

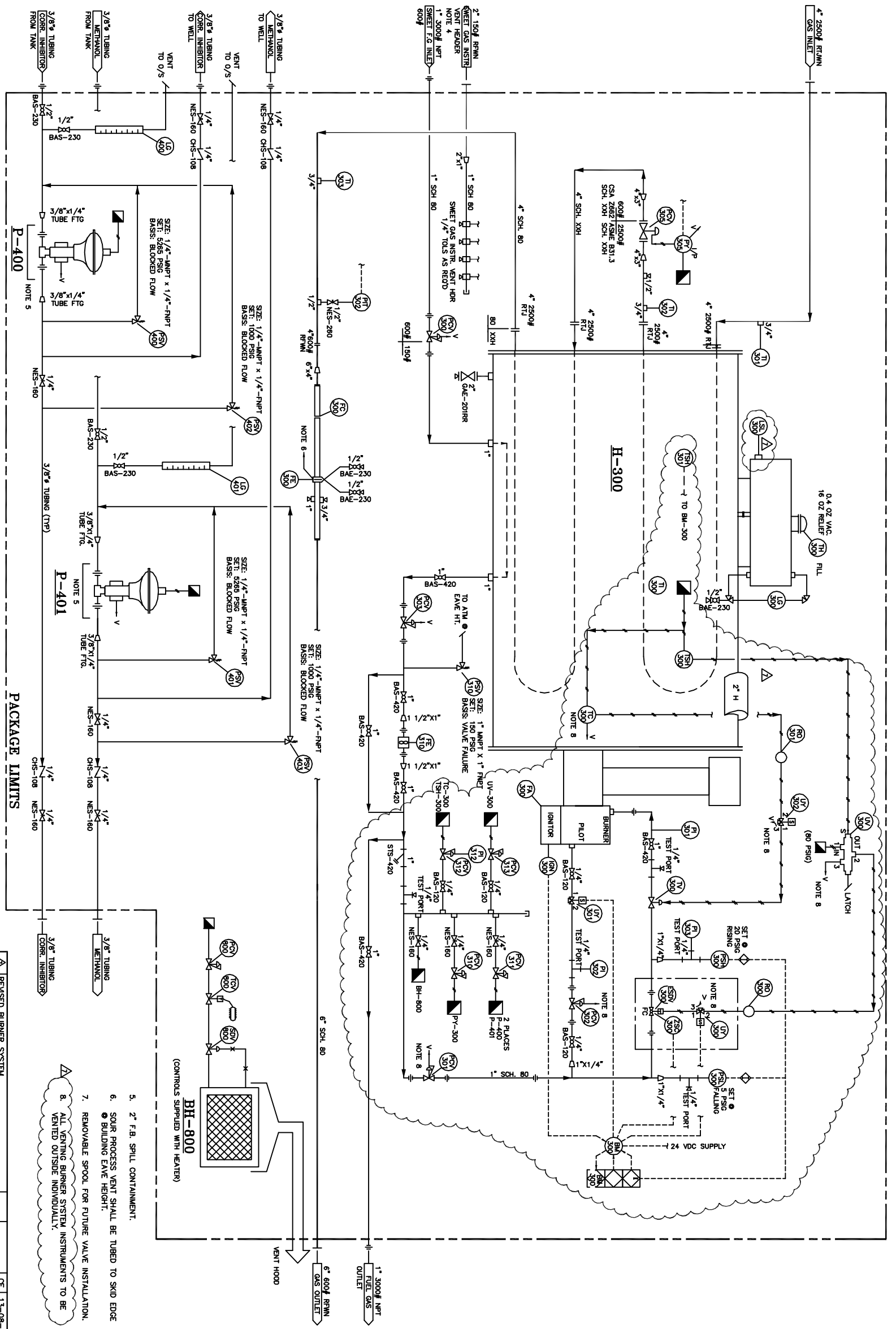
P-400
CHEMICAL PUMP
 MAKE: UNC
 MODEL: B41-11-X1
 FLUNGER SIZE: 1/4"
 RATE (GAL/S): 1824 GPD @ 6370 PSIG

P-401
METHANOL PUMP
 MAKE: UNC
 MODEL: B41-11-X1
 FLUNGER SIZE: 1/4"
 RATE (GAL/S): 1824 GPD @ 6370 PSIG

H-300
LINE HEATER
 TOTAL DUTY: 2,750,000 BTU/HR
 SIZE: 1829,000 BTU/HR
 PREHEAT COIL: 1829,000 BTU/HR
 C.A.: 1.9mm (0.076")
 RADIOPHANS: 100K
 PPHI: 80 MINUTES @ 1150°F
 REHEAT COIL: 8 PASSES, 114.3 (4") SCH. XXH
 C.A.: 1.3mm (0.051")
 PPHI: 34.6MIN (2007)
 STARTER: 12 VDC
 C.A.: 1.3mm (0.051")
 PPHI: 80 MINUTES @ 1150°F

BH-800
BUILDING HEATER
 MAKE: BRISTOL
 MODEL: BR-2403
 DUTY: 2403 BTU/HR
 ACCESSORIES: 2403 BTU/HR
 REGULATOR, SAFETY SHUT-OFF, STARTER CABLE CLASS 1, VENT HOOD, DIV. 1 (NATURAL GAS)
 STARTER: 12 VDC

T-300
EXPANSION POT
 36" OD X 5'-7" LONG



TAG#	QTY	DESCRIPTION
FE-300	1	6" 600# RW
FE-301	1	6" 600# RW
FE-302	1	6" 600# RW
FE-303	1	6" 600# RW
FE-304	1	6" 600# RW
FE-305	1	6" 600# RW
FE-306	1	6" 600# RW
FE-307	1	6" 600# RW
FE-308	1	6" 600# RW
FE-309	1	6" 600# RW
FE-310	1	6" 600# RW
FE-311	1	6" 600# RW
FE-312	1	6" 600# RW
FE-313	1	6" 600# RW
FE-314	1	6" 600# RW
FE-315	1	6" 600# RW
FE-316	1	6" 600# RW
FE-317	1	6" 600# RW
FE-318	1	6" 600# RW
FE-319	1	6" 600# RW
FE-320	1	6" 600# RW
FE-321	1	6" 600# RW
FE-322	1	6" 600# RW
FE-323	1	6" 600# RW
FE-324	1	6" 600# RW
FE-325	1	6" 600# RW
FE-326	1	6" 600# RW
FE-327	1	6" 600# RW
FE-328	1	6" 600# RW
FE-329	1	6" 600# RW
FE-330	1	6" 600# RW
FE-331	1	6" 600# RW
FE-332	1	6" 600# RW
FE-333	1	6" 600# RW
FE-334	1	6" 600# RW
FE-335	1	6" 600# RW
FE-336	1	6" 600# RW
FE-337	1	6" 600# RW
FE-338	1	6" 600# RW
FE-339	1	6" 600# RW
FE-340	1	6" 600# RW
FE-341	1	6" 600# RW
FE-342	1	6" 600# RW
FE-343	1	6" 600# RW
FE-344	1	6" 600# RW
FE-345	1	6" 600# RW
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FE-352	1	6" 600# RW
FE-353	1	6" 600# RW
FE-354	1	6" 600# RW
FE-355	1	6" 600# RW
FE-356	1	6" 600# RW
FE-357	1	6" 600# RW
FE-358	1	6" 600# RW
FE-359	1	6" 600# RW
FE-360	1	6" 600# RW

(6) REQ'D
TIME CARD
 12-032-037-PPS

NOTES:
 1. INSTRUMENT VENT TUBING: 3/8" (0.049" WT) 316SS C/W 316SS SWAGELOK FITTINGS
 2A. PROCESS TUBING: 1/2" (0.049" WT) 316SS C/W 316SS SWAGELOK FITTINGS
 2B. CHEMICAL/METHANOL SUCTION TUBING: 1/2" (0.049" WT) 316SS C/W 316SS SWAGELOK FITTINGS
 2C. CHEMICAL/METHANOL DISCHARGE TUBING: 3/8" (0.065" WT) 316SS C/W 316SS SWAGELOK FITTINGS (WELHEAD)
 3. HEATER SHELL SHALL BE INSULATED WITH 2" THICK OF AF-530 FIBREGASS INSULATION C/W ALUMINUM JACKET (ENDS PLATES ARE NOT INCLUDED).
 4. SWEET GAS INSTR. VENT HEADER SHALL BE ROUTED TO SKID EDGE @ BUILDING EAVE HEIGHT.

PACKAGE LIMITS
 1. REVISED BURNER SYSTEM
 2. REVISED AS PER CUSTOMER REQUEST
 3. REVISED AS PER CUSTOMER REQUEST
 4. REVISED AS PER CUSTOMER REQUEST
 5. REVISED AS PER CUSTOMER REQUEST
 6. REVISED AS PER CUSTOMER REQUEST
 7. REVISED AS PER CUSTOMER REQUEST

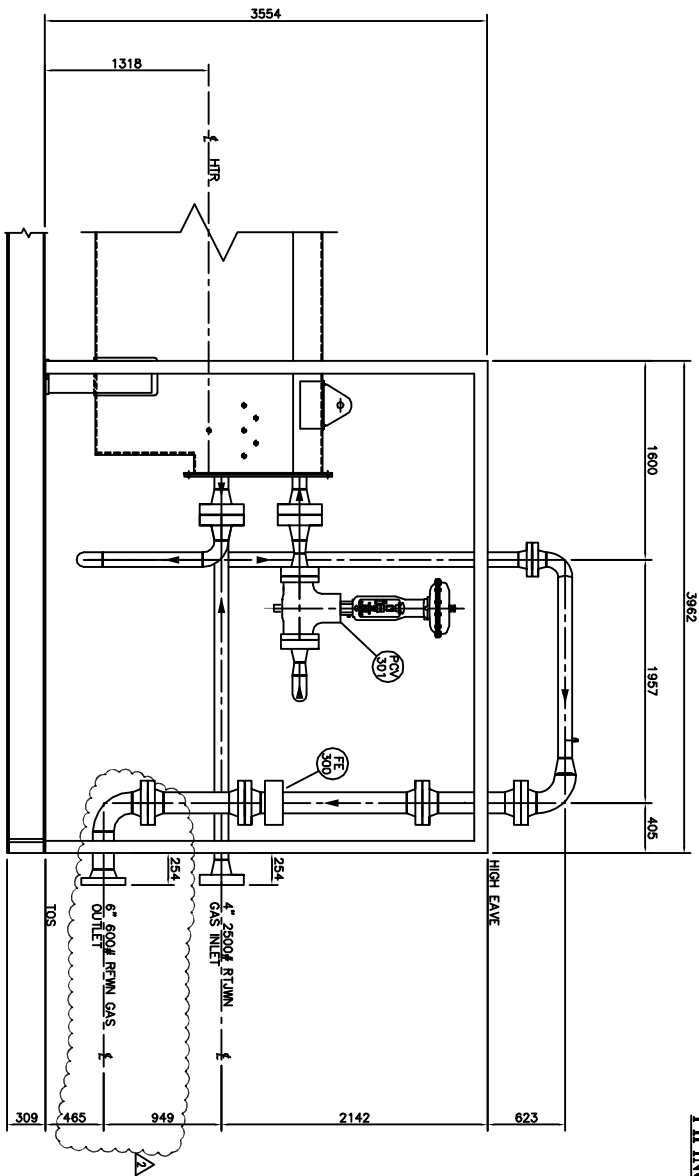
REVISIONS
 DATE: 13-08-13
 BY: CF
 DATE: 13-08-19
 BY: CF
 DATE: 13-04-24
 BY: CF
 DATE: 13-04-17
 BY: CF
 DATE: 13-04-15
 BY: CF
 DATE: 13-02-28
 BY: CF
 DATE: 13-02-25
 BY: CF

MECHANICAL FLOW DIAGRAM FOR SKID PACKAGE (SOUR SERVICE)
DAYLIGHT ENERGY LTD.
 12-032-D

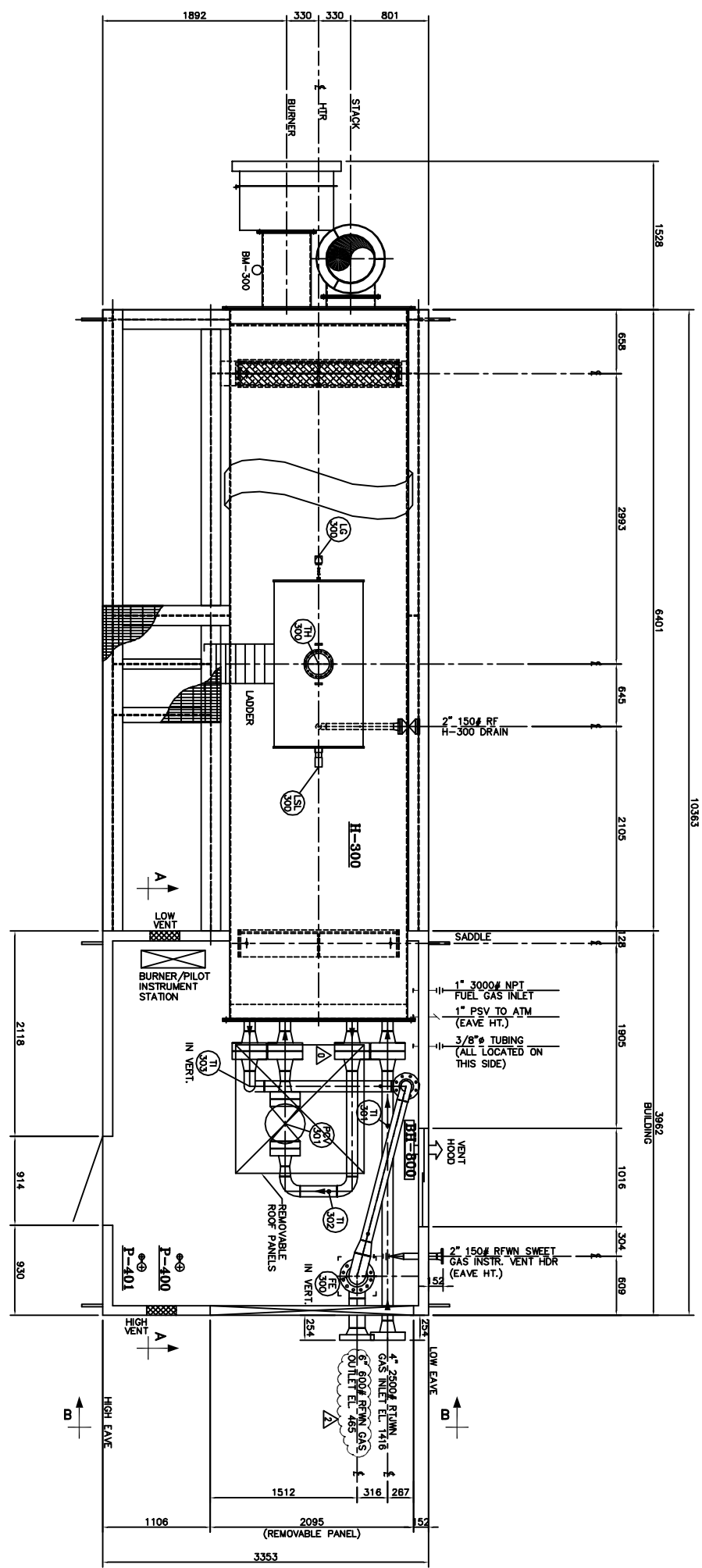
COOTENAY INDUSTRIES LTD.
 CALGARY, ALBERTA
 DATE: 11-09-07
 SCALE: N.T.S.
 DRAWN BY: CF
 CHECKED BY: KT
 DATE: 13-08-13
 BY: CF
 DATE: 13-08-19
 BY: CF
 DATE: 13-04-24
 BY: CF
 DATE: 13-04-17
 BY: CF
 DATE: 13-04-15
 BY: CF
 DATE: 13-02-28
 BY: CF
 DATE: 13-02-25
 BY: CF

BILL OF MATERIAL

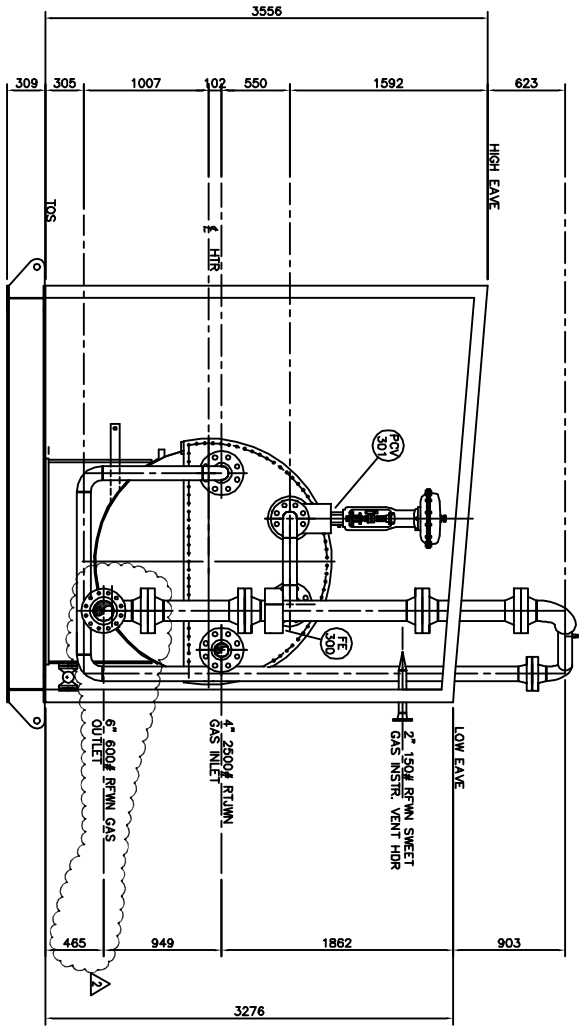
(6) REQ'D
 JOB No. 12-032-037-PPW



VIEW 'A-A'



PIPING PLAN



VIEW 'B-B'

REV.	DESCRIPTION	APP'D	DATE	BY	DATE
AS BUILT					
Δ	REVISED AS PER CUSTOMER REQUEST	KT	13-04-24	CE	13-06-13
Δ	REVISED AS NOTED & FC	KT	13-04-18	CE	13-04-24
Δ	ISSUED FOR APPROVAL	KT	13-04-08	KS	13-04-18

PROJECT CO-ORDINATOR	CHECKED	DATE
DAYLIGHT ENERGY LTD.	KT	13-04-08

KOOTENAY INDUSTRIES LTD.
 CALGARY, ALBERTA

DATE: 13-04-08
 SCALE: 1:30

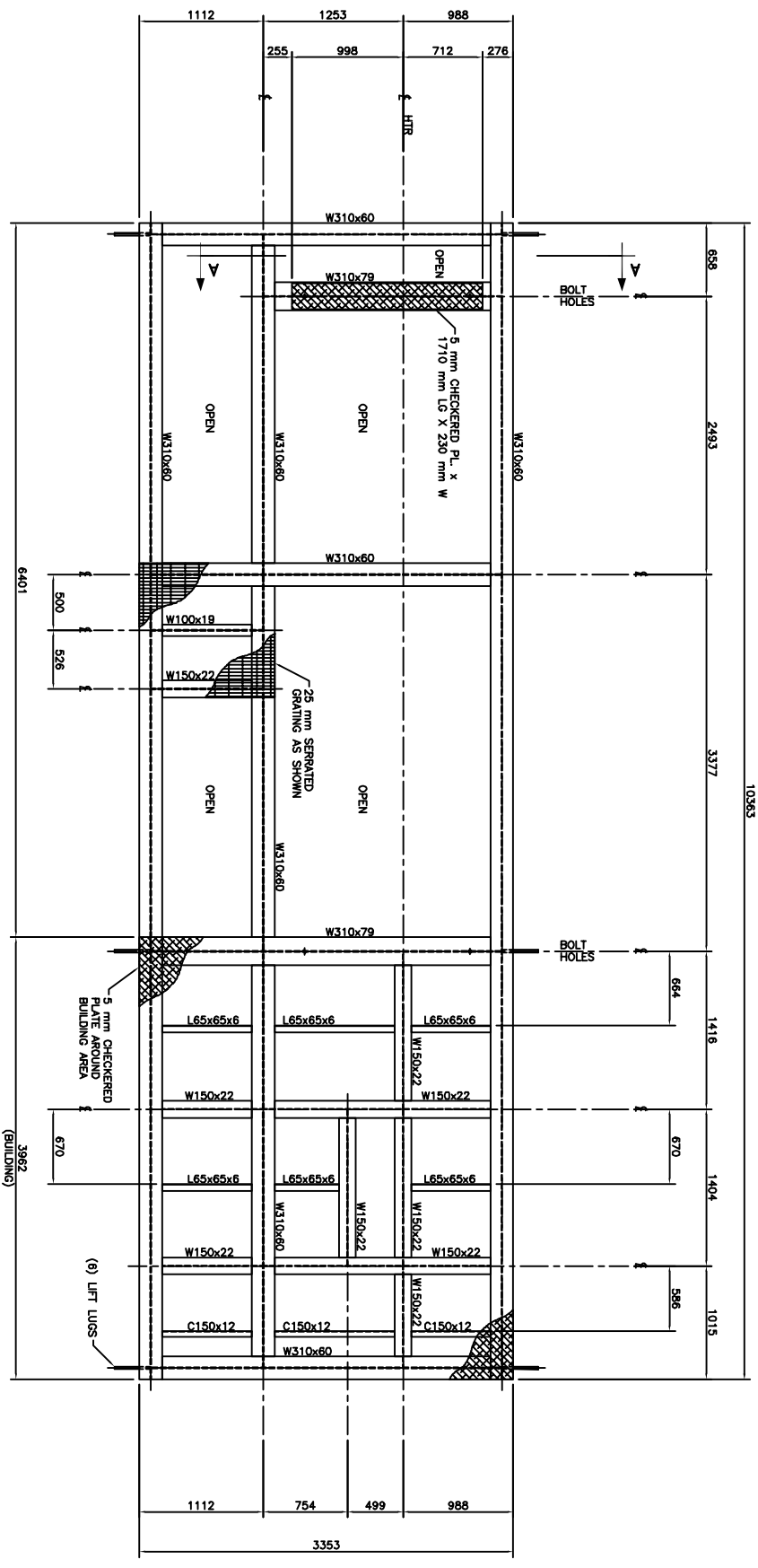
**PIPING PLAN AND SECTION VIEWS FOR
 2,750,000 BTU/HR INDIRECT FIRE LINE HEATER
 SKID PACKAGE (SOUR SERVICE)**

DAYLIGHT ENERGY LTD. 12-032-E

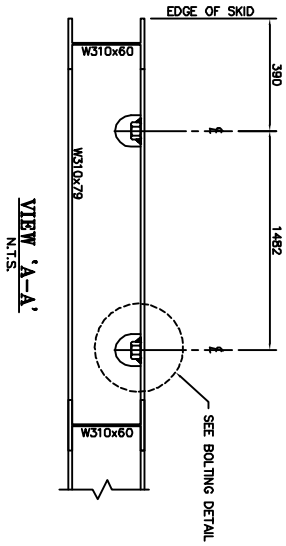
REV. Δ

GENERAL NOTES:

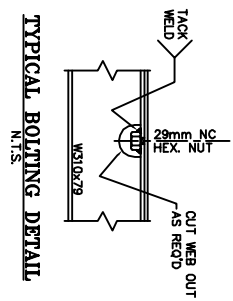
- THIS DRAWING TO BE READ IN CONJUNCTION WITH THE MECHANICAL FLOW DIAGRAM.
- ALL PIPING ELEVATIONS ARE REF. FROM TOP OF CHECKED PLATE.
- ALL PIPING TO BE HELD TO DIMENSIONS & ELEVATIONS SHOWN FOR CUSTOMER TIE-INS.
- MAIN PIPING TO BE BUILT IN ACCORDANCE WITH THE LATEST EDITION OF B31.3.
- ALL BUTTWELDED 0.125" C.A. PIPING TO BE EXCEPT AS NOTED:
 2600 ANSI-3" AND OVER - SCH XXH (3" PIPING = 0.124" C.A.)
 600 ANSI-2" AND OVER - SCH 80
 150 ANSI-1 1/2" AND OVER - SCH STD
 ALL 1 1/2" AND SMALLER PIPING SHALL BE THREADED (SEE NOTES 6 AND 7)
- MATERIALS:
 PIPING - SA-108B SMLS (SA-333-6 FOR 2500 ANSI)
 FITTINGS - SA-108B (SA-350-LF2 CL1 FOR 2500 ANSI)
 BOLTS - SA-234-WPB (SA-420-WPL6 FOR 2500 ANSI)
 NUTS - SA-193-B7M
 WASHERS - SA-194-ZHM
 GASKETS - 316 SS FLEXITELLE
 OVAL RINGS - 316 SS
- ALL THREAD PIPING FOR 2500 ANSI TO BE SCH XXH SA-108B SMLS PIPE
 C/W 8000# SA-108N SCREWED FITTINGS.
- ALL THREAD PIPING FOR 600 ANSI TO BE SCH 160 SA-108B SMLS PIPE
 C/W 3000# SA-108N SCREWED FITTINGS.
- ALL THREAD PIPING FOR 150 ANSI TO BE SCH 80 SA-108B SMLS PIPE
 C/W 3000# SA-108N SCREWED FITTINGS.
- FIRST PIPE/NIPPLE/SWAPE OFF VESSEL NPT CONNECTIONS TO BE SCH XXH FOR
 2500 ANSI; SCH 160 FOR 600 ANSI; SCH 80 FOR 150 ANSI.
- BUILDING:
 DIM: 11'-0" W X 13'-0" LG X 10'-8" TO 11'-8" FAVE, SHED STYLE WITH 1:12 SLOPE
 22 GAUGE GALVALUME EXTERIOR WALLS AND ROOF
 R-12 BATT INSULATION IN WALLS AND ROOF
 4" MIN VAPOR BARRIER THROUGHOUT
 24 GAUGE FLUTED STEEL WANDOR WITH LOCKING PLANK HARDWARE, INC WINDOW,
 CHECK CHAIN, LOCK SETS, WEATHERSTRIPPING AND ALUMINUM THRESHOLD,
 (1) 40" X 40" HORIZONTAL SLIDING WINDOW C/W 1/2 SCREEN
 (2) 12" X 12" STAMPED LOUVER WITH SLIDE GATE AND SCREEN
 (1) 6'-11" W X 7'-0" HIGH REMOVABLE PANEL
 (1) 3'-4" X 3'-4" ROOF HATCH
- UNIT TO BE MECHANICALLY CLEANED TO SPRC-S73 PRIOR TO:
 ONE(1) COAT OF ZINC CHROMATE PRIMER
 TWO(2) COATS OF FINISH ENAMEL PAINT
 PIPING: WARM GREY
 SKID FLOOR: WARM GREY
 STRUCTURAL SUPPORT: WARM GREY
 LINE HEATER: PRIMER ONLY
- ALL BUTTWELDED PIPING SHALL BE 100% (NORMAL) RADIOGRAPHICALLY AND PWHT
- ALL PIPING SHALL BE HYDROTESTED TO 1.5 TIMES THE DESIGN PRESSURE.
- ALL PIPE SUPPORT LOCATIONS TO BE DETERMINED BY SHOP.
- ALL UNION LOCATIONS TO BE DETERMINED BY SHOP.
- UNIT IS REGISTERED FOR ALBERTA AND B.C. SERVICE.
- SHIPPING DIMENSION: 12'-6" W X 40'-0" LG X 15'-0" H.
- SHIPPING WEIGHT: 45,500 LBS



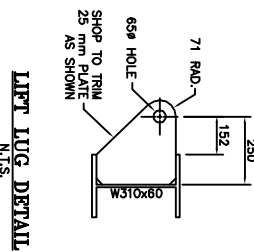
SKID PLAN VIEW



VIEW 'A-A'
N.T.S.

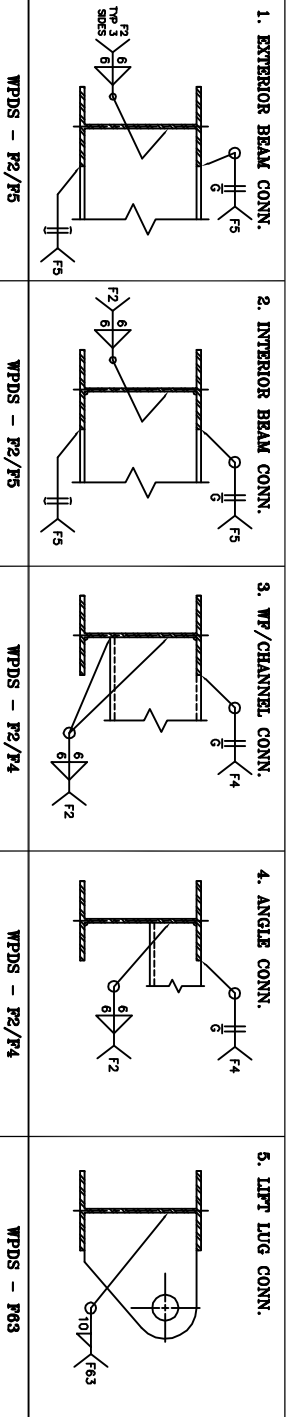


TYPICAL BOLTING DETAIL
N.T.S.



LIFT LUG DETAIL
N.T.S.

WELD DETAILS



GENERAL STRUCTURAL STEEL NOTES:

1. ALL DIMENSION ARE IN MILLIMETERS UNLESS NOTED. ALL ELEVATIONS ARE REFERRED FROM TOP OF STRUCTURAL MEMBERS.
2. ALL WORK SHALL GENERALLY CONFORM TO THE LATEST EDITIONS OF THE FOLLOWING CODES AND CSA STANDARDS:
CISC HANDBOOK OF STEEL CONSTRUCTION
CSA W472-03
3. ALL STEEL SHALL BE OF NEW STOCK AND SHALL BE IN ACCORDANCE WITH CSA G40.21-04 STRUCTURAL STEEL SHALL GRADE 300W. PLATE MATERIAL SHALL BE 434L EXCEPT CHECKERED PLATE TO BE A-36.
4. WELDING SHALL BE IN GENERAL CONFORMANCE WITH CSA W59-2003. FILLER METAL SHALL CONFORM TO CSA STD. W48.5-M - E4802C-6-CH. WELDS TO BE 6mm CONTINUOUS FILLET WELD UNLESS NOTED. USE KENTSTEEL WELDING PROCEDURE AS SHOWN IN WELDING DETAILS.
5. CLEAN ALL STEEL SURFACES PRIOR TO PAINTING TO SSPC-SP3 MECHANICALLY CLEANED.
6. STRUCTURAL STEEL SKID IS DESIGNED TO 8-POINT LIFT.
7. WEIGHT OF STRUCTURAL STEEL SKID = 8,500 LBS

(6) REQ'D
JOB No. 12-032-037-SK

REV.	DESCRIPTION	APP'D	DATE	BY	DATE
1	ISSUED FOR CONSTRUCTION			KS	11-08-24

KOOTENAY INDUSTRIES LTD.
CALGARY, ALBERTA

STRUCTURAL STEEL SKID FOR
2,750,000 BTU/HR INDIRECT FIRE LINE HEATER
SKID PACKAGE (SOUR SERVICE)

DAYLIGHT ENERGY LTD. 12-032-F

DATE: 11-08-24
SCALE: 1:30