXISTING CONCRETE PAD TO REMAIN.
3. EXTEND AND CONNECT NEW PIPING TO EXISTING. PROVIDE NEW VALVES. THERMOMETERS AND GAUGES. SEE DETAIL C6/M6.1.
4. TEST AND BALANCE EXISTING PUMPS TO WATER FLOW AS SCHEDULED.
5. WATER TREATMENT: DRAIN, CLEAN, FLUSH AND FILL WITH NEW WATER TREATMENT ONLY PORTION OF CHILLED WATER SYSTEM NECESSARY FOR CHILLER REPLACEMENT BEFORE ANY WORK IS DONE.
6. AUTOMATIC TEMPERATURE CONTROLS. DISCONNECT AND RECONNECT TO NEW CHILLER AND COOLING TOWER ALL CONTROLS NECESSARY TO ENABLE / DISABLE THE CHILLER AND COOLING TOWER, EQUIPMENT STATUS AND ALARMS. MAINTAIN ALL EXISTING CONTROLS OF CHILLER AND TIE BACK INTO DDC BUILDING MANAGEMENT SYSTEM. CONTROLS SHALL BE COMPLETED AND INSTALLED BY MECHANICAL CONTROL SERVICES, INC. (435) 979-8175. CONTROLS CONTRACTOR TO WIRE ALL MISCELLANEOUS CONTROLS WIRE ON COOLING TOWER AND CHILLER INCLUDING VIBRATION SWITCH, CIRC. PUMP INTERLOCK, HEATER CONTROL ETC.
7. REMOVE EXISTING COOLING TOWER AND ALL ASSOCIATED ACCESSORIES. PIPE SUPPORTS AND PIPING THROUGH ROOF TO REMAIN FOR RECONNECTION TO NEW COOLING TOWER.
8. REMOVE EXISTING PIPING AS SHOWN X'D.
9. EXTEND AND CONNECT NEW PIPING TO NEW COOLING TOWER COORDINATE CONNECTIONS WITH COOLING TOWER.
10. EXTEND AND ADD TO EXISTING CONCRETE PAD TO ACCOMMODATE NEW CHILLER. PROVIDE MINIMUM 36" CLEARANCE IN FRONT OF CHILLER. ADD 7-INCH HIGH CONCRETE PAD AND LOCATE CHILLER AS NECESSARY TO ACCOMMODATE CHILLER CLEARANCE.
11. REMOVE EXISTING 3-WAY CONTROL VALVE AND ASSOCIATED CONTROL WIRING. PROVIDE HARD PIPED ELBOW TO CONNECT PIPING. CAP BYPASS LINE ON SUCTION SIDE OF PUMP.
12. PROVIDE AND INSTALL NEW SHUT-OFF VALVE. RAISE CONDENSER WATER PIPE TO ACCOMMODATE HEIGHT OF NEW CHILLER.
13. REMOVE EXISTING AIR SEPARATOR AND REINSTALL TO ACCOMMODATE INSTALLATION OF NEW CHILLER.
14. REINSTALL ALL EXISTING FLOW SWITCHES, CONTROLS, CONTROL VALVES, ETC. ON EXISTING PIPING THAT IS TO BE MODIFIED. TYPICAL OF ALL PIPING.
15. REMOVE EXISTING PUMP AND REPLACE WITH NEW. PROVIDE NEW SUCTION DIFFUSER AND CONNECT AND TRANSITION TO EXISTING PIPING AS NECESSARY.
16. PROVIDE NEW STRUCTURAL FRAME TO ACCOMMODATE NEW TOWER DIMENSIONS. CONNECT FRAME TO EXISTING STRUCTURAL POSTS.

VAN BOERUM
& FRANK
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CONSULTING ENGINEERS

330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
801.530.3148 ofc
801.530.3150 fax
http://www.vbfa.com

REGISTERED PROFESSIONAL ENGINEERS
No. 189989
No. 6246941
STEVEN T. SHEPHERD
07/16/09
STATE OF UTAH

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SNOW COLLEGE - RICHFIELD
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SHEET CONTENTS
MECHANICAL DEMOLITION PLAN AND NEW PLAN

M1.1

WATER-COOLED CHILLER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	REFRIG.	LOAD (TONS)	EVAPORATOR FLOW RATE (GPM)	EVAPORATOR ENTERING/ LEAVING TEMP. (°F)	EVAPORATOR WORKING FLUID	EVAPORATOR MAX HEAD LOSS (FT)	CONDENSER FLOW RATE (GPM)	CONDENSER ENTERING/ LEAVING TEMP. (°F)	CONDENSER WORKING FLUID	CONDENSER MAX HEAD LOSS (FT)	ELECTRICAL MAXIMUM KW	ELECTRICAL TOTAL MCA	ELECTRICAL EER	ELECTRICAL CHILLER VOLT/PH/HZ	PHYSICAL MAX LENGTH/ WIDTH/ HEIGHT (IN)	PHYSICAL OPERATING WEIGHT (LBS)	NOTES
CH-1	CLIMACOOL UCW070AF	CHILLER RM	NOTE 1	R-410A	67.0	178.0	51.0 /42.0	WATER	16.2	218	80.0 / 88.9	WATER	26	47	97	17.3	460/3/60	37 / 56 / 66	2450	1, 2

1. MODULAR CHILLER CONSISITING OF MINIMUM (2) COMPRESSORS AND (2) INDIVIDUAL CIRCUITS.
2. UNIT TO COME WITH STARTER AND FACTORY MOUNTED FUSED (125 AMP FUSES) DISCONNECT SWITCH

COOLING TOWER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	CAPACITY (BTUH)	FAN AIRFLOW (CFM)	AMBIENT TEMP. DB/WB (°F)	FLUID FLOW RATE (GPM)	FLUID ENTERING/ LEAVING TEMP. (°F)	FLUID WORKING FLUID	FLUID PRESSURE DROP THROUGH COILS (FT)	ELECTRICAL MOTOR QUAN.	ELECTRICAL FAN MOTOR SIZE (HP)	ELECTRICAL FAN MOTOR SPEED (RPM)	ELECTRICAL VOLT/PH/HZ	PHYSICAL OPERATING WEIGHT (LB)	PHYSICAL LENGTH/ WIDTH/ HEIGHT (IN)	NOTES
CT-1	EVAPCO AT-14-86	ROOF	NOTE 1	1,090,000		95 / 69	218.0	90 / 80	WATER	4.83	1	5	1750	460/3/60	2,480	72 / 49 / 115	1, 2

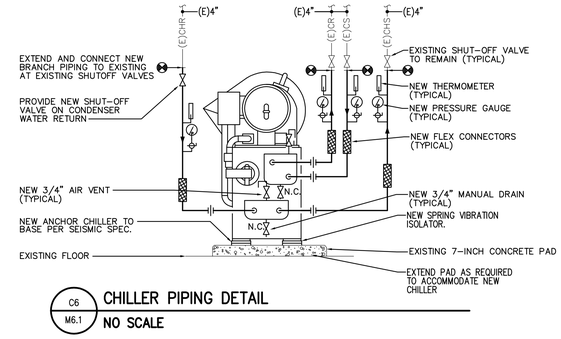
1. INDUCED DRAFT COUNTERFLOW COOLING TOWER, VIBRATION SWITCH, ALUMINUM LADDER, 3-PROBE ELECTRONIC WATER LEVEL CONTROL PACKAGE, INVERTOR DUTY FAN MOTOR
2. 3 KW SUMP HEATER WITH HEATER CONTROL PANEL

PUMP SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	FLUID FLOW RATE (GPM)	FLUID WORKING FLUID	PUMP HEAD LOSS (FT)	PUMP EFFICIENCY (%)	PUMP SERVES	ELECTRICAL MOTOR SIZE (HP)	ELECTRICAL MOTOR BHP (HP)	ELECTRICAL MOTOR SPEED (RPM)	ELECTRICAL VOLT/PH/HZ	NOTES
CP-1	B&G 1531 2BC	MECH RM	NOTE 1	178	WATER	70	70.38	CHILLED WATER	5	4.48	1750	460/3/60	1
SP-1	B&G 1531 2BC	MECH RM	NOTE 1	178	WATER	70	70.38	STANDBY	5	4.48	1750	460/3/60	1
CP-2	EXISTING TO REMAIN	MECH RM		218	WATER	50		CONDENSER WATER	5		1750	460/3/60	2

1. REPLACE EXISTING PUMP
2. EXISTING PUMP TO REMAIN. BALANCE FLOW AS SCHEDULED

NOTE:
1. ARRANGE PIPING TO FACILITATE TUBE SERVICE SPACE.
2. PIPE REFRIGERANT RELIEF TO OUTSIDE, FULL SIZE.
3. PIPE OIL COOLER AS REQUIRED BY MANUFACTURER, TO CHILLED WATER SUPPLY AND RETURN.



C6 / M6.1 CHILLER PIPING DETAIL
NO SCALE

LEGEND OF MECHANICAL SYMBOLS AND ABBREVIATIONS

PLUMBING

- ARROW INDICATES DIRECTION OF FLOW IN PIPE
- CHECK VALVE
- SHUT-OFF VALVE
- GATE VALVE – NON RISING STEM
- GLOBE VALVE
- TEMPERATURE AND PRESSURE TEST PORT
- PRESSURE SWITCH
- 88 GPM — CALIBRATED BALANCING VALVE WITH GPM INDICATED
- BRANCH – BOTTOM CONNECTION
- BRANCH – TOP CONNECTION
- BRANCH – SIDE CONNECTION
- RISE OR DROP
- RISER – DOWN (ELBOW)
- RISER – DOWN (ELBOW)
- FLOW METER
- UNION
- FLEXIBLE EXPANSION JOINT
- THERMOMETER – TEMP RANGE AS INDICATED
- PRESSURE GAUGE WITH SHUT-OFF COCK

PLUMBING

- PRESSURE GAUGE WITH PIGTAIL
- LATERAL STRAINER WITH BLOW-OFF VALVE, PROVIDE HOSE END WITH CAP WHERE DISCHARGE IS NOT PIPED TO DRAIN
- BALL VALVE (PIPE SIZES 2" AND SMALLER) BUTTERFLY VALVE (PIPE SIZES 2-1/2" AND LARGER)
- MOTOR OPERATED BUTTERFLY VALVE
- VALVE IN RISE
- AIR VENT-MANUAL
- AIR VENT-AUTO
- FLOW SWITCH
- REDUCER
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- S — SWITCH
- S — SENSOR
- FLANGE
- 90° ELBOW
- STEAM TRAP, F&T=FLOAT & THERMOSTATIC 45° ELBOW
- DN — LEADER INDICATES DOWNWARD SLOPE
- DEMOLITION

SYMBOLS

- POINT OF CONNECTION
- A / M-101 — SECTION TAG – TOP FIGURE IS SECTION NO. BOTTOM FIGURE IS SHEET NO.
- A / M101 — DETAIL TAG – TOP FIGURE IS DETAIL NO. BOTTOM FIGURE IS SHEET NO.
- EF / 1 — EQUIPMENT IDENTIFICATION
- 1 — KEYED NOTE IDENTIFICATION

LINETYPES

- CHWS — CHILLED WATER SUPPLY
- CHWR — CHILLED WATER RETURN
- E(NAME) — EXISTING PIPING
- (NAME) — EXISTING PIPING TO BE REMOVED

MECH. GENERAL NOTES

1. DO NOT ROUTE DUCTS AND PIPES ABOVE ELECTRICAL PANELS. ALL ELECTRICAL PANELS MUST HAVE CLEAR ACCESS SPACE IN FRONT OF PANEL 4'-0" DEEP AND 6'-6" HIGH. DO NOT ROUTE DUCTS AND PIPES IN ELECTRICAL ROOMS, EXCEPT DUCTS AND PIPES SERVING THE ROOM.
2. IF CONTRACTOR ENCOUNTERS MATERIAL WHICH MAY CONTAIN ASBESTOS IMMEDIATELY STOP WORK IN THIS AREA AND NOTIFY THE OWNER.
3. ALL DEMOLISHED AND NEW EQUIPMENT SHALL BE BROUGHT IN THROUGH EXISTING DOORS AND OPENINGS. IF FURTHER OPENINGS OR MEANS AND METHODS ARE NEEDED TO BRING IN AND INSTALL EQUIPMENT, CONTRACTOR SHALL PROVIDE SUCH OPENINGS, MEANS AND METHODS AND REPAIR ANY DAMAGE OR OPENINGS.

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CONSULTING ENGINEERS
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LICENSED PROFESSIONAL ENGINEER — No. 189989 — STEVEN T. SHEPHERD — STATE OF UTAH

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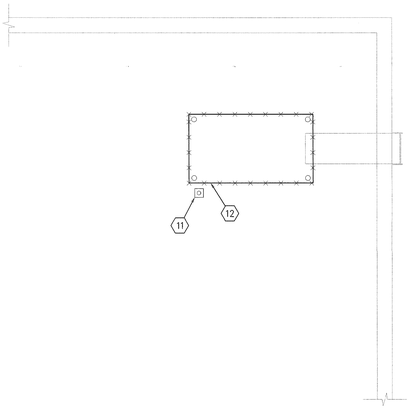
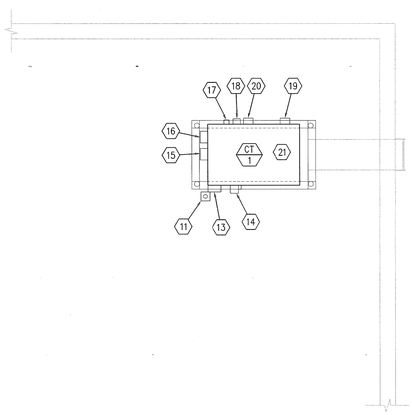
SCHEDULES, DETAILS, SYMBOLS AND ABBREVIATIONS

M6.1



A1 COOLING TOWER DEMOLITION PLAN

SCALE: 1/4" = 1'-0"



C1 NEW COOLING TOWER PLAN

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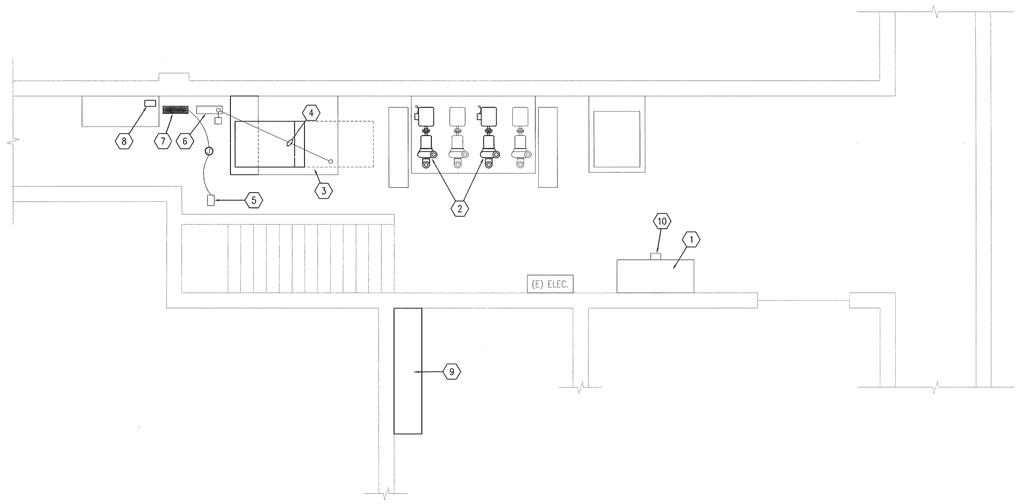

A3 ELECTRICAL CHILLER DEMOLITION PLAN

SCALE: 1/4" = 1'-0"

ELECTRICAL SYMBOL SCHEDULE

SYMBOL	DEVICE/FIXTURE DESCRIPTION	NOTES
	DISCONNECT SWITCH	
	WIRING IN CND IN CEILING OR WALL	
	CONDUIT TURNED UP	
	CIRCUIT HOME RUN TO PANEL. 3 CONDUCTORS INCLUDING THE EQUIPMENT GROUND CONDUCTOR.	
	CIRCUIT HOME RUN TO PANEL. NUMBER OF ARROW HEADS INDICATE NUMBER OF CIRCUITS. SLASH MARKS INDICATE NUMBER OF CONDUCTORS. EX. TWO CIRCUITS, FOUR CONDUCTORS, COMMON NEUTRAL AND THREE CIRCUITS WITH 7 CONDUCTORS (SEPERATE NEUTRAL PER CIRCUIT). BOTH EX. INCLUDE AN EQUIP. GROUND.	
	WIRING IN CND IN GROUND OR FLOOR	
	CONDUIT TURNED DOWN	

INSTALL CONDUIT AS DRAWN ON THE PLANS. THE ONLY EXCEPTIONS ARE THOSE AUTHORIZED IN WRITING BY THE ENGINEER. ALL CONDUITS SHALL INCLUDE AN EQUIPMENT GROUND CONDUCTOR SIZED PER NEC.

NOTES/ABBREVIATIONS

AFG – ABOVE FINISHED GRADE, AFF – ABOVE FINISHED FLOOR, BFC – BELOW FINISHED CEILING, BC – BARE COPPER, AIC – AMPS INTERRUPTING CAPACITY, BFG – BELOW FINISHED GRADE, CND. OR C. – CONDUIT, CT – CURRENT TRANSDUCER, GC – GENERAL CONTRACTOR, EC – ELECTRICAL CONTRACTOR, DFA – DROP FROM ABOVE, EV – ELECTRO VOICE, MCA – MINIMUM CIRCUIT AMPS, MC – MECHANICAL CONTRACTOR, POS – POINT OF SALES, POC – POINT OF CONNECTION, P.C. – PLUMBING CONTRACTOR, SCA – SHORT CIRCUIT AMPERES, RMC – RIGID METAL CONDUIT, VIF – VERIFY IN FIELD, VA – VOLT/AMPS, TC – TEMP. CONTROL CONTRACTOR, WP – WEATHER PROOF/NEMA 3R

GENERAL NOTES

1. THE ELECTRICAL SYSTEMS DEFINED BY THESE PLANS AND SPECIFICATIONS ARE TO BE CONSTRUCTED AS COMPLETE AND OPERABLE SYSTEMS AND SHALL BE BID WITH THIS INTENT. THE CONTRACTOR SHALL VISIT THE SITE, READ ALL THE RELEVANT DOCUMENTS AND BECOME FAMILIAR WITH THE TYPE OF CONSTRUCTION AND WORK TO BE ACCOMPLISHED. SHOULD ANY ERROR, OMISSION OR CONFLICT EXIST IN EITHER THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING BEFORE SUBMITTING HIS BID PRICE SO A CHANGE CAN BE ISSUED IN A PRE-BID ADDENDUM. OTHERWISE, THE CONTRACTOR AND/OR EQUIPMENT SUPPLIER SHALL SUPPLY THE PROPER MATERIALS AND LABOR TO INSTALL COMPLETE AND OPERABLE SYSTEMS AT THEIR OWN EXPENSE. WHEN EACH ELECTRICAL SYSTEM IS COMPLETE, THE CONTRACTOR SHALL TEST AND CONFIRM IT'S PROPER OPERATION. ANY INCOMPLETE SYSTEM SHALL BE MADE COMPLETE AND OPERABLE.
2. THE ARCHITECTURAL AND MECHANICAL PLANS ARE CONSIDERED A PART OF THE ELECTRICAL DOCUMENTS SO FAR AS THEY APPLY. THE ELECTRICAL CONTRACTOR SHALL REFER TO AND COORDINATE WITH THEM. NO EXTRA COST SHALL BE ALLOWED FOR FAILURE TO COORDINATE THE CONTRACT DOCUMENTS WITH OTHER TRADES AND/OR IF EQUIPMENT DIMENSIONS ARE GREATER THAN SPECIFIED AND/OR DIMENSIONED ON THE PLANS.
3. NO ADDITIONS TO THE CONTRACTOR BID WILL BE ALLOWED FOR CHANGES MADE NECESSARY BY INTERFERENCE WITH OTHER WORK.
4. THE ELECTRICAL CONTRACTOR SHALL PROVIDE EQUIPMENT, MATERIALS AND LABOR FOR THE CONNECTIONS OF ALL EQUIPMENT SHOWN ON THE PLANS – ARCHITECTURAL, MECHANICAL, ETC.
5. THIS PROJECT IS TO BE INSTALLED IN STRICT ACCORDANCE WITH LOCAL AND STATE CODES AND THE NEC. IF AT ANY TIME DURING CONSTRUCTION, OR AFTER, SOMETHING IS FOUND TO BE INSTALLED IN VIOLATION OF THE CODES LISTED ABOVE, IT SHALL BE CORRECTED AT THE CONTRACTORS EXPENSE.
6. THE EC SHALL INSTALL A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT RUN. CONDUIT SHALL NOT BE USED AS AN EQUIPMENT GROUNDING CONDUCTOR. THE EC SHALL GROUND THE ELECTRICAL SYSTEM IN ACCORDANCE WITH LOCAL AND NATIONAL CODES.
7. ELECTRICAL CONTRACTOR SHALL CONFIRM MINIMUM CODE (NEC) WORKING CLEARANCE BEFORE INSTALLING ANY ELECTRICAL PANELS OR CABINETS AND SHALL MOVE THE PANELS AT HIS EXPENSE IF REJECTED BY AN INSPECTOR. IF CLEARANCE IS NOT POSSIBLE, THE DESIGNER SHALL BE NOTIFIED IMMEDIATELY IN WRITING.
8. THE ELECTRICAL CONTRACTOR SHALL SECURE ALL CONDUIT TO THE STRUCTURE AS IT IS SET IN PLACE USING INDUSTRY STANDARD METHODS AND PRACTICES.
9. TO ASSURE ALL DEVICES ARE RIGIDLY SET, THE ELECTRICAL CONTRACTOR SHALL SECURE ALL DEVICE BOXES WITH BRACKETS, HANGERS, ETC. DESIGNED FOR THE APPLICATION. ANY DEVICE BOXES NOT SECURED WILL BE MADE SECURE AT THE CONTRACTORS EXPENSE.
10. LENGTHS OF FLEXIBLE CONDUIT GREATER THAN 48 INCHES SHALL NOT BE INSTALLED ON THIS PROJECT.
11. DURING CONSTRUCTION, THE ELECTRICAL CONTRACTOR SHALL REMOVE, REROUTE, AND/OR RELOCATE ANY EXISTING ELECTRICAL EQUIPMENT THAT CONFLICTS WITH THE REMODEL OR ADDITION. ALL SYSTEMS SHALL BE OPERABLE AT THE COMPLETION OF THE PROJECT. EQUIPMENT THAT IS NOT REUSED AND NOT WANTED BY OWNER BECOMES THE PROPERTY OF THE ELECTRICAL CONTRACTOR AND SHALL BE REMOVED FROM THE PREMISES.
12. THE ELECTRICAL CONTRACTOR SHALL MAINTAIN ELECTRICAL CONTINUITY TO REMAINING EQUIPMENT WHEN ANY EXISTING ELECTRICAL EQUIPMENT IS REMOVED.

KEYED NOTES

1. EXISTING MOTOR CONTROL CENTER (MCC) TO REMAIN. NAME PLATE INFORMATION ON THE MCC IS;
   GENERAL ELECTRIC
   7700 LINE CONTROL CENTER
   CAT.-NO. 204B5715
   DIAGRAM NO. 204B5715 SH.1
   AMPS – SUPPLY 600 SECT. 600
   480 VOLTS 3 PHASE 3 WIRE 60 HZ.
   MOTOR CONTROL CENTER SECTION
   1 OF 3
   NO. 64647 PLANT SL
2. 2. EXISTING CHILL WATER PUMP TO BE REPLACED. EC SHALL DISCONNECT THE ELECTRICAL FROM THE PUMP AND RE-CONNECT THE ELECTRICAL TO THE NEW PUMP. PROVIDE NEW HEATERS IN THE MCC STARTER TO MATCH THE AMPERAGE OF THE NEW MOTOR. COORDINATE WITH THE MC. FIELD CONFIRM THE EXISTING CONDITIONS AND PROVIDE ALL REQUIRED COMPONENTS TO RUN THE NEW PUMPS. STARTER INFORMATION IS:
   GENERAL ELECTRIC
   IC 7700 LINE CONTROL CENTER
   CAT. NO. 204B5715 SH.1
   HP 5 VOLTS 480 CONTOL VOLTS 120
   AMPS 7.1 SIZE 1 HZ 60
   DIAGRAM 275A9324
   INSTALLED FUSES ARE: FUSETRON FRS 30 AMP.
   INSTALLED HEATERS ARE: SIZE C7.78A
3. EXISTING CHILLER TO BE REPLACED. EC SHALL DISCONNECT THE FEEDER CIRCUIT FROM IT AND RE-CONNECT THE FEEDER CIRCUIT TO THE NEW CHILLER. FIELD CONFIRM THE EXISTING CONDITIONS. COORDINATE WITH THE MC. THE NEW CHILLER WILL BE FURNISHED WITH A FACTORY INSTALLED FUSED DISCONNECT WITH 125 AMP FUSES.
4. EXISTING 2" CONDUIT WITH 3#1THW CU + 1GND FROM THE DISCONNECT TO THE EXISTING CHILLER. DISCONNECT FROM THE EXISTING CHILLER AND CONNECT TO THE NEW CHILLER. FIELD CONFIRM THE EXACT LOCATION OF THE CONNECTION TO THE NEW CHILLER AND PROVIDE LONGER CONDUIT AND CONDUCTORS, OF THE SAME SIZES AS EXISTING, AS REQUIRED TO CONNECT THE POWER TO THE NEW CHILLER.
5. EXISTING TOWER SUMP FILL SOLENOID. CONNECT TO THE TOWER SUMP LEVEL SWITCH USING THE EXISTING CONDUCTORS FROM THE TOWER AND THE EXISTING POWER TO THE EXISTING CONTROL CIRCUIT. FIELD CONFIRM EXISTING CONDITIONS. PROVIDE A CONTACTOR TO ISOLATE THE CONTROL IF REQUIRED. CONFIRM REQUIREMENTS WITH THE MC AND PROVIDE ALL REQUIRED ITEMS FOR A COMPLETE SYSTEM.
6. EXISTING 200 AMP NON-FUSED DISCONNECT TO REMAIN.
7. EXISTING COOLING TOWER SUMP LEVEL CONTROL PANEL TO REMAIN. EC SHALL PROVIDE ALL REQUIRED EQUIPMENT, CONDUDUIT AND CONDUCTORS TO CONNECT IT TO THE NEW COOLING TOWER SUMP LEVEL CONTROL. CONFIRM REQUIREMENTS WITH THE CONTROLS CONTRACTOR AND THE MC.
8. EXISTING COOLING TOWER SUMP CHEMICAL CONTROLLER AND RACK TO REMAIN. FIELD CONFIRM EXISTING CONDITIONS.
9. APPROXIMATE LOCATION OF THE EXISTING SWITCHBOARD WITH BREAKER FEEDING THE EXISTING CHILLER. THE EXISTING BREAKER AND FEEDERS SHALL REMAIN AND BE USED TO FEED THE NEW CHILLER.
10. EXISTING COOLING TOWER FAN VFD TO REMAIN. IT IS A MITSUBISHI MODEL FR-A240E-3.7K-UL. CONNECT TO NEW COOLING TOWER FAN AND INTERCONNECT WITH THE NEW DISCONNECT AND VIBRATION SWITCH ON THE COOLING TOWER SO IT WILL TURN OFF BY ACTIVATION OF EITHER OF THEM.
11. EXISTING ELECTRICAL CONDUIT PENETRATION OF THE ROOF THROUGH A PITCH POCKET TO REMAIN.
12. EC SHALL DISCONNECT POWER FROM THE EXISTING COOLING TOWER FOR ITS REMOVEL. RETAIN THE CONDUCTORS FOR CONNECTION TO THE NEW TOWER.
13. TOWER J-BOX. EC SHALL PROVIDE A NEMA3R, 8"X8" X 4" HOFFMAN BOX FOR MAKING THE COOLING TOWER ELECTRICAL CONNECTIONS. CONNECT THE CONDUIT THAT IS PENETRATING THE ROOF TO IT WITH ALL OF THE EXITING CONDUCTORS.
14. EC SHALL PROVIDE A 30 AMP, NEMA 3R, 3 POLE DISCONNECT WITH INTERLOCK (SQ. D. 3110-HU361RBEI) AT THE COOLING TOWER TO CONTROL THE POWER TO THE COOLING TOWER FAN. INTERLOCK THE DISCONNECT WITH THE VFD IN THE BASEMENT MECHANICAL ROOM USING TWO OF THE CONDUCTORS IN THE EXISTING CONDUIT AND THE NORMALLY OPEN CONTACTS ON THE DISCONNECT INTERLOCK. CONNECT THE TWO CONDUCTORS TO THE "MRS" AND "SD" TERMINALS OF THE VFD SO THAT A CLOSURE OF THE INTERLOCK CONTACTS WILL TURN OFF THE VFD. PROVIDE CONDUIT AND CONDUCTORS AS REQUIRED TO EXTEND THE CONDUCTORS TO THE VFD IN THE BASEMENT. FIELD CONFIRM EXISTING CONDITIONS.
15. VIBRATION SWITCH. EC SHALL PROVIDE CONDUIT AND CONDUCTORS FROM THE SWITCH TO THE TOWER J-BOX. CONNECT THE CONDUCTORS IN PARALLEL WITH THE DISCONNECT INTERCONNECT SWITCH SO THE VIBRATION SWITCH WILL TURN OFF THE TOWER FAN VFD WHEN ACTIVATED. CONFIRM EXACT LOCATION OF THE SWITCH ON THE TOWER.
16. COOLING TOWER 3-PROBE ELECTRONIC WATER LEVEL SENSOR. CONFIRM EXACT LOCATION OF THE SENSOR ON THE COOLING TOWER. PROVIDE CONDUIT AND CONDUCTORS FROM THE SENSOR TO THE TOWER J-BOX AND MAKE CONNECTION TO THE EXISTING CONDUCTORS TO THE EXITING SENSOR CONTROLLER IN THE BASEMENT CHILLER MECHANICAL ROOM.
17. SUMP HEATER THERMOSTAT. PROVIDE 1/2" CONDUIT AND 2#12+1#12 GND CONDUCTORS FROM THE THERMOSTAT TO THE HEATER CONTROL PANEL. CONFIRM THE EXACT LOCATION OF THE UNIT ON THE TOWER AND REQUIREMENTS WITH THE MC.
18. LOW WATER CUT OFF (LWCO). PROVIDE 1/2" CONDUIT AND 4#12+1#12 GND CONDUCTORS FROM THE LWCO TO THE HEATER CONTROL PANEL. CONFIRM THE EXACT LOCATION OF THE UNIT ON THE TOWER AND REQUIREMENTS WITH THE MC.
19. IMMERSION HEATER. PROVIDE 1/2" CONDUIT AND 3#12+1#12 GND CONDUCTORS FROM THE IMMERSION HEATER TO THE HEATER CONTROL PANEL. CONFIRM THE EXACT LOCATION OF THE UNIT ON THE TOWER AND REQUIREMENTS WITH THE MC.
20. HEATER CONTROL PANEL (HCP). PROVIDE 1/2" CONDUIT AND 3#12+1#12 GND CONDUCTORS FROM THE HCP TO THE IMMERSION HEATER AND FROM THE HCP TO THE TOWER J-BOX FOR CONNECTION TO THE EXISTING POWER CIRCUIT POWERING THE EXITING HEATER. CONFIRM THE EXACT LOCATION OF THE UNIT ON THE TOWER AND REQUIREMENTS WITH THE MC. THE SOURCE OF THE CIRCUIT FEEDING THE EXISTING HEATER IS TO BE DETERMINED AND THEN PROVIDE A LABEL ON THE HCP INDICATING THE CIRCUIT.
21. COOLING TOWER. EC SHALL MAKE ALL ELECTRICAL CONNECTIONS TO THE COOLING TOWER AND BETWEEN ALL COOLING TOWER ELECTRICAL COMPONENTS. EC SHALL CONFIRM WITH THE MC THE REQUIREMENTS. REUSE EXISTING CONDUIT AND CONDUCTORS FROM THE TOWER TO THE BASEMENT MECHANICAL ROOM.

VAN BOERUM
& FRANK
ASSOCIATES INC.
CONSULTING ENGINEERS

330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
801.530.3148 ofc
801.530.3150 fax
http://www.vbfa.com

REGISTERED PROFESSIONAL ENGINEER
No 5246941
STAN W JOHNS
07/16/09
STATE OF UTAH

CHILLER REPLACEMENT - WASHBURN BUILDING (06232)
SNOW COLLEGE - RICHFIELD

800 West 200 South Richfield, Utah 84701

REVISIONS

VBFA PROJECT #:	09253
CHECKED BY:	Sjohns
DRAWN BY:	Tjohns
CURRENT/BID DATE:	07/16/09

SHEET CONTENTS

ELECTRICAL DEMOLITION PLAN AND NEW PLAN

E1.1