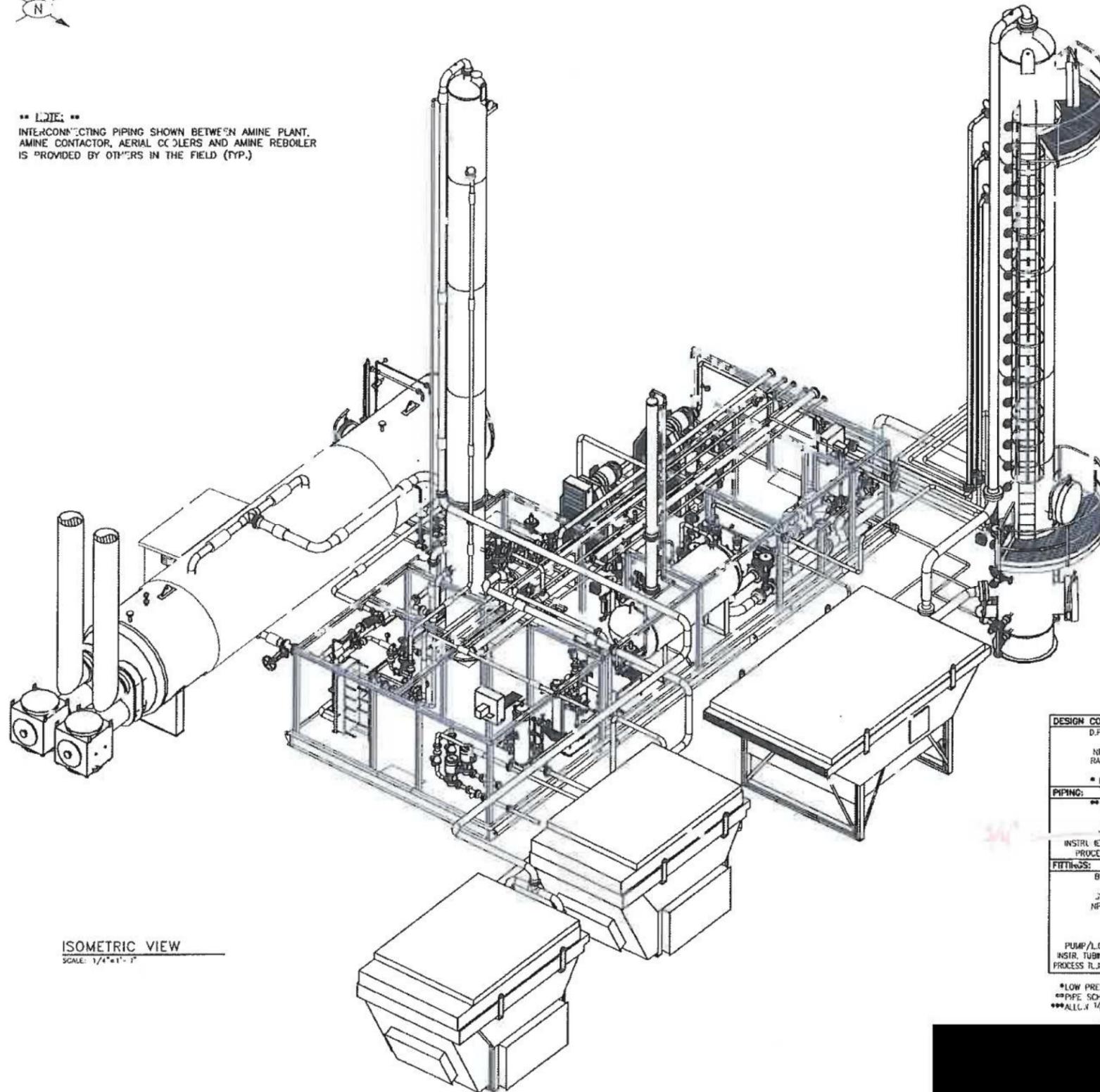


MASTER VENDOR PRINT



**** NOTE ****
 INTERCONNECTING PIPING SHOWN BETWEEN AMINE PLANT, AMINE CONTACTOR, AERIAL COOLERS AND AMINE REBOILER IS PROVIDED BY OTHERS IN THE FIELD (TYP.)



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

TIE-IN SCHEDULE:

1. SEE DRAWING C-2608-1013-50A-003 FOR TIE-IN SCHEDULE.

GENERAL NOTES:

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE MECHANICAL FLOWSHEET.
- PROCESS PIPING IS DESIGNED TO ASME B31.3 2006 EDITION.
- PRESSURE VESSELS TO BE REGISTERED IN ALBERTA & BRITISH COLUMBIA.
- PIPING TO BE INSULATED IN ALBERTA.
- VESSELS AND PIPING TO BE INSULATED AS PER FLOWSHEET AND/OR FABRICATOR DRAWINGS.
- PAINTING:
 - SURFACE PREPARATION: COMMERCIAL BLAST TO SSPC-SP6.
 - PRIMER:
 - NON-INSULATED (<250°F): 1/2" CLOVERDALE #1-101 GREY OVERALL.
 - NON-INSULATED (>250°F): 1/2" CLOVERDALE #B3206 "JOCONE ACRYLIC" HEAT RESISTANT, WARM GREY OVERALL.
 - INSULATED (<250°F): 1/2" CLOVERDALE #1-101 GREY OVERALL.
 - INSULATED (>250°F): 1/2" CLOVERDALE #B3206 "JOCONE ACRYLIC" HEAT RESISTANT, WARM GREY OVERALL.
 - FINISHED PAINT:
 - NON-INSULATED (<250°F): 1/2" CLOVERDALE (SERIES #111) #20-F-34 W/RY TREY MARINE ENAMEL.
 - NON-INSULATED (>250°F): 1/2" CLOVERDALE #B3206 "JOCONE ACRYLIC" HEAT RESISTANT, WARM GREY OVERALL.
 - INSULATED (<250°F): NONE.
 - INSULATED (>250°F): NONE.
- ALL ELEVATIONS SHOWN ARE FROM TOP OF MAIN SKID MEMBER. DEPTH OF SKID IS 1'-0".
- ALL SKID EDGE CONNECTIONS TO BE HELD AT DIMENSIONS AND ELEVATIONS SHOWN FOR CURVED AIR TIE-INS.
- SKID LIFTING DESIGNS:
 - EIGHT (8) POINT LIFT (AMINE PLANT)
 - FOUR (4) POINT LIFT (E-760/770/790)
 - TWO (2) POINT LIFT (V-430/440)
- 1/4" SERVICE VENTING: WATER FROM INSTRUMENTS ARE VENTED INDIVIDUALLY. BLEED TYPE INSTRUMENTS, REGULATORS, INSTRUMENT CAGES AND CONTROL VALVE ACTUATORS ARE NOT VENTED.
- 2" INSTRUMENT AIR HEADER AS SHOWN ON FLOWSHEET (SHIP TO RUN-IN READY) WITH 1/4" TAKE-OFFS TO ISOLATE NEEDLE VALVE, REGULATOR, AND TUBING TO COMPLETE ALL TUBING DOWNSTREAM OF INSTRUMENT SENSING POINT. PRIMARY BLEED VALVE TO BE 1/2" MINIMUM.
- REMOVE ALL FLOATS/DEPLACERS FROM ALL LEVEL CONTROLLERS AND SWITCHES TAG AND CRATE FOR SHIPPING.
- ALL INSTRUMENTS ARE PROVIDED WITH SS TAGS.
- ALL PIPING TAG LOCATIONS ARE PROVIDED WITH SS TAGS FOR FIELD RE-INSTALLATION.
- PROTECT ALL OPENINGS FROM SHIPPING.
- ESTIMATED SHIPPING WEIGHT:
 - T.B.A. lbs. = AMINE PLANT (100% V-430, V-440 UPPER SECTION, BUILDING)
 - T.B.A. lbs. = E-430/440 (AMINE CONTACTOR/SWEET GAS AFTER SCRUBBER)
 - W/ LADDERS & PLATFORMS
 - 14,549 lbs. = E-760 (WET/DRY CONDENSER)
 - 13,063 lbs. = E-770 (AMINE COOLER)
 - 7,266 lbs. = E-790 (SWEET GAS COOLER)
 - T.B.A. lbs. = V-450 (LOWER UPPER SECTION)
 - T.B.A. lbs. = V-460 (LOWER UPPER SECTION)
 - T.B.A. lbs. = BUILDING (FIELD ERECTOR)
 - T.B.A. lbs. = WEIGHT OF E-430/440 LADDERS & PLATFORMS (TOTAL)
- PROVIDE 3" SPRAY ON UNDERMINES PERFORM UNDER THE SKID.
- SKID FLOOR PAINTED WITH EPOXY PAINT W/ ANTI-SLIP GRIT.
- PROVIDE AN ALBERTA P.E.N.G. STAMPED BUILDING DRAWING.
- DEL. (2) OPERATING MANUALS AND TWO (2) QUALITY CONTROL DATA BOOKS ARE PROVIDED.

MATERIAL IS TO COMPLY WITH NACE MR0175/ISO 15156-1:

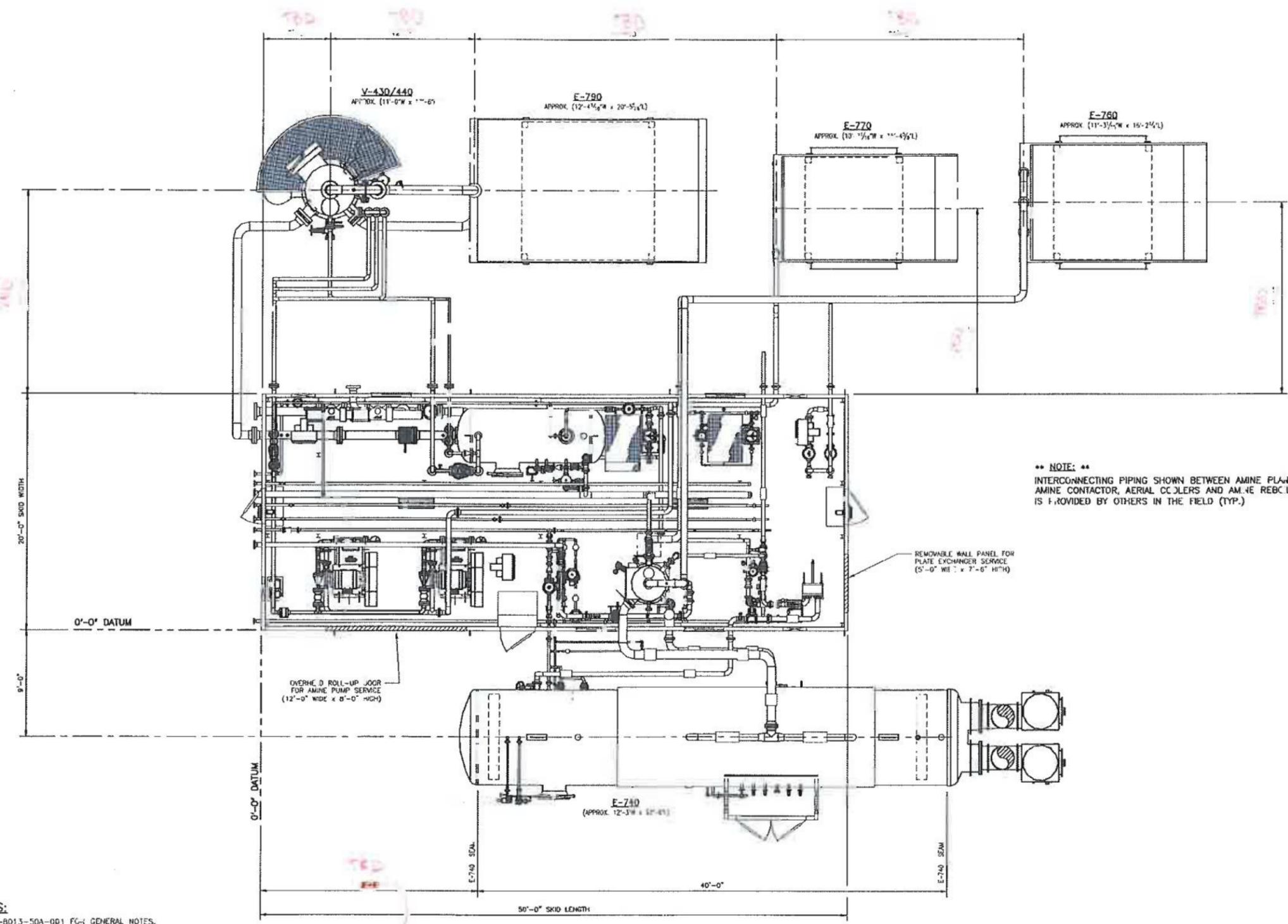
- CARBON AND LOW ALLOY STEELS NOT TO EXCEED 22HR, AND MATERIALS SHALL BE "HOT ROLLED", "ANNEALED", "NORMALIZED AND TEMPERED", OR "NORMALIZED, AUSTENITIZED, AND TEMPERED".
- MATERIALS MUST CONTAIN LESS THAN 1% NICKEL.
- FORGINGS PRODUCED WITH REQUIREMENTS OF ASTM A105 SHALL NOT EXCEED 187 HB MAXIMUM.
- FITTINGS IN ACCORDANCE WITH A-234-WPB SHALL NOT EXCEED 97 HB.
- BOLTING MATERIALS ASTM A193-B7M AND A194 SHALL BE USED WITH 22HR MAXIMUM FOR ALL BOLTING EXPOSED DIRECTLY TO SULFUR SERVICE.
- WELDING RODS, ELECTRODES, FLUXES, FILLER METAL AND CARBON STEEL CONSUMABLES WITH MORE THAN 1% NICKEL SHALL NOT BE USED.
- ON V-LONG STRESS (GROUND) IDENTIFICATION STAMPING SHALL BE USED. SHARP V STAMPING IS NOT PERMITTED UNLESS SUBSEQUENT STRESS RELIEVED. ONE SET OF HARDNESS TEST (WELD, HAZ, BASE MET.) SHALL BE CONDUCTED AFTER PWR FOR EACH WELDER PER WELD PROCEDURE. HARDNESS OF WELDMENT SHOULD BE 22HR MAXIMUM.

	CL800 (SOUR)	CL150 (SOUR)	CL150 LEAN AMINE (SWEET)	CL150 LEAN AMINE (SWEET)
DESIGN CONDITIONS:				
D.P. & TEMP.	1420 PSIG @ -20°F	150 PSIG @ -20°F	1420 PSIG @ -20°F	150 PSIG @ -20°F
B.W. C.A.	142°	125°	142°	125°
NPT/SW. C.A.	0"	0"	0"	0"
RADIOGRAPHY	100% TO ASME B31.3	100% TO ASME B31.3	10% TO ASME B31.3	10% TO ASME B31.3
P.W.H.T.	1150F ±25F FOR 1 HOUR			
HYDROTEST	1.5 TIMES D.P.	1.5 TIMES D.P.	1.5 TIMES D.P.	1.5 TIMES D.P.
PIPING:				
SW PIPING	3" - 8" SCH. 40, SA-106-B	2" - 8" SCH. STD, SA-106-B	2", 4", 6", 8" SCH. 40, SA-106-B	2" - 8" SCH. STD, SA-106-B
SP PIPING	≤ 1 1/2" SCH. 40 SA-106-B			
INSTRUMENT TUBING	1/2" O.D. (VENTS 3/8") 316 S.S. (0.035%)			
PROCESS TUBING	3/8" O.D. 316 S.S. (0.035%)			
FITTINGS:				
SW FITTINGS	3" - 8" SCH. 40, SA-234-WPB	2" - 8" SCH. STD, SA-234-WPB	2", 4", 6", 8" SCH. 40, SA-234-WPB	2" - 8" SCH. STD, SA-234-WPB
SP FITTINGS	≤ 1 1/2" CL3000 SA-105N			
NPT FITTINGS	≤ 1 1/2" CL3000 SA-105N			
FLANGES	RFWN BORE TO PIPE, SA-105N			
G-SHEETS	316SS & 1/2" THK. CG FLECKE SUPER FLECKE	316SS & 1/2" THK. CG FLECKE SUPER FLECKE	316SS & 1/2" THK. CG FLECKE SUPER FLECKE	316SS & 1/2" THK. CG FLECKE SUPER FLECKE
DOUBLING	SA-193-B7M/SA-194-2HM	SA-193-B7M/SA-194-2HM	SA-193-B7M/SA-194-2HM	SA-193-B7M/SA-194-2HM
PUMP/L.G. NEPLETS	SCH. 180 SA-106-B	SCH. 180 SA-106-B	SCH. 180 SA-106-B	SCH. 180 SA-106-B
INSR. TUBING FITTINGS	316 S.S. SW 1/2" (DOUBLE FERRULE)			
PROCESS TUBING FITTINGS	316 S.S. SWAGelok (DOUBLE FERRULE)			

*LOW PRESSURE NPT/SW PIPING IS AIR TESTED AT 100 PSIG.
 **PIPE SCHEDULE IS SELECTED BASED ON PRESSURE AND CORROSION LIMITS.
 ***ALL 1/4" GAP IN SOCKET WELDING.

ONE (.) UNIT REQUIRED

MASTER VENDOR
PRINT



**** NOTE: ****
 INTERCONNECTING PIPING SHOWN BETWEEN AMINE PLANT, AMINE CONTACTOR, AERIAL COOLERS AND AMINE REGENERATOR IS PROVIDED BY OTHERS IN THE FIELD (TYP.)

- GENERAL NOTES:**
 1. SEE DRAWING D-2009-8013-50A-001 FOR GENERAL NOTES.
- PIPING SPEC. SCHEDULE:**
 1. SEE DRAWING D-2009-8013-50A-001 FOR PIPING SPEC. SCHEDULE.
- TIE-IN SCHEDULE:**
 1. SEE DRAWING D-2009-8013-50A-003 FOR TIE-IN SCHEDULE.

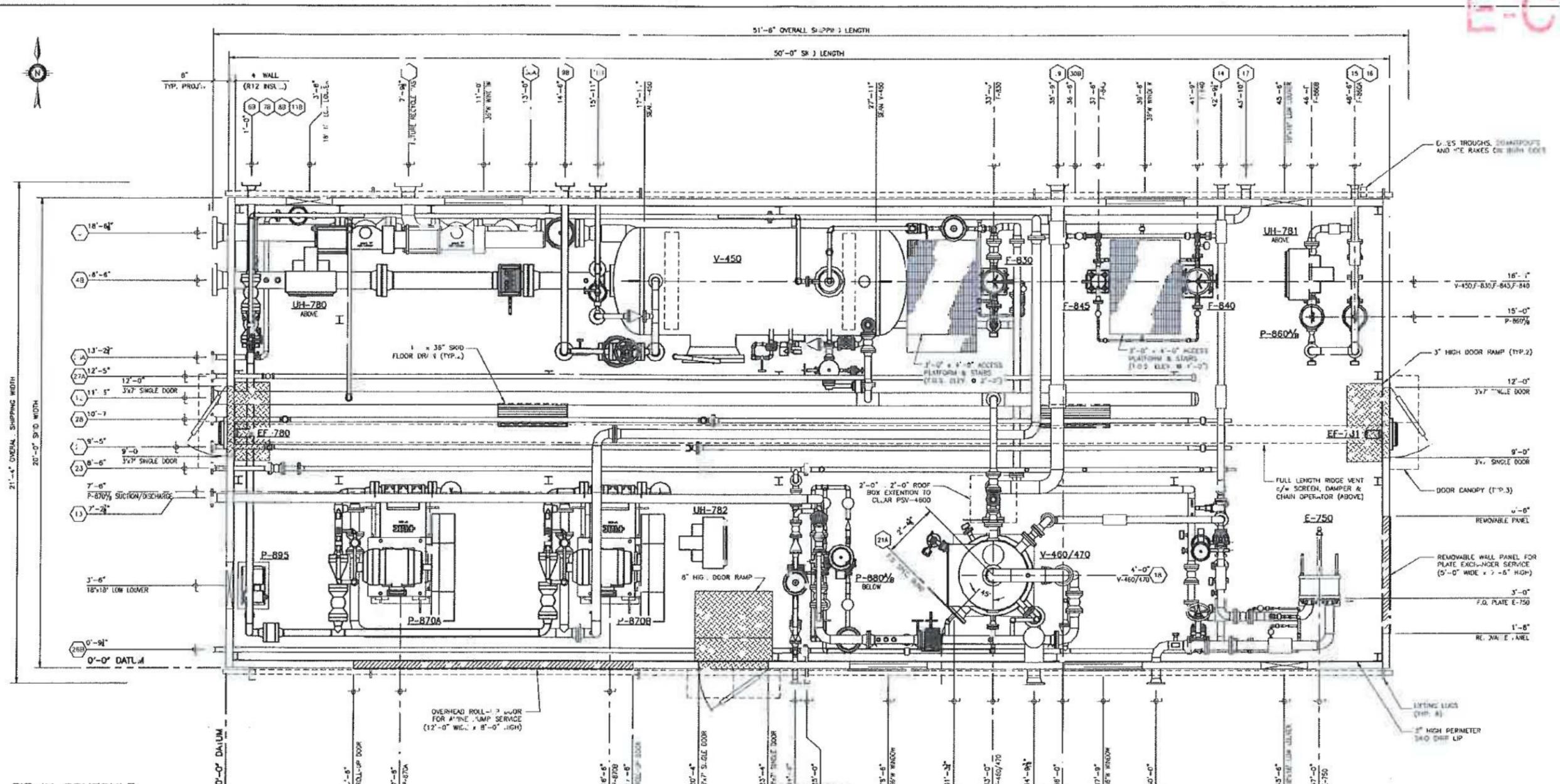
ONE (1) UNIT REQUIRED

REVISION WILL BE NOTED
DATE OF APPROVAL: 10/10/10

D-2009-8013-50A-001.dwg U. PR. Lumbani, D. TE. 09/07/2009 - 11:16 A

2/10/13

MASTER VENDOR PRINT



TIE-IN SCHEDULE

1	NPS 2-CL150 ANSI RFWN (V-430) SOUR GAS INLET, 1/2" ELEV. 15'-0"	114	NPS 2-CL150 ANSI RFWN (V-430) DRAIN OUTLET, 1/2" ELEV. 0'-6"
2	NPS 8-CL150 ANSI RFWN (V-430) 1/2" GAS INLET, 1/2" ELEV. 15'-7"	118	NPS 2-CL900 ANSI RFWN, MAIN FROM V-440, 1/2" ELEV. 2'-0"
3	NPS 8-CL150 ANSI RFWN (V-440) GAS INLET, 1/2" ELEV. 5'-3"	12	1/2" 6-CL150 ANSI RFWN, FLARE OUTLET, B.O.P. ELEV. 8'-0"
4	NPS 8-CL150 ANSI RFWN (V-440) GAS INLET, 1/2" ELEV. 7'-0"	13	1/2" 4-CL150 ANSI RFWN, ACID GAS INLET, B.O.P. ELEV. 8'-0"
4B	NPS 8-CL150 ANSI RFWN, SWEET GAS INLET FROM V-440, 1/2" ELEV. 1'-4"	14	NPS 2-CL150 ANSI RFWN, ANNE FROM LV-740 TO SURGE TANK, 1/2" ELEV. 1'-0"
5	NPS 8-CL150 ANSI RFWN, SWEET GAS OUTLET, 1/2" ELEV. 1'-4"	15	NPS 2-CL150 ANSI RFWN, ANNE FROM SURGE TANK TO P-860, 1/2" ELEV. 1'-6"
6A	NPS 3-CL150 ANSI RFWN (V-430) LEAN AMINE INLET, F.O.F. ELEV. 16'-7"	16	NPS 3-CL150 ANSI RFWN, ANNE FROM P-860 TO E-770, 1/2" ELEV. 8'-3/4"
7A	NPS 3-CL150 ANSI RFWN (V-430) LEAN AMINE INLET, F.O.F. ELEV. 17'-7"	17	NPS 4-CL150 ANSI RFWN, AMINE FRL. E-770 TO P-870, 1/2" ELEV. 2'-4"
8	NPS 3-CL150 ANSI RFWN, LEAN AMINE FROM P-870 TO V-450 (TRAY#1), 1/2" ELEV. 6'-6"	18	NPS 6-CL150 ANSI RFWN, V-460 OVERHEADS TO E-750 F.O.F. ELEV. 11'-6"
7B	NPS 3-CL150 ANSI RFWN, LEAN AMINE FROM P-870 TO V-430 (TRAY#1), 1/2" ELEV. 5'-6"	19	NPS 6-CL150 ANSI RFWN, ACID GAS/REFLUX TO V-450, 1/2" ELEV. 5'-2"
8B	NPS 3-CL150 ANSI RFWN, LEAN AMINE FROM P-870 TO V-430 (TRAY#5), 1/2" ELEV. 4'-6"	20A	NPS 6-CL150 ANSI RFWN, RICH AMINE FROM V-460 TO E-740, 1/2" ELEV. 2'-2"
9A	NPS 3-CL150 ANSI RFWN (V-430) RICH AMINE OUTLET, 1/2" ELEV. 10'-9"	21A	NPS 1-CL150 ANSI RFWN, STEAM INLET FROM E-740 TO V-460, 1/2" ELEV. 12'-7"
9B	NPS 3-CL150 ANSI RFWN, RICH AMINE FROM V-430 TO LV-420, 1/2" ELEV. 7'-6"	22A	NPS 4-CL150 ANSI RFWN, LEAN AMINE FROM E-740 TO E-750, 1/2" ELEV. 6'-0"
10A	NPS 2-CL150 ANSI RFWN (V-430) AMINE INLET, 1/2" ELEV. 7'-0"	23B	NPS 2-CL150 ANSI RFWN, SWEET PURGE GAS SUPPLY, B.O.P. ELEV. 8'-0"
10B	NPS 2-CL150 ANSI RFWN, AMINE FROM V-440 TO LV-440, 1/2" ELEV. 7'-0"	24A	NPS 2-CL150 ANSI RFWN, SWEET/SOUR FUEL GAS TO E-740, 1/2" ELEV. 2'-6"

GENERAL NOTES:
 1. SEE DRAW D-2009-8013-50A-001 FOR GENERAL NOTES.

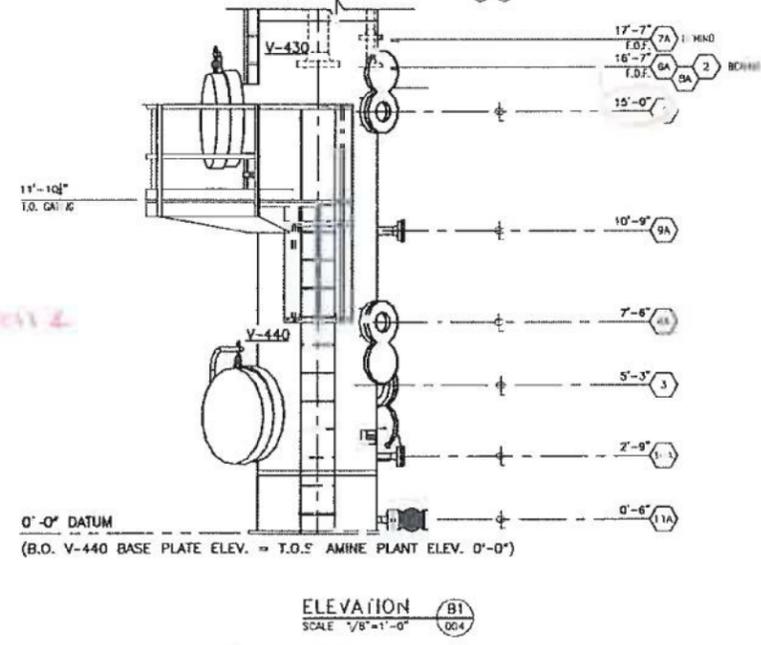
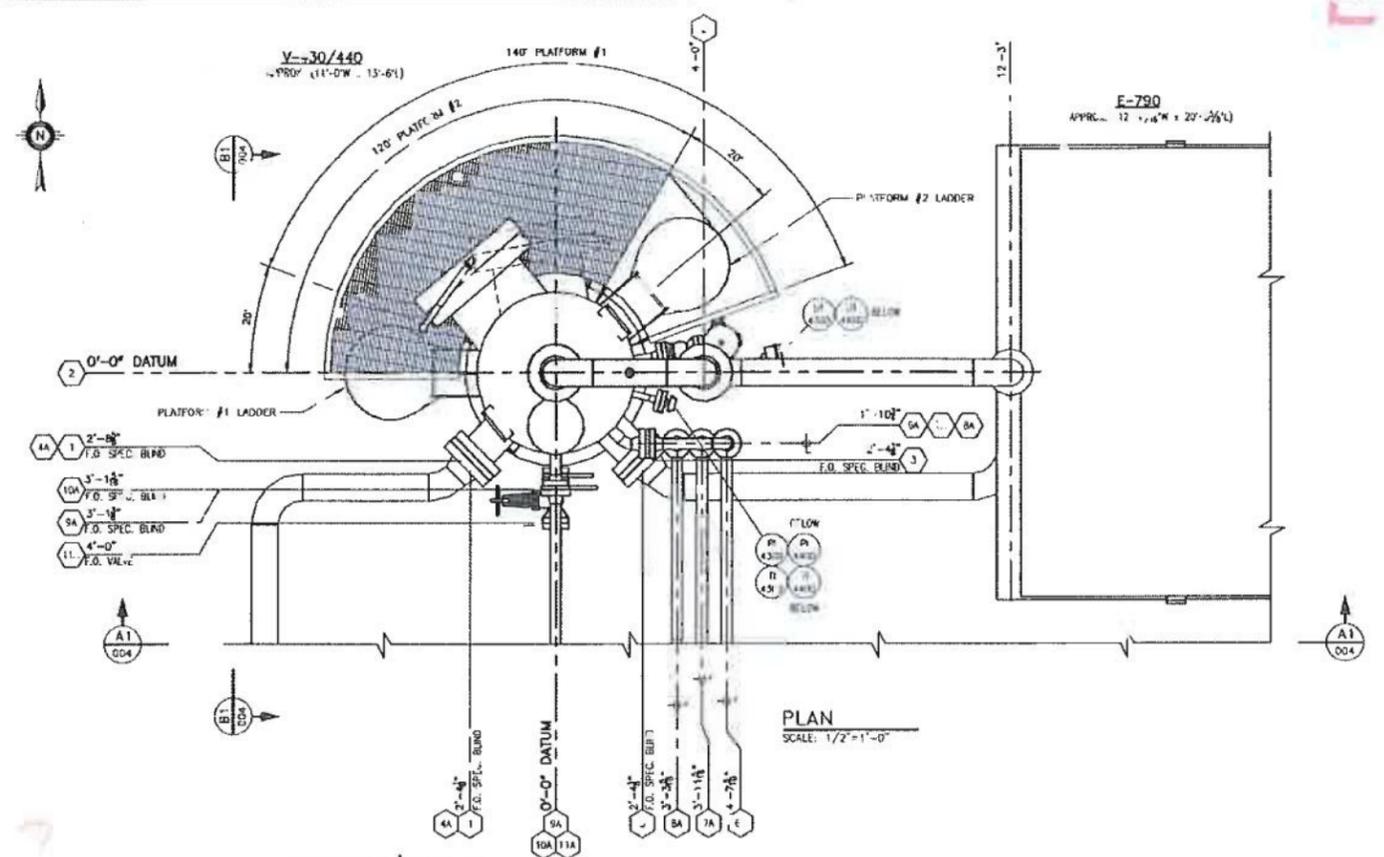
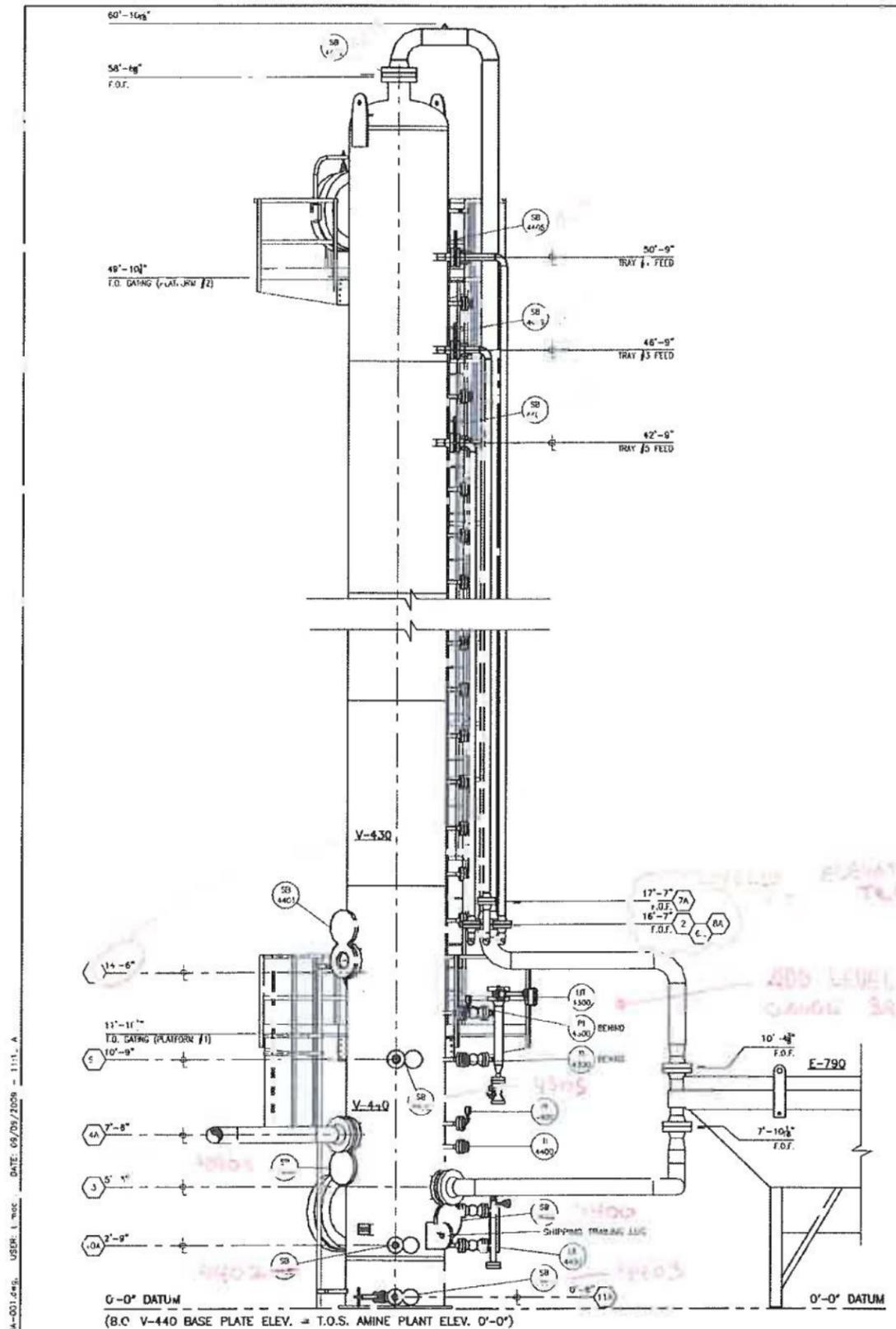
PIPING SPEC. SCHEDULE:
 1. SEE DRAW D-2009-8013-50-001 FOR PIPING SPEC. SCHEDULE.

NOTE:
 AMINE CONTACTOR, COOLERS & REBOILER (NOT SHOWN FOR CLARITY)

ONE (1) UNIT REQUIRED

D-2009-8013-50A-001-001-001 USER: lumbeck DATE: 08/01/2009 11:17

MASTER VENDOR PRINT



**** NOTE: ****
 INTERCONNECTING PIPING SHOWN BETWEEN AMINE PLANT, AMINE CONTACTOR, AERIAL COOLERS AND AMINE REBOILER IS PROVIDED BY OTHERS IN THE FIELD (TYP.)

GENERAL NOTES:
 1. SEE DRAW D-2009-8013-50A-01 FOR GENERAL NOTES.

PIPING SPEC. SCHEDULE:
 1. SEE DRAW D-2009-8013-50A-01 FOR PIPING SPEC. SCHEDULE.

TIE-IN SCHEDULE:
 1. SEE DRAW D-2009-8013-50A-01 FOR TIE-IN SCHEDULE.

ONE (1) UNIT REQUIRED

L-2009-8013-50A-001.dwg USER: j.m.w. DATE: 09/01/2009 - 11:11 A

ELEVATION A1
 SCALE: 3/8"=1'-0" 004

ELEVATION B1
 SCALE: 1/8"=1'-0" 004

38703