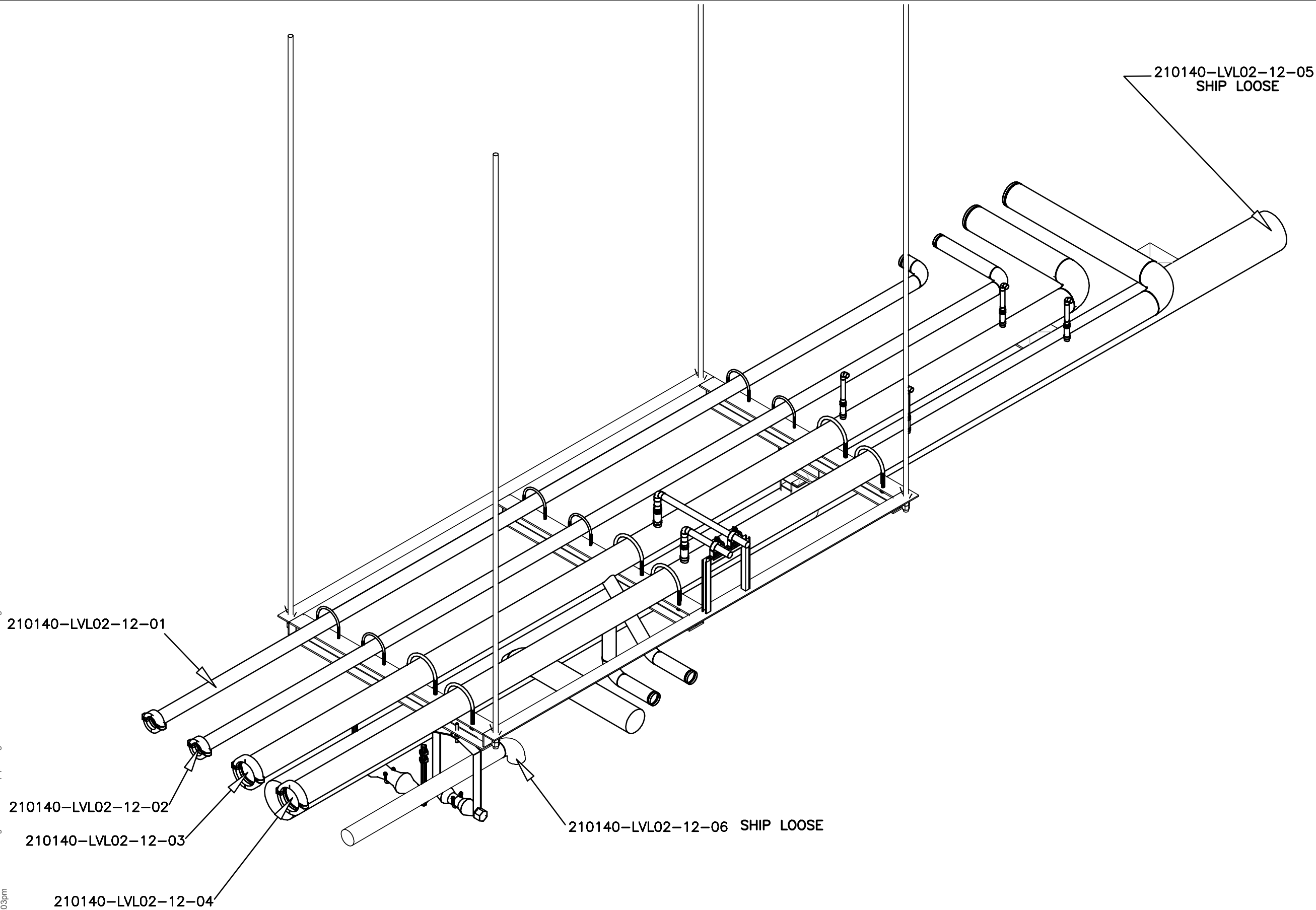


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DRN	JMM	6/8/2021	WUSM RESEARCH BUILDING				QA/QC ACCEPT				FLANGE WEIGHT/ORIENTATION			
CHK			NRB				FITTING ORIENTATION				FITTING ORIENTATION			
APP			LEVEL 02 NRB RACK				BOLTS/CPLG'S/TH'D TIGHT				BOLTS/CPLG'S/TH'D TIGHT			
JOB NO.	210140		SERVICE NAME				SPOOL IDENTIFICATION				SPOOL IDENTIFICATION			
REF.DWG.							SPEC.	ASME	X-RAY	HYDRO TEST	PWHT	COMMENTS		
DRAWING NO./TRACKING NO.							NA	NA	NA	NA	NA	MURPHY WPS#		
201140-LVL02-12			QTY.	1	SHT/NO	1 of 3	REV	DATE	DESCRIPTION				DRN	CHK
							0							APP



DRN

JMM

6/8/2021

CHK

APP

JOB NO.

210140

REF.DWG.

DRAWING NO./TRACKING NO.

201140-LVL02-12

WUSM RESEARCH BUILDING

NRB

LEVEL 02 NRB RACK

SERVICE NAME

QTY.

1

SHT/NO

2 of 3

REV

0

QA/QC ACCEPT

FLANGE WEIGHT/ORIENTATION

☐

FITTING ORIENTATION

☐

BOLTS/CPLG'S/TH'D TIGHT

☐

SPOOL IDENTIFICATION

☐

SPEC.

NA

ASME

NA

X-RAY

NA

HYDRO TEST

NA

PWHT

NA

REV

0

DATE

DESCRIPTION

COMMENTS

MURPHY WPS#

DRN

CHK

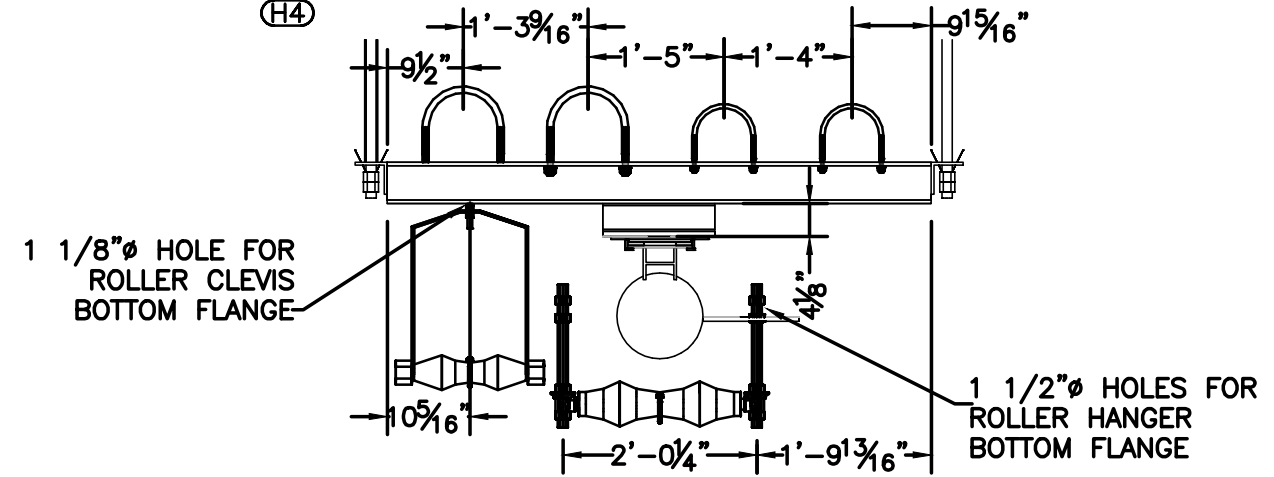
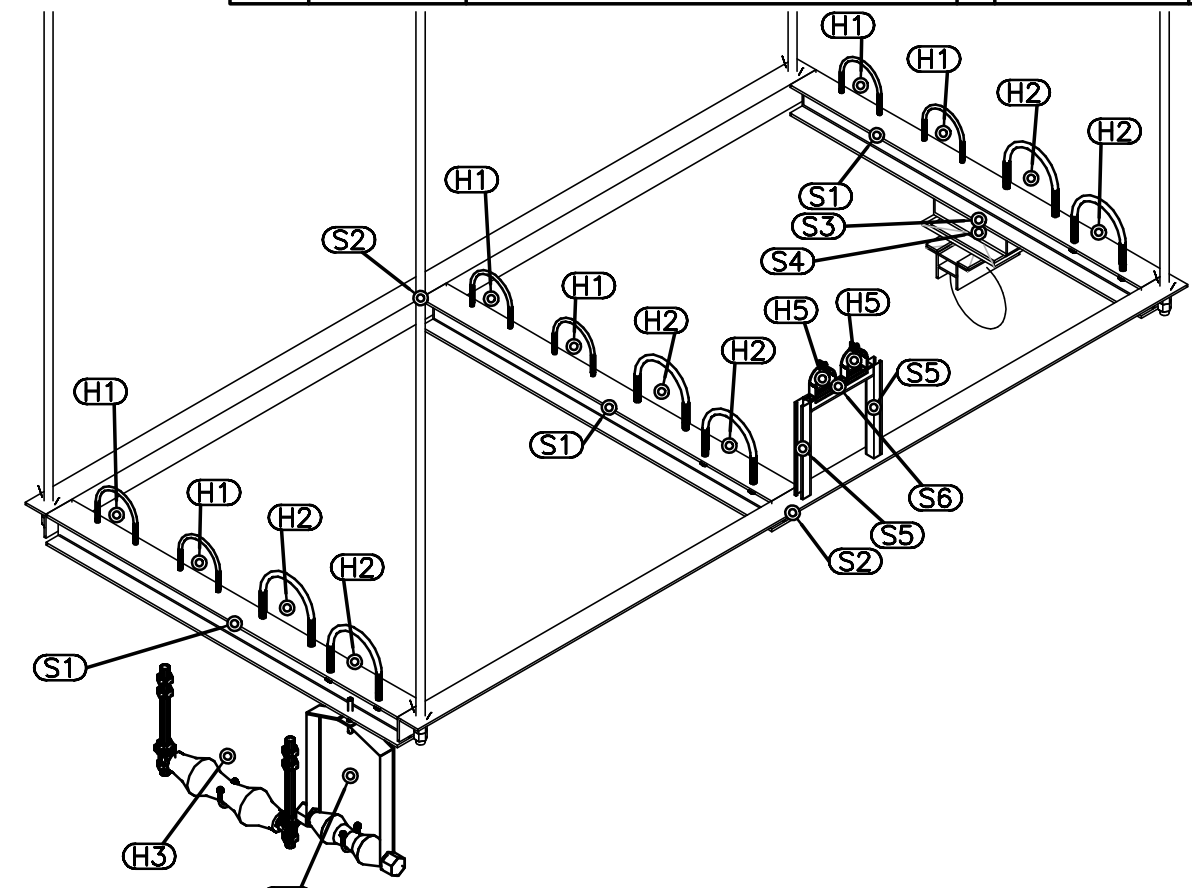
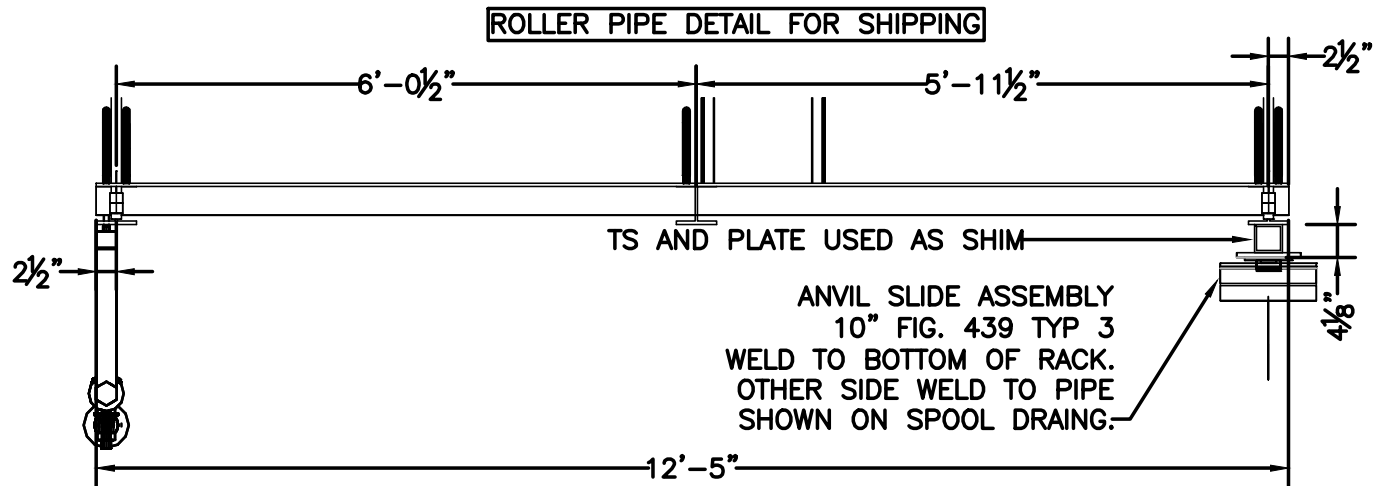
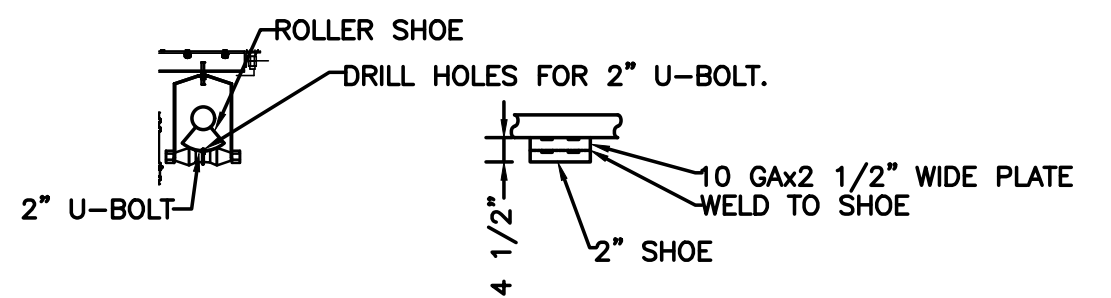
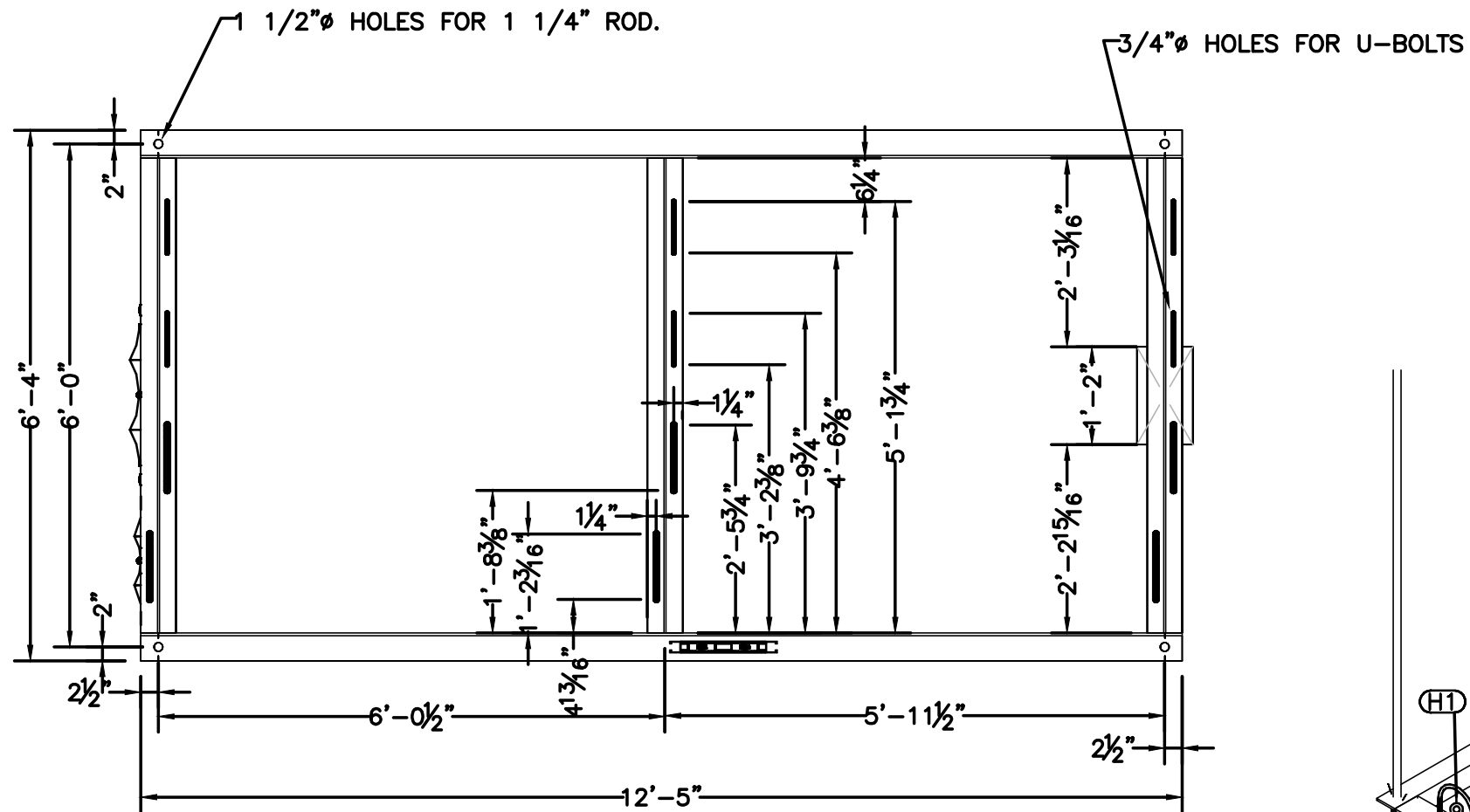
APP

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J:\210140 WUSM Research Building NRB\16-tab\pipe\dwg\NRB LVL02-12.dwg  
06/08/2021 - 3:03pm  
jmcnamely



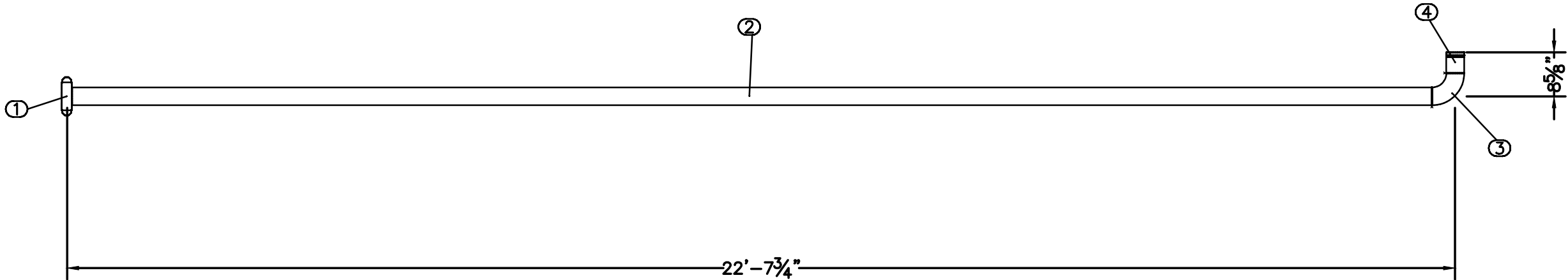
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BOM-STEEL					
Item No	Order	Description	Qty	Size	Steel L
H1	Fig137	Fig.137 U-Bolt (4)-Nut Black	6	6	
H2	Fig137	Fig.137 U-Bolt (4)-Nut Black	6	8	
H3	B3122-20 PLN	B3122 Adjustable Roller Support - PLN	1	20	
H4	B3110	B3110 Adjustable Steel Yoke Pipe Roll - PLN	1	14	
H5	928137	Klo-Shure Strut Clamp 1in Insul Cplg - Fiberglass_CTS	2	1-1/4	
S1	W5x19	ASTM A36 CS Wide Flange	3	W5x19	68"
S2	L4x4x3/8	ASTM A36 CS Equal Angle	2	L4x4x3/8	149"
S3	CS SQ Tube	ASTM A36 CS Square Tube	1	SQ3-1/2x3-1/2x1/4	14"
S4		ASTM A36 CS Plate 5/8" Thick	1	8x14x5/8	0"
S5	B22 GRN	1-5/8 GRN 12GA 2in Slotted Unistrut	2	1-5/8x1-5/8	15 1/2"
S6	B22 GRN	1-5/8 GRN 12GA 2in Slotted Unistrut	1	1-5/8x1-5/8	12 1/4"

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WUSM RESEARCH BUILDING		QA/QC ACCEPT		FLANGE WEIGHT/ORIENTATION		<input type="checkbox"/>					
NRB				FITTING ORIENTATION		<input type="checkbox"/>					
LEVEL 02 NRB RACK				BOLTS/CPLG'S/TH'D TIGHT		<input type="checkbox"/>					
				SPOOL IDENTIFICATION		<input type="checkbox"/>					
SERVICE NAME		SPEC.		ASME	X-RAY	HYDRO TEST	PWHT	COMMENTS			
REF.DWG.		NA		NA	NA	NA	NA	MURPHY WPS#			
DRAWING NO./TRACKING NO.		0									
201140-LVL02-12		REV		DATE	DESCRIPTION				DRN	CHK	APP
QTY.		1		SHT/NO		3 OF 3		REV		0	



Murphy-PFFS-SPOOL-BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
1	1	Style 107 EHP Pnt QuickVic Rigid Coupling					3
3	1	Std Wt SA234 WPB CS BW LR 90 Deg El					3
4	1	Sch 40 SA-53B CS ERW Pipe PE	Grooved End	BEV	4"	4.000	3
2	1	Sch 40 SA-53B CS ERW Pipe PE	BEV	Grooved End	22'-3 1/8"	267.124	3

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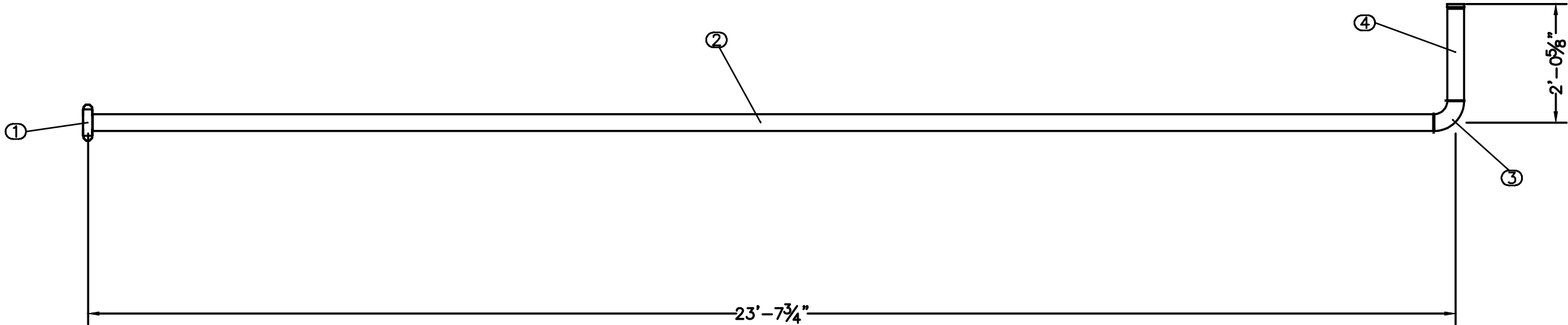
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<input type="checkbox"/> FLANGE WEIGHT/ORIENTATION	
<input type="checkbox"/> FITTING ORIENTATION	
<input type="checkbox"/> BOLTS/CPLG'S/TH'D TIGHT	
<input type="checkbox"/> SPOOL IDENTIFICATION	

QA/QC ACCEPT				COMMENTS			
SPEC.	ASME	X-RAY	HYDRO TEST	PWHT	NA	MURPHY WPS#	
NA	NA	NA	NA	NA			
0							
REV	DATE	DESCRIPTION		DRN	CHK	APP	

DRN JMM	6/8/2021	WUSM RESEARCH BUILDING					
CHK		NRB					
APP		LEVEL 02 NRB RACKS					
JOB NO.	210140	SERVICE NAME					
REF.DWG.		LVL02-12 RACK					
DRAWING NO./TRACKING NO.	210140-LVL02-12-01	QTY.	1	SHT/NO	1 of 1	REV	0



Murphy—PFFS—SPOOL—BOM							
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
1	1	Style 107 EHP Pnt QuickVic Rigid Coupling					3
3	1	Std Wt SA234 WPB CS BW LR 90 Deg El					3
4	1	Sch 40 SA-53B CS ERW Pipe PE	Grooved End	BEV	1'-8"	20.000	3
2	1	Sch 40 SA-53B CS ERW Pipe PE	BEV	Grooved End	23'-3 1/8"	279.124	3

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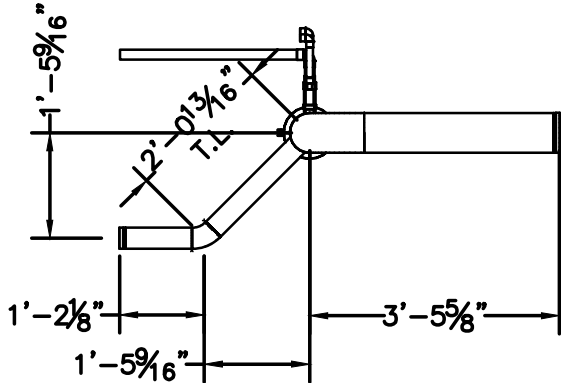
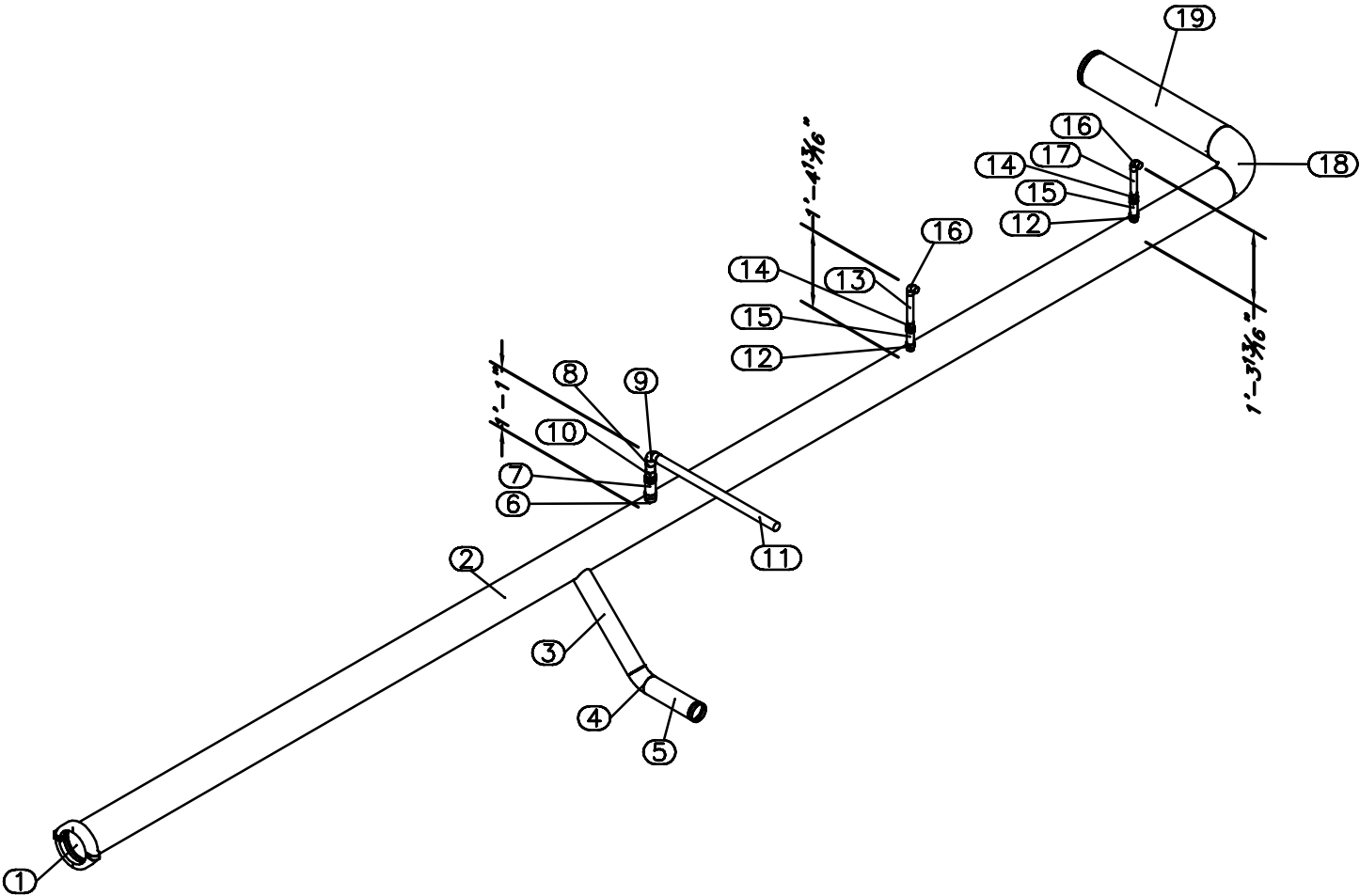
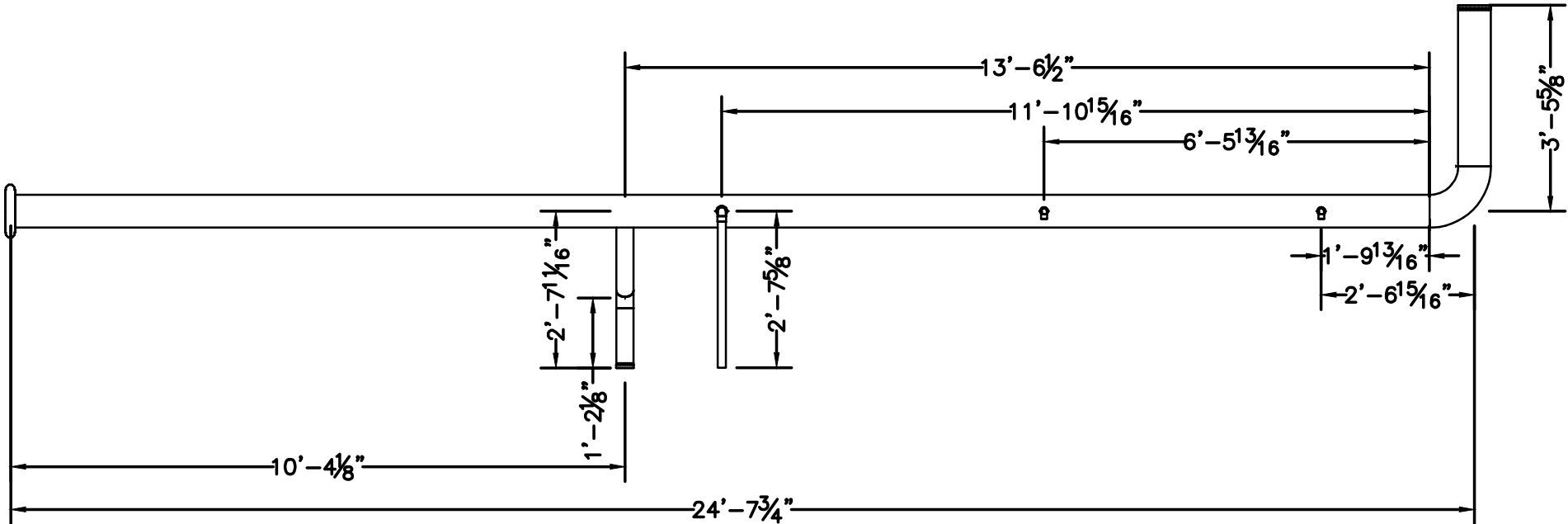
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<input type="checkbox"/>	FLANGE	<input type="checkbox"/>	WEIGHT/ORIENTATION
<input type="checkbox"/>	FITTING	<input type="checkbox"/>	ORIENTATION
<input type="checkbox"/>	BOLTS/CPLG'S/TH'D	<input type="checkbox"/>	TIGHT
<input type="checkbox"/>	SPOOL IDENTIFICATION		

SPEC.	ASME	X-RAY	HYDRO TEST	PWHT	COMMENTS
NA	NA	NA	NA	NA	MURPHY WPS#

0	REV	DATE	DESCRIPTION	DRN	CHK	APP

DRN	JMM	6/8/2021	WUSM RESEARCH BUILDING
CHK			NRB
APP			LEVEL 02 NRB RACKS
JOB NO.	210140	SERVICE NAME	LVL02-12 RACK
REF.DWG.		QTY.	1
DRAWING NO./TRACKING NO.	210140-LVL02-12-02	SHT/NO	1 of 1
		REV	0



# Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
3	1	Sch 40 SA-53B CS ERW Pipe Saddle			1'-7 3/8"	19.375	6x3
1	1	Style 107 EHP Pnt QuickVic Rigid Coupling					6
15	2	No.647 TT Dielectric Transition Fitting					1
7	1	No.647 TT Dielectric Transition Fitting					1-1/2
14	2	Wrot 603 Adapter CxF					1
10	1	Wrot 603 Adapter CxF					1-1/2
18	1	Std Wt SA234 WPB CS BW LR 90 Deg El					6
16	2	Wrot 607 90 Deg El CxC					1
9	1	Wrot 607 90 Deg El CxC					1-1/2
4	1	Std Wt SA234 WPB CS BW 45 Deg El					3
6	1	3000# FS Thread-O-Let			1 3/8"	1.375	1-1/2x6
12	2	3000# FS Thread-O-Let			1 5/16"	1.313	1x6
2	1	Sch 40 SA-53B CS ERW Pipe PE	Grooved End	BEV	23'-10 5/8"	286.624	6
19	1	Sch 40 SA-53B CS ERW Pipe PE	Grooved End	BEV	2'-8 1/2"	32.500	6
13	1	Type K Hard Copper Pipe	Copper Flg	Copper Flg	7 15/16"	7.931	1
17	1	Type K Hard Copper Pipe	Copper Flg	Copper Flg	6 15/16"	6.931	1
8	1	Type K Hard Copper Pipe	Copper Flg	Copper Flg	3 9/16"	3.580	1-1/2
11	1	Type K Hard Copper Pipe	Copper Flg	Copper Flg	2'-6 9/16"	30.586	1-1/2
5	1	Sch 40 SA-53B CS ERW Pipe PE	BEV	Grooved End	1'-0"	12.000	3

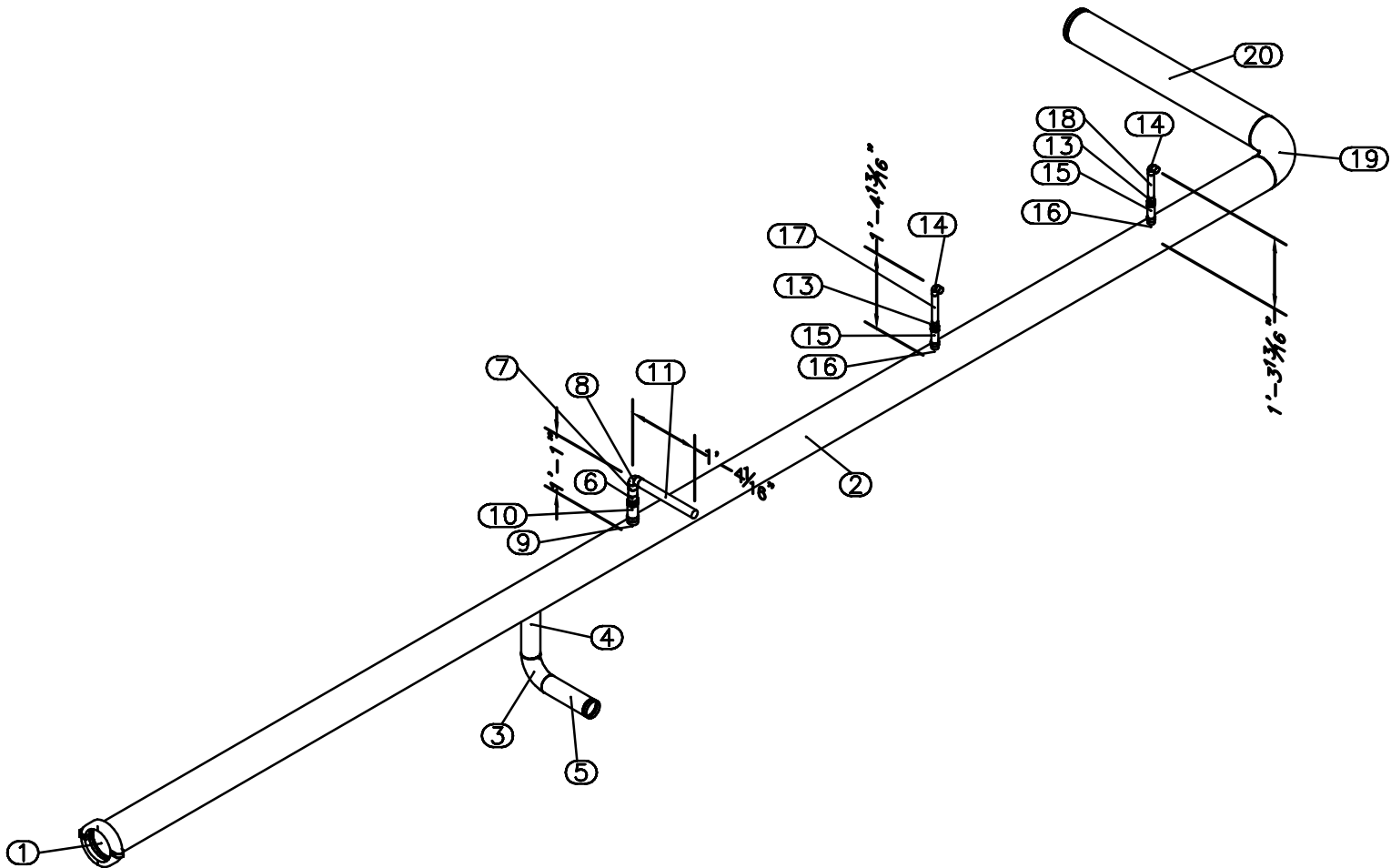
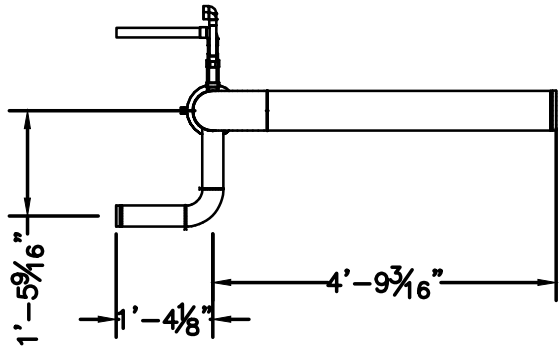
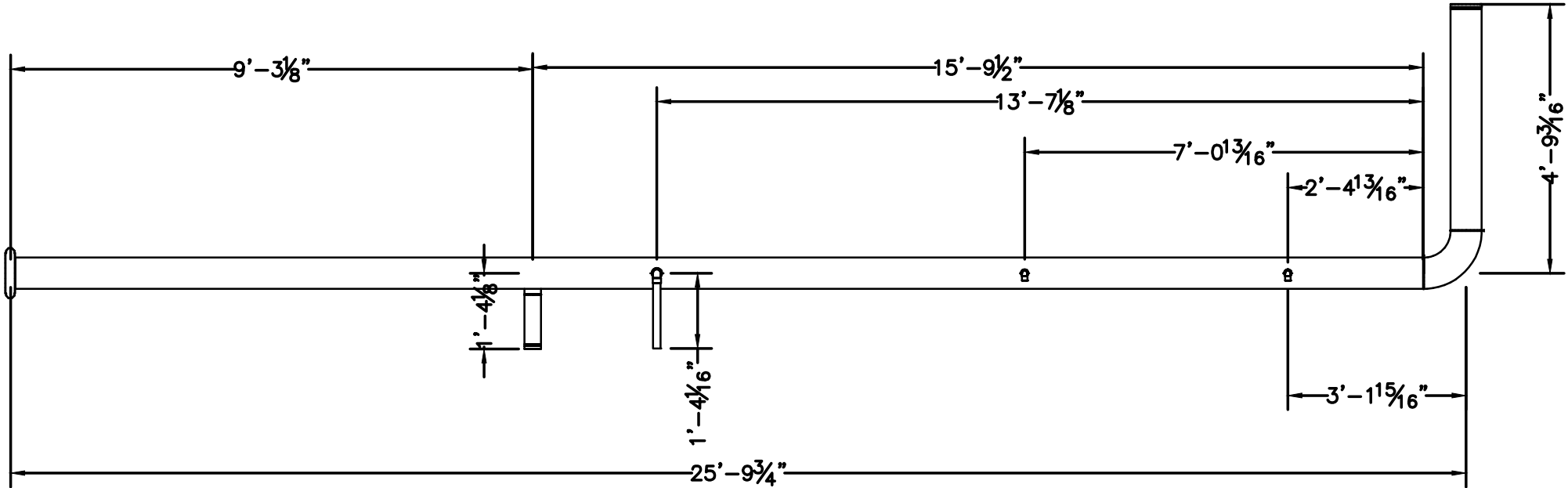
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<input type="checkbox"/>	FLANGE WEIGHT/ORIENTATION				
<input type="checkbox"/>	FITTING ORIENTATION				
<input type="checkbox"/>	BOLTS/CPLG'S/TH'D TIGHT				
<input type="checkbox"/>	SPOOL IDENTIFICATION				
QA/QC ACCEPT					
SPEC.	ASME	X-RAY	HYDRO TEST	PMHT	COMMENTS
NA	NA	NA	NA	NA	MURPHY WPS#
0	REV	DATE	DESCRIPTION		DRN
					CHK
					APP

DRN	JMM	6/8/2021	WUSM RESEARCH BUILDING		
CHK			NRB		
APP			LEVEL 02 NRB RACKS		
JOB NO.	210140	SERVICE NAME			
REF.DWG.		LVLO2-12 RACK			
DRAWING NO./TRACKING NO.	210140-LVLO2-12-03	QTY.	SHT/NO	REV	
		1	1 of 1	0	





# Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
4	1	Sch 40 SA-53B CS ERW Pipe Saddle			9 5/8"	9.625	6x3
1	1	Style 107 EHP Pnt QuickVic Rigid Coupling					6
15	2	No.647 TT Dielectric Transition Fitting					1
10	1	No.647 TT Dielectric Transition Fitting					1-1/2
13	2	Wrot 603 Adapter CxF					1
6	1	Wrot 603 Adapter CxF					1-1/2
3	1	Std Wt SA234 WPB CS BW LR 90 Deg El					3
19	1	Std Wt SA234 WPB CS BW LR 90 Deg El					6
14	2	Wrot 607 90 Deg El CxC					1
8	1	Wrot 607 90 Deg El CxC					1-1/2
9	1	3000# FS Thread-0-Let			1 3/8"	1.375	1-1/2x6
16	2	3000# FS Thread-0-Let			1 5/16"	1.313	1x6
2	1	Sch 40 SA-53B CS ERW Pipe PE	Grooved End	BEV	25'-0 5/8"	300.624	6
17	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	7 15/16"	7.931	1
18	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	6 15/16"	6.931	1
7	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	3 9/16"	3.580	1-1/2
11	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	1'-3"	15.000	1-1/2
12	1	Type K Hard Copper Pipe	Copper Ftg	Copper Ftg	0"	0.014	1-1/2
5	1	Sch 40 SA-53B CS ERW Pipe PE	BEV	Grooved End	11 1/2"	11.477	3
20	1	Sch 40 SA-53B CS ERW Pipe PE	BEV	Grooved End	4'-0 1/16"	48.086	6

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☐ FLANGE WEIGHT/ORIENTATION  
☐ FITTING ORIENTATION  
☐ BOLTS/CPLG'S/TH'D TIGHT  
☐ SPOOL IDENTIFICATION

QA/QC ACCEPT

SPEC. NA

ASME NA

X-RAY NA

HYDRO TEST NA

PMHT NA

COMMENTS

0

REV

DATE

MURPHY WPS#

DESCRIPTION

DRN

CHK

APP

WUSM RESEARCH BUILDING  
NRB  
LEVEL 02 NRB RACKS

6/8/2021

210140

REF.DWG.

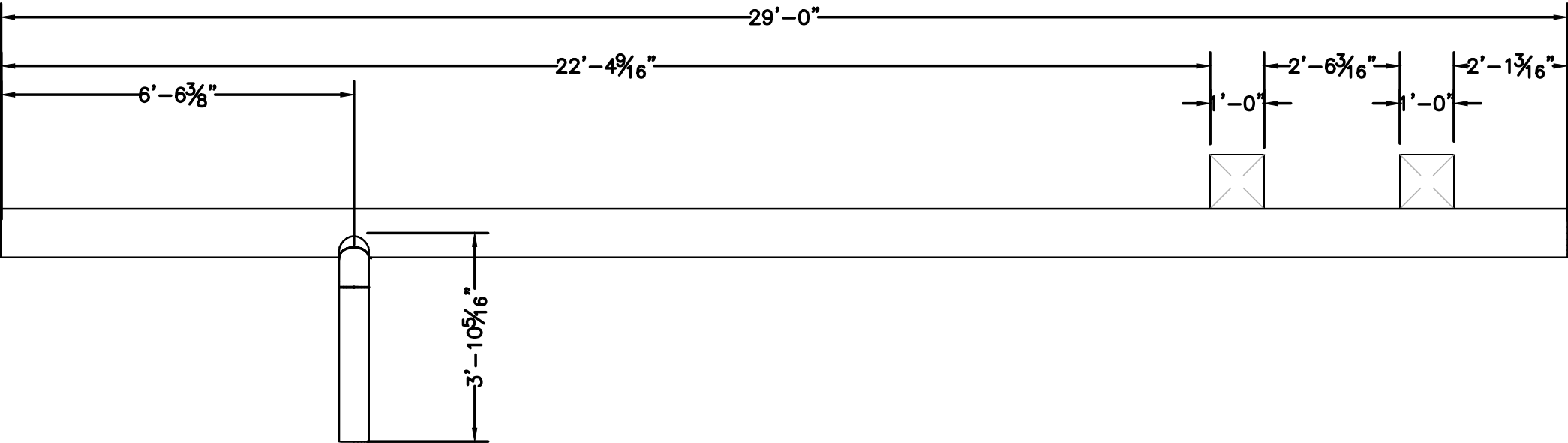
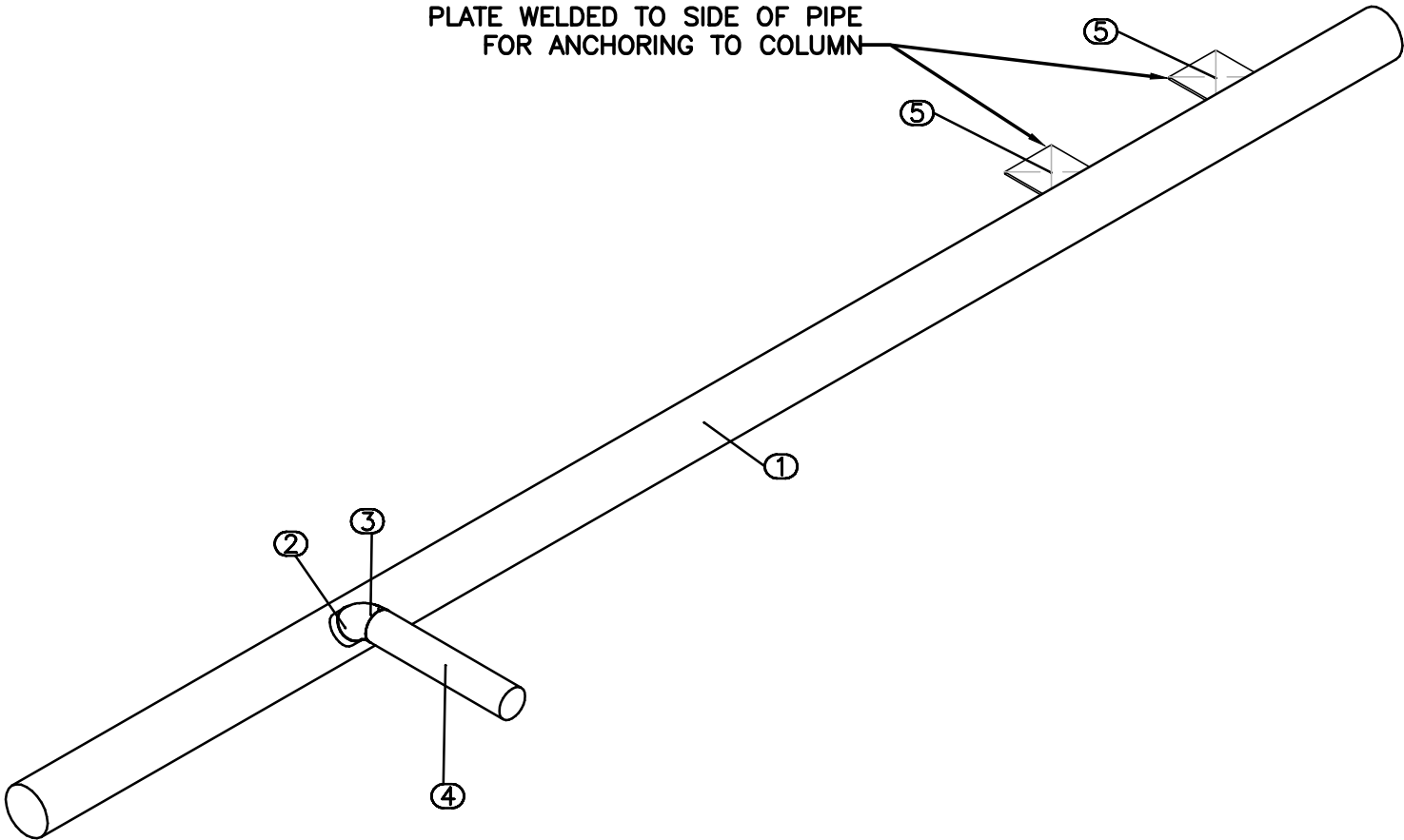
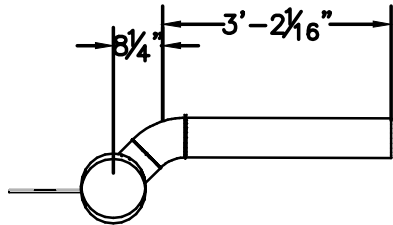
DRAWING NO./TRACKING NO.  
210140-LVL02-12-04

SERVICE NAME  
LVLO2-12 RACK

QTY. 1

SHT/NO 1 OF 1

REV 0



SHIP LOOSE

Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
3	1	Std Wt SA234 WPB CS BW 45 Deg Ell					6
2	1	FS STD WELDOLET			2 3/8"	2.375	6x10
4	1	Sch 40 SA-53B CS Smls Pipe PE	BEV	BEV	2'-10 3/16"	34.210	6
1	1	Sch 40 SA-53B CS Smls Pipe PE	BEV	BEV	29'-0"	348.000	10

BOM-STEEL

Item No	Order	Description	Qty	Size	Steel L
5		ASTM A36 CS Plate 1/2" Thick	2	12x12x1/2	

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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QA/QC ACCEPT		FLANGE WEIGHT/ORIENTATION	
						FITTING ORIENTATION	
						BOLTS/CPLG'S/TH'D TIGHT	
						SPOOL IDENTIFICATION	
SPEC.	ASME	X-RAY	HYDRO TEST	PWHT	COMMENTS		
NA	NA	NA	NA	NA	MURPHY WPS#		
0						DRN	CHK
REV	DATE	DESCRIPTION					APP

DRN	JMM	6/8/2021	WUSM RESEARCH BUILDING	
CHK			NRB	
APP			LEVEL 02 NRB RACKS	
JOB NO.	210140	SERVICE NAME	LVLO2-12 RACK	
REF.DWG.		QTY.	1	REV
DRAWING NO./TRACKING NO.		SHT/NO	1 OF 1	0
210140-LVLO2-12-05				



Technical drawing of a bent pipe. The drawing shows a horizontal pipe section on the left, which then bends 90 degrees downward into a vertical section on the right. A dimension line at the top indicates the length of the horizontal section as  $4' - 11\frac{3}{16}"$ . Callout ① points to the horizontal section, and callout ② points to the vertical section.

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
2	1	XH SA234 WPB CS BW LR 90 Deg El					4
1	1	XH SA-53B CS SMLS Pipe	BEV	BEV	4'-5 1/16"	53.053	4



DRN JMM		6/8/2021		WUSM RESEARCH BUILDING				QA/QC ACCEPT				FLANGE WEIGHT/ORIENTATION				<input type="checkbox"/>			
CHK				NRB								FITTING ORIENTATION				<input type="checkbox"/>			
APP				LEVEL 02 NRB RACKS								BOLTS/CPLG'S/TH'D TIGHT				<input type="checkbox"/>			
JOB NO.		210140										SPOOL IDENTIFICATION				<input type="checkbox"/>			
REF.DWG.				SERVICE NAME				SPEC.		ASME		X-RAY		HYDRO TEST		PWHT		COMMENTS	
				LVL02-12 RACK				NA		NA		NA		NA		NA		MURPHY WPS#	
DRAWING NO./TRACKING NO.		QTY.		SHT/NO		REV													
210140-LVL02-12-06		1		1 OF 1		0													
REV		DATE		DESCRIPTION												DRN		CHK	
0																			
REV																		APP	