

CODE ANALYSIS

APPLICABLE CODES

	Year		Year
International Building Code	2006	National Electrical Code	2008
International Mechanical Code	2006	Uniform Code for	
International Plumbing Code	2006	Building Conservation	
International Fire Code	2006	ADA Accessibility	
International Energy Conservation Code	2006	Guidelines	

A. Occupancy and Group: _____
 Change in Use: Yes _____ No Mixed Occupancy: Yes _____ No
 Special Use and Occupancy (e.g. High Rise, Covered Mall): NO

B. Seismic Design Category: NA Design Wind Speed: NA mph

C. Type of Construction (circle one):
 I/A I/B II/A II/B III/A III/B IV/HT V/A V/B

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours): BUILDING IS EXISTING
 North: _____ South: _____ East: _____ West: _____

E. Mixed Occupancies: NO Nonseparated Uses: NA

F. Sprinklers:
 Required: Provided: Type of Sprinkler System: WET PIPE

G. Number of Stories: ONE Building Height: _____

H. Actual Area per Floor (square feet): _____

I. Tabular Area: NA

J. Area Modifications: NA
 a) $A_a = A_t + \left[\frac{A_t I_f}{100} \right] + \left[\frac{A_t I_s}{100} \right]$ $I_f = 100 \left[\frac{F}{P} - 0.25 \right] \frac{W}{30}$

b) Sum of the Ratio Calculations for Mixed Occupancies:

$$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$$

c) Total Allowable Area for:

- 1) One Story: _____
- 2) Two Story: $A_a(2)$ _____
- 3) Three Story: $A_a(3)$ _____

d) Unlimited Area Building: Yes _____ No _____ Code Section: _____

K. Fire Resistance Rating Requirements for Building Elements (hours). NA

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls			Floors - Ceiling Floors		
Interior Bearing Walls			Roofs - Ceiling Roofs		
Exterior Non-Bearing Walls			Exterior Doors and Windows		
Structural Frame			Shaft Enclosures		
Partitions - Permanent			Fire Walls		
Fire Barriers			Fire Partitions		
			Smoke Partitions		

L. Design Occupant Load: NA
 Exit Width Required: _____ Exit Width Provided: _____

M. Minimum Number of Required Plumbing Facilities:

- a) Water Closets - Required (m) _____ (f) _____ Provided (m) _____ (f) _____
- b) Lavatories - Required (m) _____ (f) _____ Provided (m) _____ (f) _____
- c) Bath Tubs or Showers: _____
- d) Drinking Fountains: _____ Service Sinks: _____

FOOTNOTES:

- 1) In case of conflict with the U.S. Department of Justice Federal Registers **Part I** through **Part V** - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.
- 2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
 - a) High Rise Requirements.
 - b) Atriums.
 - c) Performance Based Criteria.
 - d) Means or Egress Analysis.
 - e) Fire Assembly Locator Sheet.
 - f) Exterior and Interior Accessibility Route.
 - g) Fire Stopping, Including Tested Design Number.

UTAH STATE DEVELOPMENT CENTER COMP THERAPY MECHANICAL RETROFIT DFCM #09094410



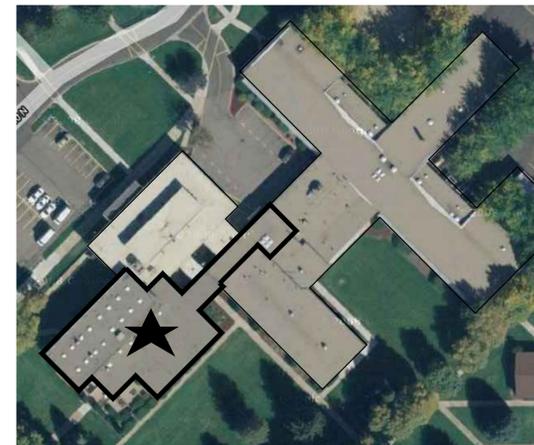
State of Utah—Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

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- EP103- FIRST FLOOR ELECTRICAL PLAN
- EX101- ONE LINE DIAGRAMS AND SCHEDULES



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PROJECT NAME & ADDRESS

**USDC COMP
THERAPY
MECHANICAL
RETROFIT
DFCM# 09094410**

American Fork, Utah

MARK	DATE	REVISION

PROJECT MANAGER:
WP
DRAWN BY:
JB
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SLW
DATE:
3/03/09
WHW JOB NO:
09041



MECHANICAL GENERAL
NOTES AND LEGEND

SHEET NO.
MG001

MECHANICAL LEGEND

SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION
GENERAL TERMINOLOGY			AIR SIDE			WET SIDE CONT			WET SIDE		
		SECTION LETTER DESIGNATION		AP	ACCESS PANEL			ELBOW UP			PUMP
		SECTION DRAWN ON THIS SHEET			EXISTING EQUIPMENT TO BE REMOVED			ELBOW DOWN			REGULATOR
		DETAIL NUMBER DESIGNATION CORRESPONDING WITH GRID LOCATION			EXISTING EQUIPMENT TO REMAIN			TEE UP			UNION
		MECHANICAL EQUIPMENT DESIGNATION			NEW EQUIPMENT			TEE DOWN			MANUAL ACTUATOR (BALL, BUTTERFLY, NEEDLE, ETC. VALVES)
		EQUIPMENT ITEM DESIGNATION	SA		SUPPLY AIR	-----		EXISTING PIPING TO BE REMOVED			MANUAL ACTUATOR (GATE, GLOBE, S&D, OS&Y, ETC. VALVES)
		REGISTER, GRILL OR DIFFUSER DESIGNATION WITH BALANCING CFM LISTED BELOW	RA		RETURN AIR	-----		EXISTING PIPING TO REMAIN			MANUAL ACTUATOR (GATE, GLOBE, S&D, OS&Y, ETC. VALVES)
		GRILLE, OR LOUVER DESIGNATION WHERE BALANCING NOT REQUIRED	EA		EXHAUST AIR	-----		NEW PIPING			PNEUMATIC DIAPHRAGM ACTUATOR
		REVISION DESIGNATOR AND NUMBER	OA		OUTSIDE AIR	-----		PIPE CAP OR PLUG			PNEUMATIC DIAPHRAGM ACTUATOR
		KEY NOTE DESIGNATOR AND NUMBER	MA		MIXED AIR	-----		CONCENTRIC REDUCER			ELECTRIC MOTOR ACTUATOR
	POC	POINT OF CONNECTION	FA		FRESH AIR	-----		ECCENTRIC REDUCER			SOLENOID ACTUATOR
	POR	POINT OF REMOVAL	RF		RELIEF AIR	-----		FLEXIBLE CONNECTION			THREADED OR SWEAT VALVE CONNECTION
AFF		ABOVE FINISHED FLOOR						CONDENSATE DRAIN			FLANGED VALVE CONNECTION
AP		ACCESS PANEL						NATURAL GAS PIPING			BUTTERFLY VALVE
CL EL.		CENTER LINE ELEVATION						CHEMICAL FEED LINE			GATE VALVE
INV. ELEV.		INVERT ELEVATION						MAKE-UP WATER LINE			GLOBE VALVE - STRAIGHT PATTERN
GC		GENERAL CONTRACTOR						CULINARY COLD WATER			MOTORIZED 2-WAY CONTROL VALVE
MC		MECHANICAL CONTRACTOR						CULINARY HOT WATER			MOTORIZED 3-WAY CONTROL VALVE
ATC		CONTROL CONTRACTOR						RECIRCULATED CULINARY HOT WATER			CHECK VALVE
EC		ELECTRICAL CONTRACTOR						EQUIPMENT DRAIN		PRV	PRESSURE REDUCING VALVE
FPC		FIRE PROTECTION CONTROL						HEATING WATER SUPPLY		PRV	PRESSURE REDUCING VALVE W/ CHECK
NIC		NOT IN CONTRACT						HEATING WATER RETURN		CBV	CIRCUIT BALANCING VALVE
NTS		NOT TO SCALE						CHILLED WATER SUPPLY		BV	BALL VALVE
								CHILLED WATER RETURN		PRV	PRESSURE RELIEF VALVE
								PUMPED CONDENSATE			NEEDLE VALVE
								HIGH PRESSURE STEAM			AUTOMATIC AIR VENT
								LOW PRESSURE STEAM			MANUAL AIR VENT
								LOW PRESSURE RETURN			STRAINER
								HIGH PRESSURE RETURN			STRAINER W/ PLUGGED BLOW OFF
										VTI	VENTURI
											PRESSURE GAUGE AND GAUGE COCK - WATER
											PRESSURE GAUGE AND GAUGE COCK - STEAM
											THERMOMETER AND THERMOWELL
										TW	THERMOWELL
											DIRECTION OF FLOW
											BACKFLOW PREVENTING VALVE

GENERAL NOTES:

G-1 MECHANICAL INFORMATION IS NOT LIMITED TO THE MECHANICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMATION OF THE EXISTING BUILDING AND SITE CONDITIONS, EXISTING PIPING, EXISTING ELECTRICAL, AND EXISTING SUPPORTS.

A - EACH DRAWING SHEET AND THE SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH ITEMS SHOWN AND NOTED ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN ALL PLACES. ITEMS IN SPECIFICATIONS OR DRAWINGS LISTED WHICH ARE DIFFERING IN EFFICIENCY OR QUALITY SHALL BE HELD TO THE GREATEST OF: EFFICIENCY, QUALITY OR GOVERNING CODE.

B - THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEMS ACCORDING TO THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS.

C - THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITH PROPER SERVICE ACCESS AND CLEARANCES ACCORDING TO MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL REVIEW SUPPLIERS BID PACKAGES FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS, SCHEDULES, AND DESIGN INTENT (ALL EQUIPMENT AND METHODS). THE CONTRACTOR SHALL REMOVE AND REINSTALL CORRECTLY AT HIS OWN EXPENSE ANY EQUIPMENT NOT IN COMPLIANCE.

D - THE CONTRACTOR SHALL CONSULT MANUFACTURERS INSTALLATION INSTRUCTIONS FOR SIZES, METHODS, ACCESSORIES, AND CLEARANCES IN SPACE AVAILABLE PRIOR TO BIDDING PROJECT.

E - ANYTHING NOT CLEAR OR IN CONFLICT WILL BE EXPLAINED BY MAKING APPLICATION TO THE ENGINEER IN WRITING.

G-2 ANY AND ALL ALTERATIONS TO THE SYSTEM SHOWN SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO CHANGES FOR APPROVAL. CONTRACTOR SHALL NOT START ANY CHANGES UNTIL NOTIFIED IN WRITING. IF CHANGES ARE MADE PRIOR TO APPROVAL CONTRACTOR SHALL TAKE ALL RESPONSIBILITY FOR THE CHANGES MADE AND ALL COSTS RELATING TO FAILURE OR REPLACEMENT OF ALTERATIONS.

G-3 CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATIONS.

G-4 THE WORKING DRAWINGS ARE DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND, OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR MECHANICAL EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL DRAWINGS. THE CONTRACTOR SHALL PROVIDE PROVISIONS FOR BLOCKOUTS OR CORE DRILLS THROUGH STRUCTURE.

G-5 THE INSTRUCTION TO "PROVIDE" ALSO INCLUDES INSTALLATION.

G-6 THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY IN HANDLING AND DISPOSING OF REFRIGERANTS, OILS, ETC. ALL SUCH MATERIALS SHALL BE HANDLED, DISPOSED, AND USED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS.

G-7 THE MECHANICAL CONTRACTOR SHALL VERIFY MOTOR VOLTAGES WITH THE ELECTRICAL DRAWING BEFORE ORDERING MOTORIZED EQUIPMENT AND CONTROLS.

G-8 SUPPLIERS SHALL REVIEW ALL DRAWINGS AND THE SPECIFICATIONS PRIOR TO SUBMITTING PRICES TO THE CONTRACTOR. ALL QUESTIONS AND DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BIDDING.

G-9 CONTRACTOR SHALL THOROUGHLY REVIEW AND SIGN SUBMITTALS FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS PRIOR TO ENGINEERS REVIEW. SUPPLIERS SHALL HIGHLIGHT OR MARK ALL INFORMATION REQUIRED TO SHOW COMPLIANCE TO THE SPECIFICATIONS. ALL REQUESTED EXCEPTIONS TO THE SPECIFICATIONS, OR SCHEDULES SHALL BE CLEARLY NOTED AND EXPLAINED. SUBMITTAL REVIEW AND ACCEPTANCE IS FOR DESIGN CONCEPT ONLY, AND DOES NOT AT ANY TIME RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO MEET SPECIFICATIONS, CAPACITIES, OR DESIGN INTENT.

G-10 ALL MECHANICAL SHALL BE INSTALLED AND CONFORM TO THE 2006 EDITION OF THE IMC AND IPC WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENT.

G-11 THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE DRAINING DOWN AND RE-FILLING OF ALL SYSTEMS NECESSARY TO COMPLETE THE WORK OUTLINED BY THIS PROJECT. THIS INCLUDES PROVIDING THE REQUIRED CHEMICAL TREATMENT WHEN RE-FILLING THE SYSTEM.

G-12 ALL PIPING, MATERIALS, ETC. SHALL BE NEW AND DOMESTIC MADE UNLESS SPECIFICALLY AUTHORIZED IN WRITING PRIOR TO BID.

CONSULTANTS



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American Fork, Utah

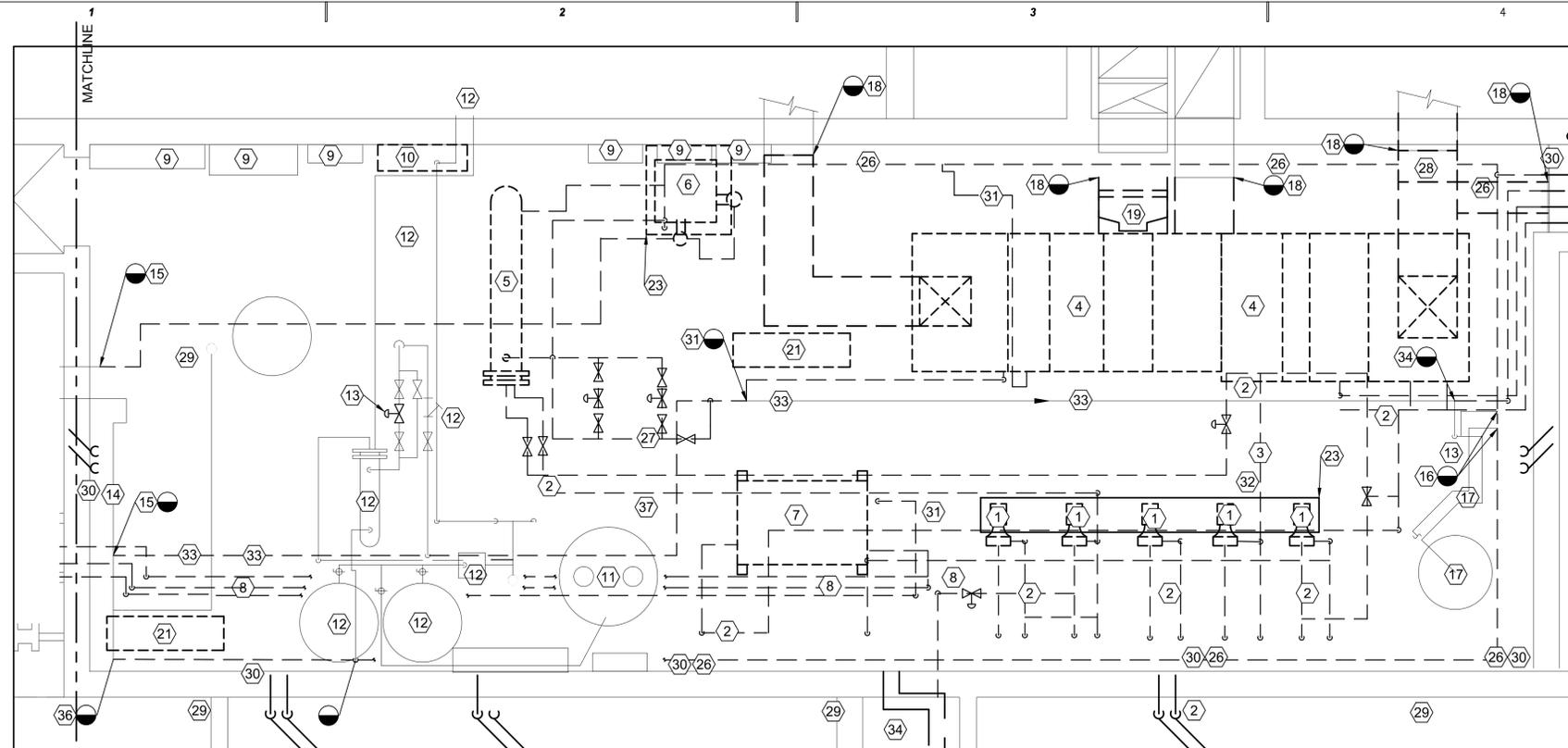
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PROJECT MANAGER:
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SHEET TITLE
**MECHANICAL ROOM
DEMOLITION PLAN**

SHEET NO.
MD101



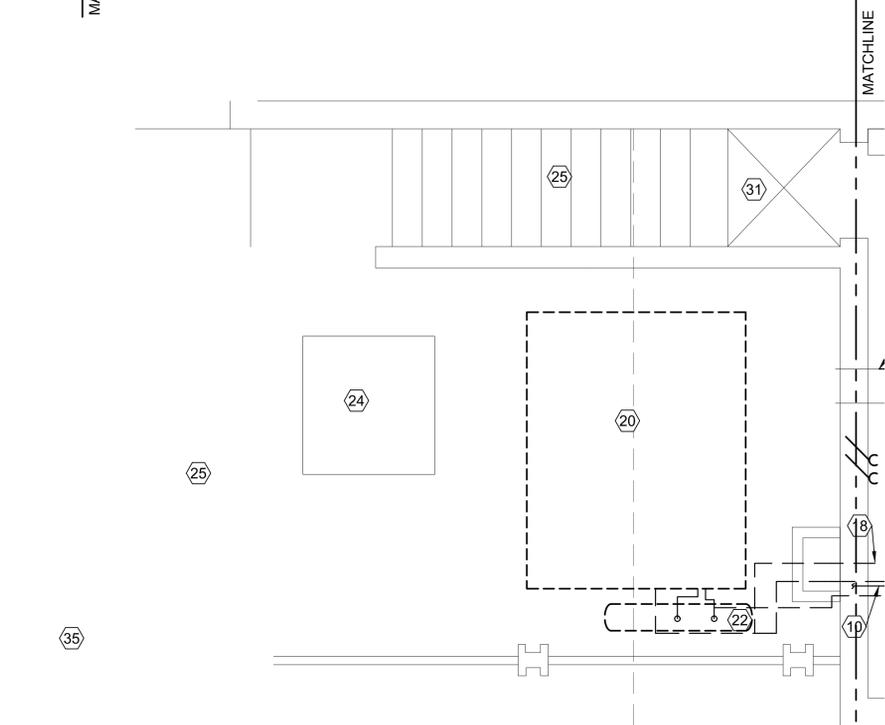
MECHANICAL ROOM DEMOLITION PLAN

SCALE: 3/8" = 1'-0"



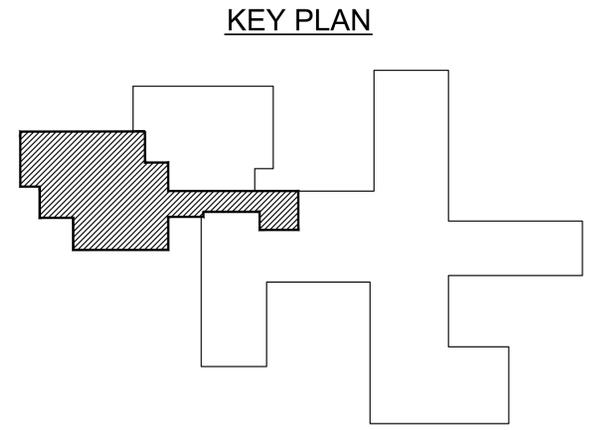
GENERAL NOTES:

- COORDINATE PROJECT SCHEDULE AND PHASING WITH OWNER. PRELIMINARY PLAN: REMOVE AND REPLACE PIPING IN TUNNELS INITIALLY WHILE BUILDING IS OCCUPIED, THEN REPLACE AIR HANDLERS AND FAN COILS AFTER OCCUPANTS HAVE BEEN TEMPORARILY MOVED.



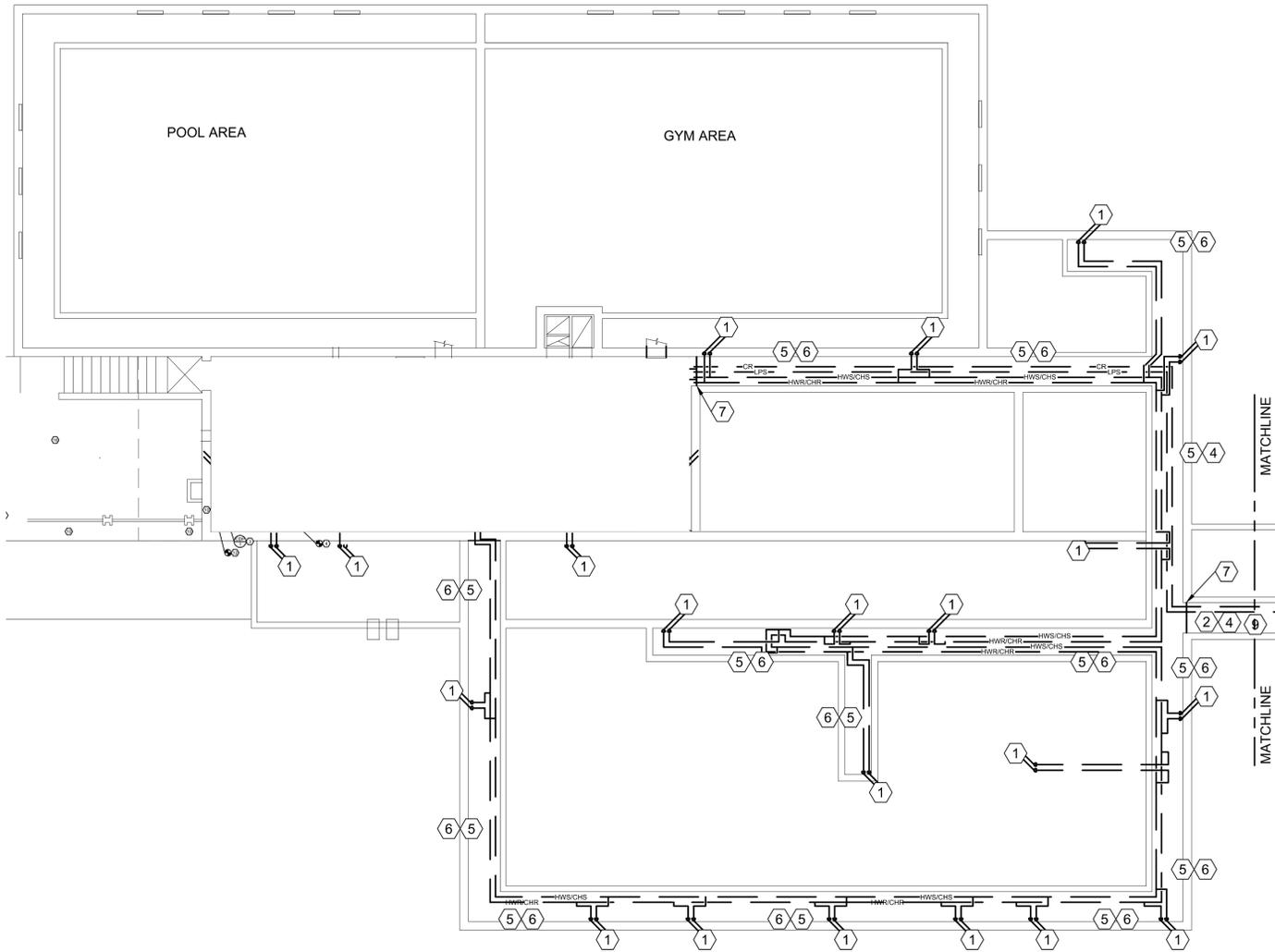
MECHANICAL EQUIPMENT DEMOLITION DETAIL

SCALE: 3/8" = 1'-0"



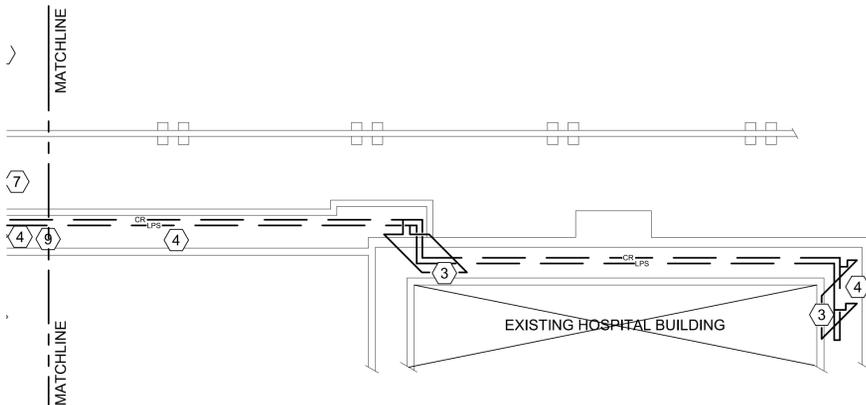
KEY PLAN

- SHEET NOTES:
- REMOVE ALL EXISTING HOT WATER AND CHILLED WATER PUMPS COMPLETE WITH PIPING, SUPPORTS, AND ALL ASSOCIATED ITEMS. REFER TO ELECTRICAL SHEETS FOR DEMO OF ELECTRICAL ITEMS SUCH AS CONTROLS, DISCONNECTS, STARTERS ETC.
 - REMOVE ALL EXISTING HOT AND CHILLED WATER PIPING, VALVES, HANGERS, CONTROLS, SUPPORTS ETC IN MECHANICAL EQUIPMENT ROOM, TUNNELS, ETC. AND ALL ASSOCIATED ITEMS.
 - REMOVE EXISTING COMPRESSION TANK, HANGERS, SUPPORTS, VALVES, PIPING ETC. AND ALL ASSOCIATED ITEMS.
 - REMOVE EXISTING AIR HANDLING UNITS INCLUDING SUPPORTS, PIPE CONNECTIONS DUCT CONNECTIONS, CONTROLS AND ALL ASSOCIATED ITEMS.
 - REMOVE EXISTING STEAM TO HOT WATER CONVERTOR INCLUDING ALL SUPPORTS, HANGERS, CONTROLS, TRAPS, VALVES ETC. AND ALL ASSOCIATED ITEMS.
 - REMOVE EXISTING CONDENSATE RECEIVER AND PUMP SET COMPLETE WITH PIPING, VALVES AND ALL ASSOCIATED ITEMS. SEE ELECTRICAL SHEETS FOR DEMO OF RELATED DISCONNECTS, STARTERS, ETC.
 - REMOVE EXISTING CHILLER, PIPING, SUPPORTS, CONTROLS, ELECTRICAL EQUIPMENT ETC. AND ALL ASSOCIATED ITEMS.
 - REMOVE EXISTING REFRIGERANT PIPING, HANGERS, SUPPORTS, TRAPS, VALVES, CONTROLS AND ALL ASSOCIATED ITEMS. SEE NOTE G-6/MG001 FOR HANDLING OF REFRIGERANT.
 - EXISTING ELECTRICAL PANELS. SEE ELECTRICAL SHEETS FOR DEMO DETAILS.
 - REMOVE EXISTING CONTROL PANEL. FIELD VERIFY CONDITIONS.
 - EXISTING SUMP PUMP AND ALL ASSOCIATED ITEMS NECESSARY FOR PROPER OPERATION SHALL REMAIN.
 - ALL POOL EQUIPMENT, PIPING VALVES, CONVERTOR, TANKS PUMP AND ALL ASSOCIATED ITEMS NECESSARY FOR PROPER OPERATION SHALL REMAIN. REMOVE ANY PNEUMATIC CONTROLS AND REPLACE WITH DDC.
 - REMOVE PNEUMATIC CONTROL VALVE AND REPLACE WITH DDC OPERATED STEAM CONTROL VALVE. FIELD VERIFY CONDITIONS.
 - EXISTING STEAM PRV STATION SHALL REMAIN.
 - REMOVE ALL STEAM CONDENSATE RETURN PIPING AND ASSOCIATED HANGERS, VALVES ETC. FROM THIS POINT. FIELD VERIFY CONDITIONS.
 - DISCONNECT LPR PIPING FROM HOT WATER GENERATOR AT THIS APPROXIMATE LOCATION. FIELD VERIFY EXACT LOCATION.
 - EXISTING CULINARY HOT WATER STEAM GENERATOR AND ALL ASSOCIATED STEAM, CONDENSATE, TRAPS, VALVES, HOT AND COLD WATER PIPING ETC. SHALL REMAIN.
 - REMOVE EXISTING DUCTWORK FROM AIR HANDLING UNITS TO THIS POINT. FIELD VERIFY EXACT LOCATION.
 - REMOVE EXISTING VENTILATION FAN AND ASSOCIATED HANGERS, WIRING, ETC.
 - REMOVE EXISTING AIR COOLED CONDENSING UNIT AND ALL ASSOCIATED ITEMS INCLUDING PIPING SUPPORTS, TANKS, ETC. FIELD VERIFY.
 - REMOVE EXISTING AIR COMPRESSOR AND ALL ASSOCIATED PIPING, HANGERS, ETC. CONTRACTOR SHALL VERIFY PROPER OPERATION OF ALL EXISTING CONTROL SYSTEMS BEFORE REMOVAL. ALL EXISTING PNEUMATIC CONTROLS SHALL BE CONVERTED TO DDC. FIELD VERIFY ALL CONNECTED CONTROLS EQUIPMENT PRIOR TO DEMOLITION. SALVAGE EQUIPMENT TO BUILDING OWNER.
 - REMOVE EXISTING ACCUMULATOR AND ASSOCIATED PIPING, VALVES, SUPPORTS ETC. FIELD VERIFY.
 - REMOVE EXISTING CONCRETE HOUSEKEEPING PAD. FIELD VERIFY LOCATION.
 - EXISTING TRANSFORMER SHALL REMAIN.
 - EXISTING SIDEWALK SHALL REMAIN.
 - REMOVE LOW PRESSURE STEAM RETURN PIPING IN THIS AREA INCLUDING PIPING TRAPS, VALVES ETC. FIELD VERIFY. EQUIPMENT TRAPS AND VALVES SHALL REMAIN.
 - REMOVE STEAM PIPING FROM THIS POINT TO CONVERTOR INCLUDING CONTROL VALVES, VALVES, PIPING, CONTROLS, AND CONDENSATE PIPING, TRAPS ETC. AND ALL ASSOCIATED ITEMS.
 - REMOVE EXISTING AUXILIARY COOLING/HEATING COIL AND ALL ASSOCIATED PIPING, VALVES, HANGERS, ETC.
 - EXISTING STEAM LINE THROUGH CEILING SHALL REMAIN.
 - CONDENSATE DRAIN PIPING (NOT SHOWN) FROM FAN COIL UNITS SHALL REMAIN. ANY EXISTING PIPING HUNG FROM DEMO PIPING SHALL BE RE-HUNG USING NEW HARDWARE. PROTECT FOR RECONNECTION TO NEW FAN COIL UNITS. FIELD VERIFY.
 - REMOVE EXISTING STEAM AND CONDENSATE PIPING TO AIR HANDLER INCLUDING TRAP, VALVES, AND ASSOCIATED HANGERS ETC. FIELD VERIFY.
 - REMOVE EXISTING AIR SEPARATOR, HANGERS AND ALL ASSOCIATED ITEMS.
 - EXISTING LOW PRESSURE STEAM PIPING SHALL REMAIN.
 - REMOVE LPS SUPPLY PIPING TO TUNNEL AT THIS APPROXIMATE LOCATION. REMOVE ALL ASSOCIATED HANGERS, VALVES, ETC. FIELD VERIFY.
 - REMOVE/MODIFY EXISTING LANDSCAPING, PLANTS, BUSHES, ETC. AS NECESSARY TO ACCOMMODATE NEW MECHANICAL PAD.
 - REMOVE ALL STEAM CONDENSATE RETURN PIPING FROM THIS POINT. EXISTING DIRT LEG, CONDENSATE TRAP AND ASSOCIATED VALVES SHALL REMAIN. FIELD VERIFY CONDITIONS.



MAIN TUNNEL PIPING DEMOLITION PLAN

SCALE: 1/8" = 1'-0"



EAST TUNNEL PIPING DEMOLITION PLAN

SCALE: 1/8" = 1'-0"



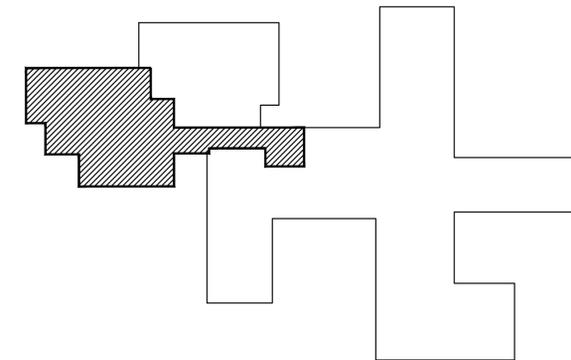
SHEET NOTES:

- ① SEE SHEET MD103 FOR CONTINUATION TO FAN COIL UNITS ABOVE.
- ② SEE EAST TUNNEL PIPING DEMOLITION PLAN THIS SHEET FOR CONTINUATION OF PIPING.
- ③ SEE SHEET MD103 FOR CONTINUATION OF STEAM AND CONDENSATE PIPING TO UNIT CONVECTORS.
- ④ REMOVE ALL STEAM AND CONDENSATE STEAM PIPING IN TUNNEL. REMOVE ALL ASSOCIATED ITEMS INCLUDING HANGERS, SUPPORTS, TRAPS ETC. FIELD VERIFY.
- ⑤ REMOVE ALL HEATING/COOLING WATER PIPING IN TUNNEL. REMOVE ALL ASSOCIATED ITEMS INCLUDING HANGERS, SUPPORTS, VALVES, ETC. FIELD VERIFY.
- ⑥ EXISTING DRAIN PIPING IN TUNNEL (NOT SHOWN) FOR FAN COIL UNITS SHALL REMAIN FOR RECONNECTION TO NEW FAN COIL UNITS. IF PIPING IS HUNG FROM DEMO PIPING, PROVIDE NEW HANGERS TO DECK OR WALL AS NECESSARY TO SUPPORT EXISTING PIPING.
- ⑦ REMOVE SHEET METAL PARTITION.
- ⑧ SEE MD101 FOR LARGE SCALE DEMOLITION PLAN THIS AREA.
- ⑨ SEE MAIN TUNNEL PIPING PLAN THIS SHEET FOR CONTINUATION OF PIPING.

GENERAL NOTES:

1. COORDINATE PROJECT SCHEDULE AND PHASING WITH OWNER. PRELIMINARY PLAN: REMOVE AND REPLACE PIPING IN TUNNELS INITIALLY WHILE BUILDING IS OCCUPIED, THEN REPLACE AIR HANDLERS AND FAN COILS AFTER OCCUPANTS HAVE BEEN TEMPORARILY MOVED.

KEY PLAN



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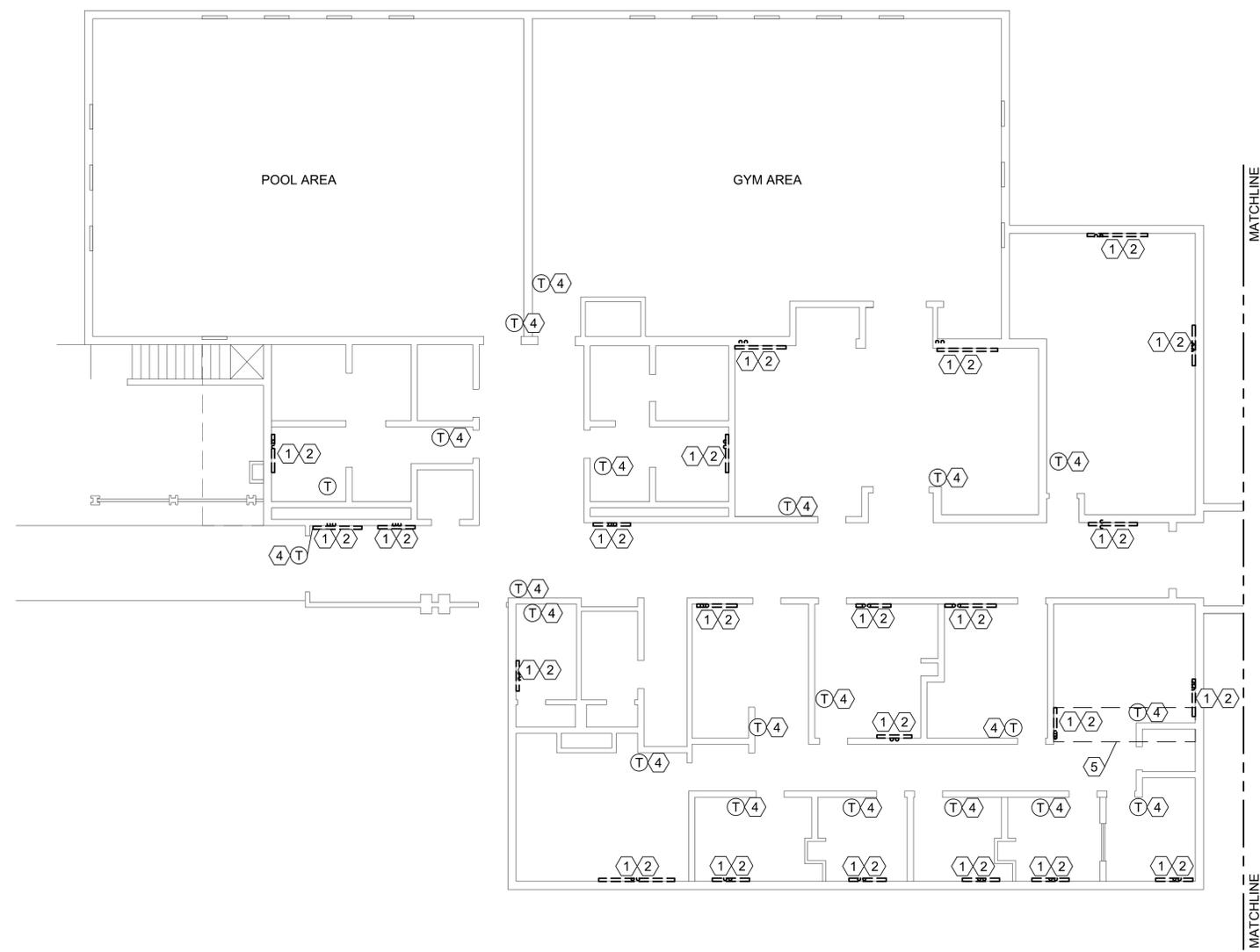
SHEET TITLE

**MECHANICAL TUNNEL
DEMOLITION PLAN**

SHEET NO.

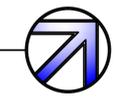
MD102



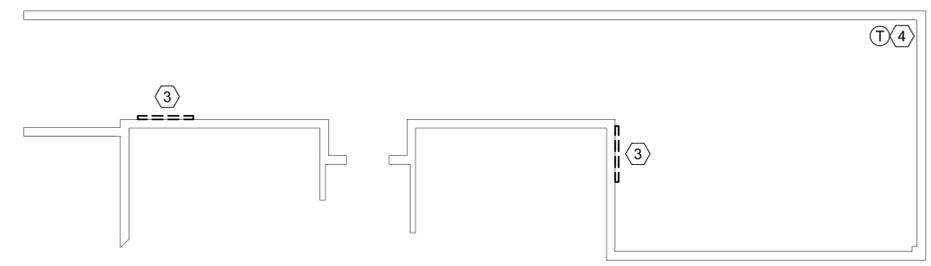


FIRST FLOOR DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

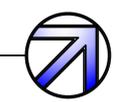


MATCHLINE



FIRST FLOOR DEMOLITION PLAN

SCALE: 1/8" = 1'-0"



MATCHLINE

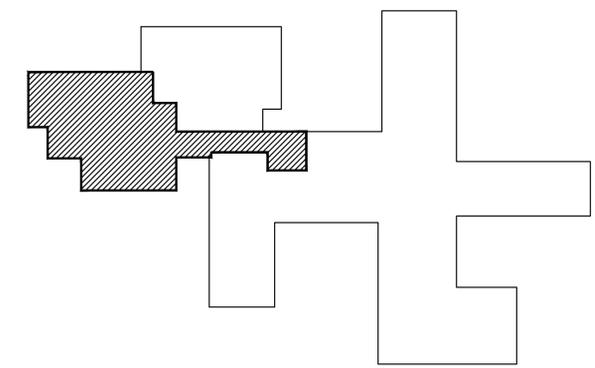
SHEET NOTES:

- ① REMOVE EXISTING FAN COIL UNIT. FIELD VERIFY EXACT DIMENSIONS OF EXISTING UNIT. REMOVE ALL ASSOCIATED HOT AND COLD WATER PIPING INCLUDING CONTROL VALVES, ETC. FIELD VERIFY.
- ② CONDENSATE DRAIN PIPING SHALL REMAIN. DISCONNECT DRIP PAN FROM CONDENSATE DRAIN PIPING AND PROTECT FOR REINSTALLATION OF NEW FAN COIL UNIT DRIP PAN. FIELD VERIFY.
- ③ REMOVE EXISTING STEAM CONVECTORS AND ALL ASSOCIATED PIPING, TRAPS, VALVES ETC. FIELD VERIFY EXACT CONDITIONS.
- ④ REMOVE EXISTING THERMOSTAT. PATCH AND REPAIR WALL AS NECESSARY FOR INSTALLATION OF NEW THERMOSTATS. SEE SHEET ME103 FOR NEW THERMOSTAT LOCATION.
- ⑤ PROVIDE SAW CUTTING OF FLOOR FOR REMOVAL OF FAN COIL PIPING IN THIS APPROXIMATE LOCATION. FIELD VERIFY EXACT LOCATIONS BEFORE SAW CUTTING. FLOOR SHALL BE FILLED AND PATCHED UPON INSTALLATION OF NEW PIPING. REPAIR AND/OR REPLACE ANY DAMAGED CARPET TO MATCH.

GENERAL NOTES:

1. COORDINATE PROJECT SCHEDULE AND PHASING WITH OWNER. PRELIMINARY PLAN: REMOVE AND REPLACE PIPING IN TUNNELS INITIALLY WHILE BUILDING IS OCCUPIED, THEN REPLACE AIR HANDLERS AND FAN COILS AFTER OCCUPANTS HAVE BEEN TEMPORARILY MOVED.

KEY PLAN



CONSULTANTS

W
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PROFESSIONAL MECHANICAL ENGINEERING
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PROJECT NAME & ADDRESS

**USDC COMP
THERAPY
MECHANICAL
RETROFIT
DFCM# 09094410**

American Fork, Utah

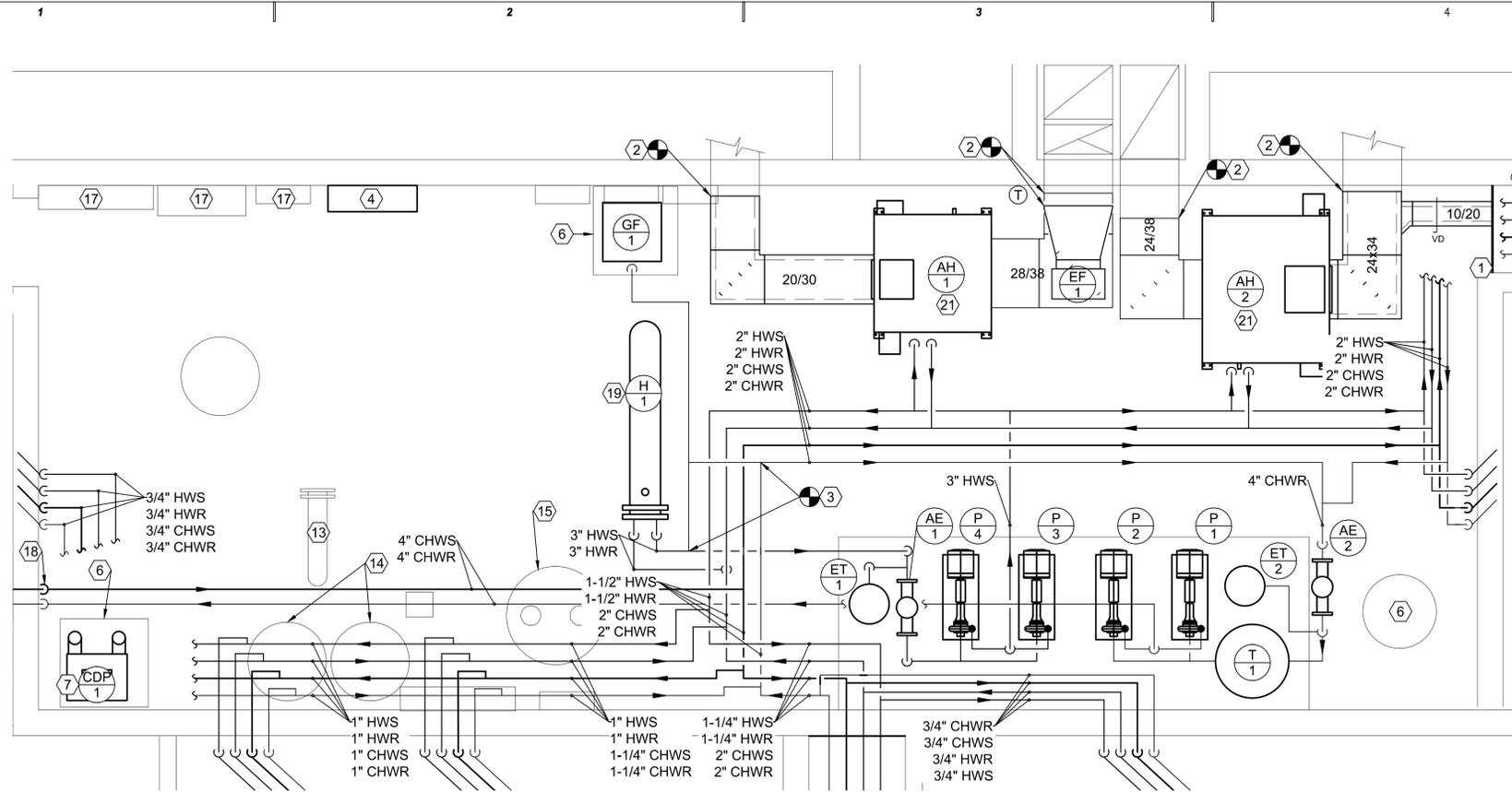
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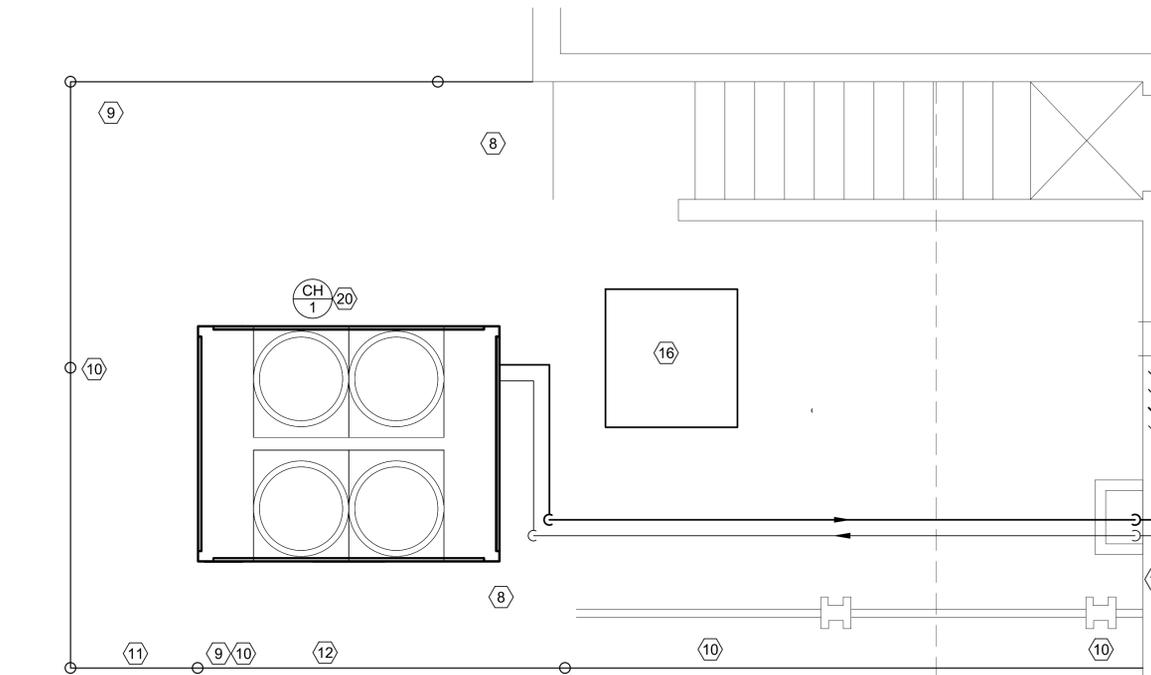
SHEET TITLE
**FIRST FLOOR MECHANICAL
DEMOLITION PLAN**

SHEET NO.
MD103



MECHANICAL ROOM PIPING PLAN

SCALE: 3/8" = 1'-0"



MECHANICAL EQUIPMENT PAD PLAN

SCALE: 3/8" = 1'-0"

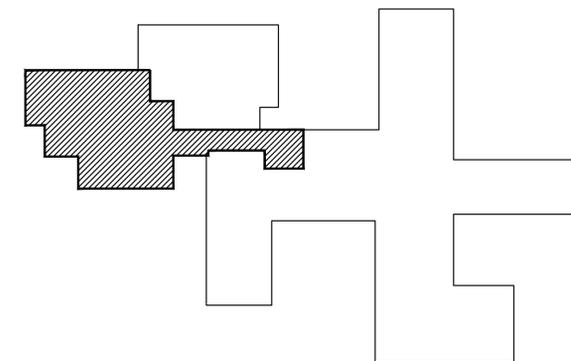
SHEET NOTES:

- ① PROVED AIR TIGHT SHEET METAL PARTITION. SUPPLY AIR DUCT SHALL BE DUCTED THRU TO TUNNEL. ALL PIPING GOING THRU PARTITION SHALL BE SEALED USING FIRE RATED CAULK.
- ② TIE NEW DUCT INTO EXISTING DUCT AT THIS APPROXIMATE LOCATION. FIELD VERIFY EXACT CONDITIONS AND PROVIDE TRANSITIONS IF NECESSARY.
- ③ CONNECT NEW GLYCOL FEED SYSTEM TO BUILDING HEATING WATER AND CHILLED WATER PIPING AT THIS APPROXIMATE LOCATION. FIELD VERIFY EXACT LOCATION. REFER TO FLOW SHEET FOR DETAILS.
- ④ PROVIDE NEW CONTROL PANEL AND ALL ASSOCIATED EQUIPMENT NEEDED FOR PROPER BUILDING AUTOMATION SYSTEM OPERATION. FIELD VERIFY CONDITIONS.
- ⑤ PROVIDE NEW COOLING ONLY THERMOSTAT FOR CONTROL OF EXHAUST FAN IN THIS APPROXIMATE LOCATION. FIELD VERIFY EXACT LOCATION.
- ⑥ PROVIDE NEW HOUSEKEEPING PAD AT THIS APPROXIMATE LOCATION. FIELD VERIFY.
- ⑦ PROVIDE NEW DUPLEX CONDENSATE PUMP AND RECEIVER AT THIS APPROXIMATE LOCATION. FIELD VERIFY.
- ⑧ EXISTING SIDEWALK SHALL REMAIN.
- ⑨ NEW CONCRETE EQUIPMENT PAD. PAD DIMENSIONS SHALL BE 12' X 19.5' ORIENTED AS SHOWN. NEW PAD SHALL EXTEND UP TO EXISTING SIDEWALK EDGES. PROVIDE LANDSCAPE MODIFICATION AS NECESSARY TO ACCOMMODATE NEW PAD.
- ⑩ NEW 6' TALL CHAIN LINK FENCE SHALL EXTEND FROM BUILDING AROUND ENTIRE EQUIPMENT PAD AREA. PROVIDE GATE AT EXISTING SIDEWALK ENTRANCE TO LOWER MECHANICAL ROOM. PERIMETER OF FENCE AROUND CHILLER SHALL HAVE ALUMINUM PRIVACY SLATS INSTALLED WITH A MINIMUM OF 12" OF FREE SPACE BETWEEN SIDEWALK AND BOTTOM OF SLATS TO ALLOW PROPER AIR CIRCULATION FOR CHILLER. REMAINING PERIMETER SHALL HAVE ALUMINUM SLATS INSTALLED FOR ENTIRE HEIGHT OF FENCE.
- ⑪ PROVIDE GATE ENTRANCE IN NEW CHAIN LINK FENCE IN THIS LOCATION.
- ⑫ EXISTING SPRINKLER BOX SHALL REMAIN. EQUIPMENT PAD SHALL BE POURED AROUND SPRINKLER BOX AS TO MAINTAIN ADEQUATE SERVICE ACCESS IN THE FUTURE. FIELD VERIFY EXACT CONDITIONS.
- ⑬ EXISTING DOMESTIC WATER POOL HEAT EXCHANGER SHALL REMAIN.
- ⑭ EXISTING POOL EQUIPMENT SHALL REMAIN.
- ⑮ EXISTING SUP PUMPS SHALL REMAIN.
- ⑯ EXISTING TRANSFORMER. SEE ELECTRICAL PLANS.
- ⑰ EXISTING ELECTRICAL PANELS. SEE ELECTRICAL PLANS.
- ⑱ SEE SHEET ME102 FOR MECHANICAL ROOM STEAM PIPING PLAN.
- ⑲ PROVIDE NEW CEILING HUNG SHALL AND TUBE HEAT EXCHANGER.
- ⑳ PROVIDE NEW PACKAGED AIR COOLED CHILLER. SEE FLOW SHEET AND SCHEDULES.
- ㉑ PROVIDE NEW PACKAGED AIR HANDLING UNIT. PROVIDE NEW FLEX CONNECTION AND TRANSITION FROM UNIT OUTLET TO DUCTWORK. SEE DETAILS FOR COIL PIPING.

GENERAL NOTES:

1. COORDINATE PROJECT SCHEDULE AND PHASING WITH OWNER. PRELIMINARY PLAN: REMOVE AND REPLACE PIPING IN TUNNELS INITIALLY WHILE BUILDING IS OCCUPIED, THEN REPLACE AIR HANDLERS AND FAN COILS AFTER OCCUPANTS HAVE BEEN TEMPORARILY MOVED.

KEY PLAN



CONSULTANTS



PROJECT NAME & ADDRESS

**USDC COMP
THERAPY
MECHANICAL
RETROFIT
DFCM# 09094410**

American Fork, Utah

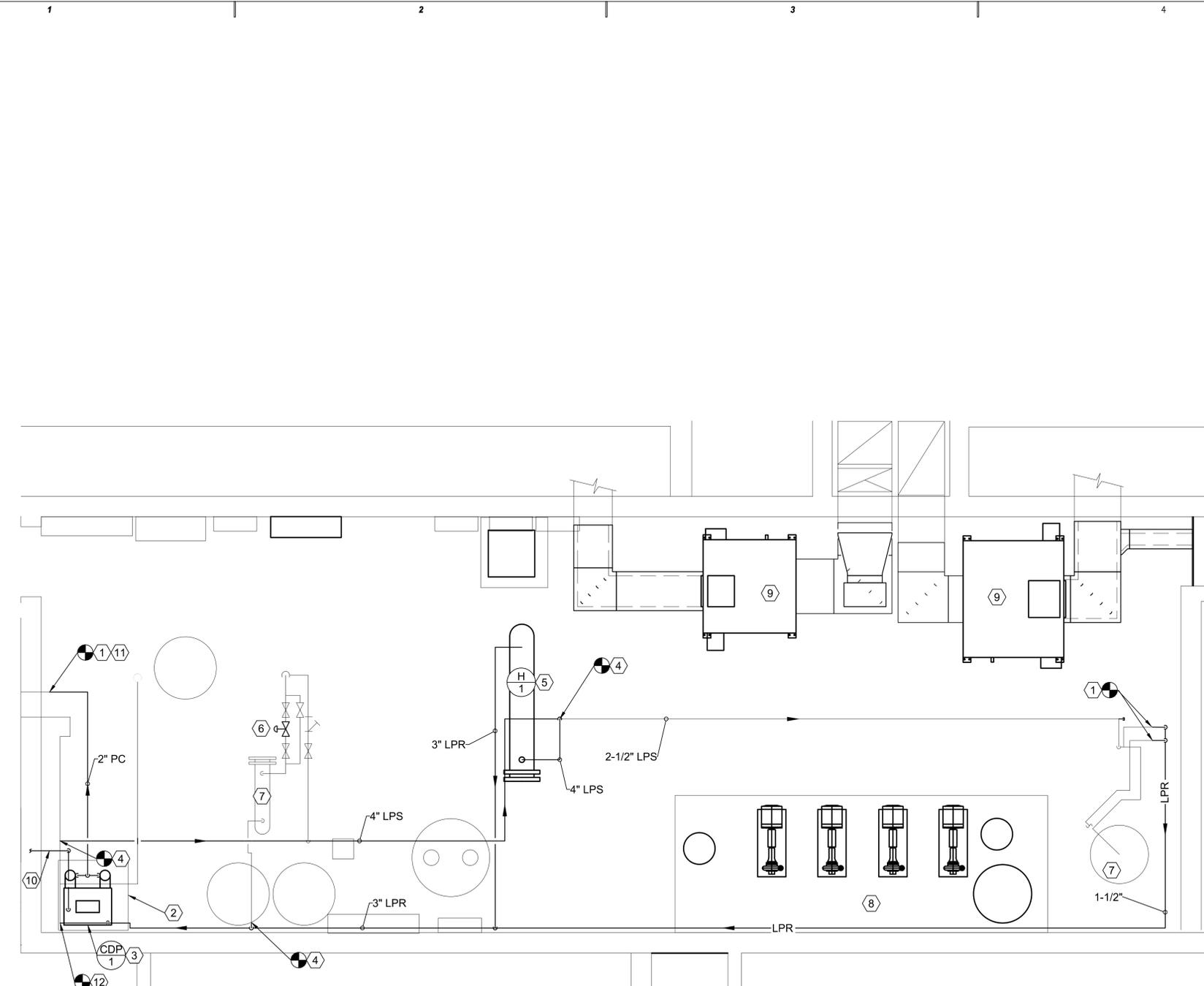
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SHEET TITLE
**MECHANICAL ROOM WATER
PIPING AND EQUIPMENT
PLAN**

SHEET NO.
ME101

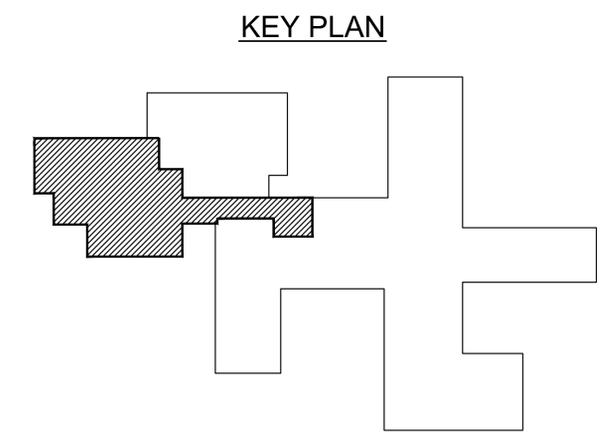


MECHANICAL ROOM STEAM PIPING PLAN
SCALE: 3/8" = 1'-0"



- SHEET NOTES:**
- ① TIE EXISTING STEAM CONDENSATE PIPING INTO NEW AT THIS APPROXIMATE LOCATION. FIELD VERIFY EXACT CONDITIONS.
 - ② PROVIDE NEW HOUSEKEEPING PAD AT THIS APPROXIMATE LOCATION. FIELD VERIFY.
 - ③ PROVIDE NEW CONDENSATE TRANSFER STATION AT THIS APPROXIMATE LOCATION. FIELD VERIFY.
 - ④ TIE INTO EXISTING LOW PRESSURE STEAM PIPING AT THIS APPROXIMATE LOCATION.
 - ⑤ PROVIDE NEW CEILING HUNG STEAM TO WATER HEAT EXCHANGER. SEE FLOW SHEETS AND DETAILS.
 - ⑥ PROVIDE NEW DDC STEAM CONTROL VALVE AT EXISTING POOL HEAT EXCHANGER.
 - ⑦ EXISTING DOMESTIC WATER STEAM HEAT EXCHANGER SHALL REMAIN. NEW HEATING WATER AND CHILLED WATER SYSTEM. SEE ME101.
 - ⑧ NEW HEATING WATER AND CHILLED WATER SYSTEM. SEE SHEET ME101.
 - ⑨ NEW AIR HANDLING UNITS. SEE ME101.
 - ⑩ NEW 2" CONDENSATE RECEIVER VENT TO OUTSIDE. PROVIDE GOOSENECK AND RODENT SCREEN.
 - ⑪ PROVIDE TRANSITION TO EXISTING FRP PIPING.
 - ⑫ TIE EXISTING DIRT LEG CONDENSATE TRAP INTO LPR PIPING AT THIS APPROXIMATE LOCATION. FIELD VERIFY.

- GENERAL NOTES:**
1. COORDINATE PROJECT SCHEDULE AND PHASING WITH OWNER. PRELIMINARY PLAN: REMOVE AND REPLACE PIPING IN TUNNELS INITIALLY WHILE BUILDING IS OCCUPIED, THEN REPLACE AIR HANDLERS AND FAN COILS AFTER OCCUPANTS HAVE BEEN TEMPORARILY MOVED.



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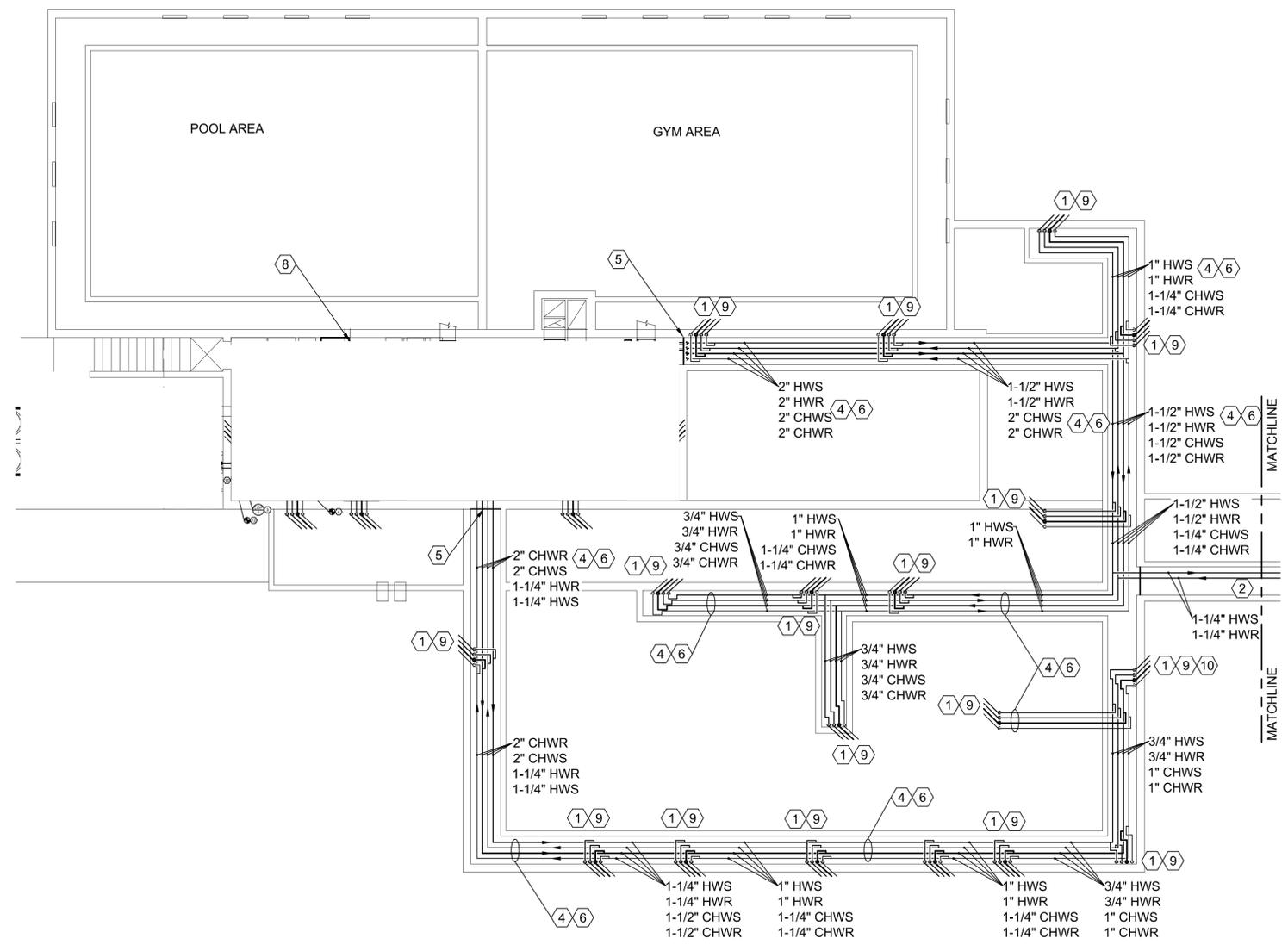


SHEET TITLE

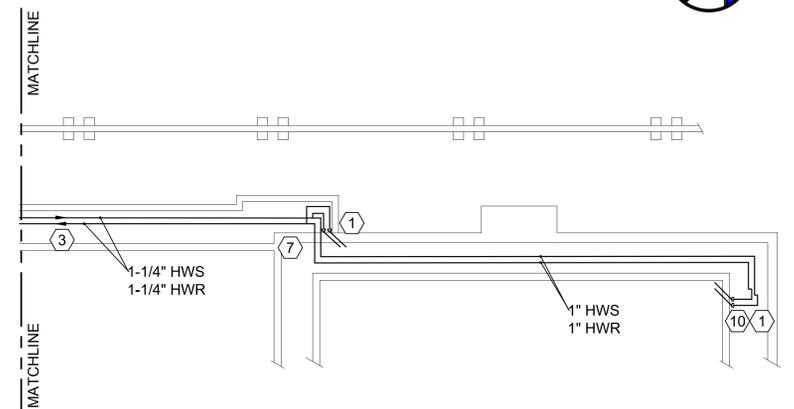
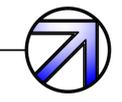
**MECHANICAL ROOM STEAM
AND CONDENSATE
PIPING PLAN**

SHEET NO.

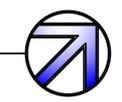
ME102



MAIN TUNNEL PIPING PLAN
SCALE: 1/8" = 1'-0"

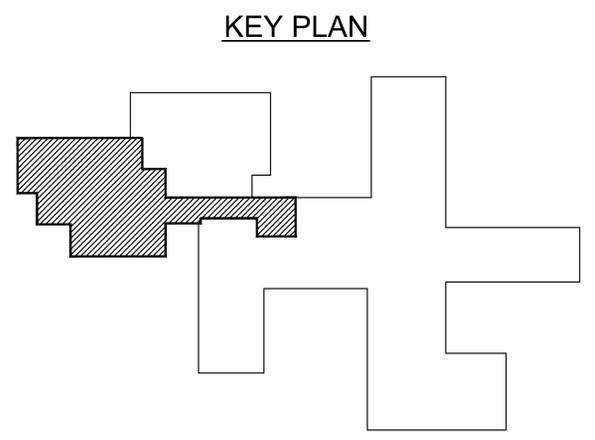


EAST TUNNEL PIPING PLAN
SCALE: 1/8" = 1'-0"



- SHEET NOTES:**
- ① CONTRACTOR SHALL PROVIDE NEW PENETRATIONS THRU DECK AS SHOWN FOR COLD AND HOT WATER PIPING. COORDINATE EXACT LOCATION WITH FIELD CONDITIONS AND NEW FAN COIL UNITS. SEE SHEET ME104 FOR CONTINUATION TO FAN COIL UNITS ABOVE. ANY UNUSED PENETRATIONS SHALL BE SEALED. SEE ME501 FOR SWING JOINT DETAIL FOR PIPING CONNECTIONS TO COILS.
 - ② SEE EAST TUNNEL PIPING PLAN THIS SHEET FOR CONTINUATION OF PIPING.
 - ③ SEE MAIN TUNNEL PIPING PLAN THIS SHEET FOR CONTINUATION.
 - ④ PROVIDE NEW HEATING AND CHILLED WATER PIPING AND ALL ASSOCIATED INSULATION, HANGERS, SUPPORTS, ETC.
 - ⑤ PROVIDE NEW AIR TIGHT SHEET METAL PARTITION IN TUNNEL.
 - ⑥ EXISTING DRAIN PIPING IN TUNNEL (NOT SHOWN) FOR FAN COIL UNITS SHALL REMAIN FOR RECONNECTION TO NEW FAN COIL UNITS.
 - ⑦ CONTRACTOR SHALL PROVIDE CORE DRILL THRU TUNNEL WALL FOR NEW HOT WATER PIPING. EXISTING OPENINGS IN TUNNEL WALL MAY BE REUSED. ALL PENETRATIONS SHALL BE SEALED AND PATCHED AS NECESSARY TO PROVIDE AIR TIGHT SEAL.
 - ⑧ SEE SHEET ME 101 LARGE SCALE MECHANICAL ROOM PLAN FOR THIS AREA.
 - ⑨ RECONNECT FAN COIL DRIP TRAY TO EXISTING CONDENSATE DRAIN PIPING (NOT SHOWN FOR CLARITY). CONTRACTOR SHALL PROVIDE ALL FITTINGS AND HOSE NECESSARY FOR COMPLETE RECONNECTION.
 - ⑩ PROVIDE 3-WAY CONTROL VALVE ON HOT WATER AND CHILLED WATER LINES AT THIS FAN COIL.

- GENERAL NOTES:**
1. COORDINATE PROJECT SCHEDULE AND PHASING WITH OWNER. PRELIMINARY PLAN: REMOVE AND REPLACE PIPING IN TUNNELS INITIALLY WHILE BUILDING IS OCCUPIED, THEN REPLACE AIR HANDLERS AND FAN COILS AFTER OCCUPANTS HAVE BEEN TEMPORARILY MOVED.



KEY PLAN

CONSULTANTS



PROJECT NAME & ADDRESS

**USDC COMP
THERAPY
MECHANICAL
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DFCM# 09094410**

American Fork, Utah

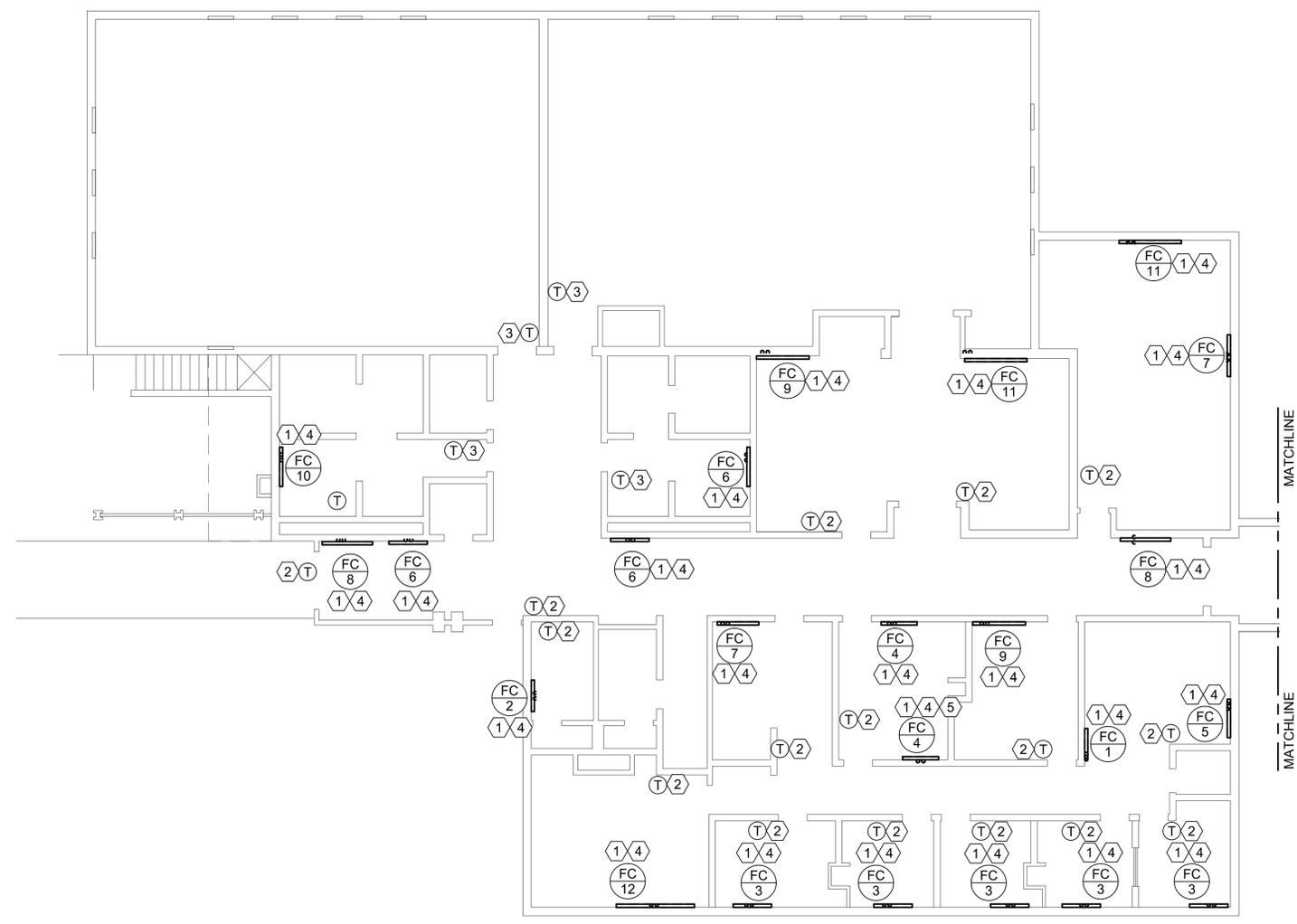
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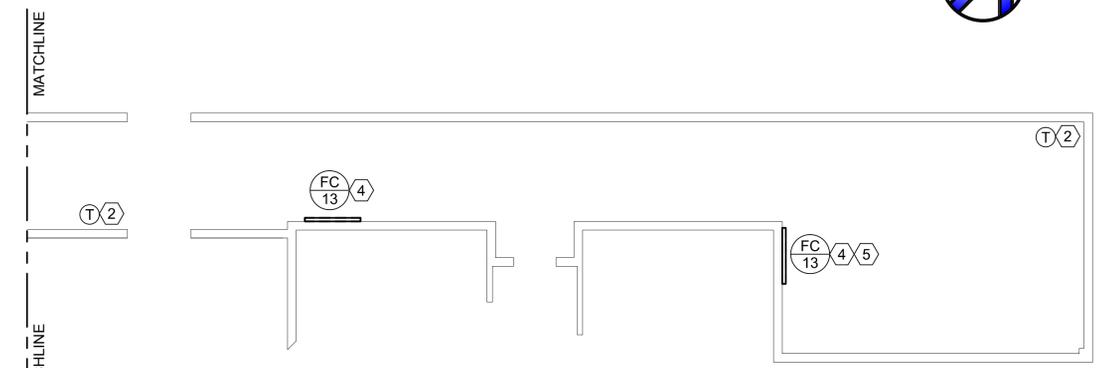
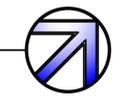
SHEET TITLE
**MECHANICAL TUNNEL
PIPING PLAN**

SHEET NO.
ME103



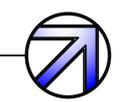
MAIN FIRST FLOOR REMODEL PLAN

SCALE: 1/8" = 1'-0"



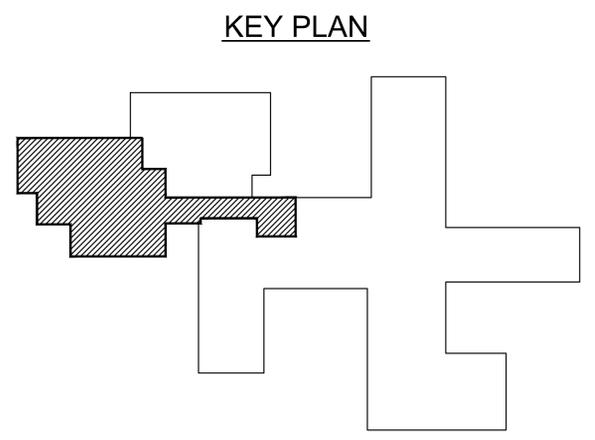
EAST FIRST FLOOR REMODEL PLAN

SCALE: 1/8" = 1'-0"



- SHEET NOTES:**
- FAN COIL UNIT SHALL BE DUCTED TO TUNNEL OPENING BELOW PER MFG. RECOMMENDATIONS. SEE DETAIL.
 - PROVIDE NEW THERMOSTAT AT THIS APPROXIMATE LOCATION. COORDINATE EXACT LOCATION WITH BUILDING OWNER, USER, AND FIELD CONDITIONS. PROVIDE WIRING IN NEW SURFACE MOUNTED CONDUIT. PAINT CONDUIT TO MATCH WALL.
 - PROVIDE NEW VANDAL RESISTANT THERMOSTAT AT THIS LOCATION. COORDINATE WITH BUILDING OWNER, USER, AND FIELD CONDITIONS.
 - PROVIDE NEW FAN COIL UNIT AT EXISTING WALL. MODIFY WALL AS NECESSARY OR PROVIDE ADDITIONAL SLEEVE/BORDER AS NECESSARY TO FIT EXISTING OPENINGS. COORDINATE EXACT WALL OPENING SIZES WITH SELECTED FAN COIL MANUFACTURER PRIOR TO SUBMITTING OR ORDERING.
 - PROVIDE 3-WAY CONTROL VALVE ON HOT AND CHILLED WATER PIPING FOR THESE FAN COILS AS SHOWN.

- GENERAL NOTES:**
- COORDINATE PROJECT SCHEDULE AND PHASING WITH OWNER. PRELIMINARY PLAN: REMOVE AND REPLACE PIPING IN TUNNELS INITIALLY WHILE BUILDING IS OCCUPIED, THEN REPLACE AIR HANDLERS AND FAN COILS AFTER OCCUPANTS HAVE BEEN TEMPORARILY MOVED.



CONSULTANTS



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DFCM# 09094410**

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SHEET TITLE
**FIRST FLOOR
MECHANICAL PLAN**

SHEET NO.
ME104

CONSULTANTS



PROJECT NAME & ADDRESS

**USDC COMP
THERAPY
MECHANICAL
RETROFIT
DFCM# 09094410**

American Fork, Utah

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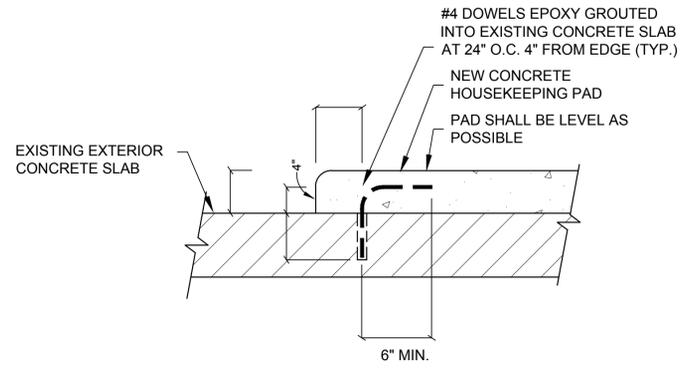
09041

SHEET TITLE

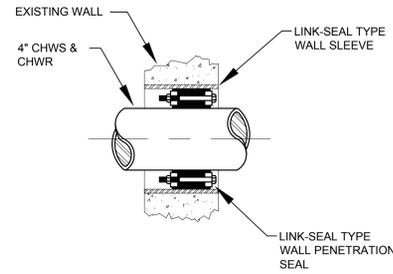
MECHANICAL DETAILS

SHEET NO.

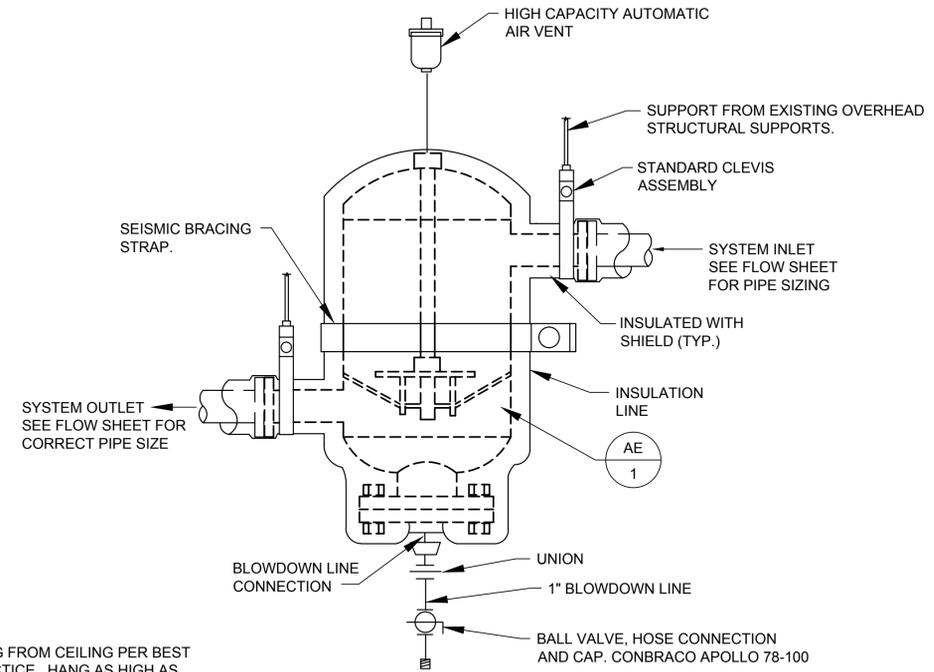
ME501



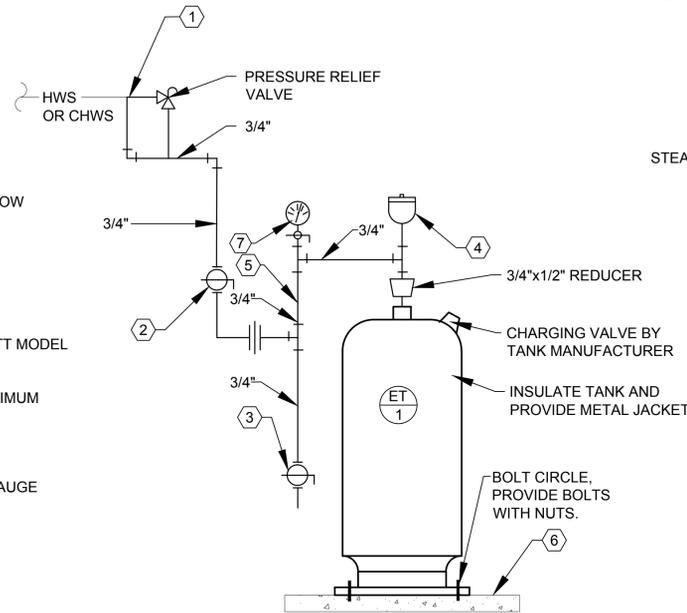
D1 HOUSEKEEPING PAD DETAIL
SCALE: NONE



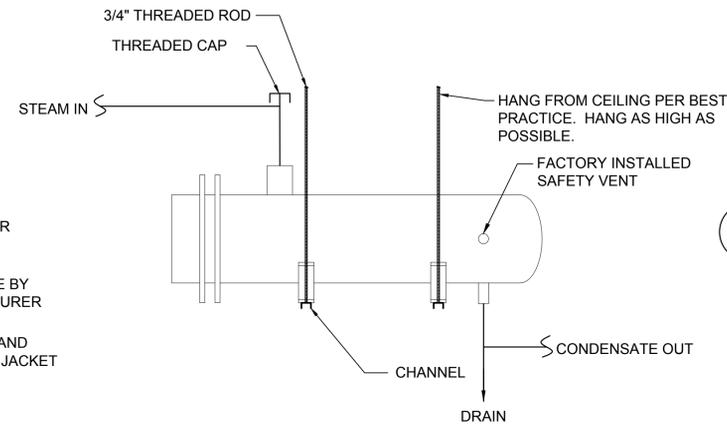
C3 PIPE SLEEVE THROUGH WALL DETAIL
SCALE: NONE



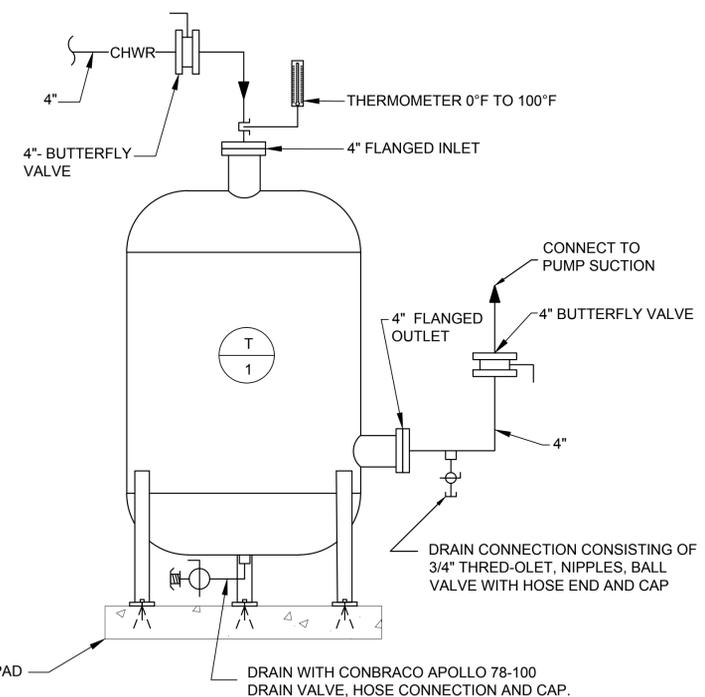
C4 AIR ELIMINATOR DETAIL
SCALE: NONE



B1 EXPANSION TANK DETAIL
SCALE: NONE



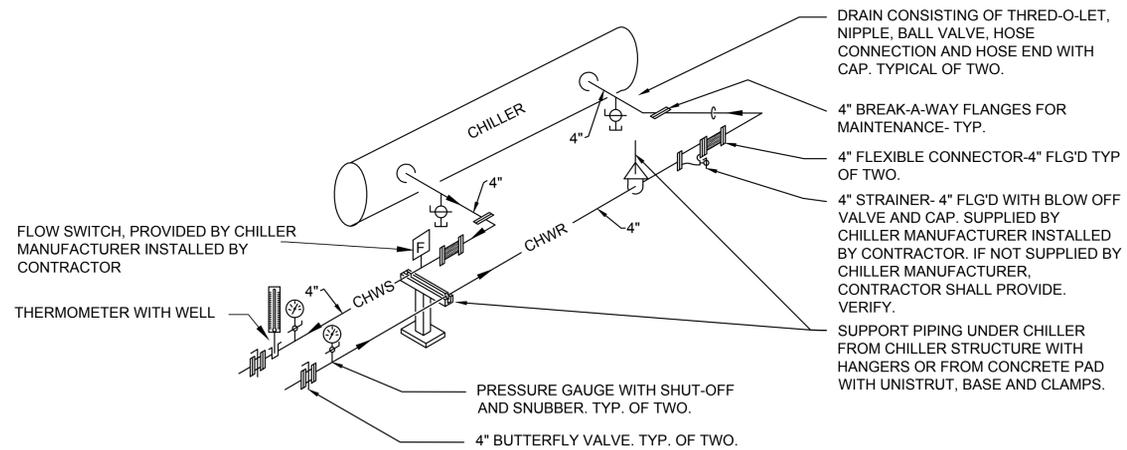
B3 HOT WATER CONVERTER DETAIL
SCALE: NONE



A4 CHILLED WATER STORAGE TANK DETAIL
SCALE: NONE

DETAIL NOTES:

- 1 CONNECT TO SYSTEM PIPING. SEE FLOW DIAGRAM SHEET ME 701/702
- 2 SHUT OFF BALL VALVE. REQUIRED TO PROPERLY PRECHARGE TANK.
- 3 DRAIN VALVE.
- 4 AUTOMATIC AIR VENT. BELL & GOSSETT MODEL #7 OR #87.
- 5 ANTI-THERMO-SYPHON LOOP. 12" MINIMUM DROP.
- 6 MOUNT ON NEW HOUSEKEEPING PAD.
- 7 PRESSURE GAUGE 0-60 PSIG WITH GAUGE COCK.

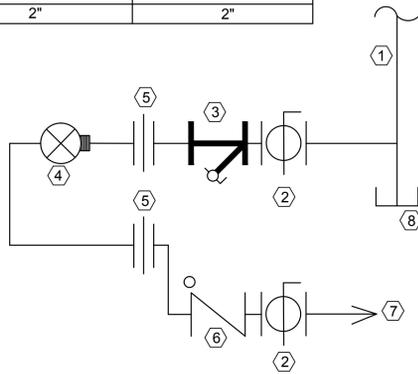


A2 CHILLED WATER PIPING
SCALE: NONE

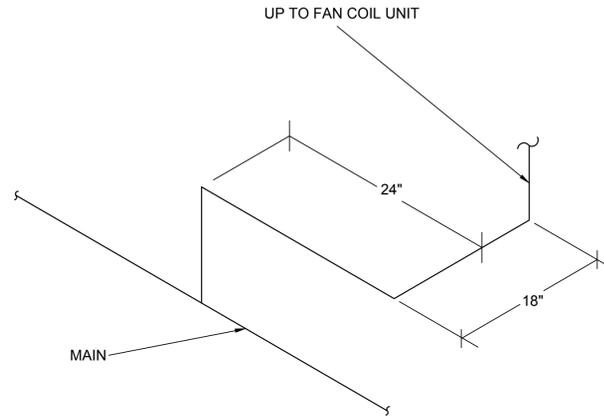
STEAM MAIN PIPE DIAMETER	MINIMUM DIAMETER OF DRIP LEG
6"	4"
4"	3"
3"	3"
2"	2"

DETAIL NOTES:

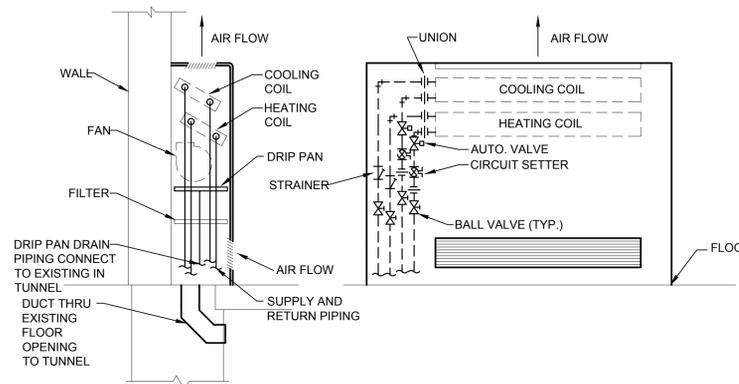
- ① DRIP LEG (LINE SIZE UP TO 4". FOR 6" AND LARGER, DRIP LEG SHALL BE AT LEAST 1/2 LINE SIZE, BUT NO LESS THAN 4")
- ② BALL VALVE
- ③ STRAINER (INSTALL IN HORIZONTAL)
- ④ F&T TRAP. SEE SPECIFICATIONS.
- ⑤ UNION
- ⑥ CHECK VALVE
- ⑦ ROUTE CONDENSATE TO GRAVITY FED RETURN LINE.
- ⑧ DIRT LEG WITH CAP



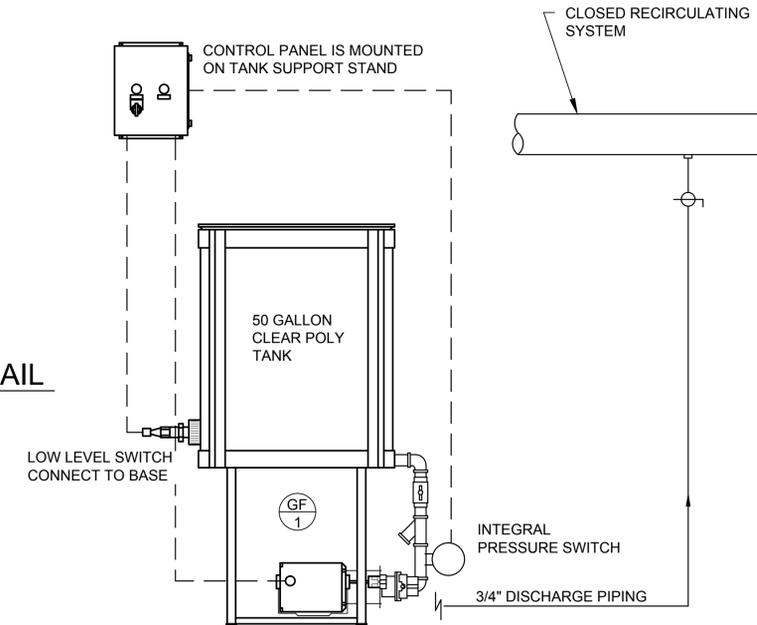
C2 STEAM TRAP PIPING DETAIL
SCALE: NONE



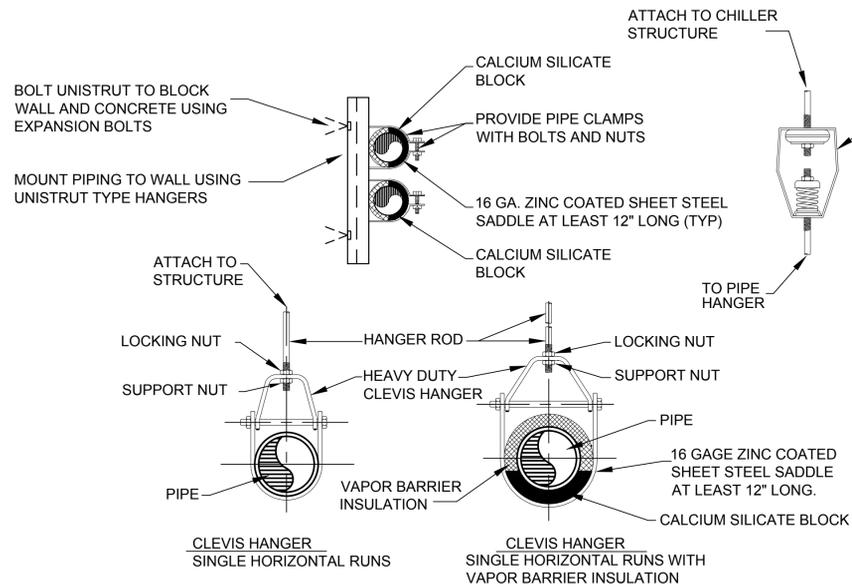
C2 SUPPLY AND RETURN BRANCH-SWING JOINT DETAIL
SCALE: NONE



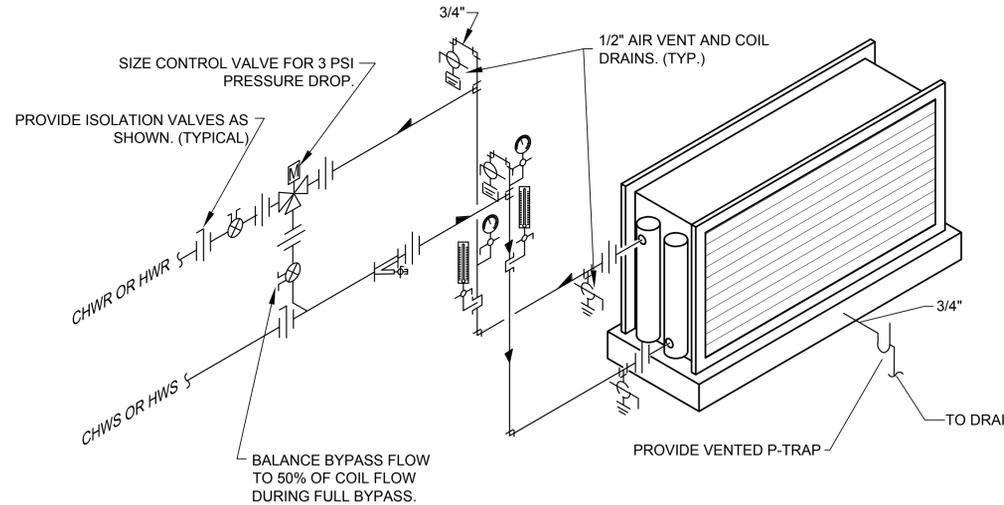
B3 VERTICAL FAN COIL UNIT DETAIL
SCALE: NONE



C4 GLYCOL CHEMICAL FEED SYSTEM
SCALE: NONE



A1 PIPE HANGER DETAIL
SCALE: NONE



A4 COIL PIPING DETAIL
SCALE: NONE

PROJECT NAME & ADDRESS

USDC COMP THERAPY MECHANICAL RETROFIT
DFCM# 09094410

American Fork, Utah

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SHEET TITLE



MECHANICAL DETAILS

SHEET NO. **ME502**

CONSULTANTS



PROJECT NAME & ADDRESS

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DFCM# 09094410**

American Fork, Utah

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SHEET TITLE

MECHANICAL SCHEDULES

SHEET NO.

ME601

STEAM TO HOT WATER CONVERTER

SYMBOL	MBH	FOULING	DESIGN PRESSURE		WATER SIDE				STEAM SIDE		COMMENTS	SERVICE	SCHEDULE NOTES
			SHELL PSIG	TUBE PSIG	GPM	EWT °F	LWT °F	WPD (PSIG)	LB/HR	STEAM (PSIG)			
$\frac{H}{1}$	2160	.001	125	125	108	160	200°	0.2	2250	5.0	CEMLINE MODEL 1084EX-S	BLDG. LOOP	1,2,3

1. COMPLETE WITH ASME PRESSURE RELIEF VALVE.
2. SIZE FOR 30% PROPYLENE GLYCOL.
3. PROVIDE WITH HARDWARE FOR CEILING HUNG CONFIGURATION.

CONDENSATE TRANSFER STATION SCHEDULE

SYMBOL	CAPACITY LBS/HR	MIN GPM	BACKPRESSURE (PSIG)	RECEIVER INLET	PUMP OUTLET	RECEIVER TANK CAPACITY (GAL.)	MOTOR			MAKE / MODEL	SCHEDULE NOTES
							VOLTAGE	HP	RPM		
$\frac{CDP}{1}$	3720	22.5	30	2"	1-1/2"	25	208/3/60	1-1/2	1750	SHIPCO MODEL 153-DCD	1,2,3,4,5

1. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS.
2. PROVIDE WITH STAINLESS STEEL CHECK VALVES, INSULATION BLANKET, AND SIGHT GLASS.
3. PROVIDE WITH PACKAGE INCLUDING RECEIVER/FLASH TANK, SUPPORT STAND, ETC.
4. UNIT SHALL COME EQUIPPED WITH DUAL PUMPS/MOTORS.
5. DISCONNECT AND STARTER BY DIVISION 16.

AIR COOLED CHILLER SCHEDULE

SYMBOL	MIN. CAPACITY TONS	GPM	COOLER DATA			CONDENSER DATA		ELECTRICAL					MANUFACTURER AND MODEL #
			MAX PRESS. DROP FT	WATER IN TEMP. °F	WATER OUT TEMP. °F	EAT	ALTITUDE	VOLTS	Ø	Hz	MCA	MOCP	
$\frac{CH}{1}$	40	120	41.1	51.6	44	95°F	5000	208	3	60	197.3	225	TRANE CGAMO40

1. CHILLER SIZED BASED ON 70% BUILDING DIVERSITY.
2. 120V CONTROLS CIRCUIT BY DIVISION 16.

CHILLER WATER STORAGE TANK SCHEDULE

SYMBOL	VOLUME (GAL)	DIAMETER (INCH)	HEIGHT (INCH)	INLET (INCH) FLG'D	OUTLET (INCH) FLG'D	DRAIN (INCH) SCR'D	MANUFACTURER AND MODEL #
$\frac{T}{1}$	200	36"	72"	4"	4"	-	CEMLINE V200-CWB-4F

1. TANK SHALL BE ASME 125# RATING.
2. PROVIDE WITH VERTICAL MOUNT BASE FOR FASTENING TO HOUSEKEEPING PAD.
3. TANK SHALL BE INSULATED AND PAINTED FOR CORROSION RESISTANCE.

AIR HANDLING UNIT SCHEDULE

SYMBOL	LOCATION	SERVES	COOLING CFM	O.A. CFM	HEATING SIZE	DIMENSIONS			ESP	FAN MOTOR				CW COOLING COIL CAPACITY							HOT WATER HEATING COIL					MANUF. & MODEL #	SCHEDULE NOTES							
						W	L	H		HP	VOLT	PHASE	Hz	MAX AIR PD. IN WG.	TOTAL MBH	TONS COOL	GPM	WATER PD (FT.)	EWT	LWT	EADB	EAWB	LADB	MAX AIR PD.	MBH			GPM	EAT	LAT	MAX H2O PD.	WATER INLET TEMP	WATER OUTLET TEMP	AIR TEMP RISE
$\frac{AH}{1}$	WEST MECHANICAL	POOL	4000	4000	4000	49"	73"	34.5"	1.25	3	208	3	60	.77	122	10.2	27	8.9	44°F	54°F	95°F	62°F	61.5°F	.21	325	30	0°F	90°F	3.5"	180°F	157°F	90°F	TRANE LPCAB10F	1,2,3,4
$\frac{AH}{2}$	EAST MECHANICAL	GYM / BUILDING	5200	5200	5200	61"	77"	34.5"	1.25	5	28	3	60	.76	187	15.6	33.1	3.6	44°F	54°F	95°F	62°F	55.5°F	.20	422.3	31.8	0°F	90°F	4.3"	180°F	152°F	90°F	TRANE LPCAB08F	1,2,3,4

1. UNIT SHALL BE PROVIDED WITH SMOKE DETECTORS ON BOTH RETURN AND SUPPLY.
2. SEE SPECIFICATION FOR ALL APPROVED MANUFACTURERS.
3. UNIT SHALL BE PROVIDED WITH BASE RAIL, AND INTERNAL VIBRATION ISOLATION AT THE FAN.
4. SIZE CHILLED WATER AND HEATING WATER COILS FOR 30% PROPYLENE GLYCOL.

PUMP SCHEDULE

SYMBOL	TYPE	MAKE / MODEL	SERVES	GPM	FT. HEAD	SUCTION SIZE	DISCHARGE SIZE	IMPELLER SIZE	MOTOR			WEIGHT LBS	SCHEDULE NOTES
									V - Ø - Hz	HP	RPM		
$\frac{P}{1}$	BASE MOUNTED	BELL & GOSSET 1510-2BC	CHILLED WATER	120	85	2	1.5	9.125	230/3/60	5	1750	350	1,2,3
$\frac{P}{2}$	BASE MOUNTED	BELL & GOSSET 1510-2BC	CHILLED WATER	120	85	2	1.5	9.125	230/3/60	5	1750	350	1,2,3
$\frac{P}{3}$	BASE MOUNTED	BELL & GOSSET 1510-1-1/2AC	HOT WATER	108	45	2	1.5	6.875	230/3/60	3	1750	190	1,2
$\frac{P}{4}$	BASE MOUNTED	BELL & GOSSET 1510-1-1/2AC	HOT WATER	108	45	2	1.5	6.875	230/3/60	3	1750	190	1,2

1. VFD BY DIVISION 16.
2. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS.
3. PUMP SIZED FOR 70% BUILDING DIVERSITY ON COOLING.

AIR ELIMINATOR SCHEDULE

SYMBOL	CAPACITY GPM	MAX PRESSURE DROP FT.	INLET / OUTLET SIZE	WEIGHT LBS	MAKE & MODEL	SCHEDULE NOTES
$\frac{AE}{1}$	170	1.5	4	150	SPIROVENT VSR400	1,2
$\frac{AE}{2}$	170	1.5	4	150	SPIROVENT VSR400	1,2

1. FOR OTHER APPROVED MANUFACTURERS SEE SPECIFICATIONS.
2. BUILDING HEATING WATER.
3. BUILDING CHILLED WATER.

CONSULTANTS



PROJECT NAME & ADDRESS

**USDC COMP
THERAPY
MECHANICAL
RETROFIT
DFCM# 09094410**

American Fork, Utah

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PROJECT MANAGER:
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JB

CHECKED BY:
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DATE:
3/03/09

WHW JOB NO.:
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SHEET TITLE



MECHANICAL SCHEDULES

SHEET NO.

ME602

FAN COIL UNIT SCHEDULE

SYMBOL	TYPE	FAN			COOLING COIL					HEATING COIL				MANUF. & MODEL #	SCHEDULE NOTES
		CFM COOLING / HEATING	O.A. CFM 55°F	VOLTAGE	MIN. REQ'D CAP. TOTAL MBH	MIN. REQ'D CAP. GPM	MAX WATER P.D.	ENTERING AIR DB° F	ENT. AIR WB° F	MBH	MIN. GPM	MAX WATER P.D.	EAT / LAT		
FC 1	FLOOR MOUNTED	230	0	120/1/60	7.5	1.6	7.1	85	67	11.8	1.0	1.06	55/105	AIRTHERM UNITAIRE IV-02	1,2,3,4
FC 2	7" RECESS	230	30	120/1/60	7.5	1.6	7.1	85	67	11.8	1.0	1.06	55/105	AIRTHERM UNITAIRE IV-02	1,2,3,4
FC 3	7" RECESS	305	30	120/1/60	10.5	2.2	16	80	67	15.8	1.0	1.22	55/105	AIRTHERM UNITAIRE IV-03	1,2,3,4
FC 4	SEE PLAN	305	50	120/1/60	10.5	2.2	16	80	67	15.8	1.0	1.22	55/105	AIRTHERM UNITAIRE IV-03	1,2,3,4
FC 5	7" RECESS	305	60	120/1/60	10.5	2.2	16	80	67	15.8	1.0	1.22	55/105	AIRTHERM UNITAIRE IV-03	1,2,3,4
FC 6	3.25" RECESS	400	0	120/1/60	11.8	2.5	3.9	80	67	21.1	1.5	2.8	55/105	AIRTHERM UNITAIRE IV-04	1,2,3,4
FC 7	SEE PLAN	400	60	120/1/60	11.8	2.5	3.9	80	67	21.1	1.5	2.8	55/105	AIRTHERM UNITAIRE IV-04	1,2,3,4
FC 8	3.25" RECESS	600	0	120/1/60	20.1	4.3	12.2	80	67	28.1	1.8	.4	55/105	AIRTHERM UNITAIRE IV-06	1,2,3,4
FC 9	SEE PLAN	600	100	120/1/60	20.1	4.3	12.2	80	67	28.4	1.8	.4	55/105	AIRTHERM UNITAIRE IV-06	1,2,3,4
FC 10	7" RECESS	400	0	120/1/60	11.5	2.4	4.2	80	67	21.1	1.5	2.8	55/105	AIRTHERM UNITAIRE IV-04	1,2,3,4
FC 11	7" RECESS	800	180	120/1/60	33.2	7.0	9.1	80	67	54.4	4.0	2.13	55/105	AIRTHERM UNITAIRE IV-08	1,2,3,4
FC 12	7" RECESS	1300	220	120/1/60	40.6	8.7	13.1	80	67	60.0	4.0	2.1	55/105	AIRTHERM UNITAIRE IV-12	1,2,3,4
FC 13	FLOOR MOUNTED	1170	0	120/1/60	-	-	-	-	-	60.0	4.0	2.1	55/105	AIRTHERM UNITAIRE IV-12	1,3,4

- HEATING PARAMETERS BASED ON 30° F DELTA 'T' ON WATER. COOLING BASED ON 10°F DELTA 'T' ON WATER.
- UNIT SHALL BE SUPPLIED WITH DUCTED DAMPER FOR FRESH AIR SUPPLY FROM TUNNEL BELOW WHERE APPLICABLE.
- CABINET DIMENSION SHALL BE FIELD VERIFIED. CONTRACTOR SHALL PROVIDE SHEET METAL TRIM / TRIM KIT PAINTED TO MATCH EXISTING WALLS.
- PROVIDE WITH MFG INSTALLED TOGGLE OPERATED DISCONNECT.

EXPANSION TANK SCHEDULE

SYMBOL	MINIMUM TANK VOLUME	MINIMUM EXPANSION VOLUME	HEIGHT	DIAMETER	OPERATION WEIGHT LBS (100% FULL)	PRESSURE SYSTEM FILL (PSIG)	COMMENTS	SCHEDULE NOTES
ET 1	44.4	22.6	56	16.25"	517	12	BELL & GOSSET D-80V	1,2
ET 2	21.7	11.3	29.5"	16.25"	271	12	BELL & GOSSET D-40V	1,3

- FOR OTHER APPROVED MANUFACTURERS SEE SPECIFICATIONS.
- BUILDING HEATING WATER LOOP.
- BUILDING CHILLED WATER LOOP.

GLYCOL FEEDER SCHEDULE

SYMBOL	FLOW	HD PSI	ELECTRICAL		TANK MIN.	SCHEDULE NOTES
			H.P.	SERVICE		
GF 1	12	20	1/12	120/1/60	50	1,2

- SEE DETAIL D1/ME502
- PROVIDE BY APPROVED WTSO IN SPECIFICATIONS.

EXHAUST FAN SCHEDULE

SYMBOL	MANUFACTURER & MODEL No.	SERVES	C.F.M.	STATIC PRESSURE IN. WG.	MAX NOISE SONES	MOTOR			OPER. WT. (LBS)	SCHEDULE NOTES
						V - Ø - Hz	HP	RPM		
EF 1	COOK 165SQN-B	MECHANICAL ROOM	1800	.25	8	115-1-60	.25	818	196	

- PROVIDE WITH COOLING ONLY THERMOSTAT FOR FAN CONTROL.

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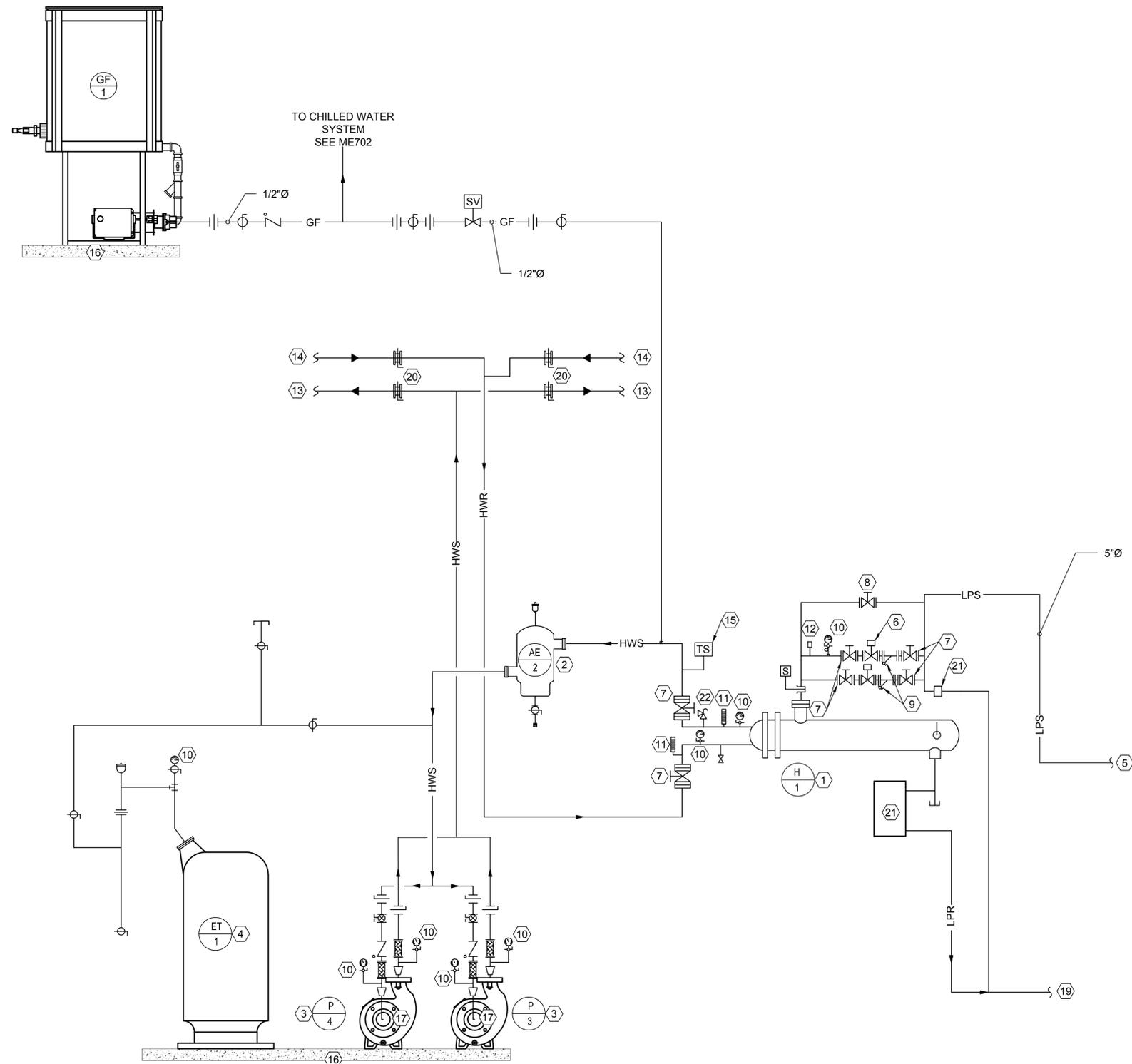


SHEET TITLE
**MECHANICAL HEATING
WATER FLOW DIAGRAMS**

SHEET NO.
ME701

SHEET NOTES:

- ① NEW STEAM TO HOT WATER CONVERTOR.
- ② NEW HOT WATER AIR SEPARATOR. SEE SCHEDULES AND DETAILS.
- ③ NEW HOT WATER BASE MOUNTED PUMPS. SEE SCHEDULES AND DETAILS.
- ④ NEW HOT WATER EXPANSION TANK. SEE SCHEDULES AND DETAILS.
- ⑤ LPS FROM STEAM PRV. SEE STEAM MECHANICAL PLAN.
- ⑥ NEW ELECTRONIC TEMPERATURE CONTROL VALVES. VALVE SHALL BE AT LEAST 1 SIZE SMALLER THAN LINE SIZE. COORDINATE WITH ATC.
- ⑦ FLANGED GATE VALVE.
- ⑧ FLANGED GLOBE VALVE.
- ⑨ FLANGED STRAINER WITH BLOWDOWN VALVE AND CAP. STRAINER SHALL BE INSTALLED IN HORIZONTAL PLAIN.
- ⑩ PRESSURE GAGE AND COCK.
- ⑪ THERMOMETER.
- ⑫ VACUUM BREAKER.
- ⑬ HOT WATER SUPPLY TO SYSTEM. SEE MECHANICAL FLOOR PLANS.
- ⑭ HOT WATER RETURN FROM SYSTEM. SEE MECHANICAL FLOOR PLANS.
- ⑮ TEMPERATURE SENSOR IN HOT WATER SUPPLY.
- ⑯ 4" THICK CONCRETE PAD BY G.C. SEE SHEET ME101 FOR LOCATION.
- ⑰ SUCTION DIFFUSER.
- ⑱ PROVIDE STEAM PRESSURE SENSOR. COORDINATE WITH CONTROLS CONTRACTOR.
- ⑲ ROUTE TO CONDENSATE TRANSFER STATION. SEE MECHANICAL PLAN FOR LOCATION OF STATION.
- ⑳ BUTTERFLY VALVES SHALL BE PLACED AT TUNNEL ENTRANCE. FIELD VERIFY EXACT LOCATION.
- ㉑ F&T TRAP. SEE ME502 FOR DETAILS.
- ㉒ PRESSURE RELIEF VALVE



A2 STEAM TO HOT WATER FLOW DIAGRAM
SCALE: NONE

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THERAPY
MECHANICAL
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DFCM# 09094410**

American Fork, Utah

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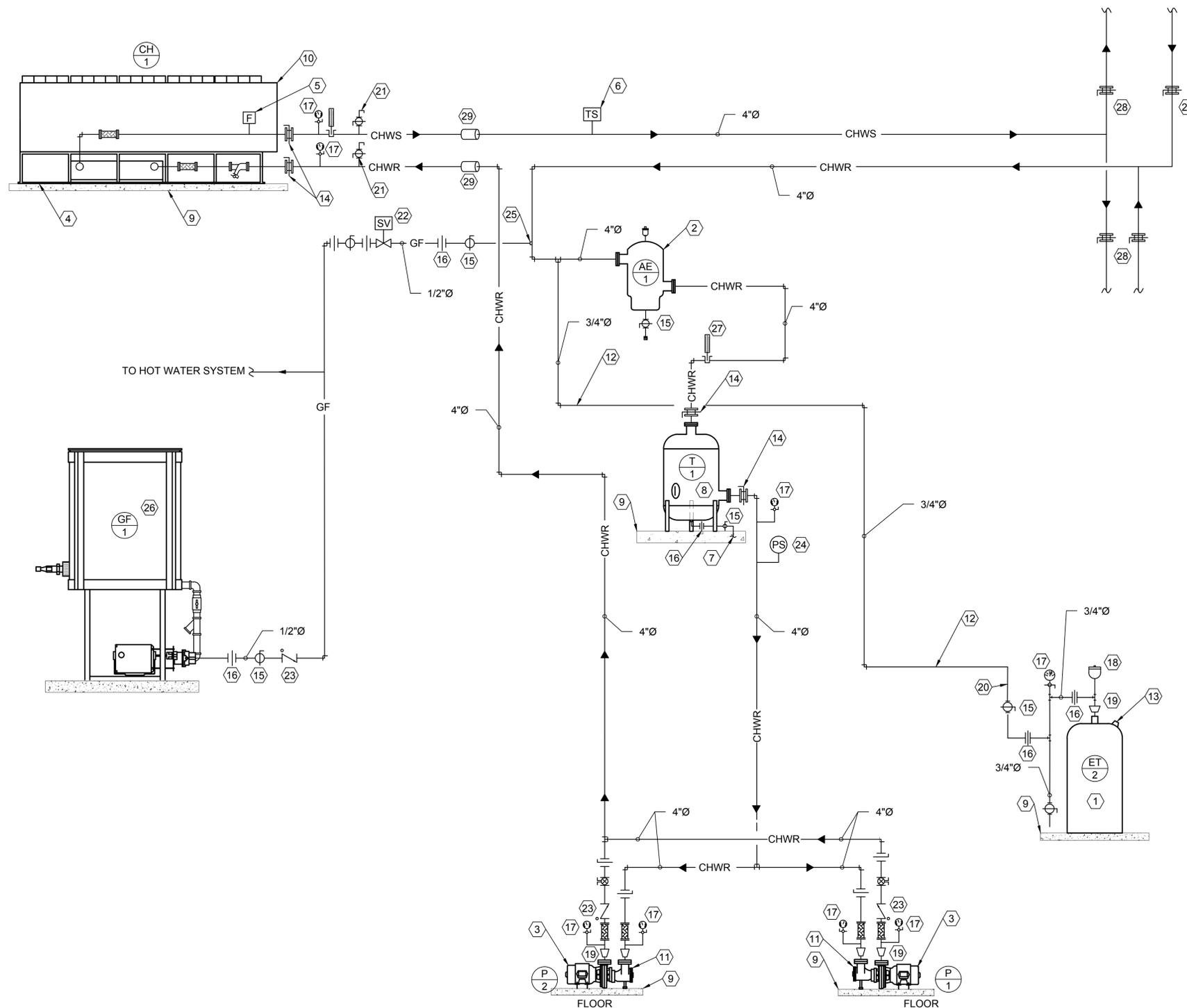
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SHEET TITLE
**MECHANICAL CHILLED
WATER FLOW DIAGRAMS**

SHEET NO.
ME702

- SHEET NOTES:**
- ① PROVIDE NEW FLOOR MOUNTED EXPANSION TANK. SEE DETAIL SHEET ME501.
 - ② PROVIDE NEW AIR SEPARATOR. SEE DETAIL SHEET ME501.
 - ③ PROVIDE NEW CLOSE COUPLED BASE MOUNTED PUMPS.
 - ④ MOUNT NEW AIR COOLED CHILLER ON NEW 4" THK PAD WITH VIBRATION ISOLATORS. ANCHOR ISOLATORS TO NEW CONCRETE PAD.
 - ⑤ FLOW SWITCH BY CHILLER MANUFACTURER. INSTALL PER MANUFACTURERS RECOMMENDATIONS BY CONTRACTOR.
 - ⑥ WATER TEMPERATURE SENSOR. COORDINATE WITH ATC CONTRACTOR.
 - ⑦ 1-1/4" DRAIN CONNECTION TO FLOOR.
 - ⑧ PROVIDE NEW CHILLED WATER STORAGE TANK. SEE DETAIL SHEET ME501.
 - ⑨ PROVIDE NEW CONCRETE PAD. SEE MECHANICAL PLAN FOR SIZE AND LOCATION.
 - ⑩ PROVIDE NEW AIR COOLED CHILLER SEE SCHEDULE ME601.
 - ⑪ PROVIDE NEW SUCTION DIFFUSERS. FIELD VERIFY SIZE.
 - ⑫ PROVIDE NEW EXPANSION TANK CONNECTION TO SYSTEM.
 - ⑬ CHARGING VALVE SUPPLIED BY TANK MANUFACTURER.
 - ⑭ BUTTERFLY VALVE.
 - ⑮ BALL VALVE.
 - ⑯ UNION.
 - ⑰ PRESSURE GAUGE.
 - ⑱ AUTO AIR VENT.
 - ⑲ REDUCER BY CONTRACTOR.
 - ⑳ ANIT-SIPHON LOOP.
 - ㉑ MANUAL AIR VENT CONSISTING OF 3/4" THRED-O-LET, NIPPLE, BALL VALVE, AND DISCHARGE PIPING TURNED DOWN.
 - ㉒ SOLENOID VALVE.
 - ㉓ CHECK VALVE.
 - ㉔ PRESSURE SWITCH.
 - ㉕ 1/2" THRED-O-LET.
 - ㉖ 50 GAL. GLYCOL STORAGE TANK AND PUMP PACKAGE INCLUDING SUCTION PIPING WITH BALL VALVE AND STRAINER.
 - ㉗ THERMOMETER WITH WELL.
 - ㉘ PLACE BUTTERFLY VALVES IN PIPING AT ENTRANCE TO TUNNEL. FIELD VERIFY EXACT LOCATION.
 - ㉙ NEW OPENINGS, SLEEVES AND LINK SEALS. SEE DETAIL ME501.



A3 CHILLED WATER FLOW SHEET
SCALE = NONE

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MECHANICAL
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American Fork, Utah

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PROJECT MANAGER:	SM
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SHEET TITLE
**SYMBOLS, ABBREVIATIONS
AND DRAWING INDEX**

SHEET NO.
EG101

SYMBOL LIST

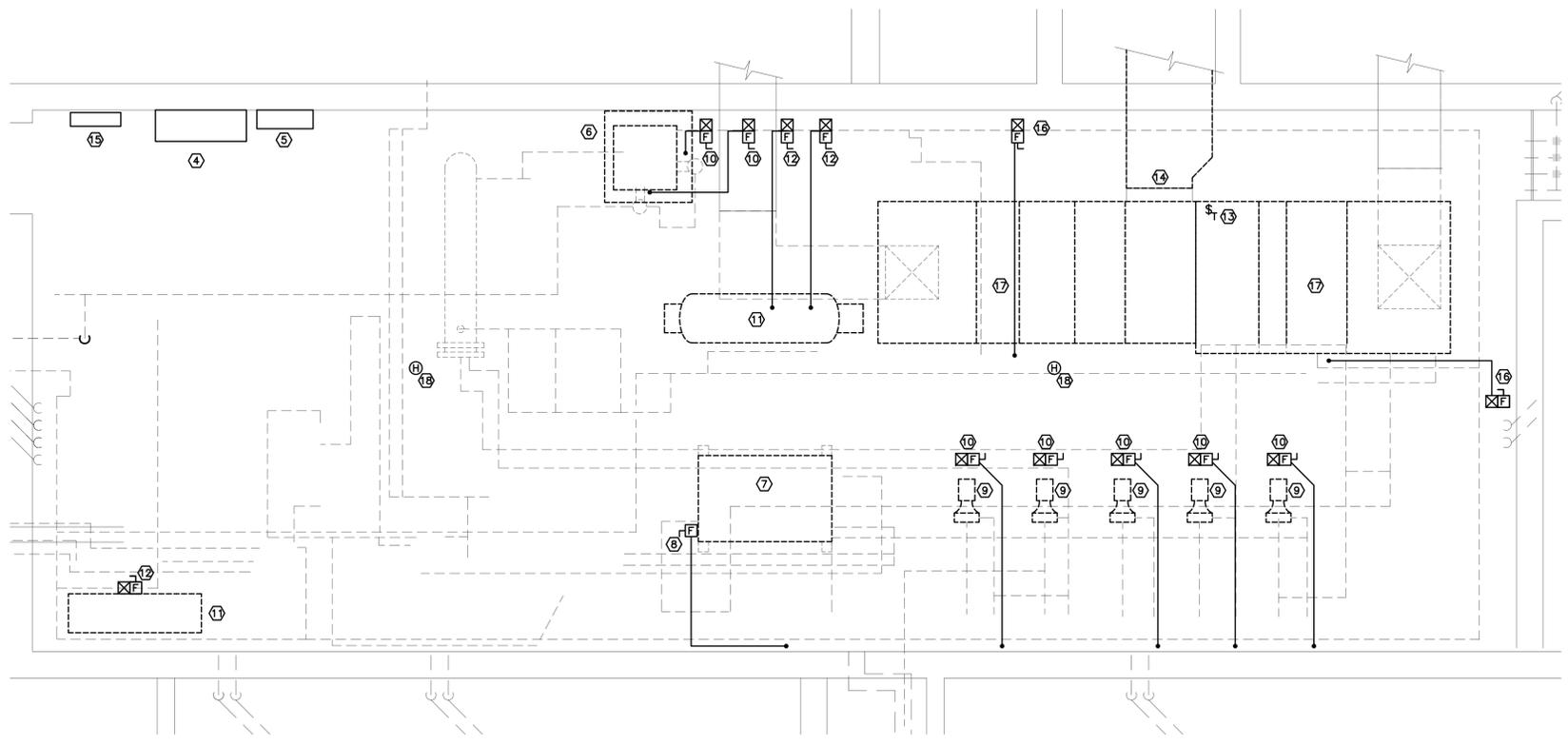
○	SURFACE/PENDANT LIGHT FIXTURE
⊙	SINGLE POLE SWITCH
⊕	DUPLEX RECEPTACLE
⊗	SPECIAL OUTLET WITH NEMA CONFIGURATION
⊚	JUNCTION BOX
▭	SURFACE EQUIPMENT CABINET AS NOTED
▭	RECESSED EQUIPMENT CABINET AS NOTED
▭	SURFACE ELECTRICAL PANELBOARD
▭	RECESSED ELECTRICAL PANELBOARD
⊠	RELAY
⊠	NON-FUSED DISCONNECT SWITCH
⊠	FUSED DISCONNECT SWITCH
⊠	MANUAL STARTER
⊠	MAGNETIC STARTER
⊠	CONTACTOR
⊠	COMBINATION STARTER/NON-FUSED DISCONNECT SWITCH
⊠	COMBINATION STARTER/FUSED DISCONNECT SWITCH
○	MOTOR CONNECTION
⊠	FIRE ALARM CONTROL PANEL
⊠	DUCT DETECTOR
⊠	PHOTO ELECTRIC SMOKE DETECTOR
⊠	RATE OF RISE/THERMAL DETECTOR
⊠	HEAT DETECTOR
⊠	FIRE ALARM CONTROL MODULE
⊠	FIRE ALARM MONITOR MODULE
⊠	DRAWING NOTE DESIGNATION
⊠	LIGHT FIXTURE DESIGNATION
~~~~~	FLEXIBLE CONDUIT
---	CONDUIT CONCEALED IN WALLS, CEILING OR FLOOR
---	CONDUIT CONCEALED IN SLAB, UNDERGROUND OR UNDERFLOOR
---	EXISTING CONDUIT
—+—	GROUND WIRE
○	STUB UP
•	STUB DOWN
→	STUB OUT
—	ISOLATED GROUND CONDUCTOR
—	EQUIPMENT GROUND CONDUCTOR
—	PHASE CONDUCTOR
—	NEUTRAL CONDUCTOR
—	PHASE CONDUCTOR
—	NEUTRAL CONDUCTOR
—	PROVIDE GREEN GROUND WIRE
—	SIZED PER NEC IN ALL RACEWAYS
◁AHU-1▷	MECHANICAL EQUIPMENT DESIGNATION

**ABBREVIATIONS**

AFF	ABOVE FINISHED FLOOR
AIC	AMP INTERRUPTING CURRENT (SYMMETRICAL)
AL	ALUMINUM
BG	BELOW GRADE
C	CONDUIT
CFI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CKT	CIRCUIT
CO	CONDUIT ONLY
CU	COPPER
EM	EMERGENCY
(E)	EXISTING
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
(F)	FUTURE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
GF1	GROUND FAULT INTERRUPTER
GF2	GROUND FAULT PROTECTOR
GRD	GROUND
GRG	GALVANIZED RIGID CONDUIT
IG	ISOLATED GROUND
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MLO	MAIN LUGS ONLY
(N)	NEW
NAC	NOTIFICATION APPLIANCE CIRCUIT
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OF1	OWNER FURNISHED CONTRACTOR INSTALLED
OF2	OWNER FURNISHED OWNER INSTALLED
PNL	PANEL
(R)	RELOCATE
ST	SHUNT TRIP
TYP	TYPICAL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
UNO	UNLESS NOTED OTHERWISE
WG	WIRE GUARD
WP	WEATHER PROOF
(X)	DEMOLISH/DELETE
XFMR	TRANSFORMER

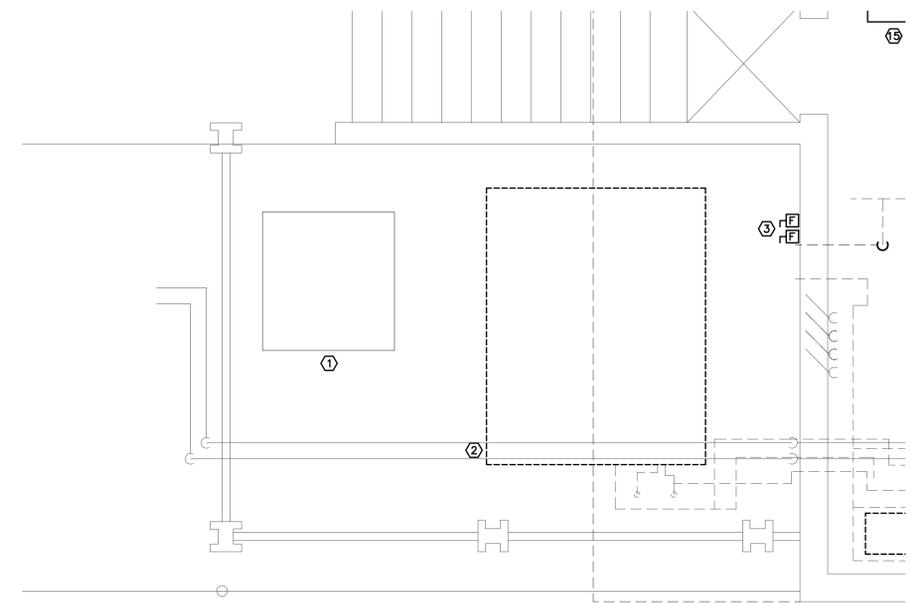
**DRAWING INDEX**

EG101	SYMBOLS, ABBREVIATIONS AND DRAWING INDEX
ED101	MECHANICAL ROOM AND UTILITY YARD ELECTRICAL DEMOLITION PLAN
ED103	FIRST FLOOR ELECTRICAL DEMOLITION PLAN
EP101	MECHANICAL ROOM AND UTILITY YARD ELECTRICAL PLAN
EP103	FIRST FLOOR ELECTRICAL PLAN
EX101	ONE LINE DIAGRAMS AND SCHEDULES



**MECHANICAL ROOM ELECTRICAL DEMOLITION PLAN**

SCALE: 3/8" = 1'-0"



**UTILITY YARD ELECTRICAL DEMOLITION PLAN**

SCALE: 3/8" = 1'-0"

**KEYED NOTES - SHEET ED101**

1. EXISTING UTILITY TRANSFORMER TO REMAIN.
2. EXISTING COOLING TOWER TO BE REMOVED BY MECHANICAL CONTRACTOR. EXISTING POWER CONNECTIONS TO BE DISCONNECTED BY ELECTRICAL CONTRACTOR.
3. EXISTING FUSED DISCONNECT, CONDUIT, AND WIRING ASSOCIATED WITH AIR COOLED CONDENSING UNIT TO BE REMOVED. EXISTING WIRING TO BE REMOVED BACK TO THE POWER PANEL. EXISTING CIRCUIT BREAKER AT THE SOURCE PANEL TO BE MARKED AS SPARE UNLESS NOTED OTHERWISE. EXISTING DISCONNECT TO BE RETURNED TO THE OWNER.
4. EXISTING MAIN DISTRIBUTION POWER PANEL TO REMAIN AND TO BE UPGRADED. REFER TO ONE LINE DIAGRAM FOR ADDITIONAL DETAILS.
5. EXISTING EMERGENCY POWER PANEL TO REMAIN.
6. EXISTING CONDENSATE RECEIVER AND PUMP SET TO BE REMOVED BY MECHANICAL CONTRACTOR. EXISTING POWER CONNECTIONS TO BE REMOVED BY ELECTRICAL CONTRACTOR.
7. EXISTING CHILLER TO BE REMOVED BY MECHANICAL CONTRACTOR. EXISTING POWER CONNECTIONS TO BE DISCONNECTED BY ELECTRICAL CONTRACTOR.
8. EXISTING FUSED DISCONNECT, CONDUIT, AND WIRING ASSOCIATED WITH CHILLER TO BE REMOVED. EXISTING WIRING TO BE REMOVED BACK TO THE POWER PANEL. EXISTING CIRCUIT BREAKER AT THE SOURCE PANEL TO BE MARKED AS SPARE UNLESS NOTED OTHERWISE. EXISTING DISCONNECT TO BE RETURNED TO THE OWNER.
9. EXISTING PUMP TO BE REMOVED BY MECHANICAL CONTRACTOR. EXISTING POWER CONNECTIONS TO BE DISCONNECTED BY ELECTRICAL CONTRACTOR.
10. EXISTING STARTER/DISCONNECT COMBINATION, CONDUIT, AND WIRING ASSOCIATED WITH PUMP TO BE REMOVED. EXISTING WIRING TO BE REMOVED BACK TO THE POWER PANEL. EXISTING CIRCUIT BREAKER AT THE SOURCE PANEL TO BE MARKED AS SPARE UNLESS NOTED OTHERWISE. EXISTING STARTER/DISCONNECT TO BE RETURNED TO THE OWNER.
11. EXISTING AIR COMPRESSOR TO BE REMOVED BY MECHANICAL CONTRACTOR. EXISTING POWER CONNECTIONS TO BE DISCONNECTED BY ELECTRICAL CONTRACTOR.
12. EX
13. EXISTING THERMAL SWITCH AND ASSOCIATED CONDUIT AND WIRING FOR VENTILATION FAN TO BE REMOVED. DISCONNECTED BY ELECTRICAL CONTRACTOR.
14. EXISTING VENTILATION FAN TO BE REMOVED BY MECHANICAL CONTRACTOR. EXISTING POWER CONNECTIONS TO BE DISCONNECTED BY ELECTRICAL CONTRACTOR.
15. EXISTING FIRE ALARM SYSTEM PULL BOX TO REMAIN.
16. EXISTING STARTER/DISCONNECT COMBINATION, CONDUIT, AND WIRING ASSOCIATED WITH AIR HANDLER UNIT TO BE REMOVED. EXISTING WIRING TO BE REMOVED BACK TO THE POWER PANEL. EXISTING CIRCUIT BREAKER AT THE SOURCE PANEL TO BE MARKED AS SPARE UNLESS NOTED OTHERWISE. EXISTING STARTER/DISCONNECT TO BE RETURNED TO THE OWNER.
17. EXISTING AIR HANDLER UNIT TO BE REMOVED BY MECHANICAL CONTRACTOR. EXISTING POWER CONNECTIONS TO BE DISCONNECTED BY ELECTRICAL CONTRACTOR.
18. EXISTING HEAT DETECTOR TO REMAIN.

**GENERAL NOTES - SHEET ED101**

- A. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS, MATERIALS, FINISHES, AND DIMENSIONS BEFORE AND AFTER DEMOLITION.
- B. CONTRACTOR TO ENSURE THAT ALL CORRIDORS OUTSIDE OF CONSTRUCTION AREA ARE KEPT CLEAN AND CLEAR OF DEBRIS AND OBSTRUCTIONS AT ALL TIMES.
- C. PROTECT ALL ITEMS TO REMAIN FROM DAMAGE.
- D. ALL EXISTING CONDUIT AND WIRING (ASSOCIATED WITH REMOVAL OF EXISTING CHILLER, PUMPS, AIR HANDLERS, EXHAUST FAN, CONDENSING UNIT, AIR COMPRESSORS, CONDENSATE RECEIVER) THAT IS NO LONGER IN USE TO BE REMOVED AND PROPERLY DISPOSED, UNLESS NOTED OTHERWISE.
- E. PROVIDE NEW LAMINATE LABELS FOR ALL NEW AND EXISTING ELECTRICAL EQUIPMENT AFFECTED BY THIS PROJECT.

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Project #: 10008.00

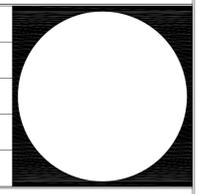
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THERAPY  
MECHANICAL  
RETROFIT**

American Fork, Utah

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KGE  
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SHEET TITLE  
**MECHANICAL ROOM AND  
UTILITY YARD ELECTRICAL  
DEMOLITION PLAN**

SHEET NO.  
**ED101**



**KEYED NOTES - SHEET ED103**

1. EXISTING FAN COIL UNIT TO BE REMOVED BY MECHANICAL CONTRACTOR. EXISTING POWER CONNECTIONS TO BE DISCONNECTED BY ELECTRICAL CONTRACTOR. EXISTING POWER CIRCUIT TO REMAIN AND TO BE REUSED FOR NEW FAN COIL UNIT.
2. FLOOR IN THIS AREA TO BE SAW CUT AND REMOVED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR TO REPAIR ALL ELECTRICAL CONDUIT AND WIRING THAT MIGHT BE AFFECTED BY THIS WORK IN ORDER TO MAINTAIN INTEGRITY OF THE EXISTING ELECTRICAL SYSTEMS.

**GENERAL NOTES - SHEET ED103**

- A. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS, MATERIALS, FINISHES, AND DIMENSIONS BEFORE AND AFTER DEMOLITION
- B. CONTRACTOR TO ENSURE THAT ALL CORRIDORS OUTSIDE OF CONSTRUCTION AREA ARE KEPT CLEAN AND CLEAR OF DEBRIS AND OBSTRUCTIONS AT ALL TIMES.
- C. PROTECT ALL ITEMS TO REMAIN FROM DAMAGE.
- D. ALL EXISTING CONDUIT AND WIRING (ASSOCIATED WITH REMOVAL OF EXISTING CHILLER, PUMPS, AIR HANDLERS, EXHAUST FAN, CONDENSING UNIT, AIR COMPRESSORS, CONDENSATE RECEIVER) THAT IS NO LONGER IN USE TO BE REMOVED AND PROPERLY DISPOSED, UNLESS NOTED OTHERWISE.
- E. PROVIDE NEW LAMINATE LABELS FOR ALL NEW AND EXISTING ELECTRICAL EQUIPMENT AFFECTED BY THIS PROJECT.

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PROJECT NAME & ADDRESS

**USDC COMP  
THERAPY  
MECHANICAL  
RETROFIT**

American Fork, Utah

MARK	DATE	REVISION

PROJECT MANAGER:

SM

DRAWN BY:

KGE

CHECKED BY:

SM

DATE:

03/01/10

WHW JOB NO.:

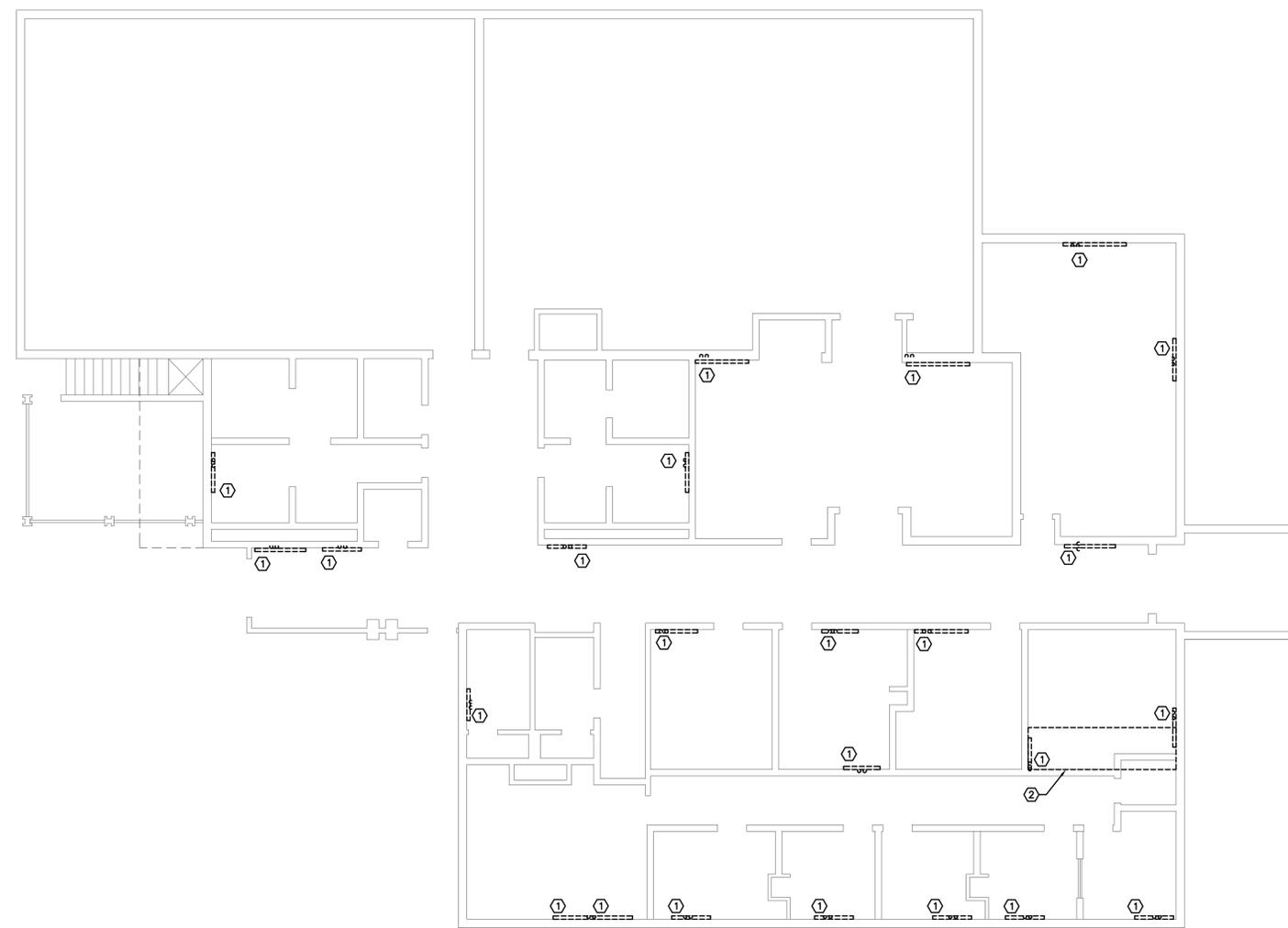
09041

SHEET TITLE

FIRST FLOOR ELECTRICAL  
DEMOLITION PLAN

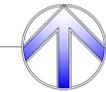
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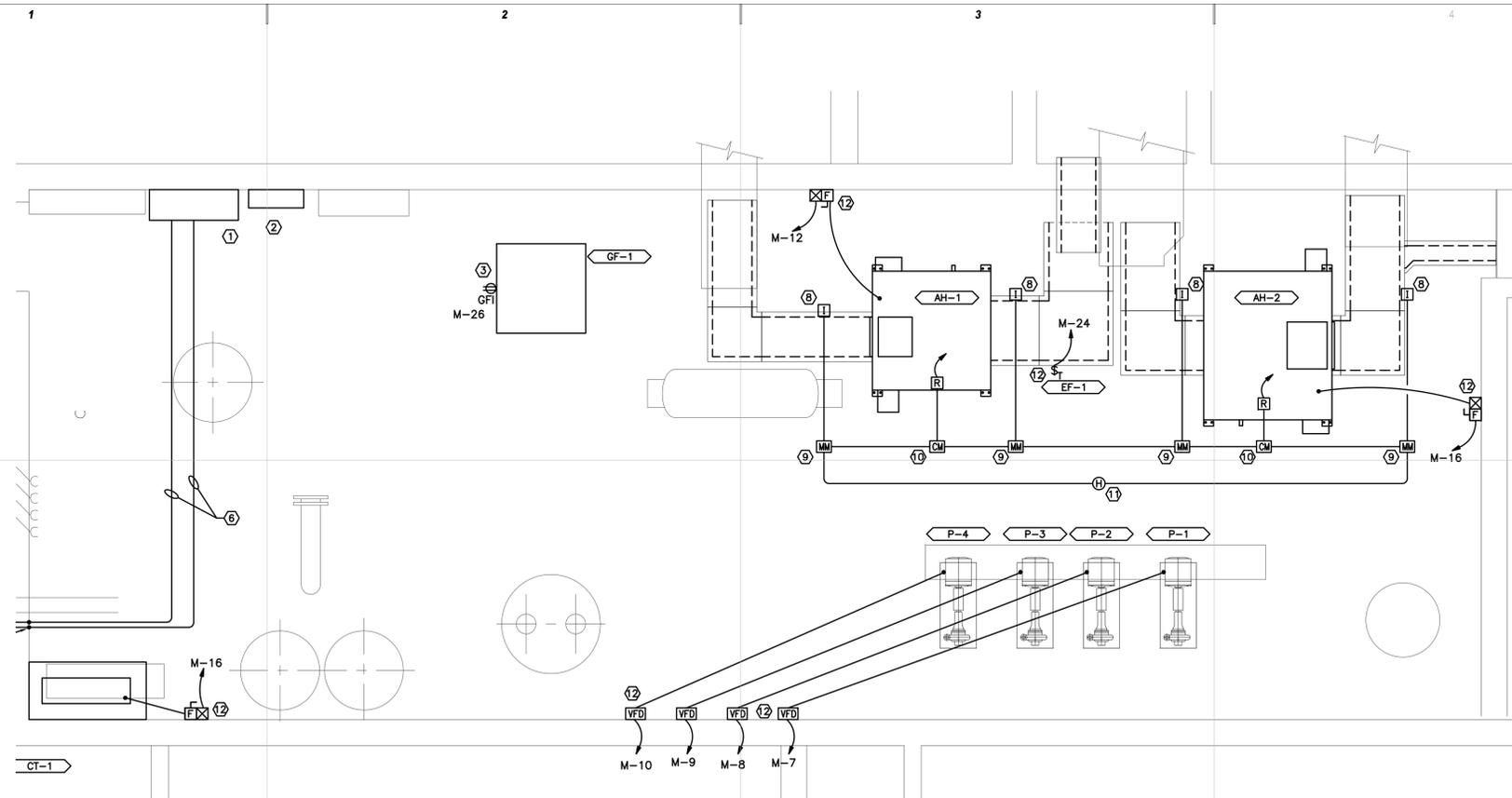
**ED103**



**FIRST FLOOR ELECTRICAL DEMOLITION PLAN**

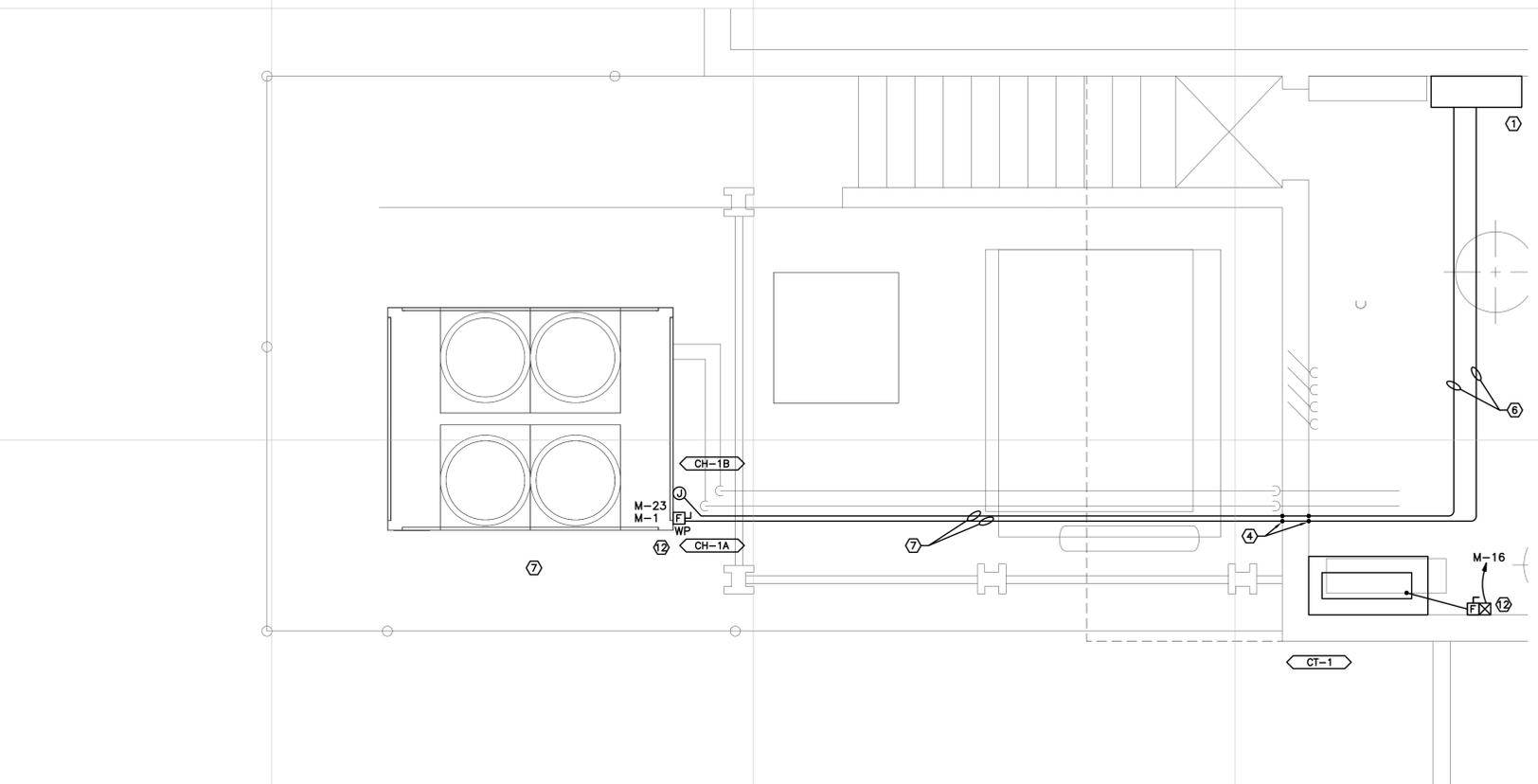
SCALE: 1/8" = 1'-0"





**MECHANICAL ROOM DEMOLITION PLAN**

SCALE: 3/8" = 1'-0"



**UTILITY YARD ELECTRICAL PLAN**

SCALE: 3/8" = 1'-0"



**KEYED NOTES - SHEET EP101**

1. EXISTING MAIN DISTRIBUTION POWER PANEL.
2. EXISTING BRANCH POWER PANEL.
3. POWER OUTLET FOR GLYCOL FEED SYSTEM. COORDINATE EXACT LOCATION WITH MECHANICAL PRIOR TO ROUGH IN.
4. CORE DRILL EXISTING FOUNDATION WALL AS REQUIRED FOR INSTALLATION OF THE NEW CONDUIT.
5. NEW RIGID GALVANIZED CONDUIT AND REQUIRED WIRING. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR CONDUIT AND WIRE SIZE AND QUANTITY. NEW CONDUIT TO BE PROPERLY SUPPORTED OF HVAC PIPING SUPPORT. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL DETAILS.
6. NEW EMT CONDUIT AND REQUIRED WIRING FROM MAIN DISTRIBUTION BOARD TO FUSED DISCONNECT AT THE UTILITY YARD. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR CONDUIT AND WIRE SIZE AND QUANTITY. NEW CONDUIT SHOULD BE PROPERLY SUPPORTED FROM STRUCTURE. PROVIDE UNISTRUT SUPPORT, ANCHORS, ETC. AS REQUIRED.
7. NEW AIR COOLED CHILLER.
8. NEW DUCT DETECTORS TO BE PROVIDED AS PART FO THE AIR HANDLER ASSEMBLY. ELECTRICAL CONTRACTOR TO CONNECT NEW DETECTORS TO EXISTING FIRE ALARM SYSTEM.
9. PROVIDE FIRE ALARM MONITOR MODULES FOR INTERFACE BETWEEN FIRE ALARM SYSTEM AND NEW DUCT DETECTORS. PROVIDE ALL REQUIRED CONDUIT AND WIRING.
10. PROVIDE FIRE ALARM CONTROL MODULE AND FIRE ALARM RELAY FOR FAN SHUT DOWN. PROVIDE ALL REQUIRED CONDUIT AND WIRING.
11. EXISTING HEAT DETECTOR. EXTEND CONDUIT AND WIRING TO NEW FIRE ALARM DEVICES. MAINTAIN CLASS "A" LOOP. EXISTING FIRE ALARM SYSTEM IS MANUFACTURED BY SIMPLEX, WITH SIMPLEX 4100 AS MAIN FIRE ALARM CONTROL PANEL.
12. COORDINATE INSTALLATION OF ELECTRICAL EQUIPMENT WITH MECHANICAL AND PLUMBING DRAWINGS PRIOR TO ROUGH IN. RELOCATE AS REQUIRED TO AVOID CONFLICTS WITH PIPING AND HVAC EQUIPMENT ABOVE ELECTRICAL EQUIPMENT.

**GENERAL NOTES - SHEET EP101**

- A. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS, MATERIALS, FINISHES, AND DIMENSIONS BEFORE AND AFTER DEMOLITION
- B. CONTRACTOR TO ENSURE THAT ALL CORRIDORS OUTSIDE OF CONSTRUCTION AREA ARE KEPT CLEAN AND CLEAR OF DEBRIS AND OBSTRUCTIONS AT ALL TIMES.
- C. PROTECT ALL ITEMS TO REMAIN FROM DAMAGE.
- D. SEAL ALL NEW EXTERIOR WALL PENETRATION.
- E. FIRE PROOF ALL NEW INTERIOR WALL/FLOOR/CEILING PENETRATIONS AT FIRE RATED WALLS/FLOORS/CEILINGS.
- F. MAINTAIN CIRCUIT INTEGRITY OF POWER, LIGHTNING, TELECOM, SOUND, SECURITY, AND ALL OTHER CIRCUITS. IN THE AREA WHERE CIRCUIT CONTINUITY IS INTERRUPTED BECAUSE OF REMODELING MAKE NECESSARY MODIFICATIONS TO CIRCUIT TO MAINTAIN CIRCUIT INTEGRITY.
- G. EXAMINE STRUCTURAL ELEMENTS PRIOR TO CUTTING AND CORE DRILLING. STRUCTURAL STEEL SHOULD BE LOCATED BY USING NON-DESTRUCTIVE TESTING PROCEDURES SUCH AS GROUND PENETRATING RADAR (RADIO FREQUENCY) OR OTHER APPROVED METHODS.
- H. COORDINATE INSTALLATION OF ELECTRICAL EQUIPMENT WITH MECHANICAL AND PLUMBING DRAWINGS PRIOR TO ROUGH IN. THERE SHOULD BE NO HVAC PIPING AND DUCTS ABOVE POWER PANELS, STARTERS, DISCONNECTS, VFD'S, ETC. ADJUST ELECTRICAL EQUIPMENT LOCATIONS AS REQUIRED TO AVOID CONFLICTS WITH MECHANICAL AND PLUMBING EQUIPMENT AND MAINTAIN REQUIRED WORKING SPACE IN FRONT AND ABOVE ELECTRICAL EQUIPMENT.
- I. ALL ELECTRICAL EQUIPMENT PROVIDED AS PART OF THIS PROJECT MUST BE SEISMICALLY SUPPORTED PER LATEST STANDARDS AND PREVAILING CODES.

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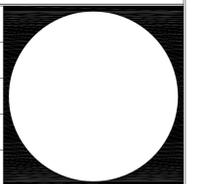
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SHEET TITLE  
**MECHANICAL ROOM  
ELECTRICAL PLAN**

SHEET NO.  
**EP101**



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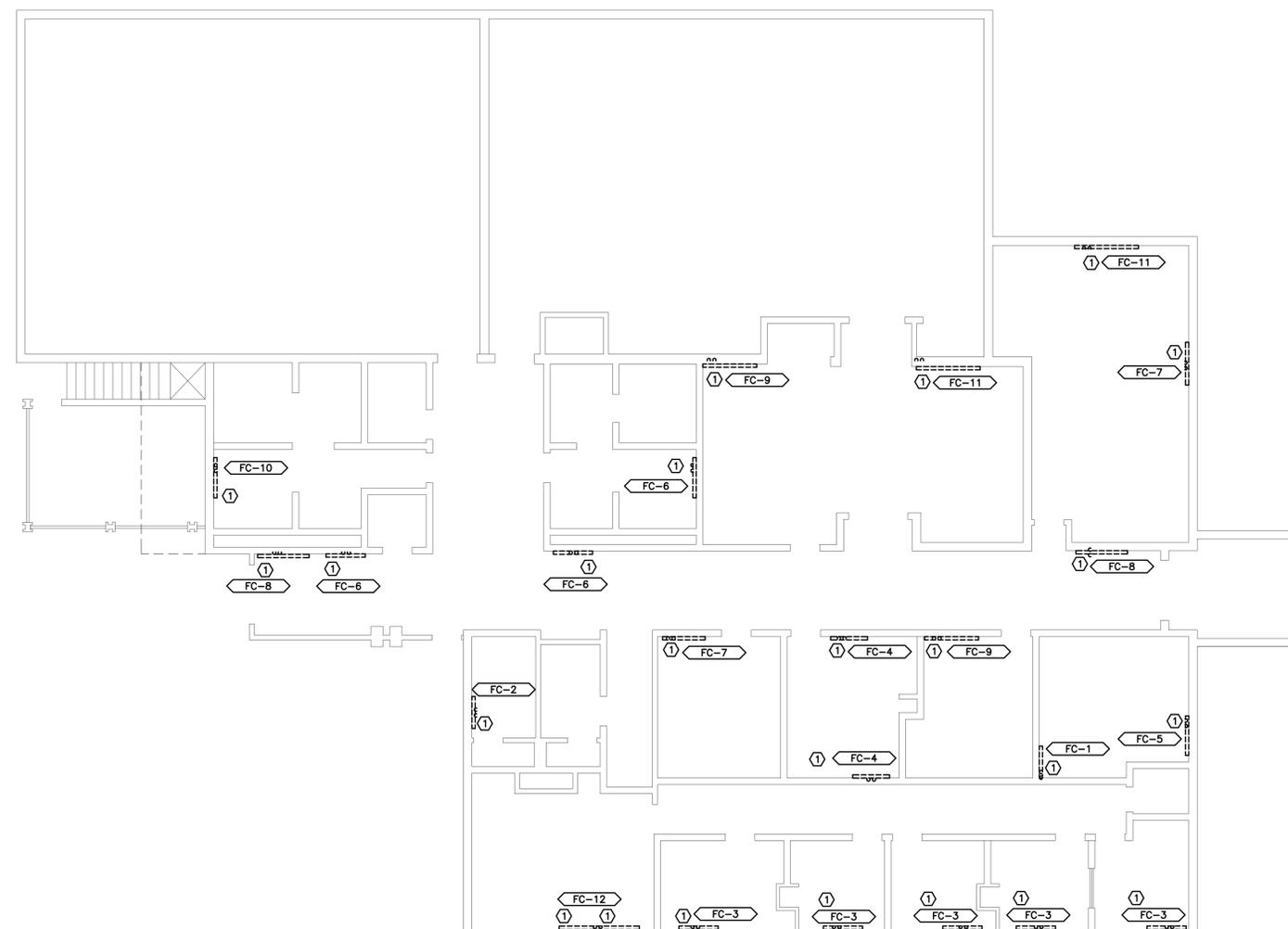
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**KEYED NOTES - SHEET EP103**

1. CONNECT NEW FAN COIL UNIT TO EXISTING POWER CIRCUIT PREVIOUSLY USED FOR REMOVED FAN COIL. VERIFY INTEGRITY AND CONDITION OF EXISTING CONDUIT AND CONDUCTORS. REPLACE CONDUIT AND WIRING AS REQUIRED TO COMPLY WITH LATEST CODE REQUIREMENTS FOR CONDUIT FILL RATIO, CONDUCTOR SIZES, TYPE OF INSULATION, ETC. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR ELECTRICAL POWER CONNECTIONS AND REQUIREMENTS.

**GENERAL NOTES - SHEET EP103**

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**FIRST FLOOR ELECTRICAL PLAN**

SCALE: 1/8" = 1'-0"



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