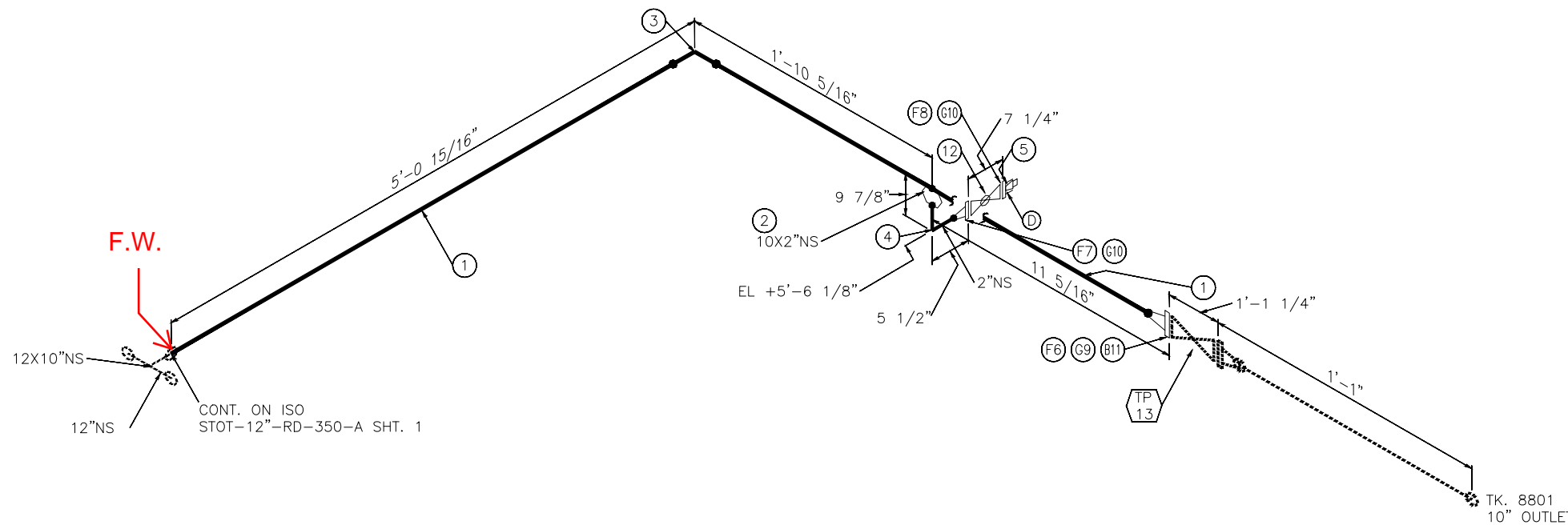




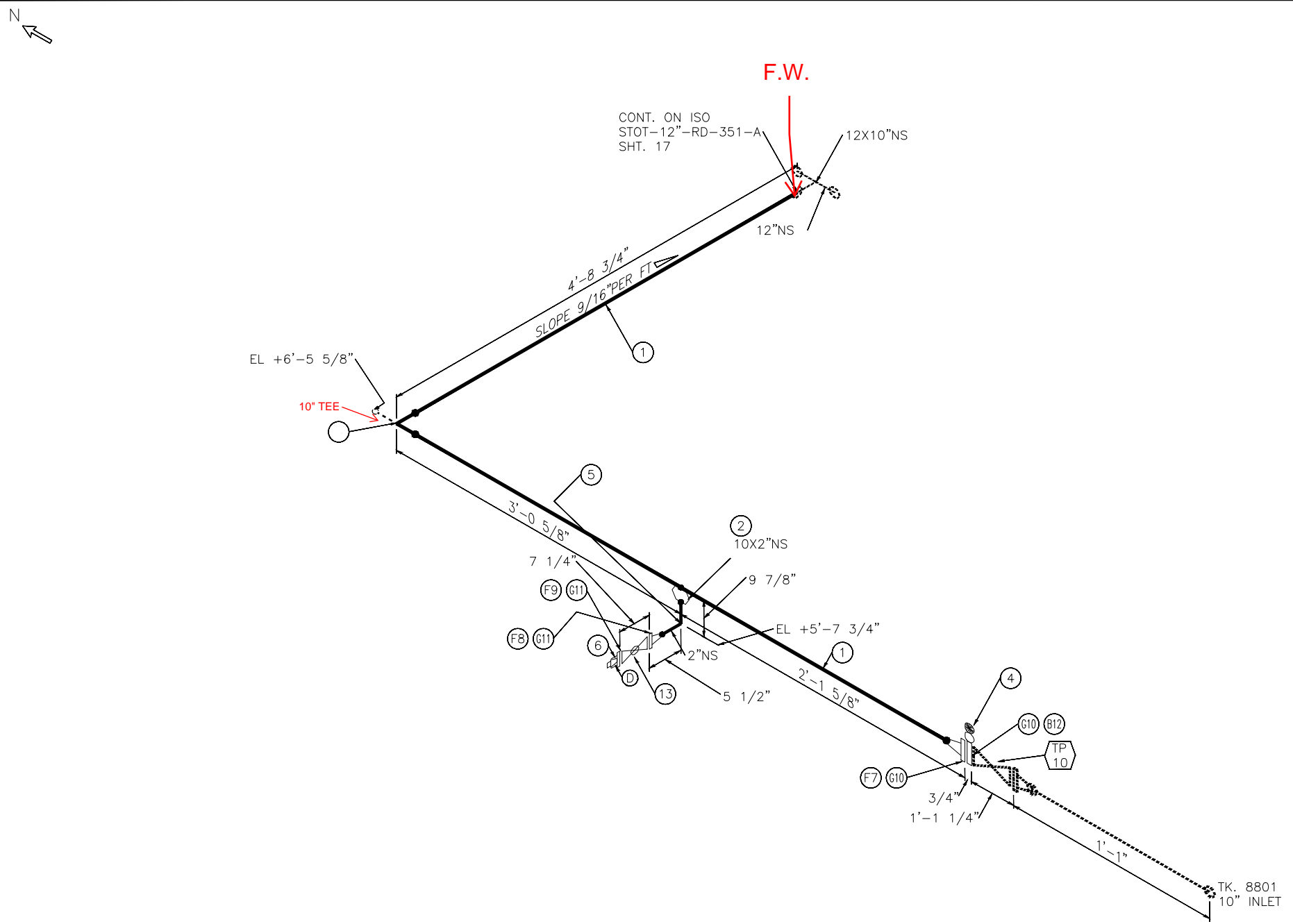
BILL OF MATERIAL			DESCRIPTION	WEIGHT
MARK	QTY	SIZE		
1	5'1"	10"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	204.1
2	1	10X2"	WELDDLET, BW, SCH XS, ASTM A105	1.6
3	1	10"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	79.4
4	1	2"	ELBOW, 90 DEG LR, BW, SMLS, SCH XS, ASTM A234 WPB	2.0
5	1	2"	HEX PLUG, THRD, 3000LB, ASTM A105	3.0
6	1	10"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	52.0
7	1	2"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	6.0
8	1	2"	FLANGE, RF THRD, 150LB, ASTM A105	5.0
9	1	10"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
10	2	2"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
11	12	7/8X5"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 10"-150# FLGS.	1.4
12	1	2"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	35.4
TOTAL FABRICATION WEIGHT				389.8
TOTAL WEIGHT UNLISTED ITEMS				541.4
TOTAL WEIGHT - THIS DRG				931.2



- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#	100%	N/A	NS-ES-68-002	WHITE	N/A	N/A
				APP. JR	G#	F#	B#		SERVICE REN. DSL	LINE No. STOT-10''-RD-354-A SHT. 1	OF 1	REV 0		

STOT-10''-RD-354-A-SHT.1.DWG



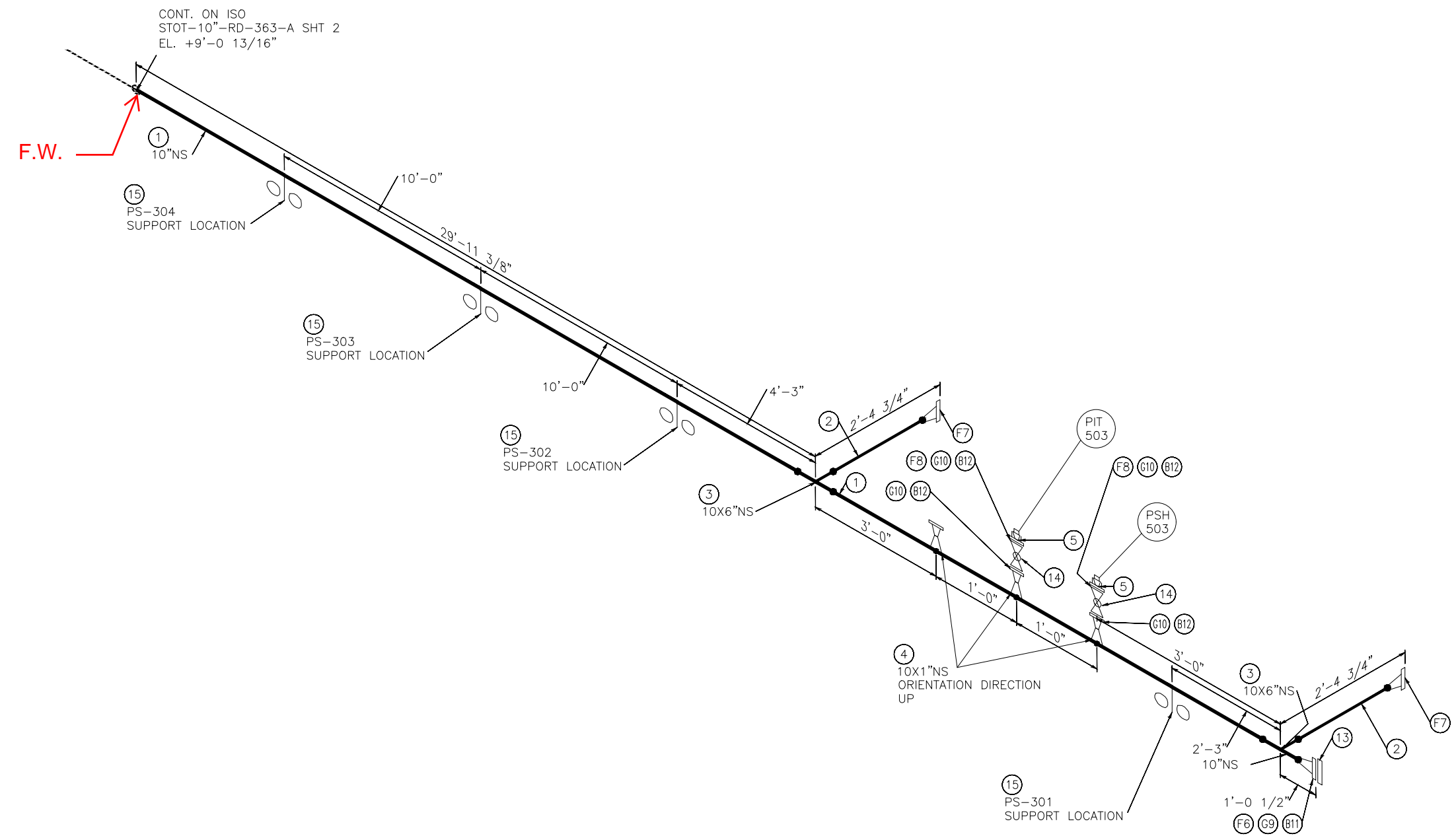
BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	7'1"	10"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	286.5
2	1	10X2"	WELDOLET, BW, SCH XS, ASTM A105	1.6
3	1	10"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	79.4
4	1	10"	SPECTACLE BLIND, 150LB, ASTM A105	-
5	1	2"	ELBOW, 90 DEG LR, BW, SMLS, SCH XS, ASTM A234 WPB	2.0
6	1	2"	HEX PLUG, THRD, 3000LB, ASTM A105	3.0
7	1	10"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	52.0
8	1	2"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	6.0
9	1	2"	FLANGE, RF THRD, 150LB, ASTM A105	5.0
10	2	10"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
11	2	2"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
12	12	7/8X6 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 10"-150# FLGS. (SPEC BLD.)	1.7
13	1	2"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	35.4
TOTAL FABRICATION WEIGHT				472.5
TOTAL WEIGHT UNLISTED ITEMS				541.4
TOTAL WEIGHT - THIS DRG				1013.9

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	—	○	○	100%	NS-ES-68-002	WHITE	N/A	N/A	N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL					
				APP. JR	○	○	○		LINE No. STOT-10"-RD-355-ASHT. 1 OF 1					REV 0

STOT-10"-RD-355-A-SHT.1.DWG

N ↑
(ROTATED FOR CLARITY)



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	35	10"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	1448.7
2	3	0" 6"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	55.7
3	2	10X6"	RED TEE, BW, SMLS, SCH STD x SCH STD, ASTM A234 WPB	117.1
4	3	10X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	1.8
5	2	1"	HEX PLUG, THRD, 3000LB, ASTM A105	1.5
6	1	10"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	52.0
7	2	6"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	48.0
8	2	1"	FLANGE, RF THRD, 150LB, ASTM A105	4.0
9	1	10"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, [ASME B16.5 FLG]	-
10	4	1"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, [ASME B16.5 FLG]	-
11	12	7/8X5"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 10"-150# FLGS.	1.4
12	16	1/2X2 3/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 1"-150# FLGS.	1.2
13	1	10"	BLIND FLANGE, RF, 150LB, ASTM A105	70.0
14	2	1"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	21.0
TOTAL FABRICATION WEIGHT				1822.0
TOTAL ERECTION WEIGHT				60.0
TOTAL WEIGHT - THIS DRG				1882.0
15	4	10"	INSPECT-A-LIFT 4 INCH KIT	60.0
TOTAL ERECTION WEIGHT				60.0
TOTAL WEIGHT - THIS DRG				1882.0

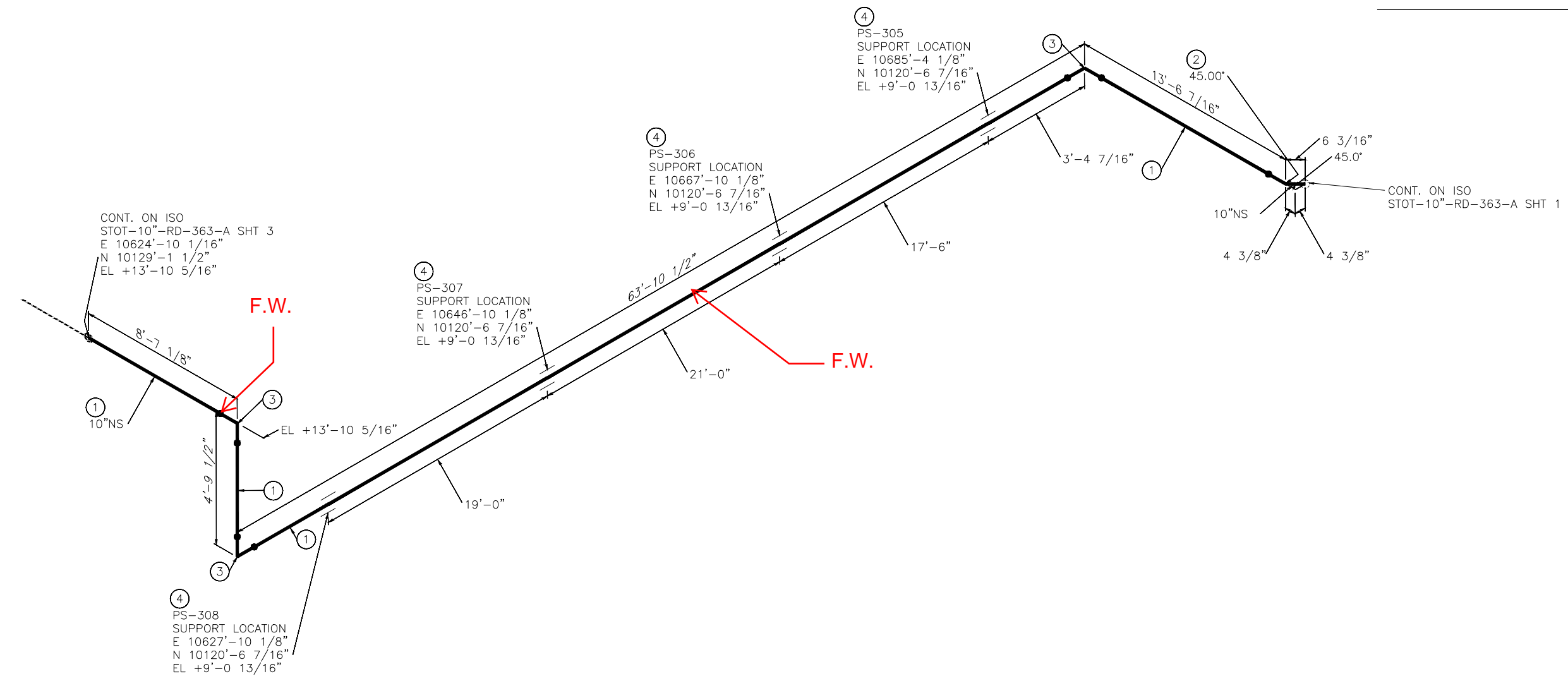
- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	—	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-10"-RD-363-ASHT. 1 OF 9				REV 0
				APP. JR	ⓐ	ⓑ	ⓒ							

STOT-10"-RD-363-A-SHT.1.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	82	10"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	3347.5
2	1	10"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	39.7
3	3	10"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	238.2
TOTAL FABRICATION WEIGHT				3625.4
4	4	10"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	4.0
TOTAL ERECTION WEIGHT				4.0
TOTAL WEIGHT - THIS DRG				3629.4



- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

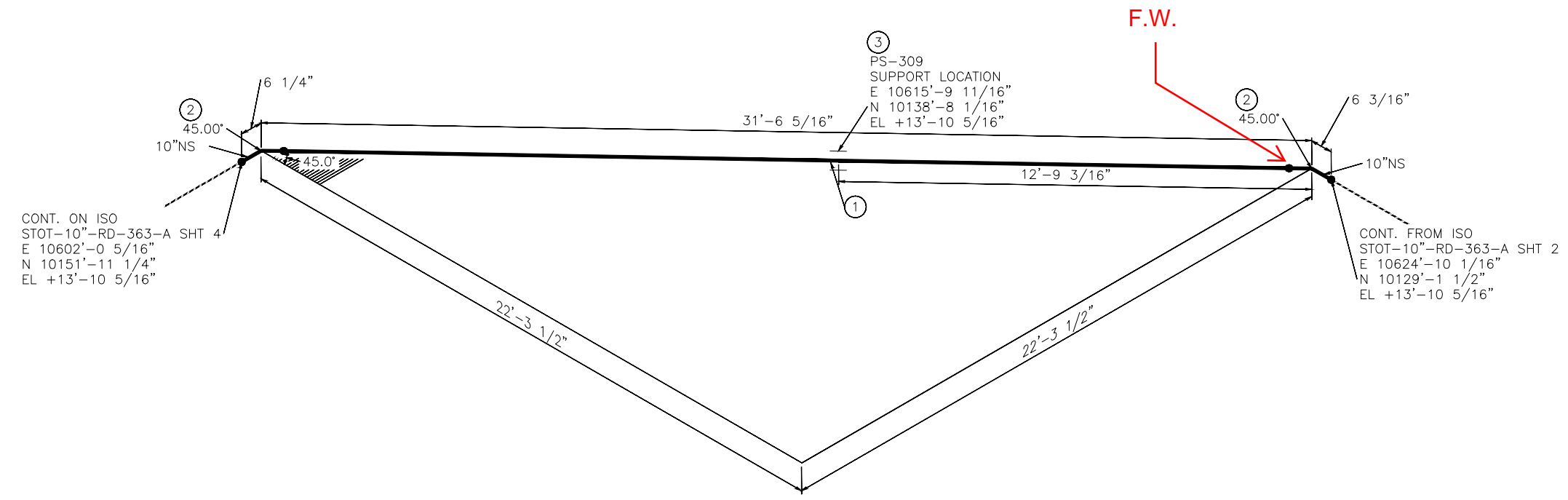
NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5	
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-10''-RD-363-A SHT. 2	OF 9	REV 0			

STOT-10''-RD-363-A-SHT.2.DWG



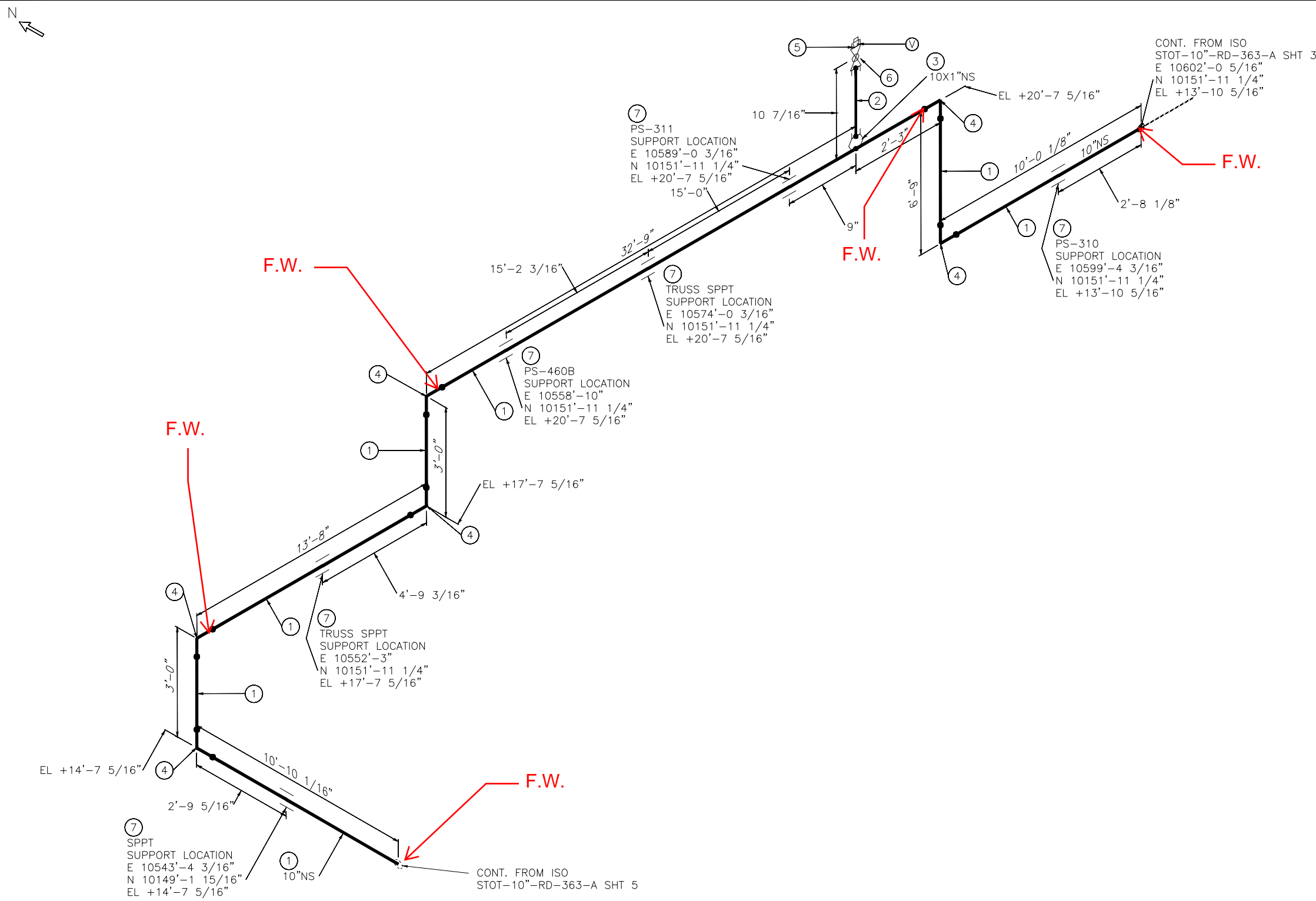
BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	30'6"	10"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	1233.3
2	2	10"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	79.4
TOTAL FABRICATION WEIGHT				1312.6
3	1	10"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	1.0
TOTAL ERECTION WEIGHT				1.0
TOTAL WEIGHT - THIS DRG				1313.6



- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD FIELD WELD SOCKET WELD SCREWED JOINT INSPECT -A-LIFT OIO	PIPE SPEC. A X-RAY 100% PWHT N/A SERVICE REN. DSL	DESIGN PRESS. 285 PSIG PAINT SPEC NS-ES-68-002 GASKET TAG# G#	DESIGN TEMP. 125 °F PAINT COLOR WHITE FLANGE TAG# F#	OPER. PRESS. 120 PSIG INSUL SPEC N/A BOLT TAG# B#	OPER. TEMP. 100 °F INSUL THK N/A LINE No. STOT-10"-RD-363-ASHT.3 OF 9	HYDROTEST PSIG 427.5 TRACING N/A REV 0
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	PIPE SUPPORT VENT DRAIN						
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19							
				CHKD. NSD							
				APP. JR							

STOT-10"-RD-363-A-SHT.3.DWG



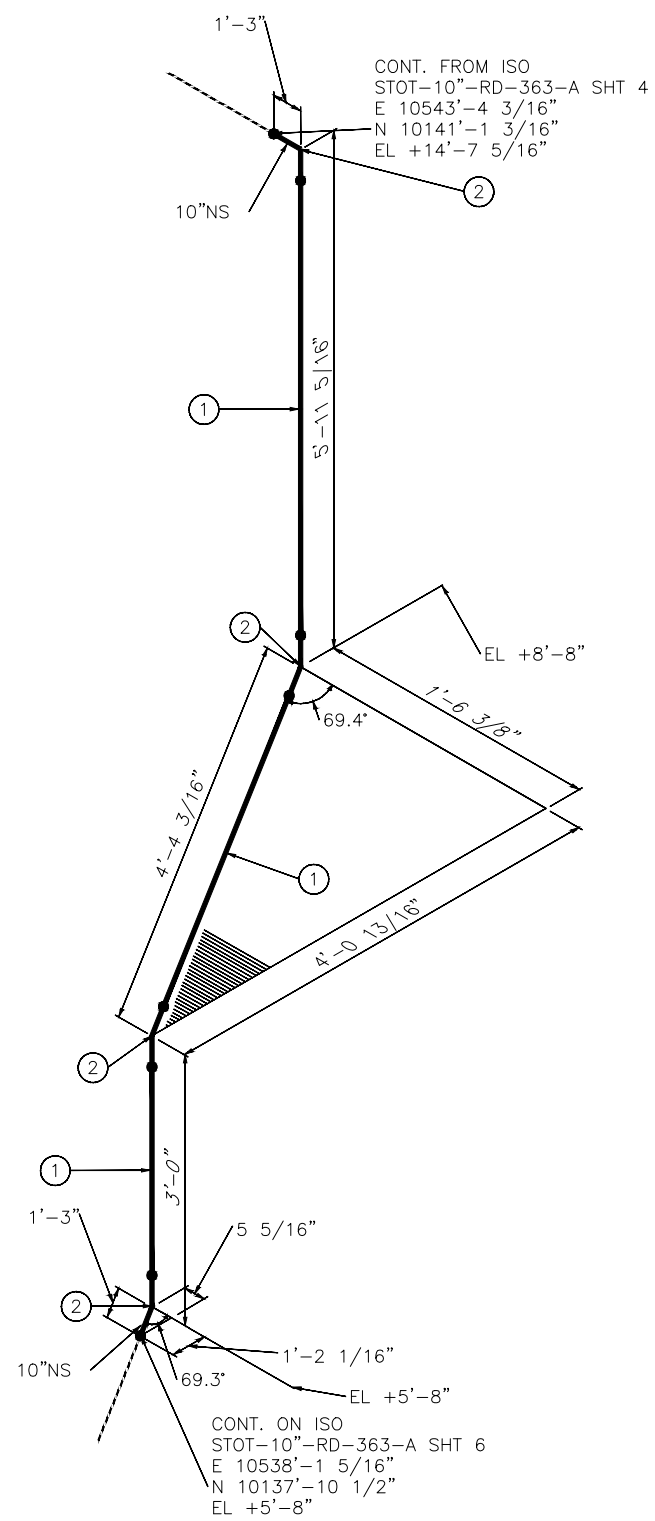
BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	67'4"	10"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	2720.5
2	0'3"	1"	PIPE, SCH XS, SMLS, ASTM A106 GR B PBE	0.6
3	1	10X1"	SOCKET, SW, 3000LB, ASTM A105	0.6
4	6	10"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	476.4
5	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
6	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTFPCSPGSL-100	2.3
TOTAL FABRICATION WEIGHT				3201.0
7	6	10"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	6.0
TOTAL ERECTION WEIGHT				6.0
TOTAL WEIGHT - THIS DRG				3207.0

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5	
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-10"-RD-363-ASHT. 4 OF 9	REV 0				

STOT-10"-RD-363-A-SH4.DWG



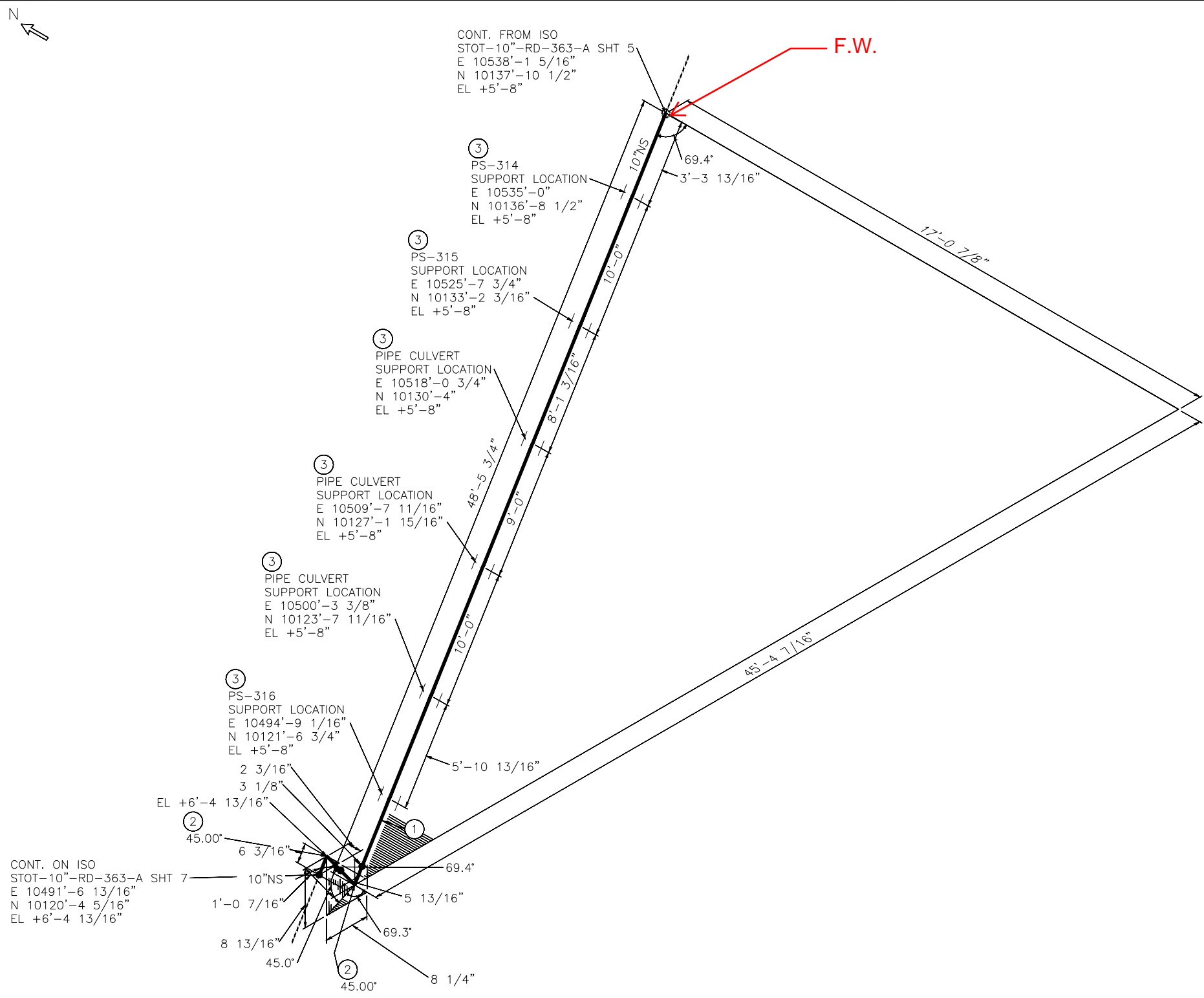
BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	5'10"	10"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	234.3
2	4	10"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	317.6
TOTAL FABRICATION WEIGHT				551.8

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5	
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-10"-RD-363-ASHT.5 OF 9	REV 0				

STOT-10"-RD-363-A-SHT.5.DWG



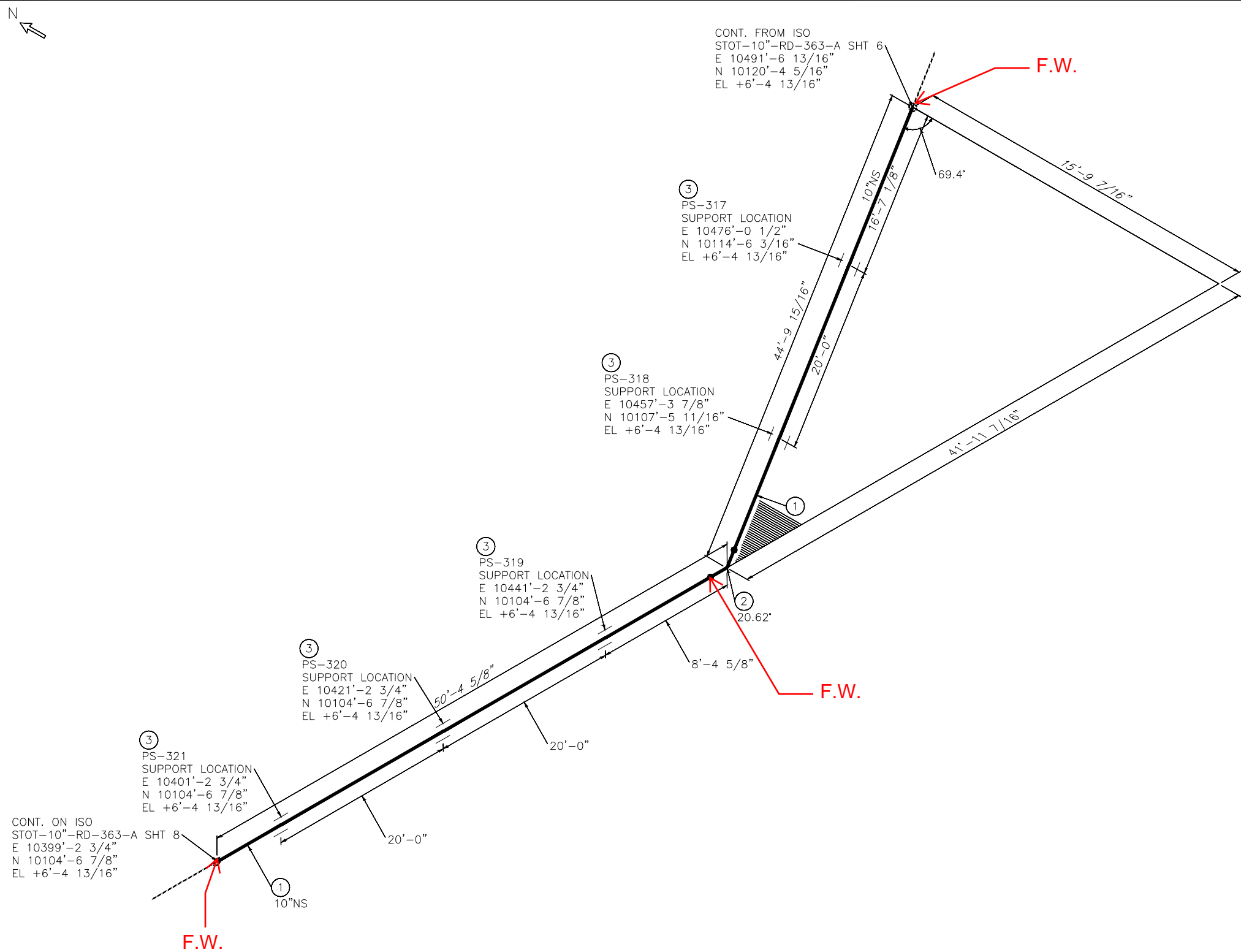
BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	48'-0"	10"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	1939.5
2	2	10"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	79.4
TOTAL FABRICATION WEIGHT				2018.8
3	6	10"	PIPE PAD, 6' x 6' x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	6.0
TOTAL ERECTION WEIGHT				6.0
TOTAL WEIGHT - THIS DRG				2024.8

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD FIELD WELD SOCKET WELD SCREWED JOINT INSPECT -A-LIFT GASKET TAG# OIO (G#)	PIPE SUPPORT VENT DRAIN (F#)	PIPE SPEC. A X-RAY 100% PWHT N/A SERVICE REN. DSL	DESIGN PRESS. 285 PSIG PAINT SPEC NS-ES-68-002 DESIGN TEMP. 125 °F PAINT COLOR WHITE LINE No. STOT-10"-RD-363-A SHT. 6 OF 9	OPER. PRESS. 120 PSIG INSUL SPEC N/A OPER. TEMP. 100 °F INSUL THK N/A HYDROTEST PSIG 427.5 TRACING N/A REV 0
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STOT-10"-RD-363-A-SHT.6.DWG

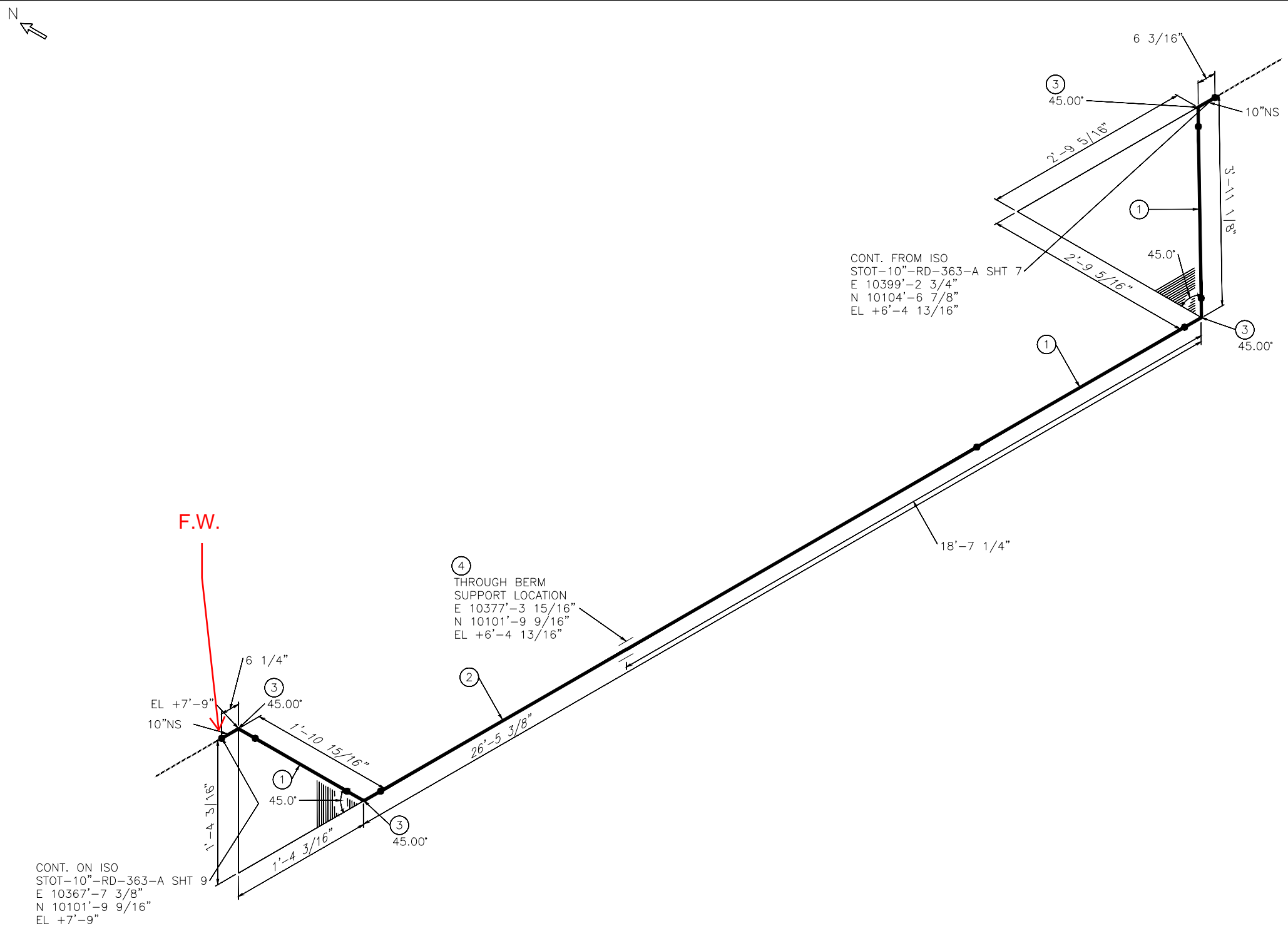


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	94	10"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	3832.2
2	1	10"	TRIMMED ELBOW, 45 DEG LR. BW, SMLS, SCH STD, ASTM A234 WPB (20.62)	18.2
TOTAL FABRICATION WEIGHT				3850.3
3	5	10"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	5.0
TOTAL ERECTION WEIGHT				5.0
TOTAL WEIGHT - THIS DRG				3855.3

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	-A-LIFT	-	(V)	(D)	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-10"-RD-363-A-SHT. 7 OF 9				REV 0
				APP. JR	(G#)	(F#)	(B#)							

STOT-10"-RD-363-A-SHT.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	9'3"	10"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	371.2
2	20'0"	10"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B, FBE COATED	808.8
3	4	10"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	158.8
4	1	10"	THROUGH BERM	1.0
TOTAL FABRICATION WEIGHT				1339.7

CONT. ON ISO
STOT-10''-RD-363-A SHT 9
E 10367'-7 3/8"
N 10101'-9 9/16"
EL +7'-9"

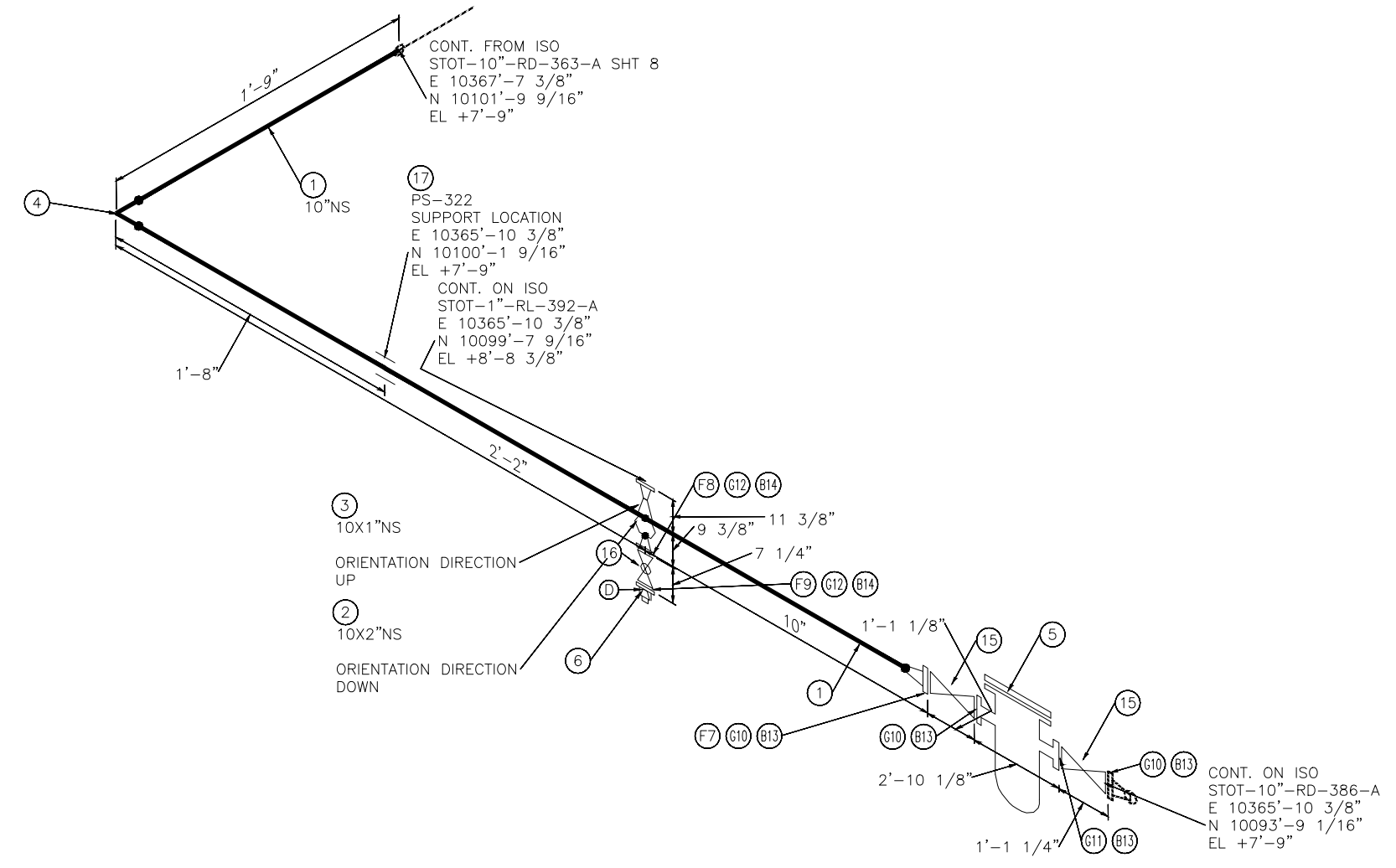
CONT. FROM ISO
STOT-10''-RD-363-A SHT 7
E 10399'-2 3/4"
N 10104'-6 7/8"
EL +6'-4 13/16"

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5	
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-10''-RD-363-A SHT. 8 OF 9	REV 0				

STOT-10''-RD-363-A-SHT.8.DWG

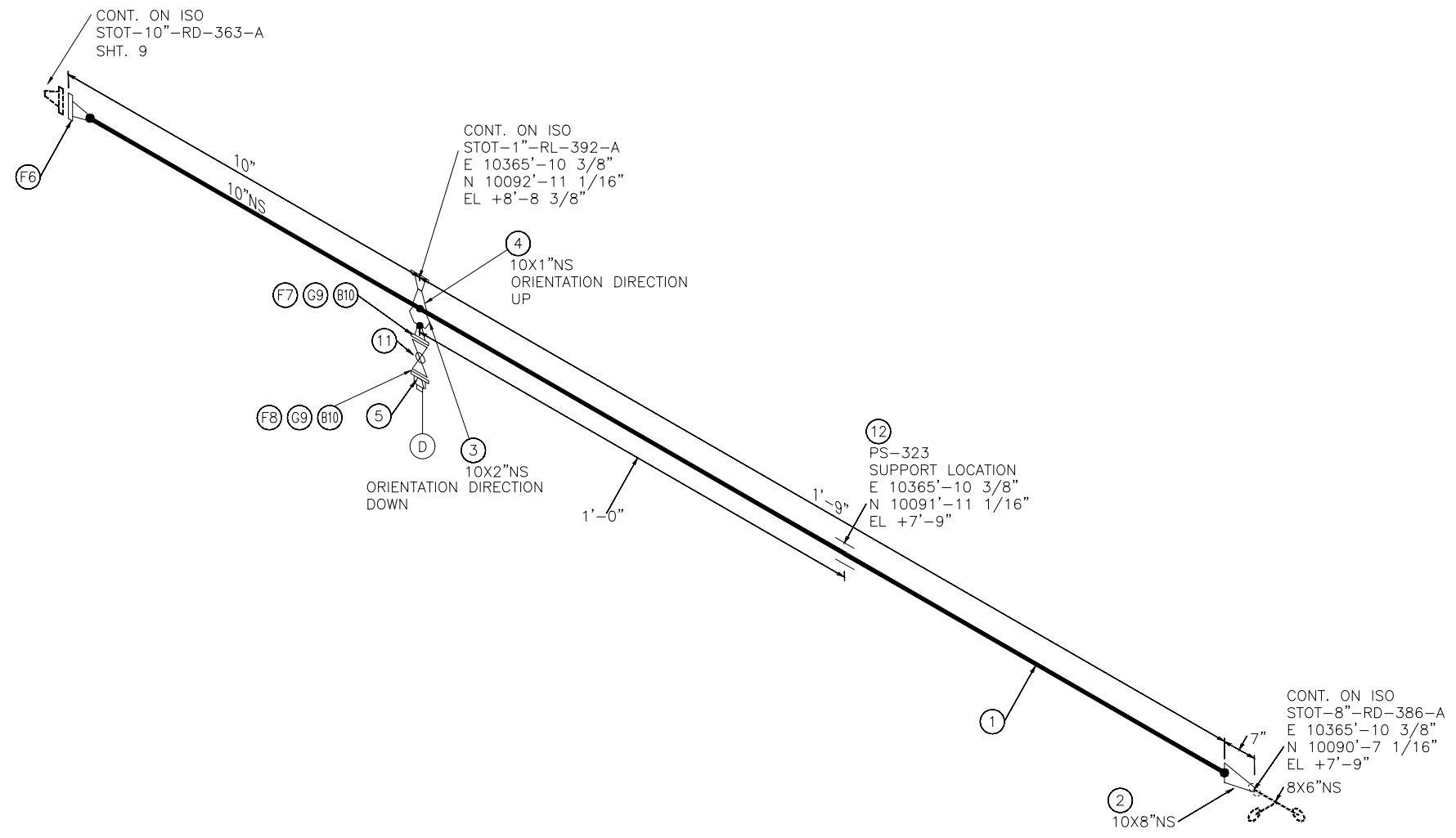


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	1	1'11" 10"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	77.6
2	1	10X2"	WELDOLET, BW, SCH XS, ASTM A105	1.6
3	1	10X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105 WELDING OUTLETS INC RF FLANGED BRANCHETTE OR EQ.	0.6
4	1	10"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	79.4
5	1	10"	BASKET STRAINER, 150LB, RFFE, WEAMCO FV OR EQUAL	1.0
6	1	2"	HEX PLUG, THRD, 3000LB, ASTM A105	3.0
7	1	10"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	52.0
8	1	2"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	6.0
9	1	2"	FLANGE, RF THRD, 150LB, ASTM A105	5.0
10	3	10"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
11	1	10"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
12	2	2"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
13	48	7/8X5"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 10"-150# FLGS.	5.3
14	8	5/8X3 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 2"-150# FLGS.	1.0
15	2	10"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	918.0
16	1	2"	BALL VALVE, 150LB RFFE, STD PORT, API TRIM #8, A216 GR WCB CAST STEEL BODY	62.0
17	1	10"	PIPE SUPPORT, FLAT PLATE W/ 1-ROD AND (2) U-BOLTS, BASE PLATE W/ (4) SLOTTED HOLES, EZ-LINE FIG 510 FIR, D = 2'-8"	2.0
TOTAL FABRICATION WEIGHT				1214.3

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-10"-RD-363-A-SHT.9 OF 9				REV 0
				APP. JR	Ⓞ	Ⓞ	Ⓞ							

STOT-10"-RD-363-A-SHT.9.DWG

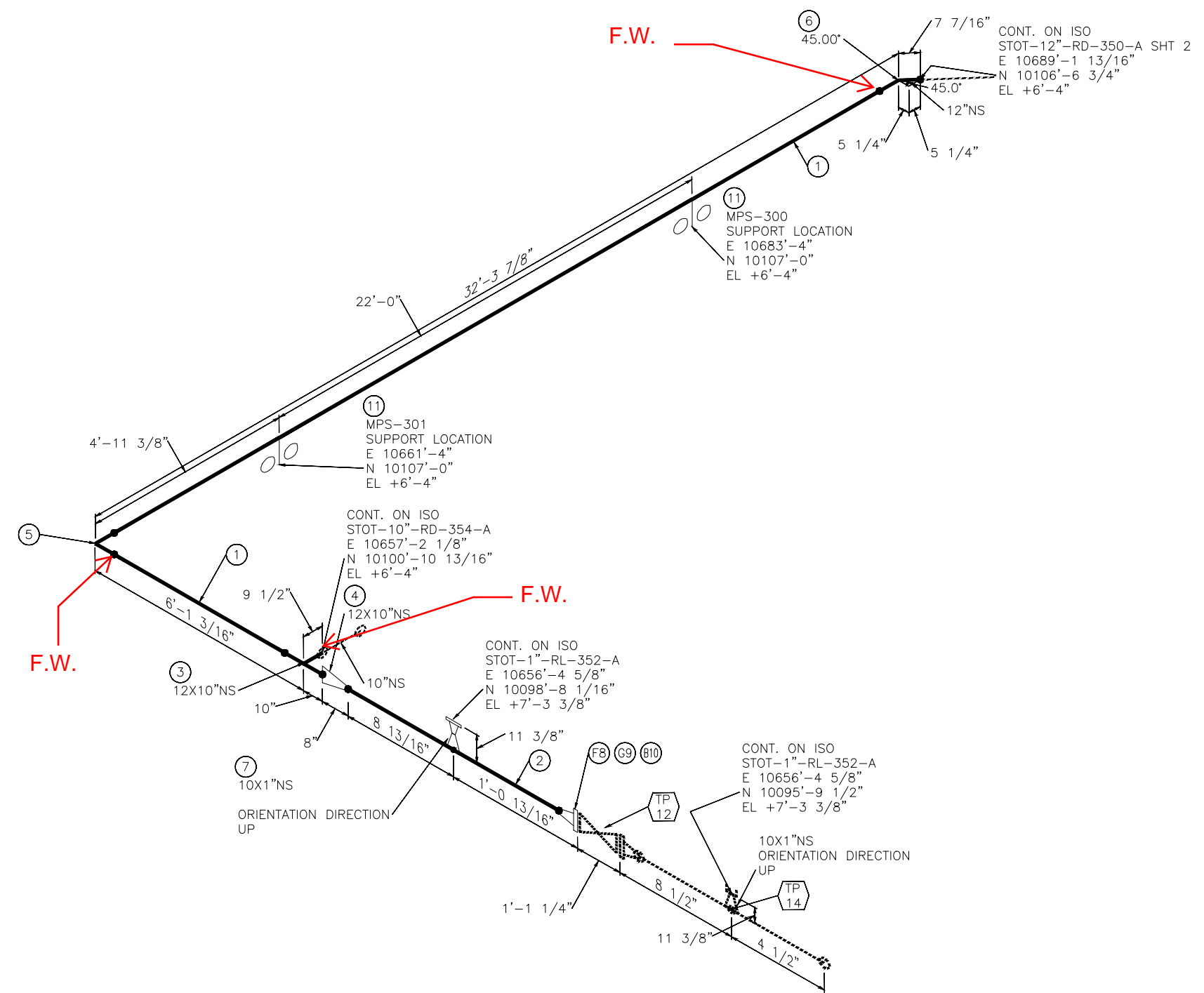


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	2'3"	10"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	91.0
2	1	10X8"	CONC REDUCER, BW, SMLS, (SCH STD x SCH STD), ASTM A234, WPB	20.1
3	1	10X2"	WELDOLET, BW, SCH XS, ASTM A105	1.6
4	1	10X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	0.6
5	1	2"	HEX PLUG, THRD, 3000LB, ASTM A105	3.0
6	1	10"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	52.0
7	1	2"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	6.0
8	1	2"	FLANGE, RF THRD, 150LB, ASTM A105	5.0
9	2	2"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
10	8	5/8X3 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 2"-150# FLGS.	1.0
11	1	2"	BALL VALVE, 150LB RFFE, STD PORT, API TRIM #8, A216 GR WCB CAST STEEL BODY	62.0
12	1	10"	PIPE SUPPORT, FLAT PLATE W/ I-ROD AND (2) U-BOLTS, BASE PLATE W/ (4) SLOTTED HOLES, EZ-LINE FIG 510 FIR, D = 2'-8"	2.0
TOTAL FABRICATION WEIGHT				244.2

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-10''-RD-386-A SHT. 1 OF 1	REV 0			
				APP. JR	ⓐ	ⓑ	ⓒ							

STOT-10''-RD-386-A-SHT.1.DWG

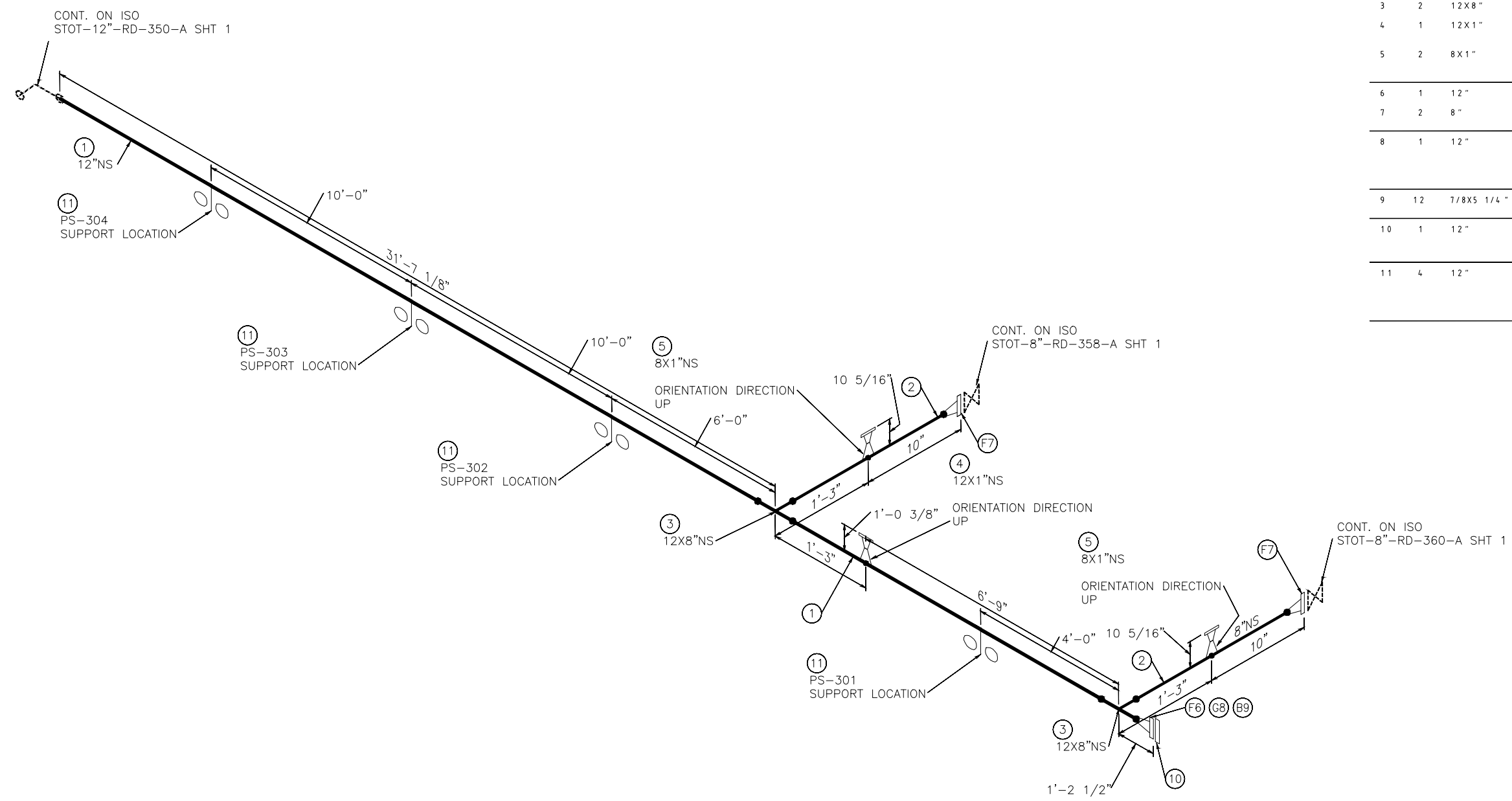


- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	—	○	○	X-RAY	PAINT SPEC	PAINT COLOR	INSUL SPEC	INSUL THK	TRACING
				CHKD. NSD	100%	N/A	NS-ES-68-002	WHITE	N/A	N/A	N/A	N/A	N/A	N/A
				APP. JR	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE	LINE No.	REV			
					REN. DSL				REN. DSL	STOT-12''-RD-350-A-SHT. 1 OF 2	0			

STOT-12''-RD-350-A-SHT.1.DWG

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(ROTATED FOR CLARITY)

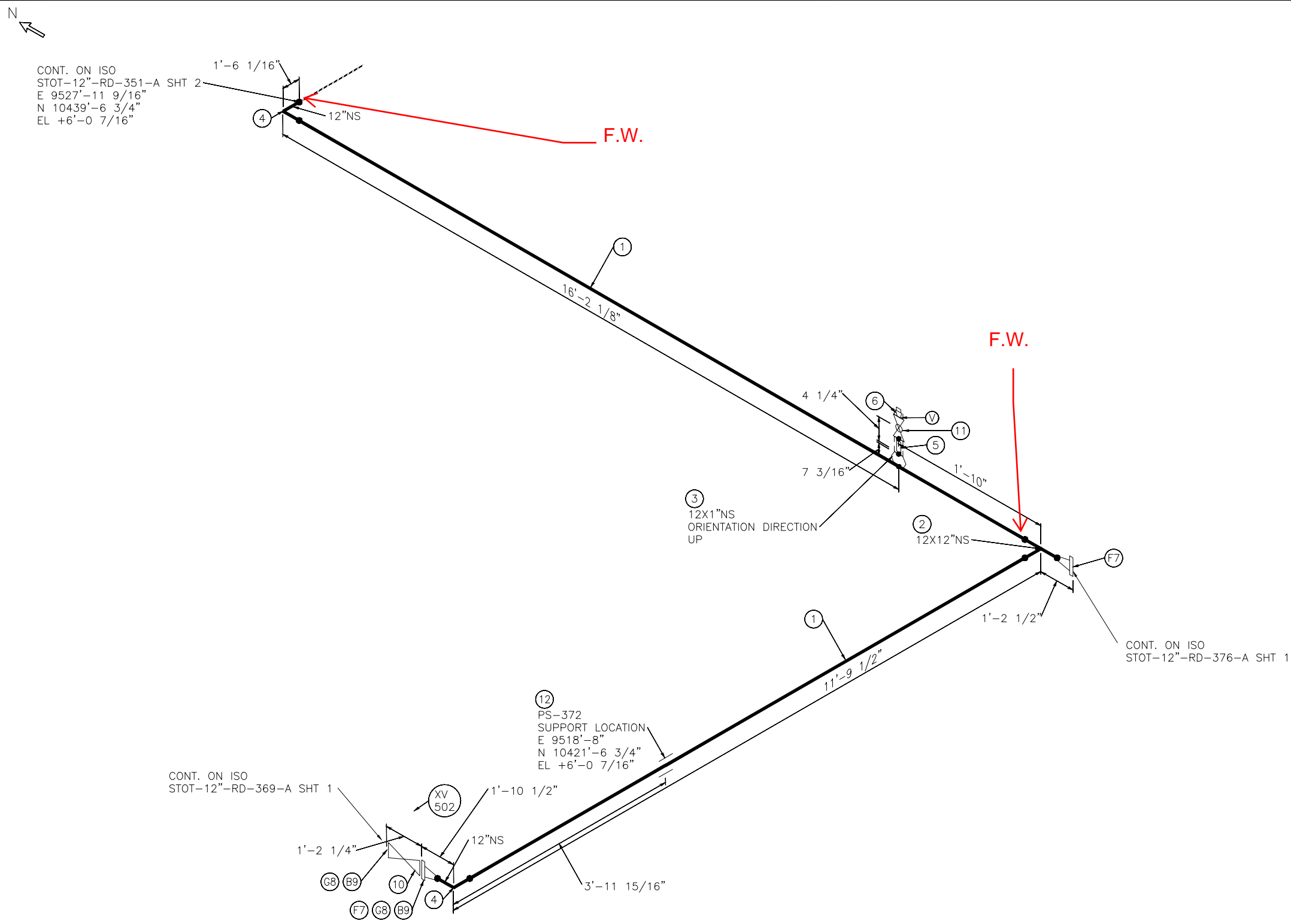


BILL OF MATERIAL			DESCRIPTION	WEIGHT
MARK	QTY	SIZE		
1	37'2"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	1836.6
2	2'0"	8"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	57.1
3	2	12X8"	RED TEE, BW, SMLS, SCH STD x SCH STD, ASTM A234 WPB	169.8
4	1	12X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF	0.6
5	2	8X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF	1.2
6	1	12"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	80.0
7	2	8"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	78.0
8	1	12"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
9	12	7/8X5 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 12"-150# FLGS.	1.4
10	1	12"	BLIND FLANGE, RF, 150LB, ASTM A105	110.0
TOTAL FABRICATION WEIGHT				2334.3
11	4	12"	INSPECT-A-LIFT 4 INCH KIT	60.0
TOTAL ERECTION WEIGHT				60.0
TOTAL WEIGHT - THIS DRG				2394.3

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	●	●	●	●	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12''-RD-350-A SHT. 2 OF 2				REV 0
				APP. JR	Ⓞ	Ⓞ	Ⓞ							

STOT-12''-RD-350-A-SHT2.DWG



BILL OF MATERIAL			DESCRIPTION	WEIGHT
MARK	QTY	SIZE		
1	25'2"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	1244.2
2	1	12X12"	TEE, BW, SMLS, SCH STD, ASTM A234 WPB	91.3
3	1	12X1"	SOCKET, SW, 3000LB, ASTM A105	0.6
4	2	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	233.6
5	1	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (3" LG)	1.5
6	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
7	2	12"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	160.0
8	2	12"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CG1" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
9	24	7/8X5 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 12"-150# FLGS	2.7
10	1	12"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	672.0
11	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL, BVSCWTF CSPGSL-100	2.3
TOTAL FABRICATION WEIGHT				2408.8
12	1	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	1.0
TOTAL ERECTION WEIGHT				1.0
TOTAL WEIGHT - THIS DRG				2409.8

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

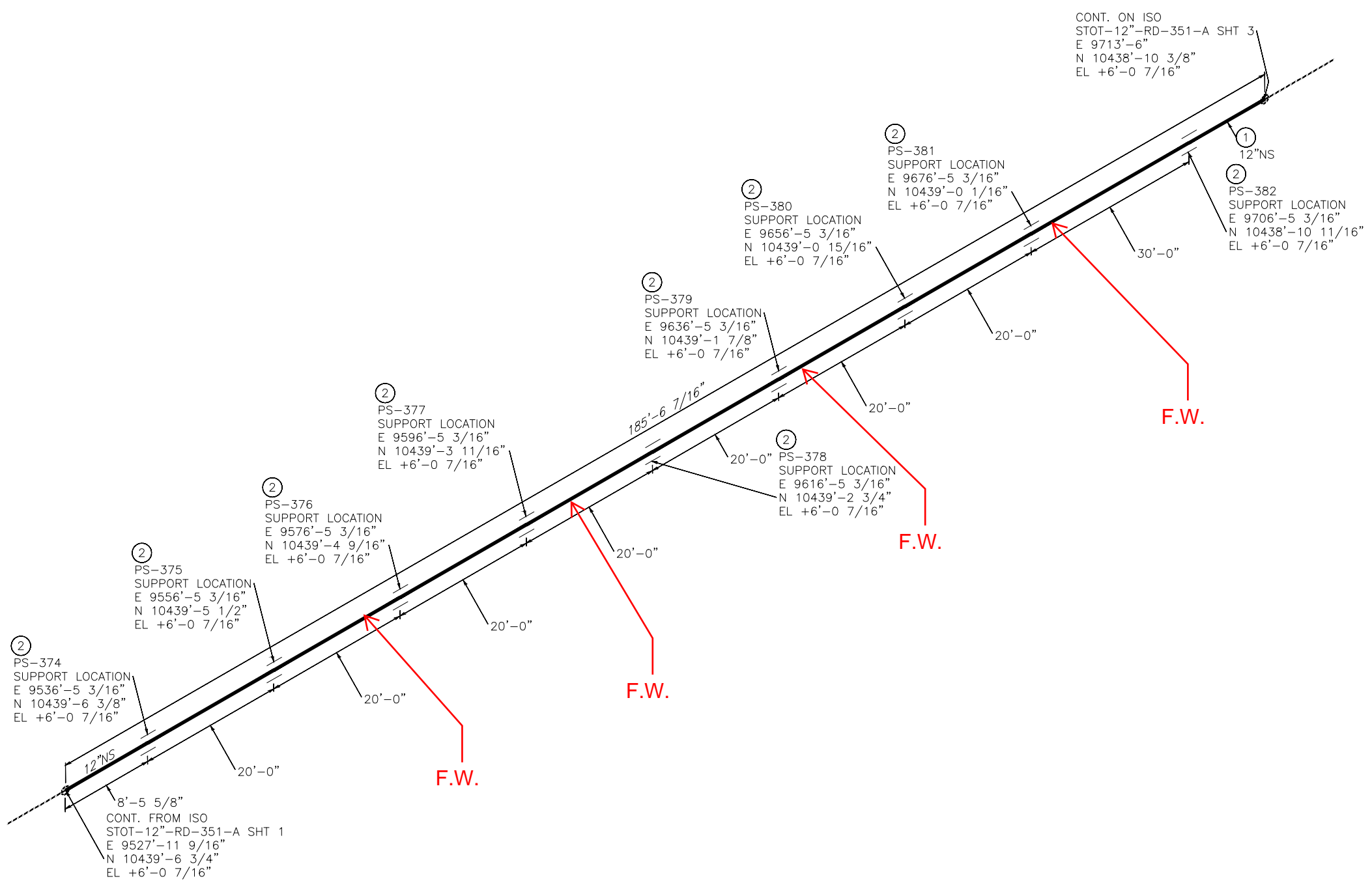
NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A
GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-351-ASHT. 1	OF 17	REV 0		

STOT-12"-RD-351-A-SHT.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	185'7"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	9186.0
TOTAL FABRICATION WEIGHT				9185.9
2	9	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	9.0
TOTAL ERECTION WEIGHT				9.0
TOTAL WEIGHT - THIS DRG				9194.9



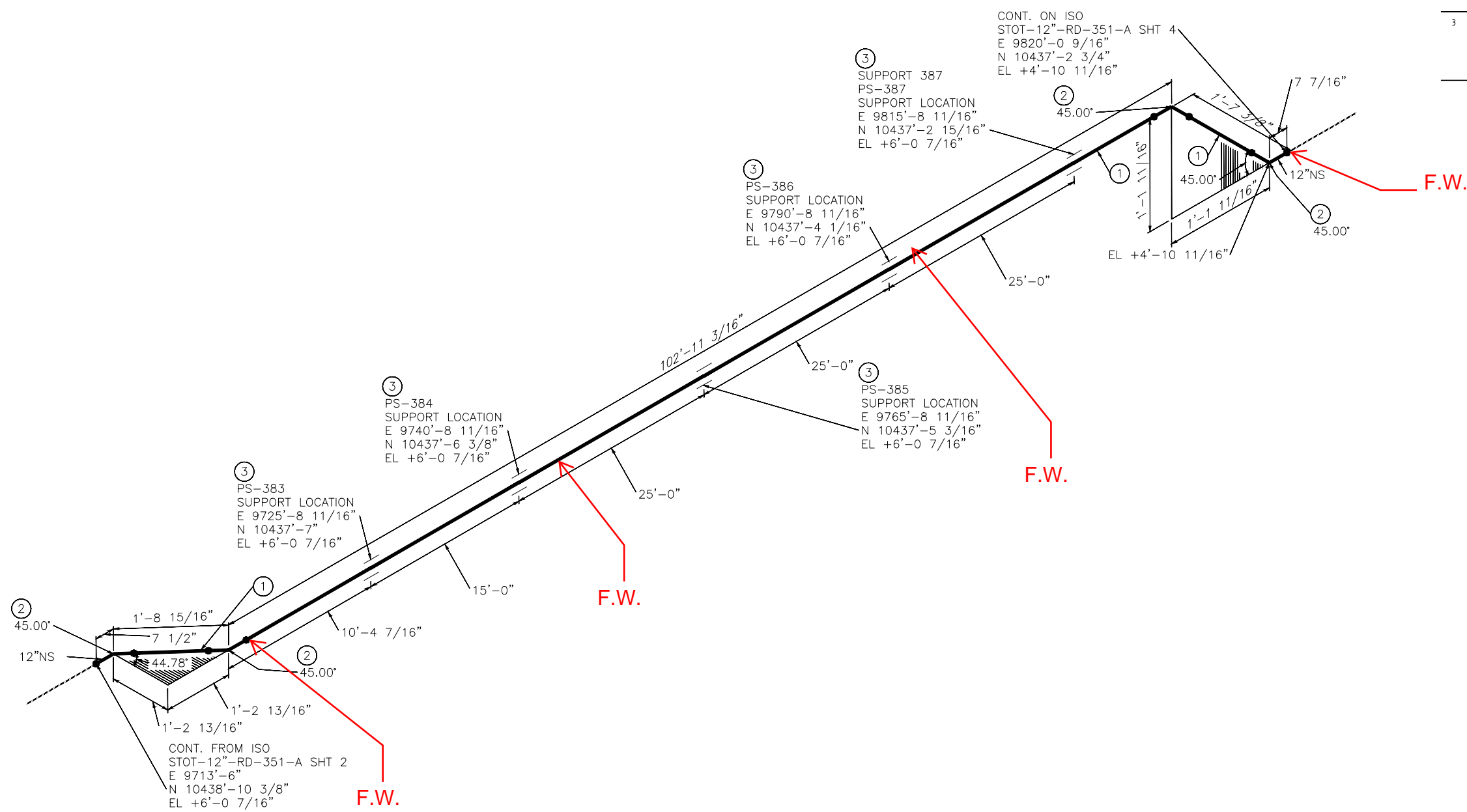
- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12''-RD-351-A SHT. 2 OF 17	REV 0			
				APP. JR	Ⓞ	Ⓢ	Ⓟ	Ⓣ						

STOT-12''-RD-351-A-SHT.DWG



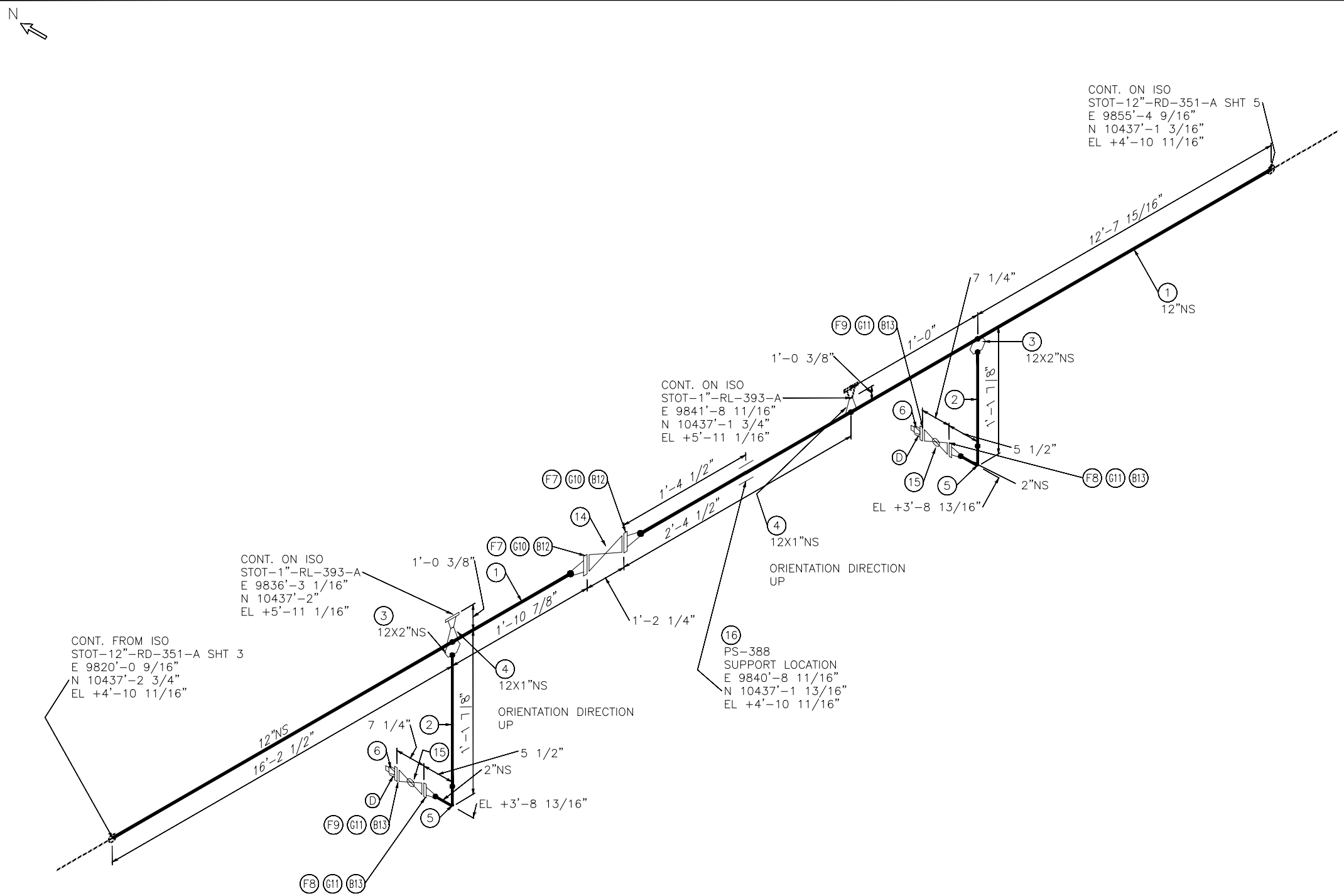
BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	102'7"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	5078.2
2	4	12"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	233.4
TOTAL FABRICATION WEIGHT				5311.5
3	5	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	5.0
TOTAL ERECTION WEIGHT				5.0
TOTAL WEIGHT - THIS DRG				5316.5



- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-351-ASHT.3	OF 17	REV 0		
				APP. JR	Ⓞ	Ⓞ	Ⓞ							

STOT-12"-RD-351-A-SHT.3.DWG

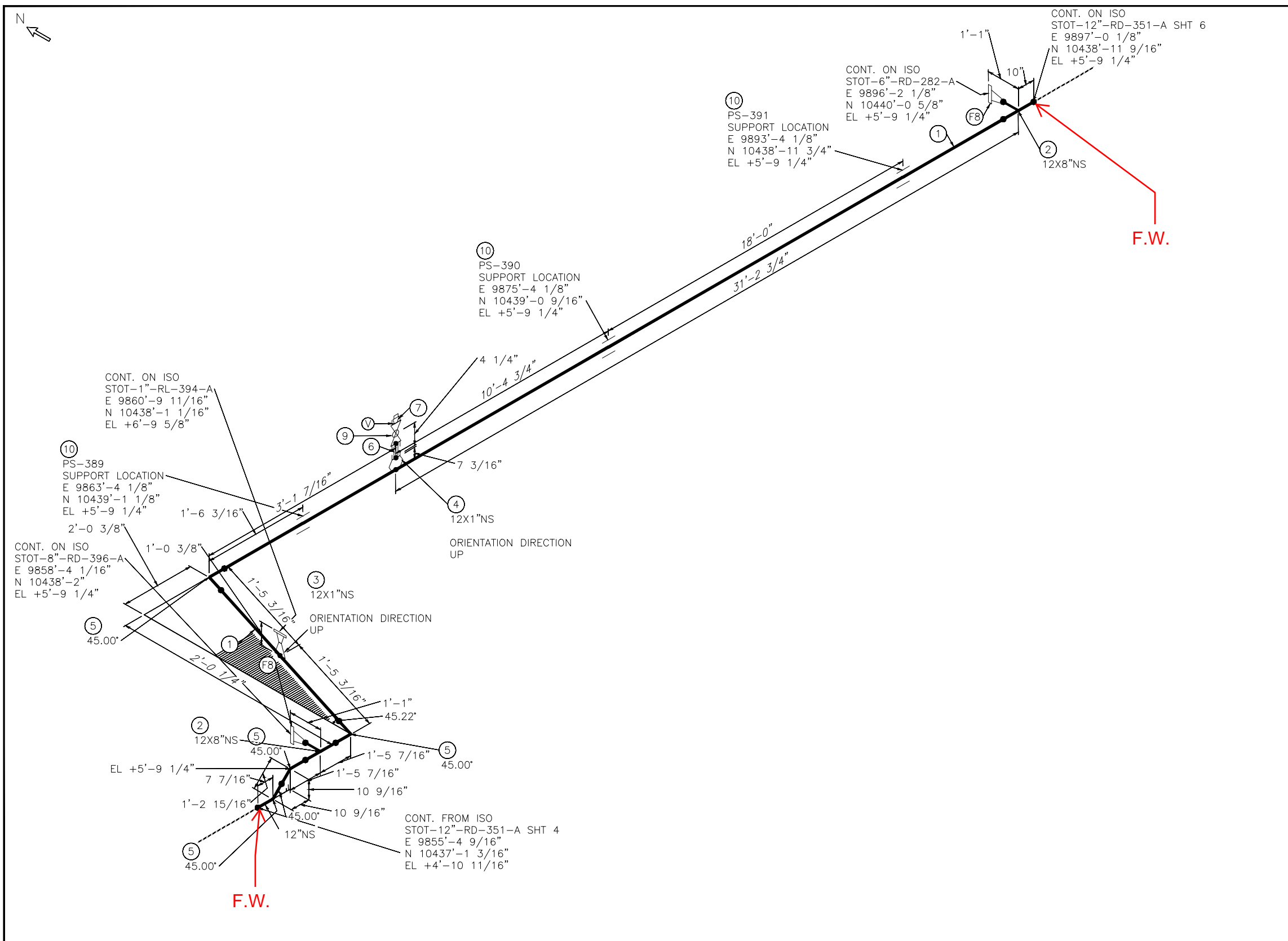


MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	33'5"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	1653.7
2	0'6"	2"	PIPE, SCH XS, ERW, API 5L PSL-2 GR B	2.6
3	2	12X2"	WELDOLET, BW, SCH XS, ASTM A105	3.2
4	2	12X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	1.2
5	2	2"	ELBOW, 90 DEG LR, BW, SMLS, SCH XS, ASTM A234 WPB	4.0
6	2	2"	HEX PLUG, THRD, 3000LB, ASTM A105	6.0
7	2	12"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	160.0
8	2	2"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	12.0
9	2	2"	FLANGE, RF THRD, 150LB, ASTM A105	10.0
10	2	12"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
11	4	2"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
12	24	7/8X5 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 12"-150# FLGS.	2.7
13	16	5/8X3 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 2"-150# FLGS.	2.0
14	1	12"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	672.0
15	2	2"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	70.8
TOTAL FABRICATION WEIGHT				2599.9
16	1	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	1.0
TOTAL ERECTION WEIGHT				1.0
TOTAL WEIGHT - THIS DRG				2600.9

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	—	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-351-ASHT. 4 OF 17	REV 0			
				APP. JR	Ⓞ	Ⓧ	Ⓟ	Ⓞ						

STOT-12--RD-351-A-SH4.DWG



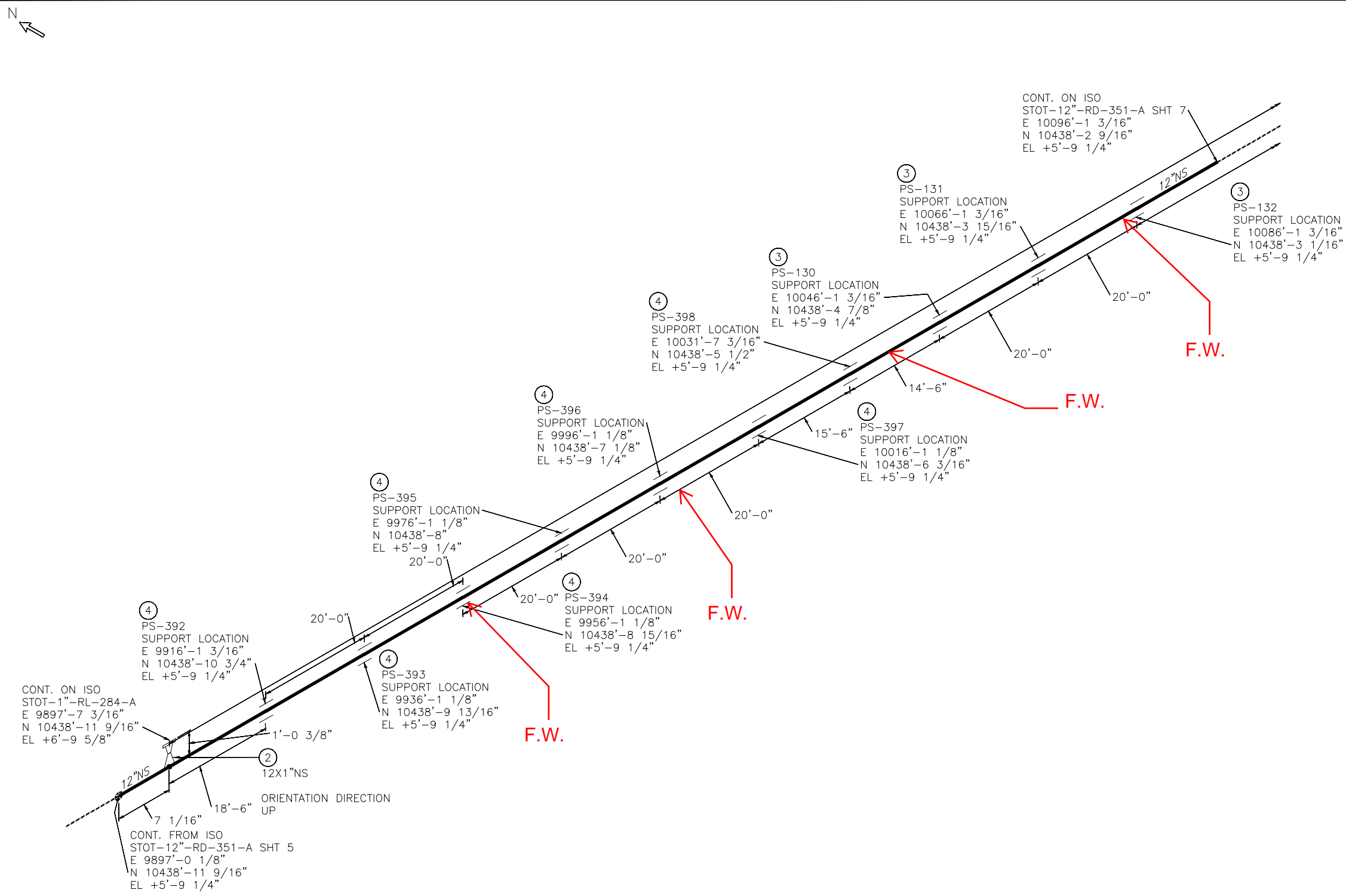
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	34	7" 12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	1709.2
2	2	12X8"	RED TEE, BW, SMLS, SCH STD x SCH STD, ASTM A234 WPB	169.8
3	1	12X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105 WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	0.6
4	1	12X1"	SOCKOLET, SW, 3000LB, ASTM A105	0.6
5	4	12"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	233.4
6	1	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (3" LG)	1.5
7	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
8	2	8"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	78.0
9	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTF CSPGSL-100	2.3
TOTAL FABRICATION WEIGHT				2195.9
10	3	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	3.0
TOTAL ERECTION WEIGHT				3.0
TOTAL WEIGHT - THIS DRG				2198.9

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
●	●	●	●	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
○	○	○	○	X-RAY	PAINT SPEC	PAINT COLOR	INSUL SPEC	INSUL THK	TRACING
○	○	○	○	100%	NS-ES-68-002	WHITE	N/A	N/A	N/A
○	○	○	○	SERVICE	LINE No.	STOT-12"-RD-351-A SHT. 5 OF 17		REV	0
○	○	○	○	REN. DSL					

STOT-12"-RD-351-A-SHT.5.DWG



BILLOF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	199'2"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	9857.2
2	1	12X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	0.6
3	3	12"	Pipe Pad, Solid high strength HDPE, or equal	3.0
TOTAL FABRICATION WEIGHT				9860.7
4	7	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	7.0
TOTAL ERECTION WEIGHT				7.0
TOTAL WEIGHT - THIS DRG				9867.7

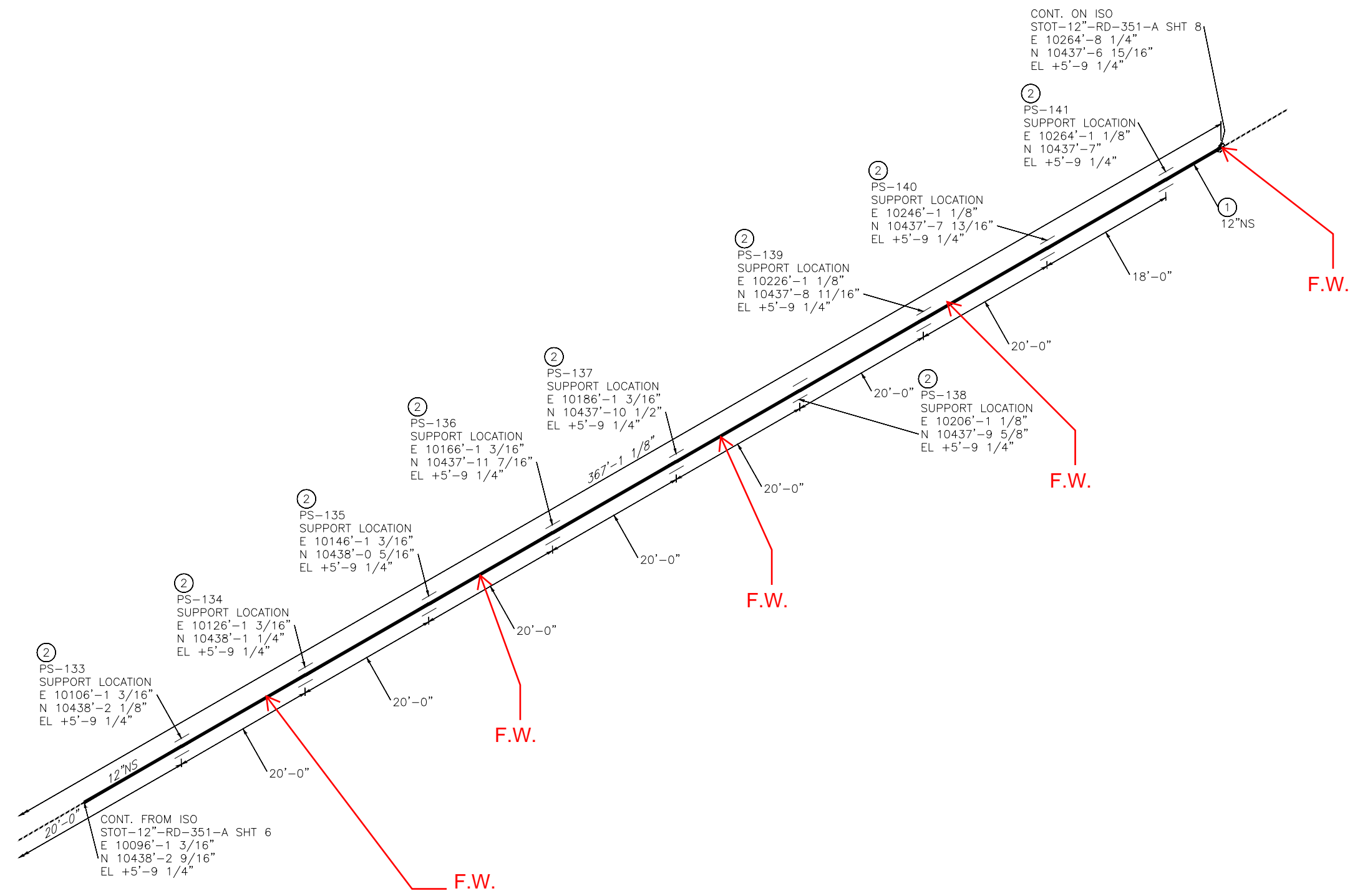
- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	●	●	●	●	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-351-ASHT.6 OF 17	REV 0			

STOT-12"-RD-351-A-SHT.6.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	168'8"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	8346.9
2	9	12"	Pipe Pad, Solid high strength HDPE, or equal	9.0
TOTAL FABRICATION WEIGHT				8355.8



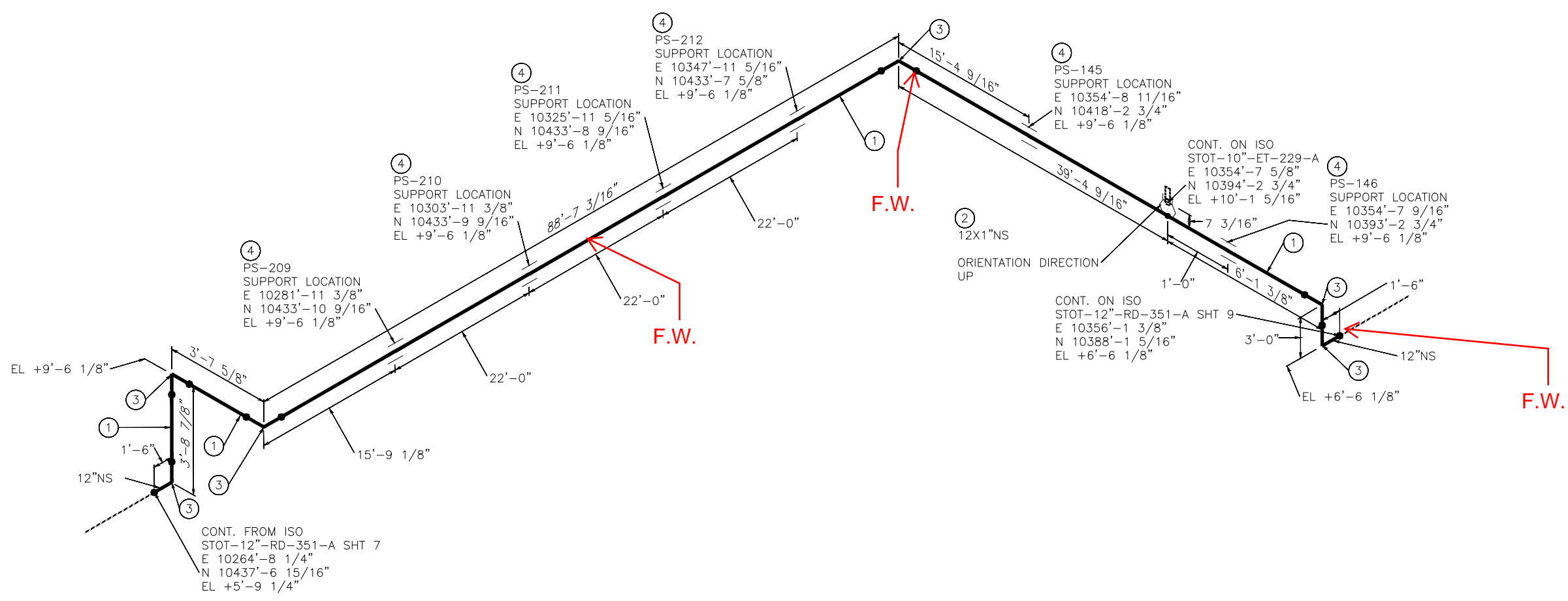
- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-351-A-SHT.7	OF 17	REV 0		
				APP. JR	Ⓞ	Ⓞ	Ⓞ							

STOT-12"-RD-351-A-SHT.7.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	129'6"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	6410.3
2	1	12X1"	SOCKET, SW, 3000LB, ASTM A105	0.6
3	6	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	699.7
4	6	12"	Pipe Pad, Solid high strength HDPE, or equal	6.0
TOTAL FABRICATION WEIGHT				7116.5



- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

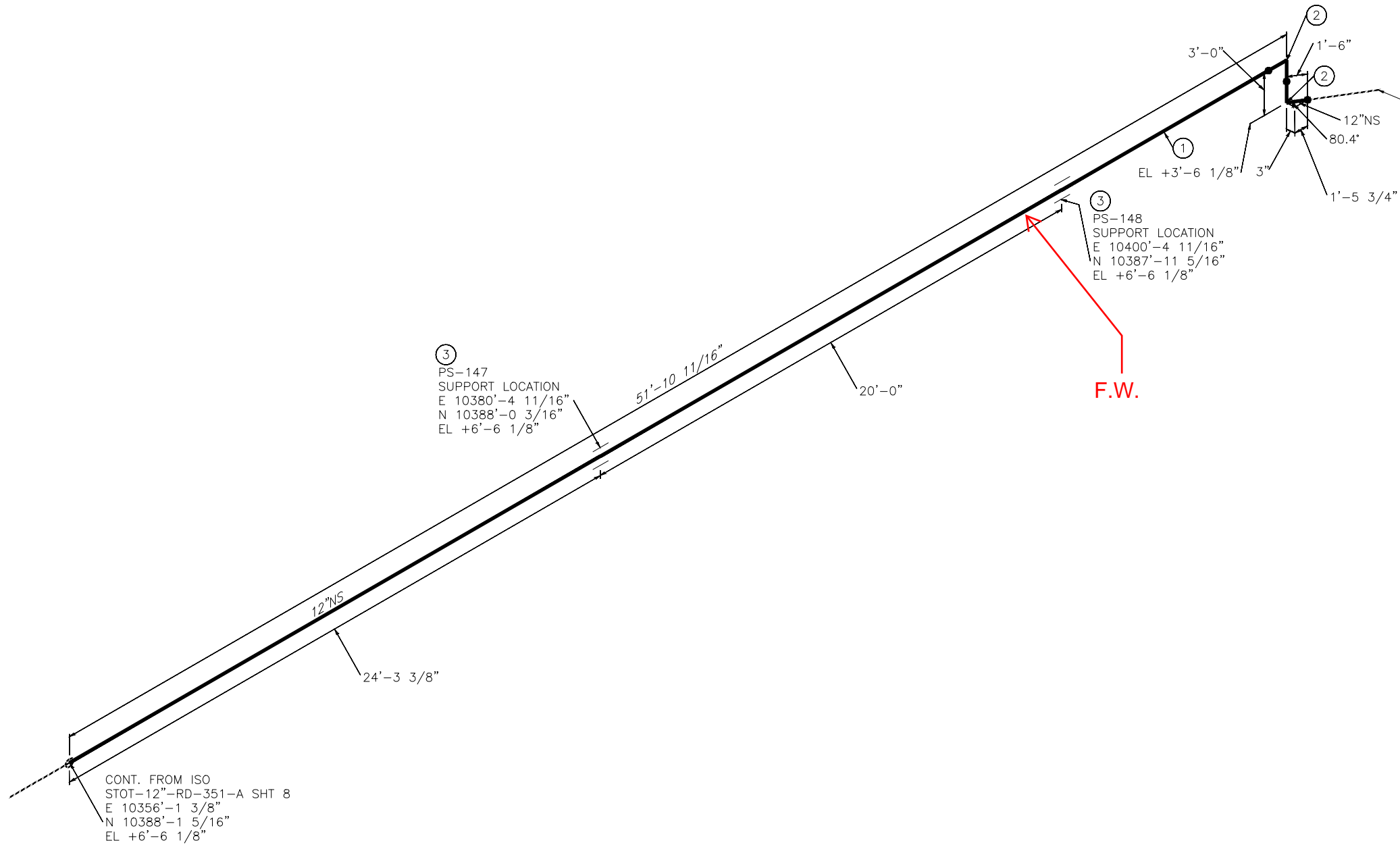
NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5	
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-351-A SHT. 8 OF 17	REV 0				

STOT-12"-RD-351-A-SHT.8.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	50'5"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	2494.9
2	2	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	233.4
3	2	12"	Pipe Pad, Solid high strength HDPE, or equal	2.0
TOTAL FABRICATION WEIGHT				2730.2



CONT. ON ISO
 STOT-12"-RD-351-A SHT 10
 E 10409'-5 13/16"
 N 10387'-7 15/16"
 EL +3'-6 1/8"

PS-148
 SUPPORT LOCATION
 E 10400'-4 11/16"
 N 10387'-11 5/16"
 EL +6'-6 1/8"

PS-147
 SUPPORT LOCATION
 E 10380'-4 11/16"
 N 10388'-0 3/16"
 EL +6'-6 1/8"

CONT. FROM ISO
 STOT-12"-RD-351-A SHT 8
 E 10356'-1 3/8"
 N 10388'-1 5/16"
 EL +6'-6 1/8"

GENERAL NOTES:

1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

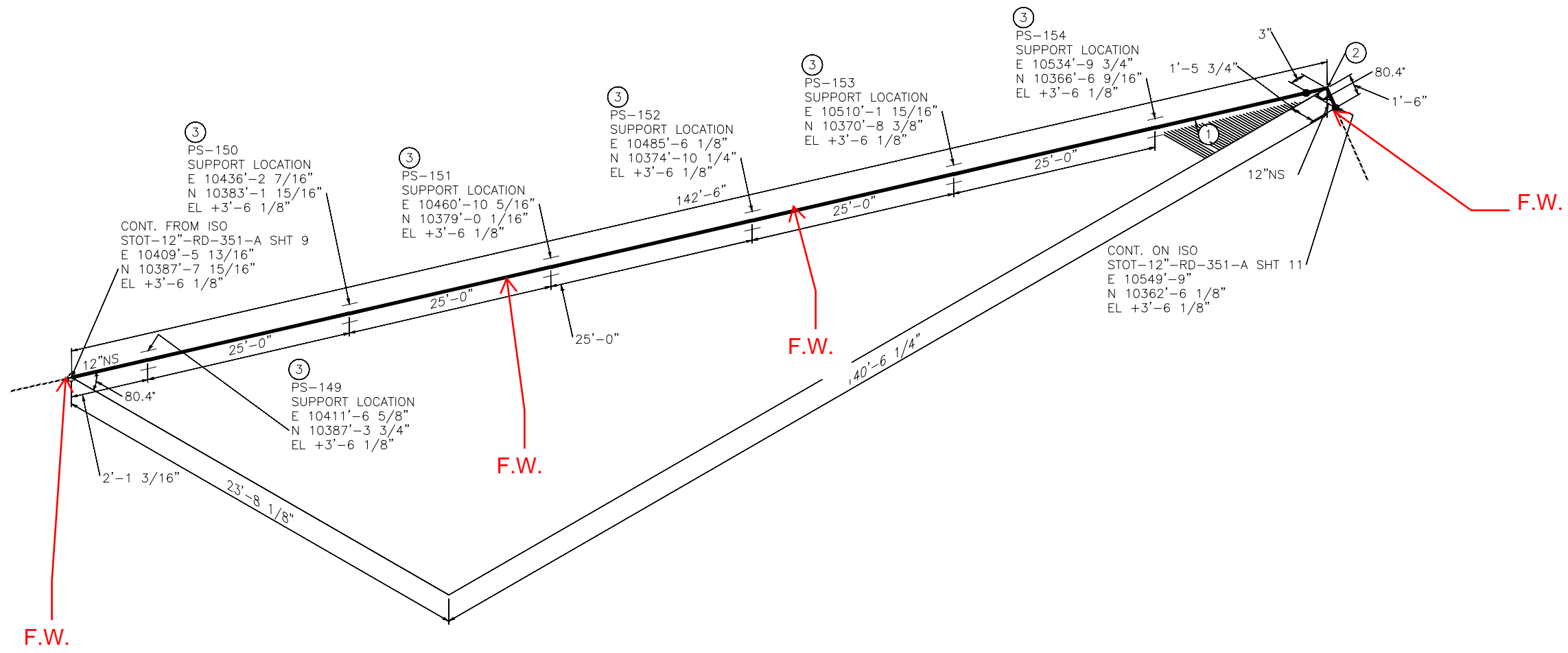
SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN
GASKET TAG#	FLANGE TAG#	BOLT TAG#	
(G#)	(F#)	(B#)	

PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5
X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A
SERVICE REN. DSL		LINE No. STOT-12"-RD-351-A SHT. 9 OF 17		REV 0	

STOT-12"-RD-351-A-SHT.9.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	141'0"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	6981.0
2	1	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	116.7
3	6	12"	Pipe Pad, Solid high strength HDPE, or equal	6.0
TOTAL FABRICATION WEIGHT				7103.6



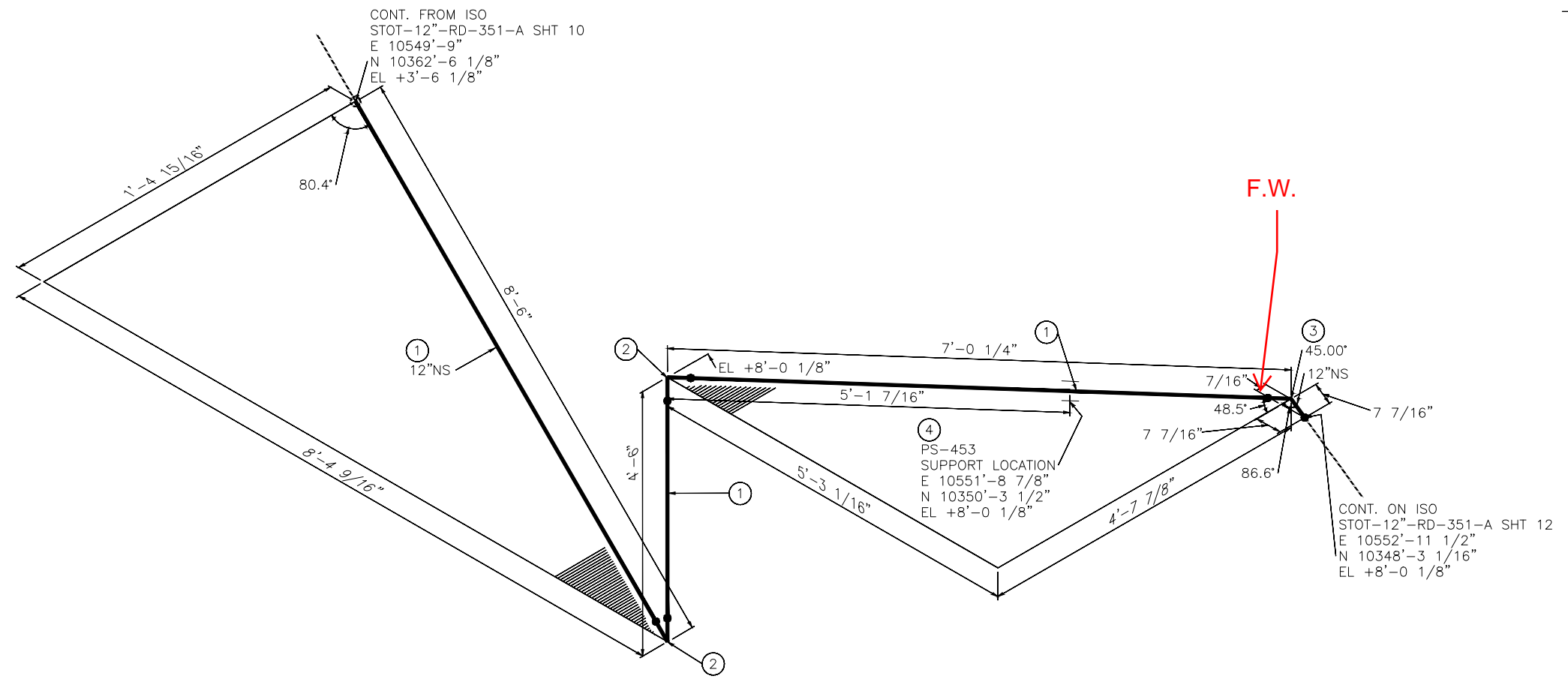
- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12''-RD-351-A SHT. 10 OF 17	REV 0			
				APP. JR	ⓐ	ⓑ	ⓒ							

STOT-12''-RD-351-A-SH10.DWG



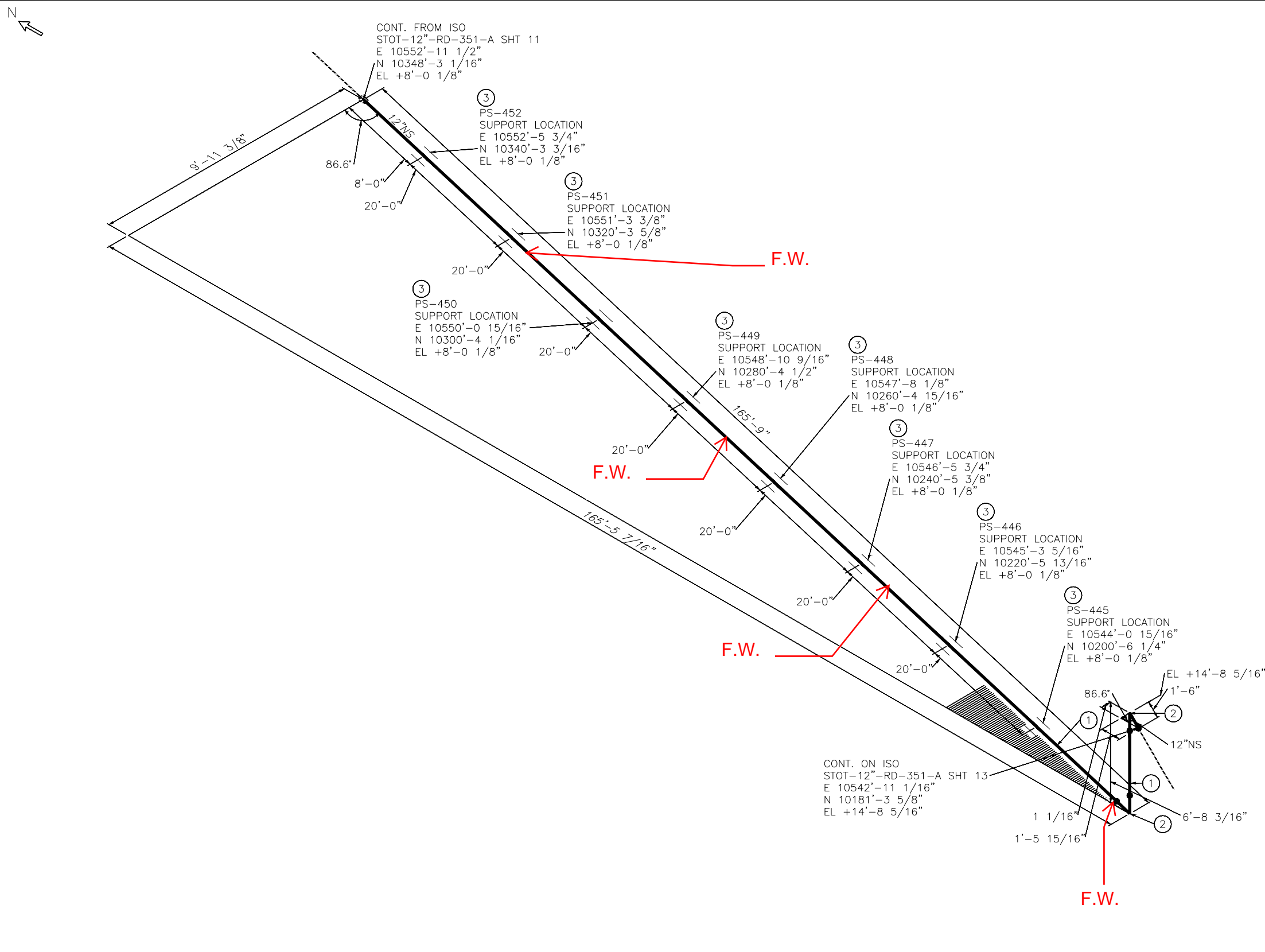
BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	13'5"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	663.5
2	2	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	233.4
3	1	12"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	58.4
TOTAL FABRICATION WEIGHT				955.1
4	1	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	1.0
TOTAL ERECTION WEIGHT				1.0
TOTAL WEIGHT - THIS DRG				956.1



- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	INSPECT	PIPE	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	-A-LIFT	SUPPORT	(V)	(D)	100%	NS-ES-68-002	WHITE	N/A	N/A	N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL					
				APP. JR	(G#)	(F#)	(B#)		LINE No. STOT-12''-RD-351-A SHT. 11 OF 17					REV 0

STOT-12''-RD-351-A-SHT11.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	168'0"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	8314.4
2	2	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	233.4
TOTAL FABRICATION WEIGHT				8547.7
3	8	12"	PIPE PAD, 6' x 6' x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	8.0
TOTAL ERECTION WEIGHT				8.0
TOTAL WEIGHT - THIS DRG				8555.7

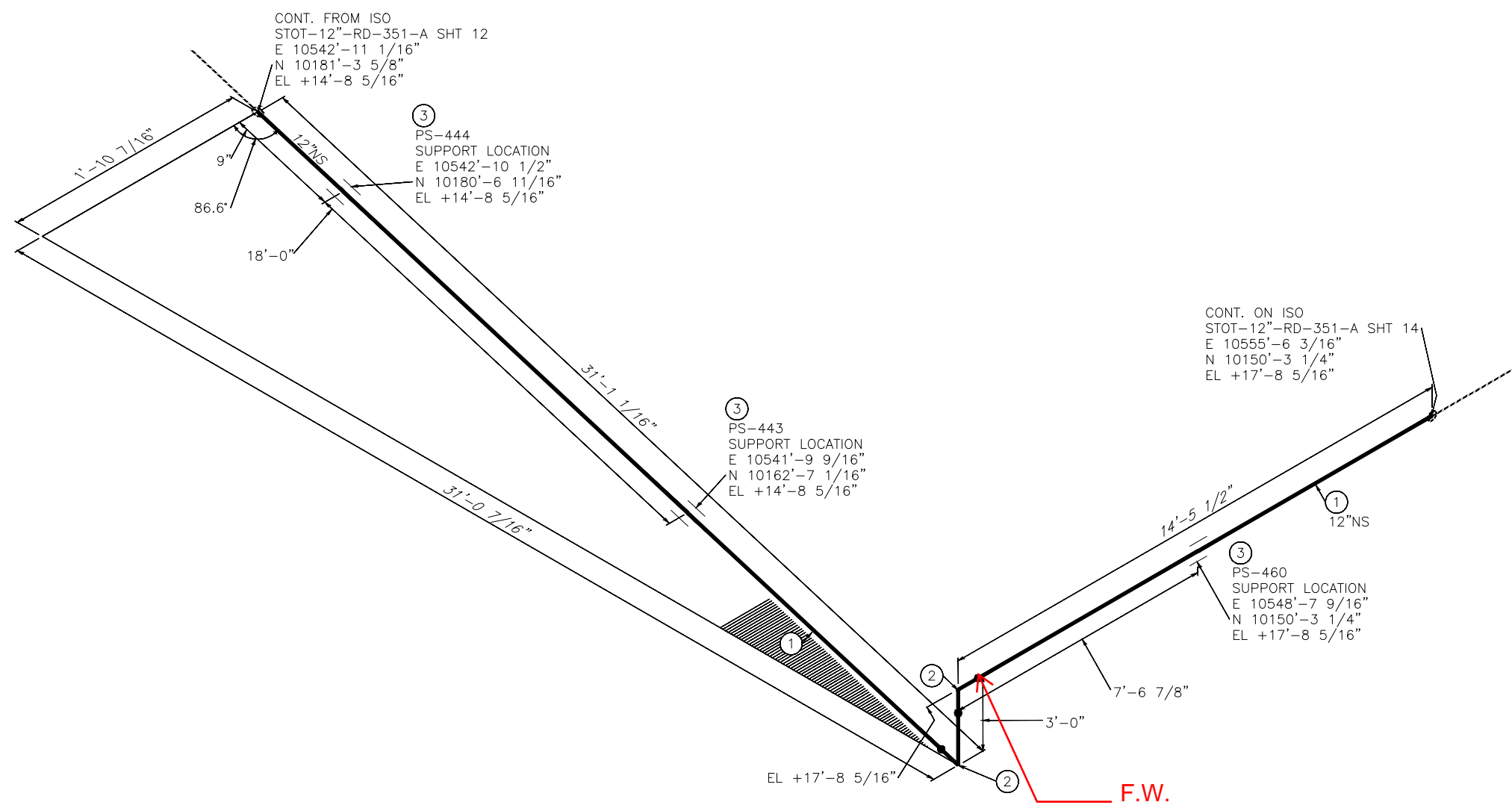
- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-351-A-SHT. 12 OF 17	REV 0			
				APP. JR	Ⓞ	Ⓞ	Ⓞ	Ⓞ						

STOT-12"-RD-351-A-SHT12.DWG



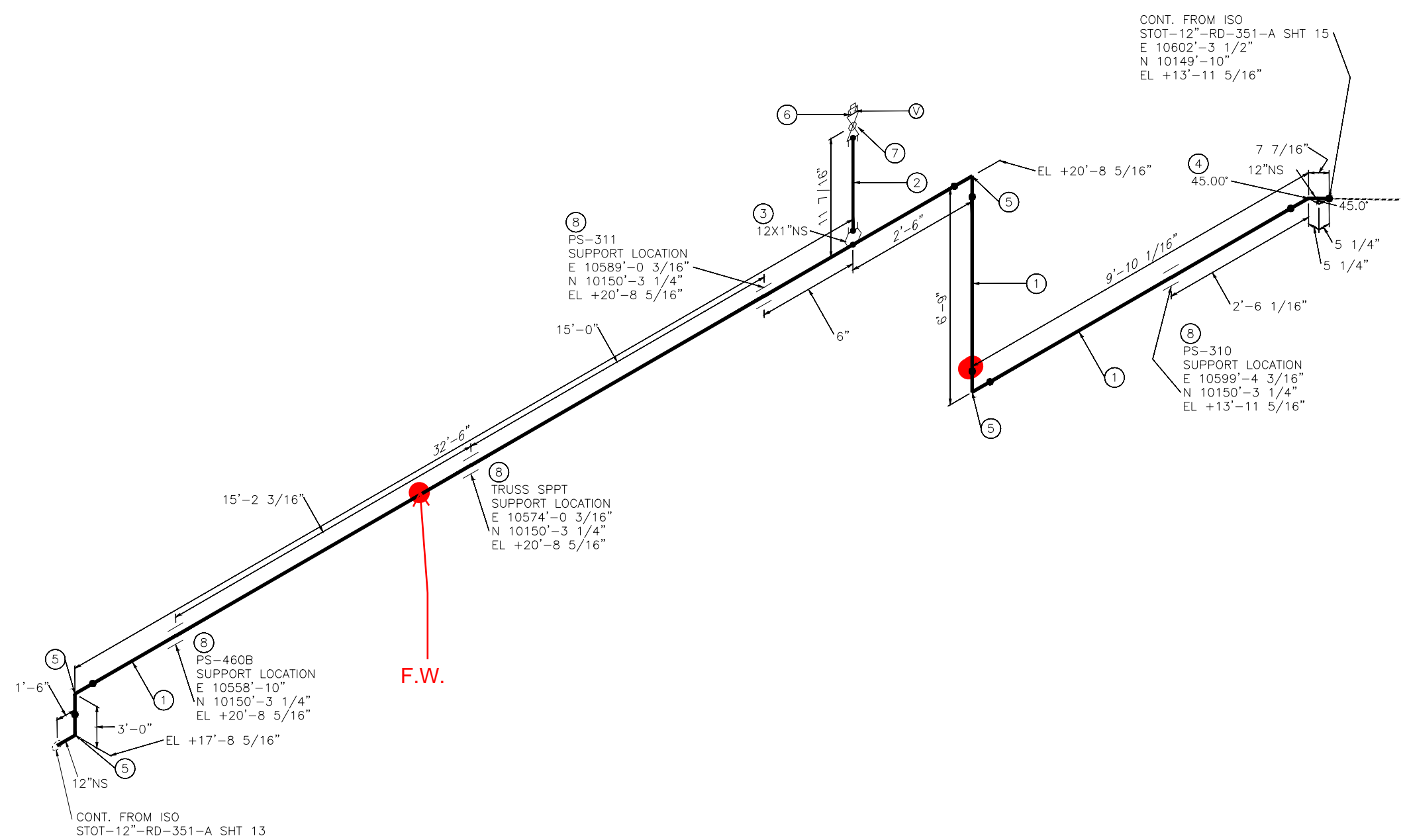
BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	42'7"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	2106.5
2	2	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	233.4
TOTAL FABRICATION WEIGHT				2339.8
3	3	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	3.0
TOTAL ERECTION WEIGHT				3.0
TOTAL WEIGHT - THIS DRG				2342.8



- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD FIELD WELD SOCKET WELD SCREWED JOINT INSPECT -A-LIFT GASKET TAG#	PIPE SPEC. A X-RAY 100%	DESIGN PRESS. 285 PSIG PAINT SPEC NS-ES-68-002	DESIGN TEMP. 125 °F PAINT COLOR WHITE	OPER. PRESS. 120 PSIG INSUL SPEC N/A	OPER. TEMP. 100 °F INSUL THK N/A	HYDROTEST PSIG 427.5 TRACING N/A
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	PIPE SUPPORT VENT DRAIN	PWHT N/A	SERVICE REN. DSL	LINE No. STOT-12"-RD-351-A-SHT. 13 OF 17	REV 0		
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	FLANGE TAG# BOLT TAG#						
				CHKD. NSD							
				APP. JR							

STOT-12"-RD-351-A-SHT13.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	43'6"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	2152.2
2	0'3"	1"	PIPE, SCH XS, SMLS, ASTM A106 GR B PBE	0.6
3	1	12X1"	SOCKET, SW, 3000LB, ASTM A105	0.6
4	1	12"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	58.4
5	4	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	466.7
6	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
7	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTF CSPGSL-100	2.3
TOTAL FABRICATION WEIGHT				2681.3
8	4	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	4.0
TOTAL ERECTION WEIGHT				4.0
TOTAL WEIGHT - THIS DRG				2685.3

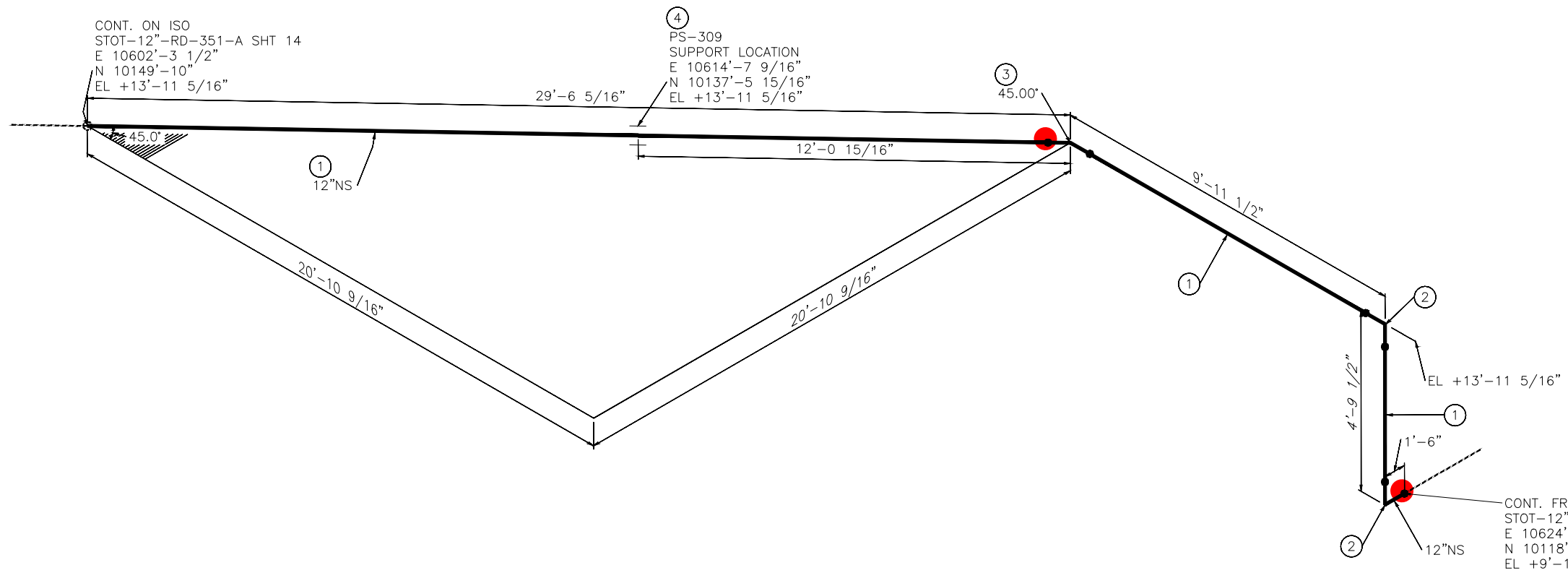
- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLK	5/15/19	DRN. BY KLK	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLK	7/31/19	DATE 5/13/19	○	—	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-351-A SHT. 14 OF 17	REV 0			
				APP. JR	ⓐ	ⓑ	ⓒ							

STOT-12"-RD-351-A-SHT14.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	38'7"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	1908.0
2	2	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	233.4
3	1	12"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	58.4
TOTAL FABRICATION WEIGHT				2199.6
4	1	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	1.0
TOTAL ERECTION WEIGHT				1.0
TOTAL WEIGHT - THIS DRG				2200.6



CONT. FROM ISO
 STOT-12"-RD-351-A SHT 16
 E 10624'-8 1/16"
 N 10118'-11 15/16"
 EL +9'-1 13/16"

GENERAL NOTES:

1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

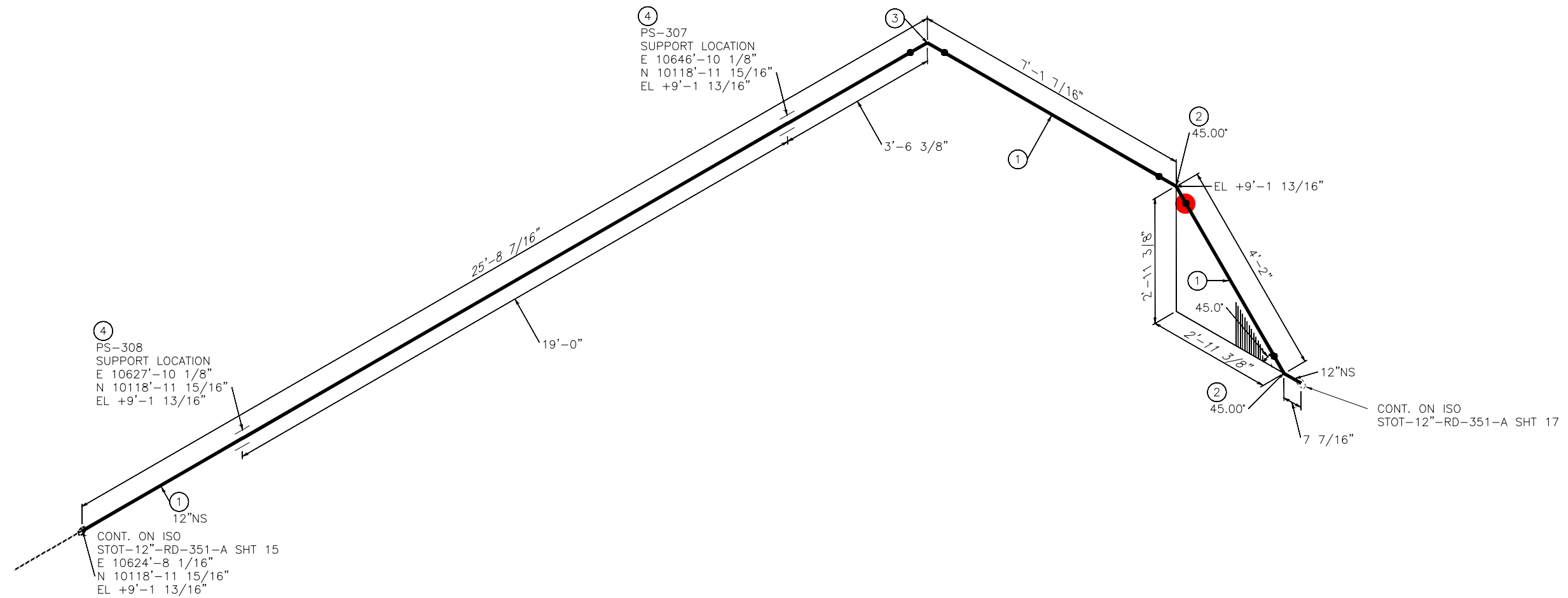
SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN
GASKET TAG#	FLANGE TAG#	BOLT TAG#	
(G#)	(F#)	(B#)	

PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5
X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A
SERVICE REN. DSL		LINE No. STOT-12"-RD-351-A SHT. 15 OF 17		REV 0	

STOT-12"-RD-351-A-SHT15.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	32'2"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	1590.8
2	2	12"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	116.7
3	1	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	116.7
TOTAL FABRICATION WEIGHT				1824.1
4	2	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	2.0
TOTAL ERECTION WEIGHT				2.0
TOTAL WEIGHT - THIS DRG				1826.1

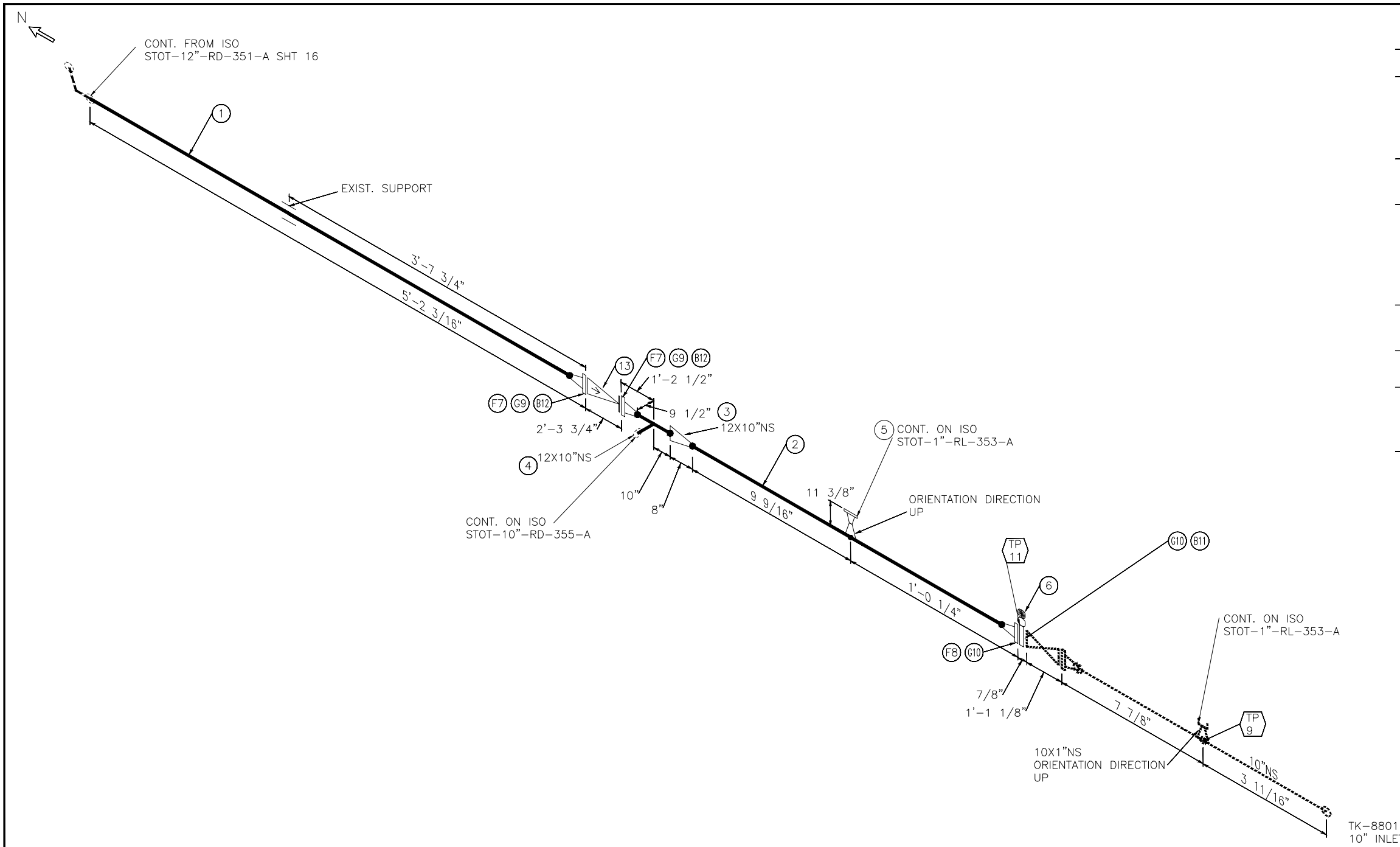


- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5	
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-351-A SHT. 16 OF 17	REV 0				

STOT-12"-RD-351-A-SHT16.DWG

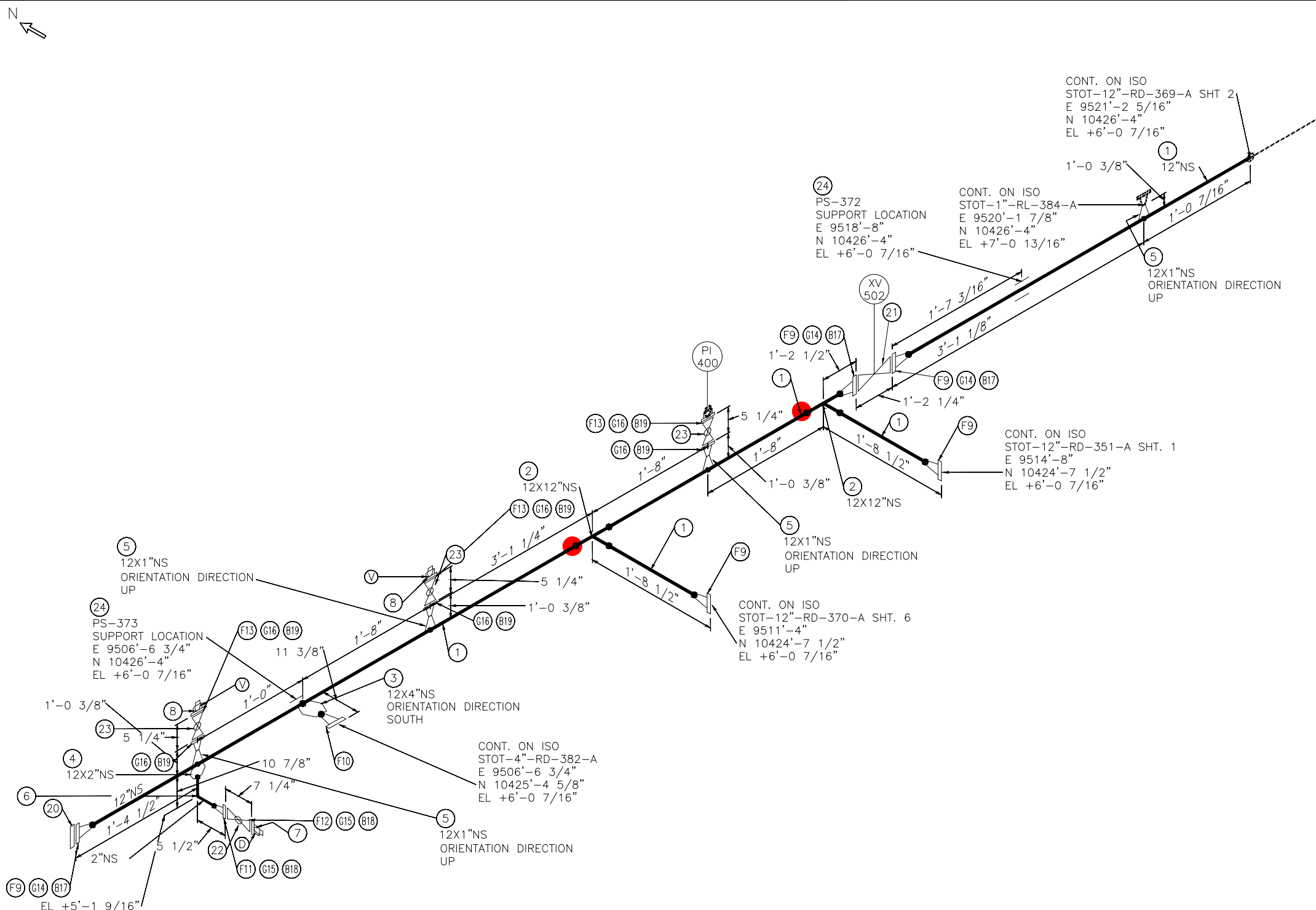


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	4	10" 12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	238.1
2	1	6" 10"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	60.1
3	1	12X10"	CONC REDUCER, BW, SMLS, (SCH STD x SCH STD), ASTM A234 WPB	30.0
4	1	12X10"	RED TEE, BW, SMLS, SCH STD x SCH STD, ASTM A234 WPB	88.0
5	1	10X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	0.6
6	1	10"	SPECTACLE BLIND, 150LB, ASTM A516-70	-
7	2	12"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	160.0
8	1	10"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	52.0
9	2	12"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
10	2	10"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
11	12	7/8X5 3/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 10"-150# FLGS.	1.5
12	24	7/8X5 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 12"-150# FLGS.	2.7
13	1	12"	CHECK VALVE, SWING CHECK, ANSI 150LB, RFFE, API-602, ASTM A105 BODY, API TRIM #8	-
TOTAL FABRICATION WEIGHT				633.6
TOTAL WEIGHT UNLISTED ITEMS				1398.3
TOTAL WEIGHT - THIS DRG				2031.9

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-351-A SHT. 17 OF 17	REV 0			
				APP. JR	○	○	○							

STOT-12"-RD-351-A-SHT17.DWG

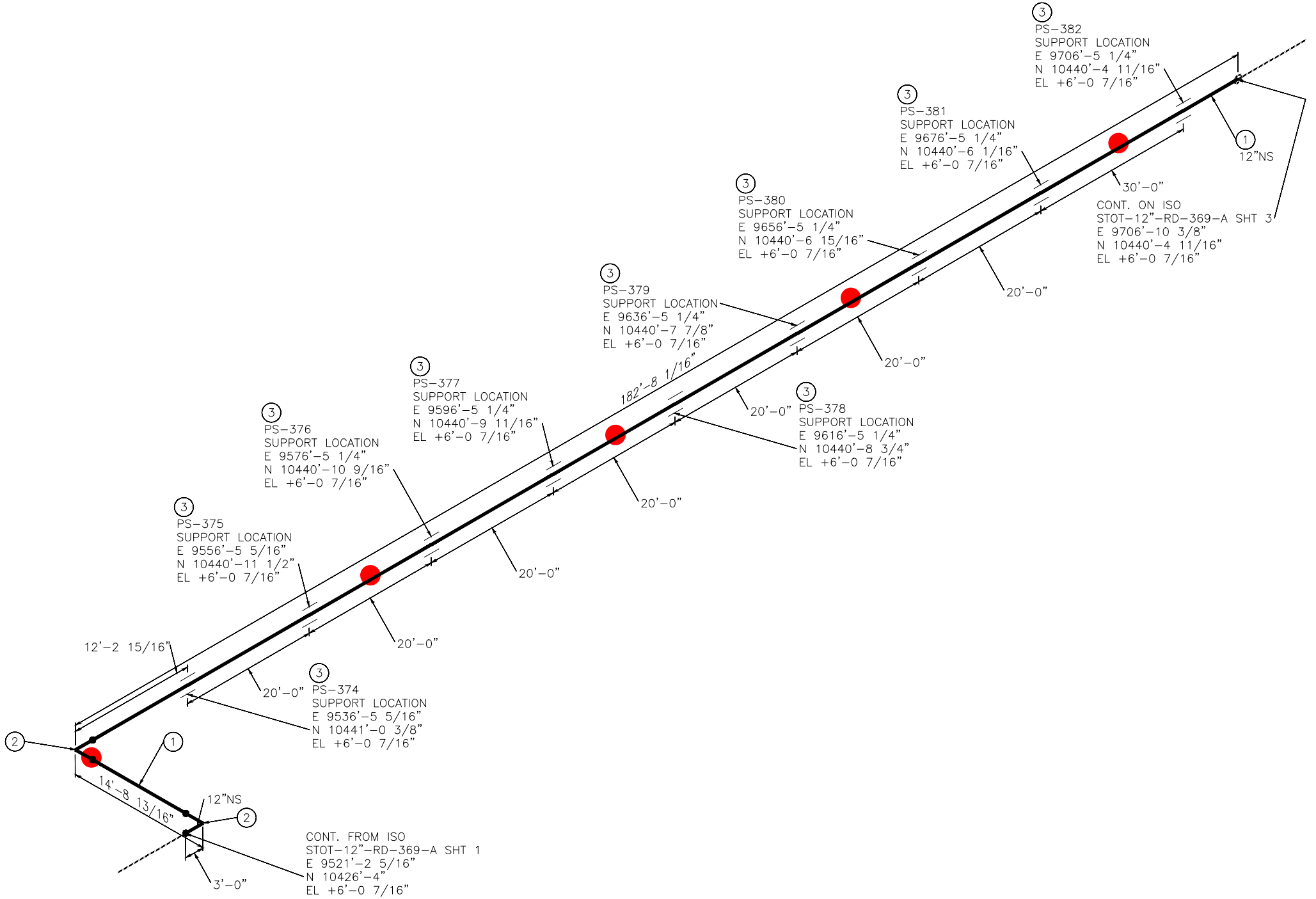


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	12'5"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	612.0
2	2	12X12"	BARRED TEE, BW, SMLS, SCH STD, ASTM A234 WPB	182.6
3	1	12X4"	WELDOLET, BW, SCH STD, ASTM A105	7.3
4	1	12X2"	WELDOLET, BW, SCH XS, ASTM A105	1.6
5	4	12X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF	2.3
6	1	2"	ELBOW, 90 DEG LR, BW, SMLS, SCH XS, ASTM A234 WPB	2.0
7	1	2"	HEX PLUG, THRD, 3000LB, ASTM A105	3.0
8	2	1"	HEX PLUG, THRD, 3000LB, ASTM A105	1.5
9	5	12"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	400.0
10	1	4"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	15.0
11	1	2"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	6.0
12	1	2"	FLANGE, RF THRD, 150LB, ASTM A105	5.0
13	3	1"	FLANGE, RF THRD, 150LB, ASTM A105	6.0
14	3	12"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CG1" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
15	2	2"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CG1" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
16	6	1"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CG1" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
17	36	7/8X5 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 12"-150# FLGS.	4.0
18	8	5/8X3 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 2"-150# FLGS.	1.0
19	24	1/2X2 3/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 1"-150# FLGS.	1.7
20	1	12"	BLIND FLANGE, RF, 150LB, ASTM A105	110.0
21	1	12"	GATE VALVE, SLAB, ANSI 150LB, RFFE, API TRIM #8, FULL OPENING, PIGGABLE, SPX M303, (BARE STEM FOR MOV), W/ DTR BYPASS SYSTEM PIPED UPSTREAM.	1768.0
22	1	2"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	35.4
23	3	1"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	120.0
TOTAL FABRICATION WEIGHT				3284.1
24	2	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ.	2.0
TOTAL ERECTION WEIGHT				2.0
TOTAL WEIGHT UNLISTED ITEMS				0.8
TOTAL WEIGHT - THIS DRG				3286.9

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	—	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-369-A SHT. 1 OF 3				REV 0
				APP. JR	Ⓞ	Ⓞ	Ⓞ							

STOT-12"-RD-369-A-SHT.1.DWG

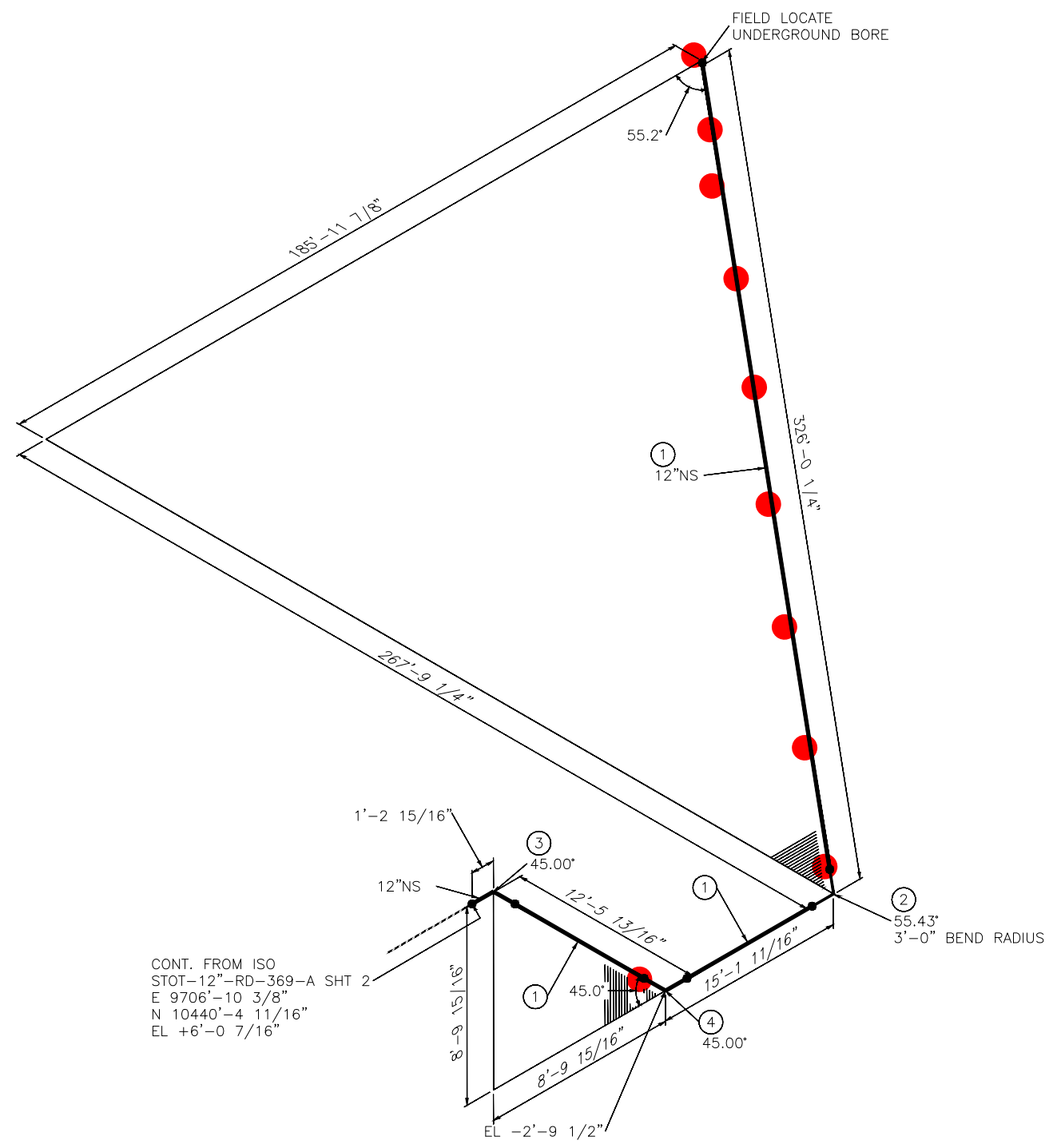


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	188'5"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	9328.0
2	2	12"	ELBOW, 90 DEG 3R, BW, SMLS, SCH STD, ASTM A234 WPB	466.7
TOTAL FABRICATION WEIGHT				9794.6
3	9	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	9.0
TOTAL ERECTION WEIGHT				9.0
TOTAL WEIGHT - THIS DRG				9803.6

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	—	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-369-A SHT. 2 OF 3				REV 0
				APP. JR	Ⓞ	Ⓞ	Ⓞ							

STOT-12"-RD-369-A-SHT.2.DWG



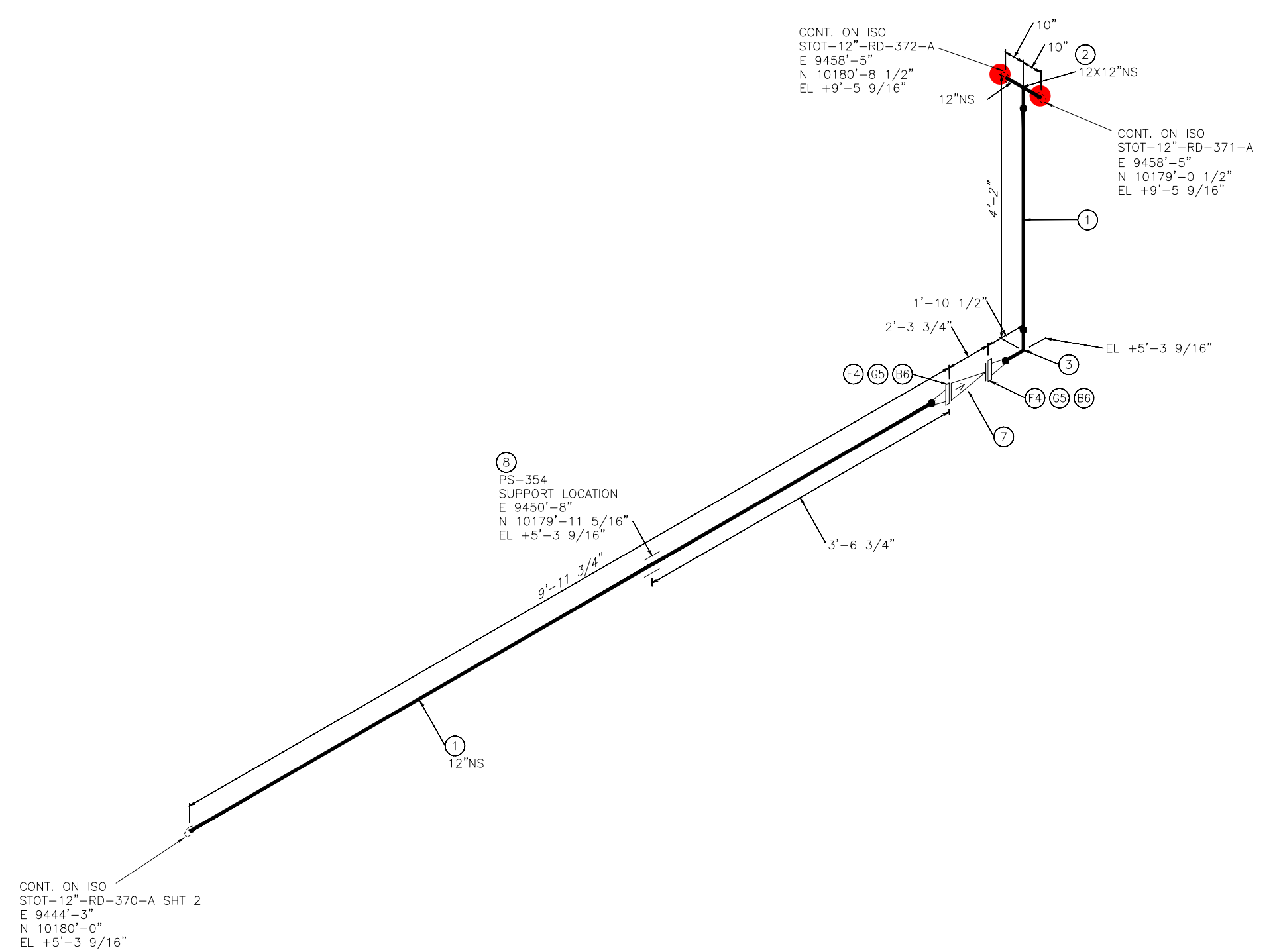
BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	340	10" 12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B, FBE COATED	16871.1
2	8	11" 12"	BENT PIPE, SCH STD, ERW, API 5L PSL-2 GR B, FBE COATED (3'-0" TANGENTS)	-
3	1	12"	ELBOW, 45 DEG 3R, BW, SMLS, SCH STD, ASTM A234 WPB	116.7
4	1	12"	ELBOW, 45 DEG 3R, BW, SMLS, SCH STD, ASTM A234 WPB, FBE COATED	116.7
TOTAL FABRICATION WEIGHT				17104.4

CONT. FROM ISO
 STOT-12"-RD-369-A SHT 2
 E 9706'-10 3/8"
 N 10440'-4 11/16"
 EL +6'-0 7/16"

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	100%	NS-ES-68-002	WHITE	N/A	N/A	N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL		LINE No. STOT-12"-RD-369-A SHT. 3 OF 3			REV 0
				APP. JR	ⓐ	ⓑ	ⓒ							

STOT-12"-RD-369-A-SHT.3.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	11'6"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	566.3
2	1	12X12"	TEE, BW, SMLS, SCH STD, ASTM A234 WPB	91.3
3	1	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	116.7
4	2	12"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	160.0
5	2	12"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
6	24	7/8X5 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 12"-150# FLGS.	2.7
7	1	12"	CHECK VALVE, SWING CHECK, ANSI 150LB, RFFE, API-602, ASTM A105 BODY, API TRIM #8	-
TOTAL FABRICATION WEIGHT				936.8
8	1	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	1.0
TOTAL ERECTION WEIGHT				1.0
TOTAL WEIGHT - THIS DRG				937.8

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

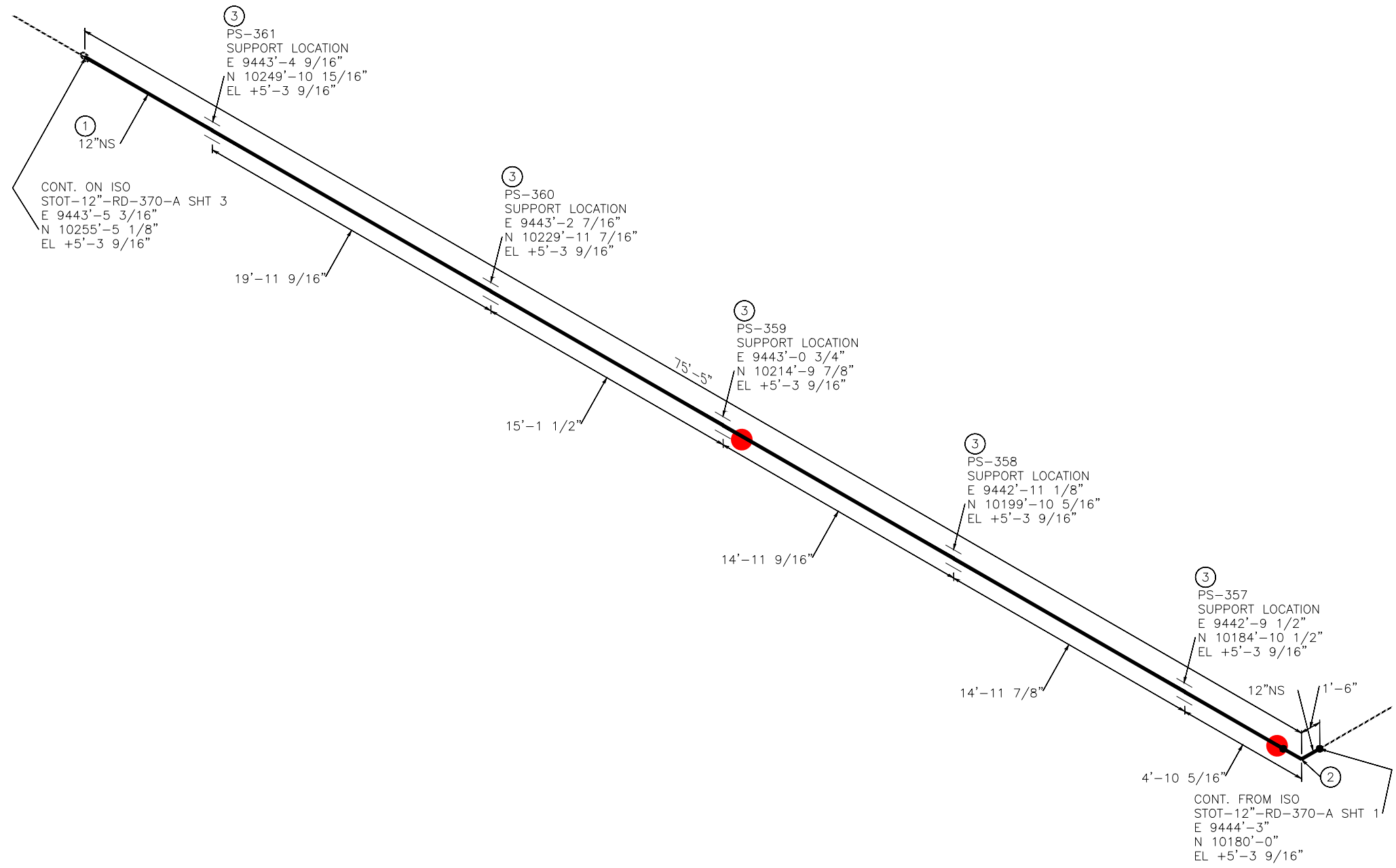
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A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD FIELD WELD SOCKET WELD SCREWED JOINT INSPECT -A-LIFT OIO GASKET TAG# G#	PIPE SUPPORT VENT DRAIN FLANGE TAG# F#	BOLT TAG# B#	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5
X-RAY 100%			PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
SERVICE REN. DSL		LINE No. STOT-12"-RD-370-A-SHT. 1 OF 6		REV 0				

STOT-12"-RD-370-A-SHT.DWG



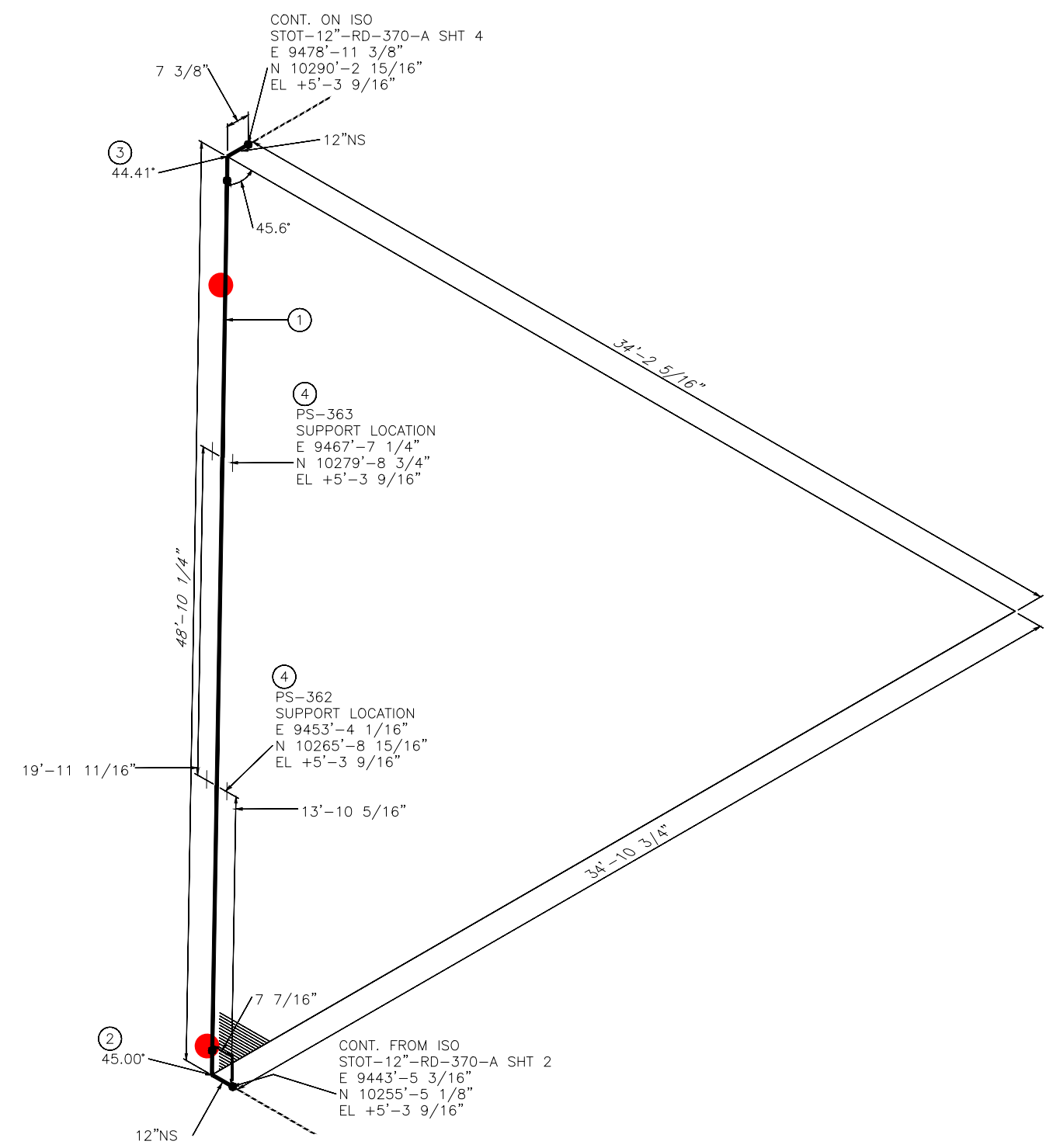
BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	73'11"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	3659.7
2	1	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	116.7
TOTAL FABRICATION WEIGHT				3776.3
3	5	12"	PIPE PAD, 6' x 6' x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	5.0
TOTAL ERECTION WEIGHT				5.0
TOTAL WEIGHT - THIS DRG				3781.3



- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	—	○	Ⓧ	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12''-RD-370-A SHT. 2 OF 6				REV 0
				APP. JR	Ⓞ	Ⓞ	Ⓞ							

STOT-12''-RD-370-A-SHT.DWG



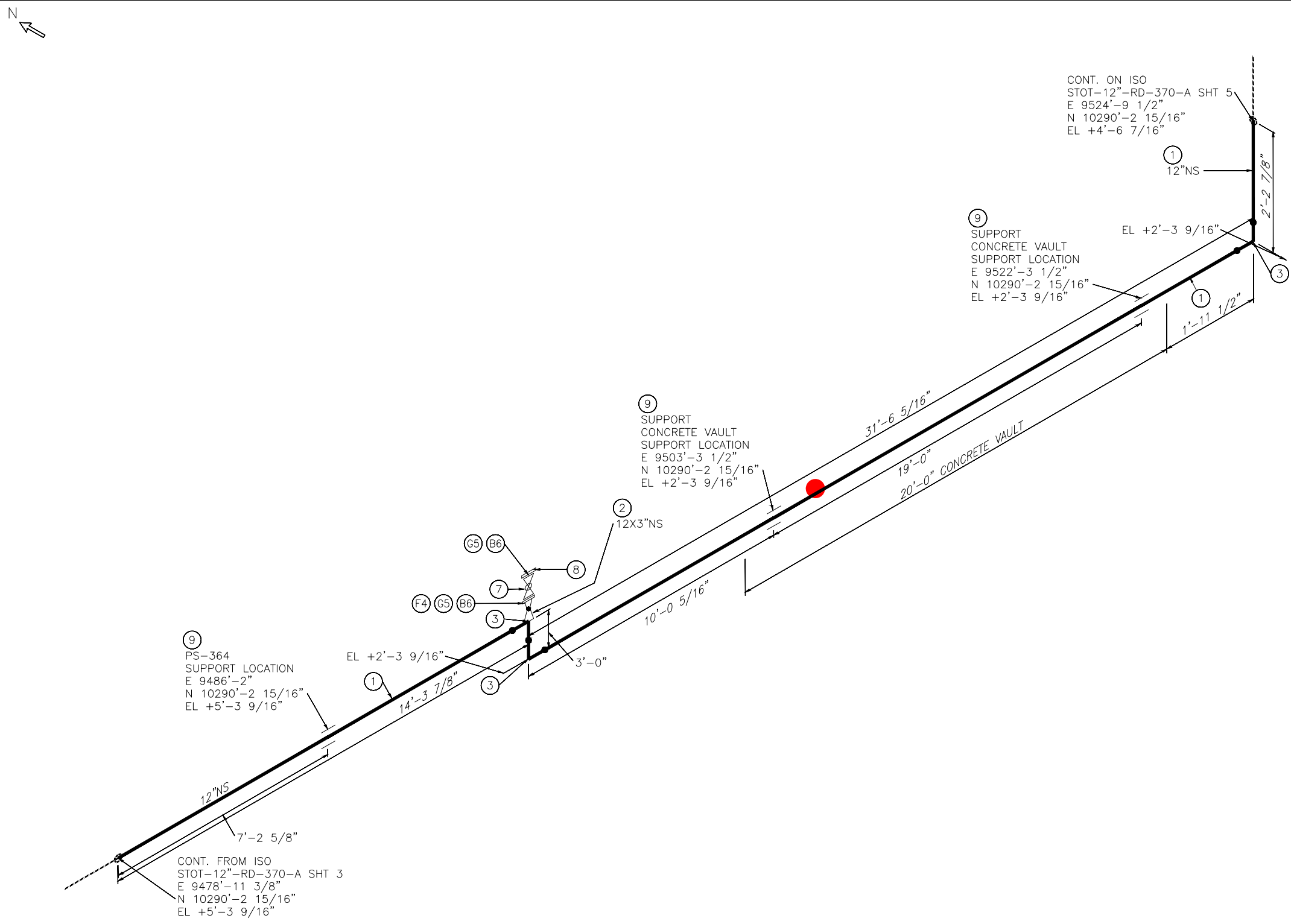
BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	47'8"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	2358.0
2	1	12"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	58.4
3	1	12"	TRIMMED ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB (44.42)	57.6
TOTAL FABRICATION WEIGHT				2473.8
4	2	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	2.0
TOTAL ERECTION WEIGHT				2.0
TOTAL WEIGHT - THIS DRG				2475.8

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD <input type="checkbox"/> INSPECT <input type="checkbox"/> A-LIFT <input type="checkbox"/> OIO	FIELD WELD <input checked="" type="checkbox"/> PIPE SUPPORT <input type="checkbox"/> VENT <input type="checkbox"/> DRAIN	SOCKET WELD <input type="checkbox"/> VENT <input type="checkbox"/> DRAIN	SCREWED JOINT <input type="checkbox"/> VENT <input type="checkbox"/> DRAIN	PIPE SPEC. A DESIGN PRESS. 285 PSIG DESIGN TEMP. 125 °F OPER. PRESS. 120 PSIG OPER. TEMP. 100 °F HYDROTEST PSIG 427.5	X-RAY 100% PWHT N/A PAINT SPEC NS-ES-68-002 PAINT COLOR WHITE INSUL SPEC N/A INSUL THK N/A TRACING N/A	SERVICE REN. DSL LINE No. STOT-12"-RD-370-ASHT.3 OF 6 REV 0
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STOT-12"-RD-370-A-SHT.3.DWG

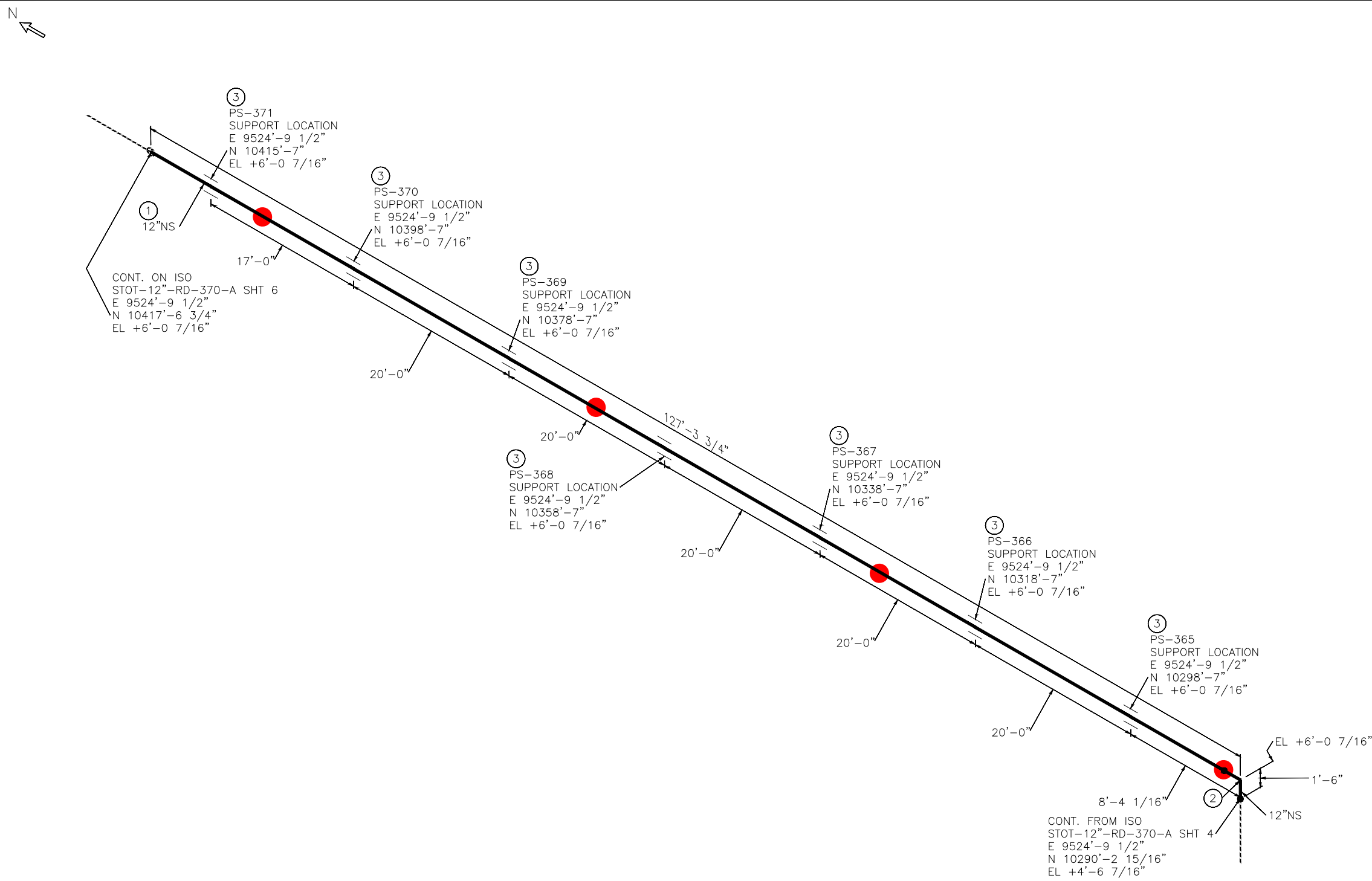


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	42'2"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	2083.8
2	1	12X3"	ELBOLET, BW, SCH STD, ASTM A105	33.1
3	3	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	350.0
4	1	3"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	11.3
5	2	3"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
6	8	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 3"-150# FLGS.	1.0
7	1	3"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	62.5
8	1	3"	BLIND FLANGE, RF, 150LB, ASTM A105	9.0
TOTAL FABRICATION WEIGHT				2550.5
9	3	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ.	3.0
TOTAL ERECTION WEIGHT				3.0
TOTAL WEIGHT - THIS DRG				2553.5

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD FIELD WELD SOCKET WELD SCREWED JOINT INSPECT -A-LIFT OIO GASKET TAG# G#	PIPE SPEC. A X-RAY 100% PWHT N/A SERVICE REN. DSL	DESIGN PRESS. 285 PSIG PAINT SPEC NS-ES-68-002 DESIGN TEMP. 125 °F PAINT COLOR WHITE OPER. PRESS. 120 PSIG INSUL SPEC N/A OPER. TEMP. 100 °F INSUL THK N/A LINE No. STOT-12"-RD-370-A-SHT. 4 OF 6	HYDROTEST PSIG 427.5 TRACING N/A REV 0
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	PIPE SUPPORT VENT DRAIN FLANGE TAG# F# BOLT TAG# B#			
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19 CHKD. NSD APP. JR				

STOT-12"-RD-370-A-SHT.4.DWG

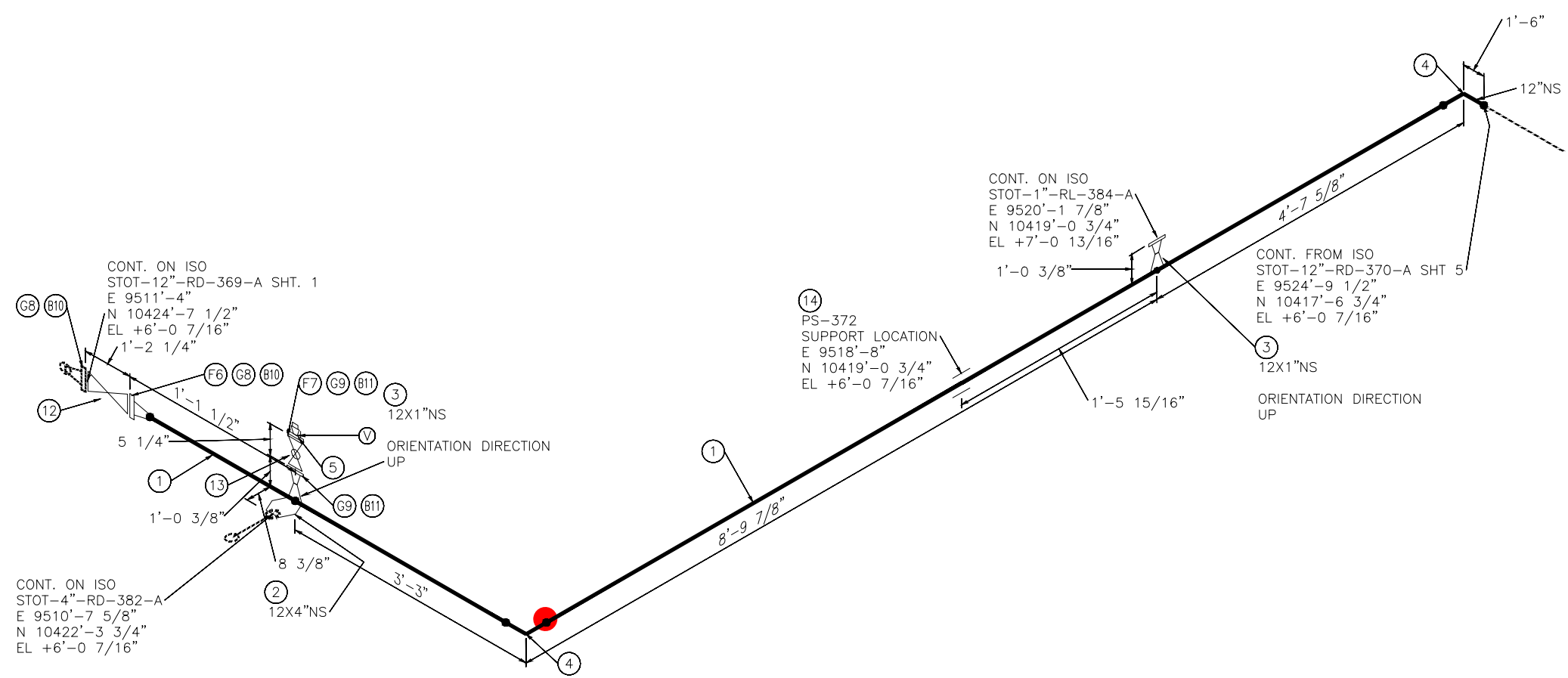


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	125	10" 12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	6229.0
2	1	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	116.7
TOTAL FABRICATION WEIGHT				6345.6
3	7	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	7.0
TOTAL ERECTION WEIGHT				7.0
TOTAL WEIGHT - THIS DRG				6352.6

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-370-ASHT.5	OF 6	REV 0		

STOT-12"-RD-370-A-SHT.5.DWG



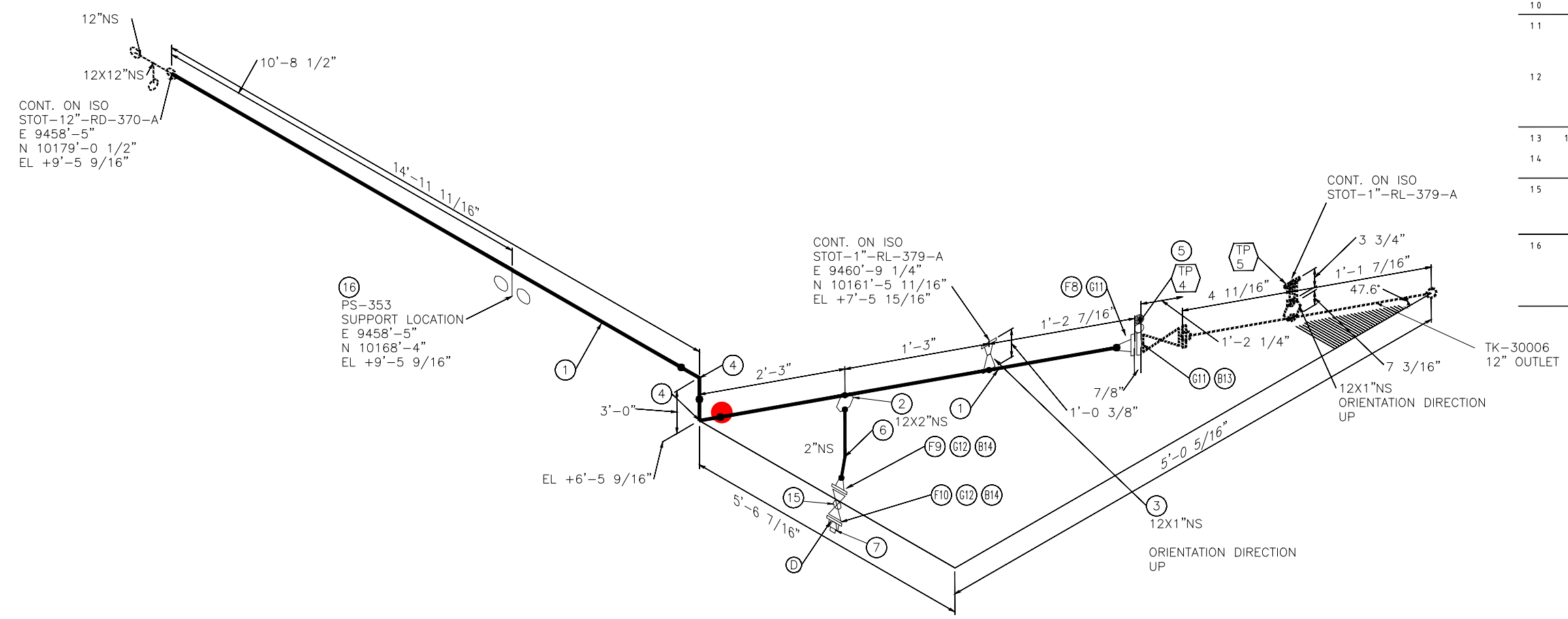
BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	13'0"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	641.6
2	1	12X4"	WELDOLET, BW, SCH STD, ASTM A105	7.3
3	2	12X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC RF FLANGED BRANCHETTE OR EQ.	1.2
4	2	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	233.4
5	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
6	1	12"	FLANGE, RFW, 150LB, SCH STD BORE, ASTM A105	80.0
7	1	1"	FLANGE, RF THRD, 150LB, ASTM A105	2.0
8	2	12"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
9	2	1"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
10	24	7/8X5 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 12"-150# FLGS.	2.7
11	8	1/2X2 3/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 1"-150# FLGS.	0.6
12	1	12"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	672.0
13	1	1"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	40.0
TOTAL FABRICATION WEIGHT				1681.2
14	1	12"	PIPE PAD, 6' x 6' x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ.	1.0
TOTAL ERECTION WEIGHT				1.0
TOTAL WEIGHT - THIS DRG				1682.2

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD FIELD WELD SOCKET WELD SCREWED JOINT INSPECT -A-LIFT OIO	PIPE SUPPORT VENT DRAIN	GASKET TAG# FLANGE TAG# BOLT TAG#	PIPE SPEC. A DESIGN PRESS. 285 PSIG DESIGN TEMP. 125 °F OPER. PRESS. 120 PSIG OPER. TEMP. 100 °F HYDROTEST PSIG 427.5 X-RAY 100% PWHT N/A PAINT SPEC NS-ES-68-002 PAINT COLOR WHITE INSUL SPEC N/A INSUL THK N/A TRACING N/A	SERVICE REN. DSL LINE No. STOT-12''-RD-370-A SHT. 6 OF 6 REV 0
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STOT-12''-RD-370-A-SHT.6.DWG

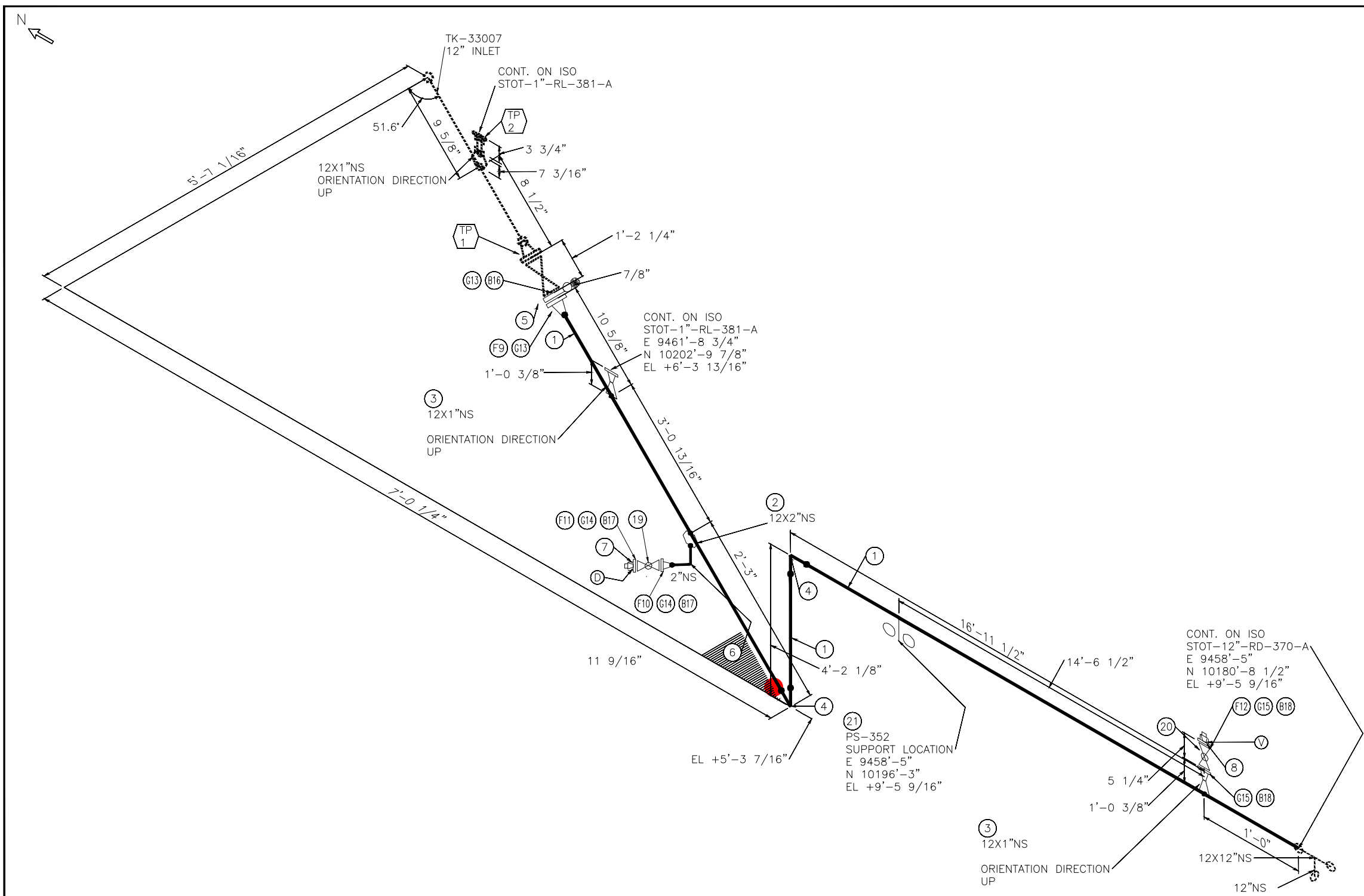


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	16'4"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	807.2
2	1	12X2"	WELDOLET, BW, SCH XS, ASTM A105	1.6
3	1	12X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105 WELDING OUTLETS INC RF FLANGED BRANCHETTE OR EQ.	0.6
4	2	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	233.4
5	1	12"	SPECTACLE BLIND, 150LB, ASTM A105	-
6	1	2"	ELBOW, 90 DEG LR, BW, SMLS, SCH XS, ASTM A234 WPB	2.0
7	1	2"	HEX PLUG, THRD, 3000LB, ASTM A105	3.0
8	1	12"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	80.0
9	1	2"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	6.0
10	1	2"	FLANGE, RF THRD, 150LB, ASTM A105	5.0
11	2	12"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
12	2	2"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
13	12	7/8X6"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 12"-150# FLGS.	1.5
14	8	5/8X3 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 2"-150# FLGS.	1.0
15	1	2"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	35.4
TOTAL FABRICATION WEIGHT				1176.4
16	1	12"	INSPECT-A-LIFT 4 INCH KIT	15.0
TOTAL ERECTION WEIGHT				15.0
TOTAL WEIGHT UNLISTED ITEMS				1485.4
TOTAL WEIGHT - THIS DRG				2676.8

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD FIELD WELD SOCKET WELD SCREWED JOINT INSPECT -A-LIFT PIPE SUPPORT VENT DRAIN GASKET TAG# FLANGE TAG# BOLT TAG#	PIPE SPEC. A X-RAY 100% PWHT N/A SERVICE REN. DSL	DESIGN PRESS. 285 PSIG PAINT SPEC NS-ES-68-002	DESIGN TEMP. 125 °F PAINT COLOR WHITE	OPER. PRESS. 120 PSIG INSUL SPEC N/A	OPER. TEMP. 100 °F INSUL THK N/A	HYDROTEST PSIG 427.5 TRACING N/A
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV							
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19							
				CHKD. NSD							
				APP. JR							
							SERVICE	LINE No.	STOT-12"-RD-371-ASHT. 1 OF 1		REV 0

STOT-12"-RD-371-A-SHT.1.DWG

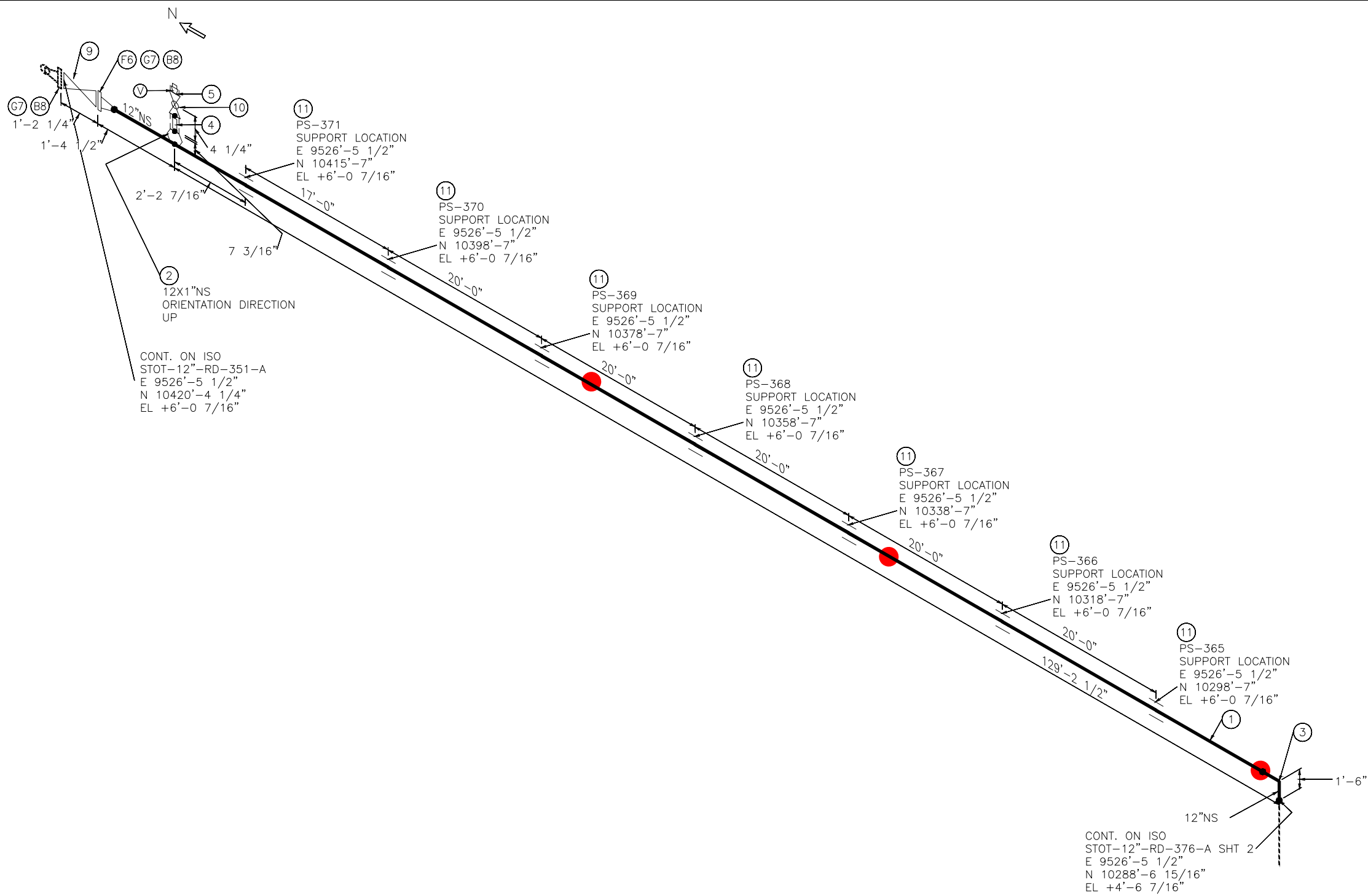


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	22'0"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	1087.5
2	1	12X2"	WELDOLET, BW, SCH XS, ASTM A105	1.6
3	2	12X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105 WELDING OUTLETS INC RF FLANGED BRANCHETTE OR EQ.	1.2
4	2	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	233.4
5	1	12"	SPECTACLE BLIND, 150LB, ASTM A105	-
6	1	2"	ELBOW, 90 DEG LR, BW, SMLS, SCH XS, ASTM A234 WPB	2.0
7	1	2"	HEX PLUG, THRD, 3000LB, ASTM A105	3.0
8	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
9	1	12"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	80.0
10	1	2"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	6.0
11	1	2"	FLANGE, RF THRD, 150LB, ASTM A105	5.0
12	1	1"	FLANGE, RF THRD, 150LB, ASTM A105	2.0
13	2	12"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
14	2	2"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
15	2	1"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
16	12	7/8X6"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 12"-150# FLGS.	1.5
17	8	5/8X3 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 12"-150# FLGS.	1.0
18	8	1/2X2 3/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 12"-150# FLGS.	0.6
19	1	2"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	35.4
20	1	1"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	10.5
TOTAL FABRICATION WEIGHT				1471.1
21	1	12"	INSPECT-A-LIFT 4 INCH KIT	15.0
TOTAL ERECTION WEIGHT				15.0
TOTAL WEIGHT UNLISTED ITEMS				1484.4
TOTAL WEIGHT - THIS DRG				2970.5

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	—	○	○	100%	NS-ES-68-002	WHITE	N/A	N/A	N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-372-ASHT. 1 OF 1				REV 0
				APP. JR	○	○	○							

STOT-12"-RD-372-A-SHT.1.DWG

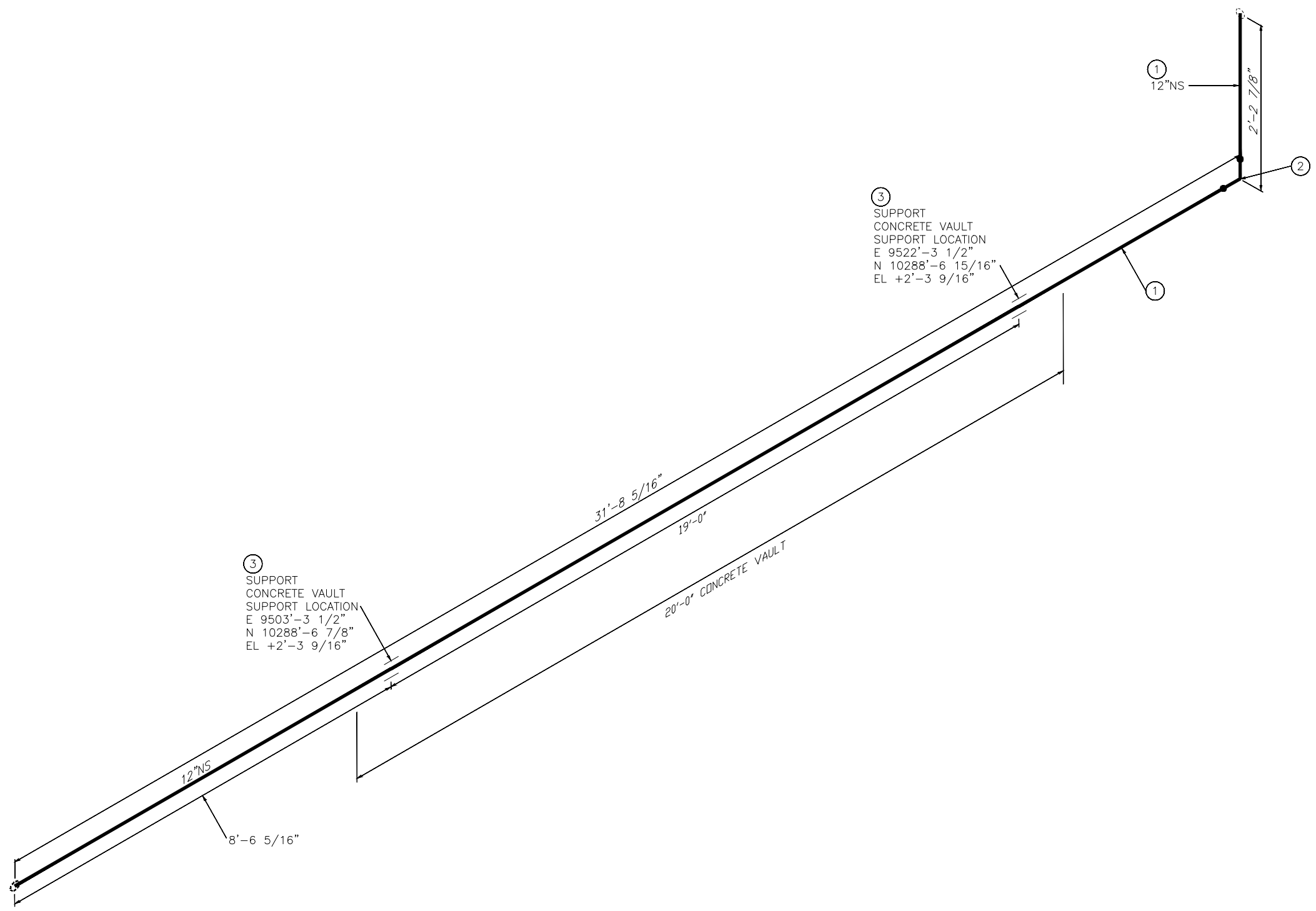


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	128'9"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	6372.4
2	1	12X1"	SOCKET, SW, 3000LB, ASTM A105	0.6
3	1	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	116.7
4	1	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (3" LG)	1.5
5	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
6	1	12"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	80.0
7	2	12"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CG1" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
8	24	7/8X5 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 12"-150# FLGS.	2.7
9	1	12"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	672.0
10	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTF CSPGSL-100	2.3
TOTAL FABRICATION WEIGHT				7248.8
11	7	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ.	7.0
TOTAL ERECTION WEIGHT				7.0
TOTAL WEIGHT - THIS DRG				7255.8

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	●	●	●	●	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	○	○	○	○						
				APP. JR	GASKET TAG# (G#)	FLANGE TAG# (F#)	BOLT TAG# (B#)		SERVICE REN. DSL	LINE No. STOT-12"-RD-376-ASHT. 1	OF 7	REV 0		

STOT-12"-RD-376-A-SHT.1.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	31'0"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	1531.5
2	1	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	116.7
TOTAL FABRICATION WEIGHT				1648.1
3	2		PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	2.0
TOTAL ERECTION WEIGHT				2.0
TOTAL WEIGHT - THIS DRG				1650.1

③ SUPPORT CONCRETE VAULT
SUPPORT LOCATION
E 9522'-3 1/2"
N 10288'-6 15/16"
EL +2'-3 9/16"

③ SUPPORT CONCRETE VAULT
SUPPORT LOCATION
E 9503'-3 1/2"
N 10288'-6 7/8"
EL +2'-3 9/16"

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5	
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-376-ASHT.2	OF 7	REV 0			

STOT-12"-RD-376-A-SHT.2.DWG

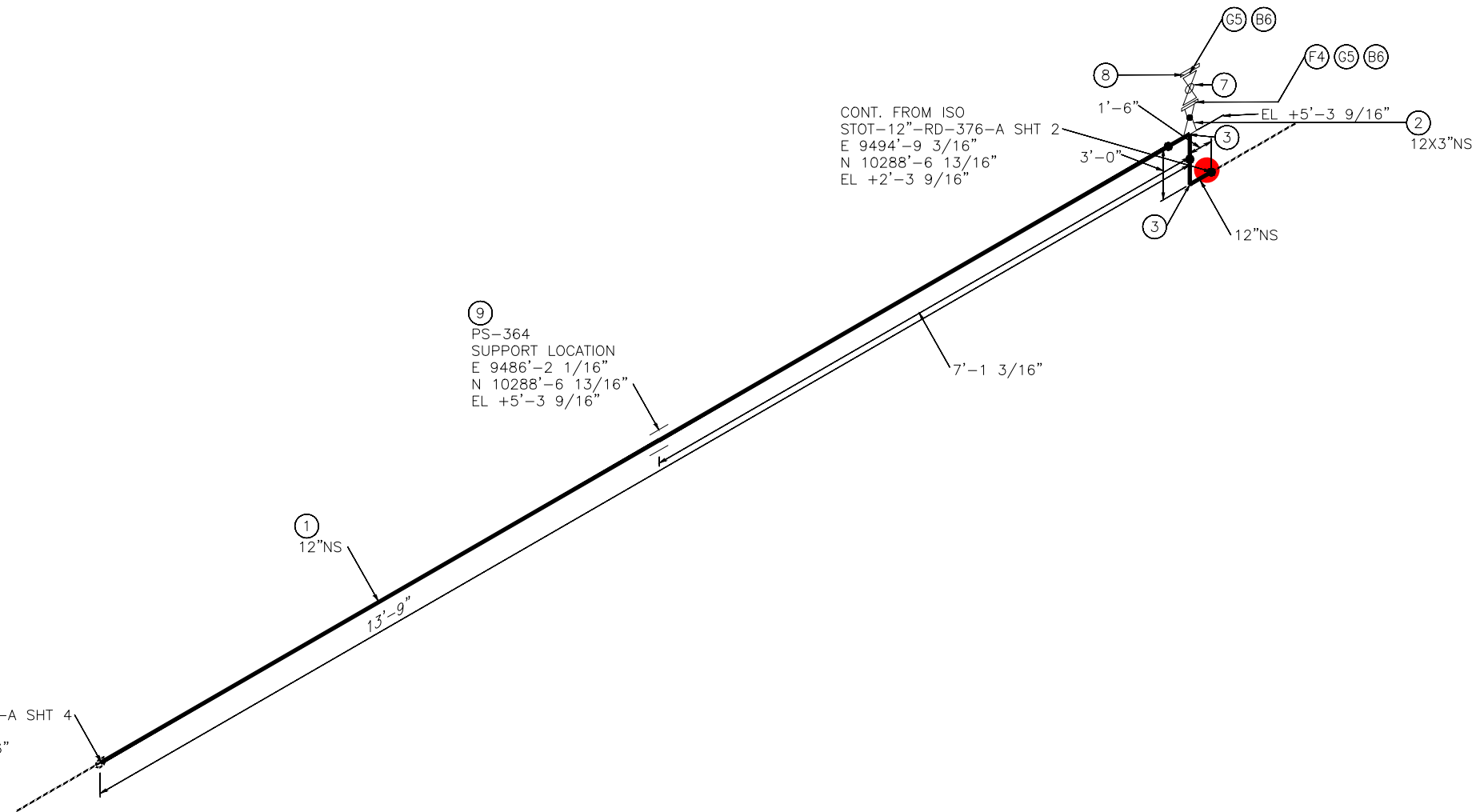


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	12'4"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	606.8
2	1	12X3"	ELBOLET, BW, SCH STD, ASTM A105	33.1
3	2	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	233.4
4	1	3"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	11.3
5	2	3"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
6	8	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 3"-150# FLGS.	1.0
7	1	3"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	62.5
8	1	3"	BLIND FLANGE, RF, 150LB, ASTM A105	9.0
TOTAL FABRICATION WEIGHT				956.8
9	1	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ.	1.0
TOTAL ERECTION WEIGHT				1.0
TOTAL WEIGHT - THIS DRG				957.8

CONT. FROM ISO
 STOT-12"-RD-376-A SHT 2
 E 9494'-9 3/16"
 N 10288'-6 13/16"
 EL +2'-3 9/16"

9
 PS-364
 SUPPORT LOCATION
 E 9486'-2 1/16"
 N 10288'-6 13/16"
 EL +5'-3 9/16"

CONT. ON ISO
 STOT-12"-RD-376-A SHT 4
 E 9479'-6 3/16"
 N 10288'-6 13/16"
 EL +5'-3 9/16"

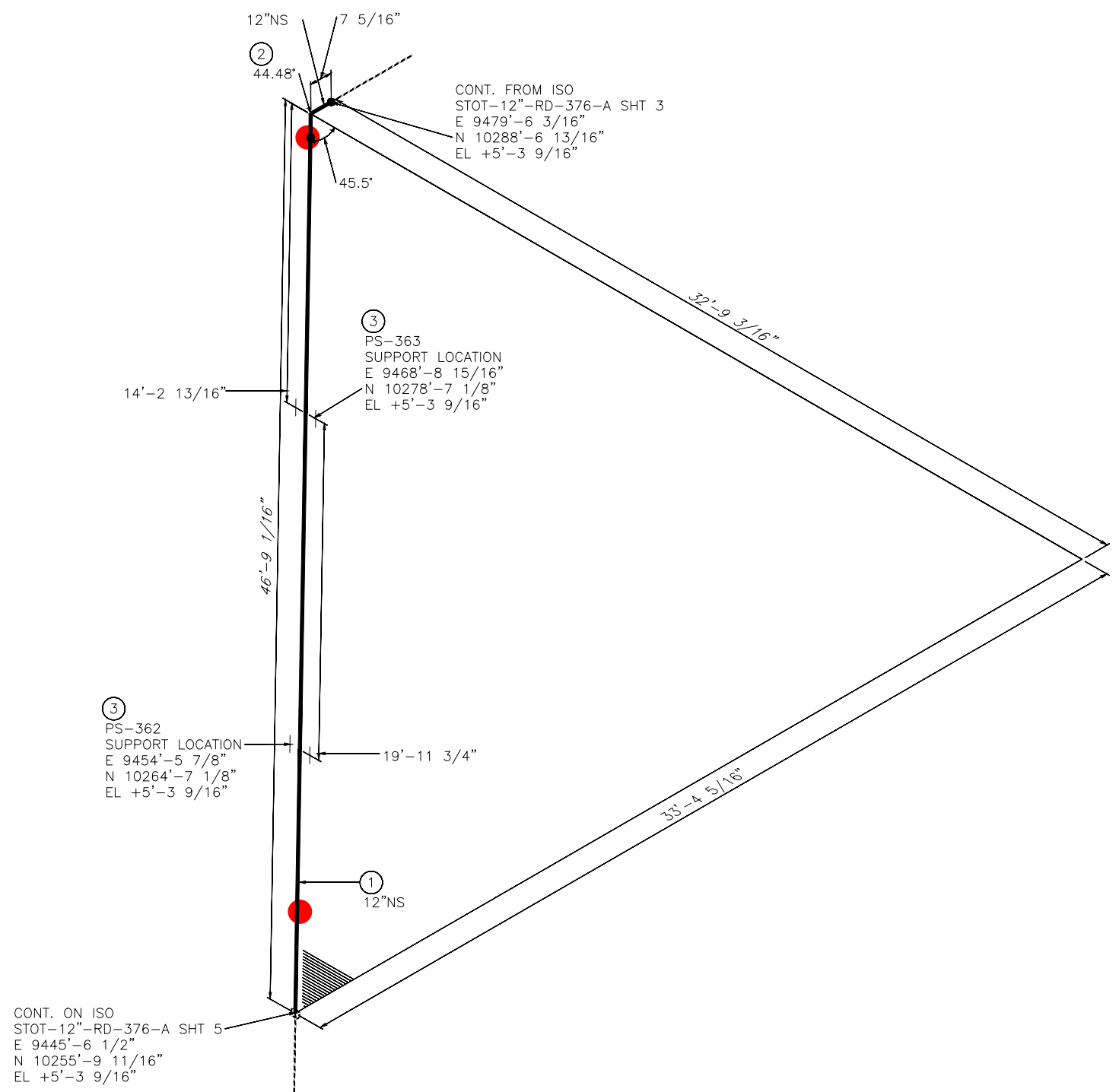


- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD FIELD WELD SOCKET WELD SCREWED JOINT INSPECT -A-LIFT OIO GASKET TAG# (G#)	PIPE SUPPORT VENT DRAIN FLANGE TAG# (F#)	BOLT TAG# (B#)	PIPE SPEC. A DESIGN PRESS. 285 PSIG DESIGN TEMP. 125 °F OPER. PRESS. 120 PSIG OPER. TEMP. 100 °F HYDROTEST PSIG 427.5 X-RAY 100% PWHT N/A PAINT SPEC NS-ES-68-002 PAINT COLOR WHITE INSUL SPEC N/A INSUL THK N/A TRACING N/A SERVICE REN. DSL LINE No. STOT-12"-RD-376-A SHT. 3 OF 7 REV 0
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STOT-12"-RD-376-A-SHT.3.DWG



CONT. FROM ISO
 STOT-12"-RD-376-A SHT 3
 E 9479'-6 3/16"
 N 10288'-6 13/16"
 EL +5'-3 9/16"

(3)
 PS-363
 SUPPORT LOCATION
 E 9468'-8 15/16"
 N 10278'-7 1/8"
 EL +5'-3 9/16"

(3)
 PS-362
 SUPPORT LOCATION
 E 9454'-5 7/8"
 N 10264'-7 1/8"
 EL +5'-3 9/16"

CONT. ON ISO
 STOT-12"-RD-376-A SHT 5
 E 9445'-6 1/2"
 N 10255'-9 11/16"
 EL +5'-3 9/16"

BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	46'2"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	2284.5
2	1	12"	TRIMMED ELBOW, 45 DEG LR. BW, SMLS, SCH STD, ASTM A234 WPB (44.48)	57.7
TOTAL FABRICATION WEIGHT				2342.1
3	2	12"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	2.0
TOTAL ERECTION WEIGHT				2.0
TOTAL WEIGHT - THIS DRG				2344.1

GENERAL NOTES:

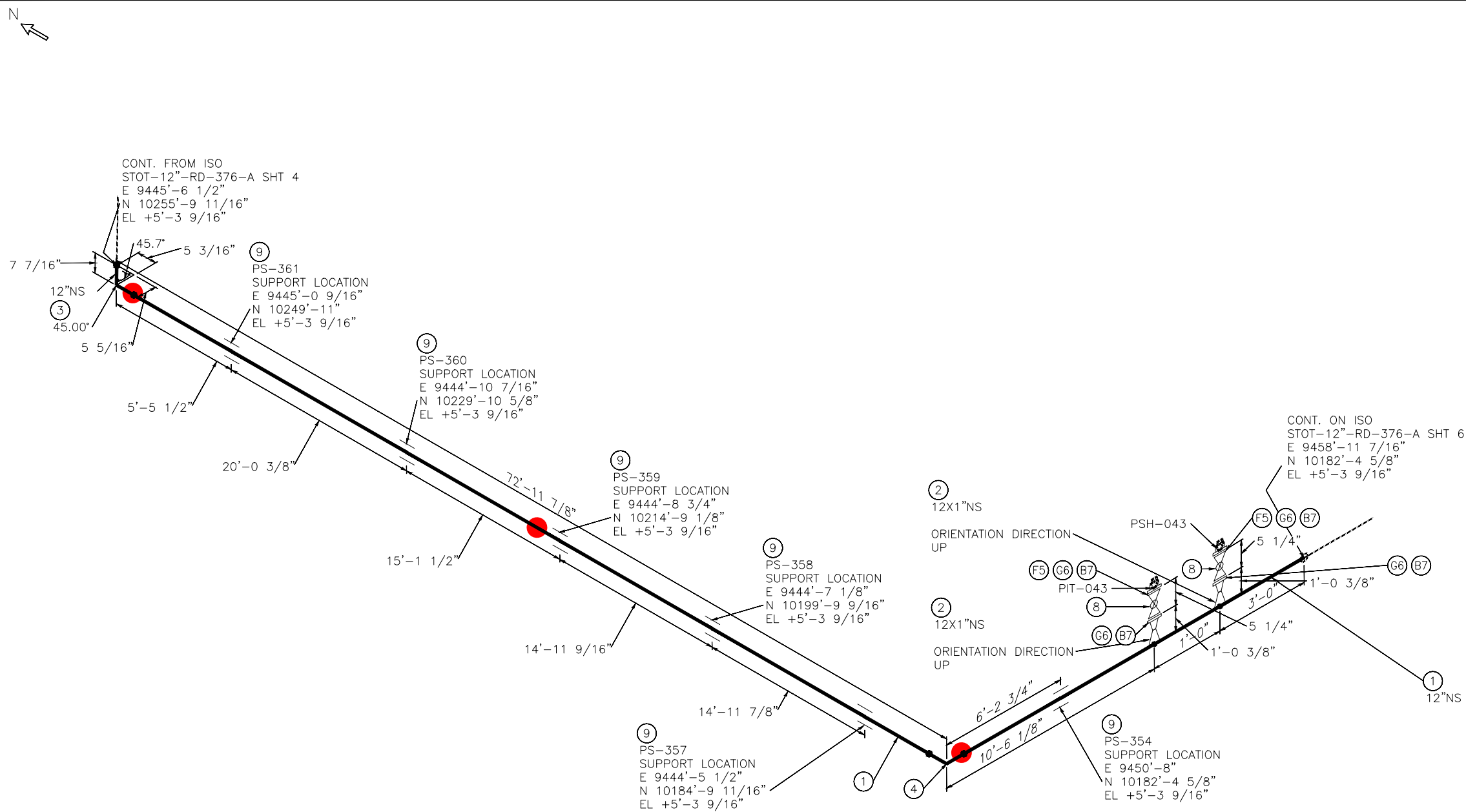
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
- ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
- FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
- FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN
GASKET TAG#	FLANGE TAG#	BOLT TAG#	
(G#)	(F#)	(B#)	

PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5
X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A
SERVICE REN. DSL		LINE No. STOT-12"-RD-376-A SHT. 4 OF 7		REV 0	

STOT-12"-RD-376-A-SH4.DWG

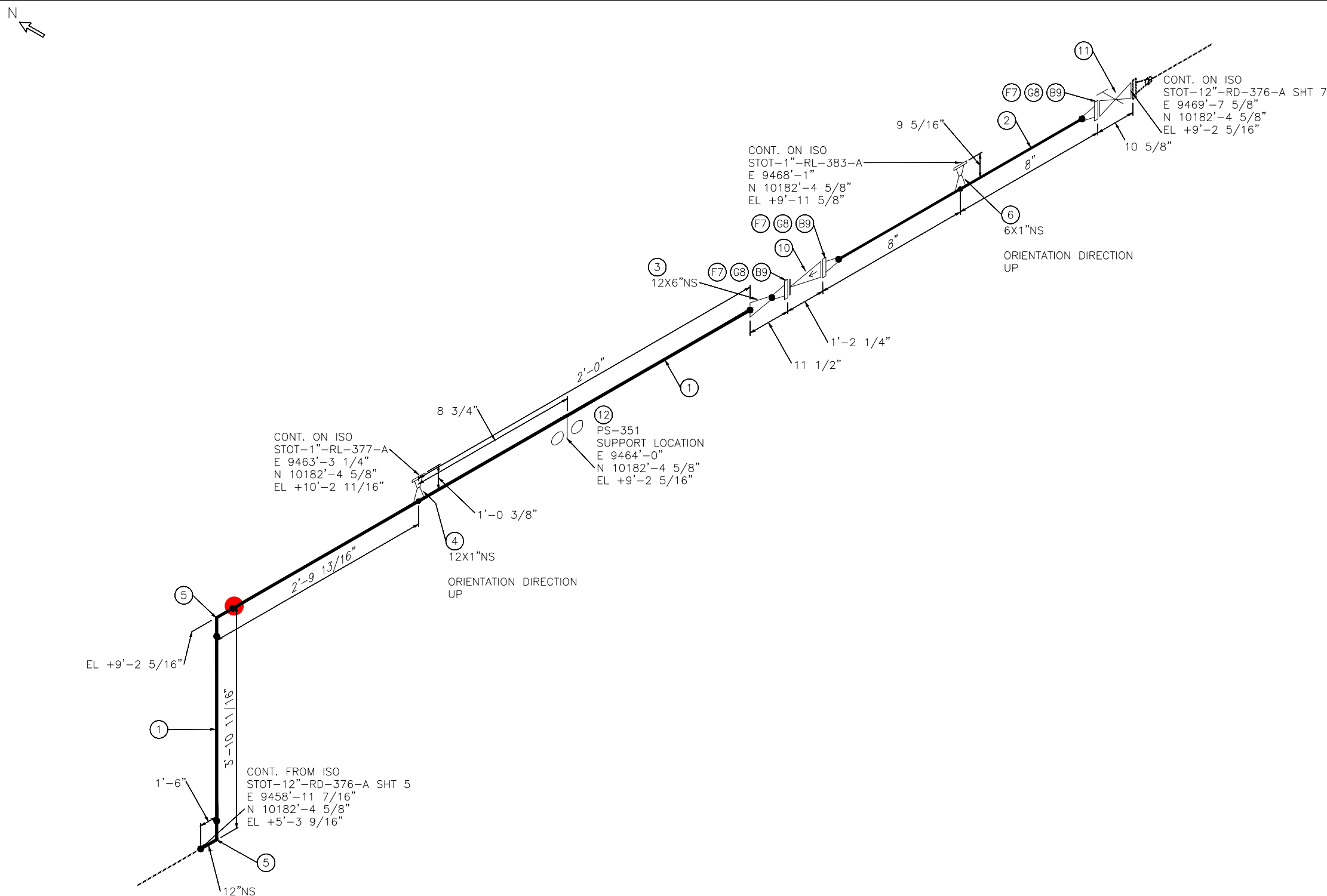


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	83'11"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	4151.7
2	2	12X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	1.2
3	1	12"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	58.4
4	1	12"	TRIMMED ELBOW, 180 DEG LR, BW, SCH STD, ASTM A234 WPB (90.52)	166.0
5	2	1"	FLANGE, RF THRD, 150LB, ASTM A105	4.0
6	4	1"	GASKET, 1/8" THICK, 150LB SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
7	16	1/2X2 3/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA. FOR 1"-150# FLGS.	1.2
8	2	1"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	80.0
TOTAL FABRICATION WEIGHT				4462.2
9	6	12"	PIPE PAD, 6' x 6' x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ.	6.0
TOTAL ERECTION WEIGHT				6.0
TOTAL WEIGHT UNLISTED ITEMS				1.5
TOTAL WEIGHT - THIS DRG				4469.7

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-376-ASHT.5 OF 7				REV 0
				APP. JR	○	○	○							

STOT-12"-RD-376-A-SHT.5.DWG



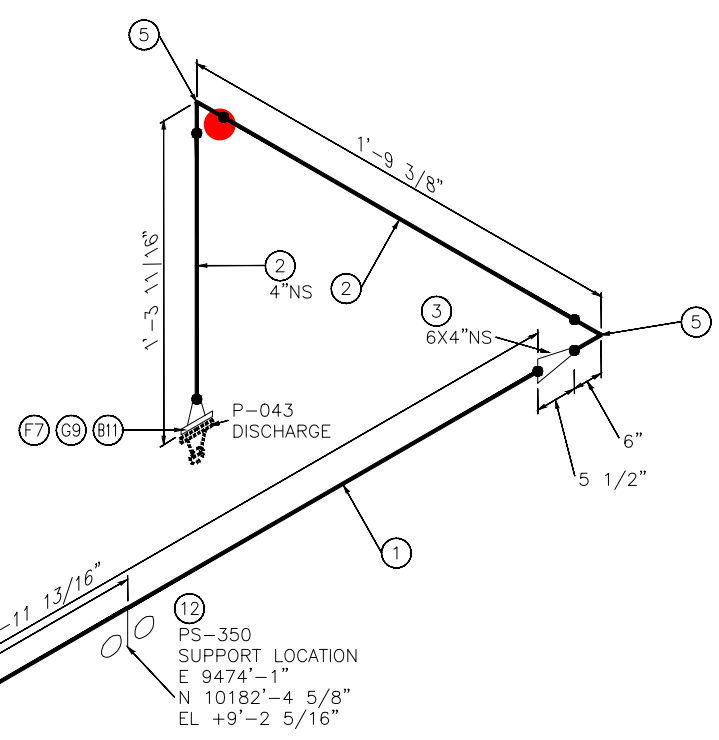
BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	4'3"	12"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	208.9
2	0'9"	6"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	14.3
3	1	12X6"	CONC REDUCER, BW, SMLS, (SCH STD x SCH STD), ASTM A234 WPB	22.2
4	1	12X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	0.6
5	2	12"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	233.4
6	1	6X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	0.6
7	3	6"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	72.0
8	3	6"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
9	24	3/4X4 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 6"-150# FLGS	2.6
10	1	6"	CHECK VALVE, SWING CHECK, ANSI 150LB, RFFE, API-600, API TRIM #8	-
11	1	6"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	194.0
TOTAL FABRICATION WEIGHT				748.3
12	1	12"	INSPECT-A-LIFT 4 INCH KIT	15.0
TOTAL ERECTION WEIGHT				15.0
TOTAL WEIGHT - THIS DRG				763.3

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5	
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-376-ASHT. 6 OF 7	REV 0				

STOT-12"-RD-376-A-SHG.DWG



CONT. ON ISO
STOT-1"-RL-383-A
E 9470'-8 1/4"
N 10182'-4 5/8"
EL +9'-11 5/8"

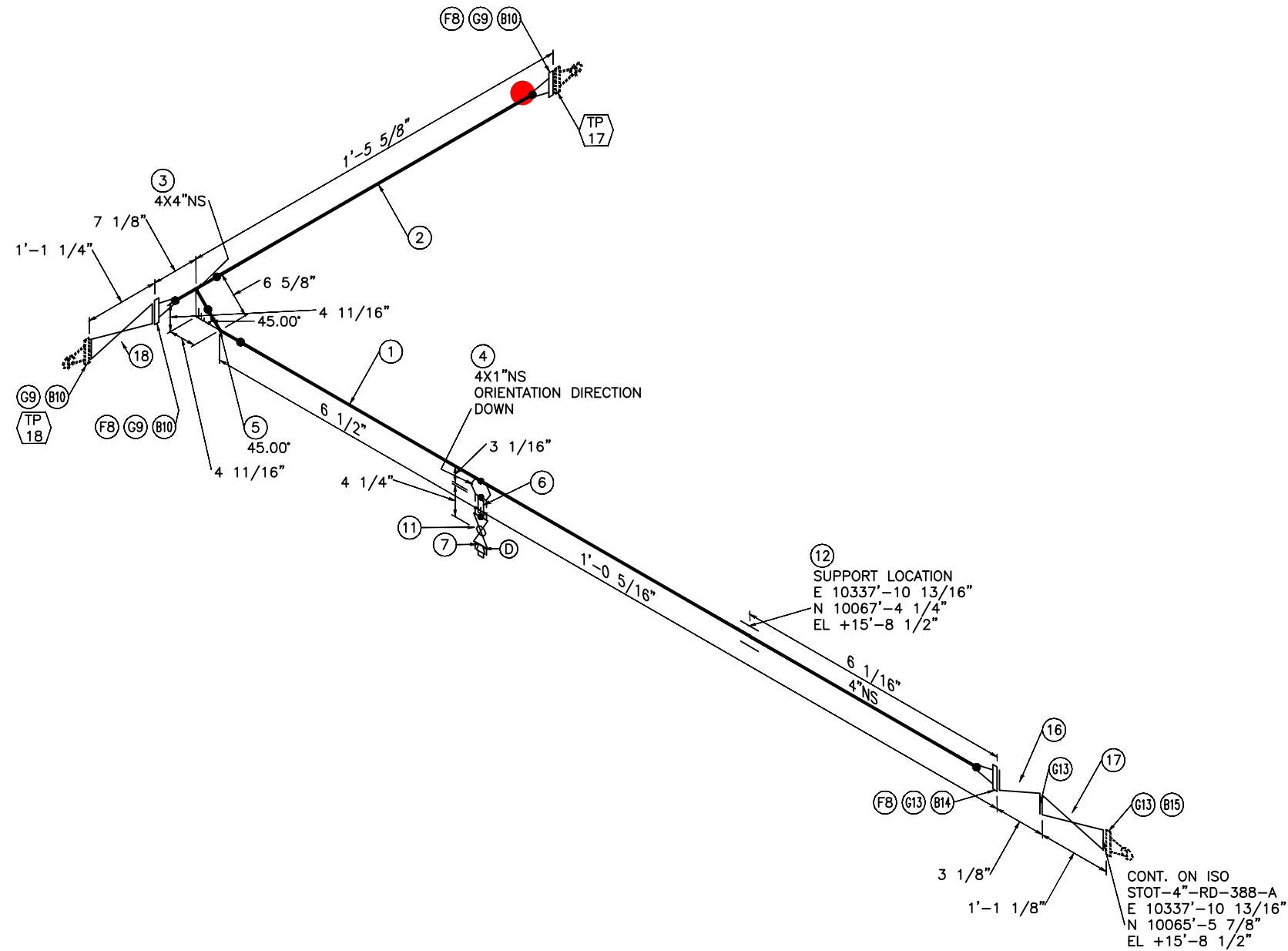
CONT. FROM ISO
STOT-12"-RD-376-A SHT 6
E 9469'-7 5/8"
N 10182'-4 5/8"
EL +9'-2 5/16"

BILLOF MATERIAL		MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	5'9"	6"			PIPE, SCH STD, ERW, API 5L PSL-2 GR B	108.6
2	1'5"	4"			PIPE, SCH STD, ERW, API 5L PSL-2 GR B	14.5
3	1	6X4"			CONC REDUCER, BW, SMLS, (SCH STD x SCH STD), ASTM A234 WPB	6.8
4	1	6X1"			FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	0.6
5	2	4"			ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	17.0
6	1	6"			FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	24.0
7	1	4"			FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	15.0
8	1	6"			GASKET, 1/8" THICK, 150LB SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
9	1	4"			GASKET, 1/8" THICK, 150LB SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
10	8	3/4X4 1/4"			STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	0.9
11	8	5/8X4"			STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	0.5
TOTAL FABRICATION WEIGHT						187.6
12	1	6"			INSPECT-A-LIFT 2 INCH KIT	5.0
TOTAL ERECTION WEIGHT						5.0
TOTAL WEIGHT UNLISTED ITEMS						15.0
TOTAL WEIGHT - THIS DRG						207.6

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	—	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-12"-RD-376-A SHT. 7 OF 7				REV 0
				APP. JR	(G#)	(F#)	(B#)							

STOT-12"-RD-376-A-SHT.DWG

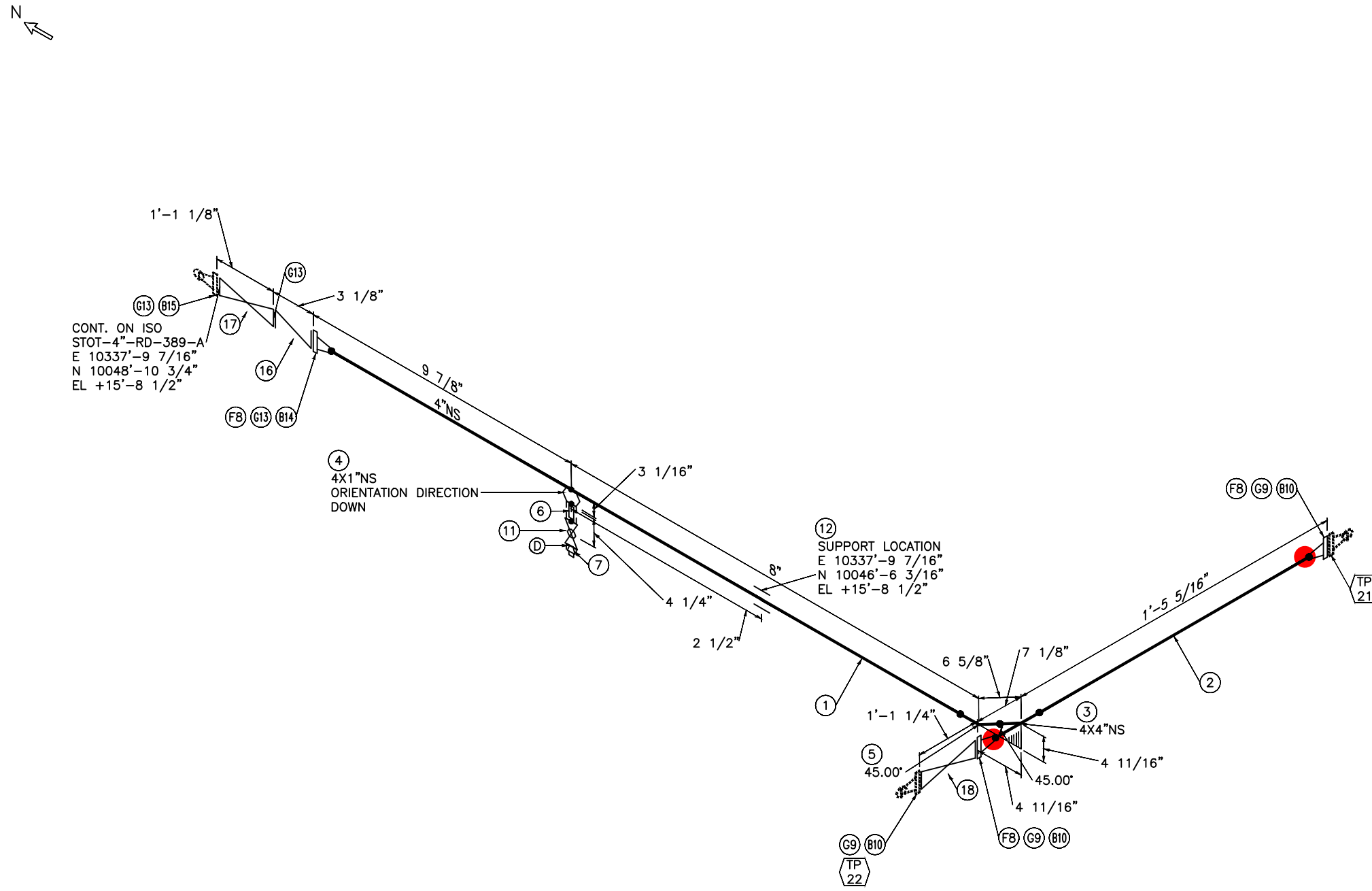


BILL OF MATERIAL			DESCRIPTION	WEIGHT
MARK	QTY	SIZE		
1	1	1/2" 4"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	12.0
2	1	0"11" 4"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B BBE	9.5
3	1	4X4"	TEE, BW, SMLS, SCH STD, ASTM A234 WPB	8.7
4	1	4X1"	SOCKET, SW, 3000LB, ASTM A105	0.6
5	1	4"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	4.3
6	1	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (3" LG)	1.5
7	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
8	3	4"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	45.0
9	3	4"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
10	24	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	1.5
11	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTFPCPSGL-100	2.3
12	1	4"	UBolt Long Description	1.0
TOTAL FABRICATION WEIGHT				87.0
13	3	4"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
14	8	5/8X7"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	0.9
15	8	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	0.5
16	1	4"	CHECK VALVE, DUAL PLATE WAFER, RFFE, ANSI 150LB, API TRIM #8,	-
17	1	4"	CONTROL VALVE, 150LB RFFE, BRODIE (PCV 821)	-
18	1	4"	CONTROL VALVE, 150LB RFFE, BRODIE (PCV 822)	-
TOTAL ERECTION WEIGHT				1.4
TOTAL WEIGHT UNLISTED ITEMS				30.0
TOTAL WEIGHT - THIS DRG				118.3

GENERAL NOTES:

- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
- ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
- FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
- FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	6/04/19	DRN.BY KLV	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
1	UPDATED PER BRODIE VALVE ADDITION WC_00247	KLV	6/10/21	CHKD. NSD	○	○	○	○						
				APP. JR	G#	F#	B#		SERVICE DSL	LINE No. STOT-4"-DI-124-A	SHT. 1 OF 1	REV 1		

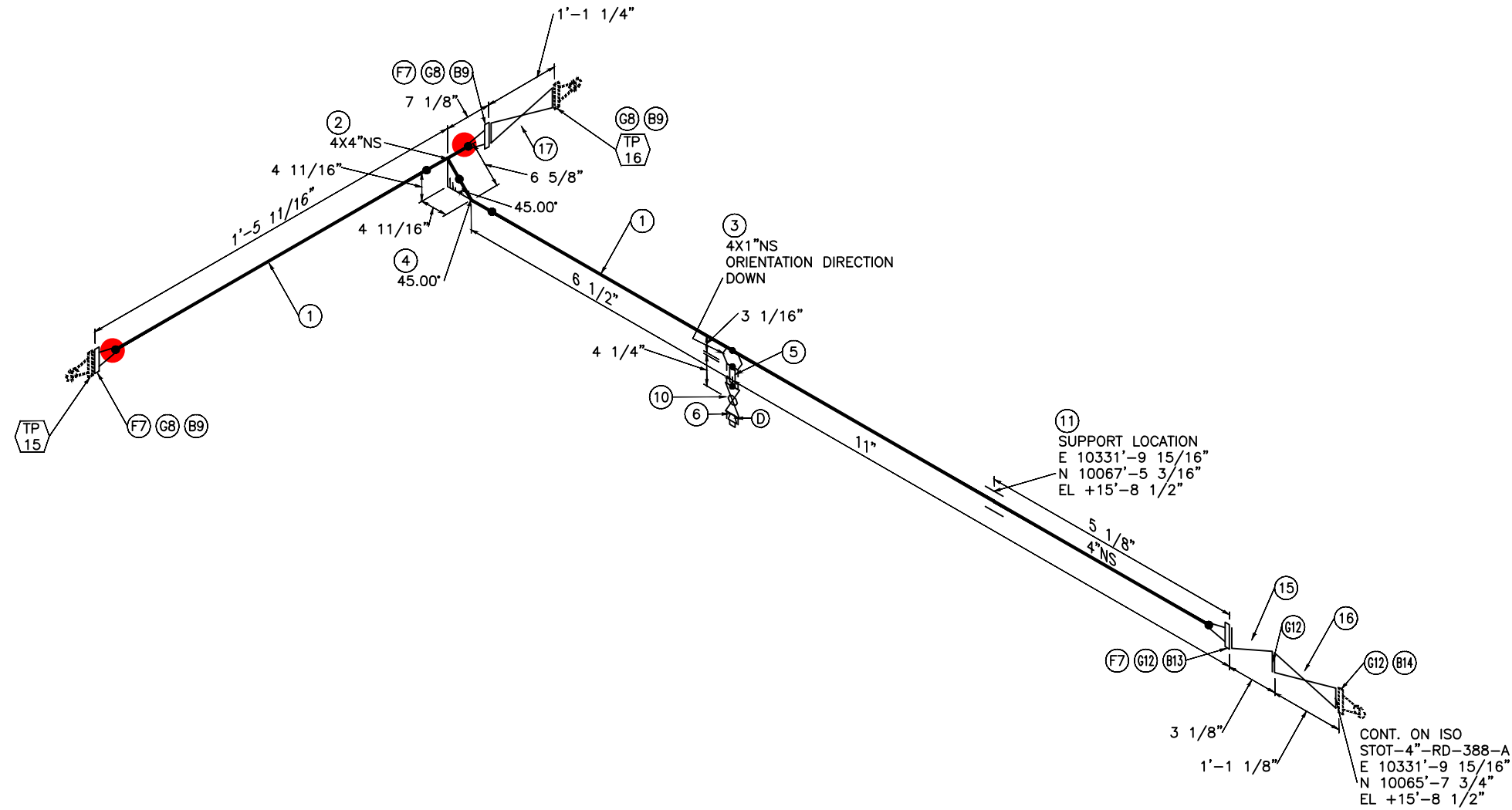


BILL OF MATERIAL			DESCRIPTION	WEIGHT
MARK	QTY	SIZE		
1	1	1'1" 4"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B BBE	11.2
2	0	11" 4"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	9.2
3	1	4X4"	TEE, BW, SMLS, SCH STD, ASTM A234 WPB	8.7
4	1	4X1"	SOCKET, SW, 3000LB, ASTM A105	0.6
5	1	4"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	4.3
6	1	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (3" LG)	1.5
7	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
8	3	4"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	45.0
9	3	4"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
10	24	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	1.5
11	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTFCSPGSL-100	2.3
12	1	4"	UBolt Long Description	1.0
TOTAL FABRICATION WEIGHT				85.8
13	3	4"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
14	8	5/8X7"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	0.9
15	8	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	0.5
16	1	4"	CHECK VALVE, DUAL PLATE WAFER, RFFE, ANSI 150LB, API TRIM #8,	-
17	1	4"	CONTROL VALVE, 150LB RFFE, BRODIE (PCV 721)	-
18	1	4"	CONTROL VALVE, 150LB RFFE, BRODIE (PCV 722)	-
TOTAL ERECTION WEIGHT				1.4
TOTAL WEIGHT UNLISTED ITEMS				30.0
TOTAL WEIGHT - THIS DRG				117.2

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	6/04/19	DRN.BY KLV	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
1	UPDATED PER BRODIE VALVE ADDITION WC_00247	KLV	6/10/21	CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE DSL	LINE No. STOT-4"-DI-125-A	SHT. 1 OF 1	REV 1		
				APP. JR	Ⓜ	Ⓜ	Ⓜ							

STOT-4"-DI-125-A-SHT.1.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	1	1'-11" 4"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	20.3
2	1	4X4"	TEE, BW, SMLS, SCH STD, ASTM A234 WPB	8.7
3	1	4X1"	SOCKET, SW, 3000LB, ASTM A105	0.6
4	1	4"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	4.3
5	1	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (3" LG)	1.5
6	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
7	3	4"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	45.0
8	3	4"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CG1" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
9	24	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	1.5
10	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTFCSGSL-100	2.3
11	1	4"	UBolt Long Description	1.0
TOTAL FABRICATION WEIGHT				85.9
12	3	4"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CG1" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
13	8	5/8X7"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	0.9
14	8	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	0.5
15	1	4"	CHECK VALVE, DUAL PLATE WAFER, RFFE, ANSI 150LB, API TRIM #8,	-
16	1	4"	CONTROL VALVE, 150LB RFFE, BRODIE (PCV 811)	-
17	1	4"	CONTROL VALVE, 150LB RFFE, BRODIE (PCV 812)	-
TOTAL ERECTION WEIGHT				1.4
TOTAL WEIGHT UNLISTED ITEMS				30.0
TOTAL WEIGHT - THIS DRG				117.2

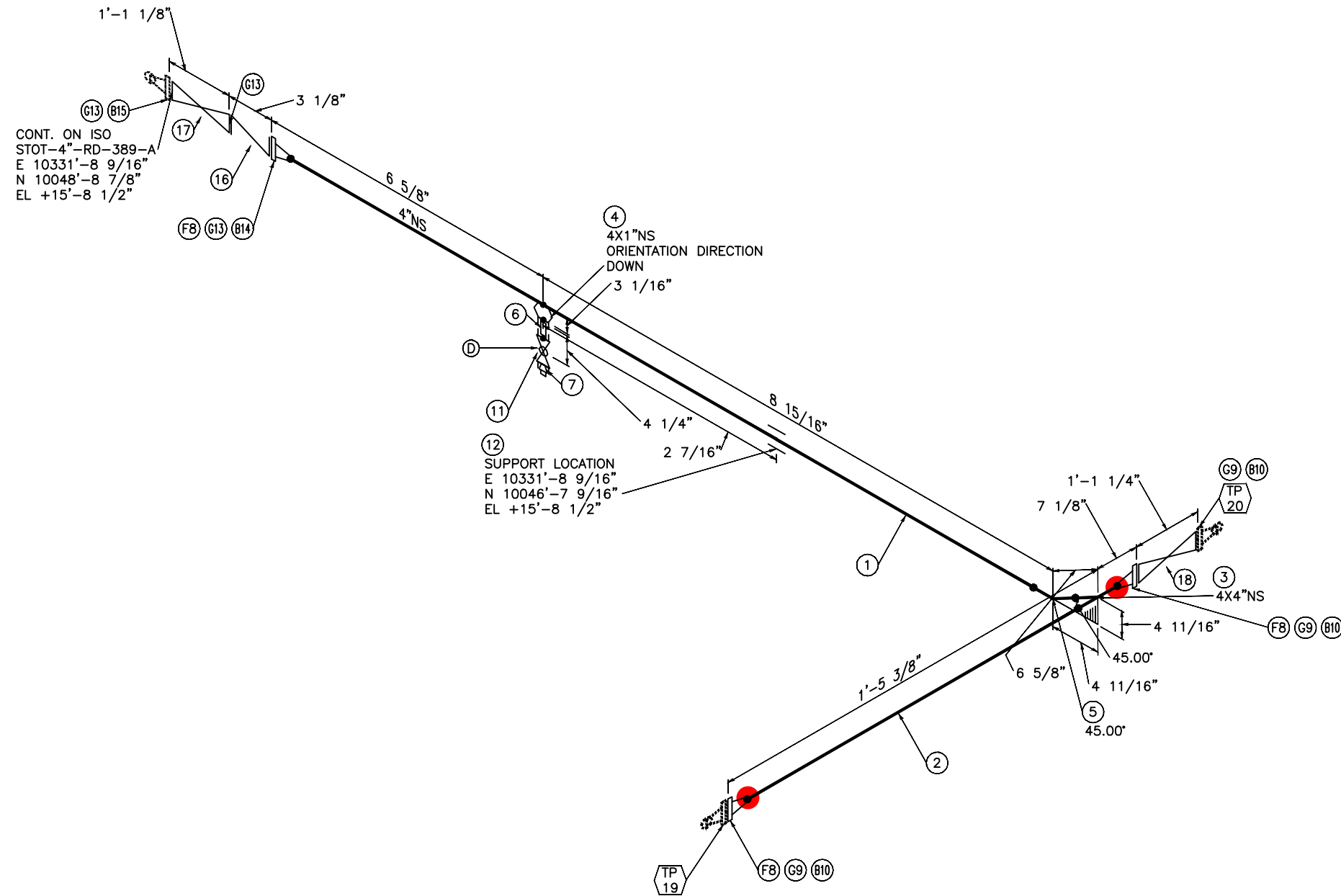
GENERAL NOTES:

- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
- ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
- FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
- FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	6/04/19	DRN. BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
1	UPDATED PER BRODIE VALVE ADDITION WC_00247	KLV	6/10/21	CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
GASKET TAG# (G#)	FLANGE TAG# (F#)	BOLT TAG# (B#)		SERVICE DSL	LINE No. STOT-4"-DI-126-A	SHT. 1 OF 1	REV 1		

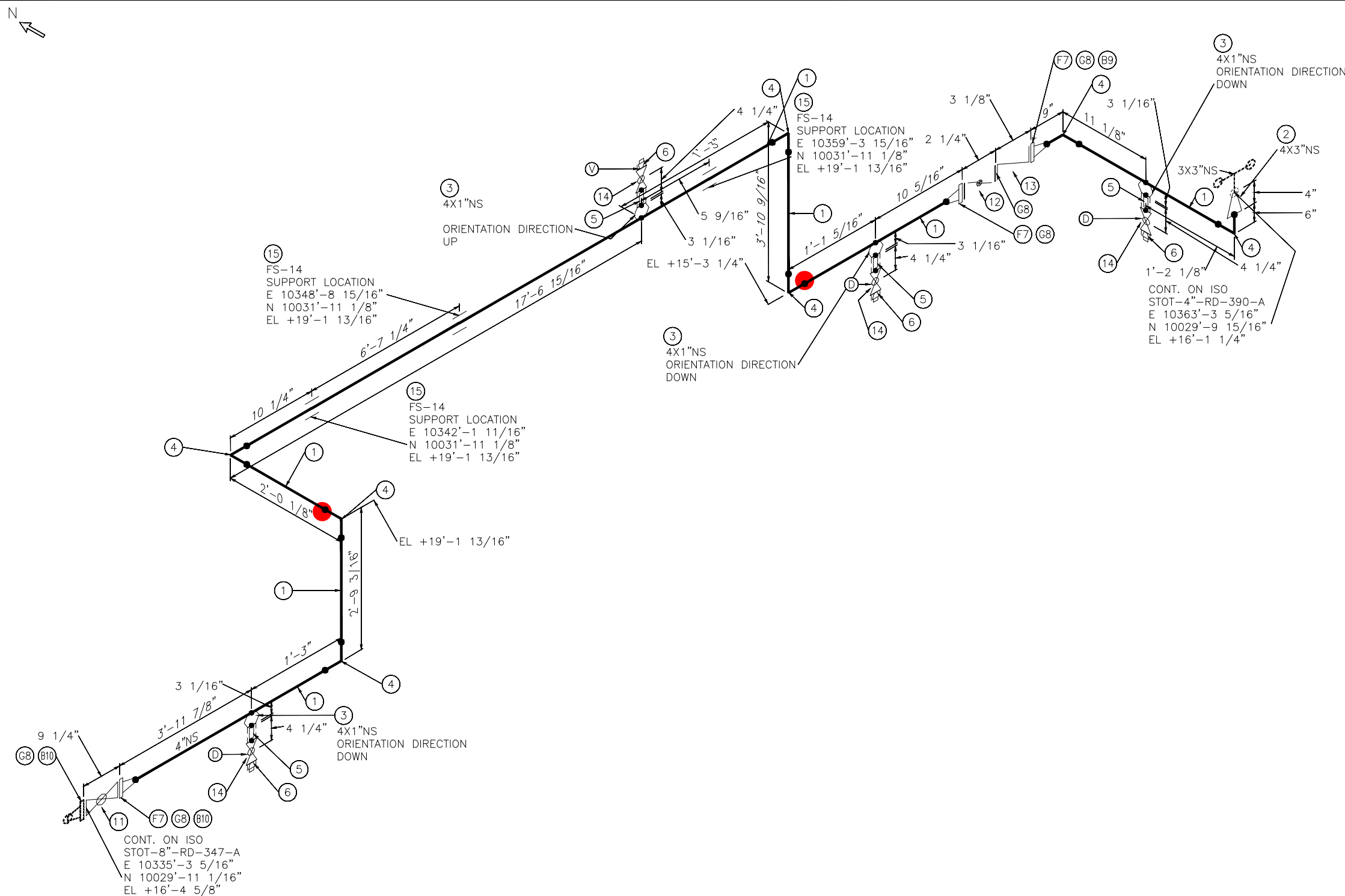
STOT-4"-DI-126-A-SHT.1.DWG



GENERAL NOTES:

- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
- ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
- FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
- FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	6/04/19	DRN.BY KLV	W	X	E	E	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
1	UPDATED PER BRODIE VALVE ADDITION WC_00247	KLV	6/10/21	CHKD. NSD	G#	F#	B#		SERVICE DSL	LINE No. STOT-4"-DI-127-A	SHT. 1 OF 1	REV 1		

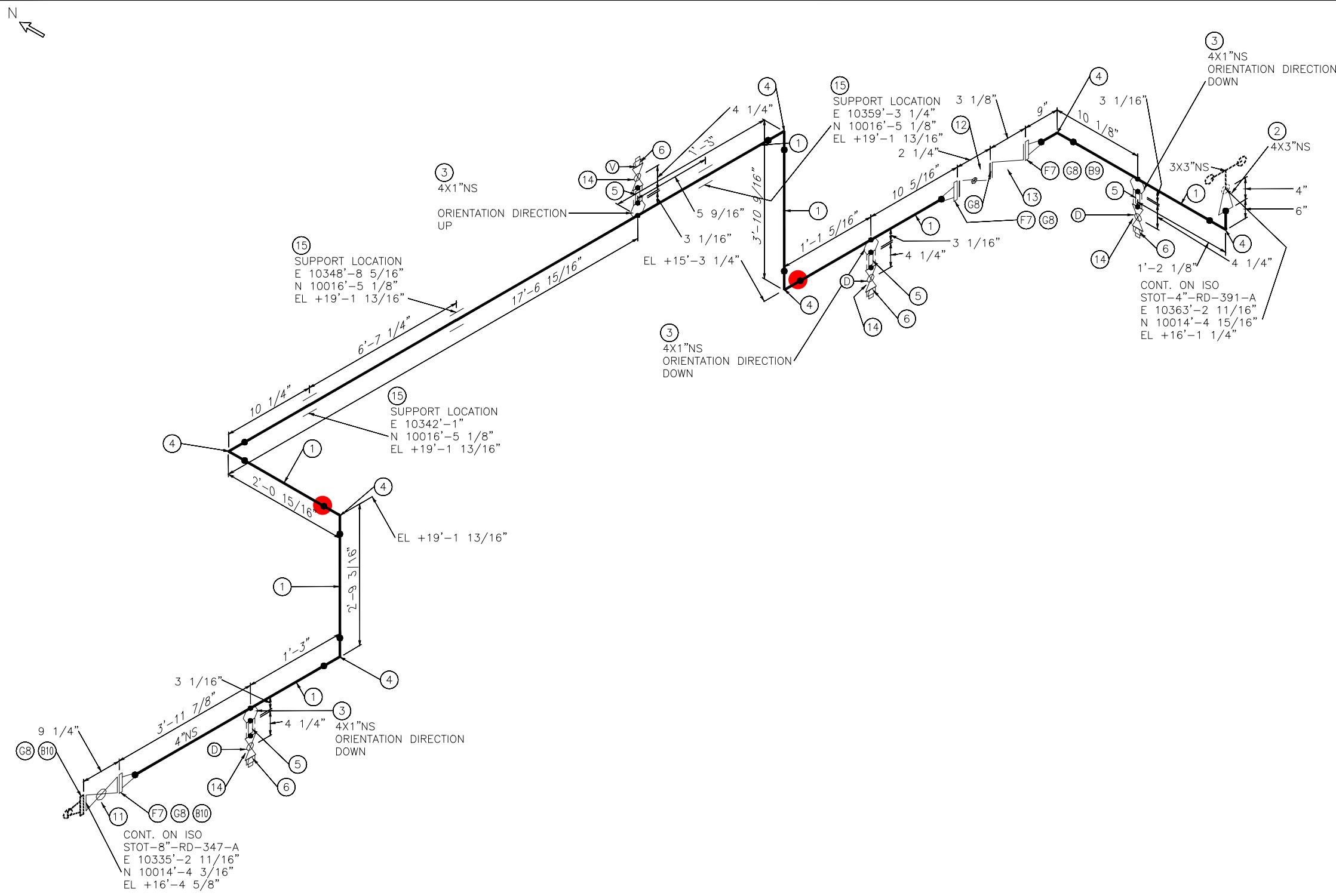


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	30	4"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	326.6
2	1	4X3"	CONC REDUCER, BW, SMLS, (SCH STD x SCH XS) ASTM A234 WPB	3.6
3	4	4X1"	SOCKET, SW, 3000LB, ASTM A105	2.4
4	7	4"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	59.3
5	4	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (3" LG)	6.0
6	4	1"	HEX PLUG, THRD, 3000LB, ASTM A105	3.0
7	3	4"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	45.0
8	5	4"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
9	8	5/8X9 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA, FOR 4"-150# FLGS	1.2
10	16	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA, FOR 4"-150# FLGS	1.0
11	1	4"	DBB, BALL VALVE, ANSI 150, WAFER BODY, GVS TYPE B1 (04-B1-150-RF-L-02-DX)	116.8
12	1	4"	BUTTERFLY VALVE, ANSI 150LB, WAFER, (WKM A5100 SERIES OR EQ)	-
13	1	4"	CHECK VALVE, DUAL PLATE WAFER, RFFE, ANSI 150LB, API TRIM #8	-
14	4	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL, BVSCWTFCSPGSL-100	9.2
TOTAL FABRICATION WEIGHT				573.9
15	3	4"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	3.0
TOTAL ERECTION WEIGHT				3.0
TOTAL WEIGHT - THIS DRG				576.9

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				APP. JR					SERVICE DSL	LINE No. STOT-4"-DI-280-A	SHT. 1 OF 1	REV 0		

STOT-4"-DI-280-A-SH1.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	30	4"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	326.4
2	1	4X3"	CONC REDUCER, BW, SMLS, (SCH STD x SCH XS) ASTM A234 WPB	3.6
3	4	4X1"	SOCKET, SW, 3000LB, ASTM A105	2.4
4	7	4"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	59.3
5	4	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (3" LG)	6.0
6	4	1"	HEX PLUG, THRD, 3000LB, ASTM A105	3.0
7	3	4"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	45.0
8	5	4"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
9	8	5/8X9 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA, FOR 4"-150# FLGS.	1.2
10	16	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA, FOR 4"-150# FLGS.	1.0
11	1	4"	DBB, BALL VALVE, ANSI 150, WAFER BODY, GVS TYPE B1 (04-B1-150-RF-L-02-DX)	116.8
12	1	4"	BUTTERFLY VALVE, ANSI 150LB, WAFER, (WKM A5100 SERIES OR EQ)	-
13	1	4"	CHECK VALVE, DUAL PLATE WAFER, RFFE, ANSI 150LB, API TRIM #8	-
14	4	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTFCSPGSL-100	9.2
TOTAL FABRICATION WEIGHT				573.8
15	3	4"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	3.0
TOTAL ERECTION WEIGHT				3.0
TOTAL WEIGHT - THIS DRG				576.8

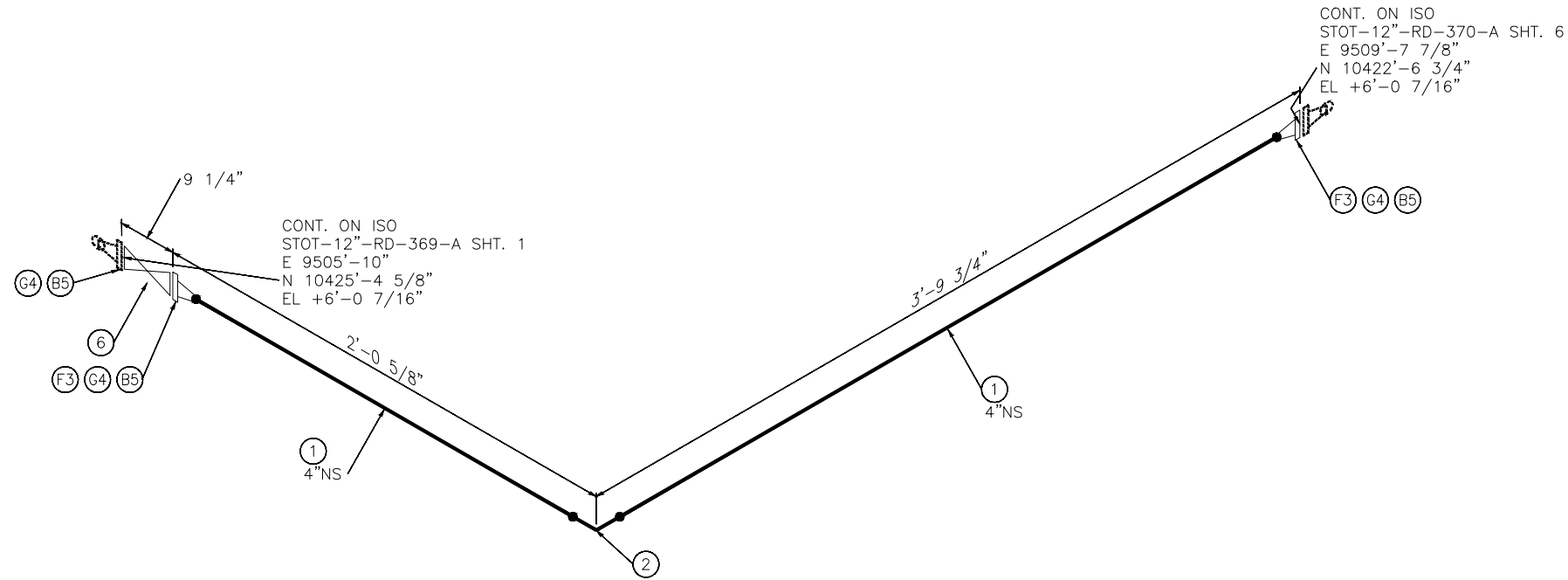
- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	GASKET TAG#	FLANGE TAG#	BOLT TAG#		X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	G#	F#	B#		SERVICE DSL	LINE No. STOT-4''-DI-281-A	SHT. 1 OF 1	REV 0		
				APP. JR										

STOT-4--DI-281-A-SH1.DWG



BILL OF MATERIAL			DESCRIPTION	WEIGHT
MARK	QTY	SIZE		
1	4'5"	4"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	47.1
2	1	4"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	8.5
3	2	4"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	30.0
4	3	4"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
5	24	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	1.5
6	1	4"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	108.0
TOTAL FABRICATION WEIGHT				195.0



GENERAL NOTES:

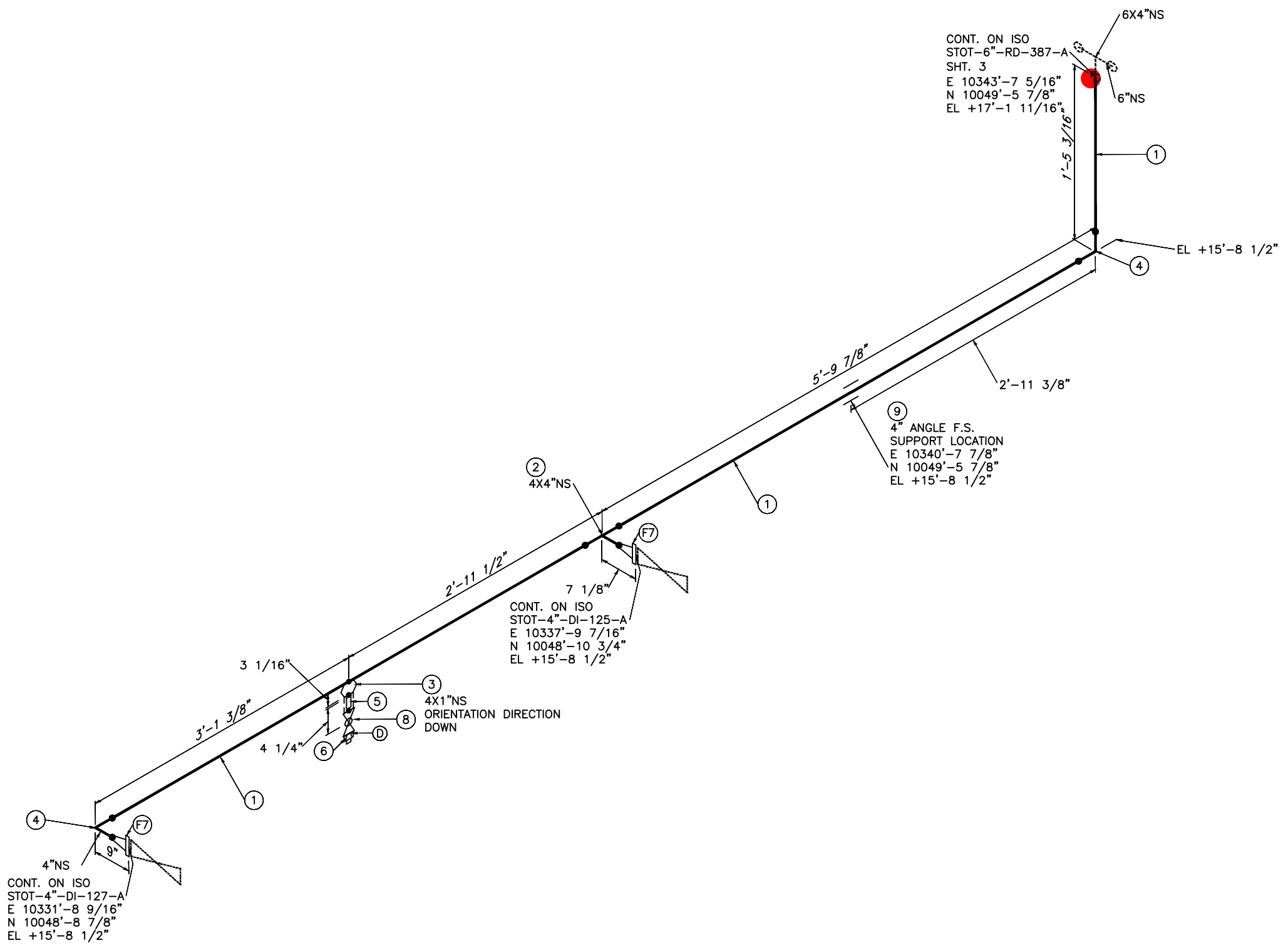
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN
GASKET TAG#	FLANGE TAG#	BOLT TAG#	
(G#)	(F#)	(B#)	

PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5
X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A
SERVICE REN. DSL	LINE No. STOT-4"-RD-382-A	SHT. 1	OF 1	REV 0	

STOT-4"-RD-382-A-SHT.1.DWG

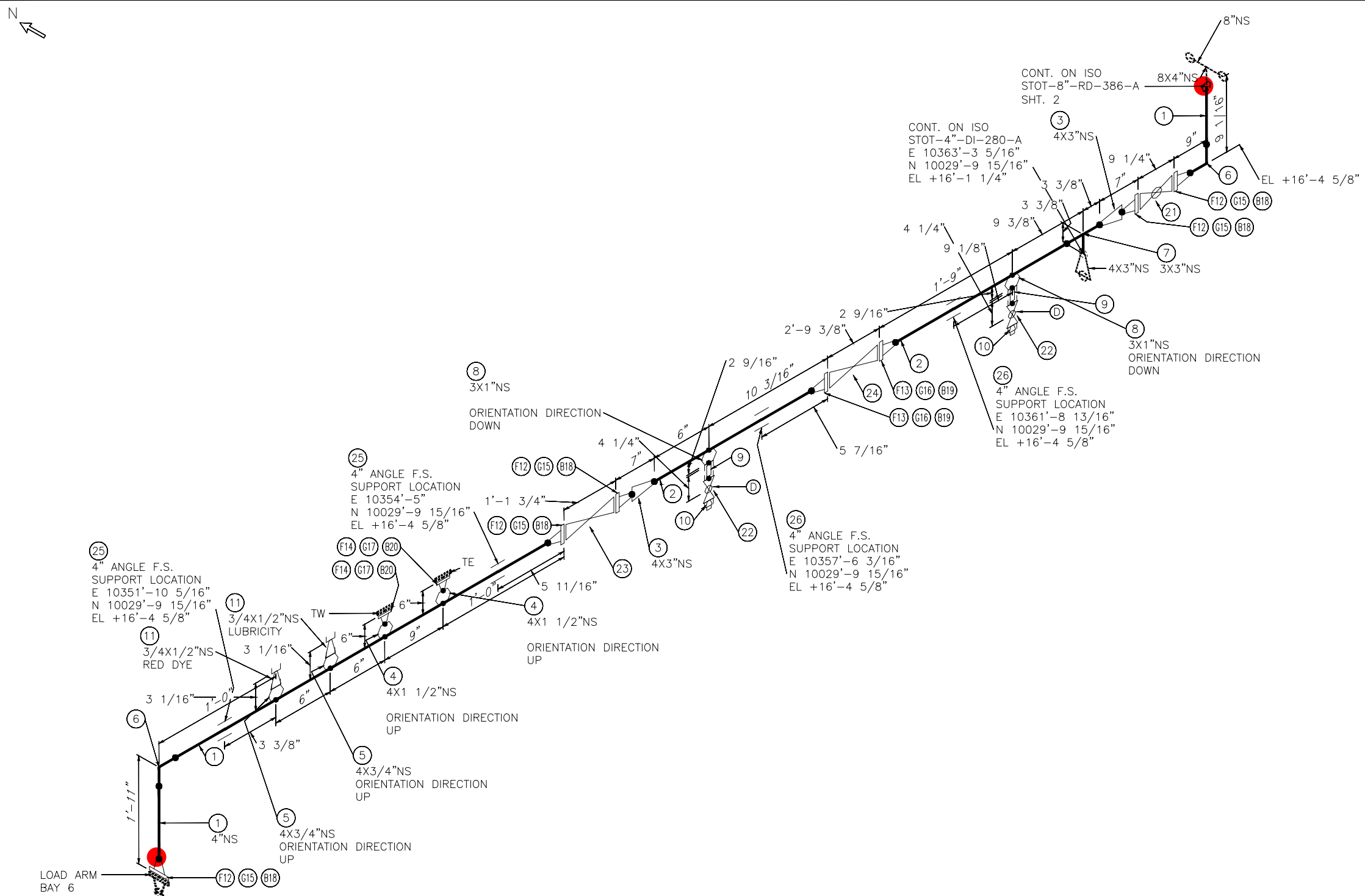


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	11'2"	4"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B BBE	120.2
2	1	4X4"	TEE, BW, SMLS, SCH STD, ASTM A234 WPB	8.7
3	1	4X1"	SOCKET, SW, 3000LB, ASTM A105	0.6
4	2	4"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	17.0
5	1	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (3" LG)	1.5
6	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
7	2	4"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	30.0
8	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTFCCPGSL-100	2.3
9	1	4"	UBolt Long Description	1.0
TOTAL FABRICATION WEIGHT				181.9

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	6/04/19	DRN. BY KLV	WELD	WELD	WELD	JOINT	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	INSPECT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
1	UPDATED PER BRODIE VALVE ADDITION WC_00247	KLV	6/10/21	CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-4"-RD-389-A	SHT. 1 OF 1	REV 1		

STOT-4"-RD-389-A-SH1.DWG

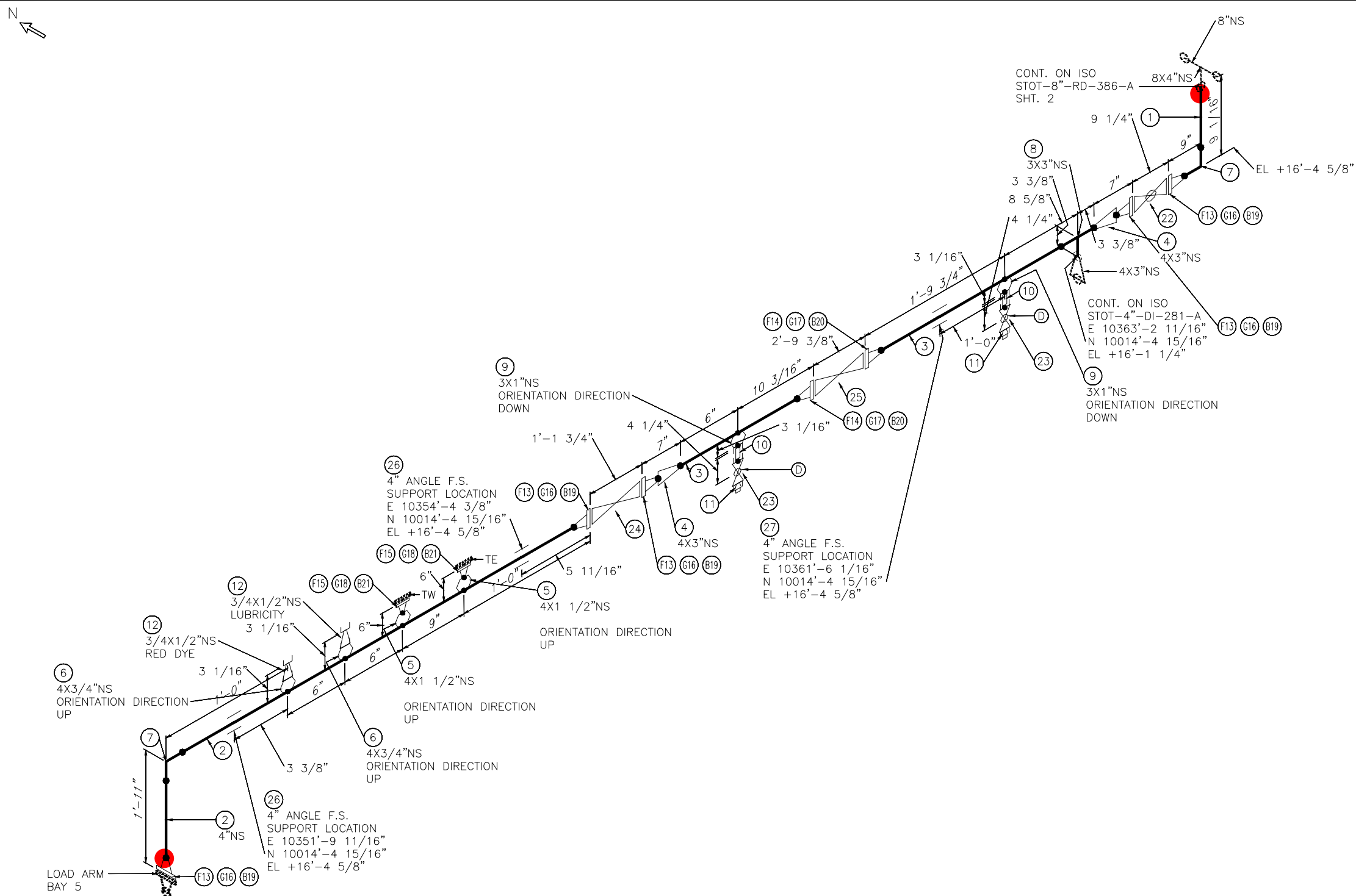


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	4'	4"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	47.7
2	3'2"	3"	PIPE, SCH XS, SMLS, ASTM A106 GR B	32.1
3	2	4X3"	CONC REDUCER, BW, SMLS, (SCH STD x SCH XS), ASTM A234 WPB	7.1
4	2	4X1 1/2"	WELDOLET, BW, SCH XS, ASTM A105	2.1
5	2	4X3/4"	THRODLET, THRD, 3000LB, SCH STD, ASTM A105	0.7
6	2	4"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	17.0
7	1	3X3"	TEE, BW, SMLS, SCH XS, ASTM A234 WPB	6.9
8	2	3X1"	SOCKLET, SW, 3000LB, ASTM A105	1.2
9	2	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (13" LG)	3.0
10	2	1"	HEX PLUG, THRD, 3000LB, ASTM A105	1.5
11	2	3/4X1/2"	RED BUSHING, THD, 3000LB, ASTM A105	0.3
12	5	4"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	75.0
13	2	3"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	22.5
14	2	1 1/2"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	8.0
15	5	4"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
16	2	3"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
17	2	1 1/2"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
18	40	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	2.5
19	8	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 3"-150# FLGS.	1.0
20	8	1/2X3"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 1-1/2"-150# FLGS.	0.6
21	1	4"	DBB, BALL VALVE, ANSI 150, WAFER BODY, GVS TYPE B1 (04-B1-150-RF-L-02-DX)	116.8
22	2	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTFCSPGSL-100	4.6
23	1	4"	CONTROL VALVE, FMC, 150 LB, RFFE	-
24	1	3"	METER, FMC Promass 300, 150LB RFFE, (08F3B80-CSIMADDGADSAASAA1FA+EBEJ)	-
25	2	4"	UBolt Long Description	2.0
26	2	3"	UBolt Long Description	2.0
TOTAL FABRICATION WEIGHT				354.4
TOTAL WEIGHT UNLISTED ITEMS				21.0
TOTAL WEIGHT - THIS DRG				375.4

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	100%	NS-ES-68-002	WHITE	N/A	N/A	N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-4"-RD-390-A	SHT. 1 OF 1	REV 0		
				APP. JR	○	○	○							

STOT-4"-RD-390-A-SH1.DWG

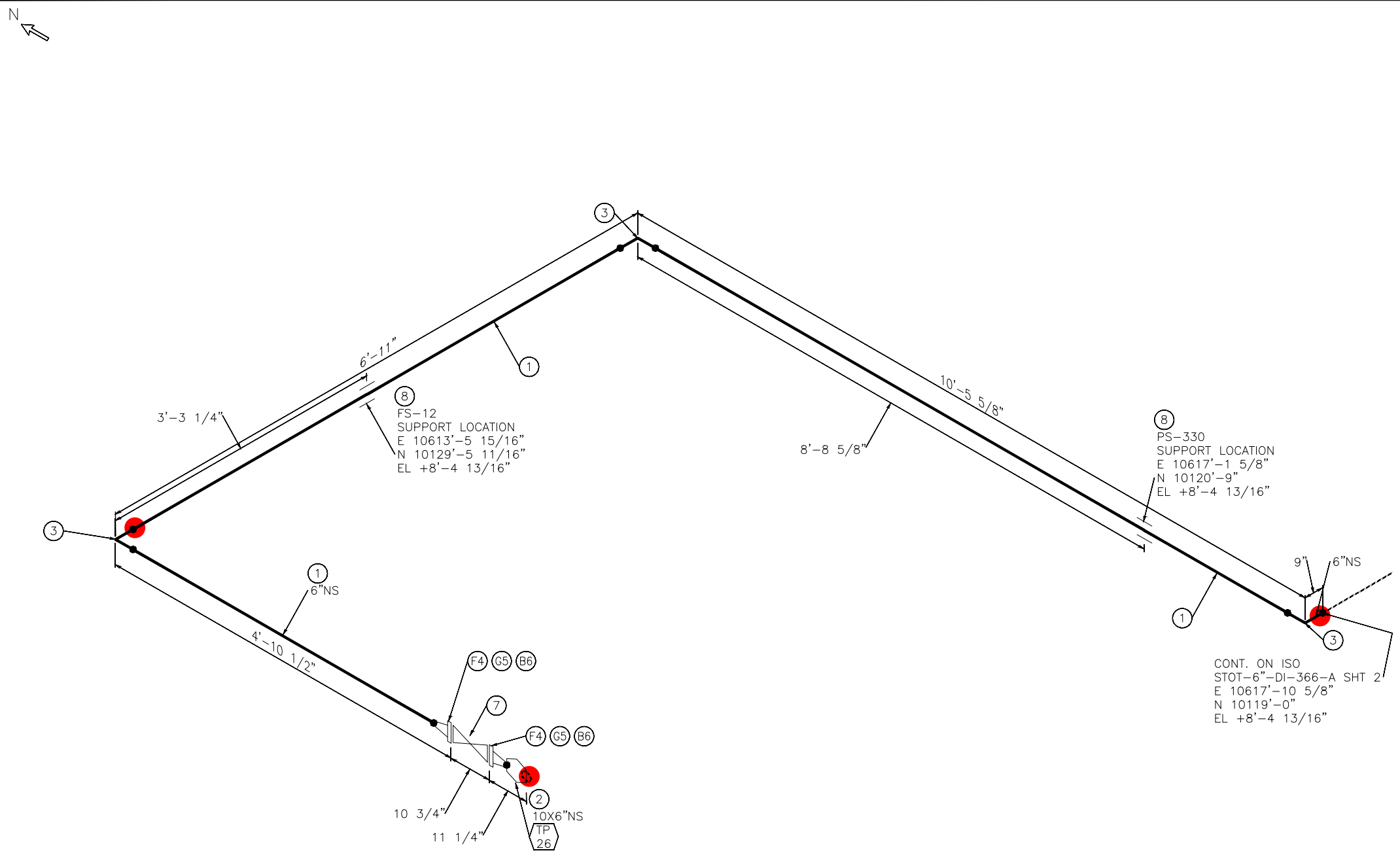


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	0'4"	4"	PIPE, SCH STD, SMLS, ASTM A106 GR B	2.8
2	4'2"	4"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	45.0
3	3'2"	3"	PIPE, SCH XS, SMLS, ASTM A106 GR B	32.1
4	2	4X3"	CONC REDUCER, BW, SMLS, [SCH STD x SCH XS], ASTM A234 WPB	7.1
5	2	4X1 1/2"	WELDOLET, BW, SCH XS, ASTM A105	2.1
6	2	4X3/4"	THREDOLET, THRD, 3000LB, SCH STD, ASTM A105	0.7
7	2	4"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	17.0
8	1	3X3"	TEE, BW, SMLS, SCH XS, ASTM A234 WPB	6.9
9	2	3X1"	SOCKLET, SW, 3000LB, ASTM A105	1.2
10	2	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (3" LG)	3.0
11	2	1"	HEX PLUG, THRD, 3000LB, ASTM A105	1.5
12	2	3/4X1/2"	RED BUSHING, THD, 3000LB, ASTM A105	0.3
13	5	4"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	75.0
14	2	3"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	22.5
15	2	1 1/2"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	8.0
16	5	4"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
17	2	3"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
18	2	1 1/2"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
19	40	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	2.5
20	8	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 3"-150# FLGS.	1.0
21	8	1/2X3"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 1-1/2"-150# FLGS.	0.6
22	1	4"	DBB, BALL VALVE, ANSI 150, WAFER BODY, GVS TYPE B1 (04-B1-150-RF-L-02-DX)	116.8
23	2	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTFCSPGSL-100	4.6
24	1	4"	CONTROL VALVE, FMC, 150 LB, RFFE	-
25	1	3"	METER, FMC Promass 300, 150LB RFFE, (08F3B80-CSIMADDGADSAASAA1FA+EBEJ)	-
26	2	4"	UBolt Long Description	2.0
27	1	3"	UBolt Long Description	1.0
TOTAL FABRICATION WEIGHT				353.4
TOTAL WEIGHT UNLISTED ITEMS				21.0
TOTAL WEIGHT - THIS DRG				374.4

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	100%	NS-ES-68-002	WHITE	N/A	N/A	N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#							
				APP. JR	○	○	○		SERVICE REN. DSL	LINE No. STOT-4"-RD-391-A	SHT. 1 OF 1	REV 0		

STOT-4"-RD-391-A-SH1.DWG



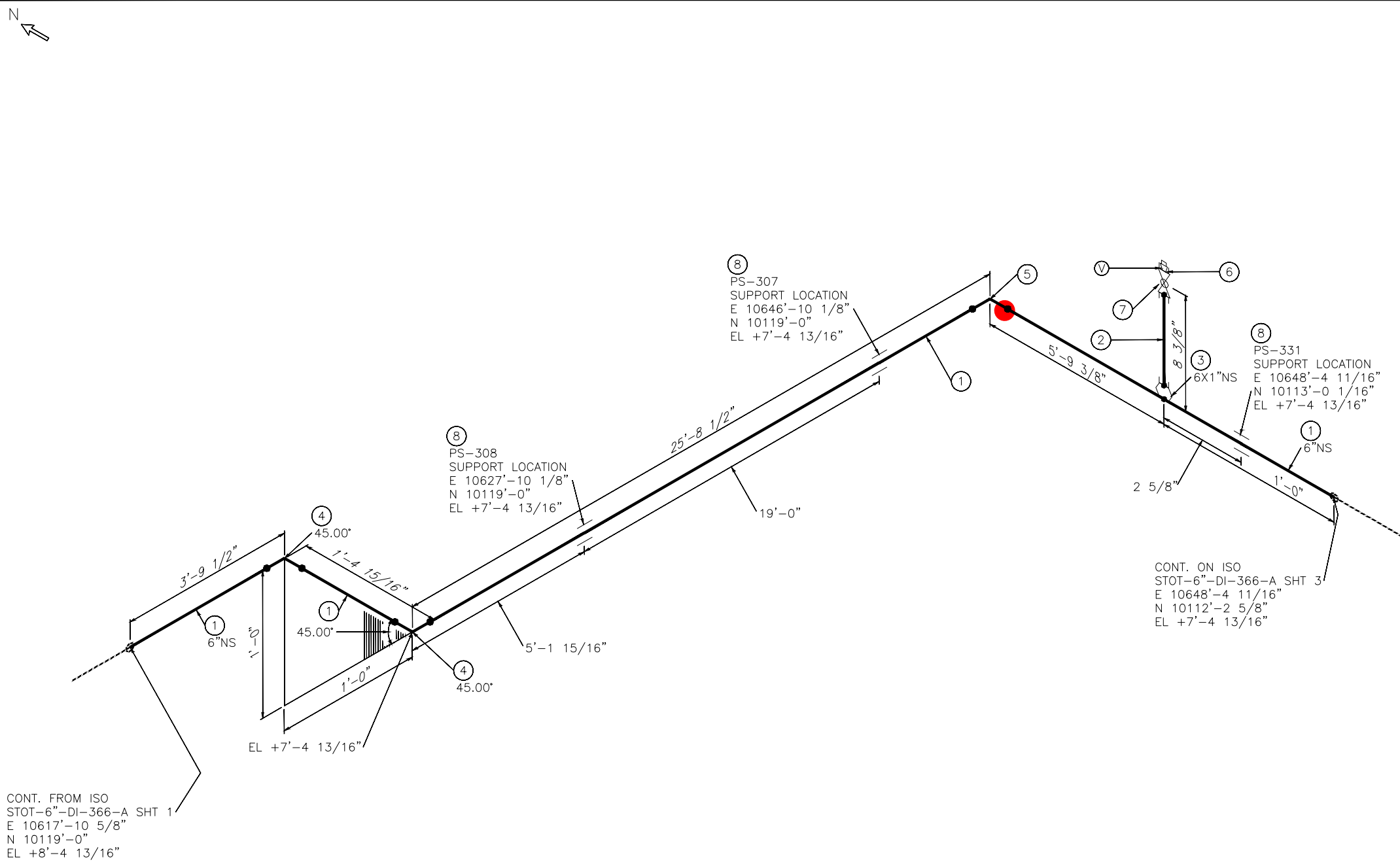
BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	18'3"	6"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	345.3
2	1	10X6"	WELDOLET, BW, SCH STD, ASTM A105	12.0
3	3	6"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	67.0
4	2	6"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	48.0
5	2	6"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
6	16	3/4X4 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	1.8
7	1	6"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	194.0
TOTAL FABRICATION WEIGHT				668.0
8	2	6"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	2.0
TOTAL ERECTION WEIGHT				2.0
TOTAL WEIGHT - THIS DRG				670.0

CONT. ON ISO
 STOT-6"-DI-366-A SHT 2
 E 10617'-10 5/8"
 N 10119'-0"
 EL +8'-4 13/16"

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV DATE 5/13/19 CHKD. NSD APP. JR	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
					GASKET TAG#	FLANGE TAG#	BOLT TAG#		X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
									SERVICE DSL	LINE No. STOT-6"-DI-366-A	SHT. 1 OF 3	REV 0		

STOT-6"-DI-366-A-SHT1.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	35'0"	6"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	662.4
2	0'3"	1"	PIPE, SCH XS, SMLS, ASTM A106 GR B PBE	0.6
3	1	6X1"	SOCKET, SW, 3000LB, ASTM A105	0.6
4	2	6"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	22.4
5	1	6"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	22.4
6	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
7	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTF CSPGSL-100	2.3
TOTAL FABRICATION WEIGHT				711.2
8	3	6"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	3.0
TOTAL ERECTION WEIGHT				3.0
TOTAL WEIGHT - THIS DRG				714.2

CONT. FROM ISO
STOT-6"-DI-366-A SHT 1
E 10617'-10 5/8"
N 10119'-0"
EL +8'-4 13/16"

CONT. ON ISO
STOT-6"-DI-366-A SHT 3
E 10648'-4 11/16"
N 10112'-2 5/8"
EL +7'-4 13/16"

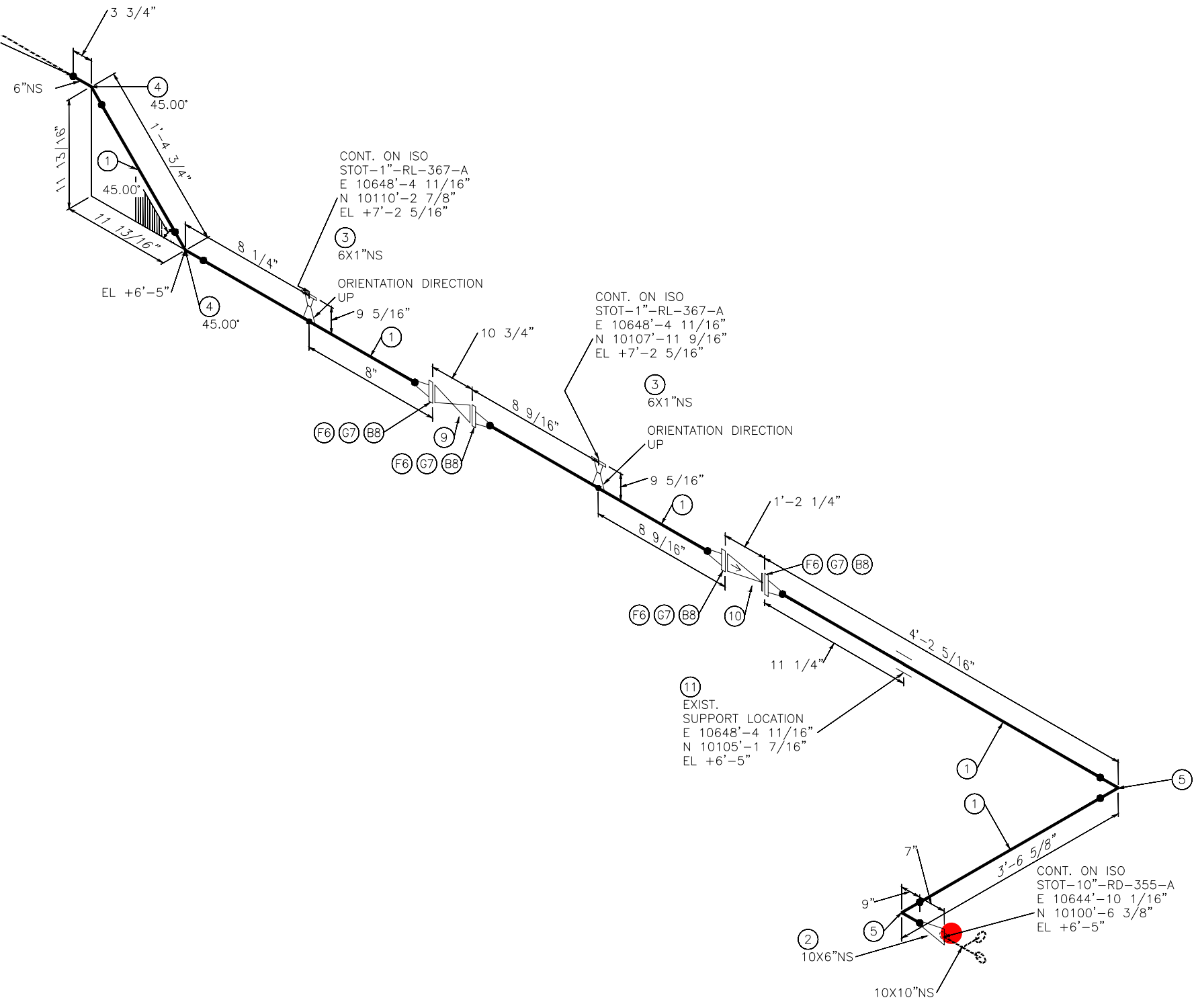
- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD FIELD WELD SOCKET WELD SCREWED JOINT INSPECT -A-LIFT GASKET TAG# OIO	PIPE SPEC. A X-RAY 100%	DESIGN PRESS. 285 PSIG PAINT SPEC NS-ES-68-002	DESIGN TEMP. 125 °F PAINT COLOR WHITE	OPER. PRESS. 120 PSIG INSUL SPEC N/A	OPER. TEMP. 100 °F INSUL THK N/A	HYDROTEST PSIG 427.5 TRACING N/A
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV DATE 5/13/19 CHKD. NSD APP. JR	PIPE SUPPORT VENT DRAIN FLANGE TAG# BOLT TAG#	PWHT N/A	SERVICE DSL	LINE No. STOT-6"-DI-366-A	SHT. 2 OF 3	REV 0	

STOT-6"-DI-366-A-SH2.DWG



CONT. FROM ISO
STOT-6"-DI-366-A SHT 2
E 10648'-4 11/16"
N 10112'-2 5/8"
EL +7'-4 13/16"



CONT. ON ISO
STOT-1"-RL-367-A
E 10648'-4 11/16"
N 10110'-2 7/8"
EL +7'-2 5/16"

CONT. ON ISO
STOT-1"-RL-367-A
E 10648'-4 11/16"
N 10107'-11 9/16"
EL +7'-2 5/16"

CONT. ON ISO
STOT-10"-RD-355-A
E 10644'-10 1/16"
N 10100'-6 3/8"
EL +6'-5"

BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	7.7	6"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	143.6
2	1	10X6"	CONC REDUCER, BW, SMLS, (SCH STD x SCH STD), ASTM A234 WPB	17.0
3	2	6X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	1.2
4	2	6"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	22.4
5	2	6"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	44.7
6	4	6"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	96.0
7	4	6"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
8	32	3/4X4 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 6"-150# FLGS.	3.5
9	1	6"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	194.0
10	1	6"	CHECK VALVE, SWING CHECK, ANSI 150LB, RFFE, API-602, ASTM A105 BODY, API TRIM #8	-
TOTAL FABRICATION WEIGHT				522.1
11	1	6"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	1.0
TOTAL ERECTION WEIGHT				1.0
TOTAL WEIGHT - THIS DRG				523.1

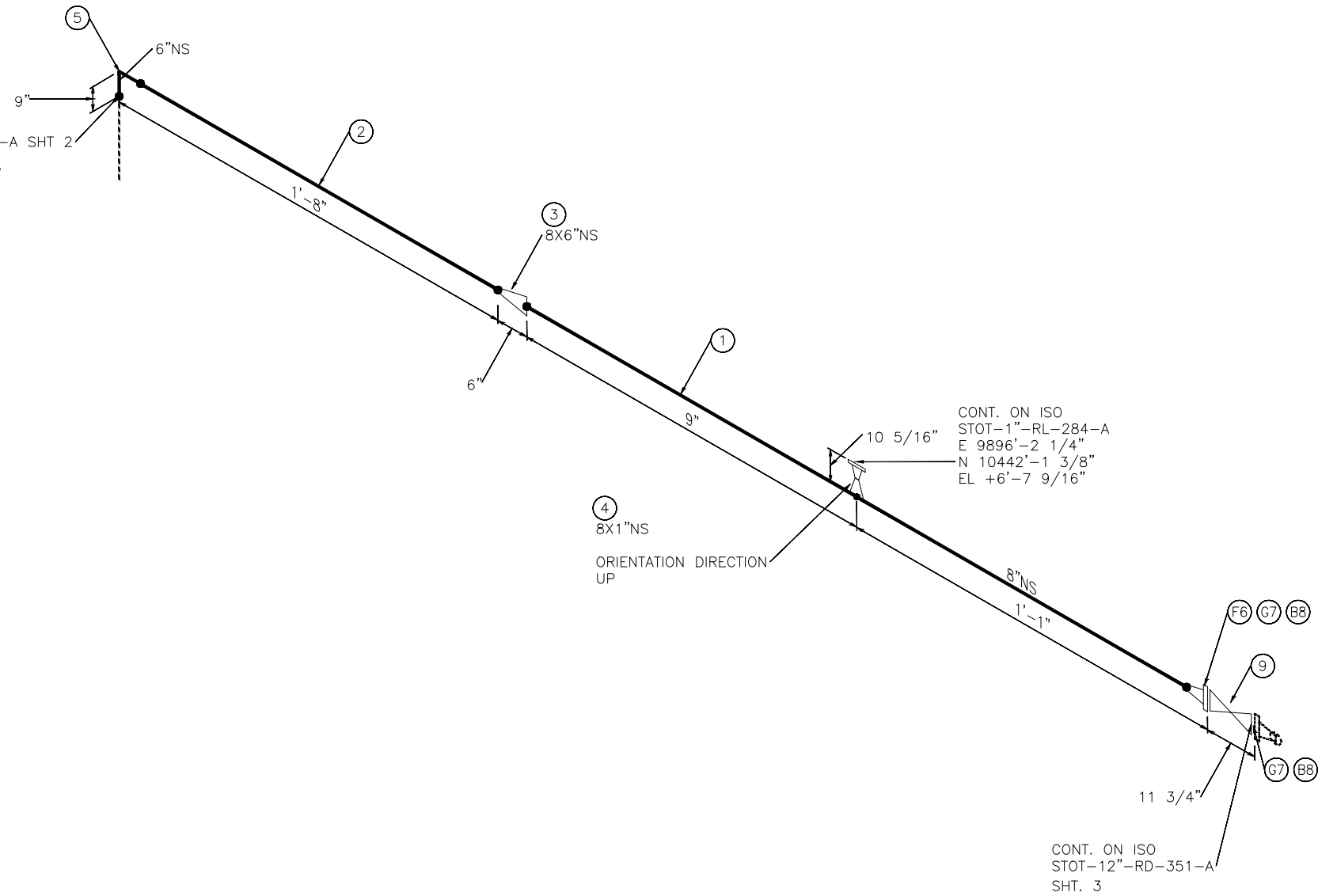
- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV DATE 5/13/19 CHKD. NSD APP. JR	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
					X-RAY	PWHT	PAINT SPEC	PAINT COLOR	INSUL SPEC	INSUL THK	TRACING			
					100%	N/A	NS-ES-68-002	WHITE	N/A	N/A	N/A			
					GASKET TAG#	FLANGE TAG#	BOLT TAG#							
					Ⓞ#	Ⓢ#	Ⓛ#							
					SERVICE DSL	LINE No.		STOT-6"-DI-366-A SHT. 3 OF 3			REV 0			

STOT-6"-DI-366-A-SH3.DWG



CONT. ON ISO
 STOT-6"-RD-282-A SHT 2
 E 9896'-2 3/8"
 N 10445'-0 3/8"
 EL +5'-0 1/4"



CONT. ON ISO
 STOT-1"-RL-284-A
 E 9896'-2 1/4"
 N 10442'-1 3/8"
 EL +6'-7 9/16"

CONT. ON ISO
 STOT-12"-RD-351-A
 SHT. 3

BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	1	1'6" 8"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	42.8
2	1	0'11" 6"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	17.4
3	1	8X6"	CONC REDUCER, BW, SMLS, (SCH STD x SCH STD), ASTM A234 WPB	11.8
4	1	8X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	0.6
5	1	6"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	22.4
6	1	8"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	39.0
7	2	8"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
8	16	3/4X4 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 8"-150# FLGS.	1.8
9	1	8"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	313.0
TOTAL FABRICATION WEIGHT				448.6

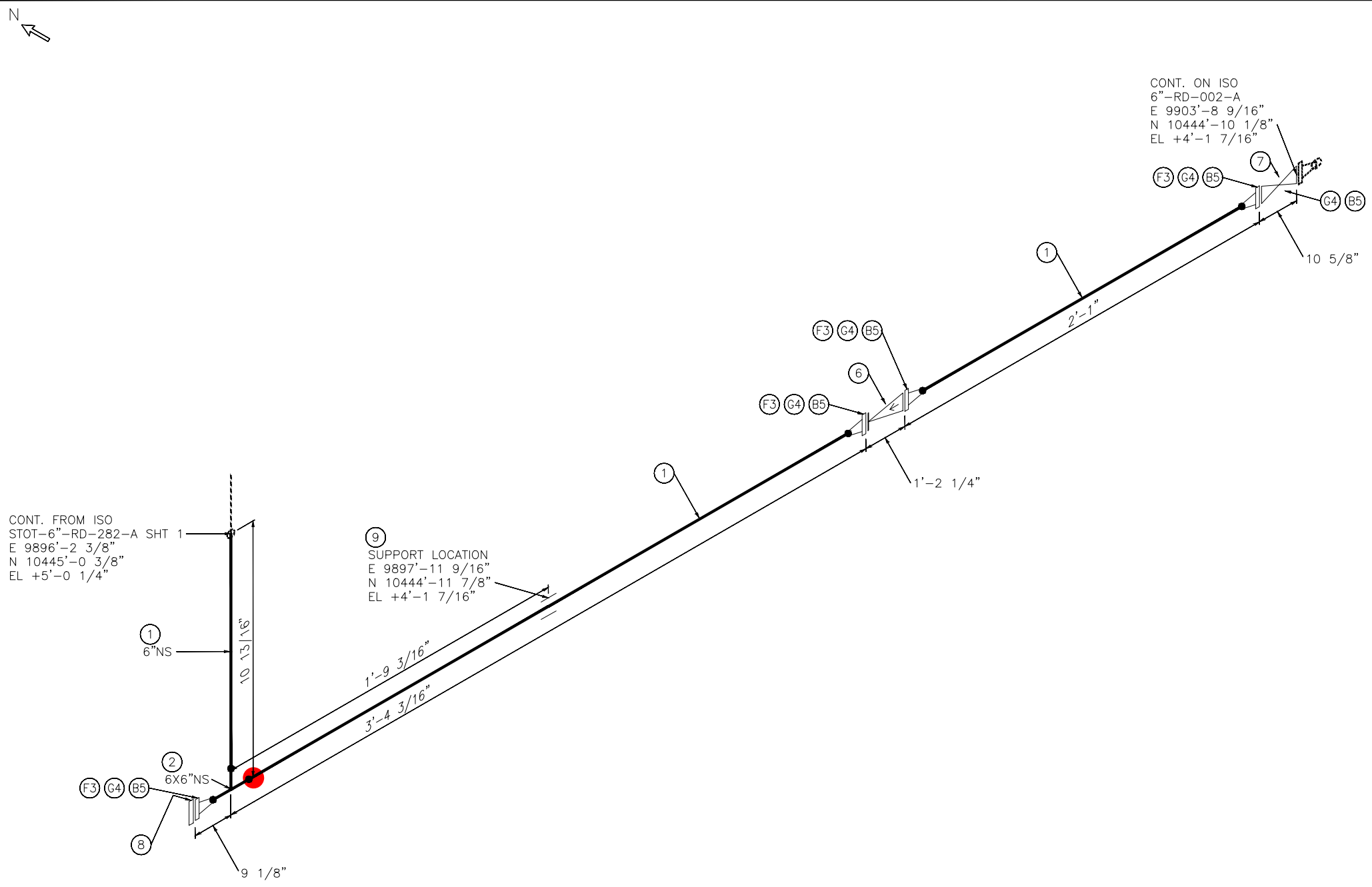
GENERAL NOTES:

- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
- ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
- FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
- FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5	
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-6"-RD-282-A	SHT. 1	OF 2	REV 0		

STOT-6"-RD-282-A-SHT.1.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	4	7" 6"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	85.7
2	1	6X6"	TEE, BW, SMLS, SCH STD, ASTM A234 WPB	20.3
3	4	6"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	96.0
4	5	6"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
5	40	3/4X4 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 6"-150# FLGS.	4.3
6	1	6"	CHECK VALVE, SWING CHECK, ANSI 150LB, RFFE, API-602, ASTM A105 BODY, API TRIM #8	-
7	1	6"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	194.0
8	1	6"	BLIND FLANGE, RF, 150LB, ASTM A105	26.0
TOTAL FABRICATION WEIGHT				426.3
9	1	6"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	1.0
TOTAL ERECTION WEIGHT				1.0
TOTAL WEIGHT - THIS DRG				427.3

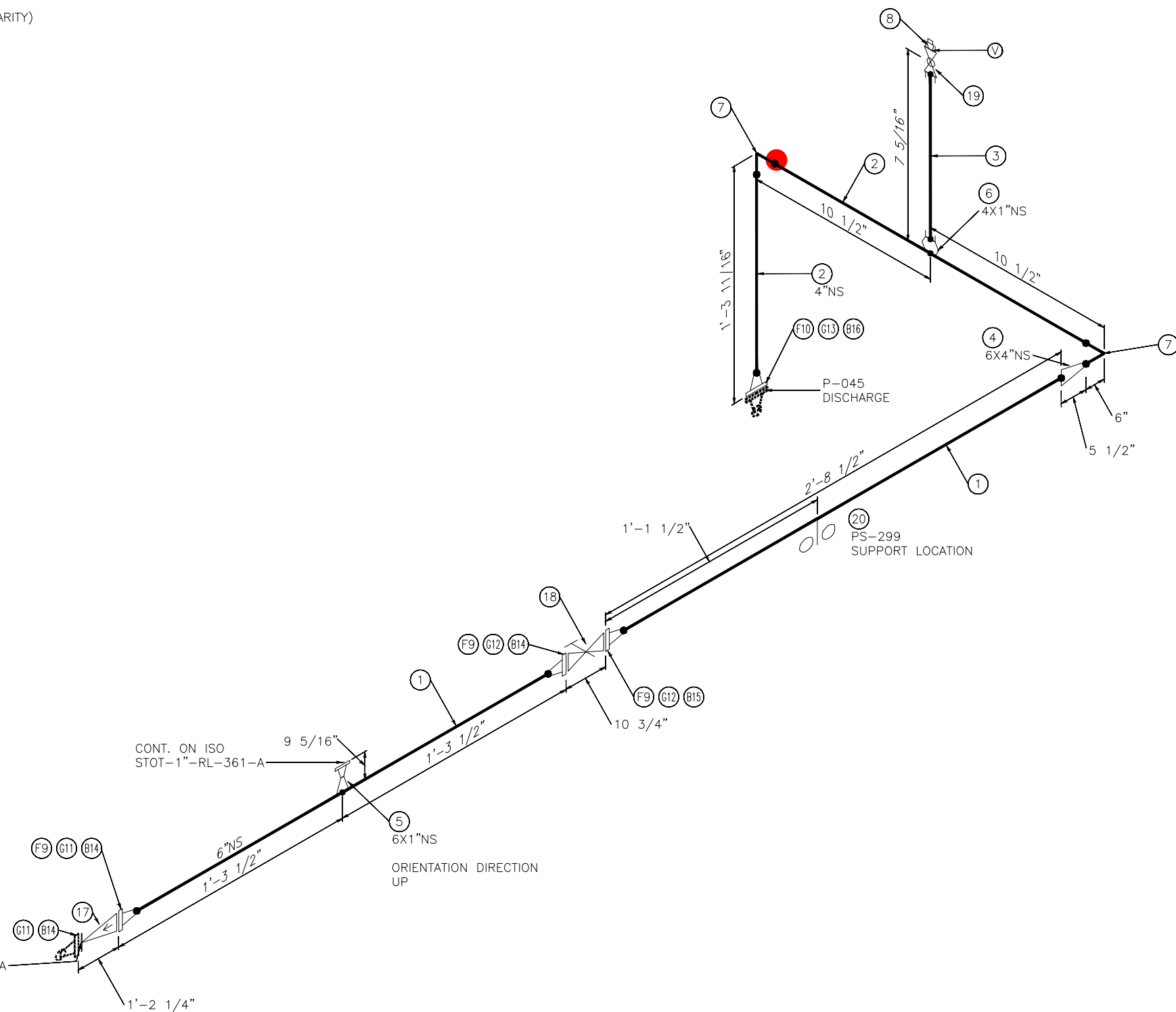
- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD FIELD WELD SOCKET WELD SCREWED JOINT INSPECT -A-LIFT OIO GASKET TAG# (G#)	PIPE SUPPORT VENT DRAIN FLANGE TAG# (F#)	BOLT TAG# (B#)	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5
X-RAY 100%			PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
SERVICE REN. DSL		LINE No. STOT-6''-RD-282-A SHT.2 OF 2			REV 0			

STOT-6''-RD-282-A-SH2.DWG

N
↑
(ROTATED FOR CLARITY)



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	4'5"	6"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	83.7
2	1'4"	4"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	14.2
3	0'3"	1"	PIPE, SCH XS, SMLS, ASTM A106 GR B PBE	0.6
4	1	6X4"	CONC REDUCER, BW, SMLS, (SCH STD x SCH STD), ASTM A234 WPB	6.8
5	1	6X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	0.6
6	1	4X1"	SOCKOLET, SW, 3000LB, ASTM A105	0.6
7	2	4"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	17.0
8	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
9	3	6"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	72.0
10	1	4"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	15.0
11	2	6"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
12	2	6"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
13	1	4"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
14	24	3/4X4 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 6"-150# FLGS.	2.6
15	8	3/4X4 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	0.9
16	8	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	0.5
17	1	6"	CHECK VALVE, SWING CHECK, ANSI 150LB, RFFE, API-600, API TRIM #8	-
18	1	6"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	194.0
19	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTF CSPGSL-100	2.3
TOTAL FABRICATION WEIGHT				411.2
20	1	6"	INSPECT-A-LIFT 2 INCH KIT	5.0
TOTAL ERECTION WEIGHT				5.0
TOTAL WEIGHT UNLISTED ITEMS				15.0
TOTAL WEIGHT - THIS DRG				431.2

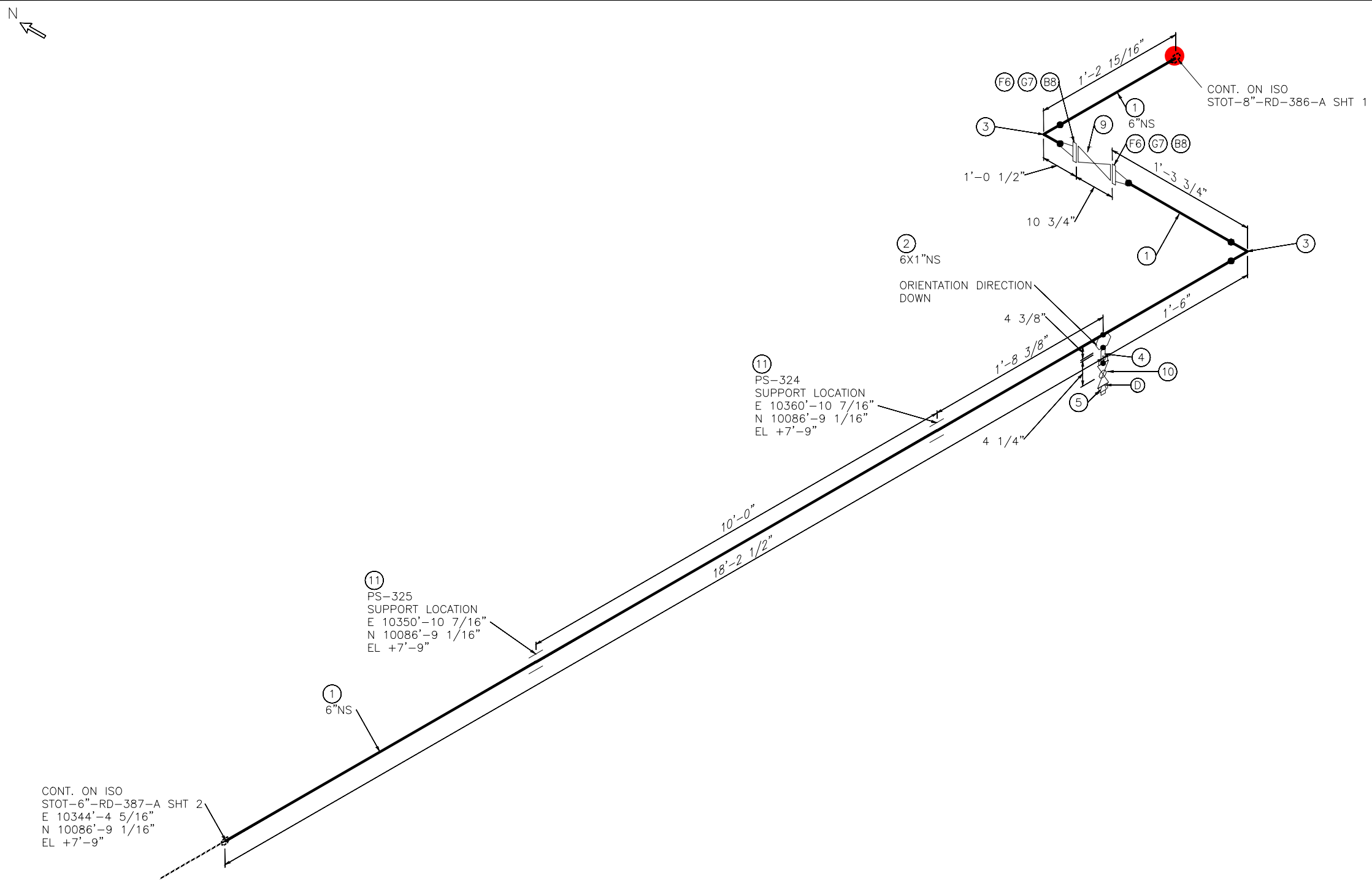
CONT. ON ISO
STOT-10"-RD-363-A
SHT. 1

CONT. ON ISO
STOT-1"-RL-361-A

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-6"-RD-362-A	SHT. 1 OF 1	REV 0		
				APP. JR	○	○	○							

STOT-6"-RD-362-A-SHT.1.DWG

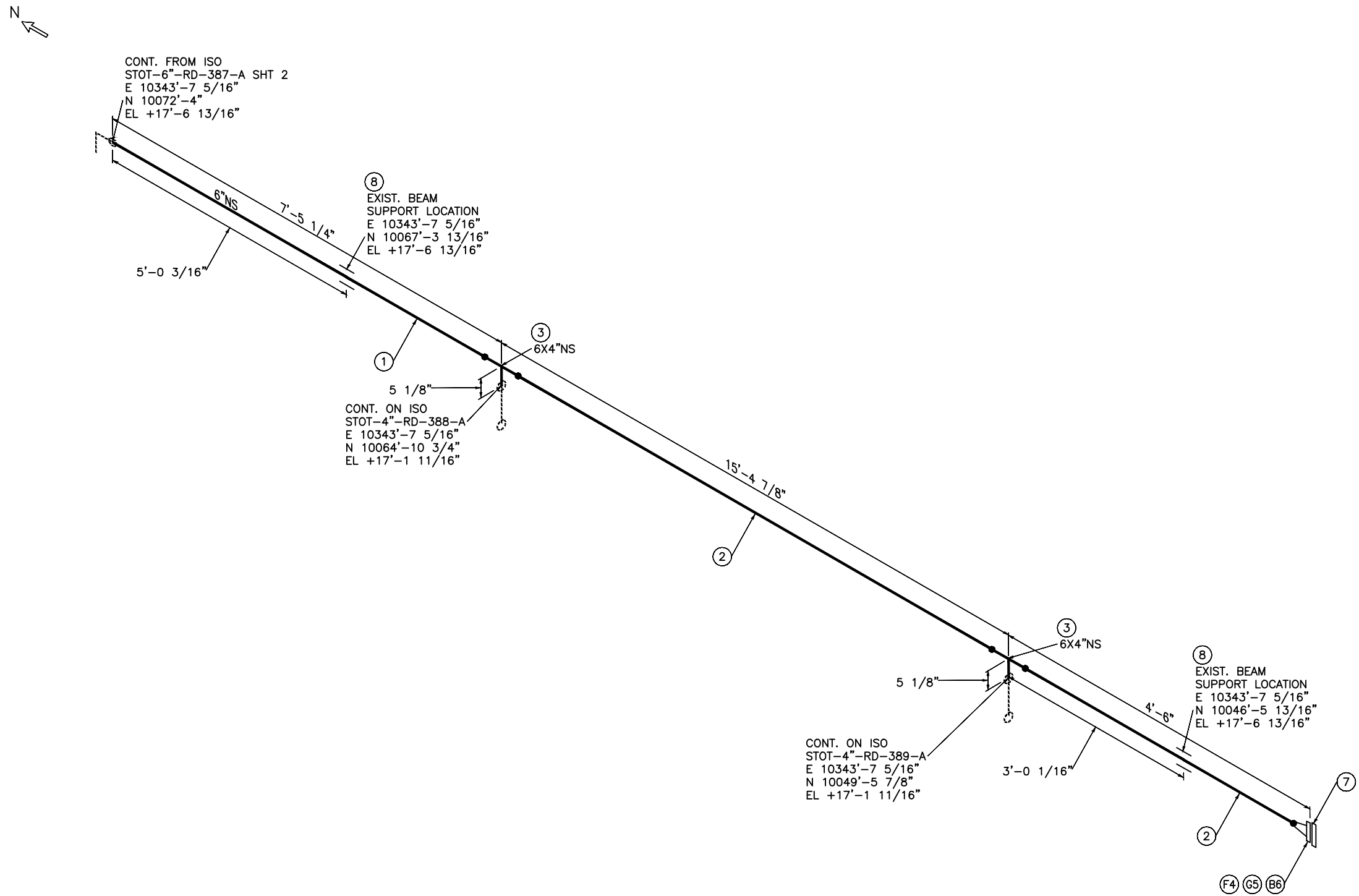


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	19	9" 6"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	373.8
2	1	6X1"	WELDOLET, BW, SCH XS, ASTM A105	0.6
3	2	6"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	44.7
4	1	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (3" LG)	1.5
5	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
6	2	6"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	48.0
7	2	6"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
8	16	3/4X4 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 6"-150# FLGS.	1.8
9	1	6"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	194.0
10	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTF CSPGSL-100	2.3
11	2	6"	PIPE SUPPORT, FLAT PLATE W/ I-ROD AND (2) U-BOLTS, BASE PLATE W/ (4) SLOTTED HOLES, EZ-LINE FIG 510 FIR, D = 2'-8"	2.0
TOTAL FABRICATION WEIGHT				669.3

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
0	ISSUED FOR ENGINEERING REVIEW	KLV	6/4/19	DRN.BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				APP. JR					SERVICE REN. DSL	LINE No. STOT-6"-RD-387-A	SHT. 1 OF 3	REV 0		

STOT-6"-RD-387-A-SHT.1.DWG

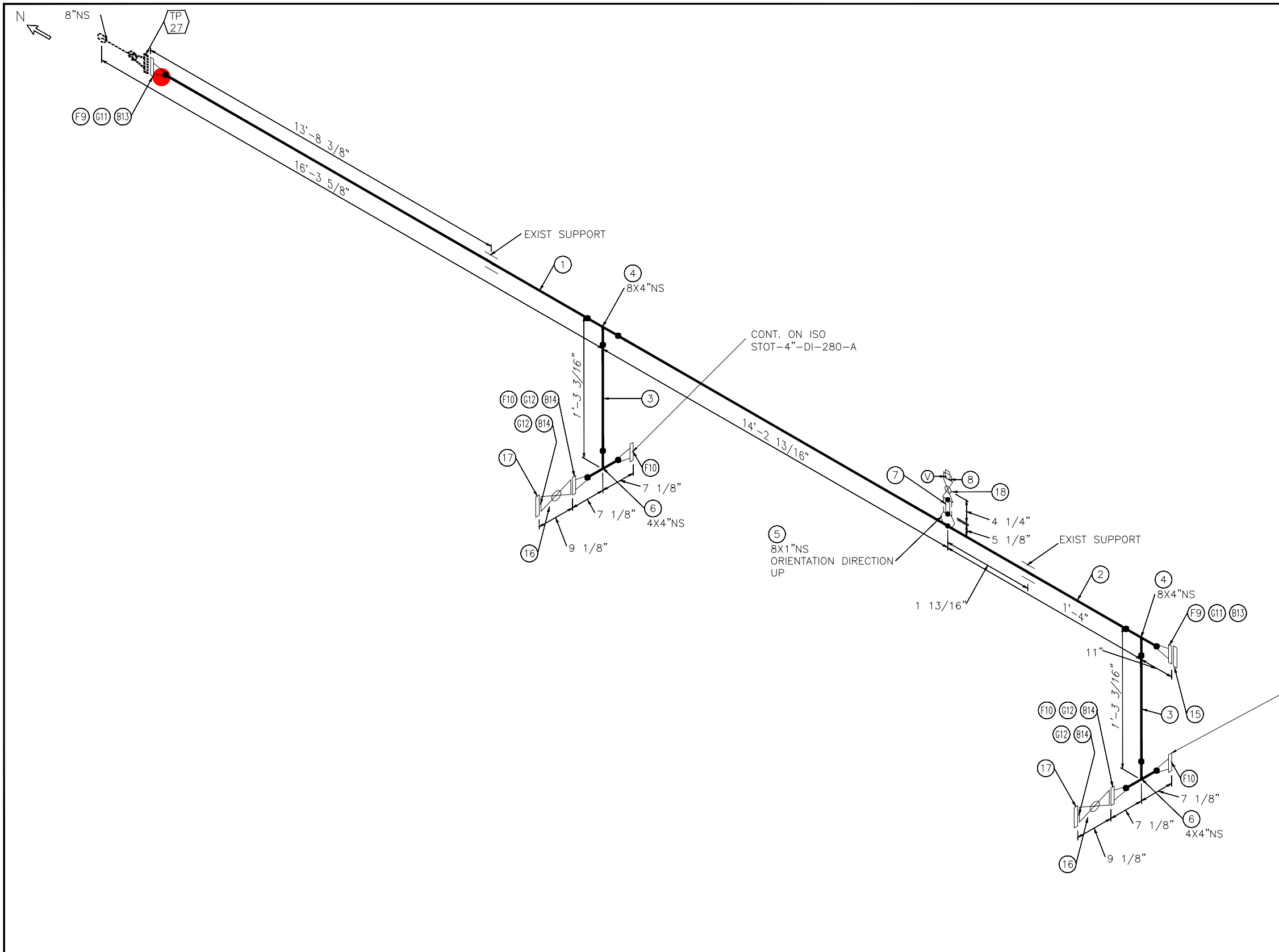


BILLOF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	7'0"	6"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	132.1
2	10'3"	6"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	345.1
3	2	6X4"	RED TEE, BW, SMLS, SCH STD x SCH STD, ASTM A234 WPB	37.4
4	1	6"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	24.0
5	1	6"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
6	8	3/4X4 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 6"-150# FLGS.	0.9
7	1	6"	BLIND FLANGE, RF, 150LB, ASTM A105	26.0
TOTAL FABRICATION WEIGHT				565.3
8	2	6"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	2.0
TOTAL ERECTION WEIGHT				2.0
TOTAL WEIGHT - THIS DRG				567.3

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	6/04/19	DRN. BY KLV	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
1	UPDATED PER BRODIE VALVE ADDITION WC_00247	KLV	6/10/21	CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-6"-RD-387-A SHT.3 OF 3	REV 1			

STOT-6"-RD-387-A-SHT.3.DWG



BILL OF MATERIAL			DESCRIPTION	WEIGHT
MARK	QTY	SIZE		
1	13'11"	8"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	396.8
2	14'5"	8"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	410.8
3	0'10"	4"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	8.9
4	2	8X4"	RED TEE, BW, SMLS, SCH STD x SCH STD, ASTM A234 WPB	68.0
5	1	8X1"	SOCKOLET, SW, 3000LB, ASTM A105	0.6
6	2	4X4"	TEE, BW, SMLS, SCH STD, ASTM A234 WPB	17.4
7	1	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (3" LG)	1.5
8	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
9	2	8"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	78.0
10	4	4"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	60.0
11	2	8"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CG1" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
12	4	4"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CG1" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
13	16	3/4X4 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 8"-150# FLGS.	1.8
14	32	5/8X4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 4"-150# FLGS.	2.0
15	1	8"	BLIND FLANGE, RF, 150LB, ASTM A105	45.0
16	2	4"	DBB, BALL VALVE, ANSI 150, WAFER BODY, GVS TYPE B1 (04-B1-150-RF-L-02-DX)	233.6
17	2	4"	BLIND FLANGE, RF, 150LB, ASTM A105	34.0
18	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BYSCWTF CSPGSL-100	2.3
TOTAL FABRICATION WEIGHT				1363.2
TOTAL WEIGHT UNLISTED ITEMS				39.0
TOTAL WEIGHT - THIS DRG				1402.2

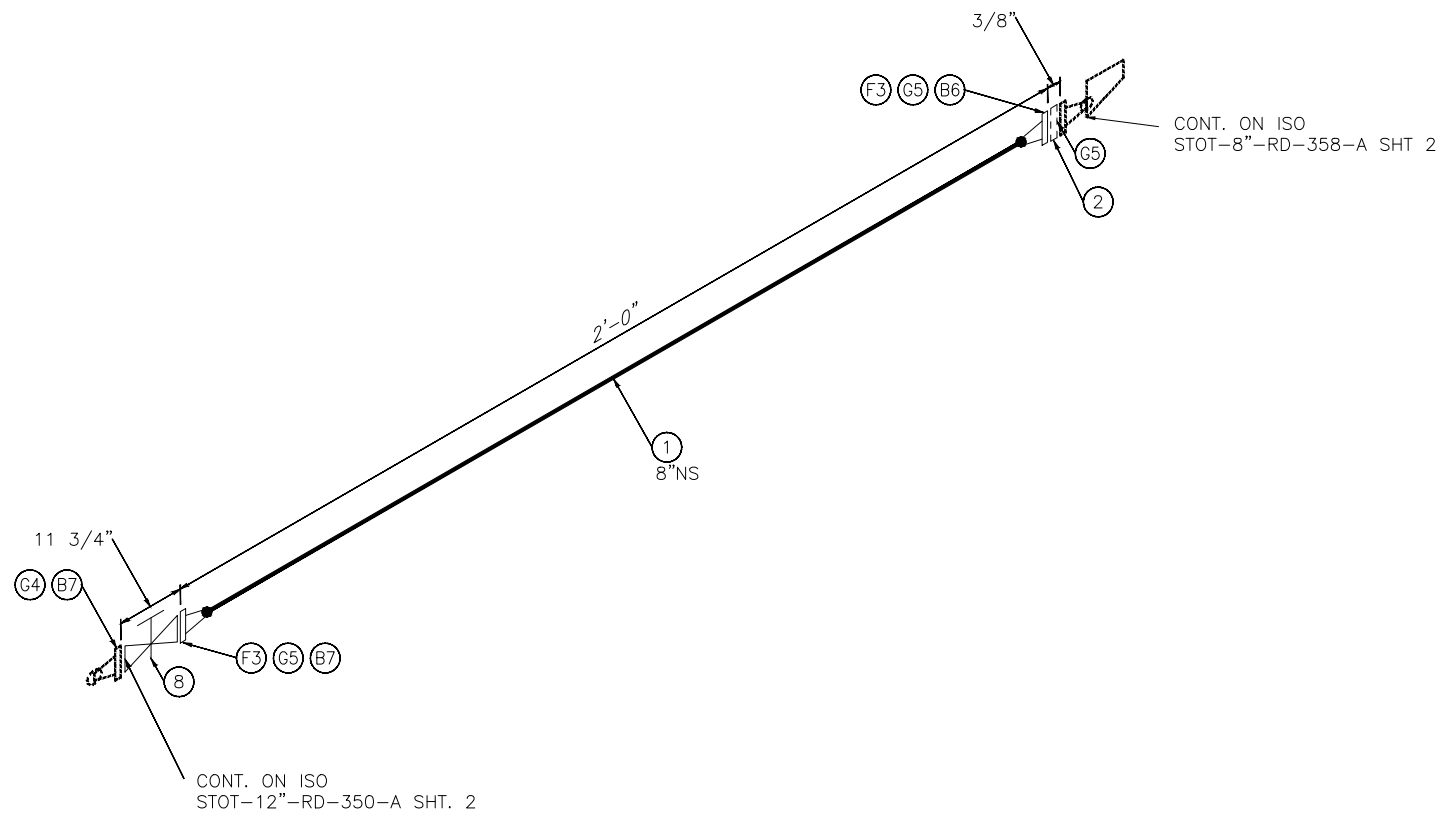
CONT. ON ISO STOT-4"-DI-281-A

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE DSL	LINE No. STOT-8"-DI-347-A	SHT. 1 OF 1	REV 0		
				APP. JR	○	○	○							

STOT-8"-DI-347-A-SH1.DWG

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(ROTATED FOR CLARITY)



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	1	1'4" 8"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	38.1
2	1	8"	STARTUP STRAINER, 1/8" THK, 150LB, CONE, WEAMCO MODEL # CP-8"-150LB-RF-CS-2-150 OR EQ	-
3	2	8"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	78.0
4	1	8"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
5	3	8"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
6	8	3/4X4 3/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 8"-150# FLGS.	1.0
7	16	3/4X4 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 8"-150# FLGS.	1.8
8	1	8"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	313.0
TOTAL FABRICATION WEIGHT				431.7

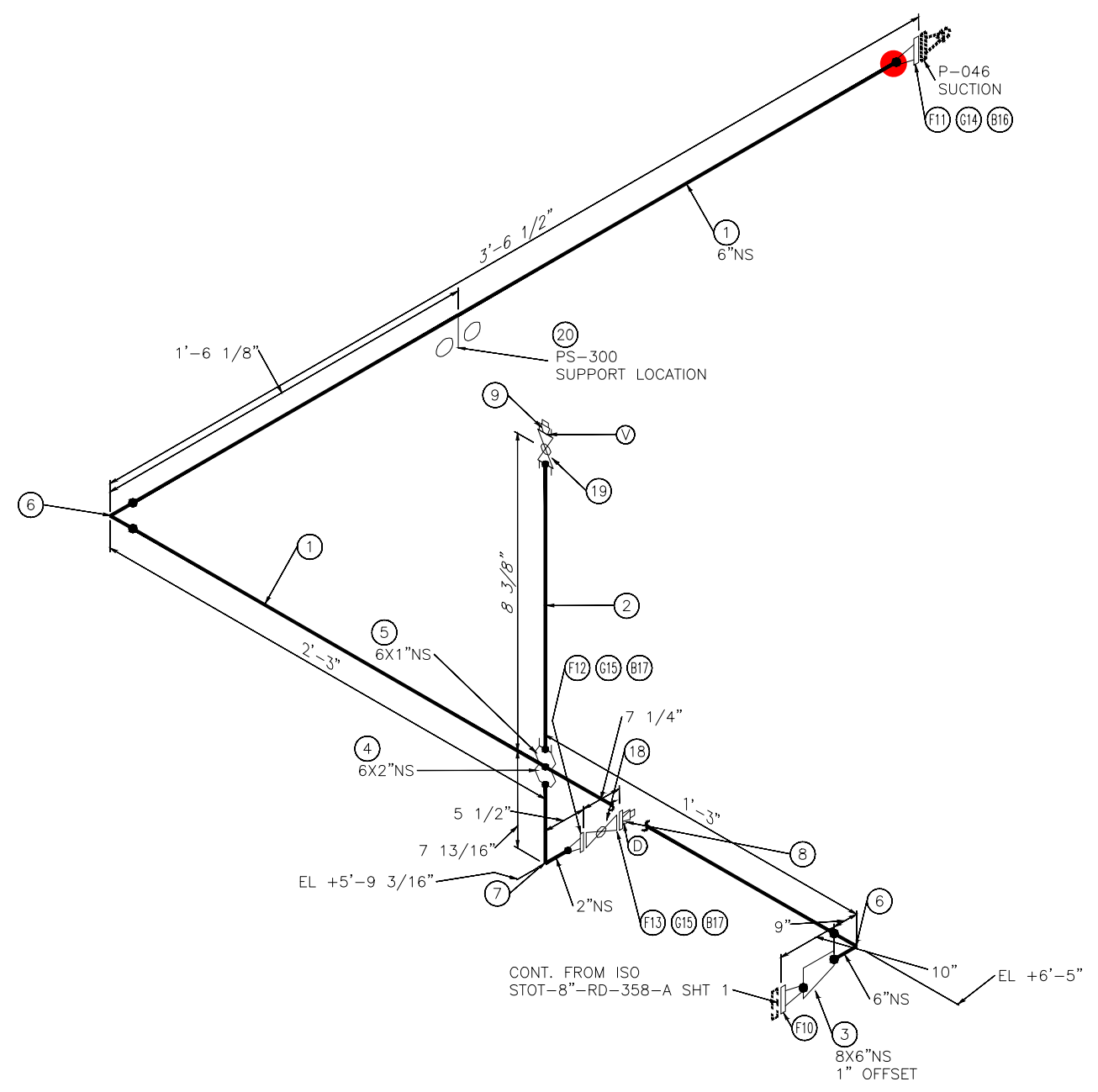
GENERAL NOTES:

1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	GASKET TAG#	FLANGE TAG#	BOLT TAG#		100%	N/A	NS-ES-68-002	WHITE	N/A	N/A
				CHKD. NSD					SERVICE REN. DSL	LINE No. STOT-8''-RD-358-A SHT. 1 OF 2				REV 0
				APP. JR										

STOT-8''-RD-358-A-SHT.1.DWG

N ↑
(ROTATED FOR CLARITY)



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	4'6"	6"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	85.3
2	0'3"	1"	PIPE, SCH XS, SMLS, ASTM A106 GR B PBE	0.6
3	1	8X6"	ECC REDUCER, BW, SMLS, (SCH STD x SCH STD), ASTM A234 WPB	11.8
4	1	6X2"	WELDOLET, BW, SCH XS, ASTM A105	1.6
5	1	6X1"	SOCKOLET, SW, 3000LB, ASTM A105	0.6
6	2	6"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	44.7
7	1	2"	ELBOW, 90 DEG LR, BW, SMLS, SCH XS, ASTM A234 WPB	2.0
8	1	2"	HEX PLUG, THRD, 3000LB, ASTM A105	3.0
9	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
10	1	8"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	39.0
11	1	6"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	24.0
12	1	2"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	6.0
13	1	2"	FLANGE, RF THRD, 150LB, ASTM A105	5.0
14	1	6"	GASKET, 1/8" THICK, 150LB SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
15	2	2"	GASKET, 1/8" THICK, 150LB SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
16	8	3/4X4 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 6"-150# FLGS.	0.9
17	8	5/8X3 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 2"-150# FLGS.	1.0
18	1	2"	BALL VALVE, 150LB RFFE, STD PORT, API TRIM #8, A216 GR WCB CAST STEEL BODY	62.0
19	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCHWTF CSPGSL-100	2.3
TOTAL FABRICATION WEIGHT				290.4
20	1	6"	INSPECT-A-LIFT 2 INCH KIT	5.0
TOTAL ERECTION WEIGHT				5.0
TOTAL WEIGHT UNLISTED ITEMS				24.0
TOTAL WEIGHT - THIS DRG				319.4

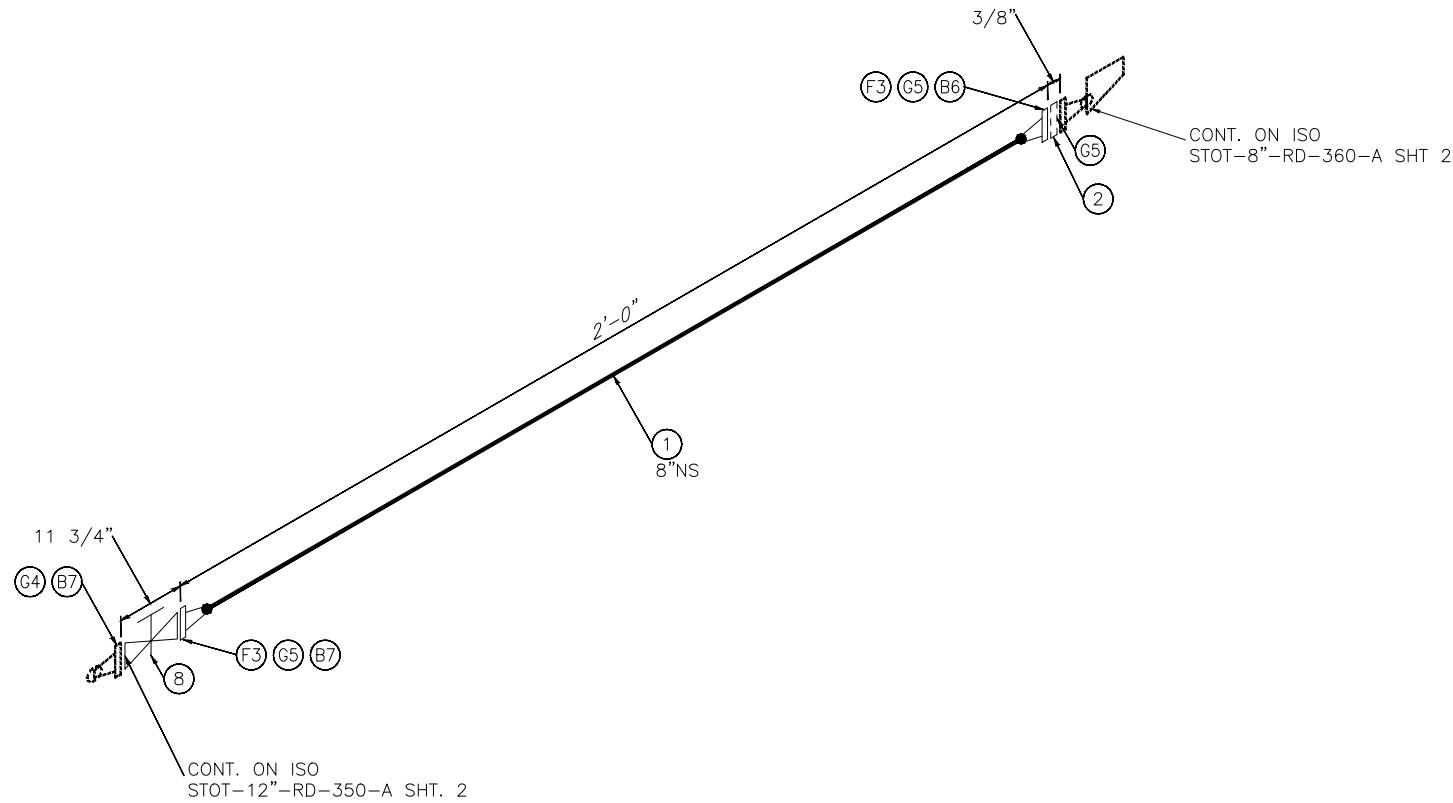
- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	—	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-8''-RD-358-A SHT.2 OF 2				REV 0
				APP. JR	Ⓞ	Ⓞ	Ⓞ							

STOT-8''-RD-358-A-SH2.DWG

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↑ (ROTATED FOR CLARITY)



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	1'4"	8"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	38.1
2	1	8"	STARTUP STRAINER, 1/8" THK, 150LB, CONE, WEAMCO MODEL # CP-8"-150LB-RF-CS-2-150 OR EQ	-
3	2	8"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	78.0
4	1	8"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
5	3	8"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
6	8	3/4X4 3/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA, FOR 8"-150# FLGS.	1.0
7	16	3/4X4 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA, FOR 8"-150# FLGS.	1.8
8	1	8"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	313.0
TOTAL FABRICATION WEIGHT				431.7

CONT. ON ISO STOT-12"-RD-350-A SHT. 2

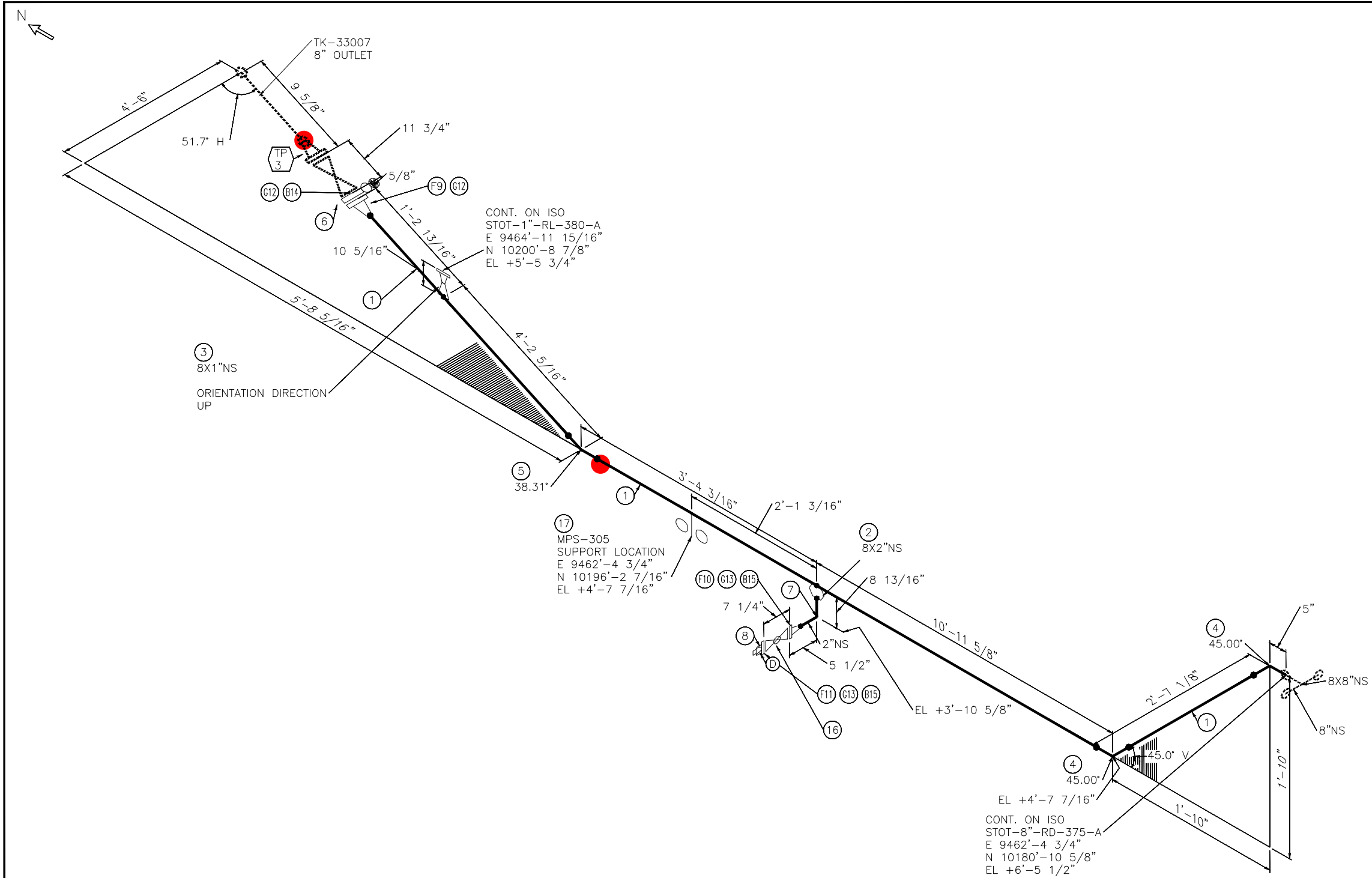
CONT. ON ISO STOT-8"-RD-360-A SHT 2

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD FIELD WELD SOCKET WELD SCREWED JOINT INSPECT -A-LIFT OIO GASKET TAG# G#	PIPE SUPPORT VENT DRAIN FLANGE TAG# F#	BOLT TAG# B#	PIPE SPEC. A DESIGN PRESS. 285 PSIG DESIGN TEMP. 125 °F OPER. PRESS. 120 PSIG OPER. TEMP. 100 °F HYDROTEST PSIG 427.5 X-RAY 100% PWHT N/A PAINT SPEC NS-ES-68-002 PAINT COLOR WHITE INSUL SPEC N/A INSUL THK N/A TRACING N/A SERVICE REN. DSL LINE No. STOT-8"-RD-360-A SHT. 1 OF 2 REV 0
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STOT-8"-RD-360-A-SHT.1.DWG

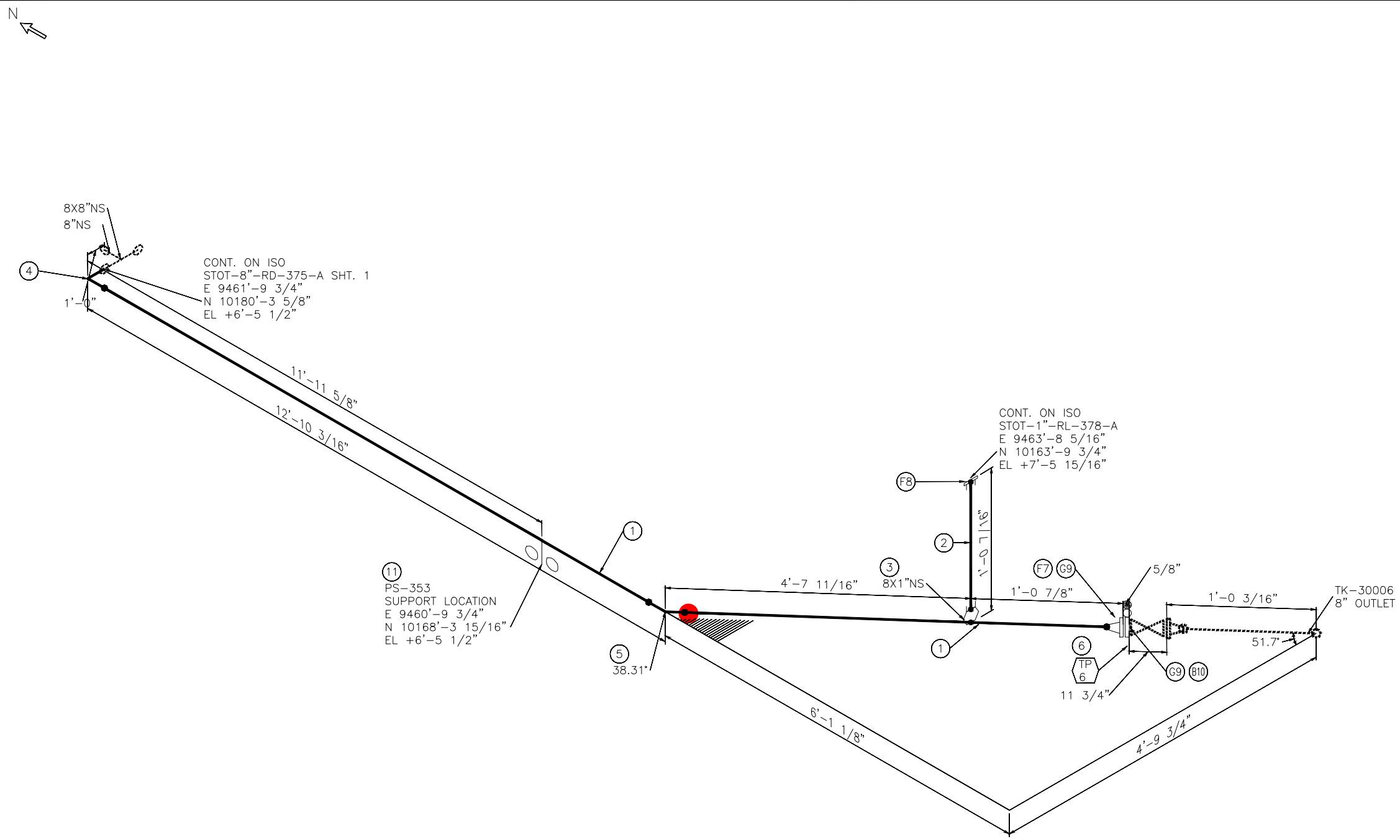


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	20	1" 8"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	572.2
2	1	8X2"	WELDOLET, BW, SCH XS, ASTM A105	1.6
3	1	8X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC RF FLANGED BRANCHETTE OR EQ.	0.6
4	2	8"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	44.8
5	1	8"	TRIMMED ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB (38.32)	19.1
6	1	8"	SPECTACLE BLIND, 150LB, ASTM A105	-
7	1	2"	ELBOW, 90 DEG LR, BW, SMLS, SCH XS, ASTM A234 WPB	2.0
8	1	2"	HEX PLUG, THRD, 3000LB, ASTM A105	3.0
9	1	8"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	39.0
10	1	2"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	6.0
11	1	2"	FLANGE, RF THRD, 150LB, ASTM A105	5.0
12	2	8"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
13	2	2"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
14	8	3/4X5 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 8"-150# FLGS.	1.1
15	8	5/8X3 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 2"-150# FLGS.	1.0
16	1	2"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	35.4
TOTAL FABRICATION WEIGHT				730.6
17	1	8"	INSPECT-A-LIFT 2 INCH KIT	5.0
TOTAL ERECTION WEIGHT				5.0
TOTAL WEIGHT UNLISTED ITEMS				678.4
TOTAL WEIGHT - THIS DRG				1414.0

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	DRN.BY KLV	DATE 5/13/19	CHKD. NSD	APP. JR	SHOP WELD WELD	FIELD WELD WELD	SDCKET WELD WELD	SCREWED JOINT JOINT	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19						INSPECT -A-LIFT OIO	PIPE SUPPORT -	VENT -	DRAIN D	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19						GASKET TAG# G#	FLANGE TAG# F#	BOLT TAG# B#		SERVICE REN. DSL	LINE No. STOT-8"-RD-373-A	SHT. 1	OF 1	REV 0	

STOT-8"-RD-373-A-SH1.DWG



BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	16'7"	8"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	471.7
2	0'8"	1"	PIPE, SCH XS, SMLS, ASTM A106 GR B	1.3
3	1	8X1"	SOCKET, SW, 3000LB, ASTM A105	0.6
4	1	8"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	44.9
5	1	8"	TRIMMED ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB (38.32)	19.1
6	1	8"	SPECTACLE BLIND, 150LB, ASTM A105	-
7	1	8"	FLANGE, RFW, 150LB, SCH STD BORE, ASTM A105	39.0
8	1	1"	FLANGE, RFSW, 150LB, ASTM A105	2.0
9	2	8"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
10	8	3/4X5 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 8"-150# FLGS.	1.1
TOTAL FABRICATION WEIGHT				579.4
11	1	8"	INSPECT-A-LIFT 2 INCH KIT	5.0
TOTAL ERECTION WEIGHT				5.0
TOTAL WEIGHT UNLISTED ITEMS				684.7
TOTAL WEIGHT - THIS DRG				1269.1

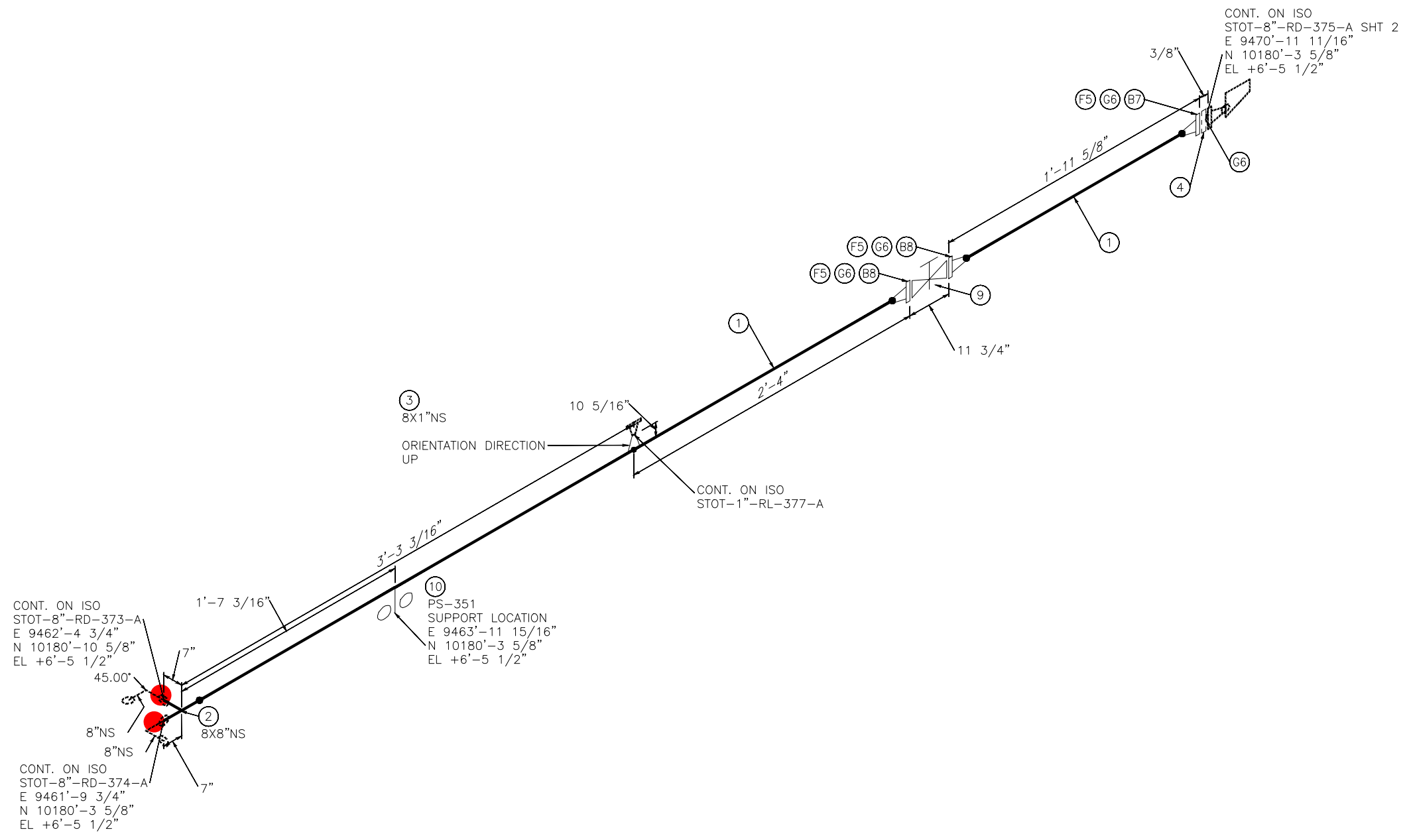
- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	100%	NS-ES-68-002	WHITE	N/A	N/A	N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#							
				APP. JR	REN. DSL				SERVICE	LINE No.	STOT-8"-RD-374-A SHT. 1 OF 1	REV 0		

STOT-8"-RD-374-A-SH1.DWG



BILL OF MATERIAL			DESCRIPTION	WEIGHT
MARK	QTY	SIZE		
1	6'0"	8"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	170.7
2	1	8X8"	TEE, BW, SMLS, SCH STD, ASTM A234 WPB	37.4
3	1	8X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	0.6
4	1	8"	STARTUP STRAINER, 1/8" THK, 150LB, CONE, WEAMCO MODEL # CP-8"-150LB-RF-CS-2-150 OR EQ	-
5	3	8"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	117.0
6	4	8"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
7	8	3/4X4 3/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 8"-150# FLGS.	1.0
8	16	3/4X4 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 8"-150# FLGS.	1.8
9	1	8"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	313.0
TOTAL FABRICATION WEIGHT				641.3
10	1	8"	INSPECT-A-LIFT 2 INCH KIT	5.0
TOTAL ERECTION WEIGHT				5.0
TOTAL WEIGHT - THIS DRG				646.3

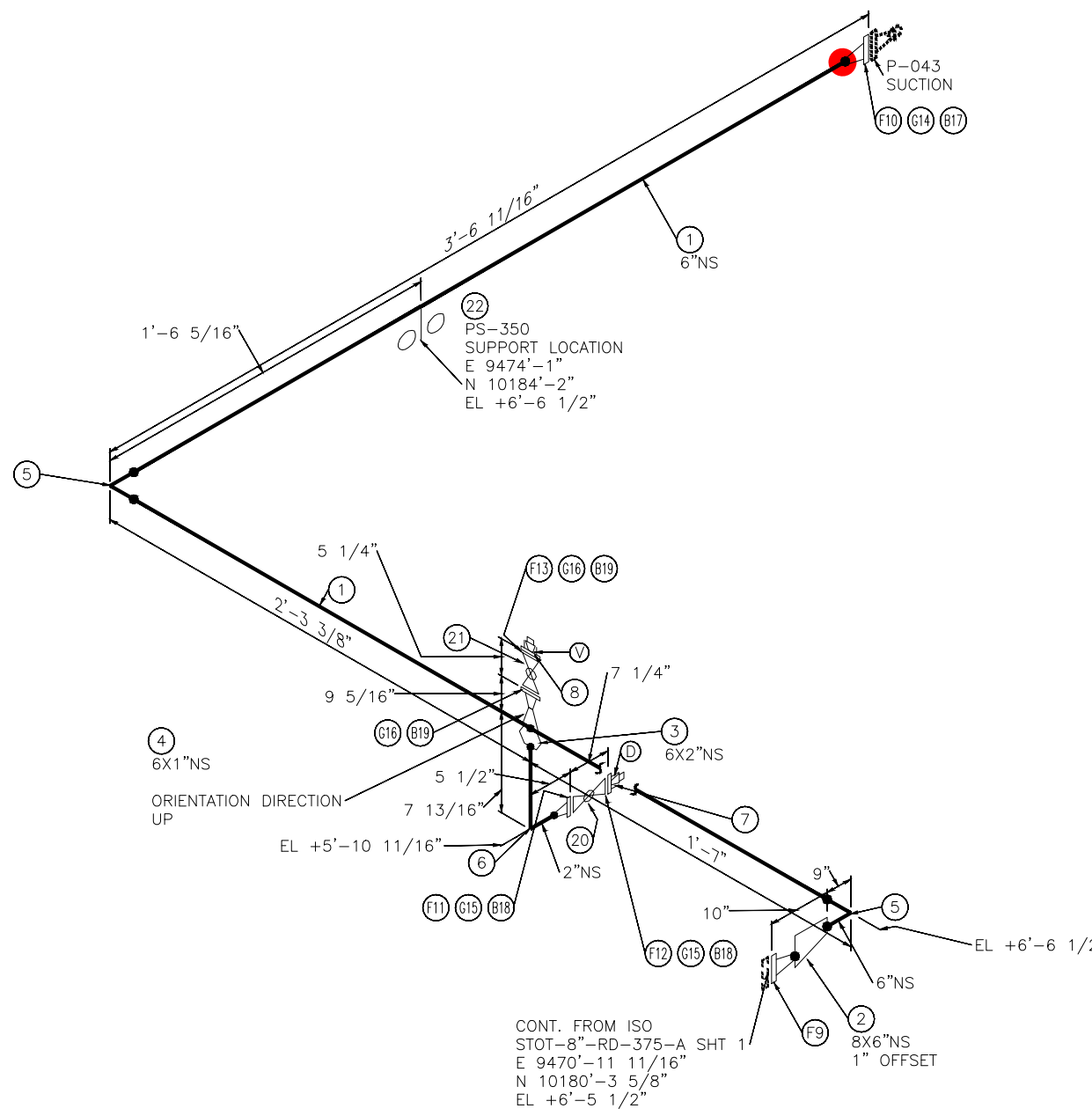


- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5	
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-8"-RD-375-A SHT. 1 OF 2	REV 0				

STOT-8"-RD-375-A-SH1.DWG

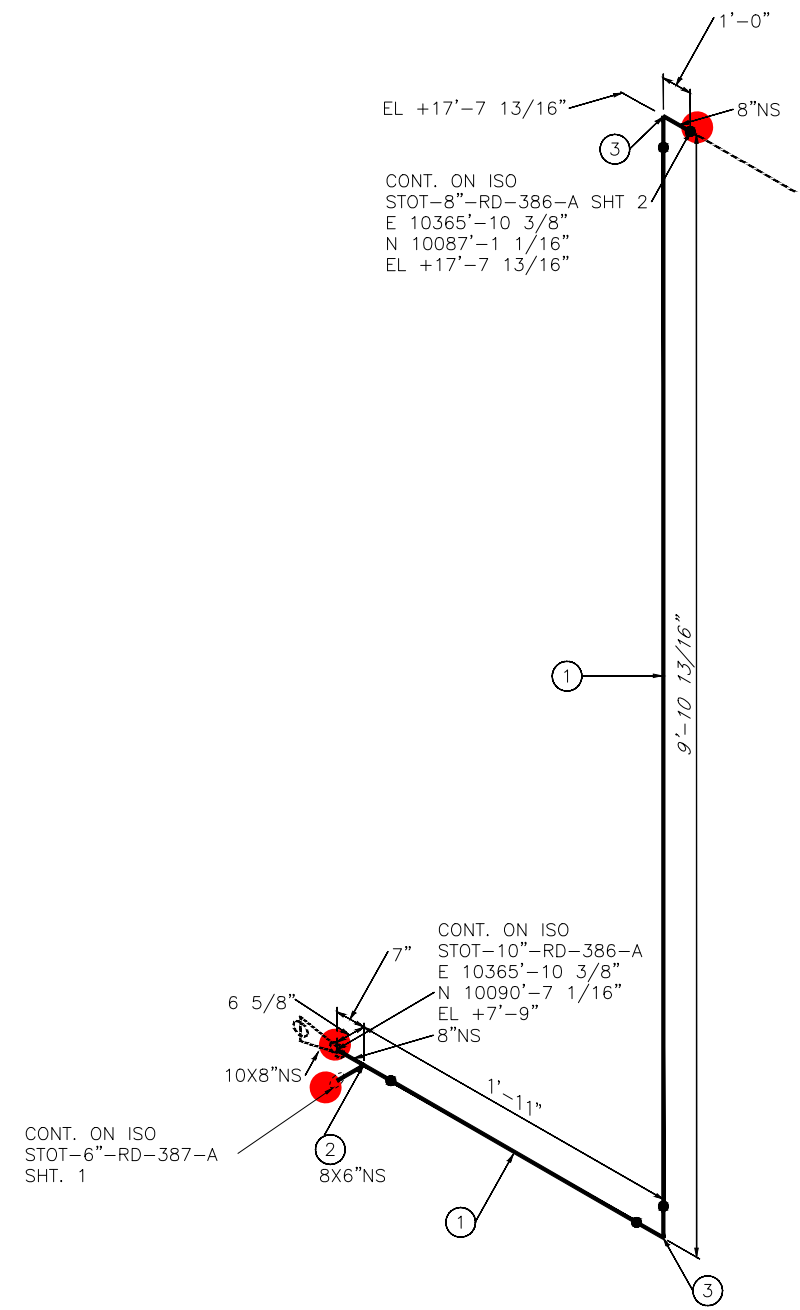


BILL OF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	4	11" 6"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	92.5
2	1	8X6"	ECC REDUCER, BW, SMLS, (SCH STD x SCH STD), ASTM A234 WPB	11.8
3	1	6X2"	WELDOLET, BW, SCH XS, ASTM A105	1.6
4	1	6X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC. RF FLANGED BRANCHETTE OR EQ.	0.6
5	2	6"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	44.7
6	1	2"	ELBOW, 90 DEG LR, BW, SMLS, SCH XS, ASTM A234 WPB	2.0
7	1	2"	HEX PLUG, THRD, 3000LB, ASTM A105	3.0
8	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8
9	1	8"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	39.0
10	1	6"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	24.0
11	1	2"	FLANGE, RFWN, 150LB, SCH XS BORE, ASTM A105	6.0
12	1	2"	FLANGE, RF THRD, 150LB, ASTM A105	5.0
13	1	1"	FLANGE, RF THRD, 150LB, ASTM A105	2.0
14	1	6"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
15	2	2"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
16	2	1"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
17	8	3/4X4 1/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 6"-150# FLGS.	0.9
18	8	5/8X3 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 2"-150# FLGS.	1.0
19	8	1/2X2 3/4"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 1"-150# FLGS.	0.6
20	1	2"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	62.0
21	1	1"	BALL VALVE, FLOATING, ANSI 150, RFFE, FULL PORT, WKM 320F OR EQ.	40.0
TOTAL FABRICATION WEIGHT				337.2
22	1	6"	INSPECT-A-LIFT 2 INCH KIT	5.0
TOTAL ERECTION WEIGHT				5.0
TOTAL WEIGHT UNLISTED ITEMS				24.0
TOTAL WEIGHT - THIS DRG				366.2

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD INSPECT -A-LIFT OIO	FIELD WELD PIPE SUPPORT —	SDCKET WELD —	SCREWED JOINT VENT (V)	DRAIN (D)	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	—	—	—	—	—	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	—	—	—	—	—						
				CHKD. NSD	GASKET TAG# (G#)	FLANGE TAG# (F#)	BOLT TAG# (B#)			SERVICE REN. DSL	LINE No. STOT-8"-RD-375-A SHT.2 OF 2				REV 0
				APP. JR											

STOT-8"-RD-375-A-SH2.DWG



CONT. ON ISO
 STOT-8"-RD-386-A SHT 2
 E 10365'-10 3/8"
 N 10087'-1 1/16"
 EL +17'-7 13/16"

CONT. ON ISO
 STOT-10"-RD-386-A
 E 10365'-10 3/8"
 N 10090'-7 1/16"
 EL +7'-9"
 8"NS

CONT. ON ISO
 STOT-6"-RD-387-A
 SHT. 1

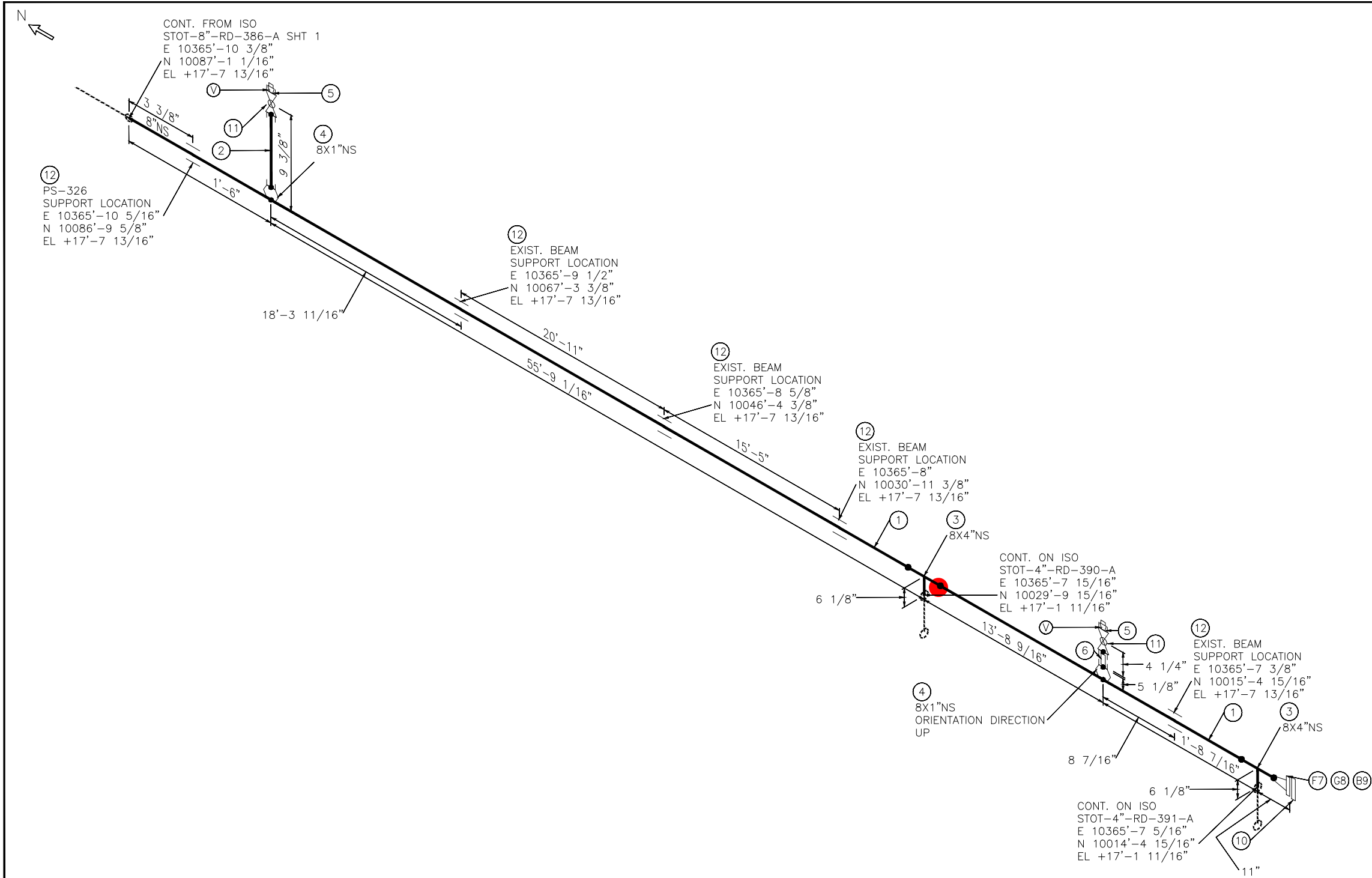
BILLOF MATERIAL				
MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	8'3"	8"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	234.9
2	1	8X6"	RED TEE, BW, SMLS, SCH STD x SCH STD, ASTM A234 WPB	35.2
3	2	8"	ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	89.7
TOTAL FABRICATION WEIGHT				359.6

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
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NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19
				CHKD. NSD
				APP. JR

SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC. A	DESIGN PRESS. 285 PSIG	DESIGN TEMP. 125 °F	OPER. PRESS. 120 PSIG	OPER. TEMP. 100 °F	HYDROTEST PSIG 427.5	
INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	X-RAY 100%	PWHT N/A	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-8"-RD-386-A SHT. 1 OF 2	REV 0				

STOT-8"-RD-386-A-SHT.1.DWG

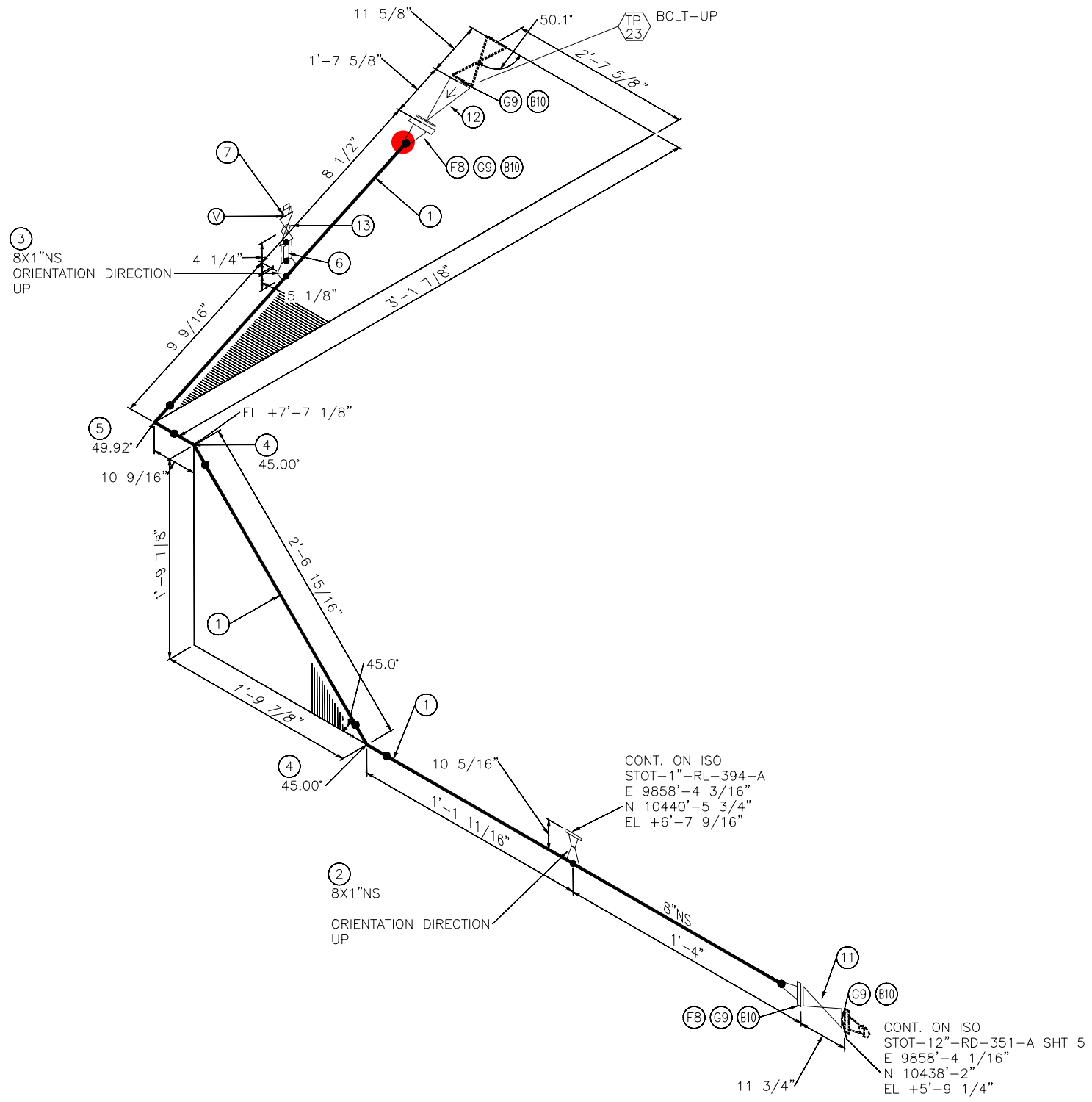


MARK	QTY	SIZE	DESCRIPTION	WEIGHT
1	71'0"	8"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	2022.7
2	0'3"	1"	PIPE, SCH XS, SMLS, ASTM A106 GR B PBE	0.6
3	2	8X4"	RED TEE, BW, SMLS, SCH STD x SCH STD, ASTM A234 WPB	68.0
4	2	8X1"	SOCKOLET, SW, 3000LB, ASTM A105	1.2
5	2	1"	HEX PLUG, THRD, 3000LB, ASTM A105	1.5
6	1	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (3" LG)	1.5
7	1	8"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	39.0
8	1	8"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CG1" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-
9	8	3/4X4 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 8"-150# FLGS.	0.9
10	1	8"	BLIND FLANGE, RF, 150LB, ASTM A105	45.0
11	2	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTFPCPSGL-100	4.6
TOTAL FABRICATION WEIGHT				2184.8
12	5	8"	PIPE PAD, 6" x 6" x 1/2" THK, SOLID HIGH STRENGTH HDPE, OR EQ	5.0
TOTAL ERECTION WEIGHT				5.0
TOTAL WEIGHT - THIS DRG				2189.8

- GENERAL NOTES:**
- BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 - ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 - FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 - FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ. NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SDCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN. BY KLV	INSPECT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	X-RAY 100%	PAINT SPEC NS-ES-68-002	PAINT COLOR WHITE	INSUL SPEC N/A	INSUL THK N/A	TRACING N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL	LINE No. STOT-8"-RD-386-A SHT.2 OF 2				REV 0
				APP. JR	Ⓞ	Ⓞ	Ⓞ							

STOT-8"-RD-386-A-SH2.DWG



BILL OF MATERIAL					
MARK	QTY	SIZE	DESCRIPTION	WEIGHT	
1	4'3"	8"	PIPE, SCH STD, ERW, API 5L PSL-2 GR B	119.3	
2	1	8X1"	FLANGED BRANCHETTE, 150LB, SCH XS, ASTM A105, WELDING OUTLETS INC RF FLANGED BRANCHETTE OR EQ.	0.6	
3	1	8X1"	SOCKOLET, SW, 3000LB, ASTM A105	0.6	
4	2	8"	ELBOW, 45 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB	44.8	
5	1	8"	TRIMMED ELBOW, 90 DEG LR, BW, SMLS, SCH STD, ASTM A234 WPB (49.92)	24.9	
6	1	1"	NIPPLE, SCH XS, SMLS, ASTM A106 GR B, PBE (3" LG)	1.5	
7	1	1"	HEX PLUG, THRD, 3000LB, ASTM A105	0.8	
8	2	8"	FLANGE, RFWN, 150LB, SCH STD BORE, ASTM A105	78.0	
9	4	8"	GASKET, 1/8" THICK, 150LB, SPIRAL WOUND 304 SS W/ GRAPHITE FILLER, FLEXITALLIC STYLE "CGI" OR EQUAL, YELLOW W/ GRAY STRIPE, (ASME B16.5 FLG)	-	
10	32	3/4X4 1/2"	STUD BOLTS, ASTM A193 B7, W/ (2) ASTM A194 2H NUTS EA., FOR 8"-150# FLGS.	3.6	
11	1	8"	GATE VALVE, WEDGE, ANSI 150LB, RFFE, API-600, FULL OR REDUCED PORT, API TRIM #8, A216 WCB	313.0	
12	1	8"	CHECK VALVE, SWING CHECK, ANSI 150LB, RFFE, API-602, ASTM A105 BODY, API TRIM #8, BONNEY FORGE L1-61 OR EQ.	-	
13	1	1"	BALL VALVE, SW X THRD, 900 LB, KECKLEY MDL. BVSCWTFCSPL-100	2.3	
				TOTAL FABRICATION WEIGHT	589.2
				TOTAL WEIGHT UNLISTED ITEMS	313.0
				TOTAL WEIGHT - THIS DRG	902.2

- GENERAL NOTES:**
1. BELOW GROUND PIPE COATING TO BE FBE PER ENG. SPEC. NS-ES-68-001.
 2. ABOVE GROUND PIPE COATINGS PER ENG. SPEC. NS-ES-68-002, SYSTEM 1.
 3. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION
 4. FFW = FIELD FIT WELD, CONTRACTOR TO LEAVE SPOOL 6" LONG AND FIELD TRIM AS REQ'D.

NO.	REVISIONS	BY	DATE	PROJ NO. AFE# WC_00247	SHOP WELD	FIELD WELD	SOCKET WELD	SCREWED JOINT	PIPE SPEC.	DESIGN PRESS.	DESIGN TEMP.	OPER. PRESS.	OPER. TEMP.	HYDROTEST PSIG
A	ISSUED FOR ENGINEERING REVIEW	KLV	5/15/19	DRN.BY KLV	INSPECT -A-LIFT	PIPE SUPPORT	VENT	DRAIN	A	285 PSIG	125 °F	120 PSIG	100 °F	427.5
0	APPROVED FOR CONSTRUCTION WC_00247	KLV	7/31/19	DATE 5/13/19	○	○	○	○	100%	NS-ES-68-002	WHITE	N/A	N/A	N/A
				CHKD. NSD	GASKET TAG#	FLANGE TAG#	BOLT TAG#		SERVICE REN. DSL					
				APP. JR	○	○	○		LINE No. STOT-8"-RD-396-A SHT. 1 OF 1					REV 0

STOT-8"-RD-396-A-SHT.1.DWG