



State of Utah

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Department of Administrative Services

KIMBERLY K. HOOD
Executive Director

Division of Facilities Construction and Management

DAVID G. BUXTON
Director

ADDENDUM NO. 3

Date: December 15, 2011

To: Invited Contractors

From: Bianca Shama – Project Manager

Reference: Chiller Replacement – Slate Canyon Youth Center
Division of Juvenile Justice Services– Provo, Utah
DFCM Project No. 11335430

Subject: **Addendum No. 3**

Pages	Addendum Cover Sheet	1 page
	<u>Engineer's Mechanical Addendum No. 1 and drawings</u>	<u>4 pages</u>
	Total	5 pages

Note: *This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.*

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

3.1 SCHEDULE CHANGES: There are no Project Schedule changes.

3.2 GENERAL ITEMS: See attached mechanical addendum and drawings.



MECHANICAL ADDENDUM # 1

Date: December 15, 2011
Project: Slate Canyon Youth Detention Facility
Provo, Utah
Chiller Replacement

MECHANICAL

1. **Revised Scope of Work:** The Scope of Work on drawing M001 shall be revised as follows.
 - a. ECM-1 through ECM-4 is **NOT** part of this project.
Disregard any reference on the drawing or specification
 - b. ECM-5 Replace existing chiller **IS** part of this project
 - i. Remove existing chiller.
 - ii. Remove existing exterior chilled water piping
 - iii. Install new chiller.
 - iv. Install new chilled water buffer tank.
 - v. Provide new chilled water piping between chiller, buffer tank and existing chiller
 - c. ECM-6 through ECM-8 is **NOT** part of this project.
Disregard any reference on the drawing or specification
2. Contractor is responsible for removing and disposing of the existing chiller and associated existing chilled water piping indicated on the drawings.
3. See new Pipe Material Schedule on drawing for acceptable pipe material.
4. All exterior chilled water piping shall have an aluminum jacket.
5. See revised Chiller Schedule for options and accessories for chiller.
6. **Provide and add alternate price to replace the existing chilled water pumps.**
 - a. Chilled water pumps are located in the existing air handling unit room.
 - b. Reconnect chilled water pumps to existing chilled water piping.
 - c. Reconnect chilled water pumps to electrical circuit.
 - d. Provide all additional piping and pipe accessories as necessary to install new pumps in existing location.

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1 2 3 4 5 6

SHEET KEYNOTES

1. REMOVE EXISTING 50 TON CHILLER.
2. RECONNECT NEW CHILLER TO EXISTING CHILLED WATER PIPING. PROVIDE NEW BUTTERFLY VALVES AND FLEXIBLE CONNECTION.
3. EXISTING BELOW GRADE CHILLED WATER PIPING TO REMAIN.
4. EXISTING BOILER TO REMAIN.
5. REPLACE EXISTING CHILLED WATER PUMP.
6. EXISTING VAV AIR HANDLING UNIT (AHU-1) TO REMAIN.
7. SUPPORT NEW CHILLER ON EXISTING STEEL SUPPORT. PROVIDE ADDITIONAL STEEL CHANNEL/L-BEAMS AS NECESSARY TO PROPERLY SECURE NEW CHILLER TO EXISTING SUPPORT.



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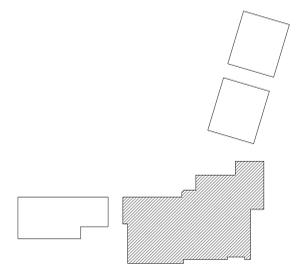


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MARK	DATE	DESCRIPTION

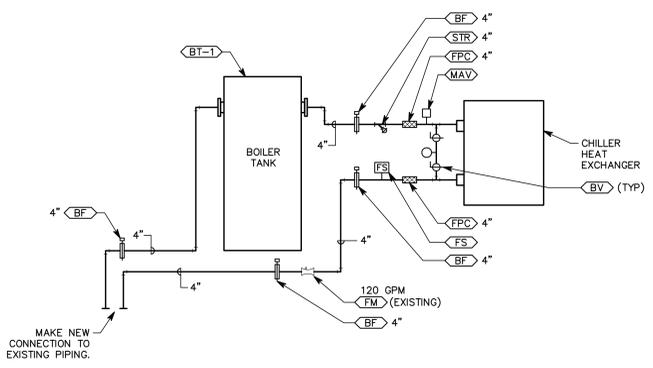
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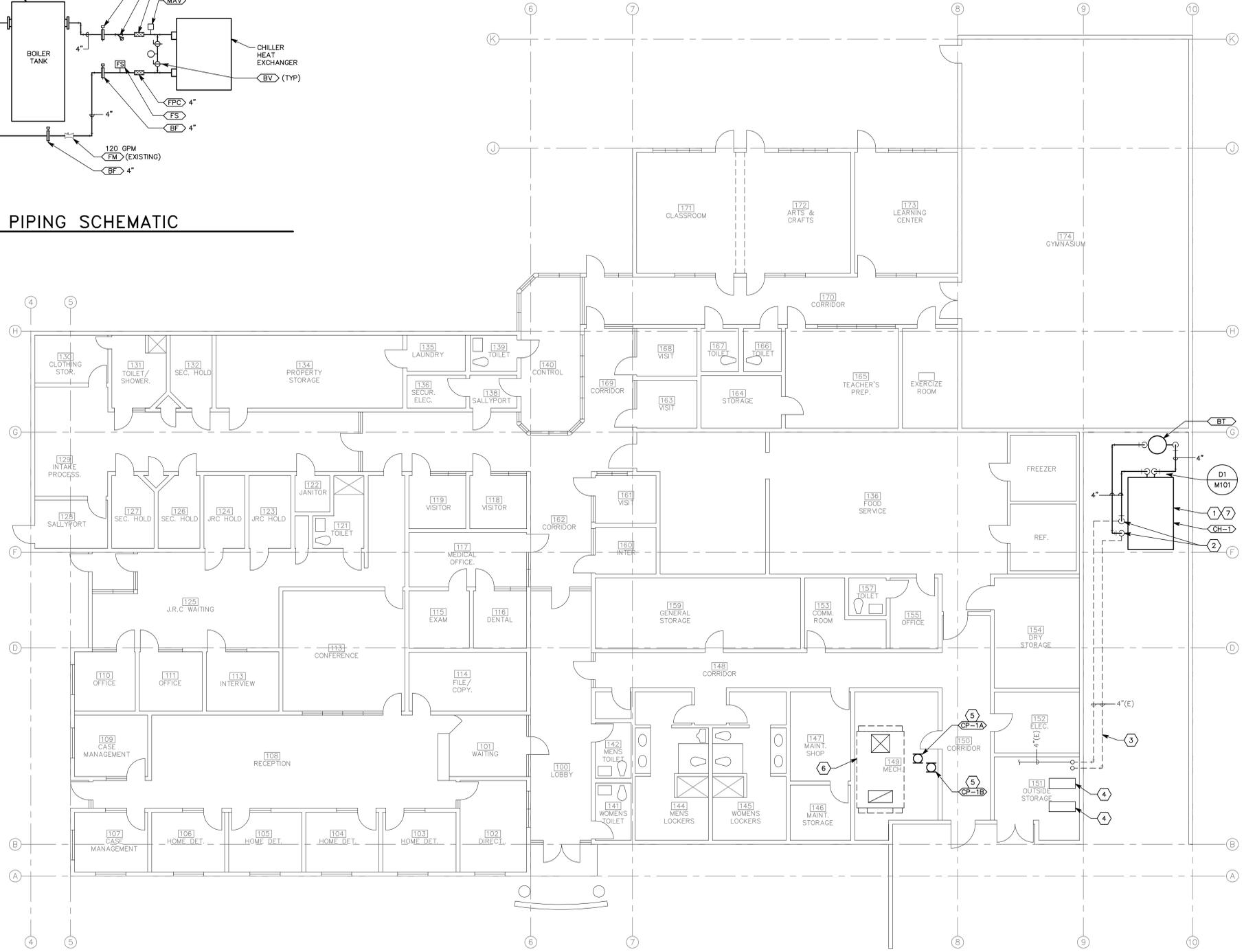
PROJECT NO:	20110156
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MECHANICAL PLAN - ADMINISTRATION BUILDING

M101



D1 CHILLER PIPING SCHEMATIC
SCALE: NO SCALE



A2 MECHANICAL PLAN - ADMINISTRATION BUILDING
SCALE: 1/8" = 1'-0"



File Name: P:\2011\20110156\Drawings\Slate Canyon\3Sheet\56M101.dwg Last Plotted: 2011/12/15 @ 1:29 PM By: ara

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MISC. SYMBOL LEGEND

Table with 2 columns: SYMBOL, DESCRIPTION. Includes symbols for detail indicators, elevation/section indicators, room numbers, keynotes, revision indicators, equipment indicators, plumbing fixture indicators, diffuser/grille indicators, break types, match lines, hidden features, contract limit lines, and new connection points.

PLUMBING PIPING LEGEND

Table with 2 columns: SYMBOL, DESCRIPTION. Lists plumbing piping symbols for combination waste and vent, soil waste above/below grade, grease waste above/below grade, vent, cold/hot water, hot water circulate, 180F hot water, rainwater above/below grade, overflow rainwater, storm drain, vent thru roof, non-potable water, irrigation water, sanitary sewer, gas, and propane.

VALVE LEGEND

Table with 2 columns: SYMBOL, DESCRIPTION. Lists valve symbols for shut off, gate, check, auto 2-way, auto 3-way, globe, ball, relief, pressure reducing, butterfly, solenoid, angle, venturi, balancing or plug cock, flow setter, gas cock, manual air vent, strainer, gauge cock, flexible connection, pressure gauge, thermometer, victualic coupling, reducer concentric, reducer eccentric, 90 degree elbows and tees, unions, capped pipes, anchors, and float and thermostatic traps.

DUCTWORK LEGEND

Table with 3 columns: SINGLE LINE, DOUBLE LINE, DESCRIPTION. Lists ductwork symbols for rectangular supply/return up/down, round duct up/down, acoustically lined duct, 90 degree elbows with turning vanes, duct size or shape transition, opposed blade/butterfly balancing dampers, combination tees, splitter dampers, square/rectangular ceiling diffusers, round ceiling diffusers, sidewall registers, round flexible duct, return/exhaust grilles, and flexible connections.

ABBREVIATIONS

Table of abbreviations for mechanical systems, including terms like ACCESS DOOR, AIR CONDITION, BALANCING DAMPER, BRAKE HORSE POWER, BTU, CUBIC FEET PER HOUR, COOLING, COMPONENT, CONDENSER, CONTROL VALVE, COLD WATER, DIAMETER, DISCHARGE, DEPTH OR DEEP, DRY BULB TEMPERATURE, EXISTING, ENERGY EFFICIENCY RATIO, EFFICIENCY, ETHYLENE GLYCOL, ELECTRIC, ELEVATION, ENTERING, EVAPORATE, ENTERING WATER TEMPERATURE, EXTERNAL, FUTURE, FAHRENHEIT, FLEXIBLE CONNECT, FIRE DAMPER, FULL LOAD AMPS, FINS PER INCH, FEET PER MINUTE, FEET PER SECOND, FIRE SMOKE DAMPER, GALLON(S), GALLONS PER HOUR, GALLONS PER MINUTE, HEAD, MERCURY, HOUR, HEIGHT, HEATING, HORSE POWER, HOT WATER, HERTZ(FREQUENCY), INSIDE DIAMETER, INCH, KILOWATT, LEAVING AIR TEMPERATURE, POUNDS, LENGTH, LATENT HEAT, LOCKED ROTOR AMPS, LEAVING WATER TEMPERATURE, MAXIMUM, THOUSAND BTU PER HOUR, MINIMUM CIRCUIT AMPS, MANUFACTURER, MINIMUM, NOT APPLICABLE, NORMALLY CLOSED, NOISE CRITERIA, NOT IN CONTRACT, NORMALLY OPEN, NET POSITIVE SUCTION HEAD, NOT TO SCALE, OUTSIDE AIR, OUTSIDE DIAMETER, OUNCE, PRESSURE DROP OR DIFFERENCE, PROPYLENE GLYCOL, PHASE, PARTS PER MILLION, PRESSURE, POUNDS PER SQUARE FOOT, POUNDS PER SQUARE INCH, PSI ABSOLUTE, PSI GAUGE, THERMAL RESISTANCE, RETURN AIR, RECIRCULATE, REFRIGERATION, REQUIRED, RATED AMPS, REVOLUTIONS PER MINUTE, RAINWATER, SUPPLY AIR, SHADING COEFFICIENT, STANDARD CUBIC FEET PER MINUTE, SOFT COLD WATER, SAFETY FACTOR, SENSIBLE HEAT, SEA LEVEL, STATIC PRESSURE, SPECIFICATION(S), SQUARE, STANDARD, STEAM, TEMPERATURE, TEMP. DROP OR DIFF., THERMAL, TOTAL, THERMOSTAT, VOLT, VACUUM, VARIABLE AIR VOLUME, VELOCITY, VENT, VENTILATION, VERTICAL, VARIABLE FREQUENCY MOTOR CONTROLLER, VOLUME, WATER COLUMN, WATER GAUGE, WATER PRESSURE DROP, WATER, WEIGHT, WET BULB TEMP, YEAR.

SCOPE OF WORK

- ECM 5 - (ADMINISTRATION BUILDING) REPLACE EXISTING CHILLER WITH A HIGH-EFFICIENCY CHILLER
1. REMOVE EXISTING AIR COOLED CHILLER.
2. EXISTING CHILLED WATER PUMPS TO REMAIN. (REPLACE EXISTING MOTORS WITH PREMIUM EFFICIENT MOTORS, SEE ECM 2).
3. INSTALLED NEW AIR COOLED CHILLER.
4. INSTALL NEW CHILLED WATER BUFFER TANK.
5. PROVIDE NEW CHILLED WATER PIPING BETWEEN THE NEW CHILLER AND THE EXISTING CHILLED WATER PIPING.
6. INSTALL NEW CHILLED WATER PUMPS.

SEQUENCE OF OPERATION

- CHILLED WATER PUMPS SYSTEM
1. EXISTING SEQUENCE OF OPERATION FOR THE CHILLED WATER SYSTEM SHALL REMAIN.
ADDITIONALLY:
THE NEW CHILLER SHALL BE INCORPORATED INTO THE EXISTING BUILDING MANAGEMENT SYSTEM.



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Table with 3 columns: MARK, DATE, DESCRIPTION. Contains revision markers.

ISSUE: CONSTRUCTION DRAWINGS
DATE: 2011-11-09

PROJECT NO: 20110156
DRAWN BY: ARA
CHECKED BY: RWM
DESIGNED BY: RWM

RECORD DRAWING DATE:

SIGNATURE:
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SHEET TITLE

MECHANICAL
LEGENDS

M001

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A

CHILLER SCHEDULE (AIR COOLED)																				
SYMBOL	MANUFACTURER	MODEL NO.	NOMINAL CAPACITY (TONS)	ACTUAL CAPACITY (TONS)	CHILLED WATER								ELECTRICAL					WEIGHT (LBS)	OPTIONS AND ACCESSORIES	NOTES
					FLUID TYPE	FLOW RATE (GPM)	ENT. WATER (F)	LVG. WATER (F)	WATER PRESSURE DROP (FEET)	FULL LOAD EFFICIENCY (EER)	NPLV (EER)	MAXIMUM SOUND POWER LEVELS (Dba)	MINIMUM CIRCUIT AMPACITY (AMPS)	MAXIMUM OVERCURRENT PROTECTION (AMPS)	VOLTS	HERTZ	PHASE			
CH-1	YORK	YCAL0056	56.2	56.1	WATER	120	45	55	9.9	9.8	14.4	95	130.3	150	460	60	3	3,300	(1)(2)(3)(4)(5)(6)(7)	(1)(2)(3)
ACCEPTABLE MANUFACTURERS					OPTIONS & ACCESSORIES								NOTES							
CARRIER YORK TRANE MCQUAY					(1) DISCONNECT SWITCH (2) FLOW SWITCH (3) HIGH AMBIENT KIT (4) DISCHARGE AND SUCTION READOUT KITS (5) SERVICE ISOLATION VALVES (6) COMPRESSORE CRANKCASE HEATER								(1) R-410A REFRIGERANT (2) 95 F AMBIENT AIR TEMPERATURE (3) TWO (2) REFRIGERATION CIRCUITS							

CIRCULATING PUMP SCHEDULE																
SYMBOL	MANUFACTURER	MODEL	TYPE	SYSTEM	CIRCULATING FLUID				PUMP EFFICIENCY (%)	NPSH	PUMP RPM	MOTOR (HP)	ELECTRICAL			COMMENTS
					FLUID	FLOW RATE (GPM)	PRESSURE (HEAD)	TEMP.					VOLT	PHASE	HERTZ	
CP-1A	BELL & GOSSETT	SERIES "80" - 2x2x9.5	PIPE MOUNTED	CHILLED WATER	WATER	60.0	55.0	55	53	6	1750	2	480	3	60	(1)
CP-1B	BELL & GOSSETT	SERIES "80" - 2x2x9.5	PIPE MOUNTED	CHILLED WATER	WATER	60.0	55.0	55	53	6	1750	2	480	3	60	(1)
ACCEPTABLE MANUFACTURERS					NOTES				OPTIONS & ACCESSORIES							
BELL & GOSSETT ARMSTRONG TAGO									(1) PREMIUM EFFICIENT MOTOR							

VALVE SCHEDULE				
SERVICE	VALVE TYPE	PIPE SIZE	DESCRIPTION	BASIS OF DESIGN
CHILLED WATER PIPING	BUTTERFLY VALVE	2-1/2" AND LARGER	DUCTILE IRON BODY, LUG STYLE BODY, EPDM SEAT, ALUMINUM - BRONZE DISK, LEVER OPERATED MSS SP 67, TYPE I, NSF CERTIFIED 200 PSI BI-DIRECTIONAL DEAD-END CAPABILITY.	CRANE 44 KITZ 5113
CHILLED WATER PIPING	WYE STRAINER	2-1/2" AND LARGER	ASTM A 126 CLASS B CAST IRON, FLANGED, 125 PSIG CWP PERFORATED STAINLESS BASKET, 1/16" PERFORATIONS 40-MESH START-UP STRAINER	WATTS SERIES 77 METRAFLEX M1K
CHILLED WATER PIPING	FLEXIBLE CONNECTION	2-1/2" AND LARGER	DOUBLE SPHERICAL, NYLON REINFORCED NEOPRENE, CLASS 150 STEEL FLANGES 150 PSIG CWP, 250 F MAX. OPERATING PRESSURE.	METRAFLEX DSNN

CHILLED WATER BUFFER TANK									
SYMBOL	MANUFACTURER	MODEL	LOCATION	SYSTEM	TANK VOLUME (GALLONS)	MAXIMUM TANK DIA. (INCHES)	PIPE CONNECTION (INCHES)	OPERATING WEIGHT (LBS)	COMMENTS
BT-1	LOCHINVAR	CVU200	MECH RM	CHILLED WATER	200	30	84	450	(1) (2) (3) (4) (5) (6)
NOTES: (1) ASME CONSTRUCTION (2) R-12 TANK INSULATION WITH UV RESISTANT EXTERIOR (3) LOWER TANK CONNECTION WITH INTERNAL BAFFLE (4) 4" X 6" HAND HOLE (5) AUTOMATIC AIR VENT (6) TEMPERATURE AND PRESSURE GAUGE									

PIPE INSULATION SCHEDULE		
SERVICE	PIPE SIZE	PIPE INSULATION MATERIAL
HOT WATER HEATING CHILLED WATER (BUILDING INTERIOR)	1-1/2" AND SMALLER	1" PREFORMED FIBERGLASS WITH ALL SERVICE JACKET PREFORMED PVC FITTING COVERS
HOT WATER HEATING CHILLED WATER (BUILDING EXTERIOR)	1-1/2" AND SMALLER	1" PREFORMED FIBERGLASS WITH ALL SERVICE JACKET 0.024" CORRUGATED ALUMINUM FIELD APPLIED JACKET
HOT WATER HEATING CHILLED WATER (BUILDING INTERIOR)	2" AND LARGER	1-1/2" PREFORMED FIBERGLASS WITH ALL SERVICE JACKET PREFORMED PVC FITTING COVERS
HOT WATER HEATING CHILLED WATER (BUILDING EXTERIOR)	2" AND LARGER	1-1/2" PREFORMED FIBERGLASS WITH ALL SERVICE JACKET 0.024" CORRUGATED ALUMINUM FIELD APPLIED JACKET

MECHANICAL PIPE MATERIAL SCHEDULE			
SERVICE	PIPE MATERIAL	FITTINGS	JOINTS
CHILLED WATER PIPING	ASTM B88 TYPE 'L' COPPER TUBING	ASTM B16.18 CAST COPPER-ALLOY OR ASTM B16.22 WROUGHT COPPER	ASTM B32 LEAD FREE SOLDER
HOT WATER HEATING	ASTM B88 TYPE 'L' COPPER TUBING	ASTM B16.18 CAST COPPER-ALLOY OR ASTM B16.22 WROUGHT COPPER	ASTM B32 LEAD FREE SOLDER
NOTES: (1) PIPE HANGERS FOR COPPER PIPE AND TUBING SHALL BE PLASTIC COATED STEEL TYPE 1 CLEVIS HANGERS			



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MARK	DATE	DESCRIPTION

ISSUE:	CONSTRUCTION DRAWINGS
DATE:	2011-11-09

PROJECT NO:	20110156
DRAWN BY:	ARA
CHECKED BY:	RWM
DESIGNED BY:	RWM

RECORD DRAWING DATE:
SIGNATURE:
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SHEET TITLE

MECHANICAL
SCHEDULES

M601