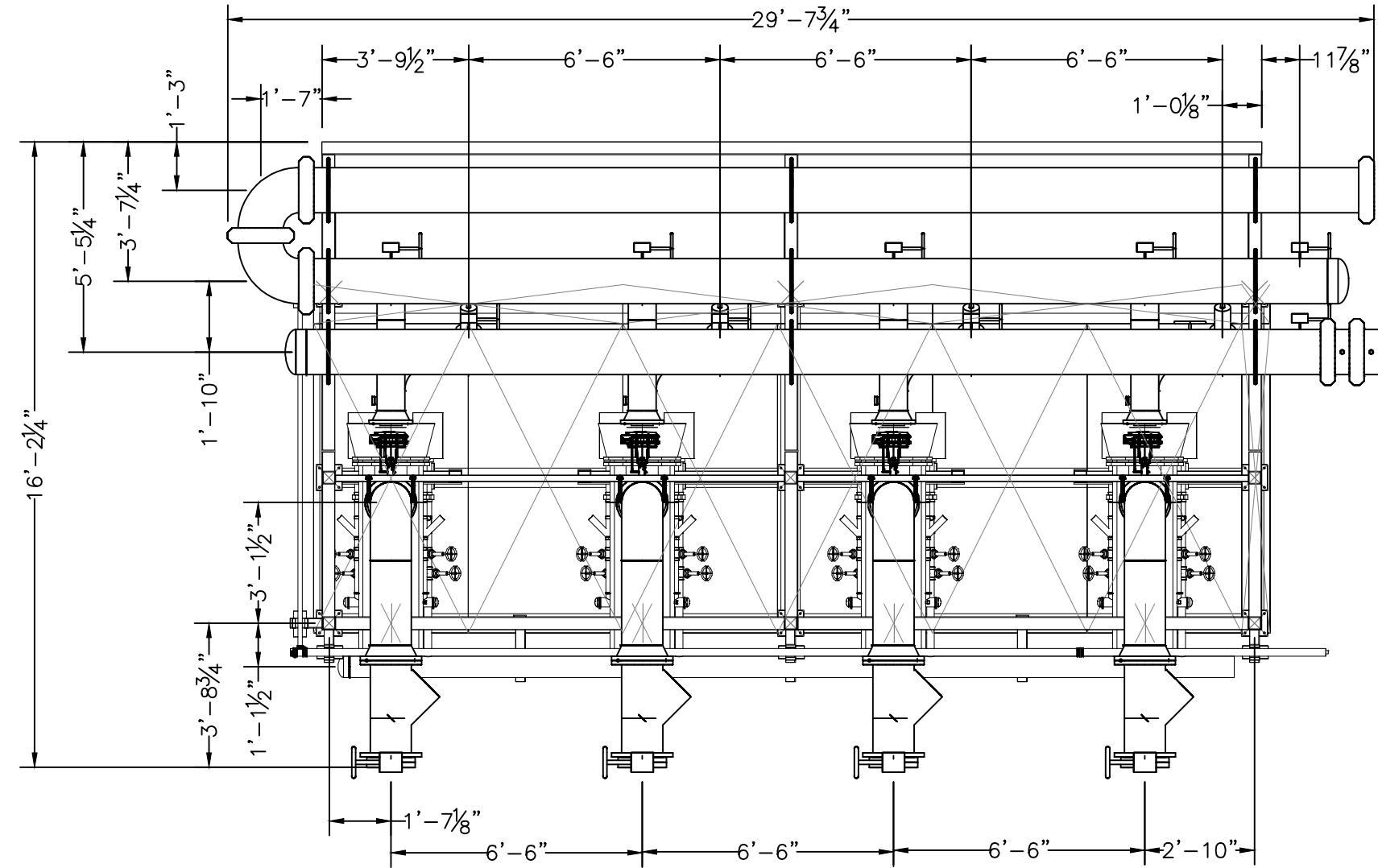


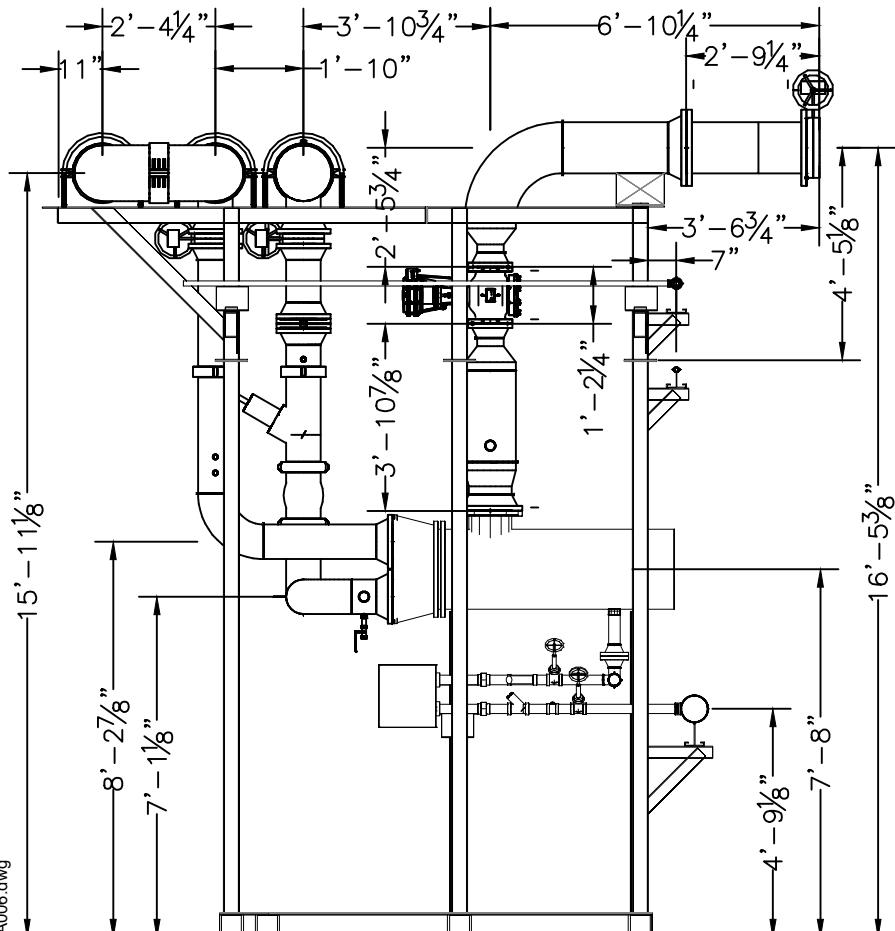
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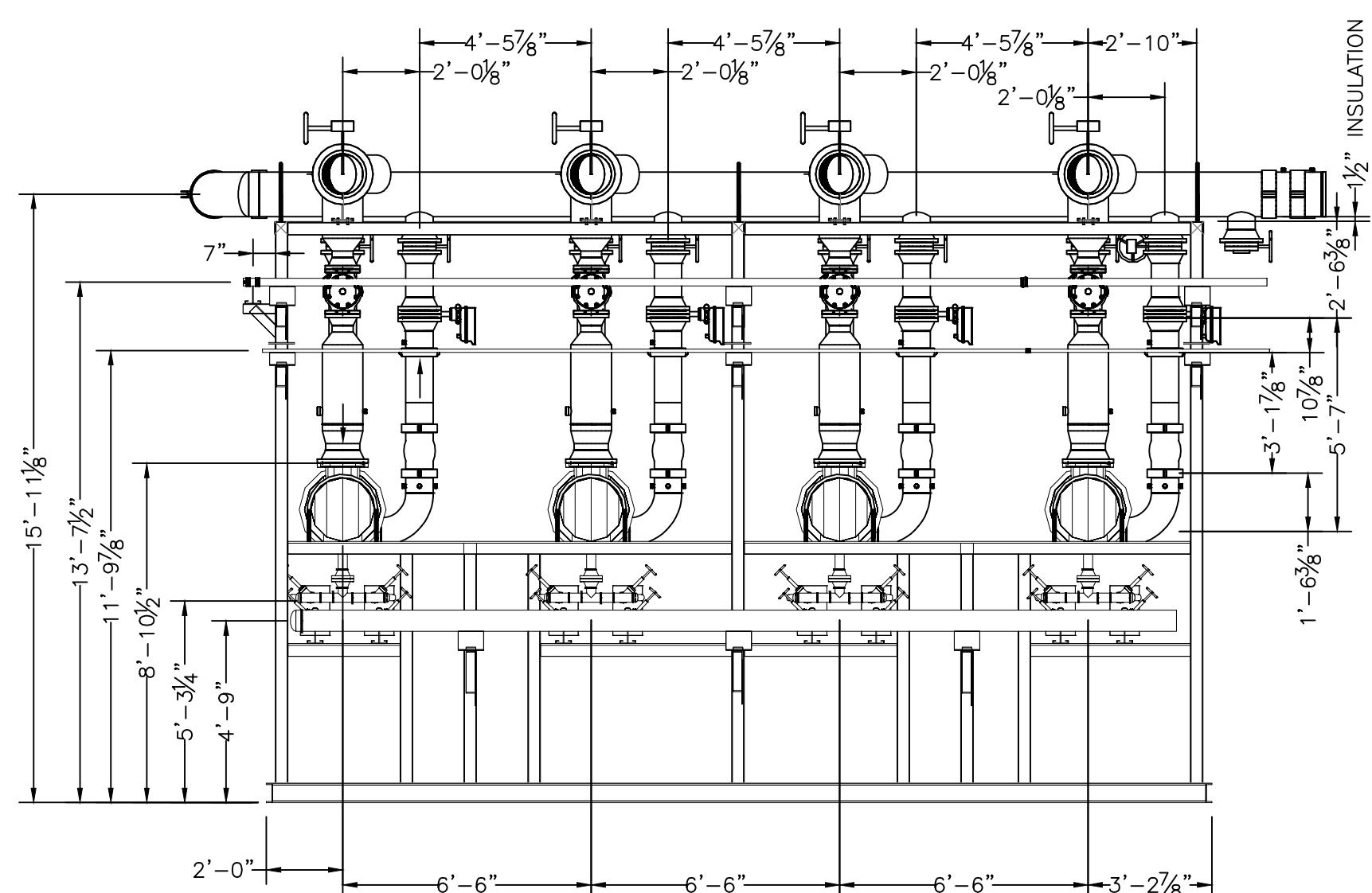
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SCALE: 1/4"=1'-0"



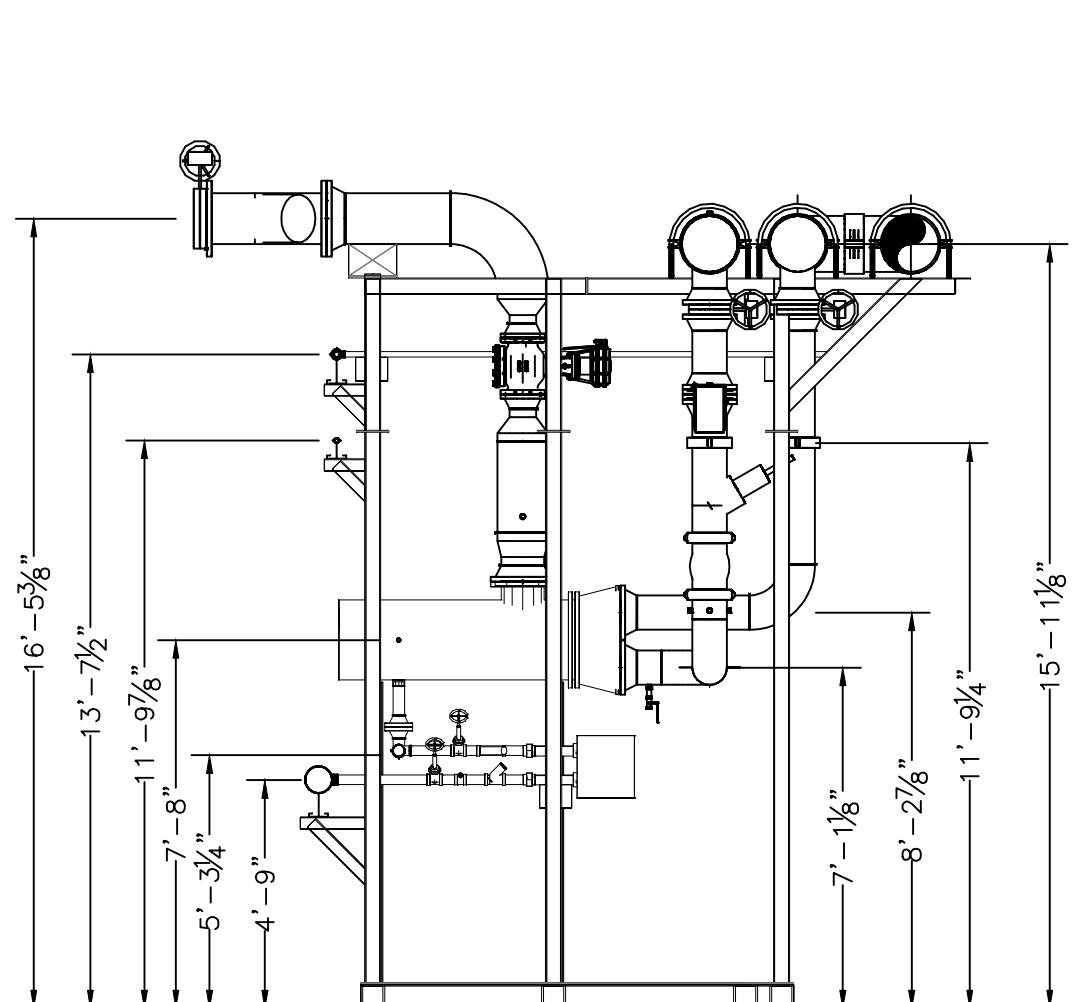
LEFT VIEW

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



FRONT VIEW

SCAI E: 1/4" = 1'-0"



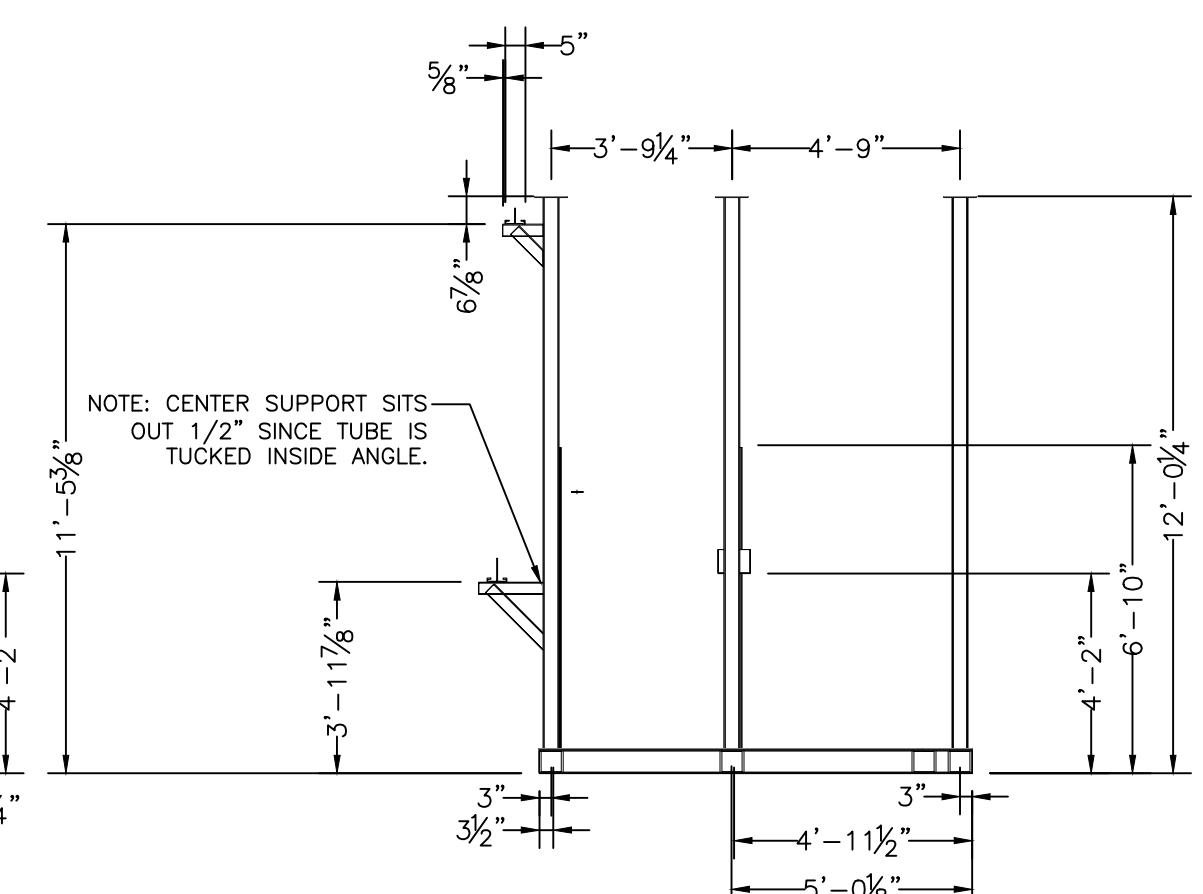
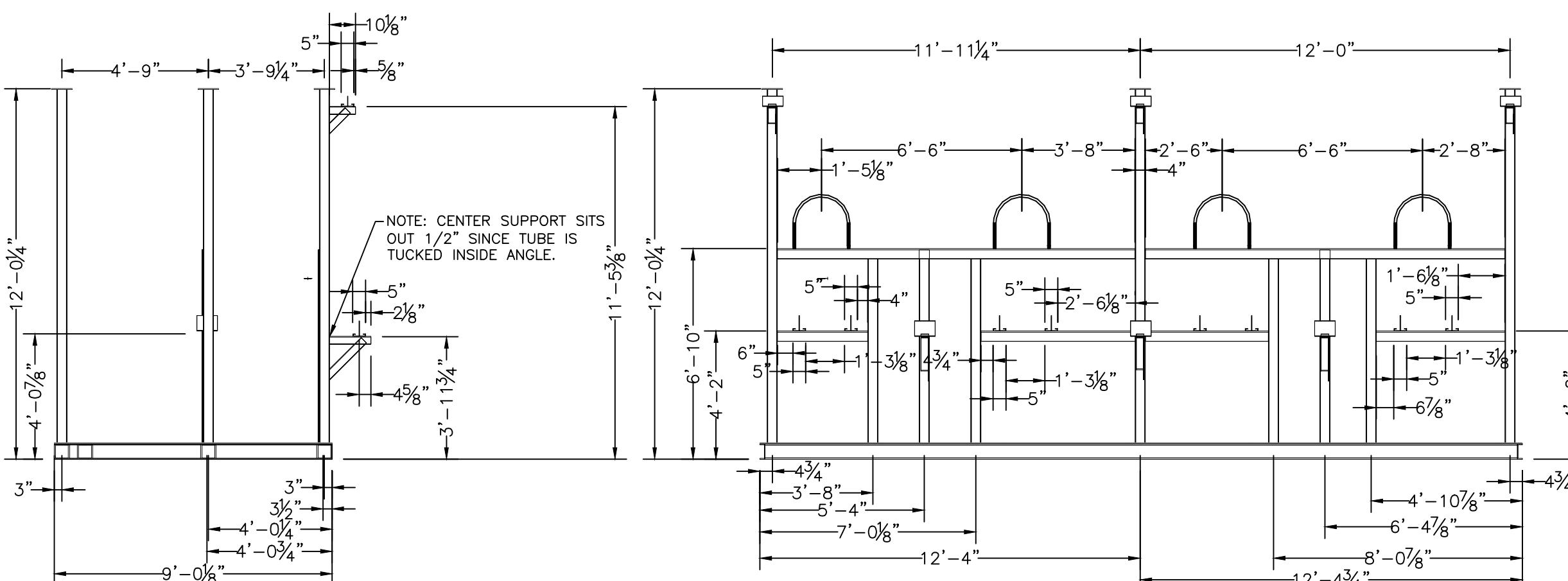
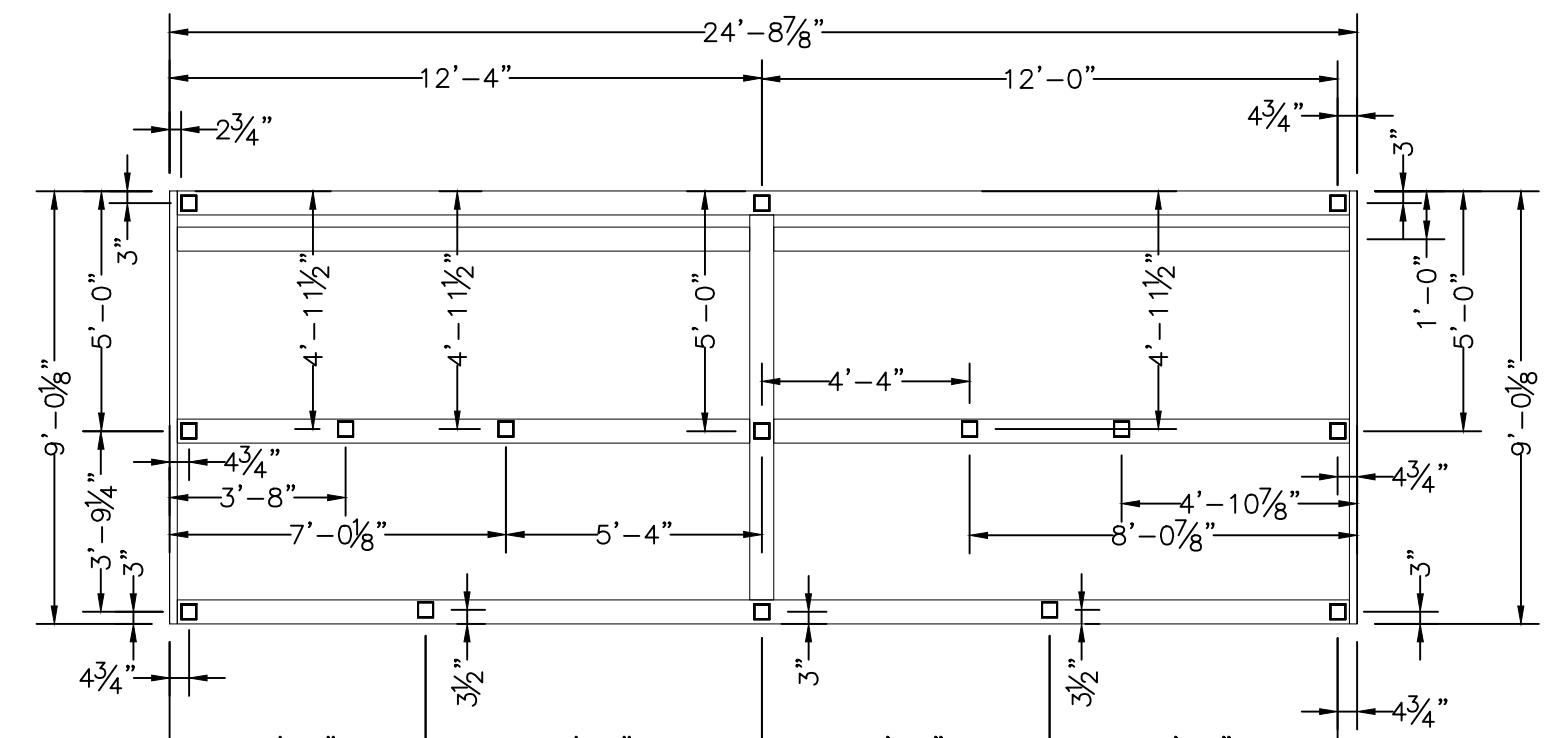
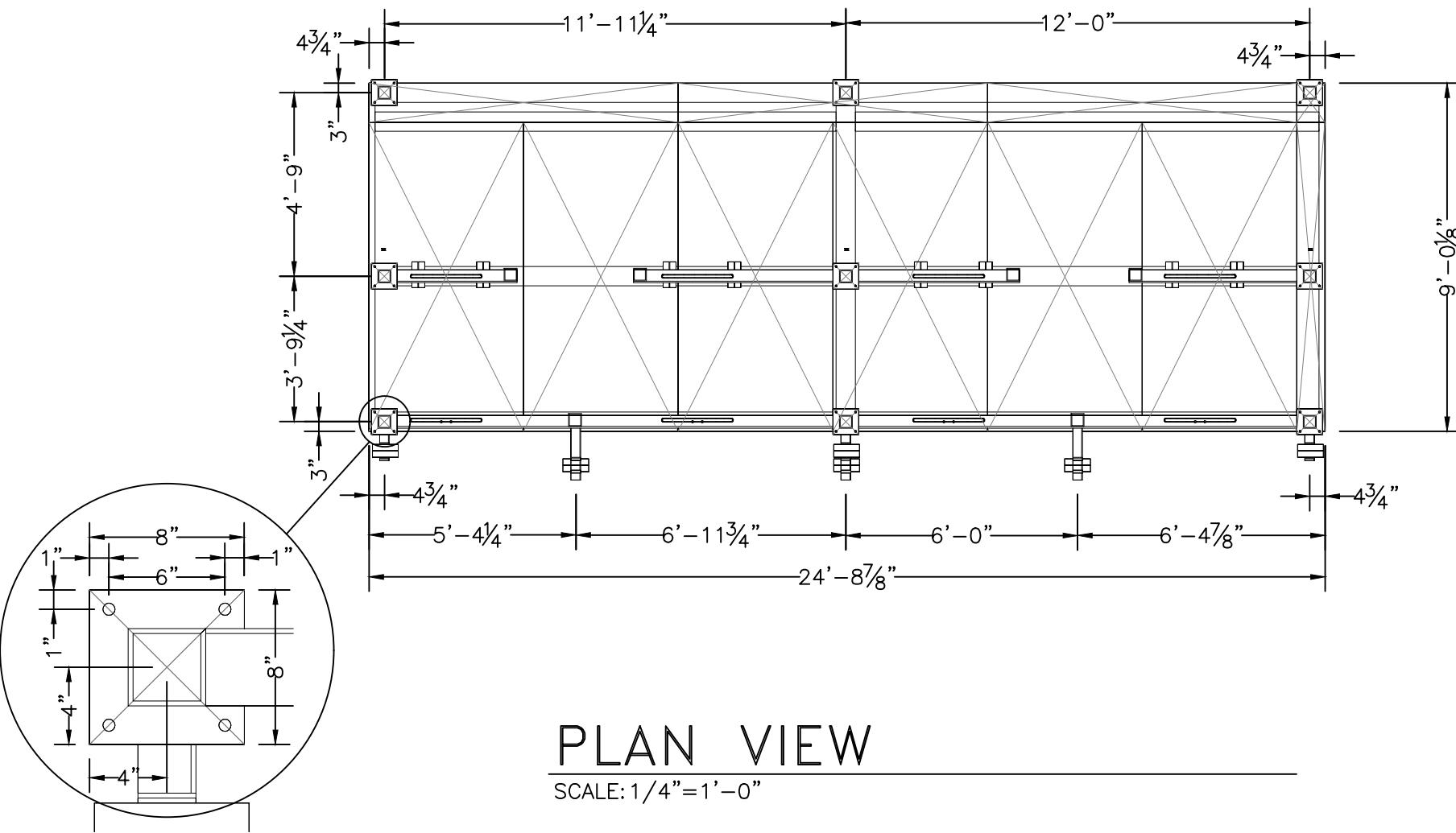
RIGHT VIEW

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

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GAL'V	<input type="checkbox"/>

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PLATE NOT SHOWN FOR CLARITY.



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

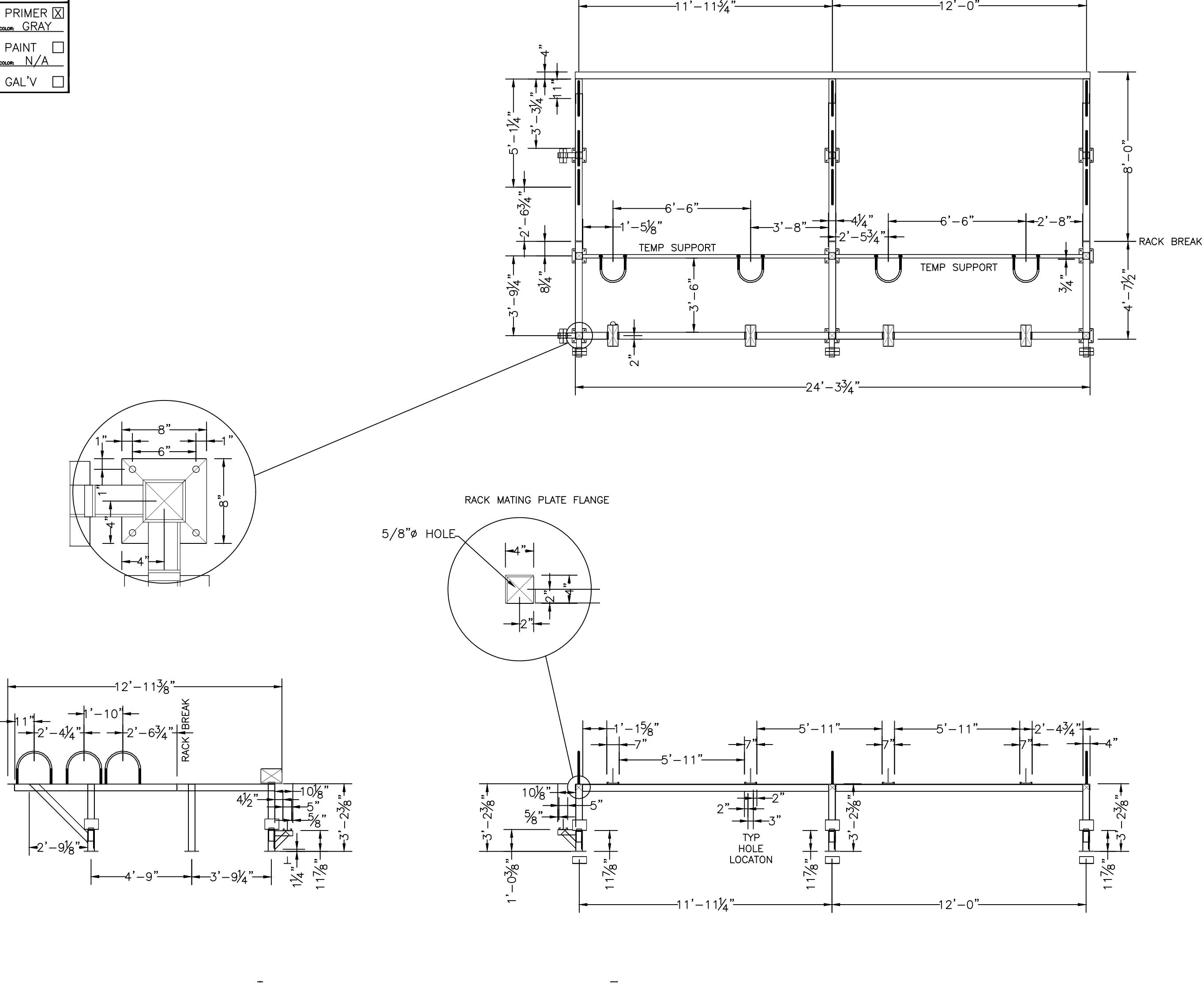
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CHK	APP	WELD GAP	WELD GAP	ASME	X-RAY	HYDRO TEST	DATE	DRN	CHK	APP	
JOB NO.	REF.DWG.	SERVICE NAME	HE STEAM SKID	HE	1	2	3	4	NA	NA	NA
210140	210140	HHW	HE-1,2,3,4	REV.	QTY.	SHT/NO.	3 of 6	0	0	REV.	DATE
DRAWING NO./TRACKING NO.	REF.DWG.	DESCRIPTION									
210140-A006 STL	210140										

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GAL'V	<input type="checkbox"/>

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120140-A006-STL.dwg 2014-A006.dwg
DRAFT 01-10-2014 10:34am
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REF. DWG.	DRAWING NO./TRACKING NO.	WUSM RESEARCH BUILDING			DUE DATE	QC	TACK	CUT	CUT
		NRB	HE STEAM SKID	WELD INCHES					
210140		1/27/21							
	JOB NO.	210140	SERVICE NAME	HHW HE-1,2,3,4	SPOL. WEIGHT	SPECIAL NOTE	SHIP LOOSE MATERIAL		
					WELD GAP	WELD GAP	WT	COMPLETION DATE	
					ASME	X-RAY	PWHT	COMMENTS	
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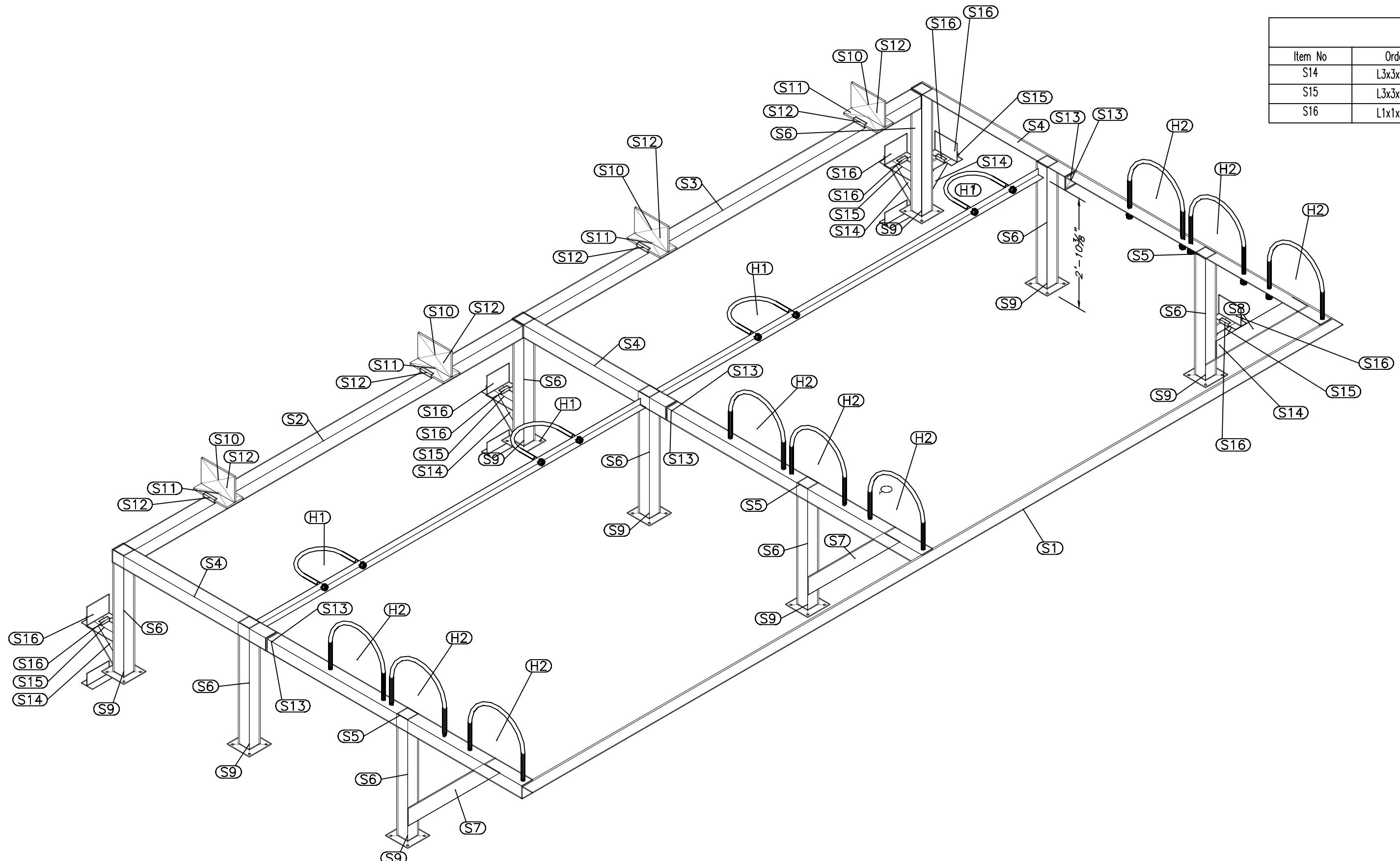
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BOM-STEEL

Item No	Order	Description	Qty	Size	Steel L
14	L2x2x1/8	ASTM A36 CS Equal Angle	1	L2x2x1/8	140"
15	SS 304 EQ Angle	SS 304 Equal Angle	1	L2x2x1/8	139 1/4"
H1	Fig137	Fig.137 U-Bolt (4)-Nut Black	4	12	
H2	Fig137	Fig.137 U-Bolt (4)-Nut Black	9	18	
S1	L4x4x1/4	ASTM A36 CS Equal Angle	1	L4x4x1/4	291 3/4"
S2	L4x4x1/4	ASTM A36 CS Equal Angle	1	L4x4x1/4	139 3/4"
S3	L4x4x1/4	ASTM A36 CS Equal Angle	1	L4x4x1/4	139 1/4"
S4	L4x4x1/4	ASTM A36 CS Equal Angle	3	L4x4x1/4	55 1/4"
S5	L4x4x1/4	ASTM A36 CS Equal Angle	3	L4x4x1/4	91 3/4"
S6	CS SQ Tube	ASTM A36 CS Square Tube	9	SQ4x4x/14	37 3/4"
S7	L4x4x1/4	ASTM A36 CS Equal Angle	2	L4x4x1/4	42 3/4"
S8	L4x4x1/4	ASTM A36 CS Equal Angle	1	L4x4x1/4	42 3/4"
S9	CS SQ Tube	ASTM A36 CS Plate 1/4" Thick	9	8x8x1/4	
S10	C6x8.2	ASTM A36 CS Plate 1/2" Thick	4	12x8x1/2	
S11	C6x8.2	ASTM A36 CS Plate 1/2" Thick	4	12x6x1/2	
S12	L1x1x1/4	ASTM A36 CS Equal Angle	8	L1x1x1/4	4"
S13	L4x4x1/4	ASTM A36 CS Plate 1/4" Thick	6	4x4x1/4	

BOM-STEEL

Item No	Order	Description	Qty	Size	Steel L
S14	L3x3x1/4	ASTM A36 CS Equal Angle	5	L3x3x1/4	11 7/16"
S15	L3x3x1/4	ASTM A36 CS Equal Angle	5	L3x3x1/4	10"
S16	L1x1x1/4	ASTM A36 CS Equal Angle	10	L1x1x1/4	3"



DRN	JMM	1/27/21	WUSM RESEARCH BUILDING	DUE DATE	QC		TACK		CUT	
					WELD INCHES	WELD MAP	SPECIAL NOTE	SHIP LOOSE MATERIAL	WT	COMPLETION DATE
CHK	APP	APP	NRB	WELD GAP	WELD GAP	ASME	X-RAY	NA	NA	MURPHY WPS#
REF.DWG.	DRAWING NO./TRACKING NO.	JOB NO.	SERVICE NAME	HHW HE-1,2,3,4	REV	DATE	REV	DATE	DRN	CHK
210140-A006	210140-A006	210140	WUSM RESEARCH BUILDING	HE STEAM SKID	0		0			
STL ISO	1	QTY.	SHT/NO	6 of 6	0		0			

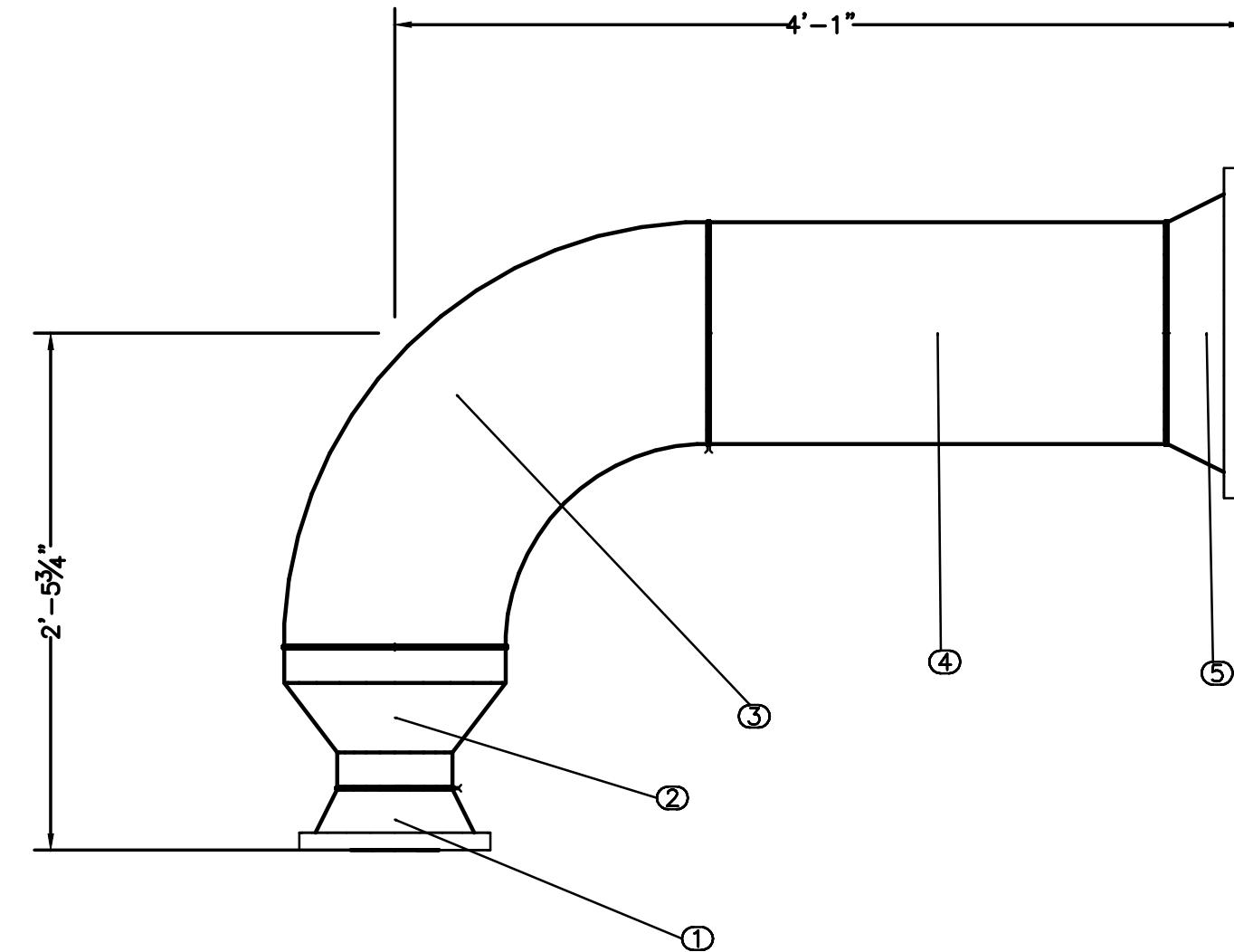
Murphy-PFFS-SPOOL-BOM

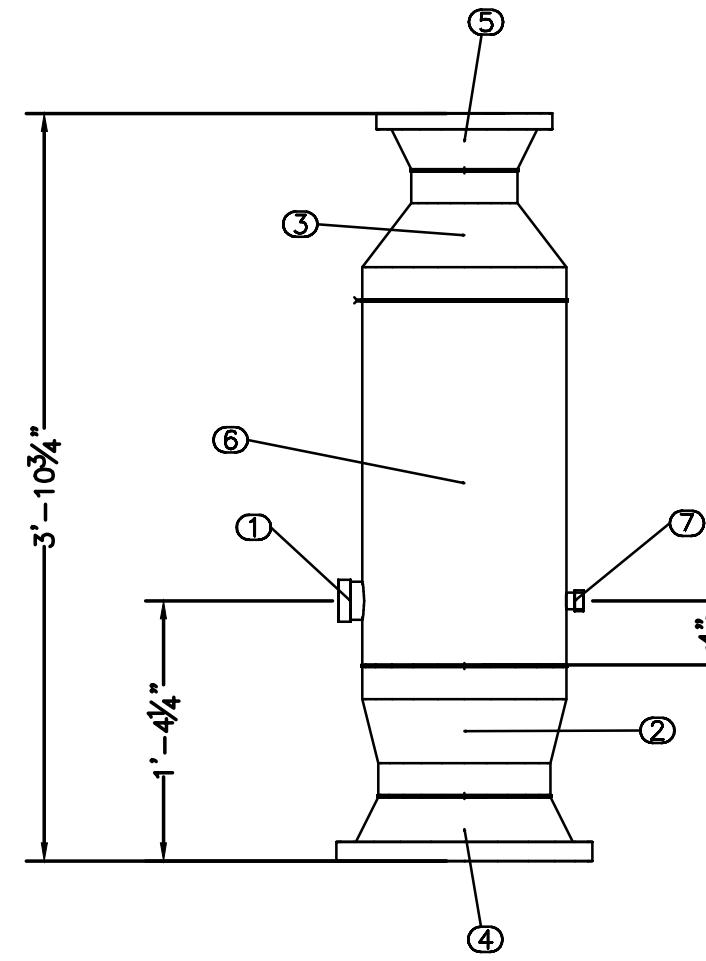
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
2	4	Std Wt SA234 WPB CS BW CONC RED					12x6
1	4	150lb RF Sch 40 Bore SA105 CS WN Flg					6
5	4	150lb RF Sch 40 Bore SA105 CS WN Flg					12
3	4	Std Wt SA234 WPB CS BW LR 90 Deg Ell					12
4	4	Sch 40 SA-53B CS Smls Pipe PE	BEV	BEV	2'-2 1/4"	26.222	12

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REF.DWG.	DRAWING NO./TRACKING NO.	QTY.	SHT/NO	REV	DATE	DESCRIPTION	DRN	CHK	APP
							NRB	NRB	NRB
210140-A006-01	210140-A006-01	4	1 of 1	0	0	0			

QUANTITY OF 4





Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
3	4	Std Wt SA234 WPB CS BW CONC RED					12x6
2	4	Std Wt SA234 WPB CS BW CONC RED					12x10
5	4	150lb RF Sch 40 Bore SA105 CS WN Flg					6
4	4	150lb RF Sch 40 Bore SA105 CS WN Flg					10
1	4	3000# FS Thread-0-Let			1 1/2"	1.500	2x12
7	4	3000# FS Thread-0-Let			1 1/16"	1.063	3/4x12
6	4	Sch 40 SA-53B CS Smls Pipe PE	BEV	BEV	1'-10 3/4"	22.725	12

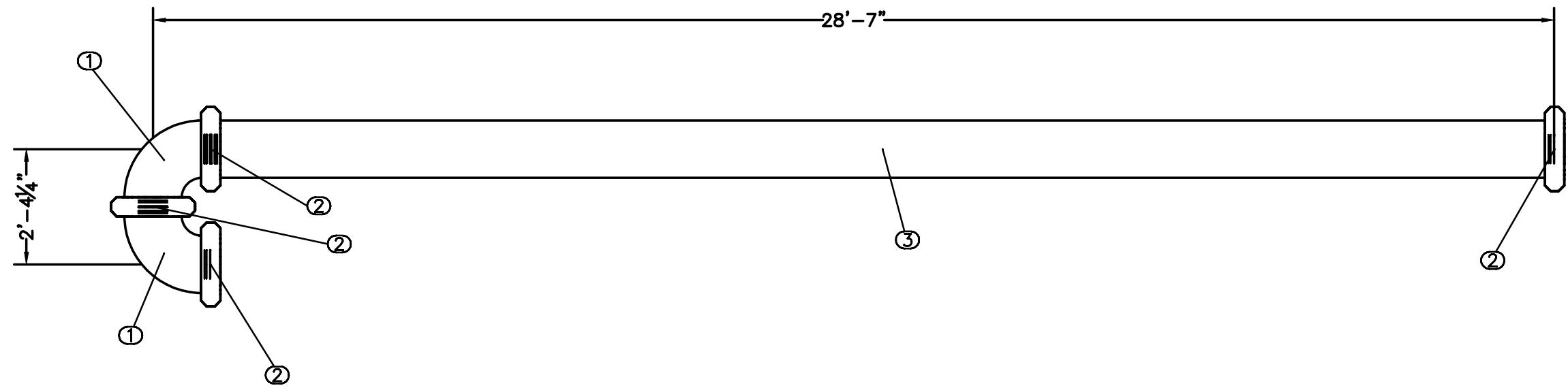
QTY 4

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<p>WUSM RESEARCH BUILDING NRB</p>		<p>QA/QC ACCLT-1</p>		<p>FLANGE WEIGHT/ORIENTATION FITTING ORIENTATION BOLTS/CPLG'S/THD TIGHT SPOOL IDENTIFICATION</p>	
<p>JOB NO. 210140</p>		<p>SERVICE NAME</p>		<p>HE SKID</p>	
REF.DWG.	DRAWING NO./TRACKING NO.	QTY.	SHT./NO	REV	DESCRIPTION
	210140-A006-02	4	1 OF 1	0	
SPEC.	ASME	X-RAY	HYDRO TEST	PWHT	COMMENTS
	NA	NA	NA	NA	MURPHY WPS#
REV	DATE				
DRN	CHK	APP			

Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDc	Size
2	4	Style W07 Rigid Coupling					14
1	2	No W10 90 Deg Ell					14
3	1	Std Wt SA-53B CS ERW Pipe PE	Grooved End	Grooved End	27'-4 3/4"	328.750	14

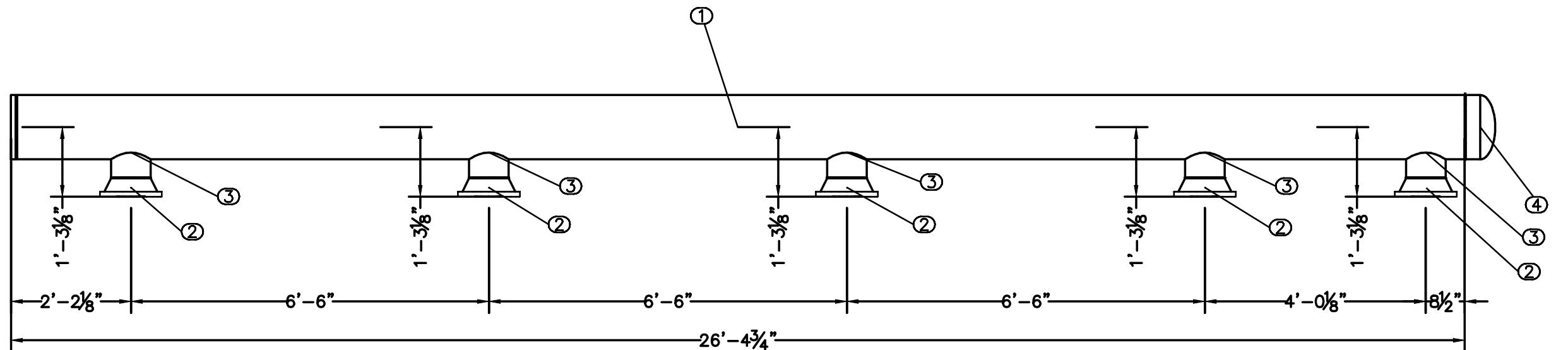
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	210140-A006-04	1	1 of 1	0	0													



Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
3	5	Sch 40 SA-53B CS ERW Pipe Saddle			4"	4.000	14x8
2	5	150lb RF Sch 40 Bore SA105 CS WN Flg					8
4	1	Std Wt SA234 WPB CS BW Cap					14
1	1	Std Wt SA-53B CS ERW Pipe PE	BEV	Grooved End	26'-4 3/4"	316.750	14

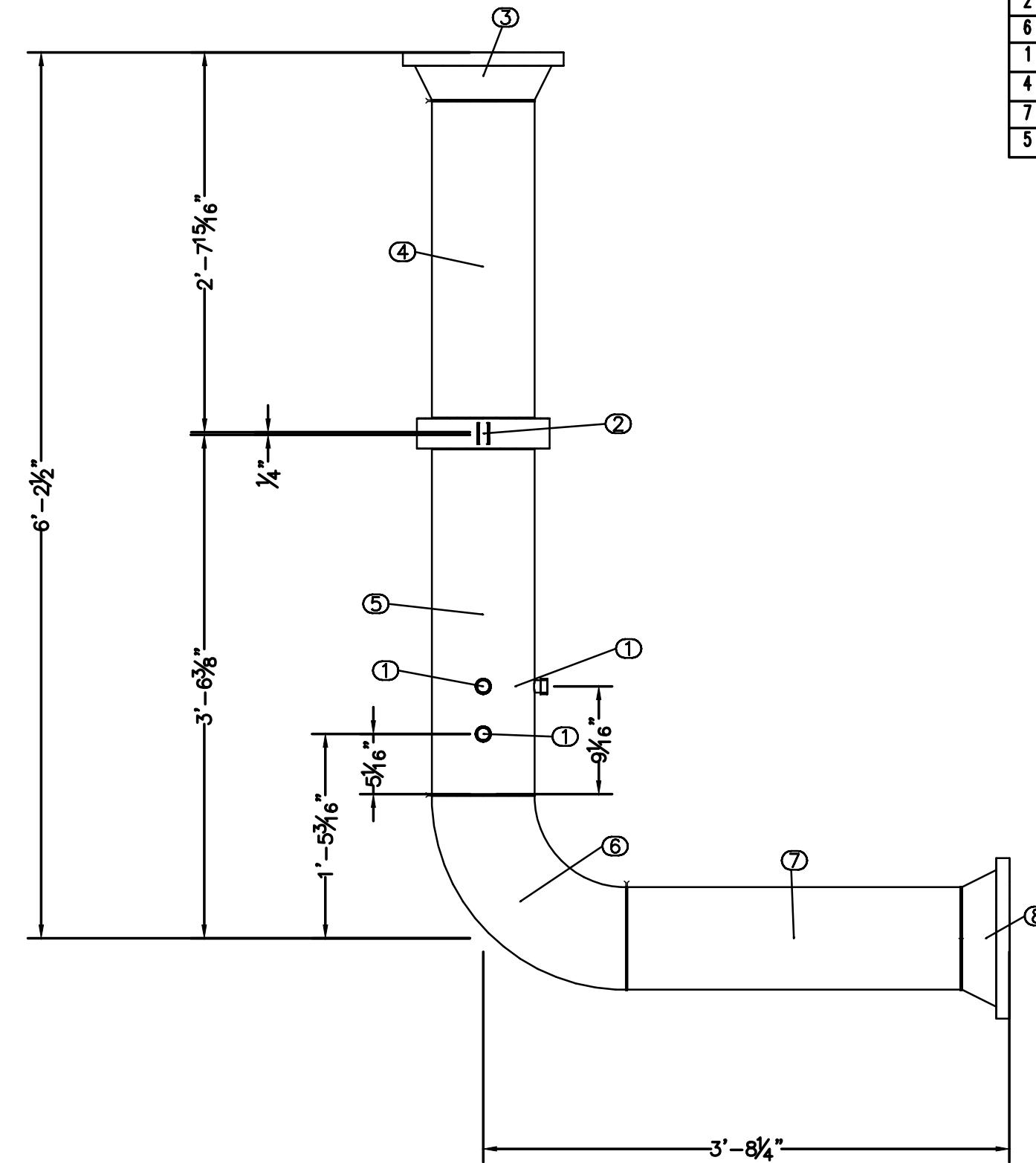
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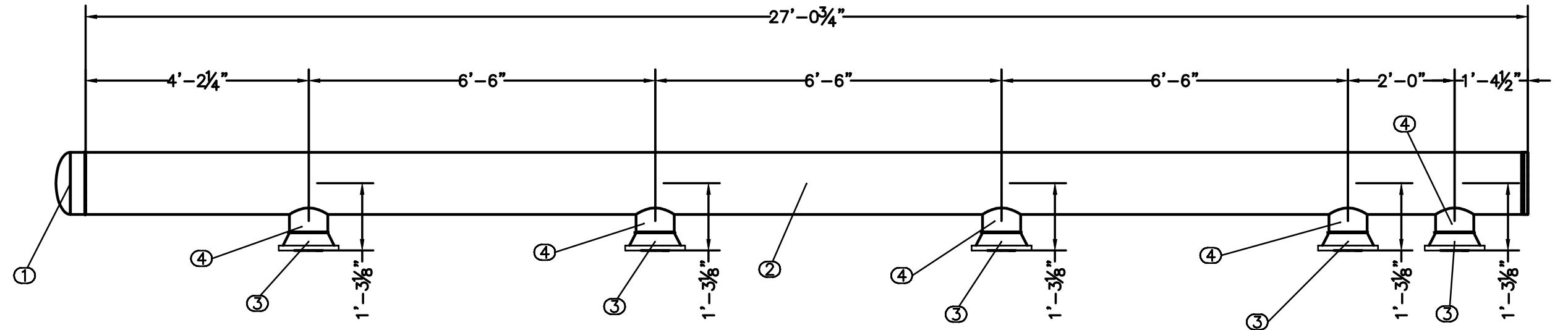
Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
8	4	150lb FF Sch 40 Bore SA105 CS WN Flg					8
3	4	150lb RF Sch 40 Bore SA105 CS WN Flg					8
2	4	Style 107 EHP Pnt QuickVic Rigid Coupling					8
6	4	Std Wt SA234 WPB CS BW LR 90 Deg Ell					8
1	12	3000# FS Thread-O-Let				1 1/16"	1.063
4	4	Sch 40 SA-53B CS ERW Pipe PE	Grooved End	BEV	2'-3 13/16"	27.814	8
7	4	Sch 40 SA-53B CS ERW Pipe PE	BEV	BEV	2'-4"	28.000	8
5	4	Sch 40 SA-53B CS ERW Pipe PE	BEV	Grooved End	2'-6 1/4"	30.228	8

QTY 4



DRN JMM	1/28/2021	WUSM RESEARCH BUILDING			QA/QC ACCEPT	FLANGE WEIGHT/ORIENTATION	FITTING ORIENTATION	BOLTS/CPLG'S/THD TIGHT	SPOOL IDENTIFICATION
		SPEC.	ASME	X-RAY					
REF.DWG.	JOB NO.	SERVICE NAME	HE SKID	SHT/NO	REV	0	NA	NA	MURPHY WPS#
210140-A006-06	210140	QTY.	4	1 of 1	0	REV	DATE	DESCRIPTION	DRN CHK APP



Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
4	5	Sch 40 SA-53B CS ERW Pipe Saddle			4"	4.000	14x8
3	5	150lb RF Sch 40 Bore SA105 CS WN Flg					8
1	1	Std Wt SA234 WPB CS BW Cap					14
2	1	Std Wt SA-53B CS ERW Pipe PE	Grooved End	BEV	27'-0 3/4"	324.750	14

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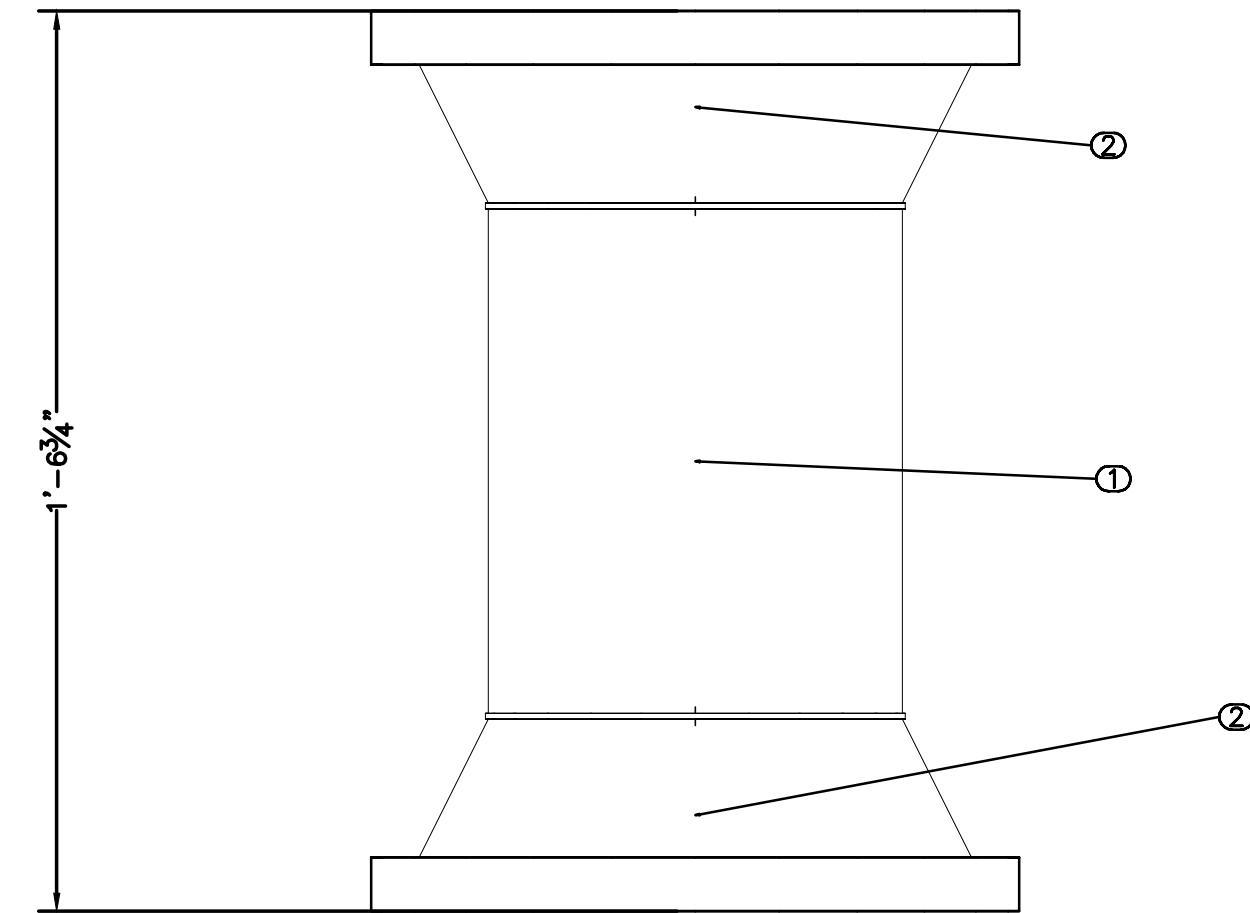
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JOB NO.	210140								
SERVICE NAME	HE SKID								
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	CHK			NA	NA	NA	NA	MURPHY WPS#	
	APP			0					

Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
2	8	150lb RF Sch 40 Bore SA105 CS WN Flg					8
1	4	Sch 40 SA-53B CS ERW Pipe PE	BEV	BEV	10 1/2"	10.502	8

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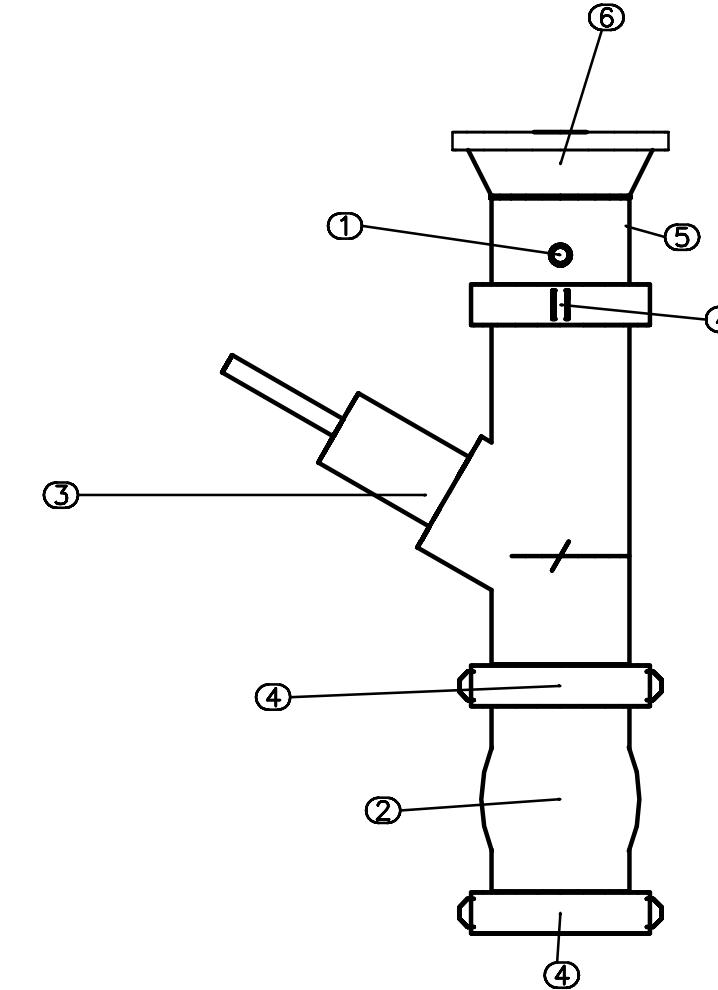
QUANTITY OF 4



DRN JMM/KSI	1/28/2021	WUSM RESEARCH BUILDING NRB	QA/QC ACCEPT			FLANGE WEIGHT/ORIENTATION			FITTING ORIENTATION			COMMENTS		
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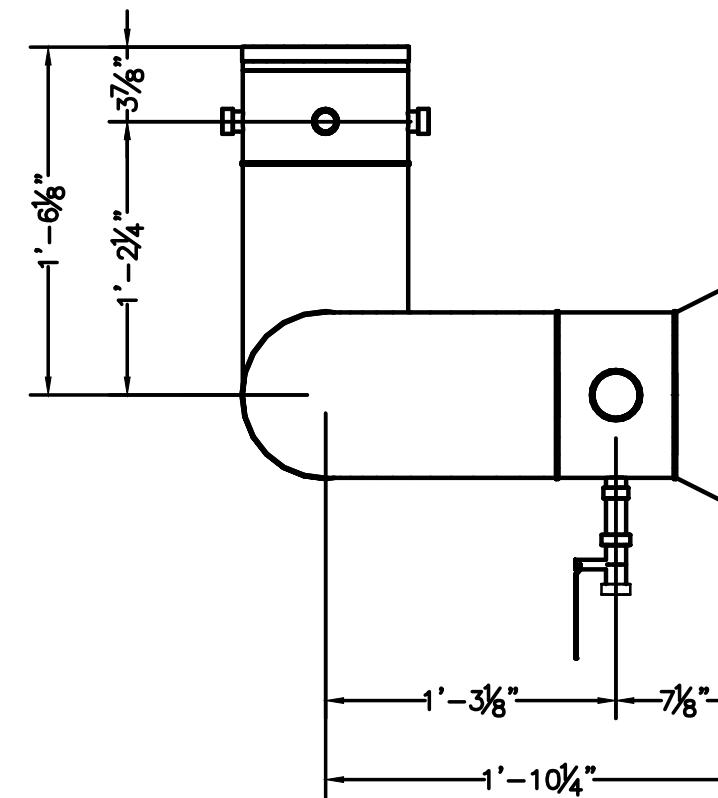
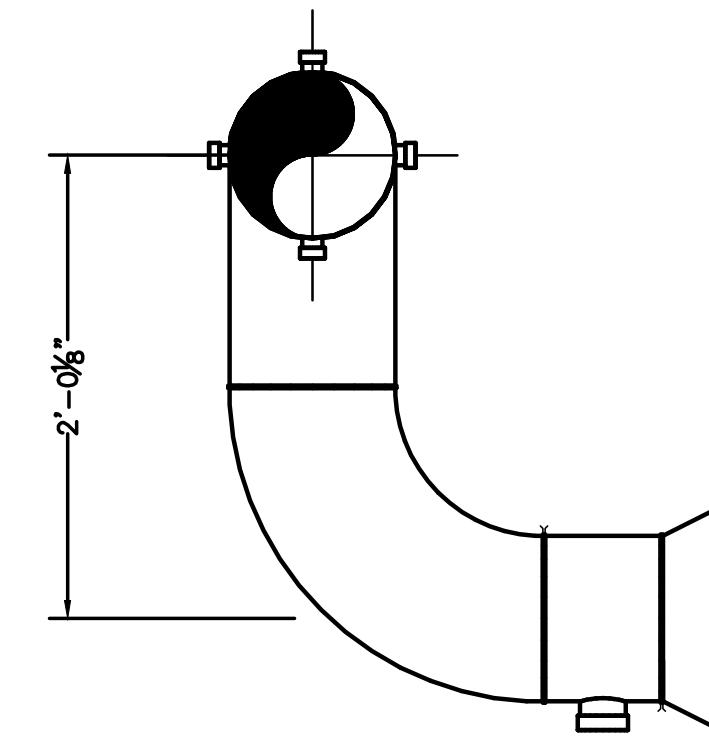
Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
3	4	789-CBV Circuit Balancing Vlv GRV					8
6	4	150lb RF Sch 40 Bore SA105 CS WN Flg					8
4	12	Style 107 EHP Pnt QuickVic Rigid Coupling					8
2	4	Check Valve 716					8
1	4	3000# FS Thread-O-Let			1 1/16"	1.063	3/4x8
5	4	Sch 40 SA-53B CS ERW Pipe PE	BEV	Grooved End	6 9/16"	6.561	8



QTY 4

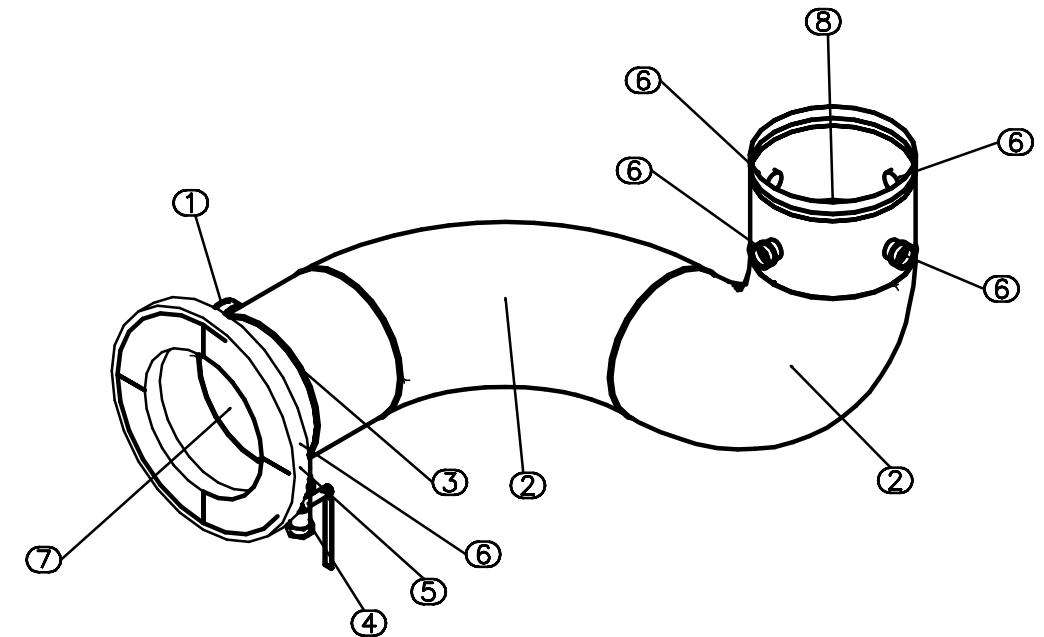
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DRAWING NO./TRACKING NO.			0															
210140-A006-09	4	1 of 1	0	0	0													



Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
7	4	150lb RF Sch 40 Bore SA105 CS WN Flg					8
4	4	150 lb Brz 2pc FP Ball Valve Thd					3/4
2	8	Std Wt SA234 WPB CS BW LR 90 Deg Ell					8
1	4	3000# FS Thread-O-Let			1 1/2"	1.500	2x8
6	20	3000# FS Thread-O-Let			1 1/16"	1.063	3/4x8
3	4	Sch 40 SA-53B CS ERW Pipe PE	BEV	BEV	6"	6.000	8
8	4	Sch 40 SA-53B CS ERW Pipe PE	Grooved End	BEV	6"	6.003	8
5	4	Std SA-53B CS Smls Pipe NIP x 3	MPT	MPT	3"	3.000	3/4

QUANTITY OF 4



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CHK							
APP							
JOB NO.		210140					
DRAWING NO./TRACKING NO.		WUSM RESEARCH BUILDING NRB		QA/QC ACCEPT			
REF.DWG.		HE SKID		FLANGE WEIGHT/ORIENTATION FITTING ORIENTATION BOLTS/CPLG'S/TH'D TIGHT			
SERVICE NAME		SPEC.		ASME		X-RAY	
REV.		NA		NA		NA	
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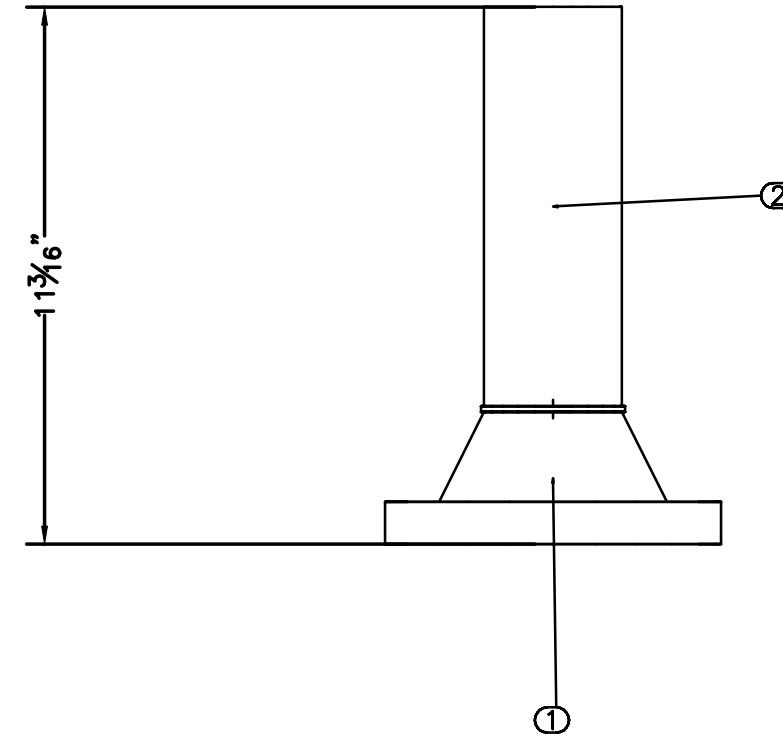
Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
1	4	150lb RF XH Bore SA105 CS WN FLG					2-1/2
2	4	XH SA-53B CS SMLS Pipe	MPT	BEV	8 5/16"	8.314	2-1/2

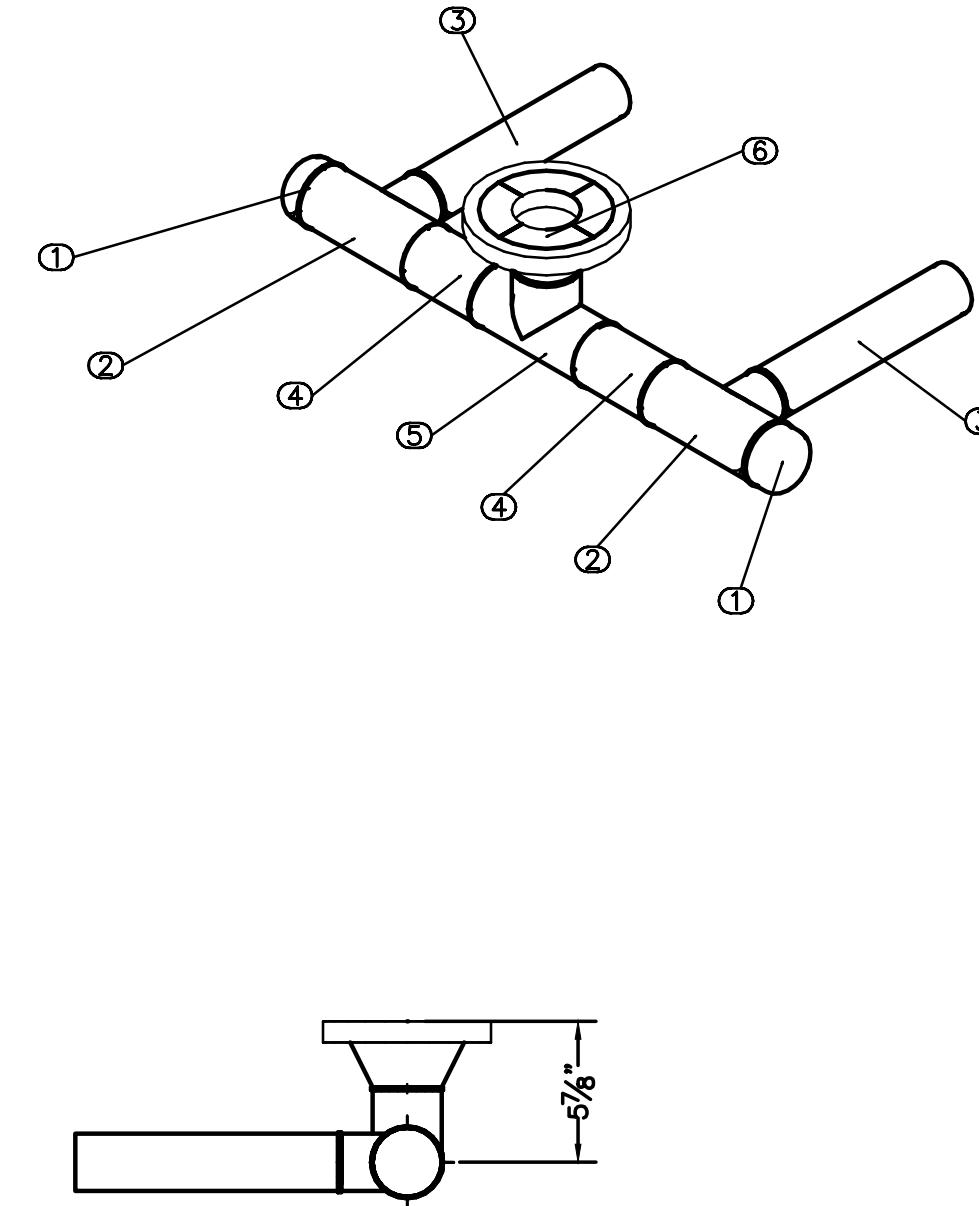
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QTY 4

MPT



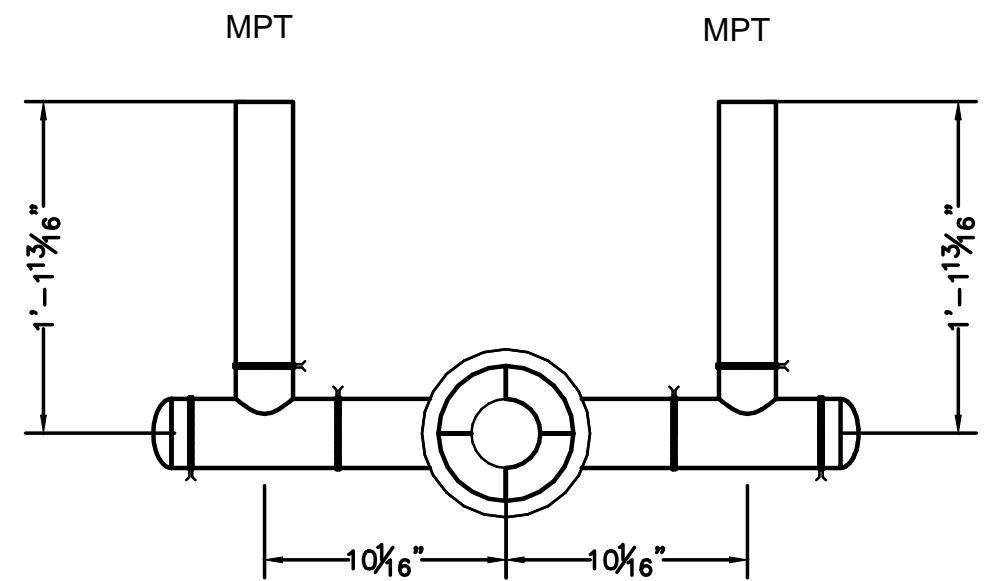
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CHK	APP	NA	NA	NA	NA	NA	NA	NA	NA	MURPHY WPS#	
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REF.DWG.		QTY.	SHT/NO	REV	0	0	0	0	0	0	0
DRAWING NO./TRACKING NO.	210140-A006-11	1	1 of 1	0	0	0	0	0	0	0	0
DRN	CHK	APP	DRN	CHK	APP	DRN	CHK	APP	DRN	CHK	APP



Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
2	8	XH SA234 WPB CS BW RED TEE					2-1/2x2
5	4	XH SA234 WPB CS BW TEE					2-1/2
6	4	150lb RF XH Bore SA105 CS WN FLG					2-1/2
1	8	XH SA234 WPB CS BW Cap					2-1/2
4	8	XH SA-53B CS SMLS Pipe	BEV	BEV	3 13/16"	3.813	2-1/2
3	8	Sch 80 A106B CS SMLS Pipe	BEV	MPT	10 15/16"	10.938	2

QUANTITY OF 4



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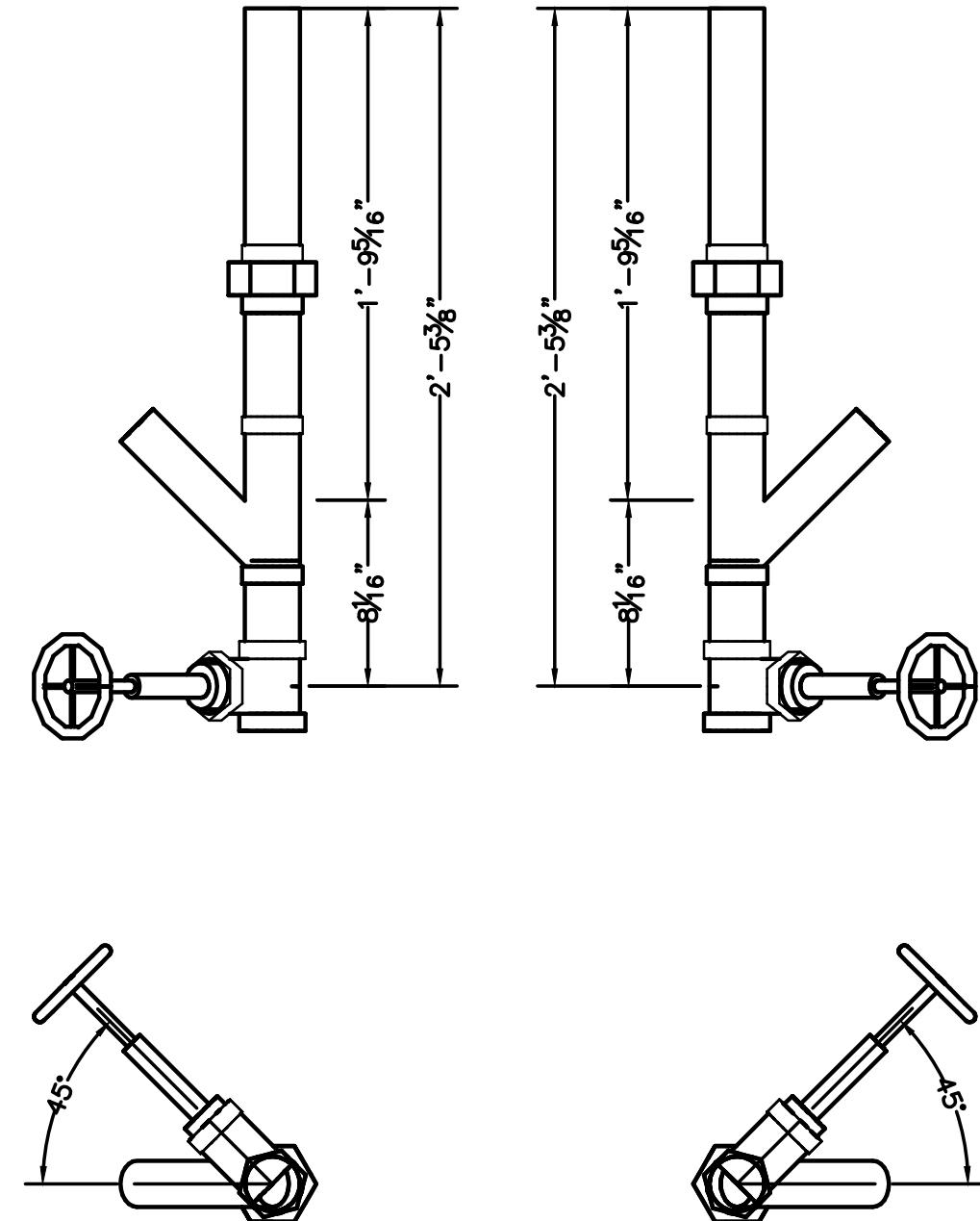
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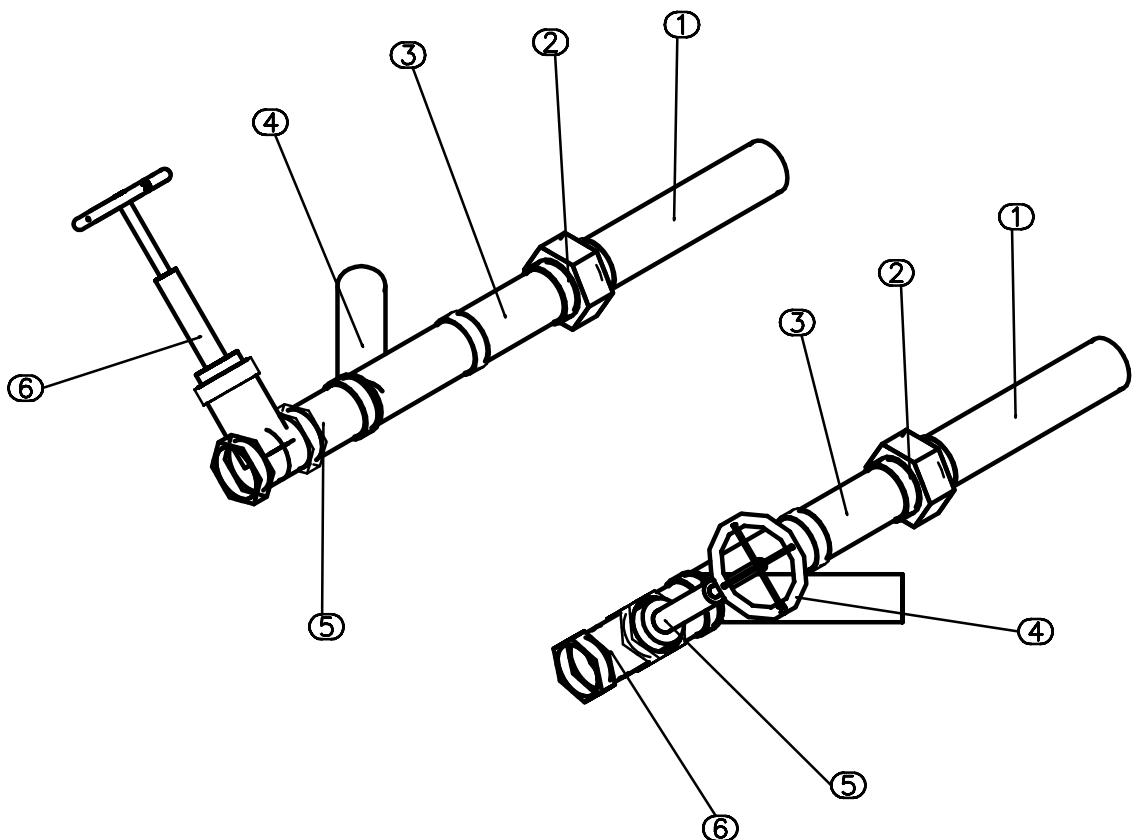
Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
4	8	250 lb CI THD 20MESH SS SCRN Y-STRN					2
6	8	T-174-A Gate Valve					2
2	8	Fig 463 150 lb Union					2
1	8	Sch 80 A106B CS SMLS Pipe	MPT	MPT	11"	11.000	2
3	8	Sch 80 A106B CS SMLS Pipe	MPT	MPT	6"	6.000	2
5	8	Sch 80 A106B CS SMLS Pipe	MPT	MPT	4"	4.000	2

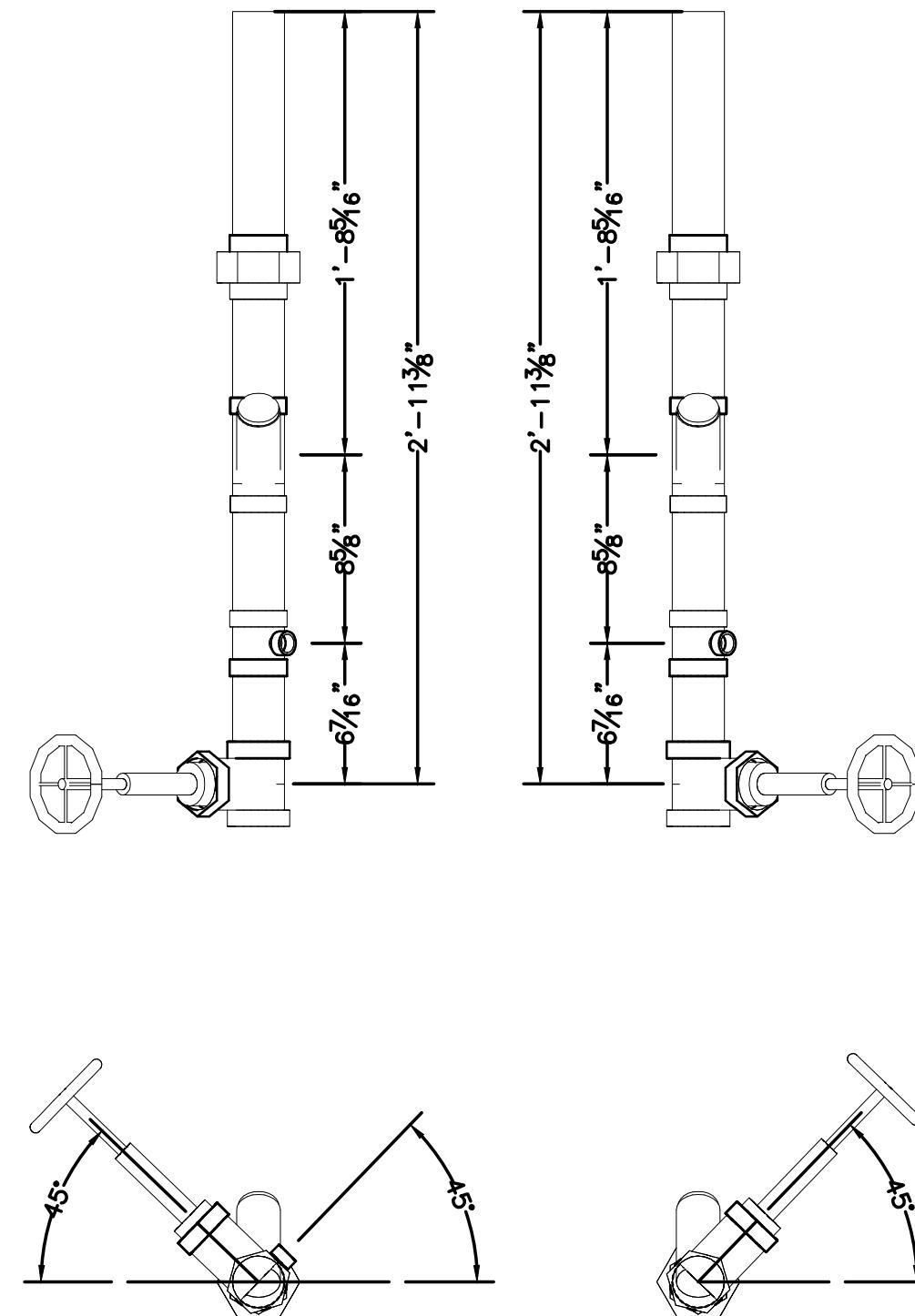
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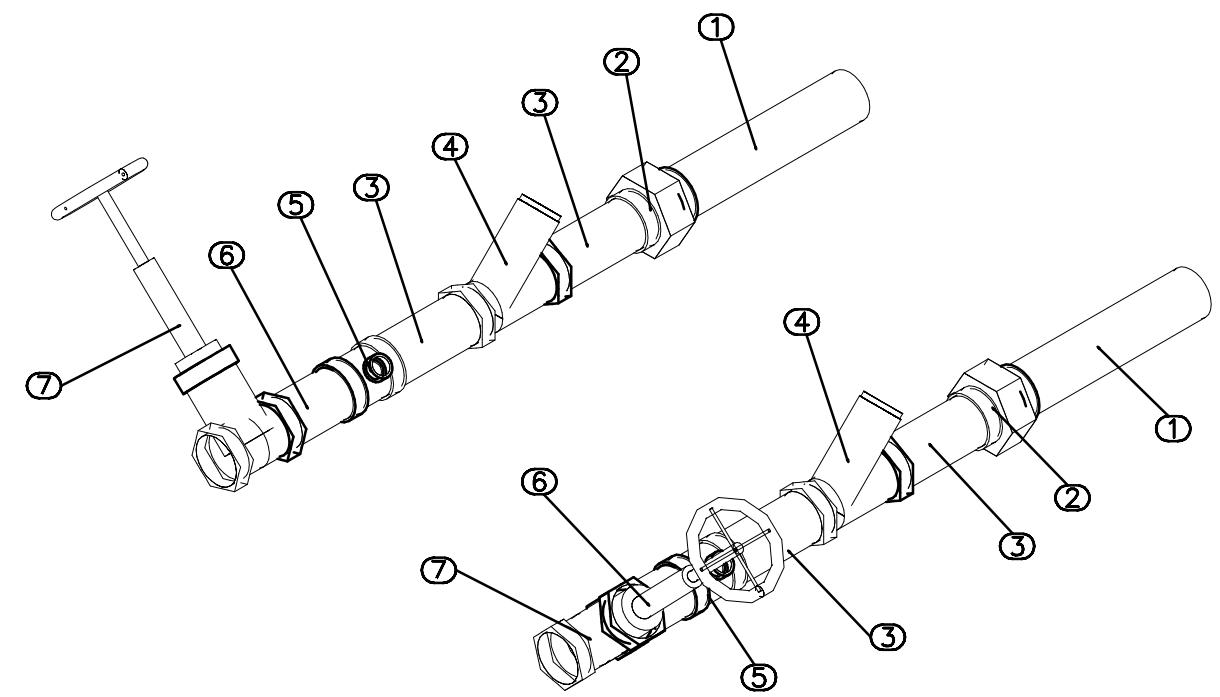
DRN JMM/KSI	1/28/2021	WUSM RESEARCH BUILDING			QA/QC ACCEPT	FLANGE WEIGHT/ORIENTATION	FITTING ORIENTATION	COMMENTS
		NRB		HE SKID			BOLTS/CPLG'S/THD TIGHT	
REF.DWG.	JOB NO. 210140	SERVICE NAME	SPEC. ASME	X-RAY	PWHT	SPPOOL IDENTIFICATION	DRN CHK APP	DESCRIPTION
DRAWING NO./TRACKING NO.	QTY.	SHT/NO	REV	DATE	REV	DATE	REV	DESCRIPTION
210140-A006-13	4	1 of 1	0	0	0	0	0	



Murphy-PFFS-SPOOL-BOM

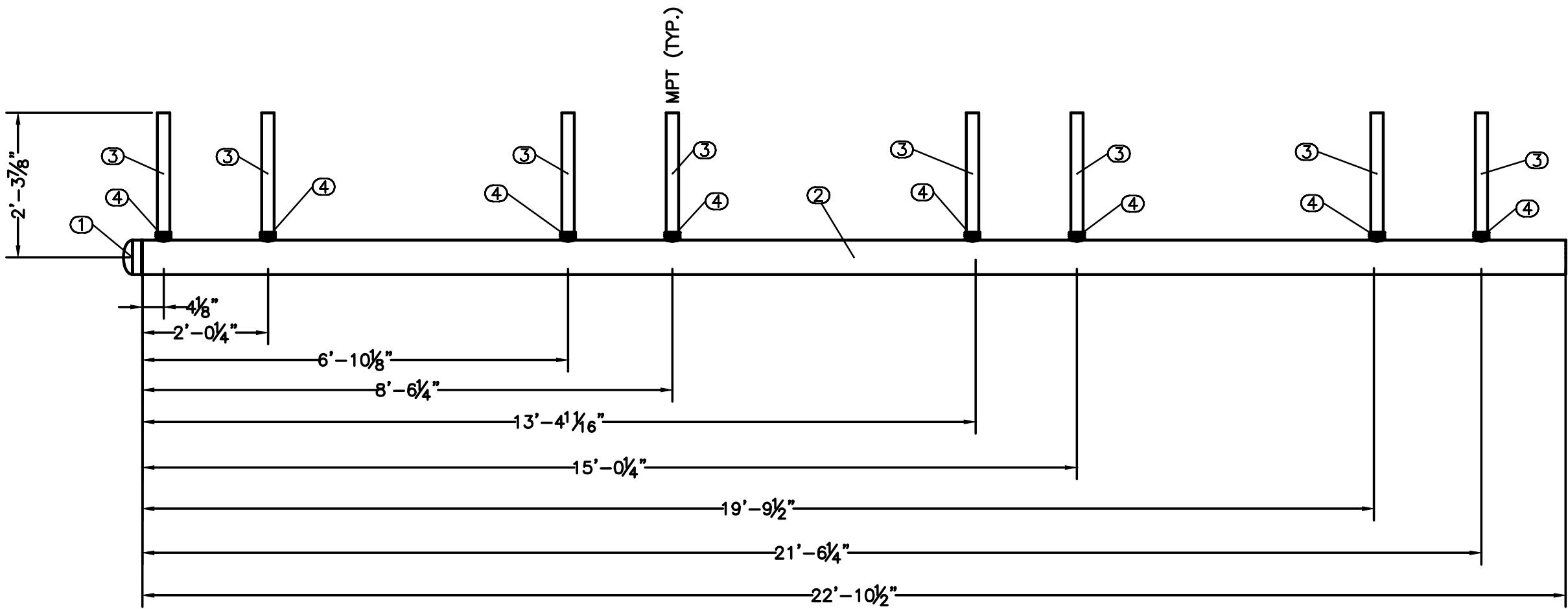
Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
5	8	Fig 1105R MI Red Tee					2x1/2
7	8	T-174-A Gate Valve					2
2	8	Fig 463 150 lb Union					2
4	8	T-433-Y Check Valve					2
1	8	Sch 80 A106B CS SMLS Pipe	MPT	MPT	11"	11.000	2
3	16	Sch 80 A106B CS SMLS Pipe	MPT	MPT	6"	6.000	2
6	8	Sch 80 A106B CS SMLS Pipe	BEV	MPT	4 1/2"	4.513	2

QUANTITY OF 4



Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
1	1	XH SA234 WPB CS BW Cap					6
4	8	3000# FS Soc-O-Let			1 1/2"	1.500	2x6
2	1	XH SA-53B CS SMLS Pipe	BEV	BEV	22'-10 1/2"	274.500	6
3	8	Sch 80 A106B CS SMLS Pipe	BEV	MPT	1'-11 9/16"	23.570	2



DRN JMM	1/28/2021	WUSM RESEARCH BUILDING NRB	QA/QC ACCEPT			FLANGE WEIGHT/ORIENTATION		
			SPEC.	ASME	X-RAY	PWHT	COMMENTS	
REF.DWG.	JOB NO. 210140	SERVICE NAME	HE SKID	SHT/NO	REV	DATE	DESCRIPTION	DRN CHK APP
210140-A006-15		QTY. 1	1	1 of 1	0	0		

Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
2	1	Sch 80 A106B CS SMLS Pipe	SW	SW	10'-1 1/2"	121.500	1

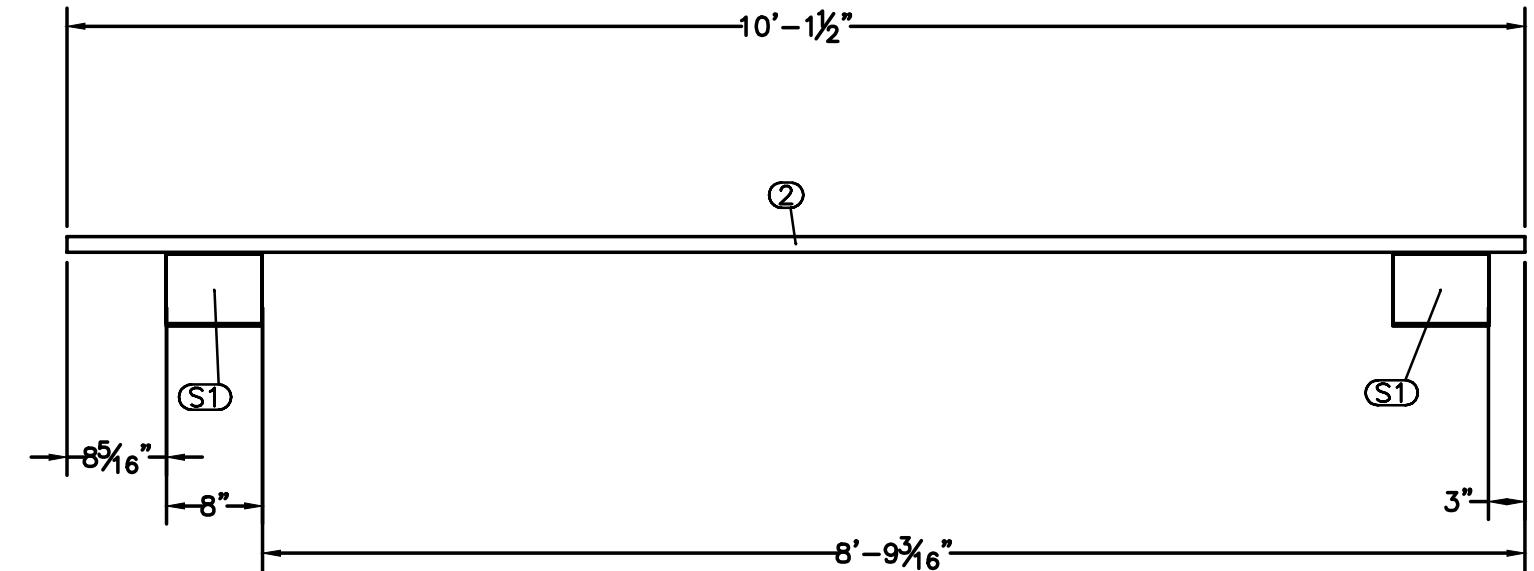
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BOM-STEEL

Item No	Order	Description	Qty	Size	Steel L
S1	WT6x7		2		8"

DRN JMM	1/28/2021	WUSM RESEARCH BUILDING NRB	QA/QC ACCEPT			FLANGE WEIGHT/ORIENTATION			FITTING ORIENTATION			COMMENTS		
			SPEC.	ASME	X-RAY	HYDRO TEST	PWHT	SPOOL IDENTIFICATION	DRN	CHK	APP	DRN	CHK	APP
REF.DWG.														
DRAWING NO./TRACKING NO.			QTY.	SHT/NO	REV	0								
210140-A006-16	1	1 of 1	0											
REF.DWG.			REV	DATE		DESCRIPTION								
DRAWING NO./TRACKING NO.			0											
210140-A006-16	1	1 of 1	0											

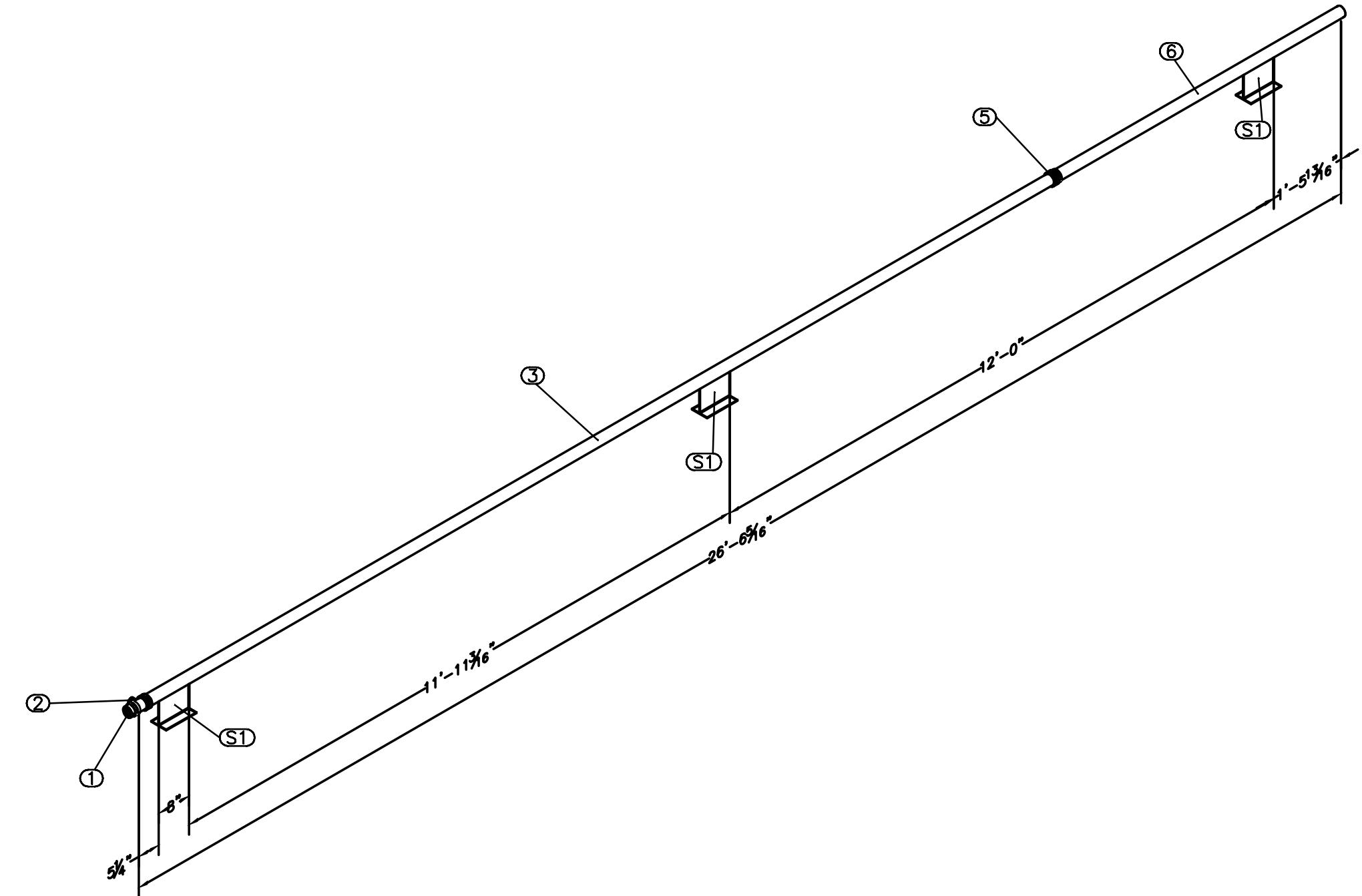


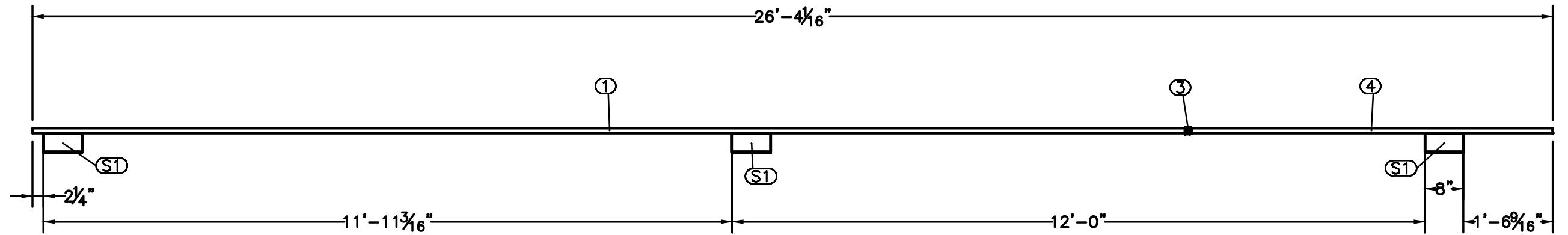
Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
2	1	3M FS SW RED TEE					2x1
1	1	3M A105 FS SW Bush					2 x 1
5	1	3M FS SW Cplg					2
3	1	Sch 80 A106B CS SMLS Pipe	SW	SW	20'-0"	240.000	2
6	1	Sch 80 A106B CS SMLS Pipe	SW	SW	6'-3 11/16"	75.696	2

BOM-STEEL

Item No	Order	Description	Qty	Size	Steel L
S1	WT6x7		3		8"





Murphy-PFFS-SPOOL-BOM

Mark	Qty	Description	End 1	End 2	Lft	LDec	Size
3	1	3M FS SW Cplg					3/4
1	1	Sch 80 A106B CS SMLS Pipe	SW	SW	20'-0"	240.000	3/4
4	1	Sch 80 A106B CS SMLS Pipe	SW	SW	6'-3 7/16"	75.449	3/4

BOM-STEEL

Item No	Order	Description	Qty	Size	Steel L
S1	WT4x5		3	8"	

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DRN JMM	1/28/2021	WUSM RESEARCH BUILDING NRB	QA/QC ACCEPT	FLANGE WEIGHT/ORIENTATION
CHK		HE SKID	FITTING ORIENTATION	BOLTS/CPLG'S/THD TIGHT
APP		SERVICE NAME	SPool IDENTIFICATION	SPOOL IDENTIFICATION
JOB NO.	210140	REF.DWG.	DESCRIPTION	DRN CHK APP
REF.DWG.		DRAWING NO./TRACKING NO. 210140-A006-18	QTY. 1 SHT/NO. 1 REV 0 1 1 of 1 0	0 REV DATE