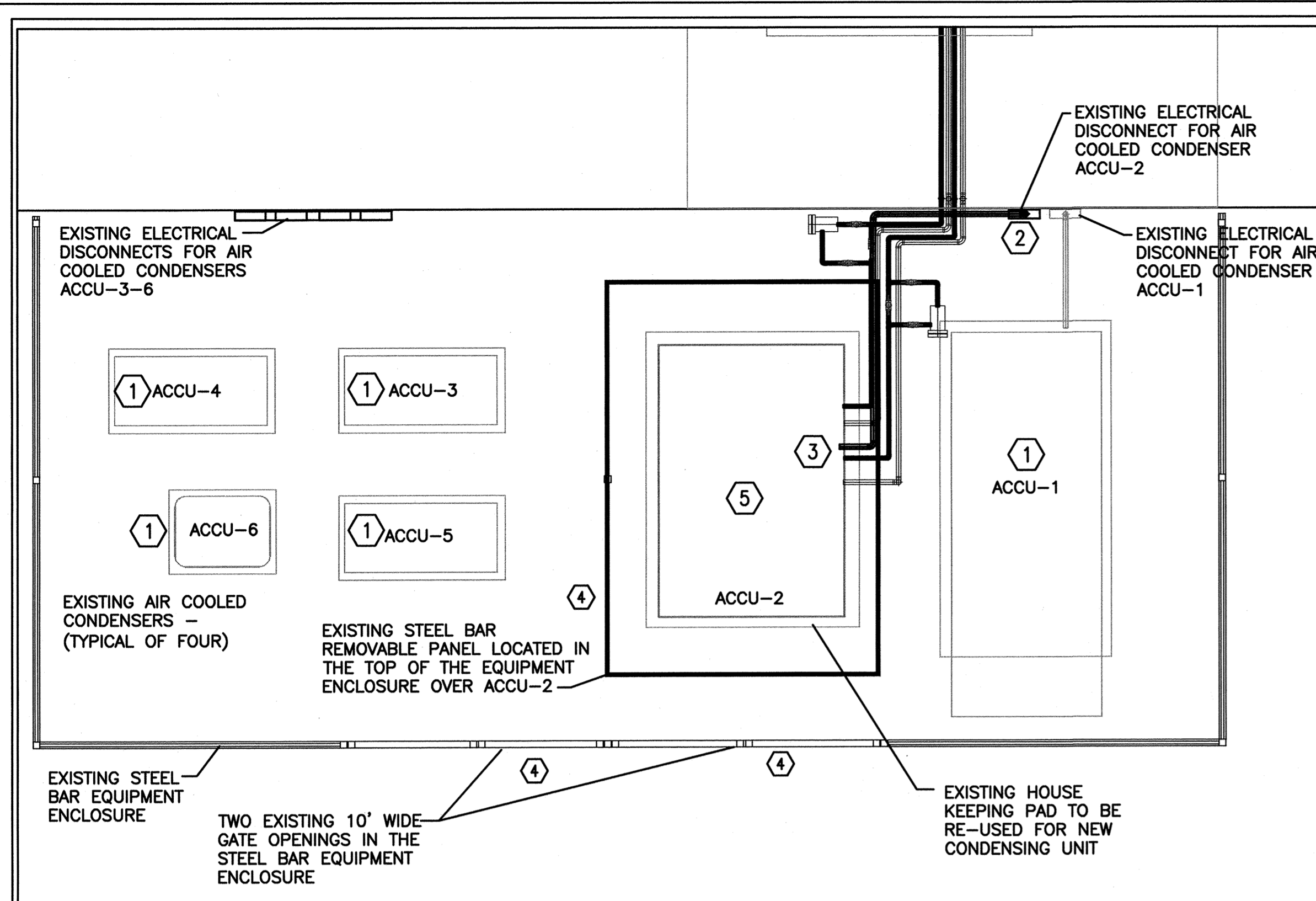
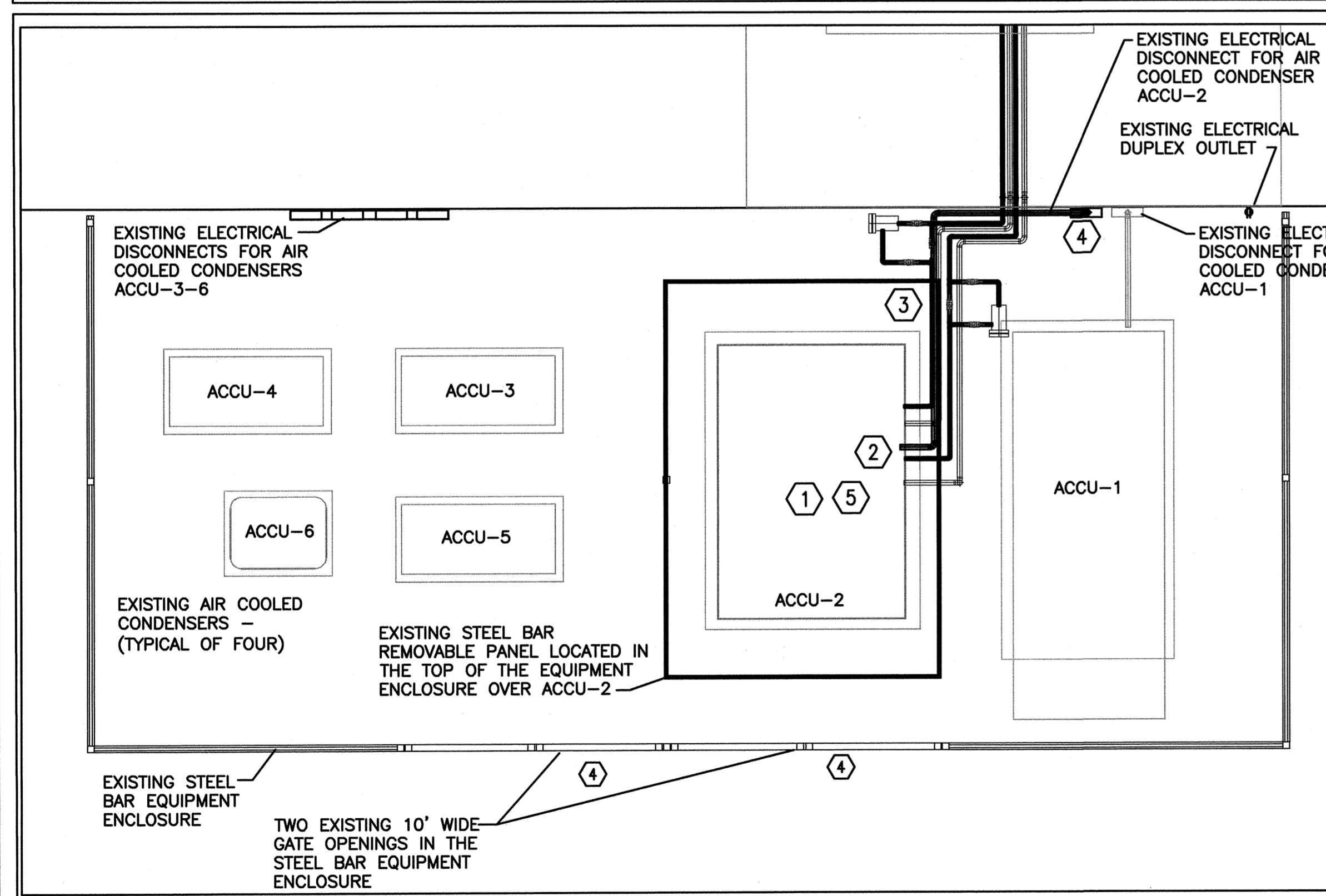


File Name: M:\MH\RA\11398.00 Long Rd. Condenser Replacement\Mech\LONG RD CONDENSER REPLAC-M1.0- MECH PLAN-FINAL.DWG
 User: rrogers
 Date/Time: Dec 13, 2011 9:25am Xref File(s):



1 MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

- ### MECHANICAL DEMOLITION KEYED NOTES
- EXISTING AIR COOLED CONDENSING UNITS ACCU-1, ACCU-3, ACCU-4, ACCU-5 AND ACCU-6 SHALL REMAIN IN SERVICE DURING THE REPLACEMENT OF EXISTING AIR COOLED CONDENSING UNIT ACCU-2. CONTRACTOR MUST PROTECT ALL ELECTRICAL AND PIPING CONNECTIONS FOR THESE UNITS TO INSURE THAT THERE IS NO DISRUPTION TO THE SERVICE DURING THE REPLACEMENT WORK.
 - CONTRACTOR SHALL ISOLATE THE THE ELECTRICAL POWER TO EXISTING AIR COOLED CONDENSING UNIT ACCU-2 AND TAKE UNIT OUT OF SERVICE. ELECTRICAL CONTRACTOR SHALL DISCONNECT THE POWER CONNECTIONS TO THE UNIT AND LOCK-OUT EQUIPMENT DISCONNECT LOCATED ON THE WALL BEHIND THE UNIT TO INSURE THAT DISCONNECTED CIRCUIT CANNOT BE RE-ENERGIZED DURING THE EQUIPMENT REMOVAL PROCESS.
 - THE EXISTING DUEL REFRIGERATION CIRCUITS FOR THE EXISTING ACCU-2 ARE EXTREMELY LONG RUNS AND HOLD A CONSIDERABLE AMOUNT OF REFRIGERANT. CONTRACTOR SHALL EVACUATE AND RECOVER ALL REFRIGERANT IN THE EXISTING PIPING TO INSURE THAT THERE IS NO LEAKAGE IN THE EQUIPMENT AREA. ONCE LINES ARE EVACUATED, CONTRACTOR SHALL CUT THE EXISTING REFRIGERANT CONNECTIONS AND PREPARE THE UNIT FOR THE CLEANING OPERATION. (SEE SYSTEM CLEANING PREPARATION NOTES)
 - THE EXISTING EQUIPMENT ENCLOSURE HAS TWO 10' WIDE GATES IN THE FRONT OF THE ENCLOSURE AND A LARGE REMOVABLE PANEL OVER THE CONDENSING UNIT TO BE REMOVED. CONTRACTOR CAN UTILIZE ALL AVAILABLE REMOVABLE SECTIONS OF THE ENCLOSURE TO ALLOW REMOVAL OF THE EQUIPMENT, BUT ALL OTHER EXISTING REMAINING EQUIPMENT MUST BE PROTECTED WHILE ENCLOSURE IS OPEN.
 - ONCE ALL OF THE PIPING AND ELECTRICAL CONNECTIONS ARE ISOLATED AND SECURED, CONTRACTOR SHALL REMOVE THE EXISTING ACCU-2 FROM THE PAD AND ENCLOSURE AND DISPOSE OF THE UNIT OFF-SITE. ONCE THE UNIT IS REMOVED, CONTRACTOR SHALL CLEAN AND PREPARE THE EXISTING HOUSE-KEEPING PAD FOR THE INSTALLATION OF THE NEW AIR COOLED CONDENSING UNIT.



2 NEW MECHANICAL INSTALLATION PLAN
SCALE: 1/8" = 1'-0"

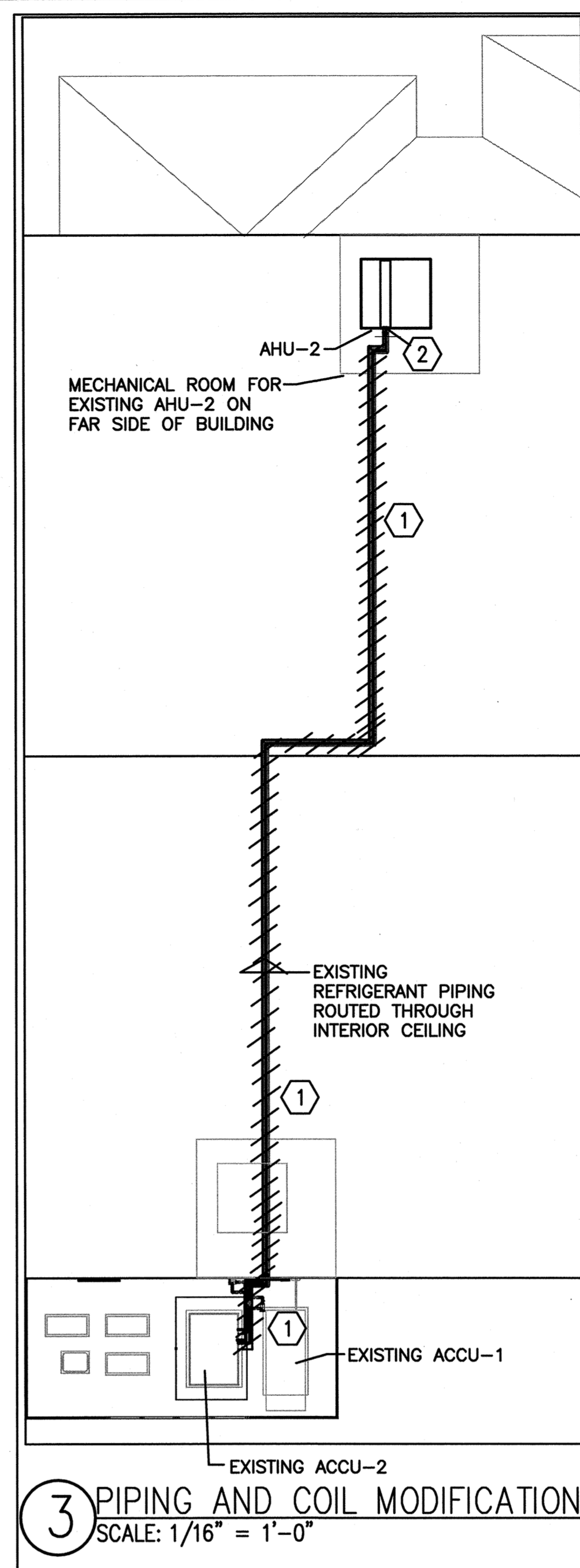
- ### MECHANICAL KEYED NOTES
- THE EXISTING HOUSEKEEPING PAD SHALL BE CLEARED OF OLD MATERIALS, AND PREPARED FOR RE-USE WITH THE NEW EQUIPMENT. ONCE PAD IS PREPARED, CONTRACTOR SHALL SET NEW AIR COOLED CONDENSER ACCU-2 IN PLACE. CONTRACTOR MUST PROTECT ALL OF THE OTHER ACTIVE CONDENSERS TO INSURE THAT THERE IS NO DISRUPTION TO THE OTHER UNITS.
 - ONCE THE EXISTING REFRIGERANT PIPING AND COOLING COIL HAVE BEEN THOROUGHLY CLEANED, CONTRACTOR SHALL CONNECT THE REFRIGERANT PIPING FOR THE TWO REFRIGERANT CIRCUITS AND INSTALL NEW FILTER/DRYERS, AND OTHER PROTECTIVE DEVICES AS REQUIRED BY THE PIPING DETAIL TO COMPLETE THE REFRIGERANT DISTRIBUTION CIRCUITS.
 - WHEN PIPING CONNECTIONS ARE COMPLETE, CONTRACTOR SHALL CHARGE THE CIRCUITS WITH THE NEW 410A REFRIGERANT AND PREPARE UNIT FOR START-UP.
 - CONTRACTOR SHALL UTILIZE THE EXISTING ELECTRICAL DISCONNECT AND ELECTRICAL POWER CIRCUIT TO CONNECT THE NEW ACCU. REUSE EXISTING ELECTRICAL FEEDERS WHERE POSSIBLE. IF REPLACEMENT OF EXISTING FEEDERS ARE REQUIRED, THE NEW FEEDER SHALL MATCH EXISTING. NO NEW ELECTRICAL POWER SHALL BE REQUIRED FOR THIS EQUIPMENT REPLACEMENT.
 - ONCE ALL PIPING AND ELECTRICAL CONNECTIONS ARE COMPLETE, CONTRACTOR SHALL RECONNECT ALL REQUIRED UNIT CONTROLS AND START UNIT. WITH THE NEW UNIT ON-LINE, THE CONTRACTOR SHALL PERFORM A THOROUGH FUNCTIONAL TEST OF THE UNIT TO INSURE THAT ALL COMPONENTS ARE OPERATIONAL AND THE UNIT IS FUNCTIONING PROPERLY.

ELECTRICAL LOAD ANALYSIS

THIS PROJECT IS PRIMARILY FOR REPLACEMENT OF FAILING EQUIPMENT. THE NEW EQUIPMENT SHALL UTILIZE EXISTING ELECTRICAL POWER.

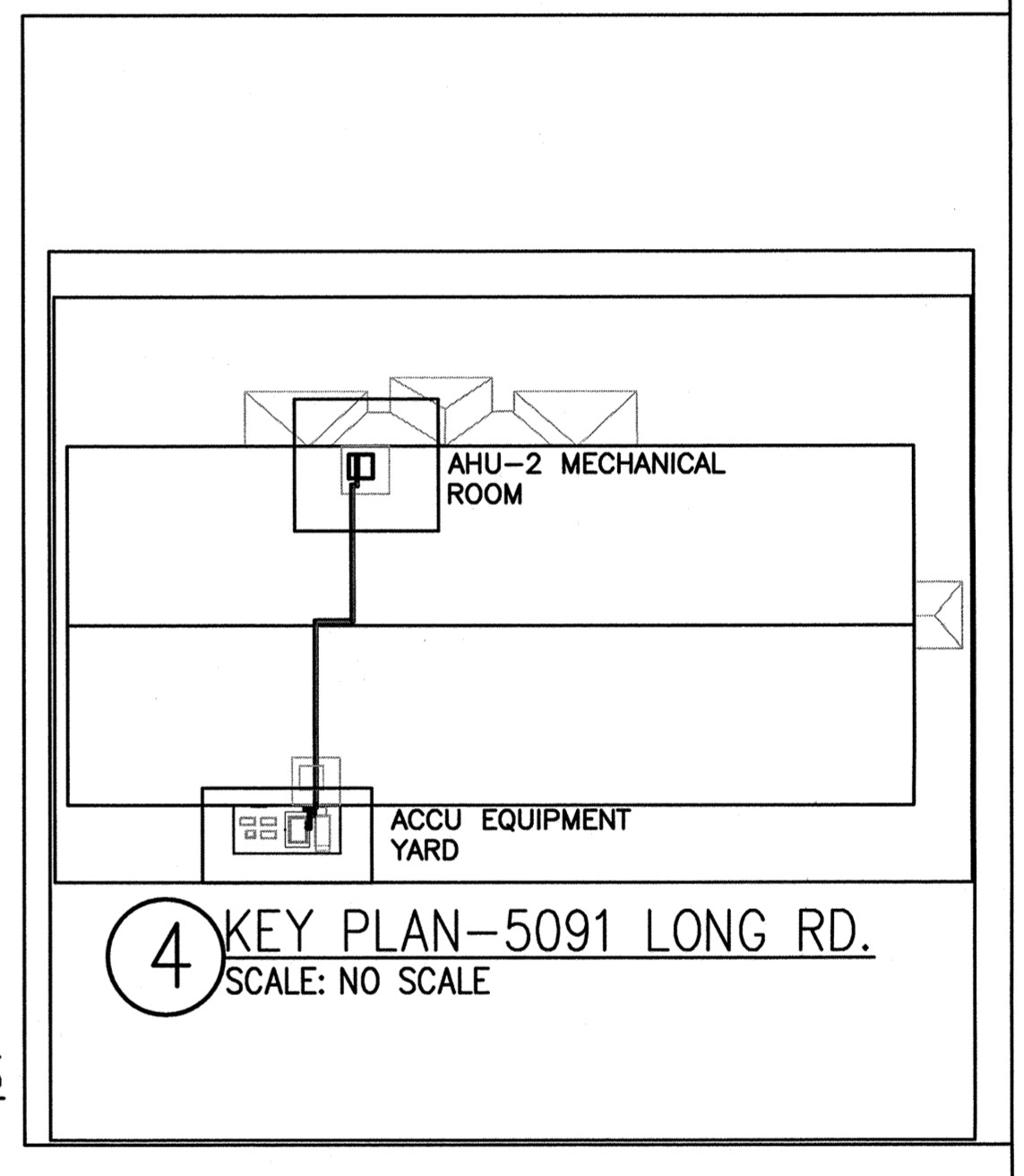
NO ADDITIONAL ELECTRICAL POWER SHALL BE REQUIRED.

- ### MECHANICAL GENERAL NOTES
- THE DRAWINGS REPRESENT THE BEST AVAILABLE INFORMATION BUT MAY NOT REFLECT ALL CURRENT CONDITIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING AND CURRENT CONDITIONS IN PREPARING HIS BID PACKAGE.
 - DUE TO THE OPERATING SCHEDULE FOR THE BUILDING, THE CONTRACTOR MUST STRUCTURE AND SCHEDULE ALL REQUIRED WORK TO MINIMIZE DISRUPTION TO THE OCCUPANTS. ALL DISRUPTIONS TO THE SYSTEMS MUST BE WELL PLANNED AND COORDINATED WITH THE OWNER AND BUILDING ENGINEER TO INSURE THAT ALL DISRUPTIONS ARE KEPT TO A MINIMUM.
 - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DISPOSE OF ALL REMOVED EQUIPMENT AND MATERIALS FROM THE SITE.
 - THE EQUIPMENT NUMBERING SYSTEM USED FOR THIS LAYOUT IS BASED ON THE ORIGINAL NUMBERING LABELS USED. CURRENT LABELS MAY HAVE CHANGED, SO IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL NUMBER WITH THE BUILDING ENGINEER.



3 PIPING AND COIL MODIFICATIONS
SCALE: 1/16" = 1'-0"

- ### PIPING AND COIL MODIFICATIONS KEYED NOTES
- CONTRACTOR SHALL REUSE THE EXISTING TWO PARALLEL RUNS OF 2 1/8" Ø COPPER SUCTION AND 7/8" Ø COPPER LIQUID LINES IN THE CEILING FOR THE NEW REFRIGERANT SYSTEM. A THOROUGH CLEANING WILL BE REQUIRED BEFORE PIPING CAN BE RE-USED. CONTRACTOR SHALL CHECK ALL EXISTING SUPPORTS AND PROVIDE ADDITIONAL PIPING SUPPORTS AS REQUIRED TO PROVIDE A STRAIGHT RUN ACROSS THE CEILING. THE REVISED REFRIGERANT PIPING SHALL INCORPORATE ALL MANUFACTURER RECOMMENDED OIL TRAPS AND OTHER PROTECTIVE DEVICES IN THE PIPING TO MINIMIZE THE POSSIBILITY OF OIL TRANSFER DUE TO THE EXCESSIVE LENGTH OF THE PIPING RUN. THE REVISED SUCTION LINES SHALL BE INSULATED THE ENTIRE LENGTH OF THE PIPING.
 - ONCE THE LINE SET AND COIL CLEANING ARE COMPLETE, CONTRACTOR SHALL INSTALL NEW EXPANSION VALVES AND ALL NEW REQUIRED PROTECTIVE DEVICES TO PREVENT OIL TRANSFER IN NEW SYSTEM.



4 KEY PLAN-5091 LONG RD.
SCALE: NO SCALE

AIR COOLED CONDENSING UNIT SCHEDULE

MARK	GTH (BTUH)	AMB. F	UNIT EER	REFRIG.	ELECT.	TOTAL UNIT KW	MCA	REMARKS
ACCU-2	512,454	95	11.4	410A	460-3-60	44.8	89.6	MCQUAY MODEL NO. - RCS045D

PIPING CLEANING REQUIREMENTS

THE EXISTING AIR COOLED CONDENSING UNIT ACCU-2 AND THE ATTACHED DX COIL LOCATED IN EXISTING AHU-2 ARE CURRENTLY CHARGED WITH R-22 REFRIGERANT. BASED ON THE NEW EPA GUIDELINES, NEW AIR COOLED CONDENSING UNITS IN THE SIZE RANGE REQUIRED FOR THIS PROJECT CAN NO LONGER UTILIZE THE R-22 REFRIGERANT SO THEY ARE BEING CHARGED WITH THE NEWER R-410A REFRIGERANT. SINCE THE R-410A REFRIGERANT OILS ARE NOT COMPATIBLE WITH THE R-22, THE EXISTING PIPING AND COILS MUST BE THOROUGHLY CLEANED.

TO PREPARE THE SYSTEM FOR CLEANING, AFTER THE OLD SYSTEM IS COMPLETELY EVACUATED AND ALL REFRIGERANT IS RECOVERED AND THE OLD CONDENSER CUT LOOSE, THE CONTRACTOR SHALL INSTALL NEW 3/4" FITTINGS AND BALL VALVES ON THE OPEN END OF THE COPPER LINES IN THE EQUIPMENT YARD, AND REMOVE THE CORES FROM THE EXISTING EXPANSION VALVES AT AHU-2 TO INSURE THAT A FULL FLOW OF CLEAN REFRIGERANT CAN FLOW THROUGH THE EXISTING COIL CIRCUITS.

TO FLUSH THE PIPING AND COILS, A FRESH SOLUTION OF R22 WILL BE CIRCULATED THROUGH THE PIPING AND COILS TO REMOVE THE OILS. NEW SOLUTION MUST BE USED FOR EACH PASS TO INSURE THAT ALL R22 OIL IS REMOVED FROM THE PIPING INTERNAL SURFACES. CONTRACTOR SHALL CONTINUE THE CLEANING OPERATION UNTIL THE R-22 REFRIGERANT USED FOR CLEANING IS DETERMINED TO BE FREE OF ANY RESIDUAL OILS, BASED ON THE TECHNICIANS EXPERIENCE AND JUDGEMENT, AND SYSTEM IS COMPLETELY CLEAN. THE PIPING MUST BE THOROUGHLY FLUSHED OF ALL OLD OILS AND CONTAMINATES TO PROTECT THE NEW REFRIGERANT ADDED FROM CONTAMINATION AND POSSIBLE FAILURE OF THE NEW EQUIPMENT INSTALLED.

ONCE THE EXISTING PIPING AND COILS ARE CLEANED AND THE PROCESS VERIFIED, THE PIPING CAN BE CONNECTED TO THE NEW CONDENSER AND THE EXISTING COILS.

<p>REVISION DESCRIPTION</p> <p>DATE</p> <p>12-14-2011</p>	<p>CONDENSER REPLACEMENT</p> <p>SOUTHEAST COMMUNITY SERVICE CENTER</p> <p>5801 LONG DRIVE, HOUSTON, TEXAS 77087</p>
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REGISTERED PROFESSIONAL ENGINEER

PROJECT NUMBER	11398.00
DRAWN BY	RCR
CHECKED BY	SMR
SHEET DATE	12-14-2011
HVAC MODIFICATION PLAN	

ME-1.0